SYMBOL TABLE 1 -- 182 / 250

#MC	DL	#MC1	DL	#R	IO	#R2	DL	.BRES.	DL		
IPLST	DL	BSUMS1	DL	FCLOCK	DS	FCLEAR	DL	FSTIM	DL		
ASTIM2	DL	.SET.	DL	UNSET	DL	LOAD1	DS	OVCLR	DL		
EXECOV	DS	LDATE	DS	DATE1	DL	DATE2	DL	MBX8	DL		
.EFFY.	DL	SAVE	DL	.IRAS	DL	KFUGE1	DL	IPRIOR	DL		
MOVMBX	DL	ZERO	FP	EDEOF	DL	TABLE	DL	MOVID	DL		
SCLOCK	DL	TRAPR	DL	MKQX	FP	MKAX	FP	MKAQ	DL		
COV1	FP	CUN1	FP	KX0	DL	TRAPS	DL	.KBIL.	DL		
IN	DL	.DISK.	DL	D15	DL	DKFLG1	DL	.DRMC.	DL		
.PTY.	DL	MSTEMP	DL	.LST.	DL	LAREAS	DL	LIN	DL		
IO1	IO	LQUOT	DL	LMASK	DL	LAB1	DL	EL1	DL		
.RST.	DL	RADS	DL	RIN	DL	RQUOT	DL	RDAT1	DL		
*	DL	CHEAD1	DL	CINIT	DL	CIN	DL	CPNUM	DL		
P*0	DL	PTL	DL	CHDAS2	DL	CHCODE	DL	CTDAT	DL		
P6	DL	P8	DL	P4	DL	CONE	DL	P10	DL		
P12	DL	P14	DL	PPRNT	DL	CCOM2	DL	CTOTP	DL		
CTOT	DL	****	DL	.JLNK.	DL	JINIT	DL	JIN	DL		
DLAB3	DL	DLAB2	DL	.BLII.	DL	BIN1	DL	B001	DL		
.LINK.	DL	LD3	DL	LD2	DL	LTAP	DL	LABL	DL		
LDAR3	DL	LCBUF	DL	.TINT.	DL	THREE	DL	CTBUP	DL		
CTBP	DL	.CTST.	DL	CDQU1	DL	CFQU1	DL	TREQST	DS		
.SIN.	DL	SL2	DL	.SWON1	DL	.SWON2	DL	SR2	DL		
DUMPMB	DL	DMPMSK	DL	Z0	DL	OBUG1	DL	OBUG2	DL		
OBUG3	DL	.BGST.	DL	BGNEW1	DL	DUMPBK	DL	DUMPIO	DL		
.GST.	DL	GAREAS	DL	GIN	DL	GTL	DL	GGAP	DL		
GPASS	DL	GIBN	DL	G0100	DL	GIDENT	DL	GNAM2	DL		
GREM2	DL	GPMOV	DL	GEND2	DL	IO2	IO	.SLE2.	DL		
SLBUFP	DL	SLLEN	DL	SLMC1	DL	SLFORM	DL	SI01	IO		
SLSTA1	DL	SLIDEN	DL	.EFF1.	DL	FMID	DL	SSUMP	DL		
.EFFE.	DL	.BENT.	DL	T	DL	BBCARD	DL	BFCARD	DL		
BCOM	DL	BTMOV	DL	.BAEN.	DL	BAMOV	DL	BSUMS2	DL		
OARR	FP	OAMOV	DL	ORUN.2	DL	OTHREE	DL	OFUDGE	DL		
.ORS2.	DL	OAQ	DL	OMTEX	DL	ODLST	DL	ODPB	DL		
OTLST	DL	OTPB	DL	AREA	DS	OMOVT2	DL	OZERO	FP		
OOCOV1	FP	OCUN1	FP	OSOBL	DL	OSOTP	DL	OSOBP	DL		
OMOVT1	DL	OBA3M1	DL	ORTRAP	DS	OCOV	DL	OVCAT	DS		
OVCT	DL	OCOV1	DL								

END OF PASS 0

SYMBOL TABLE 2 -- 1495 / 1599

8K	00337	#8K	03135	#ADDR	03134	#DART1	03250	#DART2	03210	#DART3	03242
#DATE	34000	#LAST	03335	#LOAD1	03137	#LOAD	03160	#MC1	03132	#MC	03130
#OCT	03257	#R1	03164	#R2	03126	#RET	03212	#RRR	03237	#R	03000
#RW	03052	#SFLAG	03334	#T	03240	#WDCT	03125	#X3SV	03333	#ZE	03204
ACBAT	00626	ACDISK	00625	ACRUN	00623	ACSTRT	00622	ACSWAP	00624	ADR1	00537
ADRSER	35757	ADRS	00536	AREA	36000	ASTIM2	00630	B24	22317	B2FIX	06000
BACR	37412	BAEN	37007	BAEX	37022	BAMOV	37410	BARET	37414	BARETW	37424
BARTCL	37423	BAT2	00524	BATCH	00513	BAW1	37055	BAW3	37166	BAW6	37174
BAWAY	37073	BBACK2	37306	BBACK	37263	BBCARD	37142	BBKM1	37342	BBKM	37336
BBLNK	37106	BBRA	00064	BBWD	37335	BC1	37035	BC2	37036	BCARD1	37306
BCARD2	37325	BCARD3	37352	BCARD4	37335	BCARD	37275	BCATM	06000	BCBACK	37243
BCBAT2	37264	BCDC	37226	BCD	37037	BCFRNT	37240	BCLK	37420	BCNL	37474
BCNR	37321	BCOM	37700	BCRE	37470	BCR	37022	BCRWND	37252	BCSLEW	37254
BCS/C	37421	BCSYM1	37236	BCTYPE	37245	BDC	00065	BENT	37024	BEOFC	37356
BEOF	00063	BET	37435	BEX0.1	37120	BEX0.2	37133	BEX1	37144	BEX2	37147
BEXEC	22307	BEXIT	37465	BEXT	37425	BFCARD	37140	BFDA	37442	BFFLG	37464
BFM	37200	BFRNT	37141	BFTM1	37226	BFTM	37223	BGCOL	37314	BGCON	37307
BGCR	37332	BGDON	37344	BGKEY	37753	BGMAX	37752	BGNEW1	37614	BGNEW	37610
BGST	37363	BGTIME	37267	BGTIM	37754	BGTOFF	37263	BGTON	37265	BHAN7	37233
BILIN	17001	BILL3	22142	BILL4	22161	BILL5	22165	BILL8	22231	BILL9	22252
BILLA	22012	BILLB	22031	BILLI	22277	BILLW	22000	BILMOV	06002	BILRW	22042
BIL	00477	BILSUM	22064	BILTMP	17000	BILUSE	37236	BILUSM	37260	BIN1	13300
BIN2	22316	BINF	17000	BIN	22320	BINT2	37440	BINT	37443	BIT1	00360
BIT3	00352	BIT4	00353	BLII	22301	BLIN	22305	BLSRCH	22110	BLZZ	00436
BM1	37235	BMOVP	37463	BNO2	37417	BNO	37231	BO606	37234	BOFF	01466
BON	01455	BOO1	22314	BOOT	01420	BPDO1	37513	BPDO	37507	BPER3	37023
BPER	00060	BPNR	37501	BPOIN1	00061	BPOIN2	00062	BPOIN	17002	BPWT	37345
BRES	37002	BRUN	37274	BRWND	37353	BS1	37054	BSLEW	37377	BS/OE1	37333
BSUMS1	01646	BSUMS2	37762	BSUMS	37752	BSYEX	37036	BSYM1	37025	BSYM2	37101
BSYM	37273	BSYNC	37462	BTAB	37112	BTLST	37162	BTMOV	37436	BTMSG1	37102
BTPC	37100	BT	37232	BTYPE	37122	BTYPF	37407	BZYF	00106	BZY	00554
C37S	21567	C55S	21604	C57	21570	C77S	21571	CADRS	04023	CATA	21012
CATB	21022	CATMOV	06002	CAT	00466	CATW	21000	CBQ1	37445	CBQ	37223
CBQU1	37237	CBSYNP	37373	CBSYN	37371	CBUGA	34271	CBUGAS	37755	CBUGB	35234
CBUGBS	37756	CBUGCS	37757	CCOM1	21731	CCOM2	21746	CCONK	21225	CCONL	21563
CCON	21404	CDASS	04022	CDATE	21721	CDQ	37240	CDQU1	37246	CEND1	21751
CERR1	21531	CERRF	21606	CERR	21526	CFILEA	21553	CFILEB	21557	CFLIP	21172
CFORM	21611	CFQ1	37446	CFQ	37250	CFQU1	37264	CFSYNP	37374	CFSYN	37372
CH2	00065	CH3	00066	CHAR1	37040	CHAR23	37042	CHAR2	37032	CHAR	37027
CHCODE	21726	CHDAS2	21716	CHDASS	21676	CHEAD1	21670	CHEAD2	21661	CHEAD	21635
CIG1	21607	CIG2	21610	CIN1	05000	CIN2	07100	CINIT	21574	CIN	04000
CKEY	20000	CLINE	04025	CLOCK	04061	CLOOP	21142	CMESSB	00151	CMESS	00150
CMORE	21160	CNSYN	37370	COL1	00070	COL3	37751	COLON	00440	COM1	00067
COM3	37750	COMA	37213	COMB	37240	COMBUG	37172	COMC	37254	COMMON	37061
COMNIC	37744	COM	00447	CONE	21600	CONVRT	36452	COV1	00252	CPL	21342
CPNUM	04002	CRCB1	37441	CRCF1	37442	CREAD	37135	CREN	00063	CRERM2	37422
CRE	37426	CRHOP	37205	CRINS1	37120	CRINS2	37146	CRINS3	37173	CRN	37415
CROK	37176	CR	00326	CRUMP1	21426	CRUMP2	21451	CRU	00521	C/C	00460
C/P	00455	C/T	00516	CSCAN	21204	CSYNC2	37211	CSYNC	37150	CTB1	37447
CTBP	00060	CTB	37054	CTBUP	37410	CTCR	37122	CTD1	37450	CTD40	37443
CTD80	37444	CTDAT	21576	CTER1	37051	CTERM3	37412	CTEXE	37127	CTEXT	37323
CTF1	37451	CTFIX	06000	CTF	37072	CTIME	00064	CTOTP	21760	CTOT	21764

CTPOI2	00062	CTS1	37452	CTSCA	37110	CTSC	37017	CTSK1	37313	CTSKIP	37266
CTST	37362	CTTAB	37375	CTTER	37326	CUN1	00254	D11	37711	D15	00270
D17	37712	D1	01447	D30	37713	D36	37714	D54	37715	DATE1	01660
DATE2	01662	DATE	01440	DATNET	00527	DBG	00502	DCNT	00107	DCORRA	35742
DCORRP	35735	DCORR	35677	DC	00531	DEL	00545	DEXIT	35654	DINST	00354
DISK	35617	DIVAL	00110	DKER	35751	DKFLG1	00074	DKFLG2	00075	DLAB1	20150
DLAB2	20212	DLAB3	37460	DLAB5	20204	DLAB	20176	DL	37465	DMPBBZ	00061
DMPMSK	00060	DNOREC	35707	DNOVL	36167	DOPER	35645	DP	00534	DRAMA	36050
DRAMB	36052	DRCNT	00111	DRMC	36067	DRMD	36145	DRME	36153	DRMS	36113
D	01434	DSEC	35651	DSEEK	35622	DSFUL	36171	DSKA	35536	DSKB	35464
DSKC	35471	DSKD	35515	DSKG	35533	DSKH	35565	DSKOP	35560	DSKO	35530
DSKWT	35660	DSKX	35544	DSTAKF	00112	DSTAKP	00355	DSTAK	36077	DTIME	01664
DTMP	00071	DUMP03	37545	DUMP04	37556	DUMP1X	37507	DUMPA1	37517	DUMPAD	37523
DUMPA	37621	DUMPBD	37513	DUMPBG	00056	DUMPBK	37574	DUMPBL	00441	DUMPB	37671
DUMPED	00057	DUMPEX	37570	DUMPIO	00054	DUMPIT	37522	DUMPMB	37604	DUMPOV	37470
DUMP	37432	DUMPWB	37503	DUMPWD	37535	DUMPX1	00063	DUMPX	00062	DUM	00471
DUMTIM	20205	EAVAIL	00152	ECH23	34645	ECH2	00010	ECH3	00011	ECHAR1	34634
ECHAR2	34643	ECHAR	34632	EDBLA	34365	EDBOB	34351	EDCARR	00326	EDELET	34573
EDECF	00256	EDFILL	00257	EDGURK	34514	EDIG1	34427	EDIG	34431	EDIT1	34314
EDITA	34316	EOKAR	34364	EDMSK1	00344	EDMSK2	00345	EDOUT	34500	EDPNT2	00446
EDS1	34620	EDSF	00331	EDSOUT	34576	EDT	00015	EDTWO	00315	EDY	00014
EDZ	00016	EEXIT	37346	EFF1	37004	EFFE	37344	EFFY	36442	EINIT	00153
EL1	37472	ENLESS	34474	ENPR	34650	EPLEN	00022	EPLST	34070	EPOI2	00054
EREX	35220	ERXTMM	35216	ESELEC	00012	ESLEC	34537	EXCV	37000	EXEC1	34000
EXEC2	36000	EXECOV	37000	EXEC	37001	F1	00601	F2	00622	F3	00137
F4	00612	FCENT	37423	FCLEAR	01654	FCLOCK	00600	FCNT	00604	FCRE2	37130
FCRE3	37214	FCRE4	37276	FCREST	37063	FILMOV	06002	FINC2	37421	FINC3	37422
FINC	37420	FIVE	00320	FIX	00367	FKBAT	00147	FKDUMP	00143	FKEDIT	00140
FKNTNU	00142	FKREAD	00144	FKSTRT	00141	FKTEA	00146	FKWRIT	00145	FLAPSE	00601
FMID1	37424	FMID	37416	FOUR	00317	FPC	06000	FSTIM	00602	FSUMR	37036
FTEM	00632	FULL	00543	GAREAS	37662	GCON	37474	GEJT1	37706	GEJT2	37404
GEJTF	00062	GEJT	37351	GEND1	37664	GEND2	37666	GENDP	37556	GEX	37347
GGAP	37674	GIBN	37672	GIDENT	37702	GIDNT1	37265	GINIT	37006	GIN	00054
GJT	37367	GLINE	00061	GMASK	37716	GNAM1	37707	GNAM2	37656	GNAM	37406
GO100	37700	GO	34556	GP0	37150	GP1B	37215	GP1CHK	37244	GP1	37176
GP2CHK	37450	GP2	37274	GPACK	37227	GPASS	37670	GPCK2	37241	GPMOV	37676
GPOIN	00056	GPRM	37070	GPRNT1	37335	GPRNT	37333	GPSAV	00057	GPUNCH	37431
GPUN	37433	GREAD	37345	GREM1	37710	GREM2	37704	GREM	37414	GRWD	37055
G/P	00505	GSLEW	37132	GSLT8	37112	GSLT	37121	GSLW	37141	GST	37024
GTCHK	37550	GTL	37606	GZONE	37717	H1	00435	H2	00437	HDREQ	00312
HDSKD	00114	HSMP	37045	IADRS	00076	IANALY	34143	IBUSY	34140	ICRUMP	34163
ILD	34156	ILG	00535	ILNGTH	04003	ILR	00557	IMER	00445	INCHAR	34124
INDEL	34132	INEX	36256	INFUL	34242	INL	34116	INOV	00115	INPNT	00116
INR	34121	IN	00100	INS1	34222	INSERT	34217	INT1	00120	INTER	34035
IO1	01000	IO2	01200	IOFF	34161	IPLST	34046	IPRIOR	34044	IRASE	34212
IREC	36413	IREDY	34165	IREG	34250	IRESP	34172	IREST	34201	ISPMBX	34070
ISUM	00121	ITIM	00122	ITRAP	00206	.BAEN.	37020	.BBACK	37260	.BENT.	37460
.BFRNT	37257	.BGST.	37606	.BLII.	22312	.BLIN.	22313	.BRES.	01656	.BRWND	37262
.BSLEW	37263	.BSYM1	37256	.BTYPE	37261	.COMA.	37745	.COMB.	37746	.COMC.	37747
.CTST.	37406	.DISK.	00302	.DRMC.	00260	.DSEC.	00161	.DSKC.	00157	.DSKD.	00160
.DSKX.	00162	.EFF1.	37412	.EFFE.	37414	.EFF	00113	.EFFY.	00300	.GCON.	37661
.GJT.	00322	.GP0.	00317	.GP1.	00320	.GP2.	00321	.GPRM.	00312	.GPUN.	37054
.GSLT.	00314	.GSLW.	00316	.GST.	37660	.INS	00117	.IRAS	00304	.JLNK.	37452
.KBII.	00306	.KREX.	00164	.KRST.	00163	.KSET.	00165	.KTRI.	00166	.KTRS.	00167

.KTRSJ	00170	.KWRT.	00171	.LDX.	37757	.LINK.	37256	.LST.	37370	.OREX.	34704
.ORS2.	37604	.ORST1	37605	.ORST.	34703	.ORTR.	34702	.OTRA.	34701	.OTRI.	34700
.OTRS.	34677	.OTRSJ	34676	.PMS1.	00173	.PTY.	00310	.RST.	37176	.SCHK	37571
.SDSK.	00314	.SET.	01644	.SIN1.	00321	.SIN.	37552	.SLD.	00276	.SLE2.	37452
.SROR.	00312	.STYP.	00316	.SWN.	00322	.SWON1	37560	.SWON2	37562	.SYOV.	00172
.TERR.	37754	.TINT.	37752	.TRQB.	37756	.TWT.	37755	J55S	37463	JBUF1	23100
JBUF2	27200	JCHK	37426	JDFILC	37456	JEIG	37464	JEND1	37401	JEND	37364
JENT	37320	JEXEC	37315	JFILA	37436	JFILB	37442	JFILC	37446	JFILE	11200
JINIT	37454	JIN	00060	JKEY	00063	JKVAR	00064	JL1	37177	JL2	37253
JLAST	37462	JLBA	37140	JLBB	37142	JLCN	37150	JLFDG	37156	JLIST	00062
JLNK	37051	JLOOPA	37106	JLOOPB	37173	JPOIN	00067	JSWTCH	37322	JT2	37266
JTAPE	37255	JTAP	37306	JTFLG	37312	JTMPP	00066	JTMP	00065	JTROUB	37362
K2AREA	06000	K2LOC	00442	K3AREA	12000	K3LOC	00443	K6AREA	04000	K6LOC	00444
KANSWR	00123	KBFDG	35270	KBILL	35254	KBIL	35263	KBRUN	37003	KCLOCK	04000
KCNTNU	34672	KCOV	34777	KCREST	34724	KCUN	35002	KDSKRD	35165	KDSKWR	35172
KDUMP	35005	KEDIT	34306	KERMES	00312	KEXITD	35145	KEXITR	35223	KEXIT	35296
KEXITW	35225	KEY	00447	KFUDGE	00356	KFUGE1	00262	KHOLD	34770	KMES2	00314
KMES3	00316	KMESD	00317	KMESI	00322	KMESO	00321	KMEST	00320	KOUTPT	35151
KREADA	35301	KREADB	35311	KRETA	35316	KRFT	00124	KREX	34766	KRST	34762
KRTRI	34754	KRTRP	34757	KSET	35133	KSTART	34652	KSUMA	35241	KSUMB	35247
KTBRUN	35215	KTEA2	35207	KTEACH	35174	KTEX	35105	KTRCHK	35125	KTRI	35123
KTRS	35114	KWRT	34312	KX0	00264	L235	37015	L56	37403	LAB1	37460
LABL	37314	LAB	37452	LAREAS	37374	LAST	00037	LCBUF	00060	LCEND	37232
LCH2	00061	LCH3	00062	LCHAR1	37065	LCHAR2	37061	LCHAR	37051	LCLIST	00062
LCPOIN	00063	LCR1	23076	LCR2	27176	LCREAD	37123	LCRWD	37023	LCTIM	00060
LD1	37277	LD2	37306	LD3	37260	LDAR3	37262	LDATE	10000	LDERR	37230
LDM	37271	LD	37126	LENDR	37350	LERR1	37037	LEXEC	37251	LFILA	37264
LF	00065	LHOP	37263	LINIT	21605	LINK	37254	LIN	00054	LISTA	37142
LIST	37174	LLNT1	00063	LLNT	37105	LLOOPA	37114	LLSD1	00064	LMASK	37372
LN1	37404	LNCNT	00056	LNDRA	37341	LNOQ	37215	LN	37077	LNT	37217
LO7	37342	LOAD1	06000	LOAD2	06010	LOAD3	06024	LOADC	01520	LOADF	06077
LOADOV	01566	LOAD	01000	LOA	00474	LOOKP	37221	LOVWRT	01574	LPAGE	00057
LPOIN	00066	LPRNT	37243	LPR	37246	LQCHK	37327	LQUOT	37400	LRET	37260
LSELF	01536	LSERR	37307	LSLEW	37156	LSN1	37046	LSN	37040	LS	37113
LSS	37402	LST	37134	LSWTCH	37160	LSYNC	37376	LT1	37405	LTAB	37067
LTAP1	11234	LTAP	11200	LTRANS	06071	LT	37102	LWREAD	35300	LW	37363
LWWRIT	35320	MASK10	00347	MASK11	00350	MASK12	00351	MASK1	00340	MASK3	00341
MASK4	00342	MASK6	00343	MASK7	00344	MASK8	00345	MASK9	00346	MBLNK	00357
MBX0	00214	MBX1	00215	MBX2	00216	MBX3	00217	MBX8	00224	MDC	04062
MDL	04063	MENDT	00432	MER	34303	MESSG	36330	MKAQ	04006	MKAX	04036
MKDISK	04004	MKOV	04010	MKPR1	04100	MKPRNT	04001	MKP	04011	MKQX	04040
MKSXG	04002	MKTRP	04044	MKTX2	04052	MKX0	04012	MODE	04042	MOLEN	04056
MOMEM	04057	MONE	00313	MOREP	04055	MOVID	04054	MOVINT	04060	MOVMBX	00266
MSSAGE	00542	MSTEMP	00102	MTWO	00315	NFL	00365	NPR	00312	0100	00331
010	00323	0140	00332	0200	00333	020	00325	0300	00334	0400	00335
040	00327	0440	00336	060	00330	08K	37635	OAMOV	37672	OAPIB	37671
OAQ	37624	OARR	36736	OBA2M	06000	OBA2	01776	OBA3M1	06032	OBA3M	06000
OBA3	01777	OBA4M	06000	OBA4	02000	OBAF1	06000	OBA	00521	OBBRU	37750
OBCD	37520	OBFLG	37636	OBTEX	35665	OBUG1	37576	OBUG2	37600	OBUG3	37602
OBZYF	37777	OCATA	35520	OCAT	00523	OCOMON	37103	OCOM	37077	OCOV1	35512
OCOV	35636	OCREST	34616	OCR	37107	OCT3	37165	OCTACC	03123	OCTADD	03124
OCTAL	37120	OCTA	03313	OCTB	03264	OCTC	03136	OCTD	03306	OCTE	03302
OCTF	03326	OCT	37743	OCUN1	34664	OCUN	34660	OD108	35610	OD110	35607
ODAD	37647	ODASK	37325	ODCLK	36770	ODCNT	37603	ODDMP	36417	ODEC	37643

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ODECT   34752    ODERC   36527    ODINST  37620    ODIP    36751    ODI     37635    ODISK2  36432
ODISK   36430    ODIVAL  37602    ODKER   37320    ODLST   36656    ODMP2   36367    ODMP    36732
ODNR    37645    ODOPER  37271    ODOP    37226    ODO     36754    ODPB    36456    ODRET2  00230
ODRET   00217    ODSA    36767    ODSEEK  37245    ODSK2   36220    ODSKE   36240    ODSK    36160
ODSKWT  37300    ODSKX   36236    ODSL    36756    ODST    36752    ODTC2   36366    ODTC    36363
ODTER1  35562    ODTE    36543    ODUMP   36300    ODWRP2  36501    ODWRP   36470    OENT1   37000
OEOM    36744    OFFLG   37640    OFIX    36747    OFOUR   37627    OFUDGE  37276    OGTIM   37476
OHOLD   34643    OIAD    37644    OINIT   37562    OINT2   36052    OINT    36040    OITRAP  34753
OLOAD   37044    OLOBA3  36014    OLTC2   37110    OLTC    37052    OMOP    37637    OMOVT1  34670
OMOVT2  34672    OMSK1   37616    OMSK2   37617    OMTEX   36276    OMW     35611    ONE     00312
ONFL    36750    ONRUN   37115    002476  36403    00300   37621    0040    37606    OOCOV1  34656
OOCOV   34653    OOVRP   35744    OOVR    35720    OPAR    37642    OPUNT   35503    ORELAD  37342
ORELIN  37333    ORES    37352    OREX    34635    ORS2    37405    ORST1   37450    ORSTB   34630
ORST    37425    ORTRAP  34600    ORTRI   34640    ORTRP   34623    ORUNA   37031    ORUNF2  35600
ORUNF3  35611    ORUNF.  37133    ORUNF   37120    ORUNG   37041    ORUN.2  37142    ORUN.3  34714
ORUNM   37042    ORUN    37004    OSBAT   37623    OSBU1   35000    OSBU2   35156    OSEVEN  37615
OSOBL   35574    OSOBP   35570    OSOBW1  35577    OSOBW2  35600    OSOBW   35572    OSOEOT  35514
OSOK    35433    OSOP    35604    OSORE   35563    OSOR    35605    OSO     35334    OSOT1   35612
OSOT2   35616    OSOTER  35546    OSOTP   35602    OSOTY   35622    OSOWR1  35474    OSOWR   35455
OSPMB   37572    OSTER1  35552    OSTOP   36720    OSTRP   34705    OST     37622    OSWC    37731
OSXG    36745    OSYET   35606    OSYS    36020    OTAD    37373    OTAP1.  37751    OTAP1   37743
OTAPE.  37764    OTAPE   36547    OTAP    36121    OTAPWT  37174    OTEC    36734    OTEMP   00233
OTEM    37630    OTEN    37667    OTER2   37222    OTERA1  37732    OTERA   37674    OTERM   35745
OTER    37206    OTEX    36253    OTHREE  37626    OTIM1   37611    OTIM1T  37613    OTIM2   37612
OTIM2T  37614    OTIML   37532    OTIMO   37536    OTIMR   37546    OTIM    37610    OTIMS   37555
OTIP    36753    OTI     37635    OTLST   36676    OTMIFL  34675    OTMP1   00234    OTMP2   00231
OTMP3   00232    OTMP    00216    OTMSK   37225    OTOP    37157    OTO     36755    OTP2    37171
OTPB    36566    OTRAP   35627    OTRCHK  35710    OTRFL   34674    OTRI    35716    OTRS    35702
OTST    36733    OTTIM   36643    OTWEN   37670    OTWO    37641    OTWRP1  36604    OTWRP2  36610
OTWRP   36571    OTYPE   36244    OTYPF   37646    OTYP    37577    OUNF    36746    OUT     37742
OV8     35511    OVAPI   35521    OVCALL  36272    OVCAT   35000    OVCLR   01650    OVCT    35626
OVDEL   36325    OVFLO   00360    OVLST1  35514    OVLST2  35740    OVS1.1  35410    OVS1.2  35421
OVS1.3  35427    OVSC2   35433    OVSC3   35456    OVSC4   35462    OVSC5   35500    OVSC    35400
OVTSK   00154    OZERO   34666    P0      20702    P10     20714    P12     20716    P14     20720
P16     20722    P1      20703    P2      20704    P3      20705    P4      20706    P6      20710
P8      20712    PCENT   37321    PCNT    00125    PCR     00541    PCT     00127    PDEND   36402
PEOM    00363    PERGET  36025    PERIN   00130    PERNUM  01670    PFLAG   04024    PGETB   36030
PMBX0   00226    PMORE   36353    PMS1    36343    PNEXT   21234    PNR     37406    PPRNT   21602
PREG    00131    PR      04100    P*0     20700    PSET    21376    PSOO    20236    PTEMP   00132
PTL1    20772    PTL     20724    PTY     36363    RAAU    01513    RADS    37200    RAWT    00133
RBIT8   37206    RCMPA   37137    RCMPLT  37146    RCRE    37245    RCRN    37216    RDAT1   37240
RDERR   37161    REA     00551    RELAD   36012    RELEX   36023    RELIN   35771    RELMES  36020
RELG    36005    REPC    37227    REP     37047    RES     01402    RHOP    37076    RINF    00056
RIN     00054    RNOO    37070    ROG2    00442    ROG     00443    RPNR    37207    RPOIN   00057
RQCHK   37114    RQEX    37130    RQUOT   37202    RRET    37044    RSNOT   35401    RSPB    01410
RST     37035    RSYNCH  37205    RSYNC   37204    $8F     01672    $BLDV   01667    $BMSK   01665
$DKTST  01623    $EDIG   00351    $ERTYP  01274    $NOB    01666    $RELIN  01251    $TEMP   01673
$TIME   01252    $TPNR   01335    $TWAIT  01253    $TYPE1  01307    $TYPE   01314    ****    21572
SADDR1  37564    SADDR   00060    SAOK    01050    SAVE    00104    SBAK    06074    SBLANK  37672
SBOOT   01213    SCHK    37131    SCHKSM  37616    SCLOCK  00246    SCOLON  37137    SCOM1   37150
SCOMMA  37142    SCRN    37605    SCR     37161    SD110   37454    SDART1  37307    SDART2  37172
SDART3  37321    SDART   37570    SDATE   00240    SDEL    37166    SDIO1   37460    SDIO2   37461
SDIO3   37462    SDISKF  00066    SDSD    01476    SDSKB2  37471    SDSKB   37463    SDSK    37403
SER1    37356    SERAD   37376    SET     01532    SEVEN   00322    SEXIT1  00427    SEXIT2  00430
```

SFND	37417	SIGN	00361	SILAD	37643	SIN1	37055	SIN	37105	SIO1	00600
SIO2	00720	SIO3	00770	SIO4	01040	SIO5	01217	SIX	00321	SKEX	01235
SL1	01400	SL2	37554	SL3	01401	SLAPSE	00055	SLBUFF	00067	SLBUFP	37456
SLCON1	37376	SLCON	37472	SLD	37147	SLE2	37426	SLEND	37414	SLENG	00067
SLER	37476	SLEXE	37256	SLEXT	37445	SLFIX	06000	SLFORF	00065	SLFORM	37464
SLFOR	37311	SLGP	37107	SLIDEN	37424	SLILL2	37343	SLILL	37324	SLIM	00064
SLLEN2	00062	SLLEN	00060	SLLST2	37030	SLMC1	37466	SLMG	37221	SLMIN	00070
SLMOV1	37200	SLMOV	37171	SLMS1	37453	SLMV	37227	SLO1	37160	SLO2	37165
SLOAD	06076	SLOC1	37741	SLOC	00064	SLPOI2	00066	SLPRIE	37305	SLPRI	37275
SLPUB	37320	SLPUD	37316	SLPUF	37322	SLRET	37233	SLRF	37450	SLRNC	37062
SLRNR1	37052	SLRNR	37043	SLSTA1	37374	SLSTA	37353	SLT1	00063	SLT2	00064
SLT8	21545	SLW3	21537	SMASK	00065	SMBX0	00230	SMBX1	00231	SMBX2	00232
SMBX3	00233	SMBX4	00234	SMBX5	00235	SMORE	37201	SMOVE1	00433	SNAME	20004
SNAMS	37516	SNEXT	37165	SNOL	37666	SO140	37567	SO611	37474	SOAK2	01163
SOCACC	00062	SOCADD	00063	SOCTA	37267	SOCTB	37241	SOCTC1	37566	SOCTC	00061
SOCTD	37262	SOCTE	37257	SOCTF	37302	SOCT	37236	SPMESS	36430	SPOIN	00054
SPTRA	36222	SR2	37556	SRCHK	37123	SRES	01024	SRET	36217	SROR	37363
S/O	00510	SSB	37400	SSI	37410	SSLT8	37434	SSM	37404	SSNO1	37664
SSNO	37654	SSR	37370	SSS	37374	SSUMP	37352	STACK	00134	STERM	37501
STIME	01223	STLO	37703	STORE	37712	STRAN	37317	STWO	00362	SUMMRY	00452
SWDCT1	37565	SWDCT	00057	SWFLG	00135	SWN	37063	SX3SV	00056	SYDLC	36261
SYEND	37504	SYL1	37573	SYLO2	37603	SYLOC	00431	SYLO	37577	SYL	37572
SYMOV	35443	SYOVA	35413	SYOVB	35423	SYOVK	35372	SYOV	35403	SYREAD	35331
SYSEX	36174	SYS	00463	SYSTEM	20000	SYTAB	00370	TABLE	04000	TAPMOV	06002
TAP	00522	TA	00060	TCCPT	37564	TCHK	37560	TCLOS	37735	TCNR	37762
TCNT	00056	TCW	37554	TCWX	37634	TEMP	00136	TEND1	00364	TEND	00443
TEN	00324	TERCOR	37613	TERF	37751	TERM	36250	TERR	37642	TEX1	37637
TEXEC	37551	THREE	00316	TIME	36472	TINIT	37724	TINT	37527	TLAPS	37761
TMANY	37671	TMM	00276	TO7	20217	TPOIN	00054	TRAPR	00272	TRAPS	00274
TREQR	37502	TREQST	37500	TRFUL	37721	T	00054	TSPB	37760	TTAB	37743
TTEST	37645	TTOG	37764	TTRET	37661	TWO	00314	TWT	37702	TX2	00212
TXPOIN	00055	TY1	00155	TY2	00156	TYPF	00137	TY	00030	UNF	00366
UNSET	01652	UPPER8	00337	UPREAD	35276	USN	00314	WAIT1	00434	WAITEX	36242
WAIT	34001	XR01	00001	XR02	00002	XR03	00003	XR10	00004	XR11	00005
XR312	00176	XR52	00026	Z0	00200	Z1	00201	Z2	00202	Z3	00203
ZERO	00276										

END OF PASS 1

```
                                                                                    TTL00001
                                                                                    STL00002
          34000            LOC 34000          DATE OF LATEST REASSEMBLY GOES HERE     00003
          34000   #DATE    BSS 0                                                      00004
34000     0001032          OCT 1032           UPDATED AUGUST 26, 1965 (RPL)           00005*
                                                                                    00006
                                                                                    00007
                                                                                    00008
                                            DARTMOUTH COLLEGE TIME-SHARING SYSTEM   00009
                                                      235 EXECUTIVE                 00010
                                                                                    00011
                                            RICHARD P. LACEY (67)  APRIL 1965 -     00012
                                            JOHN S. MCGEACHIE (65)  APRIL 1964 - APRIL 65  00013
                                                                                    00014
                                            PHASE IV                                00015
                                              FOR 44 TELETYPE DISK ALLOCATION OF JULY 13,  00016
                                              1965.                                 00017
                                                                                    00018
                                                                                    00019
                                            16K LOADER - WILL LOAD 16K GAP CARDS INTO  00020
                                            UPPER OR LOWER MEMORY. ACCEPTS SINGLE OR  00021
                                            MULTIPLE ORIGIN CARDS  AND OCTAL CORRECTIONS  00022
                                            OCTAL CORRECTIONS MAY BE SINGLE OR MULTIPLE  00023
                                            ORIGIN. SCAN TERMINATED BY SINGLE CHARACTER  00024
                                            FIELD.                                  00025
                                            AUTHOR CHARLES G. MOORE (65)            00026
                                                                                    00027
                                                                                    00028
          03000            LOC 3000                                                 00029
          03000   #R       BSS 42             READ IN AREA                          00030
          03052   #RW      BSS 41             ANALYSE AREA                          00031
          03123   OCTACC   BSS 1              WORKING STORAGE FOR OCTAL CORRECTIONS  00032
          03124   OCTADD   BSS 1                                                    00033
03125     2017777 #WDCT    OCT 2017777        MASK TO LEAVE ADDRESS AND SIGN BIT    00034
03126     0003052 #R2      DEC #RW            CARD MOVE CONSTANTS                   00035
03127     3777730          DEC -40                                                  00036
03130     0000002 #MC      DEC 2              MEMORY CLEAR CONSTANTS                00037
03131     3775003          DEC -1533                                                00038
03132     0003336 #MC1     DEC #LAST+1                                              00039
03133     3750002          DEC -12286                                               00040
03134     1760000 #ADDR    OCT 1760000        ADDRESS CORRECT MASK                  00041
03135     0020000 #8K      DEC 8192                                                 00042
03136     3776000 OCTC     OCT 3776000        OCTAL CORRECTION MASK                 00043
03137     2504002 #LOAD1   LDZ                CHECK SWITCH 19 FOR MEMORY CLEAR      00044
03140     0303335          STA #LAST          CLEAR TO CONTENTS OF SWITCHES         00045
03141     0300001          STA 1                                                    00046
03142     0640337          LDX 8K       2     GET UPPER BIT                         00047
03143     0054000          LDA #DATE    2     AND SAVE DATE                         00048
03144     0303333          STA #X3SV                                                00049
03145     1003130          DLD #MC                                                  00050
03146     2400001          MOV 1                                                    00051
03147     2500011          RCS                CHECK IF CLEAR LATER PART             00052
03150     0303334          STA #SFLAG         SET SYSTEMS FLAG                      00053
03151     2514000          ROD                                                      00054
```

INITIAL LOADER

```
03152  2603160          BRU #LOAD              NO                                    00055
03153  1003132          DLD #MC1                                                     00056
03154  2403335          MOV #LAST                                                    00057
03155  0623135          LDX #8K      1         RESTORE AT EARLIEST                   00058
03156  0003333          LDA #X3SV                                                    00059
03157  0334000          STA #DATF    1         OPPORTUNITY                           00060
03160  2503001  #LOAD   RCB #R                 READ FIRST CARD - FILL BUFFER         00061
03161  2500004          HCR                    BUT IS LOADED NORMALLY                00062
03162  2504002          LDZ                    MAKE SURE WE START IN LOWER BANK      00063
03163  0303333          STA #X3SV                                                    00064
03164  1003126  #R1     DLD #R2                NORMAL ENTRANCE FOR CARD READ         00065
03165  2516006          BCN                                                          00066
03166  2603165          BRU *-1                WAIT FOR READER READY                 00067
03167  2403000          MOV #R                 AND THEN MOVE FROM READ BUFFER        00068
03170  0303122          STA #RW+40             SET ZERO TO END OF CARD IMAGE         00069
03171  0623204          LDX #ZF      1         SET UP FOR SCAN                       00070
03172  0663333          LDX #X3SV    3         RESTORE X3                            00071
03173  0023052          LDA #RW      1         RW IS WORKING AREA - GET CONTROL WORD 00072
03174  2514002          BZE                                                          00073
03175  2603257          BRU #OCT                                                     00074
03176  2003125          EXT #WDCT                                                    00075
03177  2514002          BZE                                                          00076
03200  2603240          BRU #T                                                       00077
03201  2503001          RCB #R                                                       00078
03202  2500004          HCR                                                          00079
03203  2510015          SRA 13                                                       00080
03204  0300000  #ZE     STA 0                                                        00081
03205  0023052          LDA #RW      1                                               00082
03206  2003134          EXT #ADDR              LEAVE ADDRESS AND SIGN BIT            00083
03207  2514001          BMI                    IF UPPER 8K ADD INDEX BIT             00084
03210  2603250  #DART2  BRU #DART1             FIRST DARTMOUTH STYLE CARD FOUND      00085
03211  2700003          STO 3                  OTHERWISE, GAL CONVENTION             00086
03212  1420001  #RET    INX 1        1         IS RETURN FOR EACH WORD IN STRING     00087
03213  0023052          LDA #RW      1                                               00088
03214  0360000          STA 0        3         PUT IT AWAY                           00089
03215  0123051          ADD #RW-1    1         TOTALING FOR CHECKSUM                 00090
03216  2514003          BOV                                                          00091
03217  2504032          ADD                                                          00092
03220  0323052          STA #RW      1         SAVE PRESENT CHECKSUM                 00093
03221  1417777          INX -1       0         BUMP DOWN WORD COUNTER                00094
03222  1460001          INX 1        3         AND BUMP UP ADDRESS COUNTER - PUT AWAY 00095
03223  0517777          BXH 1        0         AND CHECK FOR END OF STRING           00096
03224  2603212          BRU #RET               IF NOT, PUT AWAY ANOTHER WORD         00097
03225  0223053          SUB #RW+1    1                                               00098
03226  2514002          BZE                    CHECK CHECKWORD                       00099
03227  2603232          BRU *+3                                                      00100
03230  0003237          LDA #RRR               IF NOT, SET UP FOR ERROR HALT         00101
03231  2603231          BRU *                  RECOVERY IS BACKSPACE A-I START       00102
03232  1420002          INX 2        1                                               00103
03233  0023052          LDA #RW      1                                               00104
03234  2003125          EXT #WDCT                                                    00105
```

INITIAL LOADER

```
03235  2516002          BNZ                                              00106
03236  2603203          BRU #ZE-1                                        00107
03237  2603164  #RRR    BRU #R1          GO GET ANOTHER CARD             00108
03240  0023052  #T      LDA #RW     1    GET TRANSFER ADDRESS            00109
03241  2514001          BMI                                              00110
03242  0663135  #DART3  LDX #8K     3    IF FIRST DARTMOUTH STYLE, DO NOT PANIC 00111
03243  2700003          STO 3            ELSE GAL                        00112
03244  0003334          LDA #SFLAG       SAVE SYSTEMS FLAG               00113
03245  0306076          STA SLOAD                                        00114
03246  2660000          BRU 0       3    EXIT                            00115
03247  0103135          ADD #8K                                          00116
03250  0003247  #DART1  LDA *-1          SET INSTRUCTIONS FOR DARTMOUTH STYLE 00117
03251  0303210          STA #DART2                                       00118
03252  0303242          STA #DART3       RESET TRANSFER                  00119
03253  0003303          LDA OCTE+1                                       00120
03254  0303211          STA #DART2+1                                     00121
03255  0303243          STA #DART3+1                                     00122
03256  2603205          BRU #ZE+1        GET BACK                        00123
                                                                         00124
                                FREE-FORM OCTAL CORRECTIONS -            00125
                                                                         00126
03257  2503001  #OCT    RCR #R                                           00127
03260  2500004          HCR                                              00128
03261  0643204          LDX #ZE     2                                    00129
03262  1763333          STX #X3SV   3    SAVE INDEX REGISTER 3           00130
03263  2603302          BRU OCTE                                         00131
03264  2510012  OCTB    SRA 10                                           00132
03265  2003136          EXT OCTC         GET LEFT HALF OF WORD, AND DUMP REST 00133
03266  2513020          NOR 16                                           00134
03267  2512001          SLA 1                                            00135
03270  0003123          LDA OCTACC                                       00136
03271  2514003          BOV              OVERFLOW IF THERE IS AWORD      00137
03272  2603306          BRU OCTD                                         00138
03273  0477776          BXL 2       3                                    00139
03274  2603302          BRU OCTE                                         00140
03275  0477775          BXL 3       3                                    00141
03276  2603164          BRU #R1          SINGLE CHARACTER FIELD - GET OUT 00142
03277  0577771          BXH 7       3                                    00143
03300  2603326          BRU OCTF                                         00144
03301  0303124          STA OCTADD       OR ADDRESS                      00145
03302  2504002  OCTE    LDZ                                              00146
03303  0300003          STA 3                                            00147
03304  2504004          LQA                                              00148
03305  2603312          BRU OCTA-1                                       00149
03306  2512203  OCTD    SLQ 3                                            00150
03307  2000000          EXT 0                                            00151
03310  2516003          BNO                                              00152
03311  2504040          CHS                                              00153
03312  0303123          STA OCTACC                                       00154
03313  1460001  OCTA    INX 1       3                                    00155
03314  0537730          BXH 40      1                                    00156
```

INITIAL LOADER

```
 03315  2603164          BRU #R1                        CARD FINISHED          00157
 03316  0003136          LDA OCTC                                              00158
 03317  2504004          LQA                                                   00159
 03320  0023052          LDA #RW      1                                        00160
 03321  0457777          BXL 1        2                                        00161
 03322  0743264          SPB OCTB     2                                        00162
 03323  1420001          INX 1        1                                        00163
 03324  0643204          LDX #7E      2                                        00164
 03325  2603265          BRU OCTB+1                                            00165
 03326  0663124  OCTF    LDX OCTADD   3                                        00166
 03327  0360000          STA 0        3                                        00167
 03330  1460001          INX 1        3                                        00168
 03331  1763124          STX OCTADD   3                                        00169
 03332  2603302          BRU OCTF                                              00170
          03333  #X3SV    BSS 1                  X 3 TEMPORARY SAVE            00171
          03334  #SFLAG   BSS 1                  SYSTEMS TEMPORARY FLAG        00172
          03335  #LAST    EQU *                                                00173
T03137                    TCD #LOAD1                                          00174
                                                                              00175
                                                                            STL00176
                                                                            EJT00177
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
                                                                                00178
LOAD CHECKS SWITCH 7 - IF DOWN, THEN NO                                         00179
BILLING IS DESIRED, SO KBILL AND IREC ARE                                       00180
INHIBITED.                                                                      00181
- IF UP, BILLING IS DESIRED.                                                    00182
                                                                                00183
                                                                                00184
THE SRES SEQUENCE PERFORMS A SERIES OF                                          00185
CHECKS TO INSURE THAT                                                           00186
1) THE SPR SWITCH IS SET TO THE ALL POSTION                                     00187
2) THE DISK IS CLEAR                                                            00188
   AND THE 6K MOD IS WORKING                                                    00189
3) THE CONSOLE SWITCHES ARE RESET                                               00190
4) THE AAU IS READY                                                             00191
IF ANY OF THE ABOVE CONDITIONS FAIL TO                                          00192
BE TRUE, THE CONSOLE TYPEWRITER WILL TYPE                                       00193
A MESSAGE TO THE OPERATOR AND CONTINUE TO                                       00194
DO SO UNTILTHE CONDITION HAS BEEN CORRECTED                                     00195
                                                                                00196
5) SRES ALSO CHECKS THE BATCH FLAG, IF ON,                                      00197
IT CRUMPS THE SWITCH CHECK AND SETS UP AN                                       00198
ENTRY INTO THE BATCH OVERLAY IN THE TASK                                        00199
LIST.                                                                           00200
6) IT READS IN THE SUMMARY RECORD FROM THE                                      00201
DISK AND RESETS IT TO ZERO IF BOOTSTRAP WAS                                     00202
TYPED ON TTY 1.                                                                 00203
                                                                                00204
                                                                                00205
                                                                                00206
                                                                                00207
        01000           LOC 1000                                                00208
        01000   LOAD    BSS 0                                                   00209
01000   2500007         TON                                                     00210
01001   2506013         SXG 0                   SET ZERO IN CASE SWITCH BAD     00211
01002   0660337         LDX 8K      3                                           00212
01003   2504102         LMO                     SET DISK FLAG 2 ON              00213
01004   0300075         STA DKFLG2                                              00214
01005   2504002         LDZ                     AND SET ADDRESS FOR RELINQUISH  00215
01006   0376012         STA RELAD   3                                           00216
01007   2500011         RCS                     CHECK BILLING SWITCH            00217
01010   2001665         EXT $BMSK               BILLING MASK - OCT 3767777      00218
01011   0301672         STA $HF                 AND SET IN FLAG                 00219
01012   2516002         BNZ                                                     00220
01013   2601017         BRU *+4                 BILLING NOT SET                 00221
01014   0741274         SPR $ERTYP  2           BILLING FLAG ON                 00222
01015   0001455         DEC BON                                                 00223
01016   2601024         BRU SRES                                                00224
01017   0741274         SPR $ERTYP  2           BILLING FLAG OFF                00225
01020   0001466         DEC BOFF                                                00226
01021   0001666         LDA $NOB                INHIBIT KBILL AND IREC          00227
01022   0375254         STA KBILL   3                                           00228
01023   0376413         STA IREC    3

01024   2506013 SRES    SXG 0
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01025  2506016          SET PRK                    AND PREVENT INTERRUPTS                          00229
01026  0000361          LDA SIGN                   SET SPECIAL MAILBOX TO REGULAR STATUS           00230
01027  0300226          STA PMBX0                                                                  00231
01030  2500007          TON                                                                        00232
01031  2504002          LDZ                        NOW FIND OUT WHAT GROUP WE ARE IN               00233
01032  0300001          STA XR01                                                                   00234
01033  0300201          STA Z1                                                                     00235
01034  0721035          SPR *+1     1                                                              00236
01035  0000001          LDA XR01                                                                   00237
01036  2516002          BNZ                                                                        00238
01037  2601050          BRU SAOK                   OK, NEITHER API NOR TRAP                        00239
01040  0000201          LDA Z1                     API...                                          00240
01041  2516002          BNZ                                                                        00241
01042  2506015          SET PST                    YES, EXIT                                       00242
01043  2506016          SET PRK                                                                    00243
01044  3100001          SET TRPMODE                                                                00244
01045  3200001          SET NTPMODE                                                                00245
01046  0640276          LDX ZERO    2              AND EXIT                                        00246
01047  2641050          BRU *+1     2                                                              00247
01050  2506133  SAOK    SXG 5                      CONTINUE                                        00248
01051  0660337          LDX 8K      3              SET UPPER 8K BIT ON                             00249
01052  0620276          LDX ZERO    1              TEST SPB SWITCH                                 00250
01053  0721054          SPR *+1     1                                                              00251
01054  0537777          RXH 1       1              IF 1 IS HIGHER THAN 1, THEN SPB SWITCH IS       00252
01055  2601063          BRU *+6                    SET TO ALL, ELSE IT IS AT 0                     00253
01056  2506013          SXG 0                      SET 0                                           00254
01057  0660337          LDX 8K      3              UPPER 8K BIT ON                                 00255
01060  0741274          SPB $ERTYP  2                                                              00256
01061  0001410          DEC RSPB                   RESET SPB SWITCH TO ALL                         00257
01062  2601024          BRU SRES                   GO BACK AND TEST AGAIN                          00258
01063  2514720          BAR BAR     7              SEE HOW AAU IS                                  00259
01064  2601070          BRU *+4                                                                    00260
01065  0741274          SPR $ERTYP  2                                                              00261
01066  0001513          DEC RAAU                   LOAFING                                         00262
01067  2601024          BRU SRES                   AND CHECK AGAIN                                 00263
01070  0741623          SPR $DKTST  2              GET DISK                                        00264
01071  0006077          LDA LOADF                  CHECK FOR CARD LOAD                             00265
01072  2514001          BMI                        IF LOAD FLAG ON,                                00266
01073  2601520          BRU LOADC                  THEN PUNT MESSAGE THIS TIME                     00267
                                                                                                   00268
                                                IF BATCH BOOTSTRAP DO NOT BRING IN THE SUMMAR      00269
01074  0006074          LDA SBAK                   SEE IF BATCH                                    00270
01075  2516001          BPL                                                                        00271
01076  2601112          BRU *+12                                                                   00272
01077  0006075          LDA SBAK+1                 SEE IF HAVE A FRONT                             00273
01100  0301000          STA IO1                    MINUS IF A FRONT CARD WAS AROUND                00274
01101  1001656          DLD ,6RES,                 BATCH - SO SET UP RETURN                        00275
01102  1374046          DST IPLST   3                                                              00276
01103  1001646          DLD BSUMS1                 GET SUMMARY BACK                                00277
01104  2437752          MOV BSUMS                                                                  00278
01105  2504202          LAC                        COMPUTE BATCH RUNNING TIME                      00279
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01106  0277613          SUB OTIM1T  3                                    00280
01107  0100147          ADD FKRAT                                        00281
01110  0300147          STA FKRAT                                        00282
01111  2601235          BRU SKEX              AND GET OUT                00283
                                                                         00284
                                        PROCEDE WITH NORMAL BOOTSTRAP    00285
                                                                         00286
01112  2500020          SEL 0                                            00287
01113  2510000          PRF         0         POSITION FOR EFFICIENCY RECORD 00288
01114  0000402          OCT 402                                          00289
01115  2516020          BCS BRN     0                                    00290
01116  2601115          BRU *-1                                          00291
01117  2500020          SEL 0                                            00292
01120  1211001          RRD 1       0                                    00293
01121  0000600              FCLOCK                                       00294
01122  2516020          BCS BRN     0         WAIT                       00295
01123  2601122          BRU *-1                                          00296
01124  2514027          BCS BER     0                                    00297
01125  2601112          BRU *-11                                         00298
01126  0000361          LDA SIGN              RESET SPECIAL MAILBOX TO NORMAL STATUS 00299
01127  0300226          STA PMBX0                                        00300
01130  0000600          LDA FCLOCK            CHECK STARTING TIME        00301
01131  2516002          BNZ                   IF NOT ZERO, THEN REGULAR BOOTSTRAP 00302
01132  2601163          BRU SOAK2             SO SKIP INITIALIZATION     00303
01133  1001654          DLD FCLEAR            IF ZERO, CLEAR SUMMARY AREA 00304
01134  2400600          MOV FCLOCK                                       00305
01135  0300623          STA ACRUN                                        00306
01136  0300624          STA ACSWAP                                       00307
01137  0300625          STA ACDISK            INITIALIZE ACUMULATED TIME COUNTS 00308
01140  0300626          STA ACBAT                                        00309
01141  2504202          LAC                   GET STARTING TIME          00310
01142  0300600          STA FCLOCK                                       00311
01143  0300622          STA ACSTRT                                       00312
01144  0741252          SPB $TIME   2                                    00313
                                        PICK UP STARTING TIMES FOR SHORT-RUN SUMMARY 00314
01145  1300602          DST FSTIM                                        00315
01146  1300630          DST ASTIM2            LONG RUN SUMMARY           00316
01147  2500020          SEL 0                 REWRITE ON DISK            00317
01150  2510000          PRF         0                                    00318
01151  0000402          OCT 402                                          00319
01152  2516020          BCS BRN     0                                    00320
01153  2601152          BRU *-1                                          00321
01154  2500020          SEL 0                                            00322
01155  3710001          WRF 1       0                                    00323
01156  0000600              FCLOCK                                       00324
01157  2516020          BCS BRN     0                                    00325
01160  2601157          BRU *-1                                          00326
01161  2514027          BCS BER     0                                    00327
01162  2601147          BRU *-11                                         00328
01163  0620276  SOAK2   LDX ZERO    1         RESET FLAG                 00329
01164  0020612          LDA F4      1         AND TRANSMIT SUMMARY SO FAR TO ACCUMULATOR 00330
01165  0320140          STA FKEDIT  1
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01166  1420001          INX 1       1        STEP COUNT                                00331
01167  0437770          BXL FKBAT-F31        AND TEST IF DONE                          00332
01170  2601164          BRU *-4              NO                                        00333
01171  0077777          LDA OBZYF   3                                                  00334
01172  0300106          STA BZYF                                                       00335
                                                                                       00336
                                         FURTHER CHECKS TO MAKE SURE SYSTEM IS WORKING 00337
01173  2504002          LDZ                  CHECK FOR SWITCH 1 DOWN                   00338
01174  2500011          RCS                                                            00339
01175  2514002          BZE                                                            00340
01176  2601201          BRU *+3                                                        00341
01177  0741274          SPB $ERTYP  2                                                  00342
01200  0001402          DEC RES              RESET SWITCHES                            00343
01201  0076001          LDA EXEC2+1 3        CHECK 6K MOD ON DISK                      00344
01202  0202001          SUB 1025             LEFT IN FROM BOOTSTRAP                    00345
01203  2516002          BNZ                                                            00346
01204  2601210          BRU *+4              OK                                        00347
01205  0741274          SPB $ERTYP  2                                                  00348
01206  0001476          DEC SDSD                                                       00349
01207  2606000          BRU LOAD1            TRY AGAIN                                 00350
01210  0001672          LDA $BF              BILLING FLAG                              00351
01211  2516002          BNZ                                                            00352
01212  2601223          BRU STIME            NOT ON, CRUMP                             00353
01213  0741253  SBOOT    SPB $TWAIT  2        WAIT FOR TAPE                             00354
01214  2601213          BRU *-1              TRY AGAIN                                 00355
01215  2500120          SEL 1                IF OK, WRITE                              00356
01216  0301420          WTB BOOT    0        BOOTSTRAP MESSAGE                         00357
01217  0100036              30               DIFFERENT LENGTH                          00358
01220  0741253          SPB $TWAIT  2        CHECK AGAIN                               00359
01221  2601213          BRU SBOOT            TRY AGAIN                                 00360
01222  2601223          BRU STIME            GET AROUND BUFFER                         00361
01223  0741252  STIME   SPB $TIME  2                                                  00362
01224  0301447          STA D1               STORE IT IN DONE STATEMENT                00363
01225  2504001          LAQ                                                            00364
01226  0301450          STA D1+1                                                       00365
01227  0741274          SPB $ERTYP  2                                                  00366
01230  0001434          DEC D                                                          00367
01231  0000276          LDA TMM              TEMPORARY MALFUNCTION                     00368
01232  0300215          STA MBX1                                                       00369
01233  0000312          LDA KERMES           ERROR MESSAGE                             00370
01234  0300214          STA MBX0                                                       00371
                                                                                       00372
01235  0741251  SKEX    SPB $RELIN  2        GET RID OF THE DISK                       00373
01236  0640276          LDX ZERO    2                                                  00374
01237  0000226          LDA PMBX0            WAIT FOR D-30 TO ANSWER                   00375
01240  2514001          BMI                                                            00376
01241  2601246          BRU *+5                                                        00377
01242  1440001          INX 1       2        SEE HOW LONG HE TAKES                     00378
01243  0620276          LDX ZERO    1        WASTE TIME                                00379
01244  0440002          BXL B190    2                                                  00380
01245  2601237          BRU *-6              2/3 OF A SECOND.                          00381
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01246  2500013          KON                    GO ON WITH LOAD                00382
01247  2506014          OCT 2506014            PRIORITY REQUEST               00383
01250  2674001          BRU WAIT    3          GET OUT                        00384
                                                                              00385
                                                                              00386
01251  2675771  $RELIN  BRU RELIN   3                                         00387
01252  2676472  $TIME   BRU TIME    3                                         00388
                                                                              00389
                                                                              00390
                                                                              00391
01253  0001664  $TWAIT  LDA DTIME              GET INTERVAL                   00392
01254  2514120          BCS BTR     1          IF TAPE READY                  00393
01255  2640002          BRU 2       2          RETURN OK                      00394
01256  2504006          MAQ                    SAVE COUNT                     00395
01257  2500011          RCS                    CHECK SWITCHES                 00396
01260  2510014          SRA 19-7               AND CHECK SWITCH 7             00397
01261  2514000          BOD                                                   00398
01262  2601223          BRU STIME              IF DOWN, PUNT                  00399
01263  2504001          LAQ                    ELSE KEEP COUNTING             00400
01264  2504112          SBO                    ELSE COUNT                     00401
01265  2516001          BPL                                                   00402
01266  2601254          BRU $TWAIT+1           STILL OK                       00403
01267  1741673          STX $TEMP   2          SAVE REGISTER                  00404
01270  0741274          SPB $ERTYP  2          AND TYPE MESSAGE               00405
01271  0001335          DEC $TPNR              TAPE NOT READY                 00406
01272  0641673          LDX $TEMP   2          GET REGISTER                   00407
01273  2640001          BRU 1       2          AND BAD RETURN                 00408
                                                                              00409
                                                                              00410
                                                                              00411
01274  0600276  $ERTYP  LDX ZERO    0          INTIALIZE COUNTER              00412
01275  0040001          LDA 1       2          AND GET ADDRESS OF MESSAGE     00413
01276  0300136          STA TEMP                                              00414
01277  0620136          LDX TEMP    1                                         00415
01300  2500007          TON                    TURN ON TYPEWRITER             00416
01301  2514005          BNR                    AND CHECK IF READY             00417
01302  2601307          BRU $TYPE1                                            00418
01303  1400001          INX 1       0          COUNT                          00419
01304  0400002          BXL 8190    0                                         00420
01305  2601301          BRU *-4                AND KEEP TRYING                00421
01306  2640002          BRU 2       2          EXIT IF NOT READY              00422
                                                                              00423
01307  0020000  $TYPE1  LDA 0       1          GET WORD                       00424
01310  2000361          EXT SIGN               AND GET RID OF SIGN            00425
01311  2511014          SRD 12                 GET MOST IN Q                  00426
01312  1420001          INX 1       1          AND STEP POINTER               00427
01313  0600276          LDX ZERO    0          RESET COUNTER                  00428
                                                                              00429
01314  1700136  $TYPE   STX TEMP    0          SAVE CHARACTER POINTER         00430
01315  2516005          BNN                    AND WAIT FOR READY             00431
01316  2601315          BRU *-1                                               00432
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01317  1400001          INX 1       0      STEP COUNTER                                    00433
01320  0417634          BXL 100     0      STUPID TYPEWRITER - IBM EQUIPMENT               00434
01321  2601315          BRU *-4            MAKE SURE READY 50 TIMES BEFORE USING           00435
01322  0600136          LDX TEMP    0      RESTORE CHARACTER POINTER                       00436
01323  2100363          CAB PEOM           AND CHECK FOR END OF MESSAGE                    00437
01324  2601326          BRU *+2            NO                                              00438
01325  2640002          BRU 2       2      EXIT                                            00439
01326  2510406          SAN 6              ELSE TYPE                                       00440
01327  2500006          TYP                                                                00441
01330  1400001          INX 1       0      STEP CHARACTER COUNTER                          00442
01331  0517775          BXH 3       0      ONE WORD TYPED...                               00443
01332  2601307          BRU $TYPE1         YES                                             00444
01333  2512206          SLD 6              GET NEXT CHARACTER                              00445
01334  2601314          BRU $TYPE          AND TYPE IT                                     00446
                                                                                           00447
                                                                                           00448
         01335  $TPNR   BSS 0              TAPE CONTROLLER NOT READY.                      00449
01335  0373772          OCT 373772         TAPE CONTROLLER NOT READY                       00450
01336  0632147          ALF TAP            MAKE SURE HANDLER 0 HAS A SCRATCH TAPE          00451
01337  0256023          ALF E C            AND IS ON REMOTE.  THEN CLEAR CONTROLLER        00452
01340  0464563          ALF ONT                                                            00453
01341  0514643          ALF ROL                                                            00454
01342  0432551          ALF LER                                                            00455
01343  0604546          ALF  NO                                                            00456
01344  0636051          ALF T R                                                            00457
01345  0252124          ALF EAD                                                            00458
01346  0701537          OCT 701537                                                         00459
01347  0754421          OCT 754421                                                         00460
01350  0422560          ALF KE                                                             00461
01351  0626451          ALF SUR                                                            00462
01352  0256030          ALF E H                                                            00463
01353  0214524          ALF AND                                                            00464
01354  0432551          ALF LER                                                            00465
01355  0600060          ALF  0                                                             00466
01356  0302162          ALF HAS                                                            00467
01357  0602160          ALF  A                                                             00468
01360  0622351          ALF SCR                                                            00469
01361  0216323          ALF ATC                                                            00470
01362  0306063          ALF H T                                                            00471
01363  0214725          ALF APE                                                            00472
01364  0602145          ALF  AN                                                            00473
01365  0246031          ALF D I                                                            00474
01366  0626046          ALF S 0                                                            00475
01367  0456051          ALF N R                                                            00476
01370  0254446          ALF EMO                                                            00477
01371  0632533          ALF TE.                                                            00478
01372  0376330          OCT 376330                                                         00479
01373  0254560          ALF EN                                                             00480
01374  0234325          ALF CLE                                                            00481
01375  0215160          ALF AR                                                             00482
01376  0234645          ALF CON                                                            00483
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01377  0635146          ALF TRO                                        00484
01400  0434325          ALF LLE                                        00485
01401  0513355          OCT 513355                                     00486
                                                                       00487
                                    MESSAGES                           00488
                                                                       00489
         01402  RES     BSS 0              RESET SWITCHES              00490
01402  0375125          OCT 375125                                     00491
01403  0622563          ALF SET                                        00492
01404  0606266          ALF  SW                                        00493
01405  0316323          ALF ITC                                        00494
01406  0302562          ALF HES                                        00495
01407  0557777          OCT 557777                                     00496
                                                                       00497
         01410  RSPB    BSS 0              SET SPB SWITCH TO ALL       00498
01410  0376225          OCT 376225                                     00499
01411  0636062          ALF T S                                        00500
01412  0472260          ALF PB                                         00501
01413  0626631          ALF SWI                                        00502
01414  0632330          ALF TCH                                        00503
01415  0606346          ALF  TO                                        00504
01416  0602143          ALF  AL                                        00505
01417  0435577          OCT 435577                                     00506
                                                                       00507
         01420  BOOT    BSS 0                                          00508
01420  2606060          OCT 2606060                                    00509
01421  0557755          OCT 557755         SPECIAL PATTERN             00510
01422  0224646          ALF BOO                                        00511
01423  0636263          ALF TST                                        00512
01424  0512147          ALF RAP                                        00513
01425  0604546          ALF  NO                                        00514
01426  0333535          OCT 333535                                     00515
01427  0606060          ALF                                            00516
01430  0606060          ALF                                            00517
01431  0606060          ALF                                            00518
01432  0404040          ALF ---                                        00519
01433  0606060          ALF                                            00520
                                                                       00521
         01434  D       BSS 0              END LOAD   DATE AND TIME.   00522
01434  0372545          OCT 372545                                     00523
01435  0246043          ALF D L                                        00524
01436  0462124          ALF OAD                                        00525
01437  0606060          ALF                                            00526
01440  0606060  DATE    ALF                                            00527
01441  0606060          ALF                                            00528
01442  0606060          ALF                                            00529
01443  0606060          ALF                                            00530
01444  0606060          ALF                                            00531
01445  0606063          ALF   T                                        00532
01446  0314425          ALF IME                                        00533
01447  0606060  D1      ALF                TIME GOES IN THESE TWO LOCATIONS 00534
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01450  0606060          ALF                                          00535
01451  0603046          ALF  FO                                      00536
01452  0645162          ALF URS                                      00537
01453  0373755          OCT 373755                                   00538
01454  2606060          OCT 2606060                                  00539
                                                                     00540
         01455  BON     BSS 0                BILLING FLAG SET TO BILL 00541
01455  0372231          OCT 372231                                   00542
01456  0434331          ALF LLI                                      00543
01457  0452760          ALF NG                                       00544
01460  0264321          ALF FLA                                      00545
01461  0276062          ALF G S                                      00546
01462  0256360          ALF PT                                       00547
01463  0634660          ALF TO                                       00548
01464  0223143          ALF BIL                                      00549
01465  0433355          OCT 433355                                   00550
                                                                     00551
         01466  BOFF    BSS 0                FLAG SET FOR NO BILL    00552
01466  0372643          OCT 372643                                   00553
01467  0212760          ALF AG                                       00554
01470  0622563          ALF SET                                      00555
01471  0602646          ALF  FO                                      00556
01472  0516045          ALF R N                                      00557
01473  0466022          ALF O B                                      00558
01474  0314343          ALF ILL                                      00559
01475  0335577          OCT 335577                                   00560
                                                                     00561
         01476  SDSD    BSS 0                                        00562
01476  0624644          ALF SOM                                      00563
01477  0256026          ALF E F                                      00564
01500  0464643          ALF OOL                                      00565
01501  0602330          ALF  CH                                      00566
01502  0214527          ALF ANG                                      00567
01503  0252460          ALF ED                                       00568
01504  0633025          ALF THE                                      00569
01505  0600642          ALF  6K                                      00570
01506  0604446          ALF  MO                                      00571
01507  0246062          ALF D S                                      00572
01510  0663163          ALF WIT                                      00573
01511  0233037          OCT 233037                                   00574
01512  0557777          OCT 557777                                   00575
                                                                     00576
         01513  RAAU    BSS 0                AAU LOAFING             00577
01513  0212164          ALF AAU                                      00578
01514  0604346          ALF  LO                                      00579
01515  0212631          ALF AFI                                      00580
01516  0452733          ALF NG.                                      00581
01517  0373755          OCT 373755                                   00582
                                                                    EJT00583
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
                                                    THE MAIN BODY OF THE EXECUTIVE IS FIRST PUT      00584
                                                    ON THE DISK.  THE 16K LOADER IS THEN             00585
                                                    RE-ENTERED TO READ IN THE EXECUTIVE              00586
                                                    OVERLAYS, EACH OF WHICH IS PUT ON THE DISK       00587
                                                    IN TURN.  THE LAST OVERLAY IS FOLLOWED BY TWO    00588
                                                    TRANSFER CARDS, THE SECOND OF WHICH TRANSFERS    00589
                                                    TO THE SRES ROUTINE WHICH TYPES OUT THE          00590
                                                    DONE MESSAGE TO SIGNIFY LOADING HAS BEEN         00591
                                                    COMPLETED.                                       00592
                                                                                                     00593
                                                                                                     00594
01520  2504002  LOADC  LDZ                         RESET LOAD FLAG                                  00595
01521  0306077         STA LOADF                                                                    00596
01522  0006076         LDA SLOAD                   CHECK SYSTEM FLAG                                00597
01523  2516001         BPL                         IF NOT ON,                                       00598
01524  2601536         BRU LSELF                   LOAD EXECUTIVE                                   00599
01525  1001644         DLD .SET.                   SET UP LINKAGE                                   00600
01526  1374046         DST IPLST   3               SET IN LIST                                      00601
01527  2506015         SET PST                     JUST IN CASE                                     00602
01530  2506014         OCT 2506014                 SETPRQ                                           00603
01531  2674001         BRU WAIT    3               AND SCRAM                                        00604
                                                                                                     00605
01532  1001652  SET    DLD UNSET                   DELETE ENTRY                                     00606
01533  1374046         DST IPLST   3                                                                00607
01534  1440463         INX SYS     2               AND SET FOR SYSTEM                               00608
01535  2676025         BRU PERGET  3                                                                00609
                                                                                                     00610
                                                    WRITE BOOTSTRAP ON THE DISK                      00611
01536  2516020  LSELF  BCS BRN     0               PUT LOADER ON DISK FIRST                         00612
01537  2601536         BRU *-1                                                                      00613
01540  2500020         SEL 0                                                                        00614
01541  2510000         PRF         0               POSITION                                         00615
01542  0002476         OCT 2476                    DISK 0, POSITION 5, RECORD 31                    00616
01543  2516020         BCS BRN     0                                                                00617
01544  2601543         BRU *-1                                                                      00618
01545  2500020         SEL 0                                                                        00619
01546  3710001         WRF 1       0                                                                00620
01547  0006000             LOAD1                   LOADER                                           00621
01550  2516020         BCS BRN     0                                                                00622
01551  2601550         BRU *-1                                                                      00623
01552  2514027         BCS BER     0                                                                00624
01553  2601540         BRU *-11                                                                     00625
01554  0000343         LDA MASK6                   CONVERT LOADER TO WRITE EXECUTIVE ON DISK        00626
01555  2510003         SRA 3                       PLACE A 37 IN HIGHORDER BITS                     00627
01556  2306010         ORY LOAD2                                                                    00628
01557  2306024         ORY LOAD3                                                                    00629
01560  0000276         LDA ZERO                                                                     00630
01561  0300100         STA IN                      ZERO OUT SOME CRITICAL LOCATIONS                 00631
01562  0300214         STA MBX0                                                                     00632
01563  0001667         LDA *BLDV                   PICK UP BRANCH AND OVERWRITE BOOTSTRAP           00633
01564  0306071         STA LTRANS                                                                   00634
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01565  2606000          BRU LOAD1                                          00635
                                                                           00636
                                                                           00637
01566  2504002  LOADOV  LDZ                        CLEAR OVERLAY AREAS    00638
01567  0377000          STA EXECOV  3                                      00639
01570  1001650          DLD OVCLR                                          00640
01571  2437000          MOV EXECOV                                         00641
01572  2506013          SXG 0                      SET ZERO FOR LOADER     00642
01573  2603160          BRU #LOAD                  AND REENTER IT          00643
                                                                           00644
                                                                           00645
         01574  LOVWRT  RSS 0                                              00646
01574  2506133          SXG 5                                              00647
01575  0660337          LDX 6K      3                                      00648
01576  0641671          LDX PERNUM+12              PICK UP OVERLAY ADDRESS POINTER 00649
01577  0040002          LDA 2       2                                      00650
01600  2514001          BMI                        IF NEGATIVE, ERROR, SO CRUMP WORKS 00651
01601  2601601          BRU *                                              00652
01602  0376012          STA RELAD   3              SET FOR RELINQUISH      00653
01603  0301610          STA *+5                    PUT AWAY IN POSITION LOCATION 00654
01604  2516020          BCS BRN     0              WAIT FOR DISK READY     00655
01605  2601604          BRU *-1                                            00656
01606  2500020          SEL 0                                              00657
01607  2510000          PRF         0              POSITION                00658
01610  0000000          OCT 0                                              00659
01611  2516020          BCS BRN     0                                      00660
01612  2601611          BRU *-1                                            00661
01613  2500020          SEL 0                                              00662
01614  3711010          WRD 8       0              WRITE                   00663
01615  0037000              EXECOV                                         00664
01616  2516020          BCS BRN     0              WAIT                    00665
01617  2601616          BRU *-1                                            00666
01620  2514027          BCS BER     0              ERRORS...               00667
01621  2601606          BRU *-11                   IF SO, REWRITE          00668
01622  2601566          BRU LOADOV                 CONTINUE PICKING UP OVERLAYS 00669
                                                                           00670
                                                                           00671
01623  0600276  $DKTST  LDX ZERO    0              SET COUNTER             00672
01624  2504022          LDO                        AND ASK FOR DISK        00673
01625  0300226          STA PMRX0                                          00674
01626  0001664          LDA DTIME                                          00675
01627  2514020          BCS BRR     0              CHECK IF READY          00676
01630  2640001          BRU 1       2              IF SO, EXIT             00677
01631  2504112          SBO                        DECREMENT               00678
01632  2516001          BPL                        AND WAIT AGAIN          00679
01633  2601627          BRU *-4                                            00680
01634  1400001          JNX 1       0              INCREMENT               00681
01635  0417775          RXL 3       0                                      00682
01636  2601624          BRU $DKTST+1               AND TRY AGAIN           00683
01637  1741673          STX $TEMP   2              SAVE ENTRY              00684
01640  0741274          SPR $ERTYP  2              AND TYPE NASTY MESSAGE  00685
```

DISK LOADER FOR SYSTEMS AND EXECUTIVE

```
01641  0000531          DEC DC                                          00686
01642  0641673          LDX $TEMP   2      RESTORE ENTRY                00687
01643  2601623          BRU $DKTST         AND WAIT AGAIN               00688
01644  0640276  .SET.   LDX ZERO    2      SET POINTER                  00689
01645  2641532          BRU SET     2                                   00690
01646  0000140  BSUMS1  DEC FKEDIT                                      00691
01647  3777770          DEC -8                                          00692
01650  0037001  OVCLR   DEC EXECOV+1                                    00693
01651  3777001          DEC -511                                        00694
01652  2614050  UNSET   BRU IPLST+2                                     00695
01653  0000000          DEC 0                                           00696
01654  0000601  FCLEAR  DEC FLAPSE      CONSTANT TO CLEAR OUT SUMMARY AREA 00697
01655  3777757          DEC F1-F2                                       00698
01656  0737002  .BRES.  SPR BRES    1      RESET ENTRY TO BATCH         00699
01657  3777777          DEC -1                                          00700
01660  0001440  DATE1   DEC DATE         DATE MOVE CONSTANTS          00701
01661  3777773          DEC -5                                          00702
01662  0000240  DATE2   DEC SDATE                                       00703
01663  3777772          DEC -6             PLUS CODED DATE              00704
01664  0040000  DTIME   OCT 40000         DISK WAITING TIME            00705
01665  3767777  $BMSK   OCT 3767777       BILLING FLAG MASK            00706
01666  2640001  $NOB    BRU 1       2      TAPE INHIBIT.                00707
01667  2601566  $BLDV   BRU LOADOV         BOOTSTRAP OVERWRITE          00708
       01670    PERNUM  BSS 2              OVERLAY NUMBER AND ADDRESS POINTER 00709
       01672    $BF     BSS 1              BILLING FLAG                 00710
       01673    $TEMP   BSS 1              STORAGE                      00711
                                                                        00712
                                                                      STL00713
                                                                      EJT00714
```

BOOTSTRAP

```
                                                                        00715
                                                                        00716
DISK MAP OF 235 EXECUTIVE                                               00717
                                                                        00718
TRACKS 0-4 ARE RESERVED FOR THE D-30                                    00719
                                                                        00720
      0 5 0-30  BATCHSIM                                                00721
2476  0 5 31    BOOTSTRAP                                               00722
2500  0 5 32    LOWER MEMORY PORTION                                    00723
2540  0 5 48    UPPER MEMORY PORTION                                    00724
2600  0 5 64    MORE UPPER MEMORY                                       00725
                                                                        00726
      0 6 0-31  BATCHSIM                                                00727
3100  0 6 32    CARD LISTER                                             00728
3120  0 6 40    REPRODUCER                                              00729
3140  0 6 48    SYSTEM LOADER                                           00730
3160  0 6 56    CATALOGUE FILES                                         00731
3200  0 6 64    CATALOGUE PRINTOUT                                      00732
3220  0 6 72    DISK DUMP                                               00733
3240  0 6 80    DISK LOAD                                               00734
3260  0 6 88    BILLING OVERLAY                                         00735
                                                                        00736
3400  0 7  0    BATCH FRONT CARD RECORD                                 00737
3500  0 7 32    SYSTEM LOADER                                           00738
3520  0 7 40    GAP LISTER                                              00739
3540  0 7 48    EFFICIENCY SUMMARY OF SYSTEM                            00740
3560  0 7 56    TIME-SHARING BACKGROUND MONIT                           00741
3600  0 7 64    BACKGROUND MONITOR PART TWO                             00742
3620  0 7 72    SYSOUT LISTER                                           00743
3640  0 7 80    TAPE SUBROUTINE                                         00744
3660  0 7 88    BATCH SYSTEMS CATALOGUE                                 00745
                                                                        00746
4100  0 8 32    T-S BATCH SYSTEM MONITOR                                00747
4120  0 8 40    T-S BATCH PART THREE                                    00748
4140  0 8 48    T-S BATCH PART TWO                                      00749
4160  0 8 56    T-S BATCH PART FOUR                                     00750
4200  0 8 64    CARD TO TAPE                                            00751
                                                                        00752
TRACKS 10 TO 31 ARE FOR SYSTEMS                                         00753
                                                                        00754
24100 0 40 32    BATCH DUMP AREAS                                       00755
24500 0 41 32                                                           00756
25100 0 42 32                                                           00757
25500 0 43 32                                                           00758
                                                                        00759
30000 0 48 00    BATCH SCRATCH AREAS                                    00760
30400 0 49 00                                                           00761
31000 0 50 00                                                           00762
31400 0 51 00                                                           00763
                                                                        00764
32000 0 52 00    BATCH LOADERS                                          00765
```

BOOTSTRAP

```
                                                                                00766
                                                                                00767
                                                                                00768
                                                                                00769
                                                                                00770
          06000          LOC 6000                 225 EXECUTIVE BOOTSTRAP      00771
06000  2516020  LOAD1   BCS BRN      0            WAIT FOR DISK READY          00772
06001  2606000          BRU *-1                                                 00773
06002  2500020          SEL 0                     POSITION                     00774
06003  2510000          PRF          0                                         00775
06004  0002500          OCT 2500                                               00776
06005  2516020          BCS BRN      0                                         00777
06006  2606005          BRU *-1                                                 00778
06007  2500020          SEL 0                     READ IN LOWER MEMORY PART    00779
06010  1210020  LOAD2   RRF 16       0            16 RECORDS                   00780
06011  0000000          0                         FROM BEGINNING OF MEMORY     00781
06012  2516020          BCS BRN      0            WAIT                         00782
06013  2606012          BRU *-1                                                 00783
06014  2514027          BCS BER      0            CHECK FOR ERRORS             00784
06015  2606002          BRU *-11                                                00785
06016  2500020          SEL 0                     POSITION AGAIN               00786
06017  2510000          PRF          0                                         00787
06020  0002540          OCT 2540                                               00788
06021  2516020          BCS BRN      0            WAIT                         00789
06022  2606021          BRU *-1                                                 00790
06023  2500020          SEL 0                     READ IN FIRST K OF PROGRAM   00791
06024  1210010  LOAD3   OCT 1210010               RE+D 24 RECORDS              00792
06025  0134000          Z01 EXEC1    1                                         00793
06026  2516020          BCS BRN      0                                         00794
06027  2606026          BRU *-1                                                 00795
06030  2514027          BCS BER      0            CHECK FOR ERRORS             00796
06031  2606016          BRU *-11                                                00797
06032  0006074          LDA SBAK                                               00798
06033  2514001          BMI                                                    00799
06034  2606051          BRU *+13                                               00800
06035  2500020          SEL 0                     POSITION FOR OBA FROM LAST DUMP 00801
06036  2510000          PRF          0                                         00802
06037  0025660          OCT 25660                                              00803
06040  2516020          BCS BRN      0                                         00804
06041  2606040          BRU *-1                                                 00805
06042  2500020          SEL 0                                                  00806
06043  1210010          RRF 8        0            PUT IT BACK                  00807
06044  0037000              EXECOV                                             00808
06045  2516020          BCS BRN      0                                         00809
06046  2606045          BRU *-1                                                 00810
06047  2514027          BCS BER      0                                         00811
06050  2606035          BRU *-11                                                00812
06051  2500020          SEL 0                     PICK UP DATE FOR OUTPUT MESSAGE 00813
06052  2510000          PRF          0                                         00814
06053  0000400          OCT 400                                                00815
06054  2516020          BCS BRN      0                                         00816
```

```
40000 1 00 00    BATCH PROGRAMS
 TO
51400 1 19 00
```

BOOTSTRAP

```
06055  2606054          BRU *-1                                        00817
06056  2500020          SEL 0              READ IN DATE                00818
06057  1210001          RRF 1       0                                  00819
06060  0010000              LDATE          INTO DATE REGION            00820
06061  2516020          BCS BRN     0      WAIT                        00821
06062  2606061          BRU *-1                                        00822
06063  2514027          BCS BER     0      ERROR CHECK                 00823
06064  2606051          BRU *-11           IF ERRORS, RE-READ          00824
06065  1001660          DLD DATE1                                      00825
06066  2410003          MOV LDATE+3                                    00826
06067  1001662          DLD DATE2                                      00827
06070  2410002          MOV LDATE+2                                    00828
06071  2601024  LTRANS  BRU SRES                                       00829
         06074          LOC 6074           SPECIAL FLAGS               00830
06074  0000000  SBAK    DEC 0              BACKGROUND IN OPERATION FLAG 00831
06075  0000000          DEC 0                                          00832
06076  0000000  SLOAD   DEC 0              SYSTEM LOAD FLAG            00833
06077  3777777  LOADF   DEC -1             INITIALIZE LOAD FLAG AT -1  00834
         10000  LDATE   EQO 10000                                      00835
                                                                       00836
                                                                      STL00837
                                                                      EJT00838
```

LOWER-LOWER STORAGE

```
00000          LOC  0                                                00839
00000          BSS  1                                                00840
00001   XR01   BSS  1   INDEX REGISTERS USED BY EDIT                  00841
00002   XR02   BSS  1                                                00842
00003   XR03   BSS  1                                                00843
00004   XR10   BSS  1                                                00844
00005   XR11   BSS  1                                                00845
00006          BSS  1                                                00846
00007          BSS  1                                                00847
00010   ECH2   BSS  1   CHARACTER HOLDERS FOR ECHAR                  00848
00011   ECH3   BSS  1                                                00849
00012   ESELEC BSS  1   BINARY LINE NUMBER FOR SELECTIVE LIST        00850
00013          BSS  1   STARTING DISK ADDRESS FOR SELECTIVE LIST     00851
00014   EDY    BSS  1   ADDRESS OF CR AT END OF INSTRUCTION          00852
00015   EDT    BSS  1   ADDRESS OF CR AT END PREVIOUS INSTRUCTION    00853
00016   EDZ    BSS  1   LINE NUMBER CURRENTLY BEING ADJUSTED         00854
00017          BSS  5   OTHER INDEX REGISTERS                        00855
00024          BSS  2   X-GROUP 5                                    00856
00026   XR52   BSS  2                                                00857
00030   TY     BSS  20  TYPEWRITER INPUT LINE BUILD                  00858
00054   T      BSS  16  TEMPORARY STORAGE FOR PERIPHERAL ROUTINES    00859
00060   TA     EQU  T+4 SPACE FOR TAPE SUBROUTINE STORAGE            00860
00074   DKFLG1 BSS  1   DISK FLAG 1 FOR REGULAR TASKS                00861
00075   DKFLG2 BSS  1   FOR EXTRA TASKS                              00862
00076   IADRS  BSS  2   DISK ADDRESSES, SECOND IS MEMORY LOCATION    00863
00100   IN     BSS  2   CURRENT SYSTEM IDENTIFIER AND REP NUMBER     00864
00102   MSTEMP BSS  2   TEMPORARY STORAGE                           00865
00104   SAVE   BSS  2   A AND Q SAVED BY INTERRUPT ROUTINE          00866
                                                                     00867
                                                                     00868
00106   BZYF   BSS  1   BUSY FLAG                                   00869
00107   DCNT   BSS  1   DISK OPERATIONS COUNTER                     00870
00110   DIVAL  BSS  1   DISK OPERATIONS ELAPSED TIME INTERVAL       00871
00111   DRCNT  BSS  1   DISK OPERATIONS ERROR COUNTER               00872
00112   DSTAKF BSS  1   GIVES NUMBER OF DISK REQUESTS STACKED UP    00873
00113   .EFF   BSS  1   EFFICIENCY FLAG                             00874
00114   HDSKD  BSS  1   TIME COUNTER FOR DISK REQUESTS              00875
00115   INOV   BSS  1   OVERLAY IN USE BY CURRENT SYSTEM            00876
00116   INPNT  BSS  1   POINTS TO DISK ADDRESS OF CURRENT SYSTEM    00877
00117   .INS   BSS  1   INSERT TASK SAVE                           00878
00120   INT1   BSS  1   INTERRUPT TIMER FOR 235                    00879
00121   ISUM   BSS  1   CLOCK SAVE AT INTERRUPT TIME                00880
00122   ITIM   BSS  1   REAL TIME + 1 MINUTE                       00881
00123   KANSWR BSS  1   ANSWER FOR DATANET-30                      00882
00124   KRET   BSS  1   TEMPORARY STORAGE FOR DATANET-30 ROUTINES  00883
00125   PCNT   BSS  2   WORD AND CHARACTER COUNTERS USED BY PTYPE   00884
00127   PCT    BSS  1   P COUNTER SAVE                             00885
00130   PERIN  BSS  1   INDICATES PERIPHERAL TASK CURRENTLY IN MEM. 00886
00131   PREG   BSS  1   P-COUNTER SAVE FOR KDUMP                   00887
00132   PTEMP  BSS  1   STORAGE FOR WORD CURRENTLY BEING TYPED      00888
00133   RAWT   BSS  1   TEMPORARY STORAGE                          00889
```

LOWER-LOWER STORAGE

```
                00134   STACK   BSS 1                   BACKLOG OF TYPEWRITER REQUESTS                  00890
                00135   SWFLG   BSS 1                   SWITCH FLAG FOR NEXT SECTOR AND PERIPHERALS     00891
                00136   TEMP    BSS 1                   TEMPORARY STORAGE                               00892
                00137   TYPF    BSS 1                   TYPEWRITER USAGE FLAG                           00893
                                                                                                        00894
                                                ACCUMULATOR FOR SYSTEMS OPERATION SUMMARY               00895
                                                                                                        00896
                00140   FKEDIT  BSS 1                   0 - MAILBOX ROUTINE NUMBERS                     00897
                00141   FKSTRT  BSS 1                   1                                               00898
                00142   FKNTNU  BSS 1                   2                                               00899
                00143   FKDUMP  BSS 1                   3                                               00900
                00144   FKREAD  BSS 1                   4                                               00901
                00145   FKWRIT  BSS 1                   5                                               00902
                00146   FKTEA   BSS 1                   6                                               00903
                00147   FKBAT   BSS 1                   BATCH ACCUMULATOR                               00904
                00137   F3      EQU FKEDIT-1                                                            00905
                                                                                                        00906
                                                                                                        00907
00150   0000000 CMESS   OCT 0                           PERIPHERAL COMMUNICATIONS                       00908
00151   0000000 CMESSB  OCT 0                           BATCH FLAG                                      00909
00152   0034070 EAVAIL  DEC EPLST                       END OF LIST                                     00910
00153   0034046 EINIT   DEC IPLST                       START OF TASK LIST                              00911
00154   0000000 OVTSK   DEC 0                           EITHER ZERO OR POINTING TO ROUTINE LOC.         00912
00155   0000000 TY1     DEC 0                           WORD POINTER FOR TYPEWRITER INPUT               00913
00156   0020000 TY2     DEC 8192                        CHARACTER POINTER FOR TYPEWRITER INPUT          00914
                                                                                                        00915
00157   0735471 .DSKC.  SPB DSKC    1                   ENTRIES                                         00916
00160   0735515 .DSKD.  SPB DSKD    1                                                                   00917
00161   0735651 .DSEC.  SPB DSEC    1                   DSKOP CONTINUATION                              00918
00162   0735544 .DSKX.  SPB DSKX    1                   DISK REQUEST ENTRY FOR DSKA, PART 2             00919
00163   2674762 .KRST.  BRU KRST    3                   TRAP RESTORE BRANCH                             00920
00164   0734766 .KREX.  SPB KREX    1                   SPECIAL INTERRUPT-TRAP BRANCH                   00921
00165   0735133 .KSET.  SPB KSET    1                   KDUMP DISK WRITE ENTRY                          00922
00166   2675123 .KTRI.  BRU KTRI    3                   BRANCH TO CHECK TRAPMODE                        00923
00167   2675114 .KTRS.  BRU KTRS    3                   TRAP SAVE BRANCH                                00924
00170   0700212 .KTRSI  SPB TX2     0                   TRAP CHECK                                      00925
00171   0734312 .KWRT.  SPB KWRT    1                   ENTRY FOR SOURCE REWRITING                      00926
00172   0735403 .SYOV.  SPB SYOV    1                   OVERLAY READ ENTRY                              00927
00173   0736343 .PMS1.  SPB PMS1    1                   TYPEWRITER ENTRY                                00928
                                                                                                        00929
          00200         ORG 128                                                                         00930
00200   0000000 Z0      DEC 0                                                                           00931
00201   0000000 Z1      DEC 0                                                                           00932
00202   0000000 Z2      DEC 0                                                                           00933
00203   0020000 Z3      OCT 20000                       UPPER 8K BIT                                    00934
00204   2674035         BRU INTER   3                   GO TO INTERRUPT ROUTINE                         00935
          00205         BSS 1                           AAU TRAPPING MODE - OVERFLOW                    00936
          00206 ITRAP   BSS 1                           AAU TRAPPING MODE - UNDERFLOW                   00937
          00207         BSS 1                           AAU TRAPPING MODE - DIVIDE CHECK                00938
          00210         BSS 2                           AAU TRAPPINGMODE INDEX GROUP                    00939
          00212 TX2     BSS 2                           REGISTERS 2 AND 3                               00940
```

LOWER-LOWER STORAGE

```
00941
STL00942
EJT00943
```

MAILBOX AREA

```
                                MAILBOX ZERO FLAG IS SET TO INDICATE                    00944
                                DATANET-30 MESSAGE                                      00945
                                RETURN MESSAGE ALSO GOES IN MAILBOX 0                   00946
                                THESE MESSAGES ARE                                      00947
                                +1 ERROR MBX1 TELLS WHAT TYPE                           00948
                                    0 TEMPORARY MALFUNCTION                             00949
                                    1 NO PROGRAM                                        00950
                                    2 UNRECOGNIZABLE SYSTEM NAME                        00951
                                +2 READ DONE                                            00952
                                +3 WRITE DONE                                           00953
                                +4 REQUEST DUMP                                         00954
                                MESSAGES USED ONLY AFTER A DUMP FROM THE D-30           00955
                                  +5 TERMINAL EXIT                                      00956
                                  +6 INTERMEDIATE OUTPUT                                00957
                                  +7 CALL FOR INPUT                                     00958
                                                                                        00959
                                ****************************************                00960
                                SPECIAL MESSAGE SWITCHING MAILBOX                       00961
                                HAS FOLLOWING CODE                                      00962
                                +1 DISK REQUEST FROM 235                                00963
                                +2 235 FINISHED WITH DISK                               00964
                                +3 REQUEST DATANET-30 TO STOP COUNTING TIME             00965
                                +4 DATANET-30 CAN START COUNTING TIME AGAIN             00966
                                +5 NOT USED AT PRESENT                                  00967
                                +6 OFF                                                  00968
                                +7 ON                                                   00969
                                -0 ACNOWLEDGE BY D-30 AND NORMAL STATUS                 00970
                                +10 START BATCH                                         00971
                                +11 STOP BATCH                                          00972
                                SPECIAL REQUESTS BY A RUNNING SYSTEM                    00973
                                +12 TRANSFER ENDING DISK ADDRESS                        00974
                                                                                        00975
                                                                                        00976
00214   MBX0    BSS 1               POINTS TO ROUTINE TO BE EXECUTED                    00977
00215   MBX1    BSS 1               ALFAMERIC SYSTEM NAME - FIRST THREE LETTERS         00978
00216   MBX2    BSS 1               STARTING DISK ADDRESS                               00979
00217   MBX3    BSS 1               ENDING DISK ADDRESS AND REL. LOC. FOR LIST          00980
00220           BSS 2               USER NUMBER - OR SELECTIVE LIST LINE NUMBER         00981
00222           BSS 2               PROBLEM NAME                                        00982
00224   MBX8    BSS 2               REAL TIME FOR DATANET-30                            00983
                                                                                        00984
00226   PMBX0   BSS 2               SPECIAL MAILBOX                                     00985
                                                                                        00986
                                                                                        00987
                                UPON RECEIPT OF A MESSAGE FROM THE DATANET-30           00988
                                THE MESSAGES GET MOVED INTO THE SAVED MAILBOX           00989
                                AREA, WHICH FOLLOWS                                     00990
                                                                                        00991
                                                                                        00992
00230   SMBX0   BSS 1               SAVED MESSAGE                                       00993
00231   SMBX1   BSS 1               SAVED SYSTEM NAME                                   00994
```

MAILBOX AREA

```
00232   SMBX2   BSS 1     SAVED STARTING DISK ADDRESS                        00995
00233   SMBX3   BSS 1     SAVED ENDING DISK ADDRESS                          00996
00234   SMBX4   BSS 1     SAVED USER #, SEL. LIST #, TEACH ADDRESS           00997
00235   SMBX5   BSS 1     SAVED ENDING TEACH DISK ADDRESS                    00998
00236           BSS 2     SAVED PROBLEM NAME                                 00999
00240   SDATE   BSS 6     DATE ALWAYS KEPT HERE - USED IN BILLING            01000
00246   SCLOCK  BSS 4     BILLING TIME INFORMATION                           01001
                                                                             01002
                                                                          STL01003
                                                                          EJT01004
```

CONSTANTS

```
                                                                                                01005
                                                                                                01006
                                        DOUBLE LENGTH CONSTANTS                                 01007
                                                                                                01008
00252  1777777  COV1   OCT 1777777          OVERFLOW CAUSING CONSTANT                          01009
00253  1777777         OCT 1777777                                                             01010
00254  2000000  CUN1   OCT 2000000          UNDERFLOW CAUSER                                   01011
00255  2000001         OCT 2000001                                                             01012
00256  0777755  EDEOF  OCT 777755           END OF MESSAGE MARK                                01013
00257  0777777  EDFILL OCT 777777           FILL CHARACTER.                                    01014
00260  0736067  .DRMC. SPR DRMC    1        SYSTEM DISK USAGE ENTRY                            01015
00261  0000000         ZOO --              FILLED IN BY EXECUTIVE                             01016
00262  2614046  KFUGE1 BRU IPLST            SPECIAL REGULAR MAILBOX ENTRY DELETE CONSTANT      01017
00263  0033774         DEC WAIT-5          SPECIAL FOR DEXIT                                  01018
00264  0004012  KX0    DEC MKX0             SAVE INDEX GROUPS 0-4                              01019
00265  3777754         DEC -20                                                                 01020
00266  0000231  MOVMBX DEC SMBX1            MAILBOX 1, 2, 3, 4, 5, 6, 7 SAVE                   01021
00267  3777771         DEC -7                                                                  01022
00270  0000017  D15    DEC 15                                                                  01023
00271  3777777         DEC -1                                                                  01024
00272  0000205  TRAPR  DEC ITRAP-1          TRAPPING RESTORE CONSTANT                          01025
00273  3777771         DEC -7                                                                  01026
00274  0004045  TRAPS  DEC MKTRP+1          TRAPPING MODE SAVE CONSTANT                        01027
00275  3777771         DEC -7                                                                  01028
00276  0000000  ZERO   DDC 0                                                                   01029
00277  0000000
00300  0736442  .EFFY. SPR EFFY    1        EFFICIENCY ENTRY                                   01030
00301  3777777         DEC -1                                                                  01031
00302  0735617  .DISK. SPR DISK    1        DSKOP ENTRY                                        01032
00303  0000000         DEC 0                                                                   01033
00304  2600002  .IRAS  BRU 2                ERASE ENTRY                                        01034
00305  0000000         OCT 0                                                                   01035
00306  0735263  .KBIL. SPR KBIL    1        BILLING ENTRY                                      01036
00307  3777777         DEC -1                                                                  01037
00310  2514005  .PTY.  BNR                  PTY POINTER                                        01038
00311  0736363         SPR PTY     1                                                           01039
                                                                                                01040
                                        CONSTANTS                                               01041
                                                                                                01042
00312  0000001  ONE    OCT 1                                                                   01043
00313  3777777  MONE   DEC -1                                                                  01044
00314  0000002  TWO    OCT 2                                                                   01045
00315  3777776  MTWO   DEC -2                                                                  01046
00316  0000003  THREE  OCT 3                                                                   01047
00317  0000004  FOUR   OCT 4                                                                   01048
00320  0000005  FIVE   OCT 5                                                                   01049
00321  0000006  SIX    OCT 6                                                                   01050
00322  0000007  SEVEN  OCT 7                                                                   01051
00323  0000010  O10    OCT 10                                                                  01052
00324  0000012  TEN    DEC 10                                                                  01053
00325  0000020  O20    OCT 20               DISK COUNT STEPPING CONSTANT                       01054
```

CONSTANTS

```
00326  0000037  CR      OCT 37          CARRIAGE RETURN                                  01055
00327  0000040  040     OCT 40                                                           01056
00330  0000060  060     OCT 60          TRAILING BLANK...                                01057
00331  0000100  0100    OCT 100         POSITION STEP FOR DISK ADDRESSES                 01058
00332  0000140  0140    OCT 140         96 RECORDS FOR DISK                              01059
00333  0000200  0200    OCT 200         BUFFER FLIP FOR DUMP ROUTINE                     01060
00334  0000300  0300    OCT 300         ILLEGAL DISK ADDRESS TEST                        01061
00335  0000400  0400    OCT 400                                                          01062
00336  0000440  0440    OCT 440         FUDGE CONSTANTS FOR SCRATCH ALGORITHM            01063
00337  0020000  8K      OCT 20000       UPPER MEMORY RELOCATION CONSTANT                 01064
00340  3777400  MASK1   OCT 3777400     FOR DISK ADDRESS CHECKING                        01065
00341  3777770  MASK3   OCT 3777770     MESSAGE PROTECT MASK                             01066
00342  3760000  MASK4   OCT 3760000     DISK PROTECT MASK                                01067
00343  3000000  MASK6   OCT 3000000                                                      01068
00344  3777700  MASK7   OCT 3777700     EDIT MASK                                        01069
00345  0000077  MASK8   OCT 0000077     EDIT MASK                                        01070
00346  3600000  MASK9   OCT 3600000     API MASK                                         01071
00347  3700000  MASK10  OCT 3700000                                                      01072
00350  0077777  MASK11  OCT 0077777     SPECIAL P-COUNTER MASK                           01073
00351  0177777  MASK12  OCT 0177777     SPECIAL EDIT MASK                                01074
00352  0200000  BIT3    OCT 200000      STACKER FULL INDICATOR ON DISK OPERATIONS        01075
00353  0100000  BIT4    OCT 100000      ERROR INDICATOR ON DISK OPERATIONS               01076
00354  0010040  DINST   OCT 10040       DISK INSTRUCTION LESS HIGH ORDER BITS            01077
00355  0036073  DSTAKP  DEC DSTAK-4     SPECIAL DISK FUDGE FACTOR                        01078
00356  0034044  KFUDGE  DEC IPRIOR      SPECIAL DSKA FUDGE FACTRO                        01079
00357  2606060  MBLNK   OCT 2606060     END PRINT LINE BLANK                             01080
00360  1000000  OVFLO   OCT 1000000     OVERFLOW CONSTANT                                01081
00361  2000000  SIGN    OCT -0                                                           01082
00362  2000002  STWO    OCT -2                                                           01083
00363  0000055  PEOM    OCT 55          END OF MESSAGE FOR PTYPE ROUTINE                 01084
00364  0011776  TEND1   DEC K3AREA-2    END OF PROGRAM                                   01085
00365  3100010  NFL     SET NFLPOINT                                                     01086
00366  3200010  UNF     SET UFLPOINT                                                     01087
00367  3500010  FIX     SET FIXPOINT    SET AAU MODES                                    01088
                                                                                        01089
                                SYSTEM TABLE WITH DISK ADDRESSES                        01090
                                STANDARD OVERLAY IS 3K, SYSTEM IS ON FAST               01091
                                TRACKS AND EXPERIMENTAL SYS IS ON SLOW                  01092
                                                                                        01093
         00370  SYTAB   RSS 0                                                          01094
00370  0222162          ALF BAS         BASIC                                          01095
00371  0005000          OCT 5000        0  10  00                                      01096
00372  0010540          OCT 10540       0  17  48                                      01097
00373  0214327          ALF ALG         ALGOL                                          01098
00374  0005400          OCT 5400        0  11  00                                      01099
00375  0006140          OCT 6140        0  12  48                                      01100
00376  0006540          OCT 6540        0  13  48                                      01101
00377  0015400          OCT 15400       0  27  00                                      01102
00400  0264651          ALF FOR         FORTRAN                                        01103
00401  0013400          OCT 13400       0  23  00                                      01104
00402  0014000          OCT 14000       0  24  00                                      01105
```

CONSTANTS

```
00403  0014400          OCT 14400                0  25  00                          01106
00404  0243147          ALF DJP                  DARTMOUTH INTERPRETIVE PROGRAM      01107
00405  0007000          OCT 7000                 0  14  00                          01108
00406  0636221          ALF TSA                  TIME-SHARING ASSEMBLY PROCESSOR     01109
00407  0007400          OCT 7400                 0  15  00                          01110
00410  0015000          OCT 15000                0  26  00                          01111
00411  0672143          ALF XAL                  EXPERIMENTAL ALGOL                  01112
00412  0010000          OCT 10000                0  16  00                          01113
00413  0006000          OCT 6000                 0  12  00                          01114
00414  0006400          OCT 6400                 0  13  00                          01115
00415  0016000          OCT 16000                0  28  00                          01116
00416  0672221          ALF XBA                  EXPERIMENTAL BASIC                  01117
00417  0011000          OCT 11000                0  18  00                          01118
00420  0010400          OCT 10400                0  17  00                          01119
00421  0672646          ALF XFO                  EXPERIMENTAL FORTRAN                01120
00422  0011400          OCT 11400                0  19  00                          01121
00423  0012000          OCT 12000                0  20  00                          01122
00424  0012400          OCT 12400                0  21  00                          01123
00425  0252431          ALF EDT                  EIT SYSTEM                          01124
00426  0013000          OCT 13000                0  22  00                          01125
         00037  LAST     EQU *-SYTAB              MAXIMUM NUMBER OF ENTRIES IN TABLE  01126
00427  2616174  SEXIT1   BRU SYSEX               EXIT BRANCH                         01127
00430  0020000  SEXIT2   OCT 20000               EXIT CONSTANT                       01128
00431  0020000  SYLOC    DEC SYSTEM              READ-IN LOCATION                    01129
00432  0001400  MENDT    OCT 1400                MOVE TEST CONSTANT                  01130
00433  2400000  SMOVE1   MOV 0                   MOVE CONSTANT                       01131
00434  0034001  WAIT1    DEC WAIT                INTERRUPT POINT TEST                01132
00435  0052140  H1       OCT 52140               TIME CONSTANTS                      01133
00436  0600000  BLZZ     ALF  00                                                     01134
00437  0000550  H2.      OCT 550                                                     01135
00440  0150000  COLON    OCT 150000                                                  01136
00441  0606060  DUMPBL   ALF                                                         01137
00442  0006000  K2LOC    DEC K2AREA              2K AREA                             01138
00443  0012000  K3LOC    DEC K3AREA              3K AREA                             01139
00444  0004000  K6LOC    DEC K6AREA              6K AREA                             01140
         04000  K6AREA   EQU 4000                6K AREA START                       01141
         06000  K2AREA   EQU 6000                2K AREA START                       01142
         12000  K3AREA   EQU 12000               3K AREA START                       01143
         00312  KERMES   EQU ONE                 ERROR ANSWER                        01144
         00314  KMES2    EQU TWO                 NORMAL ANSWER FOR READS             01145
         00316  KMES3    EQU THREE               NORMAL ANSWER FOR WRITES            01146
         00317  KMESD    EQU FOUR                REQUEST DUMP                        01147
         00320  KMEST    EQU FIVE                TERMINAL EXIT MESSAGE               01148
         00321  KMESO    EQU SIX                 INTERMEDIATE OUTPUT MESSAGE         01149
         00322  KMESI    EQU SEVEN               REAL-TIME INPUT CALL MESSAGE        01150
         00360  BIT1     EQU OVFLO               PARITY ERROR INDICATOR              01151
         00312  HDREQ    EQU ONE                 DISK REQUEST MESSAGE                01152
         34000  EXEC1    EQU 34000               FIRST PART OF 235 EXECUTIVE         01153
         36000  EXEC2    EQU 36000               SECOND PART 235 EXECUTIVE           01154
00445  2000010  IMER     OCT -10                                                     01155
                                                                                    01156
```

CONSTANTS

EDIT CONSTANTS

```
                00443   ROG     EQU K3LOC                                       01157
                00442   ROG2    EQU K2LOC                                       01158
                00443   TEND    EQU K3LOC                                       01159
                00331   EDSF    EQU 0100                                        01160
00446           0000234 EDPNT2  DEC SMBX4       POINTS TO SELECTIVE LIST NUMBER 01161
                00351   $EDIG   EQU MASK12      EDIT MASK 0177777               01162
                00315   EDTWO   EQU MTWO                                        01163
                00344   EDMSK1  EQU MASK7       OCT 3777700                     01164
                00345   EDMSK2  EQU MASK8       OCT 0000077                     01165
                00326   EDCARR  EQU CR          CARRIAGE RETURN                 01166
                00337   UPPER8  EQU 8K                                          01167
                04000   TABLE   EQU 4000        START OF EDIT LINKAGE TABLE     01168
                                                                                01169
                                                                                01170
                                                                                01171
                                                                               STL01172
                                                                               EJT01173
```

TIMS-SHARING TYPEWRITER OPTIONS

```
                00447   COM     BSS 0                                                   01174
                                                                                        01175
                                LIST OF OPTIONS AVAILABLE ON TYPEWRITER                 01176
00447   0623700         OCT 623700      STOP - SAME AS CRUMP                            01177
00450   2674163         BRU ICRUMP  3                                                   01178
                00447   KEY     EQU *-2         KEY TO CATALOGUE                        01179
00451   0003160         OCT 3160        0  6  56                                       01180
                                                                                        01181
00452   0462626         ALF OFF         OFF TELLS THE DATANET-30 TO STOP COUNTING TIM   01182
00453   2674161         BRU IOFF    3                                                   01183
                00452   SUMMRY  EQU *-2         TIME-SHARING OPERATIONS EFFICIENCY SUMMARY 01184
00454   0003540         OCT 3540        0  7  48                                       01185
                                                                                        01186
00455   0236147 C/P     ALF C/P         LISTER                                          01187
00456   2676025         BRU PERGET  3                                                   01188
00457   0003100         OCT 3100        0  6  32                                       01189
                                                                                        01190
00460   0236123 C/C     ALF C/C         REPRODUCER                                      01191
00461   2676025         BRU PERGET  3                                                   01192
00462   0003120         OCT 3120        0  6  40                                       01193
                                                                                        01194
00463   0627062 SYS     ALF SYS         SYSTEM LOADER                                   01195
00464   2676025         BRU PERGET  3                                                   01196
00465   0003140         OCT 3140        0  6  48                                       01197
                                                                                        01198
00466   0232163 CAT     ALF CAT         CATALOGUE PRINTOUT                              01199
00467   2676025         BRU PERGET  3                                                   01200
00470   0003200         OCT 3200        0  6  64                                       01201
                                                                                        01202
00471   0246444 DUM     ALF DUM         DISK DUMP                                       01203
00472   2676025         BRU PERGET  3                                                   01204
00473   0003220         OCT 3220        0  6  72                                       01205
                                                                                        01206
00474   0434621 LOA     ALF LOA         DISK LOADER                                     01207
00475   2676025         BRU PERGET  3                                                   01208
00476   0003240         OCT 3240        0  6  80                                       01209
                                                                                        01210
00477   0223143 BIL     ALF BIL         BILLING PACK PROGRAM                            01211
00500   2676025         BRU PERGET  3                                                   01212
00501   0003260         OCT 3260        0  6  88                                       01213
                                                                                        01214
00502   0242227 DBG     ALF DBG         DEBUGGING OVERLAY                               01215
00503   2676025         BRU PERGET  3                                                   01216
00504   0003500         OCT 3500        0  7  32                                       01217
                                                                                        01218
00505   0276147 G/P     ALF G/P         GAP LISTER                                      01219
00506   2676025         BRU PERGET  3                                                   01220
00507   0003520         OCT 3520        0  7  40                                       01221
                                                                                        01222
00510   0626146 S/O     ALF S/O         SYSOUT LISTER                                   01223
00511   2676025         BRU PERGET  3                                                   01224
00512   0003620         OCT 3620        0  7  72
```

TIMS-SHARING TYPEWRITER OPTIONS

```
00513  0222163   BATCH  ALF BAT              BACKGROUND PROCESSOR                01225
00514  2676025          BRU PERGET  3                                           01226
00515  0003560          OCT 3560            0  7  56                           01227
                                                                                01228
00516  0236163   C/T    ALF C/T             CARD TO TAPE                        01229
00517  2676025          BRU PERGET  3                                           01230
00520  0004200          OCT 4200            0 8 64                              01231
                                                                                01232
         00521   CRU    RSS 0                                                   01233
00521  0462221   ORA    ALF OBA             SPECIAL BATCH SYSTEM OVERLAY        01234
00522  2600522          BRU *               WILL NEVER COME HERE                01235
00523  0004100          OCT 4100            0  8  32                           01236
         00522   TAP    EQU *-2             TAPE READ/WRITE SUBROUTINE          01237
00524  0003640          OCT 3640            0  7  80                           01238
         00523   OCAT   EQU *-2             BATCH SYSTEMS CATALOGUE             01239
00525  0003660          OCT 3660            0  7  88                           01240
         00524   BAT2   EQU *-2             BACKGROUND PART2                    01241
00526  0003600          OCT 3600            0  7  64                           01242
                                                                                01243
                                                                                01244
                                                                                01245
                                                                              STL01246
                                                                              EJT01247
```

ERROR MESSAGES

```
                00276   TMM     EQU ZERO            TEMPORARY MALFUNCTION MESSAGE          01248
                00312   NPR     EQU ONE             NO PROGRAM MESSAGE                     01249
                00314   USN     EQU TWO             UNRECOGNIZABLE SYSTEM NAME MESSAGE     01250
                                                                                           01251
                00527   DATNET  BSS 0               D-30 KEPT DISK                         01252
00527   0372403                 OCT 372403                                                 01253
00530   0003755                 OCT 3755                                                   01254
                                                                                           01255
                00531   DC      BSS 0               DISK CONTROLLER                        01256
00531   0372431                 OCT 372431                                                 01257
00532   0624237                 OCT 624237                                                 01258
00533   0557777                 OCT 557777                                                 01259
                                                                                           01260
                00534   DP      BSS 0               PARITY                                 01261
00534   0473755                 OCT 473755                                                 01262
                                                                                           01263
                00535   ILG     BSS 0               ILLEGAL                                01264
00535   0313755                 OCT 313755                                                 01265
                                                                                           01266
                00536   ADRS    BSS 0               ADRS XXXXXX                            01267
00536   0372160                 OCT 372160                                                 01268
00537   0606060 ADR1    ALF                                                                01269
00540   0606060                 ALF                                                        01270
00541   0375577 PCR     OCT 375577                                                         01271
                                                                                           01272
                00542   MSSAGE  BSS 0               MESSAGE                                01273
00542   0443755                 OCT 443755                                                 01274
                                                                                           01275
                00543   FULL    BSS 0               FULL                                   01276
00543   0372643                 OCT 372643                                                 01277
00544   0433755                 OCT 433755                                                 01278
                                                                                           01279
                00545   DEL     BSS 0               DELETED                                01280
00545   0602425                 ALF  DE                                                    01281
00546   0432563                 ALF LET                                                    01282
00547   0252437                 OCT 252437                                                 01283
00550   0557777                 OCT 557777                                                 01284
                                                                                           01285
                00551   REA     BSS 0               READY                                  01286
00551   0375125                 OCT 375125                                                 01287
00552   0212470                 ALF ADY                                                    01288
00553   0333755                 OCT 333755                                                 01289
                                                                                           01290
                00554   BZY     BSS 0               BUSY.                                  01291
00554   0372264                 OCT 372264                                                 01292
00555   0627033                 ALF SY.                                                    01293
00556   0375577                 OCT 375577                                                 01294
                                                                                           01295
                00557   ILR     BSS 0               ILLEGAL TASK                           01296
00557   0373232                 OCT 373232                                                 01297
                                                                                           01298
```

ERROR MESSAGES

```
00560  0323755          OCT 323755

                                                    01299
                                                    01300
                                                 STL01301
                                                 EJT01302
```

EFFICIENCY SUMMARY AND BUFFER AREAS

```
                                                                                01303
                                    EFFICIENCY SUMMARY OF SYSTEMS OPERATIONS    01304
                                                                                01305
                                                                                01306
                                                                                01307
            00600           LOC 600          ONE 64 WORD RECORD                 01308
            00600   FCLOCK  BSS 1            STARTING TIME                      01309
            00601   FLAPSE  BSS 1            ELAPSED TIME                       01310
            00602   FSTIM   BSS 2            ACTUAL TIME OF START               01311
            00604   FCNT    BSS 1            HALF-HOUR COUNTER                  01312
            00605           BSS 5            SAVE 5 LOCATIONS ON PRINCIPLE      01313
            00612   F4      BSS 0                                               01314
            00612           BSS FKBAT-F3                                        01315
            00622   F2      BSS 0                                               01316
                                    DAY ACCUMULATORS                            01317
            00622   ACSTRT  BSS 1                                               01318
            00623   ACRUN   BSS 1                                               01319
            00624   ACSWAP  BSS 1                                               01320
            00625   ACDISK  BSS 1                                               01321
            00626   ACBAT   BSS 1            ACCUMULATED BATCH                  01322
            00630   ASTIM2  BSS 2            START FOR ACCUMULATED PORTION      01323
            00632   FTEM    BSS 4            TEMPORARY STORAGE                  01324
                                                                                01325
            00601   F1      EQU FLAPSE                                          01326
                                                                                01327
                                                                                01328
                                                                                01329
            01000           LOC 1000                                            01330
            01000   IO1     BSS 84           BUFFER AREA NO. 1                  01331
            01200           LOC 1200         SECOND BUFFER AREA                 01332
            01200   IO2     BSS 84           BUFFER AREA NO. 2                  01333
                                                                                01334
                                    SYSOUT BUFFER AREAS                         01335
            00600           LOC 600                                             01336
            00600   SIO1    BSS 80           80 WORDS                           01337
            00720   SIO2    BSS 40           40 WORDS                           01338
            00770   SIO3    BSS 40           40 WORDS                           01339
            01040   SIO4    BSS 111          110 WORDS + 1 RESIDUE WORDS        01340
            01217   SIO5    BSS 111          110 WORDS + 1 RESIDUE WORD         01341
            01376           BSS 1            JUST TO SEE HOW FAR I AM           01342
                                                                                01343
                                                                                01344
                                    DISK ADDRESSES TO BE USED AT LOAD TIME ONLY  01345
            02000           LOC 2000                                            01346
            01776   OBA2    EQU *-2          MORE OF BATCH SYSTEM OVERLAY       01347
02000  0004140              OCT 4140         0  8  48                           01348
            01777   OBA3    EQU *-2          MORE BATCH                         01349
02001  0004120              OCT 4120         0  8  40                           01350
            02000   OBA4    EQU *-2          STILL MORE                         01351
02002  0004160              OCT 4160         0  8  56                           01352
                                                                                01353
```

SAVE AREA

```
                                        STL01354
                                        EJT01355
```

SAVE AREA

```
                                                                                01356
                                                                                01357
                                THE SAVE AREA IS USED TO SAVE ALL               01358
                                THE IMPORTANT REGISTERS AND INDEX GROUPS 0-4    01359
                                WHEN A PROGRAM IS TEMPORARILY DUMPED ON THE     01360
                                DISK.                                           01361
                                                                                01362
04000           LOC 4000                                                        01363
04000   KCLOCK  BSS 1           ADJUSTED STARTING TIME FOR SYSTEMS              01364
04001   MKPRNT  BSS 1           SYSTEM OUTPUT AREA POINTER                      01365
04002   MKSXG   BSS 1           INDEX GROUP SAVE - TEACH FLAG                   01366
04003   ILNGTH  BSS 1           LENGTH OF SOURCE PROGRAM IN MEMORY              01367
04004   MKDISK  BSS 1           STARTING ADDRESS OF 6K AREA                     01368
04005           BSS 1           BLANK FOR NOW                                   01369
04006   MKAQ    BSS 2           A AND Q REGISTERS SAVE                          01370
04010   MKOV    BSS 1           OVERFLOW SAVE                                   01371
04011   MKP     BSS 1           P-COUNTER SAVE                                  01372
04012   MKX0    BSS 20          INDEX GROUPS 0-4 SAVE                           01373
04036   MKAX    BSS 2           AX REGISTERS SAVE                               01374
04040   MKQX    BSS 2           QX REGISTER SAVE                                01375
04042   MODE    BSS 2           AAU MODE SAVE AND INDICATOR SAVE                01376
04044   MKTRP   BSS 6           TRAPPING MODE FLAG AND BRANCH SAVE              01377
04052   MKTX2   BSS 2           TRAPPING MODE INDEX REGISTER 2 SAVE             01378
04054   MOVID   BSS 1           OVERLAY IDENTIFIER #                            01379
04055   MOREP   BSS 1           NUMBER OF CURRENT REPLACEMENT                   01380
04056   MOLEN   BSS 1           LENGTH OF OVERLAY                               01381
04057   MOMEM   BSS 1           MEMORY LOCATION OF OVERLAY                      01382
04060   MOVINT  BSS 1           FLAG TO INDICATE WHETHER READ COMPLETED         01383
04061   CLOCK   BSS 1           ELAPSED TIME COUNTER                            01384
04062   MDC     BSS 1           DUMP CODE FOR D-30                              01385
04063   MDL     BSS 1           DUMP LENGTH STARTS AT 96 RECORDS                01386
04100   MKPR1   EQU 4100        SYSTEM OUTPUT BUFFER                            01387
                                                                                01388
20000   SYSTEM  EQU 20000       SYSTEM READ-IN AREA                             01389
20004   SNAME   EQU SYSTEM+4    ALFAMERIC SYSTEM NAME                           01390
                                                                                01391
                                                                               STL01392
                                                                               EJT01393
```

INTERRUPT ROUTINE

```
                                                                                01394
                                        WHEN NOT PERFORMING ANY SPECIFIC        01395
                                        TASK, THE EXECUTIVE SITS IN ITS WAIT LOOP,  01396
                                        DISPLAYING A DISTINCTIVE PATTERN IN THE 01397
                                        A REGISTER.                             01398
                                                                                01399
                                                                                01400
        34001           LOC 34001                                               01401
34001   2506133  WAIT   SXG 5                                                   01402
34002   0756472         SPB TIME    2           GET TIME                        01403
34003   1300224         DST MBX8                AND GIVE TO DATANET-30          01404
34004   2506015         SET PST                 IF IN INTERRUPT MODE, EXIT      01405
34005   3100001         SET TRPMODE             IF IN TRAP PROGRAM, EXIT        01406
34006   3200001         SET NTPMODE             WITH NO TRAP SET                01407
34007   0660337         LDX 8K      3                                           01408
34010   2674011         BRU *+1     3                                           01409
34011   2516003         BNO                     TURN OFF OVERFLOW INDICATOR     01410
34012   2504012         NOP                                                     01411
34013   2504202         LAC                                                     01412
34014   2100120         CAB INT1                CHECK IF 1 SECOND ELAPSED       01413
34015   2614021         BRU *+4                 NO                              01414
34016   2506014         OCT 2506014             YES, INTERRUPT                  01415
34017   0100317         ADD FOUR                SET TIMING INTERVAL FOR 2/3 SECONDS 01416
34020   0300120         STA INT1                                                01417
34021   2100122         CAB ITIM                CHECK IF 1+MINUTE ELAPSED       01418
34022   2614024         BRU *+2                 IF LESS, DO NOTHING             01419
34023   2614001         BRU WAIT                IF SO, PICK UP TIME AGAIN       01420
34024   2100113         CAB .EFF                CHECK IF EFFICIENCY SAVE DUE    01421
34025   2614013         BRU *-10                                                01422
34026   2614013         BRU *-11                                                01423
34027   2506016         SET PBK                 TEN MINUTES ELAPSED, SAVE       01424
34030   0000252         LDA CONV1               MAKE SURE NO MORE CALLED UNTIL COMPLETION 01425
34031   0300113         STA .EFF                                                01426
34032   1000300         DLD .EFFY,                                              01427
34033   0754217         SPB INSERT  2           INSERT TASK IN LIST             01428
34034   2614004         BRU WAIT+3              AND GET BACK                    01429
                                                                        EJT01430
```

INTERRUPT ROUTINE

```
                                                INTER SAVES THE WORKING REGISTERS, AND                  01431
                                                FIRST LOOKS AT THE REGULAR MAILBOX.  IF THIS            01432
                                                IS POSITIVE, IT GOES THROUGH THE REGULAR                01433
                                                MAILBOX AND THEN THE PERIPHERAL MAILBOX                 01434
                                                TASK TABLES IN TURN.                                    01435
                                                IF THE REGULAR MAILBOX WAS NEGATIVE, IREG               01436
                                                ISOLATES THE LOW ORDER END AND PERFORMS                 01437
                                                A TABLE LOOKUP WITH THE RESULT                          01438
                                                                                                        01439
                                                                                                        01440
                                                                                                        01441
34035  0000000          OCT 0                                                                           01442
34036  0000000          ODC 0                       MAKE SURE ITAB IS EVEN                              01443
34037  0000000
         34040          RSS -3                                                                          01444
34035  1300104  INTER   DST SAVE                    SAVE A AND Q                                        01445
34036  2514003          ROV                         TURN OFF OVERFLOW INDICATOR                         01446
34037  2614040          BRU *+1                                                                         01447
34040  1720127          STX PCT     1               AND SAVE P COUNTER                                  01448
34041  0000214          LDA M8X0                    LOOK AT REGULAR MAILBOX                             01449
34042  2514001          RMI                         CHECK IF NEGATIVE                                   01450
34043  2614250          BRU IREG                    IF SO, GO SERVICE IT                                01451
                                                                                                        01452
                                                ******   WARNING...IPRIOR MUST BE EVEN ******          01453
                                                                                                        01454
34044  2614046  IPRIOR  BRU *+2                     PRIORITY TASK ENTRY                                 01455
34045  0000000          OCT 0                                                                           01456
                                                                                                        01457
34046  2614050  IPLST   BRU *+2                     0                                                   01458
34047  0000000          OCT 0                                                                           01459
                                                                                                        01460
34050  2614052          BRU *+2                     1                                                   01461
34051  0000000          OCT 0                                                                           01462
                                                                                                        01463
34052  2614054          BRU *+2                     2                                                   01464
34053  0000000          OCT 0                                                                           01465
                                                                                                        01466
34054  2614056          BRU *+2                     3                                                   01467
34055  0000000          OCT 0                                                                           01468
                                                                                                        01469
34056  2614060          BRU *+2                     4                                                   01470
34057  0000000          OCT 0                                                                           01471
                                                                                                        01472
34060  2614062          BRU *+2                     5                                                   01473
34061  0000000          OCT 0                                                                           01474
                                                                                                        01475
34062  2614064          BRU *+2                     6                                                   01476
34063  0000000          OCT 0                                                                           01477
                                                                                                        01478
34064  2614066          BRU *+2                     7                                                   01479
34065  0000000          OCT 0                                                                           01480
```

INTERRUPT ROUTINE

```
                                                                                01481
34066  2614070          BRU ISPMBX          LAST ENTRY                          01482
34067  0000000          OCT 0                                                   01483
         34070  EPLST    EQU *              END OF LIST                         01484
         00022  EPLEN    EQU *-IPLST        LIST LENGTH                         01485
                                                                                01486
                                                                                01487
34070  0000127  ISPMBX   LDA PCT            CHECK P-COUNTER                     01488
34071  2514001          BMI                 IF PLUS, THEN TON SET               01489
34072  2516005          BNN                 SO CRUMP                            01490
34073  2614202          BRU IREST+1                                             01491
34074  0620155          LDX TY1      1      RESTORE REGISTER 1                  01492
34075  0640156          LDX TY2      2      AND 2                               01493
34076  2510123          SNA 19              GET CHARACTER                       01494
34077  2000361          EXT SIGN            AND GET RID OF A SIGN               01495
34100  2504004          LQA                 KEEP A COPY IN Q                    01496
34101  2100345          CAB MASK8           CHECK FOR LINE DELETE               01497
34102  2614104          BRU *+2                                                 01498
34103  2614132          BRU INDEL           DELETE LINE                         01499
34104  1440001          INX 1        2      INCREMENT CHARACTER COUNTER         01500
34105  0557775          BXH 3        2      AND CHECK IF OVER WORD              01501
34106  0640337          LDX BK       2      YES                                 01502
34107  1740156          STX TY2      2      SAVE                                01503
34110  2654111          BRU *+1      2      CODE FOR CHARACTERS AS FOLLOWS      01504
34111  2614121          BRU INR             RIGHTMOST IS 0                      01505
34112  2614116          BRU INL             LEFTMOST IS 1                       01506
34113  2512006          SLA 6               MIDDLE IS 2                         01507
34114  2320030          ORY TY       1      SAVE MIDDLE CHARACTER IN WORD       01508
34115  2614124          BRU INCHAR          AND CHECK FOR CARRIAGE RETURNS      01509
34116  2512014  INL     SLA 12              GET CHARACTER INTO WORD             01510
34117  0320030          STA TY       1                                          01511
34120  2614124          BRU INCHAR                                              01512
34121  2320030  INR     ORY TY       1      RIGHTMOST CHARACTER                 01513
34122  1420001          INX 1        1      INCREMENT WORD POINTER              01514
34123  1720155          STX TY1      1      AND SAVE                            01515
                                                                                01516
                                                                                01517
34124  2504001  INCHAR  LAQ                 GET CHARACTER                       01518
34125  0200326          SUB CR              CHECK FOR CARRIAGE RETURN           01519
34126  2514002          BZE                                                     01520
34127  2614143          BRU IANALY          YES, ANALYSE COMMAND                01521
34130  0437754          BXL 20       1      CHECK STATUS OF ONE                 01522
34131  2614201          BRU IREST                                               01523
                                                                                01524
                                                                                01525
34132  0756330  INDEL   SPR MESSG    2      DELETED MESSAGE                     01526
34133  0000545          DEC DEL                                                 01527
34134  2504002          LDZ                 RESET POINTERS                      01528
34135  0300155          STA TY1                                                 01529
34136  2700156          STO TY2                                                 01530
34137  2614201          BRU IREST           AND GET OUT                         01531
```

INTERRUPT ROUTINE

```
                                                                                01532
                                                                                01533
34140  0756330  IBUSY  SPB MESSG  2        TYPE MESSAGE                         01534
34141  0000554         DEC BZY             BUSY                                 01535
34142  2614134         BRU INDEL+2         AND GET OUT                          01536
                                                                                01537
                                                                                01538
34143  0300155  IANALY STA TY1             RESET POINTERS                       01539
34144  2700156         STO TY2                                                  01540
34145  0300202         STA Z2                                                   01541
34146  1440447         INX COM     2                                            01542
34147  0000030         LDA TY              AND ANALYSE COMMAND                  01543
34150  2140000         CAB 0       2                                            01544
34151  2614153         BRU *+2                                                  01545
34152  2640001         BRU 1       2       GO TO TASK                           01546
34153  1440003         INX 3       2       STEP POINTER                         01547
34154  0457257         BXL CRU     2       CHECK FOR END OF LIST                01548
34155  2614150         BRU *-5                                                  01549
                                                                                01550
                                                                                01551
34156  0756330  ILD    SPB MESSG   2       TYPE MESSAGE                         01552
34157  0000557         DEC ILB             ILLEGAL TASK                         01553
34160  2614201         BRU IREST           AND CRUMP                            01554
                                                                                01555
                                                                                01556
34161  0000316  IOFF   LDA THREE           STOP TIME COUNT                      01557
34162  2614164         BRU *+2                                                  01558
34163  0000317  ICRUMP LDA FOUR            ASK FOR TIME COUNT AGAIN             01559
34164  0756430         SPB SPMESS  2                                            01560
34165  0756330  IREDY  SPB MESSG   2       TYPE READY MESSAGE                   01561
34166  0000551         DEC REA                                                  01562
34167  0620154         LDX OVTSK   1       CHECK IF TASK USED AT ALL            01563
34170  0537777         BXH 1       1                                            01564
34171  0754212         SPB IRASE   2       IF GREATER THAN 1, THEN USED         01565
34172  2504002  IRESP  LDZ                 RESET VARIOUS POINTERS               01566
34173  0300154         STA OVTSK           RESET POINTER                        01567
34174  0300106         STA BZYF            AND TURN OFF BUSY FLAG               01568
34175  0300151         STA CMESSB          RESET BATCH FLAG                     01569
34176  0301000         STA I01             FOR BATCH FRONT CARD SEARCH          01570
34177  0375270         STA KBFDG   3       FIX BILLING                          01571
34200  0375274         STA KBFDG+4 3                                            01572
                                                                                01573
                                                                                01574
34201  0000127  IREST  LDA PCT                                                  01575
34202  0300201         STA Z1              RESTORE P COUNTER                    01576
34203  2514003         BOV                 MAKE SURE OVERFLOW ISN@T ON ACCIDENTALLY 01577
34204  2614205         BRU *+1                                                  01578
34205  2000346         EXT MASK9           AND GET RID OF HIGH ORDER BITS       01579
34206  2512004         SLA 4               RESTORE OVERFLOW                     01580
34207  1900104         DLD SAVE            RESTORE A AND Q                      01581
34210  2506015         SET PST                                                  01582
```

INTERRUPT ROUTINE

```
34211  2620000          BRU 0       1     RETURN                                        01583
                                                                                      01584
                                                                                      01585
34212  1000304  IRASE   DLD .IRAS          ENTERED ON 2 WITH POINTER TO BE ERASED      01586
34213  0100201          ADD Z1            IN REGISTER 1.  CONSTRUCT BRU *+2 AND       01587
34214  2000337          EXT 8K            AND MAKE FOR BANK COMPATIBLE ADDRESSES      01588
34215  1320000          DST 0       1     DELETE ENTRY                                01589
34216  2640001          BRU 1       2     AND RETURN                                  01590
                                                                                      01591
                                                                                      01592
34217  0300117  INSERT  STA .INS          SAVE ENTRY.  INSERT SETS UP TASKS FOR       01593
34220  0600276          LDX ZERO    0     API TIME                                    01594
34221  0660152          LDX EAVAIL  3     GET NEXT AVAILABLE LOCATION POINTER         01595
34222  1460002  INS1    INX 2       3     ACTUALLY IS LAST AVAILABLE                  01596
34223  0563710          BXH FPLST   3     AND CHECK FOR WRAPAROUND                    01597
34224  0660153          LDX EINIT   3     YES, REINITIALIZE                           01598
34225  1760152          STX EAVAIL  3     SAVE POINTER                                01599
34226  1460002          INX 2       0     COUNT                                       01600
34227  0517754          BXH EPLEN+2 0     AND CHECK FOR END OF TABLE                  01601
34230  2614242          BRU INFUL         YES                                         01602
34231  0060001          LDA 1       3     CHECK IF ENTRY FREE                         01603
34232  2516002          BNZ               ENTRIES HAVE SECOND WORD NON-ZERO           01604
34233  2614222          BRU INS1          NOT FREE, KEEP SEARCHING                    01605
34234  0000117          LDA .INS          YES                                         01606
34235  1360000          DST 0       3     AND SET ENTRIES IN LIST                     01607
34236  2506014          OCT 2506014       MAKE SURE IT GETS SERVICED SOON             01608
34237  0000152          LDA EAVAIL        AND SET POINTER IN A                        01609
34240  0660337          LDX 8K      3     RESET REGISTER 3                            01610
34241  2640001          BRU 1       2     AND SCRAM                                   01611
34242  0660337  INFUL   LDX 8K      3     RESTORE 8K BIT                              01612
34243  0620152          LDX EAVAIL  1     AND GET ENTRY BEING LOOKED AT               01613
34244  0754212          SPB IRASE   2     CRUMP SOME TASK OR OTHER                    01614
34245  0756330          SPB MESSG   2     AND GIVE ROOM TO OUTPUT MESSAGE             01615
34246  0000543          DEC FULL          SHOULD NEVER HAPPEN                         01616
34247  2614201          BRU IREST         AND OF COURSE CRUMP TASK                    01617
                                                                                      01618
                                                                                      01619
34250  0300230  IREG    STA SMBX0         SAVE MESSAGE                                01620
34251  2100445          CAS IMER          CHECK FOR ILLEGAL MESSAGE                   01621
34252  2614255          BRU *+3                                                       01622
34253  2614255          BRU *+2                                                       01623
34254  2614303          BRU MER           MESSAGE ERROR                               01624
34255  0100337          ADD 8K            ADD UPPER 8K BIT                            01625
34256  0300202          STA Z2            SET UP FOR INDEXED BRANCH TO TASK           01626
34257  1720131          STX PREG    1     SAVE P-COUNTER FOR KDUMP                    01627
34260  1000262          DLD KFUGE1        GET SPECIAL ERASE ENTRY                     01628
34261  1374044          DST IPRIOR  3     AND SET IN REGULAR MAILBOX TASK ENTRY       01629
34262  0000434          LDA WAIT1         AND SET P-LOCATION FOR EXIT                 01630
34263  0300127          STA PCT                                                       01631
34264  2504202          LAC               SAVE TIME                                   01632
34265  0300121          STA ISUM                                                      01633
```

INTERRUPT ROUTINE

```
34266  1000266         DLD  MOVMBX          SAVE MAILBOX 1, 2, 3, 4, 5, 6, 7.      01634
34267  2400215         MOV  MBX1                                                   01635
34270  0300214         STA  MBX0           ACKNOWLEDGE MESSAGE RECEIVED           01636
34271  2654272  CRUGA  BRU  *+1     2      AND BRANCH ACCORDING TO MAILBOX NUMBER 01637
34272  2614306         BRU  KEDIT          0                                      01638
34273  2614652         BRU  KSTART         1                                      01639
34274  2614672         BRU  KCNTNU         2                                      01640
34275  2615005         BRU  KDUMP          3                                      01641
34276  2615165         BRU  KDSKRD         4                                      01642
34277  2615172         BRU  KDSKWR         5                                      01643
34300  2615174         BRU  KTEACH         6                                      01644
34301  2617003         BRU  KRPUN          7                                      01645
34302  2615215         BRU  KTRRUN         10                                     01646
                                                                                  01647
                                                                                  01648
34303  0755760  MER    SPB  ADRSER+12      MESSAGE ERROR                          01649
34304  0000542         DEC  MSSAGE                                                01650
34305  2615216         BRU  ERXTMM                                                01651
                                                                                  01652
                                                                                STL01653
                                                                                TTL01654
```

EDIT

```
                                                                                01655
                                                                                01656
EDIT - MESSAGE 0                                                                01657
1) READ VARIABLE-LENGTH SOURCE PROGRAM FROM                                     01658
   TELETYPE STANDARD AREA INTO UPPER (3K)                                       01659
   AREA OF CORE.                                                                01660
2) EDIT SOURCE PROGRAM INTO LOWER (2K) AREA                                     01661
   OF CORE.                                                                     01662
3) WRITE VARIABLE-LENGTH SOURCE PROGRAM ONTO                                    01663
   TELETYPE STANDARD AREA FROM LOWER (2K)                                       01664
   AREA OF CORE.                                                                01665
4) PLACE 2*LENGTH INTO MBX1, STARTING DISK                                      01666
   ADDRESS (SELECTIVE LIST) INTO MBX2.                                          01667
NORMAL ANSWER...2                                                               01668
                                                                                01669
                                                                                01670
EDIT REORDERS A SOURCE PROGRAM ACCORDING                                        01671
TO THE LINE NUMBERS WHICH PRECEDE EACH                                          01672
STATEMENT.                                                                      01673
     A LINKED LIST IS CONSTRUCTED, EACH ENTRY                                   01674
IN THE LIST CORRESPONDING TO ONE STATEMENT                                      01675
AND CONSISTING OF FOUR WORDS, AS FOLLOWS                                        01676
1)  LOCATION OF FIRST WORD OF EACH STATEMENT                                    01677
2)  LENGTH OF STATEMENT IN TWOS COMPLEMENT                                      01678
3)  STATEMENT NUMBER IN BINARY                                                  01679
4)  RELATIVE ADDRESS OF LINK WITH NEXT                                          01680
    HIGHEST LINE NUMBER.                                                        01681
EDIT MOVES THE SOURCE PROGRAM DOWN TO                                           01682
6000 OCTAL, ORDERING IT ACCORDING TO                                            01683
THE LIST.                                                                       01684
                                                                                01685
                                                                                01686
                                                                                01687
      34306   KEDIT  BSS 0                                                      01688
34306 0755276        SPB UPREAD  2        READ SOURCE PROGRAM INTO UPPER AREA   01689
34307 2506013        SXG 0                SET GROUP ZERO FOR EDIT               01690
34310 2506015        SET PST              AND EXIT PRIORITY MODE                01691
34311 2674316        BRU EDITA   3                                              01692
                                                                                01693
                                                                                01694
34312 0755320  KWRT  SPB LWWRIT  2        WRITE SOURCE PROGRAM FROM LOWER AREA  01695
34313 2615223        BRU KEXITR           AND EXIT                              01696
                                                                                01697
                                                                                01698
34314 1500324  EDIT1 MPY TEN              CONVERT CHARACTER                     01699
34315 2614632        BRU ECHAR            AND GET NEXT                          01700
                                                                                01701
34316 1000276  EDITA DLD ZERO             SELECTIVE LIST PICKUP                 01702
34317 0300217        STA MBX3             SET RELATIVE LOCATION TO ZERO         01703
34320 0000234        LDA SMRX4            CHECK FIRST CHARACTER FOR DIGIT       01704
34321 2000351        EXT KEDIG            EXTRACT ALL BUT HIGH ORDER ZONE BITS  01705
```

EDIT

```
34322  2516002          BNZ                                                  01706
34323  1000256          DLD  EDEOF                IF FIRST CHARACTER NOT A DIGIT, SET TO FILLS 01707
34324  0620446          LDX  EDPNT2   1           SET POINTER                 01708
34325  0774634          SPB  ECHAR1   3           GET CHARACTER               01709
34326  2100324          CAB  TEN                  CHECK IF DIGIT              01710
34327  2614314          BRU  EDIT1                YES, CONVERT                01711
34330  2614331          BRU  *+1                  NO, CRUMP                   01712
34331  2504001          LAQ                       GET CONVERTED DIGIT         01713
34332  0300012          STA  ESELEC               AND SAVE                    01714
34333  0000232          LDA  SMPX2                PICK UP STARTING DISK ADDRESS 01715
34334  2000312          EXT  ONE                  MASK OFF EXTRANEOUS BITS    01716
34335  0300013          STA  ESELEC+1             AND SAVE                    01717
34336  0004003          LDA  ILNGTH               PICK UP PROGRAM LENGTH      01718
34337  2512006          SLA  6                    COMPUTE NUMBER OF WORDS TO MULTIPLE OF 64 01719
34340  0100443          ADD  ROG                                              01720
34341  0100313          ADD  MONE                                             01721
34342  0300001          STA  XR01                 LAST WORD OF LAST RECORD - ODD LOCATION 01722
34343  0640317          LDX  FOUR     2           INITIALIZE TABLE POINTER    01723
34344  0660276          LDX  ZERO     3           AND OTHER REGISTERS         01724
34345  0000313          LDA  MONE                 INITIALIZE TABLE ENTRIES    01725
34346  0304000          STA  TABLE                                            01726
34347  0000257          LDA  EDFILL               LARGE NUMBER                01727
34350  0304002          STA  TABLE+2                                          01728
                                                                              01729
                                                                              01730
34351  0000001  EDBOB    LDA  XR01                 BEGIN SEARCH FOR CARRIAGE RETURNS 01731
34352  0100315          ADD  EDTWO                WHICH MUST BE IN AN ODD LOCATION 01732
34353  0300001          STA  XR01                                             01733
34354  0426000          BXL  K3AREA   1           CHECK FOR NO CARRIAGE RETURNS AT ALL 01734
34355  2614650          BRU  ENPR                 NO PROGRAM EXIT             01735
34356  0020000          LDA  0        1           PROCEED DOWN THROUGH PROGRAM 01736
34357  2000344          EXT  EDMSK1                                           01737
34360  2100326          CAB  EDCARR                                           01738
34361  2614351          BRU  EDBOB                                            01739
34362  2614364          BRU  EDKAR                CARRIAGE RETURN             01740
34363  2614351          BRU  EDBOB                                            01741
                                                                              01742
                                                                              01743
34364  1720014  EDKAR    STX  EDY      1           ADD. OF C.RET. ENDING INSTRUCTION 01744
34365  0000001  EDBLA    LDA  XR01                 PROCEED DOWN THROUGH PROGRAM 01745
34366  0100315          ADD  EDTWO                FOR NEXT CARRIAGE RETURN    01746
34367  0300001          STA  XR01                                             01747
34370  0426000          BXL  K3AREA   1           HAS END OF PROGRAM BEEN REACHED... 01748
34371  2614400          BRU  *+7                  YES                         01749
34372  0020000          LDA  0        1                                       01750
34373  2000344          EXT  EDMSK1               LOOK FOR CAR. RET. AT END OF NEXT PREVIOUS 01751
34374  2100326          CAB  EDCARR               INSTRUCTION                 01752
34375  2614365          BRU  EDBLA                                            01753
34376  2614400          BRU  *+2                                              01754
34377  2614365          BRU  EDPLA                                            01755
34400  1720015          STX  EDT      1           ADD. OF CAR. RET. ENDING PREVIOUS INST. 01756
```

EDIT

```
34401  1420001          INX 1        1                                    01757
34402  0020000          LDA 0        1     IS WORD AFTER CR AN END OF MESSAGE - 01758
34403  2100256          CAB EDEOF                                         01759
34404  2614413          BRU *+7                                           01760
34405  2614407          BRU *+2                                           01761
34406  2614413          BRU *+5                                           01762
34407  0000001          LDA XR01                                          01763
34410  0100331          ADD EDSF      INCREASE 1 TO NEXT MULTIPLE OF 64   01764
34411  2000345          EXT EDMSK2      (TO BEGINNING OF INSTRUCTION FOLLOWING 01765
34412  0300001          STA XR01      END OF MESSAGE)                     01766
34413  0000001          LDA XR01                                          01767
34414  0344000          STA TABLE    2  ADD. OF FIRST WORD OF INSTRUCTION   01768
34415  0200014          SUB EDY                                           01769
34416  0100313          ADD MONE      GET TWOS COMPLEMENT OF CORRECT LENGTH 01770
34417  0344001          STA TABLE+1  2  NUMBER OF WORDS IN INSTRUCTION     01771
34420  0020000          LDA 0        1  GET FIRST CHARACTER OF LINE NUMBER  01772
34421  2000351          EXT $EDIG     AND CHECK IT                        01773
34422  2514002          BZE                                               01774
34423  2614431          BRU EDIG      DIGIT                               01775
34424  2504102          LMO                                               01776
34425  0344001          STA TABLE+1  2                                    01777
34426  2614474          BRU ENLESS    AND SET AS SMALLE NUMBER            01778
                                                                          01779
                                                                          01780
34427  1500324  EDIG1   MPY TEN       CONVERT DIGIT                       01781
34430  2614632          BRU ECHAR     AND GET NEXT                        01782
                                                                          01783
                                                                          01784
34431  2506033  EDIG    SXG 1         SET 1                               01785
34432  1000276          DLD ZERO      INTIALIZE REGISTER AND Q            01786
34433  0300004          STA XR10                                          01787
34434  0620001          LDX XR01     1  SET POINTER                       01788
34435  0774634          SPB ECHAR1   3  GET CHARACTER                     01789
34436  1400001          INX 1        0  COUNT                            01790
34437  0517772          RXH 6        0  TEST                             01791
34440  2614444          BRU *+4       CRUMP IF DONE                       01792
34441  2100324          CAB TEN       CHECK FOR DIGIT                     01793
34442  2614427          BRU EDIG1     YES, CONVERT                        01794
34443  2614444          BRU *+1       NO                                  01795
34444  2506013          SXG 0         RESET GROUP                         01796
34445  2504001          LAQ           AND GET CONVERTED LINE NUMBER       01797
34446  0344002          STA TABLE+2  2  INSTRUCTION NUMBER IN BINARY       01798
34447  2164002          CAB TABLE+2  3  IS NEW INSTRUCTION HIGHER OR EQUAL 01799
34450  2614474          BRU ENLESS    LESS                                01800
34451  2614500          BRU EDOUT     EQUAL                               01801
34452  0300016          STA EDZ       SAVE LINE NUMBER AND START ADJUST LINKS 01802
34453  1760014          STX EDY      3  NEXT LOWER GROUP IN LIST           01803
34454  0064003          LDA TABLE+3  3                                    01804
34455  0300001          STA XR01       NEXT HIGHER GROUP IN LIST          01805
34456  0000016          LDA EDZ                                           01806
34457  2124002          CAB TABLE+2  1  DOES THE NEW INSTRUCTION FIT BETWEEN THESE 01807
```

EDIT

```
34460  2614466          BRU *+6                    TWO GROUPS                                    01808
34461  2614500          BRU EDOUT                                                                01809
34462  1720014          STX EDY     1      NEXT LOWER GROUP IN LIST                              01810
34463  0024003          LDA TABLE+3 1                                                            01811
34464  0300001          STA XR01           NEXT HIGHER GROUP IN LIST                             01812
34465  2614456          BRU *-7                                                                  01813
34466  0000001          LDA XR01           LINK NEW GROUP TO HIGHER                              01814
34467  0344003          STA TABLE+3 2                                                            01815
34470  0620014          LDX EDY     1      GROUP JUST BELOW NEW ONE                              01816
34471  0000002          LDA XR02                                                                 01817
34472  0324003          STA TABLE+3 1      LINK LOWER GROUP TO NEW ONE                           01818
34473  2614477          BRU ENLESS+3                                                             01819
34474  0000003  ENLESS  LDA XR03                                                                01820
34475  0344003          STA TABLE+3 2      ADDRESS LINK OF NEXT HIGHER GROUP IN LIST             01821
34476  0660002          LDX XR02    3      CHANGE POINTER TO LOWEST INSTRUCTION IN LIST          01822
34477  1440004          INX 4       2      NEXT ENTRY GROUP IN TABLE                             01823
                                                                                                 01824
                                                                                                 01825
34500  0556000  EDOUT   RXH 1024    2      256 STATEMENTS MAXIMUM                                01826
34501  2614510          BRU *+7                                                                  01827
34502  0000015          LDA EDT                                                                  01828
34503  2100443          CAB ROG            HAS END OF PROGRAM BEEN REACHED                       01829
34504  2614510          BRU *+4                                                                  01830
34505  2614506          BRU *+1                                                                  01831
34506  0620015          LDX EDT     1      CAR. RET. AT END OF NEXT INSTRUCTION TO               01832
34507  2614364          BRU EDKAR             BE LISTED                                          01833
34510  0640003          LDX XR03    2      INITIALIZE, BEGIN REWRITE                             01834
34511  0000442          LDA ROG2                                                                 01835
34512  0300015          STA EDT                                                                  01836
34513  0660337          LDX UPPERA  3                                                            01837
                                                                                                 01838
                                                                                                 01839
34514  0044000  EDGURK  LDA TABLE   2                                                           01840
34515  2514001          RMI                IF LAST GROUP IN LIST, PREPARE TO EXIT                01841
34516  2614576          BRU EDSOUT                                                               01842
34517  0300005          STA XR11           SET REGISTER FOR ECHAR IF NEEDED                      01843
34520  0044001          LDA TABLE+1 2                                                            01844
34521  2100315          CAB EDTWO                                                                01845
34522  2614537          BRU ESLEC                                                                01846
34523  2614525          BRU *+2                                                                  01847
34524  2614573          BRU EDELET         DELETE IF LENGTH IS -1                                01848
34525  2506033          SXG 1              SET 1                                                 01849
34526  0774634          SPB ECHAR1  3      AND GET CHARACTERS                                    01850
34527  2100324          CAB TEN            IS IT A DIGIT                                         01851
34530  2614632          BRU ECHAR          GET NEXT IF SO                                        01852
34531  2614532          BRU *+1            RESET GROUP                                           01853
34532  2506013          SXG 0               AS HERE EITHER DELETE OR EXIT                        01854
34533  2000327          EXT 040             GET RID OF BIT                                       01855
34534  2100326          CAB CR              AND CHECK IF DONE WITH LINE NUMBER                   01856
34535  2614537          BRU ESLEC           NO, DO NOT DELETE                                    01857
34536  2614573          BRU EDELET         DELETE                                                01858
```

```
                                                                                01859
                                    SELECTIVE LIST FEATURE                      01860
                                                                                01861
34537  0044002  ESLEC  LDA TABLE+2 2      CHECK LINE NUMBER AGAINST LIST PARAMETER  01862
34540  2100012         CAB ESELEC                                                01863
34541  2614556         BRU GO             IF LESS THAN SELEC NUMBER, THEN GET OUT  01864
34542  2614543         BRU *+1            CHECK SPECIAL CASE OF FIRST NUMBER       01865
34543  0000015         LDA EDT            LOCATION OF LINE # OF CURRENT INSTRUCTION 01866
34544  2000344         EXT MASK7          GET RID OF ALL BUT POSITION MOD 64       01867
34545  0300217         STA MRX3           THEN SET RELATIVE POSTION IN RECORD FOR D-30 01868
34546  0000015         LDA EDT            GET ADDRESS OF CURRENT LINE # AGAIN      01869
34547  2000345         EXT EDMSK2         AND GET RID OF RELATIVE PART             01870
34550  0200442         SUB ROG2           COMPUTE HOW MANY RECORDS FROM START WE ARE 01871
34551  2510005         SRA 5                                                       01872
34552  0100013         ADD ESELEC+1       ADD STARTING ADDRESS                     01873
34553  0300013         STA ESELEC+1       AND SAVE TO SEND OVER TO DATANET-30      01874
34554  0000257         LDA EDFILL         TAKE CARE OF SPECIAL SELEC CASE          01875
34555  0300012         STA ESELEC         CRUMP SELECTIVE LIST                     01876
                                                                                01877
                                                                                01878
34556  1044000  GO     DLD TABLE   2      SET UP MOVE INSTRUCTION TO               01879
34557  2774561         STO *+2     3      SEQUENTIALLY POSITION PROGRAM IN NEW AREA 01880
34560  0000015         LDA EDT                                                     01881
34561  2400000         MOV --             DUMMY MOVE INSTRUCTION                   01882
34562  2504005         XAQ                                                         01883
34563  2504522         NEG                                                         01884
34564  0100015         ADD EDT                                                     01885
34565  0300015         STA EDT            COMPUTE NEXT AREA TO BE FILLED           01886
34566  2100443         CAB TEND           CHECK FOR PROGRAM TOO LONG               01887
34567  2614573         BRU EDELET         OK, CONTINUE                             01888
34570  2614571         BRU *+1            NO, TRIM IT DOWN                         01889
34571  0000364         LDA TEND1          TWO WORDS                                01890
34572  2614577         BRU EDSOUT+1       AND CRUMP                                01891
                                                                                01892
                                                                                01893
34573  0044003  EDELET LDA TABLE+3 2                                              01894
34574  0300002         STA XR02            GO TO NEXT HIGHER INSTRUCTION           01895
34575  2614514         BRU EDGURK                                                  01896
                                                                                01897
                                                                                01898
34576  0000015  EDSOUT LDA EDT            EDSOUT COMPUTES LENGTH OF PROGRAM        01899
34577  0300001         STA XR01           FILLING BEGINS HERE                      01900
34600  0431777         BXL K2AREA+11      ALSO CHECK FOR NO PROGRAM                01901
34601  2614650         BRU ENPR           IF NONE, CRUMP                           01902
34602  0100331         ADD EDSF           PREPARE TO FILL IN LAST BUFFER LOAD      01903
34603  2000345         EXT EDMSK2         (TO NEXT MULTIPLE OF 64)                 01904
34604  2504522         NEG                CONSTRUCT END OF FILL TEST               01905
34605  2774620         STO EDS1    3                                               01906
34606  2504522         NEG                RE-NEGATE                                01907
34607  0200442         SUB ROG2           COMPUTE LENGTH                           01908
34610  2510005         SRA 5              FOR DATANET-30                           01909
```

EDIT

```
34611  0300215          STA MRX1                                        01910
34612  2510001          SRA 1              AND FOR TEACH                01911
34613  0304003          STA ILNGTH         SAVE LENGTH IN POINTER       01912
34614  1000256          DLD EDEOF          PICK EOM AND FILL            01913
34615  1320000          DST 0       1      PUT AWAY                     01914
34616  2504001          LAO                DOUBLE FILLS                 01915
34617  1420002          INX 2       1      INCREMENT POINTER            01916
34620  0523160  EDS1    BXH *       1      TEST                         01917
34621  2614624          BRU *+3            IF DONE, CRUMP               01918
34622  1320000          DST 0       1      FILL OUT                     01919
34623  2614617          BRU *-4                                         01920
34624  0000013          LDA ESELEC+1       STARTING DISK ADDRESS        01921
34625  0300216          STA MRX2           GIVE TO DATANET-30           01922
34626  0000171          LDA .KWRT.         GET ENTRY                    01923
34627  0374044          STA IPRIOR  3      AND SET IN ENTRY FOR D-30 TASKS 01924
34630  2506014          OCT 2506014        AND PRIORITY REQUEST         01925
34631  2614001          BRU WAIT           AND GET OUT                  01926
                                                                        01927
                  CHARACTER PICKING ROIUTINE - PLACES ONE AT A          01928
                  TIME IN THE A REGISTER                                01929
                                                                        01930
34632  0457776  ECHAR   BXL 2       2      CHECK IF FIRST CHARACTER COMING UP 01931
34633  2614645          BRU ECH23          CHARACTERS 2 OR 3            01932
34634  0640276  ECHAR1  LDX ZERO    2      ENTRY POINT FIRST TIME - SET COUNTER 01933
34635  0020000          LDA 0       1      GET WORD                     01934
34636  1420001          INX 1       1      AND STEP POINTER             01935
34637  0300011          STA ECH3           RIGHTMOST CHARACTER          01936
34640  2510006          SRA 6                                           01937
34641  0300010          STA ECH2           MIDDLE CHARACTER             01938
34642  2510006          SRA 6              HIGH ORDER                   01939
34643  2000344  ECHAR2  EXT MASK7          EXTRACT HIGH ORDER BITS      01940
34644  2660001          BRU 1       3      AND GET OUT                  01941
34645  0040010  ECH23   LDA ECH2    2      GET NEXT CHARACTER           01942
34646  1440001          INX 1       2      STEP POINTER FOR CHARACTERS  01943
34647  2614643          BRU ECHAR2         AND EXIT                     01944
                                                                        01945
                                                                        01946
34650  0000312  ENPR    LDA NPR            NO PROGRAM                   01947
34651  2615220          BRU EREX                                        01948
                                                                        01949
                                                                      STL01950
                                                                      EJT01951
```

KSTART AND KCNTNU

```
                                                                                                01952
                                                                                                01953
                                                KSTART - MESSAGE 1                              01954
                                                1] READ SYSTEM, IF NECESSARY, INTO 20000        01955
                                                2] START RUN                                    01956
                                                NORMAL ANSWERS TO DATANET-30...                 01957
                                                   REQUEST DUMP....4  AND THEN                  01958
                                                     5] TERMINAL EXIT                           01959
                                                     6] INTERMEDIATE OUTPUT                     01960
                                                     7] CALL FOR INPUT                          01961
                                                                                                01962
                                                                                                01963
                                                                                                01964
     34652   KSTART BSS 0                                                                       01965
34652 1000276          DLD ZERO                                                                 01966
34653 1304054          DST MOVID          INITIALIZE REPLACEMENT AND OVERLAY INDICATOS          01967
34654 0000321          LDA KMESO          SET DUMP CODE FOR TIME DUMP                           01968
34655 0304062          STA MDC                                                                  01969
34656 0000332          LDA O140                                                                 01970
34657 0304063          STA MDL            AND SET DUMP LENGTH TO 96 RECORDS                     01971
34660 0000232          LDA SMBX2          GET DISK ADDRESS                                      01972
34661 0304004          STA MKDISK         AND SAVE IT                                           01973
34662 2504202          LAC                GET STARTING TIME                                     01974
34663 1300246          DST SCLOCK         SET TIME AND FLAG                                     01975
34664 0304000          STA KCLOCK         SET CLOCK FOR SYSTEMS                                 01976
34665 0755331          SPB SYREAD  2      READ IN SYSTEM...                                     01977
34666 0755771          SPB RELIN   2      AND RELINQUISH DISK IF NECESSARY                      01978
34667 3500004          RIN                TURN OFF BAD LIGHTS                                   01979
34670 2506015          SET PST            AND INTERRUPT MODE                                    01980
34671 2660001          BRU SYSTEM+13      AND EXIT                                              01981
                                                                                                01982
                                                                                                01983
                                                                                                01984
                                                KCNTNU - MESSAGE 2                              01985
                                                1] READ IN 6K SWAP FROM TELETYPE 6K AREA.       01986
                                                2] READ SYSTEM IF NECESSARY INTO 20000.         01987
                                                3] BEGIN RUN WHERE LAST INTERRUPTED             01988
                                                NORMAL ANSWERS TO DATANET-30...                 01989
                                                   A] TERMINAL EXIT.........4                   01990
                                                   B] INTERMEDIATE OUTPUT....5                  01991
                                                   C] REAL-TIME INPUT CALL...6                  01992
                                                                                                01993
                                                                                                01994
                                                                                                01995
     34672   KCNTNU BSS 0                                                                       01996
34672 2504202          LAC                SET TIME FOR BILLING                                  01997
34673 1300246          DST SCLOCK                                                               01998
34674 0000233          LDA SMBX3          GET LENGTH                                            01999
34675 2774677          STO *+2     3      AND SAVE                                              02000
34676 0755536          SPB DSKA    2      AND READ IN 6K FROM TELETYPE 6K AREA                  02001
34677 1200140          Z12 96             READ, 96 RECORDS                                      02002
```

KSTART AND KCNTNU

```
34700  0004000          DEC K6AREA          INTO 4000 - 6K AREA                    02003
34701  2000232          Z20 SMBX2           INDIRECT TO ADDRESS                    02004
34702  2615216          BRU ERXTMM          ERROR RETURN                           02005
34703  0755331          SPR SYREAD  2       READ IN SYSTEM                         02006
34704  0755771          SPB RELIN   2       AND RELINQUISH DISK                    02007
34705  0755241          SPB KSUMA   2       GET ELAPSED TIME FOR 6K SWAPS          02008
34706  0000321          LDA KMES0           SET DUMP CODE FOR TIME DUMP            02009
34707  0304062          STA MDC                                                    02010
34710  3500010          SET FIXPOINT        FOR TRAP WORK                          02011
34711  0000337          LDA 8K              SET REGISTER OF TRAP GROUP             02012
34712  0300213          STA Tx2+1                                                  02013
34713  0000163          LDA .KRST.          SET FOR TRAP                           02014
34714  0300205          STA ITRAP-1                                                02015
34715  0300206          STA ITRAP                                                  02016
34716  0300207          STA ITRAP+1                                                02017
34717  3200001          SET NTPMODE                                                02018
34720  0624044          LDX MKTRP   1       GET CONDITION OF TRAPPING GROUP        02019
34721  2634722          BRU *+1     1       AND GO TO BRANCH TABLE                 02020
34722  2614757          BRU KRTRP           TRAPMODE SET8 AND IN TRAP PROGRAM      02021
34723  2614754          BRU KRTRI           NOT IN TRAP PROGRAM WHEN INTERRUPT OCCURRED 02022
                                        TRAP NOT SET SO FALL THROUGH               02023
                                                                                   02024
34724  0754770  KCREST  SPB KHOLD   2       RESTORE HOLD INDICATORS                02025
34725  0000265          LDA KX0+1           RESTORE INDEX REGISTERS                02026
34726  2504006          MAQ                                                        02027
34727  2404012          MOV MKX0                                                   02028
34730  0304001          STA MKPRNT          AND RESET OUTPUT POINTER               02029
34731  2504202          LAC                 ADJUST CLOCK TO GIVE                   02030
34732  0204061          SUB CLOCK           CORRECT STARTING TIME TO SYSTEM        02031
34733  0304000          STA KCLOCK          [WITHOUT SWAP TIME]                    02032
34734  1000272          DLD TRAPR           RESTORE TRAP CONTENTS                  02033
34735  2404045          MOV MKTRP+1                                                02034
34736  0004042          LDA MODE            AND RESTORE AAU MODE                   02035
34737  0374740          STA *+1     3                                              02036
34740  3100010          SET NFLPOINT        DUMMY...                               02037
34741  3004040          FLD MKQX            GET QX REGISTER                        02038
34742  3200002          LQA         A       AND RESTORE                            02039
34743  3004036          FLD MKAX            RESTORE AX REGISTER                    02040
34744  1004006          DLD MKAQ            RESTORE A AND Q                        02041
34745  1300104          DST SAVE                                                   02042
34746  0624002          LDX MKSXG   1       AND RESTORE OLD INDEX GROUP            02043
34747  2526013          OCT 2526013         *** SXG 0, 1 ***                       02044
34750  0004010          LDA MKOV            ISOLATE OVERFLOW BITS                  02045
34751  2000350          EXT MASK11                                                 02046
34752  0104011          ADD MKP             AND GET P COUNTER LOCATION             02047
34753  2614202          BRU IREST+1         THEN EXIT TO SYSTEM                    02048
                                                                                   02049
                                                                                   02050
34754  0754770  KRTRI   SPB KHOLD   2       TRAP MODE SET, BUT PROGRAM NOT IN TRAP WHEN 02051
34755  3100001          SET TRPMODE         EXIT OCCURRED                          02052
34756  2614725          BRU KCREST+1        AND GET OUT                            02053
```

KSTART AND KCNTNU

```
34757  3100001  KRTRP  SET TRPMODE          IN TRAP PROGRAM WHEN INTERRUPT OCCURRED      02054
34760  3600276         FDV ZERO             CAUSE TRAP                                   02055
34761  2614201         BRU IREST            AND EXIT SO TRAP CAN TAKE PLACE              02056
                                                                                         02057
34762  3500004  KRST   RIN                  RESET INDICATORS - ENTRYY IS HERE FROM SELF  02058
34763  0000164         LDA .KREX.           CAUSED TRAP                                  02059
34764  0374044         STA IPRIOR  3        SO SET FOR LATER INTERRUPT                   02060
34765  2506014         OCT 2506014          THEN INTERRUPT THIS TRAP                     02061
                                                                                         02062
34766  0754212  KREX   SPB IRASE   2        AFTER ABOVE INTERRUPT, ERASE ENTRY THAT      02063
34767  2614724         BRU KCREST           CALLED HERE, AND GO FINISH PROCESS           02064
                                                                                         02065
                                                                                         02066
34770  0624043  KHOLD  LDX MODE+1  1        GET TYPE OF HOLD CONDITION TO BE RESTORED    02067
34771  2634772         BRU *+1     1                                                     02068
34772  2640001         BRU 1       2        NONE                                         02069
34773  2614777         BRU KCOV             OVERFLOW HOLD ON                             02070
34774  2615002         BRU KCUN             UNDERFLOW HOLD ON                            02071
34775  3600276         FDV ZERO             DIVIDE CHECK ON                              02072
34776  2640001         BRU 1       2        AND EXIT                                     02073
                                                                                         02074
34777  3000252  KCOV   FLD COV1             OVERFLOW HOLD ON                             02075
35000  3100252         FAD COV1                                                          02076
35001  2640001         BRU 1       2        AND EXIT                                     02077
                                                                                         02078
35002  3000254  KCUN   FLD CUN1             UNDERFLOW INDICATOR ON                       02079
35003  3100254         FAD CUN1             RESTORE IT                                   02080
35004  2640001         BRU 1       2        AND EXIT                                     02081
                                                                                         02082
                                                                                         02083
                                                                                        STL02084
                                                                                        EJT02085
```

KDUMP

```
                                                                                02086
                                                                                02087
KDUMP - MESSAGE 3                                                               02088
1) CHECKS MDC TO SEE WHAT TYPE OF DUMP IS                                       02089
   REQUIRED. IF IT IS A TERMINAL EXIT IT GOES                                   02090
   TO KOUTPT IF NOT                                                             02091
2) SAVES ALL PROGRAM WORKING REGISTERS IN A                                     02092
   64 WORD BLOCK AT THE BEGINNING OF THE 6K                                     02093
   AREA.                                                                        02094
3) CHECKS DUMP LENGTH AND DUMPS THE REQUIRED                                    02095
   NUMBER OF WORDS.                                                             02096
4) PUTS RUNNING TIME IN MBX1                                                    02097
5) INTERMEDIATE OUTPUT FLAG FOR D-30 IN MBX2.                                   02098
6) DUMP LENGTH IN MBX3                                                          02099
7) WRITES BILLING RECORD                                                        02100
8) GIVES D-30 TYPE OF DUMP IN MBX0                                              02101
   6 IF INTERMEDIATE OUTPUT                                                     02102
   7 IF REAL-TIME INPUT                                                         02103
                                                                                02104
                                                                                02105
                                                                                02106
                                                                                02107
    35005  KDUMP  BSS 0                                                        02108
35005 0004062         LDA MDC          CHECK DUMP CODE                        02109
35006 0200321         SUB SIX                                                 02110
35007 2514001         BMI                                                     02111
35010 2615151         BRU KOUTPT       TERMINAL EXIT ONLY NEEDS 1K DUMP       02112
                                  START REGULAR DUMP PROCEDURE                  02113
35011 1000104         DLD SAVE         SAVE A AND Q REGISTERS                 02114
35012 1304006         DST MKAQ                                                02115
35013 0000131         LDA PREG         GET P-COUNTER                          02116
35014 0304010         STA MKOV                                                02117
35015 2000347         EXT MASK10       GET RID OF HIGH ORDER BITS             02118
35016 2100434         CAB WAIT1        AND CHECK WHERE INTERRUPTED...         02119
35017 0304011         STA MKP          IN PROGRAM                             02120
35020 2615021         BRU *+1          IN EXECUTIVE                           02121
35021 1000264         DLD KX0          SAVE INDEX GROUPS 0-4                  02122
35022 2400000         MOV 0                                                   02123
35023 2500111         OGA              GET INDEX GROUP                        02124
35024 0304002         STA MKSXG        AND SAVE INDEX GROUP WITH INSTRUCTION  02125
35025 0624001         LDX MKPRNT  1    STORE END OF MESSAGE                   02126
35026 0000256         LDA EOEOF        IN OUTPUT AREA ACCORDING               02127
35027 0324100         STA MKPR1   1    TO PROGRAM POINTER                     02128
35030 2504202         LAC              COMPUTE TOTAL ADJUSTED ELAPSED TIME    02129
35031 1300250         DST SCLOCK+2     GIVE ENDING TIME AND SET FLAG FOR KDUMP 02130
35032 0204000         SUB KCLOCK                                              02131
35033 0304061         STA CLOCK        AND SAVE                               02132
35034 2504006         MAQ              AND PUT TOTAL # OF SECONDS             02133
35035 1600321         DVD SIX                                                 02134
35036 0300215         STA MBX1         MAILBOX 1 FOR DATANET-30.              02135
35037 0755247         SPB KSUMP   2    GET TIME FOR PROGRAM RUN               02136
35040 1000274         DLD TRAPS        SAVE CONTENTS OF TRAPPING MODE LOCATIONS
```

KDUMP

```
35041  2400205          MOV ITRAP-1                                          02137
35042  0300026          STA XR52          AND INITIALIZE FOR LATER TEST      02138
35043  0304060          STA MOVINT        SET FLAG TO INDICATE INTERRUPT OCCURRED 02139
35044  0000167          LDA .KTRS.        BRANCH TO CHECK SIMULTANEOUS INTERRUPTS 02140
35045  0300212          STA TX2                                              02141
35046  0000170          LDA .KTRS]        SPB TX2, 0                         02142
35047  0300207          STA ITRAP+1       AND SET IN TRAPPING MODE LOCATIONS  02143
35050  0300206          STA ITRAP                                            02144
35051  0300205          STA ITRAP-1                                          02145
35052  0000337          LDA 8K            SET REGISTER 3 TO 8K BIT           02146
35053  0300213          STA TX2+1                                            02147
35054  3304036          FST MKAX          SAVE AX REGISTER                   02148
35055  3600002          LAQ         A     AND MOVE QX TO AX                  02149
35056  3304040          FST MKQX          AND SAVE QX                        02150
35057  0000365          LDA NFL           SAVE AAU MODE OF OPERATION - ASSUME NORMALIZE02151
35060  2514733          BAR BUP     7     CHECK FOR UNNORMALIZED             02152
35061  0000366          LDA UNF                                              02153
35062  2514732          BAR BFX     7     CHECK FOR FIXED POINT              02154
35063  0000367          LDA FIX                                              02155
35064  0304042          STA MODE          AND SAVE MODE OF OPERATION         02156
35065  2504002          LDZ               SAVE HOLD INDICATORS - ZERO IF NONE 02157
35066  2514725          BAR BOO     7                                        02158
35067  2504022          LDO               OVERFLOW HOLD ON                   02159
35070  2514726          BAR BUO     7                                        02160
35071  0000314          LDA TWO           UNDERFLOW HOLD ON                  02161
35072  2514730          BAR BDC     7                                        02162
35073  0000316          LDA THREE         DIVIDE CHECK ON                    02163
35074  0100337          ADD 8K            AND SET UPPER BIT                  02164
35075  0304043          STA MODE+1                                           02165
35076  2506133          SXG 5             SET INDEX GROUP FOR EXECUTIVE USE  02166
35077  2506015          SET PST           AND EXIT PRIORITY MODE             02167
35100  2675101          BRU *+1     3     IF THERE WAS A SIMULTANEOUS TRAP, THE PROGRAM02168
35101  0755102          SPB *+1     2     WILL TRANSFER TO KTRS, ELSE WILL GO HERE. 02169
35102  0000026          LDA XR52          CHECK TO SEE IF IN MIDDLE OF TRAP PROGRAM 02170
35103  2516002          BNZ                                                  02171
35104  2615125          BRU KTRCHK        NOT IN TRAP PROGRAM, GO CHECK IF TRAP SET 02172
                                                                             02173
                                                                             02174
                  KTEX SETS A FLAG FOR CNTNU AS FOLLOWS...                   02175
                  0] PROGRAM RUNNING IN TRAP GROUP WHEN DUMP                 02176
                     COMMAND WAS GIVEN                                       02177
                     OR TRAP OCCURRED SIMULTANEOUSLY WITH API                02178
                  1] NOT IN TRAP PROGRAM, BUT TRPMODE SET                    02179
                  2] TRAP MODE NOT SET                                       02180
                                                                             02181
                                                                             02182
35105  0100337   KTEX   ADD 8K            SET UPPER 8K BIT ON FOR BRANCH TABLE 02183
35106  0304044          STA MKTRP         SET FLAG - 8K IF DROPPED THROUGH   02184
35107  3500004          RIN               RESET ANY INDICATORS WE MAY HAVE TURNED ON 02185
35110  0000165          LDA .KSET.        SET ENTRY FOR LATER DISK WORK      02186
35111  0374044          STA IPRIOR  3                                        02187
```

KDUMP

```
35112  2506014          OCT 2506014          SET PRIORITY REQUEST                                  02188
35113  2614001          BRU WAIT             AND GO TO WAIT LOOP                                   02189
                                                                                                    02190
                                                                                                    02191
35114  0000131  KTRS    LDA PREG             SIMULTANEOUS OCCURRENCE OF TRAP AND INTERRUPT         02192
35115  0304051          STA MKTX2-1          SET TRAP REGISTER 1 APPROPIATELY                      02193
35116  0000210          LDA TX2-2            GET ENTRANCE                                          02194
35117  2000347          EXT MASK10           GET RID OF HIGH ORDER                                 02195
35120  0304011          STA MKP              SET FOR RETURN                                        02196
35121  2504002          LDZ                  SET INDICATOR FOR CNTNU                               02197
35122  2615105          BRU KTEX             AND EXIT                                              02198
                                                                                                    02199
                                                                                                    02200
35123  2504022  KTRI    LDO                  TRAP MODE SET, BUT NOT IN TRAP PROGRAM                02201
35124  2615105          BRU KTEX             EXIT                                                  02202
                                                                                                    02203
                                                                                                    02204
35125  0000166  KTRCHK  LDA .KTRI.           TEST FOR TRAPMODE SET                                 02205
35126  0300207          STA ITRAP+1          IF SET, A BRANCH TO KTRI WILL OCCUR, ELSE             02206
35127  3500010          SET FIXPOINT         TRY AND INSURE FDV WILL WORK OK                       02207
35130  3600276          FDV ZERO             THE PROGRAM WILL CONTINUE                             02208
35131  0000314          LDA TWO              TRAPMODE NOT SET                                      02209
35132  2615105          BRU KTEX             EXIT                                                  02210
                                                                                                    02211
                                                                                                    02212
                                     KSET SETS UP THE BILLING FOR ONE-SHOT USAGE,                   02213
                                     AND THEN WRITES THE 6K AREA ONTO THE DISK                      02214
                                                                                                    02215
                                                                                                    02216
35133  0755254  KSET    SPB KBILL    2       AND SET UP TO BILL                                    02217
35134  0004063          LDA MDL              GET DUMP LENGTH                                       02218
35135  2775140          STO *+3      3       AND PUT IN LIST                                       02219
35136  0300217          STA MBX3             ALSO SEND TO D-30                                     02220
35137  0755536          SPB DSKA     2       WRITE ON DISK                                         02221
35140  3700140          Z37 96               WRITE, 96 RECORDS                                     02222
35141  0004000          DEC K6AREA           FROM 4000 (6K AREA)                                   02223
35142  2004004          Z20 MKDISK           INDIRECT TO DISK ADDRESS                              02224
35143  2615216          BRU ERXTMM           ERROR EXIT                                            02225
35144  2615145          BRU KEXITD           DUMP EXIT                                             02226
                                                                                                    02227
                                                                                                    02228
                                     KEXITD PICKS UP THE OUTPUT AREA POINTER AND                    02229
                                     SENDS IT TO THE D-30 AS AN OUTPUT FLAG. IT                     02230
                                     ALSO PUTS THE DUMP CODE IN A FOR KEXIT                         02231
                                                                                                    02232
35145  0004001  KEXITD  LDA MKPRNT           GET OUTPUT AREA POINTER                               02233
35146  0300216          STA MBX2             SEND TO D-30                                          02234
35147  0004062          LDA MDC              DUMP CODE                                             02235
35150  2615226          BRU KEXIT            AND EXIT                                              02236
                                                                                                    02237
                                                                                                   STL02238
```

KOUTPT, KDSKRD, KDSKWRT

```
                                                                                EJT02239
                                                                                   02240
                                                                                   02241
                                        KOUTPT - ENTERED THROUGH KDUMP             02242
                                        1) DUMP OUTPUT AREA ONTO FIRST 16 RECORDS  02243
                                           OF TELETYPE STANDARD AREA               02244
                                        2) WRITE TERMINAL BILLING RECORD           02245
                                        NORMAL ANSWER...5 - TERMINAL EXIT          02246
                                                                                   02247
                                                                                   02248
                                                                                   02249
35151  2504202  KOUTPT LAC                    SET TOTAL ELAPSED TIME FOR TERMINAL BILLING  02250
35152  0300250         STA SCLOCK+2                                                02251
35153  0204000         SUB KCLOCK             SUBTRACT ADJUSTED STARTING TIME      02252
35154  0300251         STA SCLOCK+3           TOTAL ELAPSED TIME FOR BILLING RECORD 02253
35155  0755247         SPB KSUMR   2          AND GET PROGRAM RUNNING TIME         02254
35156  0755254         SPB KBILL   2          AND SET UP FOR BILLING               02255
35157  0755536         SPB DSKA    2          NOW WRITE ON DISK                    02256
35160  3700020         Z37 16                 WRITE, 16 RECORDS                    02257
35161  0004000         DEC K6AREA             FROM 4000 (ALSO OUTPUT AREA)         02258
35162  2004004         Z20 MKDISK             INDIRECT TO ADDRESS                  02259
35163  2615216         BRU ERXTMM                                                  02260
35164  2615145         BRU KEXITD                                                  02261
                                                                                   02262
                                                                                   02263
                                                                                   02264
                                        KDSKRD - MESSAGE 4                         02265
                                        1) READ VARIABLE-LENGTH SOURCE PROGRAM FROM 02266
                                           SPECIFIED ADDRESS INTO LOWER (2K) AREA. 02267
                                        2) PLACE 2*LENGTH IN MBX1                  02268
                                        NORMAL ANSWER...2                          02269
                                                                                   02270
                                                                                   02271
                                                                                   02272
35165  0755300  KDSKRD SPB LWREAD  2          READ INTO LOWER AREA                02273
35166  0004003         LDA ILNGTH             GET LENGTH                           02274
35167  2512001         SLA 1                  AND MULTIPLY BY TWO                  02275
35170  0300215         STA MBX1               AND SET IN MAILBOX 1                 02276
35171  2615223         BRU KEXITR             DONE                                 02277
                                                                                   02278
                                                                                   02279
                                                                                   02280
                                        KDSKWR - MESSAGE 5                         02281
                                        WRITE VARIABLE-LENGTH SOURCE PROGRAM ONTO  02282
                                        SPECIFIED ADDRESS FROM LOWER (2K) AREA     02283
                                        NORMAL ANSWER...3                          02284
                                                                                   02285
                                                                                   02286
                                                                                   02287
35172  0755320  KDSKWR SPB LWWRIT  2          WRITE FROM LOWER                    02288
35173  2615225         BRU KEXITW             AND TERMINATE                        02289
```

KOUTPT, KDSKRD, KDSKWRT

```
02290
STL02291
EJT02292
```

KTEACH

```
                                                                                02293
                                                                                02294
                                    KTEACH - MESSAGE 6                          02295
                                    1) READ IN TESTING PROGRAM FROM ADDRESS     02296
                                       SPECIFIED.                               02297
                                    2) READ SYSTEM, IF NECESSARY, INTO 20000    02298
                                    3) START RUN                                02299
                                    NORMAL ANSWERS...SAME AS FOR START          02300
                                                                                02301
                                                                                02302
                                                                                02303
35174  0004003  KTEACH LDA  ILNGTH          GET END OF TESTED PROGRAM, AND COMPUTE  02304
35175  2512006         SLA  6               WHERE TESTING PROGRAM IS TO GO          02305
35176  0100442         ADD  K2LOC           STEP PAST 6000                          02306
35177  0375211         STA  KTEA2+2 3       AND SET MEMORY ADDRESS IN PARAMETER LIST 02307
35200  0000235         LDA  SMRX5           GET LENGTH OF TESTING PROGRAM           02308
35201  0200234         SUB  SMRX4                                                   02309
35202  2510001         SRA  1               CORRECT TO NUMBER OF 64 WORD RECORDS    02310
35203  2775210         STO  KTEA2+1 3       AND SET IN PARAMETER LIST               02311
35204  0104003         ADD  ILNGTH          GET COMBINED LENGTH FOR TEACH           02312
35205  0100361         ADD  SIGN            SET FLAG FOR TEACH                      02313
35206  0304002         STA  MKSXG                                                   02314
                                                                                02315
35207  0755536  KTEA2  SPB  DSKA    2        AND PULL IN PROGRAM                     02316
35210  1200000         Z12  --              READ, CONSTRUCTED LENGTH (VARIABLE)     02317
35211  0000000         DEC  0               CONSTRUCTED ADDRESS (MEMORY)            02318
35212  2000234         Z20  SMRX4           INDIRECT TO DISK ADDRESS                02319
35213  2615216         BRU  ERXTMM                                                  02320
35214  2614652         BRU  KSTART          AND PULL IN SYSTEM                      02321
                                                                                02322
                                                                                02323
                                    KTBRUN - MESSAGE 10                         02324
                                    1) RUN TELETYPE BATCH                       02325
                                    NORMAL ANSWER ...0                          02326
35215  2615215  KTBRUN BRU  *                                                    02327
                                                                                02328
                                                                              STL02329
                                                                              EJT02330
```

NORMAL AND ERROR EXITS

```
                                                                                02331
                                                                                02332
                                    BOTH EXITS RELINQUISH THE DISK AND SEND     02333
                                    A COMPLETION MESSAGE TO THE DATANET-30, AS  02334
                                    FOLLOWS...                                  02335
                                                                                02336
                                    1) ERROR MESSAGE - SENT THROUGH ERXTMM      02337
                                    2) READ COMPLETED - SENT THROUGH KEXITR     02338
                                    3) WRITE COMPLETED - SENT THROUGH  KEXITW   02339
                                                                                02340
                                                                                02341
                                                                                02342
35216  0756413  ERXTMM SPR IREC   2        DUMP DEBUGGING LOCATIONS ON TAPE     02343
35217  0000276         LDA TMM             TEMPORARY MALFUNCTION MESSAGE        02344
35220  0300215  EREX   STA MBX1                                                 02345
35221  0000312         LDA KERMES          ERROR MESSAGE                        02346
35222  2615226         BRU KEXIT           AND SEND                             02347
                                                                                02348
                                                                                02349
35223  0000314  KEXITR LDA KMES2           MESSAGE 2                            02350
35224  2615226         BRU KEXIT                                                02351
                                                                                02352
35225  0000316  KEXITW LDA KMES3           MESSAGE 3                            02353
35226  0300123  KEXIT  STA KANSWR          AND SAVE                             02354
35227  0755771         SPR RELIN   2       RELINQUISH DISK                      02355
35230  0755241         SPR KSUMA   2       AND GET ROUTINE ELAPSED TIME         02356
35231  0000214         LDA MBX0            TRY NOT TO WIPE OUT D-30 MESSAGE     02357
35232  2516001         BPL                                                      02358
35233  0000123         LDA KANSWR          OK SEND IT                           02359
35234  0300214  CBUGB  STA MBX0            NONE, SO SEND ANSWER OVER            02360
35235  2100312         CAB KERMES          CHECK IF ERROR EXIT                  02361
35236  2614046         BRU IPLST           NO                                   02362
35237  2614001         BRU WAIT            YES, SPECIAL EXIT                    02363
35240  2614046         BRU IPLST           NO, CONTINUE NORMAL RUNNING          02364
                                                                                02365
                                    ELAPSED TIME CALCULATING ROUTINES           02366
                                                                                02367
35241  0620230  KSUMA  LDX SMBX0   1        GET ELAPSED TIME FOR CALLED ROUTINE  02368
35242  2504202         LAC                                                      02369
35243  0200121         SUB ISUM            SUBTRACT STARTING TIME               02370
35244  0120140         ADD FKEDIT  1       AND STEP PARTICULAR COUNTER          02371
35245  0320140         STA FKEDIT  1                                            02372
35246  2640001         BRU 1       2       AND GET BACK                         02373
                                                                                02374
                                                                                02375
35247  2504202  KSUMB  LAC                 GET ELAPSED TIME FOR PROGRAM RUNS    02376
35250  0200246         SUB SCLOCK          STARTING TIME SET BY CONTINUE AND START 02377
35251  0100141         ADD FKSTRT          STEP RUNNING TIME COUNTER            02378
35252  0300141         STA FKSTRT                                               02379
35253  2640001         BRU 1       2       AND GET OUT                          02380
                                                                                02381
```

NORMAL AND ERROR EXITS

```
                                                                                02382
                                                                                02383
                                                                                02384
                                                                                02385
                                                                                02386
                                                                                02387
                                                                                02388
                                                                                02389
                                                                                02390
                                                                                02391
                                                                                02392
                                                                                02393
                                                                                02394
                                                                                02395
                                                                                02396
                                                                                02397
35254  0000135   KBILL  LDA SWFLG                CHECK FOR STACKED UP BILLS     02398
35255  2514000         BOD                                                      02399
35256  2640001         BRU 1        2           YES, CRUMP THIS ONE            02400
35257  2504022         LDO                      SET FLAG ON                    02401
35260  2700135         STO SWFLG                                               02402
35261  1000306         DLD .KBIL.               SET ENTRY TO BILL THIS PARTICULAR CLUNK 02403
35262  2614217         BRU INSERT               AND RETURN                     02404
                                                                                02405
35263  2516120   KBIL  BCS BTN      1           CHECK IF TAPE READY            02406
35264  2620002         BRU 2        1           CRUMP IF NOT                   02407
35265  2504002         LDZ                      SET BATCH TAPE ERROR FLAGS     02408
35266  2700135         STO SWFLG                RESET FLAG                     02409
35267  0754212         SPB IRASE    2           ERASE ENTRY                    02410
35270  2504012   KBFDG NOP                      BRANCH TO TAPE OP OVERLAY IF IN 02411
35271  2500120         SEL 1                    AND WRITE BILLING RECORD       02412
35272  0300231         WTB SMBX1    0                                          02413
35273  0100030             24                   SHORT RECORD                   02414
35274  2504012         NOP                                                     02415
35275  2614046         BRU IPLST                AND GO TO API LIST             02416
                                                                                02417
                                                                                02418
                                                                              STL02419
                                                                              TTL02420
```

USERS WILL BE BILLED ACCORDING TO THE AMOUNT OF CENTRAL PROCESSOR TIME THEY USE.
THE TIME PORTION OF THE BILLING RECORD IS BROKEN UP AS FOLLOWS

1) SCLOCK STARTING TIME FOR A RUN
2) SCLOCK+1 FLAG, SET AS FOLLOWS
   0 FOR A FIRST RUN
   NON-ZERO OTHERWISE
3) SCLOCK+2 ENDING TIME FOR A RUN
4) SCLOCK+3 FLAG, SET AS FOLLOWS...
   ELAPSED TIME IF TERMINAL RUN
   NEGATIVE NUMBER IF 6K DUMP

UPREAD, LWREAD, LWWRIT

```
                                                                                02421
                                    UPREAD READS A SOURCE PROGRAM FROM THE      02422
                                    TELETYPE STANDARD AREA INTO UPPER [3K] AREA  02423
                                    OF CORE                                     02424
                                                                                02425
                                                                                02426
 35276  0000443   UPREAD LDA K3LOC          GET CORE ADDRESS FOR 3K AREA        02427
 35277  2615301          BRU KREADA         AND GO READ                         02428
                                                                                02429
                                                                                02430
                                                                                02431
                                    LWREAD READS A SOURCE PROGRAM FROM THE      02432
                                    TELETYPE STANDARD AREA INTO LOWER [2K] AREA  02433
                                    OF CORE                                     02434
                                                                                02435
                                                                                02436
 35300  0000442   LWREAD LDA K2LOC          GET CORE ADDRESS FOR 2K AREA        02437
 35301  0375313   KREADA STA KREADB+23      SET IN PARAMETER LIST               02438
 35302  1740124          STX KRET    2      AND SAVE RETURN LOCATION            02439
 35303  0000233          LDA SMBX3          ENDING DISK ADDRESS                 02440
 35304  0200232          SUB SMBX2          SUBTRACT STARTING DISK ADDRESS      02441
 35305  2510001          SRA 1              AND CORRECT TO NUMBER OF 64 WORD RECORDS 02442
 35306  0304003          STA ILNGTH         AND SAVE IN PROGRAM LENGTH INDICATOR 02443
 35307  0304002          STA MKSXG          MAKE POSITIVE FOR TEACH             02444
 35310  2775312          STO *+2     3      AND SET IN PARAMETER LIST           02445
 35311  0755536   KREADB SPB DSKA    2      GO READ                             02446
 35312  1200000          Z12 --             READ, CONSTRUCTED LENGTH            02447
 35313  0000000          Z00 --             CONSTRUCTED MEMORY ADDRESS          02448
 35314  2000232          Z20 SMBX2          POINTS TO DISK ADDRESS              02449
 35315  2615216          BRU ERXTMM         ERROR RETURN                        02450
                                                                                02451
 35316  0640124   KRETA  LDX KRET    2      RETURN POINT                        02452
 35317  2640001          BRU 1       2      AND GET OUT                         02453
                                                                                02454
                                                                                02455
                                    LWWWRIT WRITES A SOURCE PROGRAM FROM THE    02456
                                    LOWER [2K] AREA OF CORE ONTO THE TELETYPE   02457
                                    STANDARD AREA                               02458
                                                                                02459
                                                                                02460
 35320  1740124   LWWRIT STX KRET    2      SAVE RETURN LOCATION                02461
 35321  0004003          LDA ILNGTH         GET PROGRAM LENGTH                  02462
 35322  2775324          STO *+2     3                                          02463
 35323  0755536          SPB DSKA    2      WRITE                               02464
 35324  3700000          Z37 --             WRITE, CONSTRUCTED LENGTH           02465
 35325  0006000          DEC K2AREA         FROM LOWER AREA                     02466
 35326  2000232          Z20 SMBX2          ADDRESS IN MAILBOX 2                02467
 35327  2615216          BRU ERXTMM         ERROR RETURN                        02468
 35330  2615316          BRU KRETA          GET BACK                            02469
                                                                                02470
                                                                               STL02471
```

SYREAD

```
                                                                    TTL02472
                                                                      02473
                                                                      02474
EACH TIME-SHARING COMPATIBLE SYSTEM OR                                02475
SYSTEM OVERLAY MUST CARRY CERTAIN INFORMATION                         02476
FOR THE EXECUTIVE AT ITS HEAD.  THE FORMAT                            02477
IS RIGID AND MUST BE EXACTLY FOLLOWED BY                              02478
OVERLAYS, REPLACEMENTS AND SYSTEMS.                                   02479
                                                                      02480
                                                                      02481
                                                                      02482
WORD NO.              FUNCTION                                        02483
                                                                      02484
0) SYSTEM EXIT LOCATION - EXIT BRANCH                                 02485
   SUPPLIED BY EXECUTIVE WHEN SYSTEMS ARE                             02486
   BROUGHT INTO MEMORY.                                               02487
1) ENTRY POINT - EXECUTIVE TRANSFERS HERE TO                          02488
   BEGIN RUNNING A PROBLEM.                                           02489
2) TRANSFER TO CLEANUP ROUTINE FOR SYSTEMS                            02490
   THAT USE DISK - THIS IS SO THAT WHEN A                             02491
   USER TYPES  *STOP* HIS DISK SPACE IS                               02492
   RETURNED TO THE AVAILABLE SPACE LIST.                              02493
3) SPARE                                                              02494
4) ALFAMERIC SYSTEM NAME - FIRST 3 LETTERS.                           02495
5) NUMBER OF REPLACEMENT OR OVERLAY - 0 FOR                           02496
   SYSTEMS.  IN THE CASE OF AN  *OVERLAY*,                            02497
   BIT 1 IS SET ON IF THE OVERLAY                                     02498
   DESTROYS THE SYSTEM OR REPLACEMENT THAT                            02499
   CALLED IT.                                                         02500
6) MOVE CONSTANT - 0 IF NO MOVE - TELLS                               02501
   EXECUTIVE TO MOVE TO HERE                                          02502
7) THIS MANY WORDS (IN TWO*S COMPLEMENT FORM)                         02503
8) FROM HERE.                                                         02504
                                                                      02505
                                                                      02506
                                                                      02507
                                                                      02508
                                                                      02509
SYREAD CHECKS TO SEE IF THE CALLED SYSTEM                             02510
IS IN MEMORY. IF NOT, IT SEARCHES FOR ITS                             02511
ADDRESS IN A TABLE, THEN READS IN THE SYSTEM                          02512
INTO CORE ADDRESS 20000                                               02513
                                                                      02514
                                                                      02515
35331  1740124  SYREAD STX KRET   2        SAVE ENTRY POINT          02516
35332  1004054         DLD MOVID          PUT REPLACEMENT NUMBER IN Q  02517
35333  0000231         LDA SMBX1          SYSTEM WANTED                02518
35334  2200100         DCR IN             CHECK TO SEE IF IN MEMORY    02519
35335  2615337         BRU *+2            NO                           02520
35336  2615372         BRU SYOVK          CHECK IF CORRECT OVERLAY IN MEMORY 02521
35337  0640276         LDX ZERO   2       INITIALIZE COUNTER/POINTER   02522
```

SYREAD

```
35340  2140370          CAB SYTAB   2        SEARCH SYSTEM TABLE                    02523
35341  2615343          BRU *+2                                                     02524
35342  2615347          BRU *+5             FOUND                                   02525
35343  1440001          INX 1       2       COUNT                                   02526
35344  0457741          BXL LAST    2       AND CHECK FOR END OF TABLE              02527
35345  2615340          BRU *-5             NO, TRY AGAIN                           02528
35346  2615401          BRU RSNOT           SYSTEM NOT IN TABLE                     02529
35347  0000202          LDA Z2              SAVE TABLE POINTER (FOR EVERLAY CALLS)  02530
35350  0300116          STA INPNT                                                   02531
35351  0104055          ADD MOREP           STEP BY REPLACEMENT NUMBER              02532
35352  0300202          STA Z2              AND SET TO GET SYSTEM DISK ADDRESS      02533
35353  0040371          LDA SYTAR+1 2       ADDRESS                                 02534
35354  0375360          STA *+4     3       SET IN PARAMETER LIST                   02535
35355  0755536          SPB DSKA    2       AND GO READ                             02536
35356  1200140          Z12 96              READ, 96 RECORDS                        02537
35357  0020000          DEC SYSTEM          INTO 20000                              02538
35360  0000000          Z00 --              ADDRESS, CONSTRUCTED                    02539
35361  2615216          BRU ERXTMM          ERROR RETURN                            02540
35362  0620431          LDX SYLOC   1       READ-IN LOCATION                        02541
35363  0755443          SPB SYMOV   2       MOVE CONSTANTS DOWN AND SET IDENTIFIERS UP  02542
                     IF SYSTEM WAS READ OVERLAYS MUST BE READ IN                    02543
35364  0004054          LDA MOVID                                                   02544
35365  2514002          BZE                                                         02545
35366  2615370          BRU *+2             NO OVERLAY                              02546
35367  2615413          BRU SYOVA           GET OVERLAY                             02547
35370  0300115          STA INOV            SET FLAG TO ZERO                        02548
35371  2615316          BRU KRETA           AND GET OUT                             02549
                                                                                    02550
35372  0004054  SYOVK    LDA MOVID          GET OVERLAY NUMBER REQUESTED            02551
35373  2514002          BZE                 CHECK FOR NO OVERLAY                    02552
35374  0300115          STA INOV            IF SO, THEN RESET OVERLAY INDICATOR     02553
35375  2100115          CAB INOV            CHECK FOR CORRECT OVERLAY               02554
35376  2615413          BRU SYOVA           NO, SO GO READ IN OVERLAY               02555
35377  2615316          BRU KRETA           SO GET OUT                              02556
35400  2615413          BRU SYOVA           ELSE GO GET OVERLAY                     02557
                                                                                    02558
                                                                                    02559
35401  0000314  RSNOT   LDA USN            SYSTEM CANNOT BE FOUND OR READ IN       02560
35402  2615220          BRU EREX                                                    02561
                                                                                    02562
                                                                                   STL02563
                                                                                   EJT02564
```

SYOV

```
                                                                                02565
                        OVERLAY READ-IN ROUTINE.  ENTERED FROM SYREAD           02566
                        OR FROM OVCALL, READS IN OVERLAY TO                     02567
                        SPECIFIED LOCATION, THEN RETURNS ACCORDING TO           02568
                        WHICH ROUTINE CALLED IT, BACK TO PROGRAM IF             02569
                        CALLED FROM OVCALL - ELSE BACK TO ORIGINAL              02570
                        CALLER- KSTART OR KCNTNU.                               02571
                                                                                02572
                                                                                02573
                                                                                02574
35403  0754212  SYOV   SPB IRASE   2        ERASE ENTRY THAT CALLED              02575
35404  0755464        SPB DSKB    2        REQUEST DISK FROM DATANET-30         02576
35405  2504002        LDZ                  OVERLAY IS SPECIAL, SO SPECIAL MEASURES 02577
35406  0300075        STA DKFLG2           MUST BE TAKEN - RESET DISK FLAG 2    02578
35407  0004060        LDA MOVINT           AND CHECK INTERRUPT FLAG             02579
35410  2514002        BZE                  IF ZERO, THEN INTERRUPTED            02580
35411  2620002        BRU 2       1        SO IGNORE REST OF THIS               02581
35412  0004054        LDA MOVID            OVERLAY IDENTIFYING NUMBER           02582
                                                                                02583
                                                                                02584
35413  0100116  SYOVA  ADD INPNT           INPNT POINTS TO MASTER SYSTEM ADDRESS 02585
35414  0300202        STA Z2               LOCATION OF OVERLAY ADDRESS          02586
35415  0040371        LDA SYTAR+1 2        GET IT                               02587
35416  0375426        STA SYOVB+3 3        SET ADDRESS IN PARAMETER LIST        02588
35417  0004056        LDA MOLEN            LENGTH OV OVERLAY...                 02589
35420  2775424        STO SYOVB+1 3        SET IN PARAMETER LIST                02590
35421  0004057        LDA MOMEM            MEMORY ADDRESS OF WHERE IT GOES      02591
35422  0375425        STA *+3     3        SET IN PARAMETER LIST                02592
                                                                                02593
35423  0755536  SYOVB  SPB DSKA    2        GET OVERLAY                          02594
35424  1200000        Z12 --               READ, CONSTRUCTED LENGTH             02595
35425  0000000        Z00 --               MEMORY ADDRESS                       02596
35426  0000000        Z00 --               DISK ADDRESS - CONSTRUCTED           02597
35427  2615216        BRU ERXTMM           NO GO                                02598
35430  0624057        LDX MOMEM   1        GET READ-IN ADDRESS                  02599
35431  0004055        LDA MOREP            AND SET UP REPLACEMENT NUMBER OF CURRENT 02600
35432  2720005        STO 5       1        SYSTEM                               02601
35433  0004054        LDA MOVID            SET OVERLAY NUMBER IN INDICATOR      02602
35434  0300115        STA INOV                                                  02603
35435  0755443        SPB SYMOV   2        AND GO MOVE CONSTANTS AND SET UP IDENTIFIERS 02604
35436  0004060        LDA MOVINT           CHECK IF DUMP 6 OCCURRED WHILE READING 02605
35437  2514002        BZE                  IN OVERLAY                           02606
35440  2615316        BRU KRETA            YES, GO BACK TO CALLER               02607
35441  0755771        SPB RELIN   2        LETS NOT RELINQUISH TWICE.....       02608
35442  2616217        BRU SRET             NO, GO BACK TO SYSTEM                02609
                                                                                02610
                                                                                02611
                                                                                02612
35443  0000427  SYMOV  LDA SEXIT1           SET EXIT LOCATION                    02613
35444  0320000        STA 0       1        AND SET IN FIRST WORD OF SYSTEM/OVERLAY 02614
35445  1020004        DLD 4       1        CHECK IF CORRECT SYSTEM...           02615
```

SYOV

```
35446  2100231          CAB  SMPX1                BROUGHT IN                                    02616
35447  2615401          BRU  RSNOT                NO                                            02617
35450  2615452          BRU  *+2                                                                02618
35451  2615401          BRU  RSNOT                NO                                            02619
35452  1300100          DST  IN                   YES, SET IN INDICATOR WHICH GIVES SYSTEM AND  02620
35453  0020010          LDA  8          1         OVERLAY #.  CONSTRUCT SYSTEM CONSTANT MOVE    02621
35454  0100433          ADD  SMOVF1                                                             02622
35455  0375462          STA  *+5        3                                                       02623
35456  1020006          DLD  6          1         WHERE AND HOW MANY WORDS                      02624
35457  2100432          CAB  MENDT                CHECK FOR NO MOVE                             02625
35460  2640001          BRU  1          2         IF NO MOVE, EXIT                              02626
35461  2615462          BRU  *+1                  YES                                           02627
35462  2400000          MOV  --                   MOVE CONSTANTS WHERE REQUIRED                 02628
35463  2640001          BRU  1          2         AND EXIT                                      02629
                                                                                               02630
                                                                                              STL02631
                                                                                              TTL02632
```

DISK REQUEST

```
                                                                                02633
                        DSKB IS ENTERED ON XREG 2 BY NON-D-30 TASKS.            02634
                        IT CHECKS BOTH DKFLG1 AND DKFLG2 FOR NON-ZERO           02635
                        IT ALSO STEPS DREQF ON ENTRY, AND DECREMENTS            02636
                        IT ON EXIT.  THIS IS SO THAT THE RELINQUISH             02637
                        ROUTINE WILL NOT NEEDLESSLY GIVE BACK THE               02638
                        DISK TO THE DATANET-30.  WHEN BOTH DKFLG1 AND           02639
                        DKFLG2 HAVE GINE ZERO, IT ASKS THE DATANET-30           02640
                        FOR THE DISK.                                           02641
                                                                                02642
                                                                                02643
35464  0000202  DSKB   LDA Z2                 GET RETURN POINT                 02644
35465  2504006         MAQ                    AND SAVE IN ENTRY                02645
35466  0000157         LDA .DSKC.             SET UP ENTRY TO CHECK            02646
35467  0754217         SPB INSERT  2          FOR OTHER DISK USAGE.            02647
35470  0300201         STA Z1                 SAVE WHERE INSERTED FOR RETURNS  02648
                                                                                02649
35471  0000074  DSKC   LDA DKFLG1             CHECK DISK FLAGS. IF EITHER NON-ZERO, THEN  02650
35472  2514002         BZE                    SOME TASK IS WAITING FOR OR USING THE DISK  02651
35473  2615477         BRU *+4                                                  02652
35474  0000112         LDA DSTAKF             WAIT FOR SPECIAL REQUESTS TO TERMINATE  02653
35475  2514002         BZE                    BEFORE GRANTING ACCESS TO DATANET-30 CALLED  02654
35476  2620002         BRU 2       1          TASKS.  SO WAIT ON D-30 IF NONE SPECIAL  02655
35477  0000075         LDA DKFLG2             TIME-SHARING TASK USING THE DISK OR NO  02656
35500  2516002         BNZ                    D-30 TASK WAITING                02657
35501  2620002         BRU 2       1          SOME OTHER ROUTINE USING DISK, SO PUNT  02658
35502  0000226         LDA PMBX0              WAIT FOR MESSAGE SWITCHING TO GO NORMAL  02659
35503  2516001         BPL                                                     02660
35504  2620002         BRU 2       1          IF PLUS, THEN MESSAGE WAITING TO BE ANSWERED  02661
35505  0300075         STA DKFLG2             ALL OK, SO SET DISK FLAG 2 NON-ZERO  02662
35506  2504202         LAC                    SET TIMING INTERVAL TO 1 SECOND PLUS  02663
35507  0100322         ADD SEVEN                                               02664
35510  0300114         STA HDSKD                                               02665
35511  0000160         LDA .DSKD.             GET ENTRY TO WAIT FOR D-30 ANSWER  02666
35512  0320000         STA 0       1                                           02667
35513  0000312         LDA HDREQ              ASK FOR DISK                     02668
35514  0300226         STA PMBX0                                               02669
                                                                                02670
35515  2514020  DSKD   BCS BRR     0          IF THE DISK IS READY             02671
35516  2615533         BRU DSKG               THEN GET OUT                     02672
35517  0000226         LDA PMBX0              ELSE CHECK IF D-30               02673
35520  2514001         BMI                                                     02674
35521  2620002         BRU 2       1          HAS ANSWERED, AND IF SO, WAIT ON  02675
35522  2504202         LAC                    ELSE CHECK TIMING INTERVAL       02676
35523  2100114         CAB HDSKD                                               02677
35524  2620002         BRU 2       1          STILL OK                         02678
35525  2620002         BRU 2       1          DITTO                            02679
35526  0100326         ADD CR                 RESET TIME CHECK                 02680
35527  0300114         STA HDSKD                                               02681
35530  0756330  DSKO   SPB MESSG   2          AND TYPE MESSAGE TO CLEAR DISK   02682
35531  0000531         DEC DC                 DISK CONTROLLER                  02683
```

DISK REQUEST

```
35532  2620002          BRU 2       1        AND EXIT                                          02684
                                                                                              02685
35533  0020001  DSKG    LDA 1       1        DISK READY, SO GET RETURN                         02686
35534  0300202          STA Z2                                                                02687
35535  2614212          BRU IRASE            ERASE ENTRY AND RETURN TO CALLER                  02688
                                                                                              02689
                                                                                              02690
                                                                                              02691
                                     DSKA IS ENTERED BY D-30 CALLED ROUTINES.                 02692
                                     IT SETS DKFLG1 TO +1, THEN WAITS FOR DKFLG2              02693
                                     TO BE RESET.  WHEN OTHER TASKS HAVE FINISHED             02694
                                     WITH THE DISK, IT SETS DKFLG1 NEGATIVE TO                02695
                                     INDICATE THE DISK IS BEING USED.                         02696
                                     ENTRY IS ON XREG 2 WITH DISK PARAMETERS                  02697
                                     IMMEDIATELY FOLLOWING THE CALLING SEQUENCE -             02698
                                     SEE DSKOP FOR AN EXPLANATION OF THE PARAMETER            02699
                                     SETUP.                                                   02700
                                                                                              02701
                                                                                              02702
                                                                                              02703
35536  0000202  DSKA    LDA Z2               GET RETURN POINT                                  02704
35537  0300074          STA DKFLG1           AND SET DISK FLAG 1 POSITIVE TO INDICATE WAIT02705
35540  2504006          MAQ                  SAVE RETURN                                       02706
35541  0000162          LDA .DSKX.           SET ENTRY FOR CONTINUATION                        02707
35542  1374044          DST IPRIOR  3        AND SET IN PRIORITY ENTRY                         02708
35543  0620356          LDX KFUDGE  1        AND GET WHERE ENTRY IS BU FUDGE FACTOR            02709
                                                                                              02710
35544  0000075  DSKX    LDA DKFLG2           AND WAIT FOR DISK FLAG 2 TO GO ZERO               02711
35545  2516002          BNZ                                                                   02712
35546  2620002          BRU 2       1        NO, EXIT                                          02713
35547  0000112          LDA DSTAKF           CHECK SPECIAL REQUESTS STACK FLAG                 02714
35550  2516002          BNZ                  AND PUNT IF THEY ARE NOT DONE                     02715
35551  2620002          BRU 2       1        DSKB WILL CONTINUE TO GIVE THEM THE DISK          02716
35552  0640074          LDX DKFLG1  2        NOW GET FLAG - IS ALSO CALLING POINT HERE         02717
35553  2504102          LMO                  SET DISK FLAG 1 NEGATIVE TO INDICATE              02718
35554  0300074          STA DKFLG1           ACTUAL USE                                        02719
35555  0000302          LDA .DISK.           SET ENTRY FOR DISK ROUTINE                        02720
35556  0320000          STA 0       1                                                          02721
35557  2615565          BRU DSKH             AND GO TO SPECIAL ENTRY POINT                     02722
                                                                                              02723
                                                                                              STL02724
                                                                                              EJT02725
```

DSKOP

```
                                                                        02726
                                                                        02727
                                                                        02728
DSKOP MAY BE ENTERED DIRECTLY OR THROUGH DSKH                           02729
THE CALLING SEQUENCE FOLLOWS THE SPB ON XREG2                           02730
AND IS GIVEN BELOW...                                                   02731
                                                                        02732
A       SPB  X, 2                                                       02733
A+1     1) NO. OF 64 WORD RECORDS IN BITS 5-19                          02734
        2) TYPE OF INSTRUCTION IN BITS 2-4...                           02735
           12  INDICATES A READ,                                       02736
           37  INDICATES A WRITE                                       02737
A+2     STARTING MEMORY ADDRESS - MOD 64                                02738
A+3     IF NEGATIVE, INDIRECT POINTER TO DISK                           02739
        ADDRESS.  IF POSITIVE, ADDRESS ITSELF                           02740
A+4     ERROR RETURN - NATURE IN HIGH ORDER                             02741
        BITS.                                                           02742
           BIT 4 - ILLEGAL ADDRESS                                      02743
           BIT 3 - NOT USED AS YET.                                     02744
A+5     NORMAL RETURN.  ANY NON-TERMINAL ERROR                          02745
        CONDITIONS ARE REFLECTED IN BITS 0-4                            02746
        AS FOLLOWS...                                                   02747
           BIT 2 - UNUSED AS YET                                        02748
           BIT 1 - RECOVERED PARITY ERROR                               02749
           BIT 0 - UNRECOVERED PARITY ERROR.                            02750
                                                                        02751
DSKOP USES 96 RECORD READ AND WILL GIVE                                 02752
ILLEGAL ADDRESS INDICATION IF MORE THAN                                 02753
96 RECORDS ARE ASKED FOR.                                               02754
                                                                        02755
                                                                        02756
35560  1740303  DSKOP  STX .DISK.+12        GET RETURN POINT            02757
35561  1000302         DLD .DISK.           AND GET ENTRY               02758
35562  0754217         SPB INSERT  2                                    02759
35563  0300201         STA Z1               SAVE FOR RETURNS            02760
35564  0640303         LDX .DISK.+12        GET ENTRY POINT AGAIN       02761
                                                                        02762
35565  2504002  DSKH   LDZ                                              02763
35566  0300107         STA DCNT             RESET LENGTH COUNTER        02764
35567  0300111         STA DRCNT            ERROR COUNT                 02765
35570  0040001         LDA 1       2                                    02766
35571  2700107         STO DCNT             LENGTH OF OPERATION         02767
35572  2000350         EXT MASK11           GET HIGH ORDER BITS FOR TYPE 02768
35573  0100354         ADD DINST            CONSTRUCT INSTRUCTION       02769
35574  0375646         STA DOPER+1 3                                    02770
35575  0040002         LDA 2       2                                    02771
35576  0300077         STA IADRS+1                                      02772
35577  0040003         LDA 3       2        PICK UP DISK ADDRESS        02773
35600  0300202         STA Z2                                           02774
35601  2514001         BMI                  INDIRECT IF MINUS           02775
35602  0040000         LDA 0       2                                    02776
```

```
DSKCP

35603  0300076          STA IADRS                                          02777
35604  2000340          EXT MASK1          CHECK IF LEGAL                  02778
35605  0200334          SUB 0300           IF OVER 300 WITH OTHER BITS GONE THEN 02779
35606  2516001          BPL                ILLEGAL                         02780
35607  2615751          BRU DKER           YES                             02781
35610  0000076          LDA IADRS          GET ADDRESS BACK                02782
35611  0375624          STA DSEEK+2 3      PUT AWAY IN CASE LEGAL          02783
35612  2504032          ADO                SET BIT 19 FOR RELINZUISH       02784
35613  0376012          STA RELAD   3                                      02785
35614  2504202          LAC                                                02786
35615  0100327          ADD 040            SET TIMING INTERVAL             02787
35616  0300110          STA DIVAL                                          02788
                                                                           02789
35617  0755660  DISK    SPB DSKWT   2      WAIT FOR DISK                   02790
35620  0000161          LDA .DSEC.                                         02791
35621  0320000          STA 0       1                                      02792
35622  2500020  DSEEK   SEL 0              SEEK COMMAND                    02793
35623  2510000          PRF         0                                      02794
35624  0000000          OCT 0                                              02795
35625  0000107          LDA DCNT           COMPUTE 96 RECORD BIT SETTING   02796
35626  0300200          STA Z0             SEE IF OVER 96 RECORDS          02797
35627  0517637          BXH 97      0                                      02798
35630  2615751          BRU DKER           SHOULD NOT HAPPEN               02799
35631  2511004          SRD 4                                              02800
35632  2504005          XAQ                REMAINDER MOD 16 IN A           02801
35633  2510017          SRA 15             POSITION REMAINDER              02802
35634  2514002          BZE                                                02803
35635  1100270          DAD D15            15, -1                          02804
35636  2375646          ORY DOPER+1 3      PUT AWAY                        02805
35637  0000077          LDA IADRS+1        GET ADDRESS                     02806
35640  2000347          EXT MASK10         3700000  MAKE SURE NOT TO WIPE HIGH ORDER BIT02807
35641  0375647          STA DOPER+2 3                                      02808
35642  2504002          LDZ                SET BITS 2-4                    02809
35643  2511204          SCD 4                                              02810
35644  2375647          ORY DOPER+2 3                                      02811
35645  2500020  DOPER   SEL 0              READ/WRITE                      02812
35646  0000000          Z00 --             CONSTRUCTED                     02813
35647  0000000          Z00 --             CONSTRUCTED                     02814
35650  2620002          BRU 2       1                                      02815
                                                                           02816
35651  0755660  DSEC    SPB DSKWT   2      WAIT                            02817
35652  2514027          BCS BER     0      CHECK FOR ERRORS                02818
35653  2615677          BRU DCORR          TRY TO CORRECT                  02819
35654  0020001  DEXIT   LDA 1       1      GET RETURN POINT                02820
35655  0100317          ADD FOUR           AND STEP FOR CORRECT RETURN     02821
35656  0300202          STA Z2                                             02822
35657  2614212          BRU IRASE          AND EXIT BACK TO CALLER         02823
                                                                           02824
                                                                           02825
                                                                           02826
35660  2514020  DSKWT   BCS BRR     0      IS DISK READY...                02827
```

DSKOP

```
35661  2640001          BRU 1        2        YES, EXIT BACK TO CALLER                    02828
35662  2504202          LAC                   CHECK INTERVAL                              02829
35663  2100110          CAB DIVAL                                                         02830
35664  2620002          BRU 2        1        STILL OK, GO BACK TO TASK LIST              02831
35665  2620002          BRU 2        1        DITTO                                       02832
35666  0100326          ADD CR                SET INTERVAL LARGE ENOUGH TO GIVE           02833
35667  0300110          STA DIVAL             MESSAGE TIME TO GET OUT                     02834
35670  2516036          OCT 2516036           CHECK FOR LOCKOUT BIT SET                   02835
35671  2615530          BRU DSKO              NO, SO TYPE MESSAGE TO CLEAR                02836
35672  0756330          SPB MESSG    2        YES, TYPE REMINDER ON TYPEWRITER            02837
35673  0000527          DEC DATNET                                                        02838
35674  0000312          LDA HDREQ             ASK D-30 FOR DISK - SHOULDN@T HAVE TO       02839
35675  0756430          SPB SPMESS   2                                                    02840
35676  2620002          BRU 2        1        AND RETURN                                  02841
                                                                                         02842
                                                                                         02843
                                      ERROR CORRECTION ROUTINE - WILL TRY                02844
                                      FIVE TIMES AND THEN CONSIDER THE FRAME AS          02845
                                      CORRECTLY TRANSFERRED.  ANY ERROR IS NOTED         02846
                                      BY SETTING BIT 1 ON IN THE RETURN ADDRESS          02847
                                      IF AN ERROR PERSISTED THE RECORD WAS REWRITTE      02848
                                      ON THE DISK AND BIT 0 IS SET                       02849
                                                                                         02850
35677  0600111   DCORR  LDX DRCNT     0        ERROR COUNTER                               02851
35700  1400001          INX 1        0                                                    02852
35701  0517772          BXH 6        0        TRIED FIVE TIMES                            02853
35702  2615707          BRU DNOREC            NO RECOVERY                                 02854
35703  1700111          STX DRCNT    0                                                    02855
35704  0000360          LDA BIT1              SET BIT 1 ON IN RETURN ADDRESS              02856
35705  2320001          ORY 1        1        TO SIGNIFY PARITY ERROR OF SOME SORT        02857
35706  2615622          BRU DSEEK                                                         02858
                                                                                         02859
                                                                                         02860
35707  0000361   DNOREC LDA SIGN              SET BIT 0 ON IN RETURN ADDRESS              02861
35710  2320001          ORY 1        1                                                    02862
35711  2514004          BPE                   CLEAR OUT ANY PARITY INDICATION             02863
35712  2504012          NOP                                                               02864
35713  0640077          LDX IADRS+1  2        GET READ IN ADDRESS                         02865
35714  2615716          BRU *+2                                                           02866
35715  1440002          INX 2        2                                                    02867
35716  1040000          DLD 0        2        AND FIND WHERE PARITY ERROR WAS             02868
35717  1340000          DST 0        2                                                    02869
35720  0457776          BXL 2        2        DO NOT GO TOO FAR                           02870
35721  2615721          BRU *                 PARITY ON DISK YET NONE IN MEMORY           02871
35722  2516004          BPC                                                               02872
35723  2615715          BRU *-6               TRY AGAIN                                   02873
35724  0000202          LDA Z2                GET ADDRESS OF ERROR                        02874
35725  2000345          EXT MASK8             77   MAKE A MULTIPLE OF 64 WORDS            02875
35726  0375742          STA DCORRA   3        PUT ADDRESS IN WRITE COMMAND                02876
35727  0200077          SUB IADRS+1                                                       02877
35730  2510005          SRA 5                 COMPUTE NEW DISK ADDRESS                    02878
```

```
DSKOP

 35731  0175624          ADD DSEEK+2 3                                  02879
 35732  0375735          STA DCORRP  3                                  02880
 35733  2500020          SEL 0                                          02881
 35734  2510000          PRF         0      POSITION TO WRITE BACK BAD RECORD 02882
 35735  0000000 DCORRP   OCT 0              DISK ADDRESS               02883
 35736  2516020          RCS BRN     0      WAIT TILL READY            02884
 35737  2615736          BRU *-1                                        02885
 35740  2500020          SEL 0                                          02886
 35741  3710001          WRF 1       0      WRITE RECORD BACK ON       02887
 35742  0000000 DCORRA   OCT 0              ADDRESS IN MEMORY          02888
 35743  0075735          LDA DCORRP  3      GET EXACT DISK ADDRESS     02889
 35744  0755760          SPB ADRSER+12      AND OUTPUT IT              02890
 35745  0000534          DEC DP                                         02891
 35746  0000302          LDA .DISK.         SET UP TASK FOR DISK       02892
 35747  0320000          STA 0       1                                  02893
 35750  2620002          BRU 2       1      AND GET OUT                02894
                                                                        02895
                                                                        02896
 35751  0755757 DKER     SPB ADRSER  2      ILLEGAL ADDRESS MESSAGE    02897
 35752  0000535          DEC ILG                                        02898
 35753  0020001          LDA 1       1      GET RETURN ADDRESS         02899
 35754  0100353          AUD BIT4           SET BIT 4 ON               02900
 35755  0100316          ADD THREE          AND RETURN TO ERROR RETURN 02901
 35756  2615656          BRU DEXIT+2        GET OUT                    02902
                                                                        02903
                                                                        02904
 35757  0000076 ADRSER   LDA IADRS          GET ADDRESS                02905
 35760  1740133          STX RAWT    2      SAVE ENTRY POINT           02906
 35761  0756452          SPB CONVRT  2      AND CONVERT ADDRESS        02907
 35762  0300537          STA ADR1           AND SET IN MESSAGE         02908
 35763  2504001          LAQ                                            02909
 35764  0300540          STA ADR1+1                                     02910
 35765  0756330          SPB MESSG   2      AND TYPE MESSAGE           02911
 35766  0000536          DEC ADRS                                       02912
 35767  0640133          LDX RAWT    2      GET ENTRY AGAIN            02913
 35770  2616330          BRU MESSG          AND TYPE KIND OF ADDRESS ERROR 02914
                                                                        02915
                                                                       STL02916
                                                                       EJT02917
```

RELINQUISH

```
                                                                                02918
                                    RELIN RELINQUISHES THE DISK TO THE DATANET-30   02919
                                    IF NO TASK HAS USED THE DISK, THEN THE RELIN-   02920
                                    QUISH IS VACUOUS, IF ANY TASK IS WAITING FOR    02921
                                    THE DISK, THEN THE RELINQUISH IS PUNTED.        02922
                                                                                    02923
                                                                                    02924
35771  2506014  RELIN  OCT 2506014          REQUEST INTERRUPT AFTER COMPLETION      02925
35772  1000276        DLD ZERO              CHECK OUT STATUS OF FLAGS               02926
35773  2100112        CAB DSTAKF            SEE IF MORE TASKS WAITING               02927
35774  2616023        BRU RELEX             YES                                     02928
35775  2615776        BRU *+1                                                       02929
35776  2100074        CAB DKFLG1            AGAINST DISK FLAG 1                     02930
35777  2616023        BRU RELEX             WAITING...                              02931
36000  2616002        BRU *+2               NOT USED BY D-30 CALLED TASKS           02932
36001  2616005        BRU RELQ              DEFINITELY USED                         02933
36002  2100075        CAB DKFLG2            AGAINST REGULAR TASK FLAG               02934
36003  2616005        BRU RELQ              USED                                    02935
36004  2616020        BRU RELMES            NO, SO SEND MESSAGE ONLY                02936
                                                                                    02937
36005  1300074  RELQ   DST DKFLG1           RESET FLAGS                             02938
36006  2516020        BCS BRN      0                                                02939
36007  2616006        BRU *-1               IT SHOULDN T HAPPEN, BUT JUST IN CASE   02940
36010  2500020        SEL 0                 AND RELINQUISH                          02941
36011  2510000        PRF          0        DISK HAD BETTER BE READY...             02942
36012  0000403  RELAD  OCT 403              SET UP BY DSKOP - 403 IF FOR AFTER BOOT,02943
36013  2516020        BCS BRN      0        WAIT HERE                               02944
36014  2616013        BRU *-1               FOR DISK                                02945
36015  2500020        SEL 0                 AND READ AFTER WRITE NEXT SECTOR 0 RECORDS 02946
36016  1213040        OCT 1213040           WITH POWER DROPPED AND API SET          02947
36017  0000000        OCT 0                                                         02948
36020  0000314  RELMES LDA TWO              TELL D-30 IT HAS DISK                   02949
36021  0300226        STA PMBX0             AND RETURN                              02950
36022  2640001        BRU 1        2                                                02951
                                                                                    02952
36023  0300075  RELEX  STA DKFLG2           RESET DISK FLAG 2                       02953
36024  2640001        BRU 1        2        AND GET OUT                             02954
                                                                                    02955
                                                                                STL02956
                                                                                EJT02957
```

PERIPHERAL OVERLAY READ

```
                                                                                02958
                                    THE PERIPHERAL OVERLAY CALLING ROUTINE IS   02959
                                    ENTERED FROM THE TABLE OF TYPEWRITER ENTERED 02960
                                    TASKS, TO PERGET.  IT IS ALSO ENTERED TO    02961
                                    PGETB, BY OTHER PERIPHERAL TASKS TO CHAIN   02962
                                    SEVERAL IN SEQUENCE.  WHEN ENTRY IS THROUGH 02963
                                    PERGET, THE ROUTINE CHECKS TO SEE IF ANY    02964
                                    OTHER PERIPHERAL TASKS ARE CURRENTLY IN     02965
                                    MEMORY...IF SO, IT PUNTS AND TYPES BUSY.    02966
                                    ELSE IT CALLS IN THE OVERLAY FROM THE DISK  02967
                                    ADDRESS GIVEN IN THE WORD AFTER THE CALLING 02968
                                    LOCATION.                                   02969
                                    IT ALSO SAVES THE OVERLAY CALLED, SO THAT IF02970
                                    THE SAME PERIPHERAL TASK IS CALLED TWICE IN 02971
                                    A ROW, IT DOES NOT READ IT IN THE SECOND TIME02972
                                                                                02973
                                                                                02974
                                                                                02975
36025  0000106  PERGET LDA BZYF          CHECK BUSY FLAG - IF ON                02976
36026  2516002         BNZ               THEN NOT ZERO,                         02977
36027  2614140         BRU IBUSY         SO PUNT,                               02978
                                                                                02979
36030  0000202  PGETB  LDA Z2            GET CALLER                             02980
36031  0300106         STA BZYF          AND SET FLAG TO BUSY STATUS            02981
36032  2100130         CAB PERIN         AND CHECK IF ALREADY IN MEMORY...      02982
36033  2616035         BRU *+2           NO                                     02983
36034  2617000         BRU EXECOV        NO, GO EXECUTE                         02984
36035  0300130         STA PERIN         ELSE SET IN INDICATOR                  02985
36036  0040002         LDA 2       2     AND GET DISK ADDRESS                   02986
36037  0376044         STA *+5     3     AND SET IN PARAMETER LIST              02987
36040  0755464         SPB DSKB    2     GET DISK FROM DATANET-30               02988
36041  0755560         SPB DSKOP   2     AND GO READ IN OVERLAY                 02989
36042  1200010         Z12 8             READ, 8 RECORDS                        02990
36043  0037000         DEC EXECOV        MEMORY LOCATION                        02991
36044  0000000         Z00 --            DISK ADDRESS                           02992
36045  3777777         DEC -1            SHOULD NEVER EVER RETURN HERE.....     02993
36046  0755771         SPB RELIN   2     RELINQUISH DISK TO DATANET-30          02994
36047  2617000         BRU EXECOV        AND GO EXECUTE                         02995
                                                                                02996
                                                                               STL02997
                                                                               EJT02998
```

```
                                                                    02999
DRAMB IS ENTERED ON XREG 2 BY BACKGROUND                            03000
SYSTEMS THAT REQUIRE DISK USAGE                                     03001
DRAMA IS ENTERED ON XREG 1 BY TIME-SHARING                          03002
SYSTEMS THAT REQUEST THE DISK                                       03003
THE CALLING SEQUENCE IS...                                          03004
                                                                    03005
A       SPB   DRAMB, 2                                              03006
A+1     INDIRECT POINTER TO A PARAMETER LIST -                      03007
        SEE LATER FOR AN EXPLANATION                                03008
A+2     RETURN POINT.  THE RETURN IS EXECUTED                       03009
        IMMEDIATELY, AND THE COMPLETION OF THE                      03010
        OPERATION IS SIGNALLED BY SETTING A                         03011
        FLAG IN THE PARMETER LIST                                   03012
                                                                    03013
THE PARAMETER LIST IS A FOUR WORD TABLE, SET                        03014
UP AS FOLLOWS...                                                    03015
                                                                    03016
P       1) NO OF 64 WORD RECORDS IN BITS 5-19,                      03017
        2) TYPE OF OPERATION IN BITS 2-4...                         03018
           12 - INDICATES A READ                                    03019
           37 - INDICATES A WRITE                                   03020
P+1     STARTING MEMORY ADDRESS - MOD 64                            03021
P+2     DISK ADDRESS FOR READ OR WRITE,                             03022
        SIGN BIT SET IF SCRATCH AREA IS TO BE                       03023
        SUPPLIED TO A SYSTEM BY THE EXECUTIVE.                      03024
        IN THIS CASE, EACH SYSTEM HAS 48                            03025
        64-WORD RECORDS AVAILABLE, AND THE LOW                      03026
        ORDER END OF THE PARAMETER WORD MUST                        03027
        SPECIFY WHAT PARTICULAR RECORD IS TO                        03028
        BE ACCESSED.                                                03029
        NOTE..THE PARTICULAR ADDRESS USED                           03030
        WILL BE STORED IN P+2 BY THE EXECUTIVE                      03031
        BUT MOST USERS WILL WANT TO IGNORE                          03032
        THIS.                                                       03033
P+3     FLAG TO INDICATE COMPLETION OF                              03034
        OPERATION.  UPON COMPLETION OF                              03035
        THE OPERATION, IT WILL BE SET ODD IF                        03036
        THE OPERATION WAS SUCCESSFUL, EVEN                          03037
        OTHERWISE.  IN EITHER CASE, CERTAIN                         03038
        CONDITIONS WILL BE INDICATED IN THE                         03039
        HIGH ORDER BITS...                                          03040
           BIT 4 - ILLEGAL ADDRESS [ERROR]                          03041
           BIT 3 - TOO MANY REQUESTS STACKED                        03042
                   UP [ERROR]                                       03043
           BIT 2 - NOT USED AT PRESENT                              03044
           BIT 1 - PARITY [RECOVERED, NO ERR]                       03045
           BIT 0 - PARITY [UNRECOVERED, BUT                         03046
                   TRANSFER COMPLETE, SO NO                         03047
                   ERROR INDICATION GIVEN]                          03048
                                                                    03049
```

SYSTEM-CALLED ROUTINES

```
                                        A MAXIMUM OF FOUR                                    03050
                                  SIMULTANEOUS CALLS WILL BE ALLOWED.  THERE                 03051
                                  MUST BE AS MANY PARAMETER FILES AS THERE MAY               03052
                                  BE SIMULTANEOUS CALLS, AND THE USER SHOULD                 03053
                                  NOT MODIFY HIS PARAMETER LIST FOR A GIVEN                  03054
                                  CALL UNTIL THAT DISK OPERATION HAS BEEN                    03055
                                  COMPLETED.                                                 03056
                                                                                             03057
                                                                                             03058
                                                                                             03059
36050  0644011  DRAMA  LDX MKP     2        GET ENTRY POINT                                   03060
36051  2616053         BRU *+2                                                              03061
                                                                                             03062
                                                                                             03063
36052  1440001  DRAMB  INX 1       2        STEP FOR RETURN IN ANY EVENT                      03064
36053  0040000         LDA 0       2        POINTS TO *P*                                     03065
36054  0300261         STA .DRMC.+1         SAVE                                              03066
36055  0620261         LDX .DRMC.+11        SET IN REGISTER                                   03067
36056  0600112         LDX DSTAKF  0        GET STACKUP FLAG                                  03068
36057  0517774         BXH 4       0        IF FOUR STACKED UP, CRUMP                         03069
36060  2616171         BRU DSFUL                                                            03070
36061  1400001         INX 1       0        ELSE STEP BY ONE                                  03071
36062  1700112         STX DSTAKF  0        AND SAVE                                          03072
36063  2504002         LDZ                  AND ZERO OUT RETURN WORD                          03073
36064  0320003         STA 3       1        *P+3*                                             03074
36065  1000260         DLD .DRMC.           AND GET LIST ENTRY                                03075
36066  2614217         BRU INSERT           AND GO INSERT TASK IN LIST                        03076
                                                                                             03077
                                                                                             03078
                                                                                             03079
36067  0640355  DRMC   LDX DSTAKP  2        POINTS TO DSTAK-4                                 03080
36070  1440003         INX 3       2        STEP TO NEXT ENTRY                                03081
36071  0040003         LDA 3       2        AND GET SECOND WORD - CHECK IF ENTRY FREE         03082
36072  2516002         BNZ                  NON ZERO IN USED                                  03083
36073  2616070         BRU *-3              SO TRY AGAIN - WE KNOW THERE IS AT LEAST 1        03084
36074  0020001         LDA 1       1        GET POINTER TO *P*                                03085
36075  0340003         STA 3       2        AND SET IN STACK                                  03086
36076  2614212         BRU IRASE            THEN ERASE CURRENT ENTRY                          03087
                                                                                             03088
                                  THE FOLLOWING ENTRIES GO IN GROUPS OF                      03089
                                  FOUR.  THEY ARE ALL IDENTICAL                              03090
                                                                                             03091
36077  0755464  DSTAK  SPB DSKB     2        NOW WAIT FOR DISK                                 03092
36100  0756113         SPB DRMS     2        THEN USE                                          03093
36101  0000000         ZOO --               POINTER TO *P* GOES HERE                          03094
                                                                                             03095
36102  0755464         SPB DSKB     2        GROUP 2                                           03096
36103  0756113         SPB DRMS     2                                                          03097
36104  0000000         ZOO --                                                                 03098
                                                                                             03099
36105  0755464         SPB DSKB     2        GROUP 3                                           03100
```

SYSTEM-CALLED ROUTINES

```
36106  0756113          SPB  DRMS    2                                        03101
36107  0000000          Z00  --                                             03102
                                                                             03103
36110  0755464          SPB  DSKB    2        GROUP 4 - LAST ENTRY            03104
36111  0756113          SPB  DRMS    2                                        03105
36112  0000000          Z00  --                                             03106
                                                                             03107
                                                                             03108
                                                                             03109
36113  1720136  DRMS    STX  TEMP    1        SAVE PLACE IN TASK LIST         03110
36114  0040001          LDA  1       2        POINTS TO *P*                   03111
36115  0300201          STA  Z1               SET FOR INDIRECT # 1            03112
36116  0100362          ADD  STWO             POINTS TO *P+2*                 03113
36117  0376150          STA  DRMD+3  3        SET IN PARAMETER LIST           03114
36120  0020000          LDA  0       1        GET INSTRUCTION TYPE AND LENGTH 03115
36121  0376146          STA  DRMD+1  3        AND SET IN PARAMETER LIST       03116
36122  0020001          LDA  1       1        GET MEMORY ADDRESS              03117
36123  0376147          STA  DRMD+2  3        SET IN PARAMETER LIST           03118
36124  2504002          LDZ                   RESET WAITING LIST              03119
36125  0340001          STA  1       2                                        03120
36126  0020002          LDA  2       1        GET DISK ADDRESS                03121
36127  2516001          BPL                   CHECK IF REAL ADDRESS           03122
36130  2616145          BRU  DRMD             YES, SKIP ALL THIS              03123
36131  2000342          EXT  MASK4            GET RID OF ALL HIGH ORDER BITS AND START TO  03124
36132  2504004          LQA                   COMPUTE SCRATCH ADDRESS         03125
36133  0176146          ADD  DRMD+1  3        ADD RECORD COUNT TO STARTING SCRATCH ADDRESS 03126
36134  2000342          EXT  MASK4            WIPE OUT HIGH ORDER BITS        03127
36135  0300200          STA  Z0                                               03128
36136  0517717          BXH  49      0        SEE IF TOO MANY                 03129
36137  2616167          BRU  DNOVL            YES - ERROR RETURN              03130
36140  2504005          XAQ                   GET NUMBER BACK                 03131
36141  2512001          SLA  1                POSITION CORRECTLY              03132
36142  0104004          ADD  MKDISK           GET TELETYPE ADDRESS            03133
36143  0100336          ADD  0440             STEP 440 TO GET SCRATCH AREA    03134
36144  0320002          STA  2       1        AND PUT AWAY                    03135
                                                                             03136
36145  0755560  DRMD    SPB  DSKOP   2        READ/WRITE ON DISK              03137
36146  0000000          Z00  --               TYPE AND LENGTH                 03138
36147  0000000          Z00  --               STARTING MEMORY ADDRESS         03139
36150  0000000          Z00  --               DISK STARTING ADDRESS OR POINTER 03140
36151  2504012          NOP                   IGNORE ERRORS - SORT OF         03141
36152  1720136          STX  TEMP    1        AND SAVE PLACE IN LIST          03142
36153  0076150  DRME    LDA  DRMD+3  3        POINTS TO *P+2*                 03143
36154  0300201          STA  Z1                                               03144
36155  0000202          LDA  Z2               GET SPB TO DSKOP - HAS ERROR INFO IN HIGH  03145
36156  2000350          EXT  MASK11           ORDER BITS.  ISOLATE THESE      03146
36157  2514002          BZE                   CHECK FOR NO ERRORS             03147
36160  2504022          LDO                   IF NONE, SET COMPLETION INDICATOR ODD  03148
36161  0320001          STA  1       1        AND SET IN WORD FOUR OF FILE    03149
36162  0000112          LDA  DSTAKF           AND RELEASE STACKUP FLAG ONE NOTCH  03150
36163  2504112          SBO                                                   03151
```

SYSTEM-CALLED ROUTINES

```
 36164  0300112          STA DSTAKF                                    03152
 36165  0640136          LDX TEMP    2       GET PLACE IN TASK LIST    03153
 36166  2615771          BRU RELIN           AND RELINQUISH DISK       03154
                                                                       03155
                                                                       03156
                                                                       03157
 36167  0640353  DNOVL   LDX BIT4    2       SET ILLEGAL ADDRESS BIT ON03158
 36170  2616153          BRU DRME            AND RETURN                03159
                                                                       03160
                                                                       03161
 36171  0000352  DSFUL   LDA BIT3            SPECIAL BIT FOR STACKER FULL ERROR
 36172  0320003          STA 3       1       AND SET IN *P+3*          03163
 36173  2640001          BRU 1       2       RETURN TO CALLER          03164
                                                                       03165
                                                                      STL03166
                                                                      TTL03167
```

```
                                ALL EXITS ARE ENTERED BY AN SPB 20000 [OCTAL]      03168
                                ON INDEX REGISTER 1, WITH AN APPROPIATE            03169
                                CONSTANT IN THE A REGISTER.                        03170
                                THE CONSTANTS AND THEIR CORRESPONDING              03171
                                EXITS AREA AS FOLLOWS                              03172
                                0] TERMINAL EXIT.                                  03173
                                1] INTERMEDIATE OUTPUT EXIT.                       03174
                                2] INPUT CALL EXIT.                                03175
                                3] OVERLAY CALL TEMPORARY EXIT.                    03176
                                4] OVERLAY DELETE CALL                             03177
                                5] DISK OPERATIONS CALL                            03178
                                6 AND 7 ARE SPECIAL DATA TRANSFERS TO THE          03179
                                D-30.                                              03180
                                    6 USES THE SPECIAL MAILBOX AND                 03181
                                    7 THE REGULAR MAILBOX.                         03182
                                THE CALLING SEQUENCE FOR THESE IS                  03183
                                    A    SPB                                       03184
                                    A+1  DATA WORD 1                               03185
                                    A+2  DATA WORD 2                               03186
                                    A+3 RETURN                                     03187
                                DATA WORDS 1 AND 2 WILL BE SENT TO THE D-30        03188
                                    SPECIAL TRANSFER CODES.                        03189
                                      12 - SEND ENDING DISK ADDRESS                03190
                                10] CHANGE DUMP ADDRESS. Q HAS THE ADDRESS         03191
                                    TO DUMP TO WHICH MUST BE ROUNDED TO THE        03192
                                    NEXT HIGHER MULTIPLE OF 64.                    03193
                                                                                   03194
                                WHEN THE SYSTEM REQUESTS A TERMINAL EXIT,          03195
                                INTERMEDIATE OUTPUT OR REAL TIME INPUT THE         03196
                                EXECUTIVE WILL REQUEST A DUMP FROM THE D-30        03197
                                AFTER SAVING THE TYPE OF EXIT.                     03198
                                                                                   03199
                                                                                   03200
36174  2506016  SYSEX  SET PBK                 PRIORITY BREAK WHILE SETTING UP EXITS  03201
36175  1420001         INX 1       1          SAVE RETURN LOCATION INCREMENTED BY ONE  03202
36176  1724011         STX MKP     1                                                  03203
36177  2100324         CAB TEN                DEC 10 SEE IF LEGAL CALL               03204
36200  2616203         BRU *+3                YES                                    03205
36201  2616217         BRU SRET               NO SO RETURN                           03206
36202  2616217         BRU SRET                                                      03207
36203  2700430         STO SEXIT2             SET UP FOR BRANCH                      03208
36204  0620430         LDX SEXIT2  1                                                 03209
36205  2636206         BRU *+1     1          AND BRANCH TO START OF LIST            03210
36206  2616250         BRU TERM               TERMINAL EXIT                          03211
36207  2616253         BRU OTEX               INTERMEDIATE OUTPUT EXIT               03212
36210  2616256         BRU INEX               INPUT CALL EXIT                        03213
36211  2616272         BRU OVCALL             OVERLAY CALL                           03214
36212  2616325         BRU OVDEL              OVERLAY DELETE                         03215
36213  2616050         BRU DRAMA              DISK OPERATION                         03216
36214  2616222         BRU SPTRA              SPECIAL TRANSFER                       03217
36215  2616217         BRU SRET               NOT USED YET SO JUST RETURN            03218
36216  2616261         BRU SYDLC              CHANGE DUMP LENGTH                     03219
                                                                                   03220
                                                                                   03221
```

```
 36217  0624011  SRET   LDX MKP      1          RETURN                                    03222
 36220  2506015         SET PST                                                          03223
 36221  2620000         BRU 0        1                                                   03224
                                                                                         03225
                                                                                         03226
 36222  0624011  SPTRA  LDX MKP      1          GET ENTRANCE LOCATION                     03227
 36223  0000226         LDA PMBX0               WAIT TO GO MINUS                          03228
 36224  2516001         BPL                                                              03229
 36225  2616223         BRU *-2                 BETTER NOT TAKE TOO LONG                  03230
 36226  0020000         LDA 0        1          DATA WORD 1                               03231
 36227  2100324         CAB TEN                 SEE IF LEGAL                              03232
 36230  2616240         BRU *+8                 NO                                        03233
 36231  2616232         BRU *+1                 YES                                       03234
 36232  0300226         STA PMBX0                                                         03235
 36233  0020001         LDA 1        1          DATA WORD 2                               03236
 36234  0300227         STA PMBX0+1             IN SPECIAL MAILBOX+1                      03237
 36235  0000226         LDA PMBX0               WAIT FOR ACKNOWLEDGEMENT                  03238
 36236  2516001         BPL                                                              03239
 36237  2616235         BRU *-2                                                          03240
 36240  1420002         INX 2        1          SET FOR RETURN                            03241
 36241  2616220         BRU SRET+1              AND ENTER RETURN                          03242
                                                                                         03243
                                                                                         03244
 36242  0000214  WAITEX LDA MBX0                DO NOT WIPE OUT D-30 MESSAGE              03245
 36243  2516001         BPL                     IF SO GO ON                               03246
 36244  0000317         LDA KMESD               REQUEST DUMP                              03247
 36245  0300214         STA MBX0                ANSWER DATANET-30                         03248
 36246  2506015         SET PST                 HANG UP WAITING FOR INTERRUPTS SO AS NOT  03249
 36247  2616246         BRU *-1                   TO DESTROY ANY INDEX REGISTERS          03250
                                                                                         03251
                                                                                         03252
 36250  0000320  TERM   LDA KMEST               TERMINAL EXIT                             03253
 36251  0304062         STA MDC                 PUT IN DUMP CODE                          03254
 36252  2616242         BRU WAITEX              AND EXIT                                  03255
                                                                                         03256
                                                                                         03257
 36253  0000321  OTEX   LDA KMESO               INTERMEDIATE OUTPUT MESSAGE               03258
 36254  0304062         STA MDC                 PUT IN DUMP CODE                          03259
 36255  2616242         BRU WAITEX              AND EXIT                                  03260
                                                                                         03261
                                                                                         03262
 36256  0000322  INEX   LDA KMESI               REAL-TIME INPUT CALL                      03263
 36257  0304062         STA MDC                 PUT IN DUMP CODE                          03264
 36260  2616242         BRU WAITEX              AND EXIT                                  03265
                                                                                         03266
                                        CHANGE DUMP LENGTH 0 HAS ENDING MEMORY ADDRES    03267
 36261  2504005  SYDLC  XAQ                     GET ADDRESS IN A                          03268
 36262  0200444         SUB K6LOC               SUBTRACT STARTING ADDRESS                 03269
 36263  2510006         SRA 6                   DIVIDE BY 64 TO GET RECORDS               03270
 36264  2100332         CAB 0140                SEE IF LEGAL LENGTH                       03271
 36265  2616270         BRU *+3                 YES                                       03272
 36266  2616270         BRU *+2                                                           03273
 36267  2616217         BRU SRET                NO BUT JUST RETURN                        03274
 36270  0304063         STA MDL                 STORE IN LENGTH                           03275
```

```
36271  2616217          BRU  SRFT              AND RETURN                    03276
                                                                            03277
                                                                          STL03278
                                                                          EJT03279
```

OVERLAY CALL

```
                                                                    03280
                                                                    03281
THE OVERLAY CALL IS A SPECIAL SYSTEM FEATURE.                       03282
IT IS TREATED AS A SPECIAL SYSTEM EXIT                              03283
AN OVERLAY MAY BE USED TO SUPPLEMENT OR                             03284
REPLACE PART OR ALL OF A SYSTEM.  IF A SYSTEM                       03285
IS REPLACED BY AN OVERLAY (THIS IS INDICATED                        03286
IN THE CALLING SEQUENCE), ONLY THE REPLACING                        03287
OVERLAY WILL BE CALLED BACK IN AFTER SWAPS                          03288
FURTHEMORE, SYSTEM REPLACEMENTS MAY HAVE                            03289
THEIR OWN OVERLAYS.                                                 03290
IF A CALLED-FOR OVERLAY IS ALREADY IN MEMORY                        03291
THE INFORMATION WILL BE PLACED IN THE SAVE                          03292
AREA, AND THE OVERLAY WILL NOT BE READ IN.                          03293
                                                                    03294
TWO CONVENTIONS MUST BE RIGIDLY ADHERED TO...                       03295
1) ALL SYSTEMS, OVERLAYS, AND REPLACEMENTS                          03296
   MUST HAVE THE SAME HEADING INFORMATION                           03297
   IN THE SAME FORMAT.  (SEE SYREAD)                                03298
2) THE NUMBERING SYSTEM FOR OVERLAYS,                               03299
   REPLACEMENTS, AND SYSTEMS, MUST BE UNIQUE                        03300
   THAT IS, IF OVERLAYS, REPLACEMENTS AND                           03301
   SYSTEMS ARE CONSIDERED ARE CONSIDERED AS                         03302
   INTEGRAL UNITS OF CORE, THEN EACH OF                             03303
   THESE UNITS MUST HAVE A UNIQUE IDENTIFYING                       03304
   NUMBER IN THE WORD AFTER THE SYSTEM NAME.                        03305
                                                                    03306
                                                                    03307
THE CALLING SEQUENCE IS AS FOLLOWS...                               03308
                                                                    03309
A       SPB 8192, 1 WITH A 3 IN THE A REGISTER                      03310
A+1     REPLACEMENT # OF CURRENT UNIT IN                            03311
        MEMORY, UNLESS A NEW REPLACEMENT IS                         03312
        BEING CALLED, IN WHICH CASE THIS                            03313
        SHOULD HAVE THE NUMBER OF THE NEW                           03314
        REPLACEMENT.  THIS IS THE ONLY CASE                         03315
        IN WHICH OVERLAY AND REPLACEMENT                            03316
        NUMBERS MAY MATCH UP IN THE CALLING                         03317
        SEQUENCE - SEE NEXT ITEM                                    03318
A+2     NUMBER OF OVERLAY BEING CALLED.  IF TH                      03319
        OVERLAY DESTROYS THE SYSTEM CURRENTLY                       03320
        IN MEMORY, THEN THIS WORD SHOULD                            03321
        HAVE THE SIGN BIT ON.  THIS IS SO THAT                      03322
        IF A DUMP OCCURS WHILE THE OVERLAY IS                       03323
        BEING BROUGHT IN, THE EXECUTIVE WILL                        03324
        NOT NEEDLESSLY READ IN THE SYSTEM                           03325
        AGAIN FOR A NEW PROBLEM.                                    03326
A+3     LENGTH OF OVERLAY.  WILL BE TRUNCATED,                      03327
        SO IF LENGTH IS NOT AN EXACT MULTIPLE                       03328
        OF 64 WORDS, IT SHOULD BE EXTENDED AT                       03329
        LEAST AS FAR AS THE NEXT 64-WORD MULTI                      03330
```

OVERLAY CALL

```
                                                A+4    MEMORY ADDRESS WHERE THE OVERLAY          03331
                                                       IS DESIRED - MUST BE A MULTIPLE OF        03332
                                                       64 WORDS.                                 03333
                                                A+5    RETURN ADDRESS.                           03334
                                                                                                 03335
                                                                                                 03336
 36272  0624011  OVCALL LDX MKP      1                 ENTRY LOCATION STEPPED BY ONE             03337
 36273  0020000         LDA 0       1                 REPLACEMENT #                             03338
 36274  0304055         STA MOREP                     AND SAVE                                  03339
 36275  0020001         LDA 1       1                 OVERLAY #                                 03340
 36276  2514001         BMI                           CHECK IF DESTROYS SYSTEM                  03341
 36277  0300100         STA IN                        YES                                       03342
 36300  2704054         STO MOVID                     AND SET IN SAVE LOCATION                  03343
 36301  0020002         LDA 2       1                 GET LENGTH MOD 64                         03344
 36302  2510006         SRA 6                                                                   03345
 36303  0304056         STA MOLEN                     AND SAVE IN LENGTH INDICATOR              03346
 36304  0020003         LDA 3       1                 GET MEMORY ADDRESS AND EXTRACT            03347
 36305  2000345         EXT EOMSK2                    LOW ORDER END                             03348
 36306  0304057         STA MOMEM                     MEMORY LOCATION                           03349
 36307  1420004         INX 4       1                 STEP RETURN ADDRESS                       03350
 36310  1724011         STX MKP     1                 AND SAVE                                  03351
 36311  0004054         LDA MOVID                     SEE IF OVERLAY CALLED IS ALREADY IN MEMORY 03352
 36312  0200115         SUB INOV                                                                03353
 36313  2514002         BZE                                                                     03354
 36314  2616217         BRU SRET                      YES                                       03355
 36315  1724060         STX MOVINT  1                 SET FLAG FOR INTERRUPTS                   03356
 36316  0620337         LDX 8K      1                 DO NOT DESTROY SYSTEM@S INDEX REGISTERS... 03357
 36317  0000172         LDA .SYOV.                    SET ENTRY TO READ IN OVERLAY              03358
 36320  0334044         STA IPRIOR  1                 SPECIAL TREATEMENT...                     03359
 36321  0300115         STA INOV                      DESTROY OVERLAY INDICATOR                 03360
 36322  2506014         OCT 2506014                   PRIORITY REQUEST                          03361
 36323  2506015         SET PST                       AND WAIT FOR PROCESS TO FINISH            03362
 36324  2616323         BRU *-1                                                                 03363
                                                                                                 03364
                                                                                                 03365
                                                                                                 03366
                                                OVERLAY DELETE CALL DELETES UNNEEDED OVERLAYS    03367
                                                RETURN IS TO THE FI-ST WORD AFTER THE SPB        03368
                                                                                                 03369
                                                                                                 03370
                                                                                                 03371
 36325  2504002  OVDEL  LDZ                           RESET INDICATOR TO SHOW NO OVERLAY        03372
 36326  0304054         STA MOVID                                                               03373
 36327  2616217         BRU SRET                      AND GET BACK                              03374
                                                                                                 03375
                                                                                                STL03376
                                                                                                TTL03377
```

MESSG - TYPE ROUTINE

```
36330  0600134  MESSG  LDX  STACK   0        CHECK STACK                        03378
36331  0517774         BXH  4       0                                           03379
36332  2640002         BRU  2       2        IF THREE STACKED UP, CRUMP         03380
36333  1400001         INX  1       0        BUMP UP STACK                      03381
36334  1700134         STX  STACK   0        AND SAVE                           03382
36335  0040001         LDA  1       2        GET POINTER FOR MESSAGE            03383
36336  2504006         MAQ                                                      03384
36337  0000173         LDA  .PMS1.           INITIAL ENTRY                      03385
36340  1440001         INX  1       2        STEP FOR RETURN                    03386
36341  2500007         TON                   SET FOR OUTPUT                     03387
36342  2614217         BRU  INSERT                                              03388
                                                                                03389
36343  0640137  PMS1   LDX  TYPF    2        CHECK OUTPUT FLAG                  03390
36344  0557777         BXH  1       2        IF NON-ZERO, THEN ON               03391
36345  2620002         BRU  2       1        SO TRY AGAIN LATER                 03392
36346  0020001         LDA  1       1        ADDRESS OF MESSAGE                 03393
36347  0300126         STA  PCNT+1           AND SET IN SAVE LOCATION           03394
36350  1000310         DLD  .PTY.            GET ENTRY                          03395
36351  1320000         DST  0       1        AND REPLACE OLD                    03396
36352  1720137         STX  TYPF    1        SET FLAG ON AND SAVE POINTER       03397
36353  1440014  PMORE  INX  12      2        SET FOR FIRST CHARACTER            03398
36354  1740125         STX  PCNT    2        AND SAVE                           03399
36355  0640126         LDX  PCNT+1  2        WORD POINTER                       03400
36356  0040000         LDA  0       2        GET NEXT WORD                      03401
36357  0300132         STA  PTEMP            AND SAVE IT                        03402
36360  1440001         INX  1       2        STEP POINTER                       03403
36361  1740126         STX  PCNT+1  2        AND SAVE IT                        03404
36362  2620000         BRU  0       1        THEN EXIT                          03405
                                                                                03406
36363  0620137  PTY    LDX  TYPF    1        GET BRANCH WORD                    03407
36364  0640125         LDX  PCNT    2        AND GET WORD POINTER               03408
36365  0000132         LDA  PTEMP            GET WORD                           03409
36366  2550000         SRA  0       2        AND SHIFT FOR CHARACTER            03410
36367  2000344         EXT  MASK7            GET RID OF HIGH ORDER BITS         03411
36370  2100363         CAB  PEOM             AND CHECK FOR EOM                  03412
36371  2616373         BRU  *+2              IF NONE, OK                        03413
36372  2616402         BRU  PDEND            ELSE CRUMP                         03414
36373  2510406         SAN  6                PUT CHARACTER IN N                 03415
36374  2500006         TYP                   AND OUTPUT IT                      03416
36375  0457777         BXL  1       2        CHECK FOR NEW WORD NEEDED          03417
36376  2616353         BRU  PMORE            IF SO, GET IT                      03418
36377  1457772         INX  -6      2        ELSE SET FOR NEXT CHARACTER        03419
36400  1740125         STX  PCNT    2        AND SAVE                           03420
36401  2620000         BRU  0       1        EXIT                               03421
                                                                                03422
36402  0000134  PDEND  LDA  STACK            DECREMENT STACK COINTER            03423
36403  2504112         SBO                                                      03424
36404  0300134         STA  STACK                                               03425
36405  2514002         BZE                   DO NOT RESET UNLESS STACK AT ZERO  03426
36406  2500013         KON                                                      03427
36407  1720202         STX  Z2      1        SET FOR IRASE EXIT                 03428
```

MESSG - TYPE ROUTINE

```
36410  2504002          LDZ                 AND RESET FLAG                03429
36411  0300137          STA TYPF                                          03430
36412  2614212          BRU IRASE           AND EXIT                      03431
                                                                         03432
                                                                        STL03433
                                                                        EJT03434
```

IREC, SPMESS, EFFY, CONVRT, TIME

```
                                                                                03435
                                        DEBUGGING TAPE DUMP.  WRITES LOWER MEMORY       03436
                                        FROM 0 TO SCLOCK+3 - SEE HOW LONG TAPE          03437
                                        TAKES TO COME READY BY SAVING COUNTS IN DUMP    03438
                                                                                03439
                                                                                03440
 36413  2504202   IREC   LAC                                                    03441
 36414  0100316          ADD THREE              WAIT TWO COUNTS OF CLOCK         03442
 36415  0300136          STA TEMP                                                03443
 36416  2504202          LAC                    NOW CHECK                        03444
 36417  0200136          SUB TEMP               NOW CHECK                        03445
 36420  2516001          BPL                    IF TIME UP, EXIT                 03446
 36421  2640001          BRU 1       2                                           03447
 36422  2516120          BCS RTN     1          ELSE CHECK TAPE                  03448
 36423  2616416          BRU *-5                                                 03449
 36424  2500120          SEL 1                  AND WRITE LOTS OF STUFF          03450
 36425  0300000          WTR 0       0                                           03451
 36426  0100251              SCLOCK+3                                            03452
 36427  2640001          BRU 1       2          AND GET OUT                      03453
                                                                                03454
                                                                                03455
                                        THIS ROUTINE WAITS FOR THE DATANET-30 TO         03456
                                        ANSWER ALL PREVIOUS MESSAGES AND THEN            03457
                                        EXITS.                                           03458
                                                                                03459
                                                                                03460
   36430  SPMESS BSS 0                                                         03461
 36430  2504004          LQA                    SAVE MESSAGE IN Q                03462
 36431  0000226          LDA PMBX0              AND WAIT FOR ANY OTHER MESSAGES TO BE    03463
 36432  2516001          BPL                    ACKNOWLEDGED...                  03464
 36433  2616431          BRU *-2                HOPE WE DON'T HANG TOO LONG...   03465
 36434  2504001          LAQ                    GET MESSAGE                      03466
 36435  0300226          STA PMBX0              AND SET IN SPECIAL MAILBOX       03467
 36436  0000226          LDA PMBX0              NOW WAIT FOR THIS MESSAGE TO BE ANSWERED 03468
 36437  2514001          BMI                    IF NEGATIVE, WE ARE OK           03469
 36440  2640001          BRU 1       2          SO GET BACK                      03470
 36441  2616436          BRU *-3                ELSE WAIT FOR ANSWER             03471
                                                                                03472
                                                                                03473
                                        EFFY IS SET UP BY THE WAIT LOOP EVERY 10         03474
                                        MINUTES.  IT WAITS FOR ALL PERIPHERAL            03475
                                        ACTIVITY TO CEASE, THEN CALLS IN AN OVERLAY      03476
                                        WHICH DUMPS THE EFFICIENCY SUMMARY INFO          03477
                                        ONTO THE DISK                                    03478
                                                                                03479
                                                                                03480
 36442  0000106   EFFY   LDA BZYF               WAIT FOR PERIPHERAL TASKS TO BE COMPLETED 03481
 36443  0100134          ADD STACK              AND WAIT FOR ALL TYPING TO STOP  03482
 36444  2516002          BNZ                                                     03483
 36445  2620002          BRU 2       1                                           03484
 36446  0754212          SPB IRASE   2          ERASE ENTRY                      03485
```

IREC, SPMESS, EFFY, CONVRT, TIME

```
36447  0640276          LDX ZERO    2          AND GET SUMMARY OVERLAY          03486
36450  1440452          INX SUMMRY  2                                           03487
36451  2616030          BRU PGETB                                               03488
                                                                               03489
                                                                               03490
                                                                               03491
                                                                               03492
                                    CONVERSION ROUTINE                         03493
                                                                               03494
                                                                               03495
36452  2000343  CONVRT  EXT MASK6             MASK OUT SIGN BITS              03496
36453  2511017          SRD 15                PUT MOST IN Q                   03497
36454  2512003          SLA 3                 BEGIN SPACING WITH ZEROS        03498
36455  2512203          SLD 3                                                 03499
36456  2512003          SLA 3                                                 03500
36457  2512203          SLD 3                                                 03501
36460  0300102          STA MSTEMP                                            03502
36461  2504002          LDZ                                                   03503
36462  2512203          SLD 3                                                 03504
36463  2512003          SLA 3                                                 03505
36464  2512203          SLD 3                                                 03506
36465  2512003          SLA 3                                                 03507
36466  2512203          SLD 3                                                 03508
36467  2504004          LQA                                                   03509
36470  0000102          LDA MSTEMP                                            03510
36471  2640001          BRU 1       2         RETURN                          03511
                                                                               03512
                                    TIME - ENTERED ON XREG 2                   03513
                                    USES TEMP AND MSTEMP                       03514
36472  2504202  TIME    LAC                                                   03515
36473  0100437          ADD H2                ADD 1 MINUTE                    03516
36474  0300122          STA ITIM              SAVE INCREMENTED TIME           03517
36475  0200335          SUB 0400              MAKE IT REASONABLE              03518
36476  2504006          MAQ                                                   03519
36477  1600435          DVD H1                GET HOURS                       03520
36500  1300102          DST MSTEMP                                            03521
36501  2504006          MAQ                                                   03522
36502  1600324          DVD TEN               CONVERT TO DECIMAL              03523
36503  2514002          RZE                   DELETE LEADING ZEROS            03524
36504  0000330          LDA 060                                               03525
36505  2512006          SLA 6                                                 03526
36506  0300136          STA TEMP                                              03527
36507  2504001          LAQ                                                   03528
36510  2300136          ORY TEMP                                              03529
36511  1000102          DLD MSTEMP                                            03530
36512  0000276          LDA ZERO                                              03531
36513  1600437          DVD H2                GET MINUTES                     03532
36514  2504006          MAQ                                                   03533
36515  1600324          DVD TEN                                               03534
36516  2512006          SLA 6                                                 03535
36517  1300102          DST MSTEMP                                            03536
```

IREC, SPMESS, EFFY, CONVRT, TIME

```
 36520  0100103          ADD MSTEMP+1                                          03537
 36521  0100440          ADD COLON                                             03538
 36522  2504006          MAQ                                                   03539
 36523  0000136          LDA TEMP                                              03540
 36524  0100436          ADD BLZZ              LEADING BLANK                   03541
 36525  2640001          BRU 1       2         RETURN                          03542
                                                                               03543
                                                                               03544
          37000          LOC 37000             OVERLAYS GO HERE                03545
          37000  EXECOV  BSS 1                 NORMAL PERIPHERAL ENTRY POINT   03546
          37001          BSS 1                 SYSTEM ENTRY TO PERIPHERALS     03547
          37002  BRES    BSS 1                 RESTART ENTRY FOR BATCH PROCESSING MODE  03548
          37003  KBRUN   BSS 1                 PERMISSION TO RUN ENTRY FOR BATCH PROCESSING 03549
          37004          BSS 508               SAVE SOME SPACE                 03550
T01000                   TCD LOAD                                              03551
                                                                              STL03552
                                                                              TTL03553
```

LISTER

```
                                                                                03554
                                                                                03555
TIME-SHARING LISTER.  WILL LIST A DECK OF                                       03556
DECIMAL CARDS, CONVERTING PARENTHESES AND                                       03557
OTHER CHARACTERS FOR PRINTER COMPATIBILITY                                      03558
THIS LISTER IS BUFFERED AND REQUIRES THAT THE                                   03559
FIRST CARD BE IN HOPPER BEFORE STARTING.                                        03560
THE DECK MUST BE FOLLOWED BY TWO BLANK                                          03561
CARDS.                                                                          03562
ERROR MESSAGES ARE PRINTED ON THE CONSOLE                                       03563
TYPEWRITER.                                                                     03564
AT ANY TIME DEPRESSING SWITCH ZERO WILL                                         03565
CAUSE ALL ACTIVITY TO HALT                                                      03566
FOR THE 235, AS FOLLOWS                                                         03567
C/P FOLLOWED BY A CARRIAGE RETURN WILL                                          03568
     PRODUCE A SINGLE SPACED, UNTRANSLATED                                      03569
     LISTING.  ALL OTHER OPTIONS MUST FOLLOW                                    03570
     THE FOLLOWING CODE...                                                      03571
S    SINGLE SPACING                                                             03572
D    DOUBLE SPACING                                                             03573
N    NOT TRANSLATED                                                             03574
T    TRANSLATED FOR PRINTER COMPATIBILITY                                       03575
C/P MUST BE FOLLOWED BY TWO LETTERS IF AN                                       03576
ALTERNATIVE OPTION IS SELECTED                                                  03577
 AS   C/PST FOLLOWED BY A CR                                                    03578
AFTER AN ERROR, DEPRESSING SWITCH 2 WILL                                        03579
CAUSE THE LISTING TO TAKE UP WHERE IT                                           03580
LEFT OFF                                                                        03581
                                                                                03582
                                                                                03583
          01670          ORG PERNUM                                           03584
01670     0000000        DEC 0                                                03585
01671     0000455        DEC C/P                                              03586
          37000          ORG EXECOV                                           03587
37000     1077370        DLD .LST.   3        GET ENTRY                       03588
37001     0754217        SPR INSERT  2        AND INSERT IN LIST              03589
37002     0300154        STA OVTSK            SAVE RETURN                     03590
37003     2514620        BCS BPR     6                                        03591
37004     2617010        BRU *+4                                              03592
37005     0756330        SPB MESSG   2                                        03593
37006     0037406        DEC PNR              PRINTER NOT READY               03594
37007     2617341        BRU LNDRA                                            03595
37010     2514006        BCR                                                  03596
37011     2617015        BRU *+4                                              03597
37012     0756330        SPR MESSG   2                                        03598
37013     0037415        DEC CRN              CARD READER NOT READY           03599
37014     2617341        BRU LNDRA                                            03600
37015     2504002  L235  LDZ                                                  03601
37016     0300065        STA LF                                               03602
37017     2504102        LMO                                                  03603
37020     0300063        STA LLNT1                                            03604
```

LISTER

```
37021  0300064          STA LLSD1                                          03605
37022  0737051          SPB LCHAR   1      GET NEXT CHARACTER FROM TY+1    03606
37023  2100326          CAB CR             CHECK IF CARRIAGE RETURN        03607
37024  2617026          BRU *+2                                            03608
37025  2617040          BRU LSN            GO CHECK IF ALL CORRECT         03609
37026  0557775          BXH 3       2      IF NOT CR, AND LF GTE 3, THEN ERROR 03610
37027  2617037          BRU LERR1                                          03611
37030  0640337          LDX 6K      2      INTIALIZE LOOPING VARIABLE      03612
37031  2157067          CAB LTAB    2                                      03613
37032  2617034          BRU *+2                                            03614
37033  2657070          BRU LTAB+1  2      GO TO INDICATED TASK            03615
37034  1440002          INX 2       2      INCREMENT                       03616
37035  0457770          BXL 8       2      TEST FOR END                    03617
37036  2617031          BRU *-5                                            03618
37037  2614156  LERR1   BRU ILD            ILLEGAL TASK                    03619
                                                                          03620
37040  0000065  LSN     LDA LF             CHECK INDICATOR                 03621
37041  2100314          CAB TWO                                            03622
37042  2617046          BRU LSN1           SINGLE SPACED AND UNTRANSLATED  03623
37043  2617037          BRU LERR1          LF EQUALS 2, SECOND CHAR A CR, ERROR 03624
37044  2617142          BRU LISTA          DONE                            03625
37045  0624537          OCT 624537         S N CR                          03626
37046  0077045  LSN1    LDA *-1     3      EASIEST WAY TO GET N AND S      03627
37047  0300031          STA TY+1                                           03628
37050  2617015          BRU L235                                           03629
                                                                          03630
37051  0640065  LCHAR   LDX LF      2      CHARACTER PICKING UP ROUTINE - EASILY 03631
37052  0557777          BXH 1       2      MODIFIED TO OTHER USES...       03632
37053  2617065          BRU LCHAR1         IF GREATER THAN ZERO, THEN NOT FIRST TIME 03633
37054  0000031          LDA TY+1           GET SECOND WORD                 03634
37055  0300062          STA LCH3           LAST CHARACTER                  03635
37056  2510006          SRA 6                                              03636
37057  0300061          STA LCH2           MIDDLE CHARACTER                03637
37060  2510006          SRA 6              FIRST CHARACTER                 03638
37061  2000344  LCHAR2  EXT MASK7          GET RID OF HIGHER ORDER END     03639
37062  1440001          INX 1       2      AND INCREMENTE COUNTER          03640
37063  1740065          STX LF      2      AND SAVE                        03641
37064  2620001          BRU 1       1      GET OUT                         03642
37065  0040060  LCHAR1  LDA LCH2-1  2      GET CHARACTER                   03643
37066  2617061          BRU LCHAR2         AND RETURN                      03644
                                                                          03645
                                                                          03646
37067  0000045  LTAB    ALF 00N            NO TRANSLATION                  03647
37070  2617077          BRU LN                                             03648
37071  0000062          ALF 00S            SINGLE SPACING                  03649
37072  2617113          BRU LS                                             03650
37073  0000024          ALF 00D            DOUBLE SPACING                  03651
37074  2617126          BRU LD                                             03652
37075  0000063          ALF 00T            TRANSLATED                      03653
37076  2617102          BRU LT                                             03654
                                                                          03655
```

LISTER

```
37077  0077404  LN     LDA LN1     3                                    03656
37100  0377217         STA LNT     3    SET INSTRUCTION UP              03657
37101  2617105         BRU LLNT                                         03658
                                                                        03659
37102  0077405  LT     LDA LT1     3                                    03660
37103  0377217         STA LNT     3    STORE                           03661
37104  2617105         BRU LLNT                                         03662
                                                                        03663
37105  0000063  LLNT   LDA LLNT1        GET COUNTER                     03664
37106  2504032         ADO             AND INCREMENT                   03665
37107  2516002         BNZ                                             03666
37110  2617037         BRU LERR1       SOME IDIOT DID IT AGAIN         03667
37111  0300063         STA LLNT1                                        03668
37112  2617051         BRU LCHAR                                        03669
                                                                        03670
                                                                        03671
37113  0077402  LS     LDA LSS     3    GET INSTRUCTIONS                03672
37114  0317247         STA LPR+1                                        03673
37115  0077403         LDA L56     3    NUMBER OF LINES PER PAGE        03674
37116  0300057         STA LPAGE                                        03675
37117  0300056         STA LNCNT                                        03676
37120  0000064         LDA LLSD1       MAKE SURE NO IDIOT TRIES BOTH SINGLE AND 03677
37121  2504032         ADO             DOUBLE SPACE                    03678
37122  2516002         BNZ                                             03679
37123  2617037         BRU LERR1                                        03680
37124  0300064         STA LLSD1                                        03681
37125  2617051         BRU LCHAR       GO BACK FOR SOME MORE           03682
                                                                        03683
37126  0077402  LD     LDA LSS     3    GET INSTRUCTION                 03684
37127  2512001         SLA 1           MODIFY FOR DOUBLE SPACE         03685
37130  0377247         STA LPR+1   3                                    03686
37131  0077403         LDA L56     3    AND COUNT                       03687
37132  2510001         SRA 1                                           03688
37133  2617116         BRU LS+3        AND GET OUT                     03689
                                                                        03690
                                                                        03691
                                                                        03692
37134  2504002  LST    LDZ             ENTRY POINT HERE                03693
37135  2500011         RCS             CHECK SWITCH 0 DOWN             03694
37136  2514001         BMI                                             03695
37137  2620002         BRU 2       1    IF SO, OUT                      03696
37140  0640066         LDX LPOIN   2    GET EXIT POINT                  03697
37141  2640001         BRU 1       2    AND RETURN                      03698
                                                                        03699
                                                                        03700
                                                                        03701
37142  1077374  LISTA  DLD LAREAS  3    GET BUFFER AREAS                03702
37143  1300054         DST LIN         AND SET INT FLIP FLOPS          03703
37144  0301033         STA IO1+27                                       03704
37145  2504202         LAC             AND SET TIMING INTERVAL         03705
37146  0100321         ADD SIX                                          03706
```

LISTER

```
37147  0300060          STA LCTIM                                        03707
37150  0000151          LDA CMESSB      DO NOT ACKNOWLEDGE IF BATCH ON   03708
37151  2514002          BZE                                              03709
37152  0756330          SPB MESSG  2    ACKNOWLEDGE RECEIPT              03710
37153  0000541          DEC PCR                                          03711
37154  2501000          RCD 101         READ IN FIRST CARD               03712
37155  2500004          HCR                                              03713
                                                                         03714
37156  0757260  LSLEW   SPB LRET   2    EXIT AND WAIT                    03715
37157  2516620          BCS BPN    6    PUNT IF NOT READY                03716
37160  2620002          BRU 2      1                                     03717
37161  2500620          SEL 6           SLEW TO TOP OF PAGE              03718
37162  0400000          SLT 8                                            03719
37163  0000000
37164  0757260          SPB LRET   2    THEN EXIT AND WAIT AGAIN         03720
37165  2516620          BCS BPN    6    PUNT AND WAIT                    03721
37166  2620002          BRU 2      1                                     03722
37167  2500620          SEL 6           SLEW 3 LINES                     03723
37170  0600000          SLW 3                                            03724
37171  0300000
37172  0000057          LDA LPAGE       RESET PAGE COUNT                 03725
37173  0300056          STA LNCNT                                        03726
                                                                         03727
                                                                         03728
37174  0757260  LIST    SPB LRET   2    EXIT AND WAIT                    03729
37175  2516620          BCS BPN    6                                     03730
37176  2620002          BRU 2      1                                     03731
37177  0757263          SPB LHOP   2    NOW CHECK HOPPED CONDITION       03732
37200  0640054          LDX LIN    2    AREA LAST READ INTO              03733
37201  0040033          LDA 27     2    CHECK SYNCWORD                   03734
37202  0177376          ADD LSYNC  3                                     03735
37203  2516002          BNZ             IF NOT MATCHED, CARD READ ERROR  03736
37204  2617307          BRU LSERR                                        03737
37205  0620055          LDX LIN+1  1    AREA TO BE NEXT READ INTO        03738
37206  1720054          STX LIN    1    FLIP FLOP THEM                   03739
37207  1740055          STX LIN+1  2                                     03740
37210  0320033          STA 27     1    ZERO OUT NEXT SYNCWORD LOCATION  03741
37211  1040000          DLD 0      2    CHECK FOR QUOTE CARD             03742
37212  2277400          DCB LQUOT  3                                     03743
37213  2617215          BRU *+2         NO                               03744
37214  2617327          BRU LQCHK       YES, CHECK REST                  03745
37215  2520000  LNOQ    RCD 0      1    READ CARD OTHERWISE              03746
37216  2500004          HCR                                              03747
37217  2617243  LNT     BRU LPRNT                                        03748
37220  1077372          DLD LMASK  3    MASK FOR TABLE LOOKUP            03749
                                                                         03750
                                                                         03751
37221  0040000  LOOKP   LDA 0      2    PICK UP WORD TO BE TRANSLATED    03752
37222  2514001          BMI                                              03753
37223  2617243          BRU LPRNT                                        03754
37224  1300201          Z13 Z1          PUT MASK INTO XREG 1             03755
```

LISTER

```
37225  2300201          ORY Z1                PUT CHARACTER INTO LOW ORDER END          03756
37226  2510006          SRA 6                 MAKE ROOM FOR NEW CHARACTER               03757
37227  0120000          ADD 0       1         PICK IT UP                                03758
37230  1300201          Z13 Z1                SECOND CHARACTER                          03759
37231  2300201          ORY Z1                                                          03760
37232  2510006          SRA 6                                                           03761
37233  0120000          ADD 0       1                                                   03762
37234  1300201          Z13 Z1                THIRD CHARACTER                           03763
37235  2300201          ORY Z1                                                          03764
37236  2510006          SRA 6                                                           03765
37237  0120000          ADD 0       1                                                   03766
37240  0340000          STA 0       2         PUT AWAY WORD                             03767
37241  1440001          INX 1       2         INCREMENT ADDRESS REGISTER                03768
37242  2617221          BRU LOOKP             RETURN TO LOOP                            03769
                                                                                        03770
                                                                                        03771
37243  0000055  LPRNT    LDA LIN+1                                                     03772
37244  2777247          STO LPR+1   3         CONSTRUCT ADDRESS                         03773
37245  2500620          SEL 6                                                           03774
37246  2600000  LPR      WPL 0                 PRINT LINE                                03775
37247  0100000
37250  0300201          STA Z1                SET ADDRESS IN REGISTER                   03776
37251  2504102          LMO                   SET END OF LINE FLAG                      03777
37252  0320033          STA 27      1                                                   03778
37253  0100056          ADD LNCNT             AND DECREMENT PAGE COUNTER                03779
37254  2514002          BZE                   IF SO, SET UP TO SLEW                     03780
37255  2617156          BRU LSLEW                                                       03781
37256  0300056          STA LNCNT                                                       03782
37257  2617174          BRU LIST              GET BACK                                  03783
                                                                                        03784
                                                                                        03785
                                                                                        03786
37260  1740066  LRET     STX LPOIN   2         SAVE EXIT POINT                           03787
37261  0620154          LDX OVTSK   1         GET ENTRY POINT                           03788
37262  2640001          BRU 1       2         AND GET BACK AGAIN                        03789
                                                                                        03790
                                                                                        03791
37263  2516006  LHOP     BCN                   CHECK READER                              03792
37264  2617271          BRU *+5               TEST HOPPER IF NOT READY                  03793
37265  2504202          LAC                   STEP TIMER IF OK                          03794
37266  0100322          ADD SEVEN                                                       03795
37267  0300060          STA LCTIM             AND SAVE                                  03796
37270  2640001          BRU 1       2         EXIT BACK                                 03797
37271  0640054          LDX LIN     2         GET BUFFER ADDRESS                        03798
37272  0040033          LDA 27      2         AND CHECK SYNCWORD FOR HOPPER EMPTY       03799
37273  2177377          CAS LSYNC+1 3                                                   03800
37274  2617276          BRU *+2                                                         03801
37275  2617350          BRU LENDR             END RUN FOR LIST IF HOPPER EMPTY          03802
37276  2504202          LAC                   TIME CHECK                                03803
37277  2100060          CAR LCTIM             IF TIME HAS RUN OVER, THEN                03804
37300  2620002          BRU 2       1         GET OUT IF TIME STILL GOOD                03805
```

LISTER

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37301  2620002          BRU 2       1                                          03806
37302  0756472          SPB TIME    2     OR UNATTENDED. TYPE MESSAGE AND ABORT RUN.  03807
37303  1377460          DST LAB1    3     PUT AWAY                             03808
37304  0756330          SPB MESSG   2     TYPE MESSAGE                         03809
37305  0037452          DEC LAB           ABORTING LIST. DATE AND TIME         03810
37306  2614165          BRU IREDY         AND CRUMP                            03811
                                                                               03812
                                                                               03813
                                                                               03814
                                                                               03815
37307  0756330  LSERR   SPB MESSG   2     TYPE MESSAGE                         03816
37310  0037426          DEC CRE           CARD READ ERROR                      03817
37311  0757260          SPB LRET    2     EXIT AND WAIT ON SWITCHP             03818
37312  2504002          LDZ               RESUME NORMAL OPERATIONS             03819
37313  2500011          RCS               2 IS DEPRESSED                       03820
37314  2000343          EXT MASK6                                              03821
37315  2512002          SLA 2                                                  03822
37316  2516003          BNO                                                    03823
37317  2620002          BRU 2       1                                          03824
37320  0640054          LDX LIN     2     PICK UP ADDRESS OF BUFFER            03825
37321  2540000          RCD 0       2     READ CARD                            03826
37322  2500004          HCR                                                    03827
37323  2504202          LAC               PICK UP AND COMPUTE DELAY TIME       03828
37324  0100321          ADD SIX                                                03829
37325  0300060          STA LCTIM                                              03830
37326  2617174          BRU LIST          AND GET BACK AND TRY AGIAN           03831
                                                                               03832
                                                                               03833
37327  0000151  LOCHK   LDA CMESSB        CHECK BACKGROUND FLAG                03834
37330  2514002          BZE                                                    03835
37331  2617215          BRU LNOO          IF NOT ON, CRUMP IMMEDIATELY         03836
37332  0620154          LDX OVTSK   1     GET ENTRY POINT                      03837
37333  0754212          SPB IRASE   2     AND ERASE IT                         03838
37334  0640276          LDX ZERO    2     RESET 2                              03839
37335  1440513          INX BATCH   2     AND SET FOR BATCH MONITOR            03840
37336  2504102          LMO                                                    03841
37337  0301000          STA IO1           SET FRONT CARD IN                    03842
37340  2616030          BRU PGETR         GO GET BATCH MONITOR                 03843
                                                                               03844
                                                                               03845
37341  0757260  LNDRA   SPB LRET    2                                          03846
37342  0000134          LDA STACK                                              03847
37343  2516002          BNZ                                                    03848
37344  2620002          BRU 2       1                                          03849
37345  0000151          LDA CMESSB        CHECK BATCH FLAG                     03850
37346  2516002          BNZ                                                    03851
37347  2617332          BRU LOCHK+3       GET BATCH BACK                       03852
37350  0756472  LENDR   SPB TIME    2     PICK UP TIME                         03853
37351  1377472          DST EL1     3     PUT IT IN TYPE MESSAGE               03854
37352  0756330          SPB MESSG   2     TYPE MESSAGE                         03855
37353  0037465          DEC DL            DONE LISTING, TIME                   03856
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37354  0757260          SPB LRET    2        SLEW AFTER LIST                    03857
37355  2516620          BCS RPN     6                                           03858
37356  2620002          BRU 2       1        WAIT FOR PRINTER                   03859
37357  2500620          SEL 6                                                   03860
37360  0400000          SLT 8                AND SLEW                           03861
37361  0000000
37362  0754212          SPB IRASE   2        AND ERASE ENTRY                    03862
37363  2504002          LD7                  RESET SOME THINGS                  03863
37364  0300106          STA BZYF                                                03864
37365  0300154          STA OVTSK                                               03865
37366  0301000          STA I01              SO BATCH DOES NOT GET FOULED UP.   03866
37367  2620002          BRU 2       1        CRUMP RIGHT AWAY                   03867
                                                                               03868
                                                                               03869
                                                                               03870
37370  0737134  .LST.   SPB LST     1                                           03871
37371  3777777          DEC -1                                                  03872
37372  0000000  LMASK   OCT 0                                                   03873
37373  3777700          OCT 3777700          SPECIAL GOOK MASK FOR TABLE LOOKUP 03874
37374  0001000  LAREAS  DEC I01              AREA 1                             03875
37375  0001200          DEC I02              AREA 2                             03876
37376  1171701  LSYNC   OCT 1171701          NEGATION OF SYNCWORD               03877
37377  3606077          OCT 3606077          HOPPER EMPTY CONSTANT              03878
37400  0777777  LQUOT   OCT 777777           DOUBLE 0-7-8 PUNCHES               03879
37401  0777777          OCT 777777                                              03880
37402  0100000  LSS     ADD 0                PRINTER INSTRUCTION TO SLEW 1 LINE 03881
37403  0000070  L56     DEC 56               NUMBER OF LINES PER PAGE           03882
37404  2617243  LN1     BRU LPRNT                                               03883
37405  2617220  LT1     BRU LNT+1                                               03884
                                                                               03885
37406  0374751  PNR     OCT 374751           PRINTER NOT READY.                 03886
37407  0314563          ALF INT                                                 03887
37410  0255160          ALF ER                                                  03888
37411  0454663          ALF NOT                                                 03889
37412  0605125          ALF  RE                                                 03890
37413  0212470          ALF ADY                                                 03891
37414  0333755          OCT 333755                                              03892
                                                                               03893
         37415  CRN     BSS 0                CARD READER NOT READY              03894
37415  0372321          OCT 372321                                              03895
37416  0512460          ALF RD                                                  03896
37417  0512521          ALF REA                                                 03897
37420  0242551          ALF DER                                                 03898
37421  0604546          ALF  NO                                                 03899
37422  0636051          ALF T R                                                 03900
37423  0252124          ALF EAD                                                 03901
37424  0703337          OCT 703337                                              03902
37425  0557777          OCT 557777                                              03903
                                                                               03904
37426  0372321  CRE     OCT 372321           CARD READ ERROR.                   03905
37427  0512460          ALF RD                                                  03906
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37430  0512521          ALF REA                                        03907
37431  0246025          ALF O F                                        03908
37432  0515146          ALF ERO                                        03909
37433  0516022          ALF R B                                        03910
37434  0212342          ALF ACK                                        03911
37435  0624721          ALF SPA                                        03912
37436  0232560          ALF CE                                         03913
37437  0016023          ALF 1 C                                        03914
37440  0215124          ALF ARD                                        03915
37441  0602145          ALF  AN                                        03916
37442  0246063          ALF O T                                        03917
37443  0462727          ALF OGG                                        03918
37444  0432560          ALF LE                                         03919
37445  0026066          ALF 2 W                                        03920
37446  0302545          ALF HEN                                        03921
37447  0605125          ALF  RE                                        03922
37450  0212470          ALF ADY                                        03923
37451  0333755          OCT 333755                                     03924
                                                                       03925
37452  0000000          DDC 0                                          03926
37453  0000000
         37454          BSS -2                                         03927
         37452  LAB     BSS 0          ABORTING LIST -- TIME           03928
37452  0372122          OCT 372122                                     03929
37453  0465163          ALF ORT                                        03930
37454  0314527          ALF ING                                        03931
37455  0604331          ALF  LI                                        03932
37456  0626333          ALF ST.                                        03933
37457  0606060          ALF                                            03934
37460  0606060  LAB1    ALF                                            03935
37461  0606060          ALF                                            03936
37462  0603046          ALF  HO                                        03937
37463  0645162          ALF URS                                        03938
37464  0373755          OCT 373755                                     03939
                                                                       03940
37465  0000000          OCT 0                                          03941
37466  0000000          DDC 0                                          03942
37467  0000000
         37470          BSS -3                                         03943
         37465  DL      BSS 0          DONE LISTING - TIME             03944
37465  0372446          OCT 372446                                     03945
37466  0452560          ALF NE                                         03946
37467  0433162          ALF LIS                                        03947
37470  0633145          ALF TIN                                        03948
37471  0273360          ALF G.                                         03949
37472  0606060  EL1     ALF                                            03950
37473  0606060          ALF                                            03951
37474  0603046          ALF  HO                                        03952
37475  0645162          ALF URS                                        03953
37476  0373755          OCT 373755                                     03954
                                                                       03955
```

LISTER

```
                                                                                03956
            00054           ORG T       TEMPORARY STORAGE                       03957
            00054   LIN     BSS 2                                               03958
            00056   LNCNT   BSS 1                                               03959
            00057   LPAGE   BSS 1                                               03960
            00060   LCTIM   BSS 1                                               03961
            00061   LCH2    BSS 1       CHARACTER STORAGE - THEY MUST BE IN     03962
            00062   LCH3    BSS 1       SEQUENTIAL ORDER                        03963
            00063   LLNT1   BSS 1                                               03964
            00064   LLSD1   BSS 1                                               03965
            00065   LF      BSS 1       CHARACTER COUNTER                       03966
            00066   LPOIN   BSS 1       ENTRY POINTER                           03967
                                                                                03968
                                                                                03969
            37700           LOC 37700   LOOKUP TABLE FOR LISTER                 03970
37700   0000000             OCT 000000                                          03971
37701   0010000             OCT 010000                                          03972
37702   0020000             OCT 020000                                          03973
37703   0030000             OCT 030000                                          03974
37704   0040000             OCT 040000                                          03975
37705   0050000             OCT 050000                                          03976
37706   0060000             OCT 060000                                          03977
37707   0070000             OCT 070000                                          03978
37710   0100000             OCT 100000                                          03979
37711   0110000             OCT 110000                                          03980
37712   0120000             OCT 120000      2-8                                 03981
37713   0160000             OCT 160000  #   6-8                                 03982
37714   0140000             OCT 140000  AT SIGN                                 03983
37715   0150000             OCT 150000  -                                       03984
37716   0160000             OCT 160000  =                                       03985
37717   0170000             OCT 170000                                          03986
37720   0200000             OCT 200000                                          03987
37721   0210000             OCT 210000                                          03988
37722   0220000             OCT 220000                                          03989
37723   0230000             OCT 230000                                          03990
37724   0240000             OCT 240000                                          03991
37725   0250000             OCT 250000                                          03992
37726   0260000             OCT 260000                                          03993
37727   0270000             OCT 270000                                          03994
37730   0300000             OCT 300000                                          03995
37731   0310000             OCT 310000                                          03996
37732   0320000             OCT 320000                                          03997
37733   0330000             OCT 330000                                          03998
37734   0760000             OCT 760000  ]                                       03999
37735   0350000             OCT 350000                                          04000
37736   0360000             OCT 360000                                          04001
37737   0370000             OCT 370000                                          04002
37740   0400000             OCT 400000                                          04003
37741   0410000             OCT 410000                                          04004
37742   0420000             OCT 420000                                          04005
37743   0430000             OCT 430000                                          04006
```

LISTER

```
   37744  0440000          OCT 440000                                          04007
   37745  0450000          OCT 450000                                          04008
   37746  0460000          OCT 460000                                          04009
   37747  0470000          OCT 470000                                          04010
   37750  0500000          OCT 500000                                          04011
   37751  0510000          OCT 510000                                          04012
   37752  0520000          OCT 520000                                          04013
   37753  0530000          OCT 530000                                          04014
   37754  0540000          OCT 540000                                          04015
   37755  0550000          OCT 550000                                          04016
   37756  0560000          OCT 560000                                          04017
   37757  0570000          OCT 570000                                          04018
   37760  0600000          OCT 600000                                          04019
   37761  0610000          OCT 610000                                          04020
   37762  0620000          OCT 620000                                          04021
   37763  0630000          OCT 630000                                          04022
   37764  0640000          OCT 640000                                          04023
   37765  0650000          OCT 650000                                          04024
   37766  0660000          OCT 660000                                          04025
   37767  0670000          OCT 670000                                          04026
   37770  0700000          OCT 700000                                          04027
   37771  0710000          OCT 710000                                          04028
   37772  0720000          OCT 720000                                          04029
   37773  0730000          OCT 730000                                          04030
   37774  0750000          OCT 750000          [                               04031
   37775  0750000          OCT 750000          [                               04032
   37776  0760000          OCT 760000          ]                               04033
   37777  0770000          OCT 770000        END OF TRANSLATION TABLE          04034
 T01574                    TCD LOVWRT        LIST TRANSFER                     04035
                                                                               04036
                                                                              STL04037
                                                                              EJT04038
```

REPRODUCER

```
                01670          ORG PERNUM                                                    04039
01670           0000002        DEC 2                                                         04040
01671           0000460        DEC C/C                                                       04041
                                                                                             04042
                                CARD REPRODUCER                                              04043
                                WILL REPRODUCE ANY TYPE OF CARD DECK                         04044
                                BUFFERED WITH ERROR CHECKING                                 04045
                                SWITCH 0 DOWN AT ANY TIME WILL CAUSE ALL                     04046
                                ACTIVITY TO HALT                                             04047
                                CARD READ ERRORS MAY BE CORRECTED BY                         04048
                                PLACING THE TOP CARD FROM THE OUT STACKER                    04049
                                (THE LAST CARD READ) IN THE READ STATION                     04050
                                AND TOGGLING SWITCH TWO.                                     04051
                                                                                             04052
                                                                                             04053
                37000          ORG EXECOV                                                    04054
37000           1077176        DLD .RST.   3          GET ETNRY                              04055
37001           0754217        SPB INSERT  2          AND SET UP IN LIST                     04056
37002           0300154        STA OVTSK                                                     04057
37003           0300201        STA Z1                                                        04058
37004           0000337        LDA 8K                 SET INITIALIZATION ENTRY               04059
37005           0300057        STA RPOIN                                                     04060
37006           2514007        BPR                    CRUMP IF NOT READY                     04061
37007           2617013        BRU *+4                                                       04062
37010           0756330        SPB MESSG   2                                                04063
37011           0037207        DEC RPNR               PUNCH NOT READY                        04064
37012           2617137        BRU RCMPA                                                     04065
37013           2514006        BCR                                                           04066
37014           2617020        BRU *+4                                                       04067
37015           0756330        SPB MESSG   2                                                04068
37016           0037216        DEC RCRN               READER NOT READY                       04069
37017           2617137        BRU RCMPA                                                     04070
37020           0000151        LDA CMESSB             CHECK BATCH FLAG                       04071
37021           2514002        RZE                    IF ON CONTINUE, ELSE                   04072
37022           0756330        SPB MESSG   2          ACNOWLEDGE RECEIPT                     04073
37023           0000541        DEC PCR                                                       04074
37024           1000276        DLD ZERO               ZERO OUT FIRST SYNCWORDS               04075
37025           1301122        DST I01+82                                                    04076
37026           2501010        RCF I01                READ FIRST CARD                        04077
37027           2504202        LAC                    COMPUTE FIRST DELAY TIME               04078
37030           0100321        ADD SIX                                                       04079
37031           0300056        STA RINF               SAVE INCREMENTED TIME                  04080
37032           1077200        DLD RADS    3          BUFFER ADDRESSES                       04081
37033           1300054        DST RIN                                                       04082
37034           2617047        BRU REP                AND GET OUT                            04083
                                                                                             04084
                                                                                             04085
37035           0620154   RST  LDX OVTSK   1          MAKE LIKE ALL OTHER OVERLAYS           04086
37036           2504002        LDZ                    THIS IS THE ENTRY POINT                04087
37037           2500011        RCS                    CHECK SWITCH 0 DOWN                    04088
37040           2514001        BMI                                                           04089
```

REPRODUCER

```
37041  2620002          BRU 2       1     YES, CRUMP FOR NOW                          04090
37042  0640057          LDX RPOIN   2     GET POINTER                                 04091
37043  2640001          BRU 1       2     AND GET THERE                               04092
                                                                                      04093
37044  1740057  RRET    STX RPOIN   2     TEMPORARY EXIT                              04094
37045  0620154          LDX OVTSK   1                                                 04095
37046  2620002          BRU 2       1                                                 04096
                                                                                      04097
                                                                                      04098
                                                                                      04099
37047  0757044  REP     SPB RRET    2     GIVE THINGS A CHANCE TO COME READY          04100
37050  0640054          LDX RIN     2     AREA LAST READ INTO                         04101
37051  2516006          BCN                IF READER NOT READY, CHECK HOPPER           04102
37052  2617076          BRU RHOP                                                      04103
37053  0620055          LDX RIN+1   1     NEXT AREA                                   04104
37054  0040122          LDA 82      2     DARNED CARD READER... CHECK IF OUT OF PHASE 04105
37055  2077206          EXT RBIT8   3     BIT 8                                       04106
37056  2514002          BZE                IF SO, WORD BEFORE WILL HAVE CRAP IN IT     04107
37057  0040123          LDA 83      2     CHECK SYNCWORD                              04108
37060  0177204          ADD RSYNC   3                                                 04109
37061  2516002          BNZ                IF NOT MATCHED, READER ERROR                04110
37062  2617161          BRU RDERR                                                     04111
37063  0320122          STA 82      1     AND SET IN WORD AGAIN                       04112
37064  1040000          DLD 0       2     CHECK FOR QUOTE CARDS                       04113
37065  2277202          DCB RQUOT   3                                                 04114
37066  2617070          BRU *+2            NO                                          04115
37067  2617114          BRU RQCHK          YES, CHECK REST OF CARD AND FLAG            04116
37070  1740055  RNOQ    STX RIN+1   2     ELSE SWITCH BUFFER ADDRESSES                04117
37071  1720054          STX RIN     1                                                 04118
37072  0320123          STA 83      1     ZERO OUT NEXT AREAS SYNCWORD                04119
37073  2540017          WCF 0       2     PUNCH PREVIOUS CARD                         04120
37074  2520010          RCF 0       1     READ IN NEXT ONE                            04121
37075  2617047          BRU REP            AND START ALL OVER                          04122
                                                                                      04123
                                                                                      04124
37076  0040123  RHOP    LDA 83      2     HOPPER EMPTY TEST                           04125
37077  0177205          ADD RSYNCH  3                                                 04126
37100  2514002          BZE                IF MATCHED, TASK COMPLETED                  04127
37101  2617146          BRU RCMPLT                                                    04128
37102  2504202          LAC                CHECK CLOCK                                 04129
37103  2100056          CAB RINF           HAS TIME RUN OVER...                        04130
37104  2620002          BRU 2       1     JUST PUNT                                   04131
37105  2620002          BRU 2       1                                                 04132
37106  0756330          SPB MESSG   2     ELSE CARD READER NOT READY                  04133
37107  0037216          DEC RCRN           CARD READER NOT READY                       04134
37110  2504202          LAC                SET UP NEW TIME COUNT                       04135
37111  0100326          ADD CR             LONG WAIT                                   04136
37112  0300056          STA RINF                                                      04137
37113  2620002          BRU 2       1     PUNT AGAIN                                  04138
                                                                                      04139
                                                                                      04140
```

REPRODUCER

```
37114  0000151  RQCHK  LDA  CMESSR          CHECK BACK FLAG                          04141
37115  2514002         RZE                 IF NOT ON, RETURN                        04142
37116  2617070         BRU  RNOQ                                                    04143
37117  1077202         DLD  RQUOT   3      ELSE CHECK OUT CARD SOME MORE            04144
37120  2240002         DCB  2       2                                               04145
37121  2617070         BRU  RNOQ           NO                                       04146
37122  2617124         BRU  *+2                                                     04147
37123  2617070         BRU  RNOQ           NEITHER                                  04148
37124  2240004         DCB  4       2      THEN CHECK LAST WORD                     04149
37125  2617070         BRU  RNOQ           NOT OK UNLESS SIX 0-7-8 PUNCHES IN A ROW 04150
37126  2617130         BRU  *+2                                                     04151
37127  2617070         BRU  RNOQ                                                    04152
37130  0620154  RQEX   LDX  OVTSK   1      GET ENTRIES LOCATION                     04153
37131  0754212         SPB  IRASE   2      AND ERASE ENTRY                          04154
37132  0640276         LDX  ZERO    2      RESET 2                                  04155
37133  1440513         INX  BATCH   2      AND SET TO GET BATCH MONITOR             04156
37134  2504102         LMO                                                          04157
37135  0301000         STA  IO1            SET FRONT CARD IN                        04158
37136  2616030         BRU  PGETB          AND GET MONITOR                          04159
                                                                                    04160
                                                                                    04161
37137  0757044  RCMPA  SPB  RRET    2                                               04162
37140  0000134         LDA  STACK                                                   04163
37141  2516002         BNZ                                                          04164
37142  2620002         BRU  2       1                                               04165
37143  0000151         LDA  CMESSB                                                  04166
37144  2516002         BNZ                                                          04167
37145  2617130         BRU  RQEX                                                    04168
37146  0756472  RCMPLT SPB  TIME    2      GET TIME                                 04169
37147  1377240         DST  RDAT1   3      PUT AWAY                                 04170
37150  0756330         SPB  MESSG   2      TYPE MESSAGE                             04171
37151  0037227         DEC  REPC           REPRODUCTION COMPLETED, TIME             04172
37152  0620154         LDX  OVTSK   1      GET TASK                                 04173
37153  0754212         SPB  IRASE   2      AND ERASE TASK                           04174
37154  2504002         LDZ                 ZERO OUT FLAGS                           04175
37155  0300106         STA  RZYF                                                    04176
37156  0300154         STA  OVTSK                                                   04177
37157  0301000         STA  IO1            SO BATCH DOES NOT GET FOULED UP.         04178
37160  2620002         BRU  2       1      AND EXIT                                 04179
                                                                                    04180
                                                                                    04181
37161  0756330  RDERR  SPB  MESSG   2      TYPE MESSAGE                             04182
37162  0037245         DEC  RCRE           CARD READ ERROR.                         04183
37163  0757044         SPB  RRET    2                                               04184
37164  2504002         LDZ                                                          04185
37165  2500011         RCS                 WAIT FOR SWITCH 2 DOWN BEFORE CONTINUING 04186
37166  2000343         EXT  MASK6                                                   04187
37167  2512002         SLA  2                                                       04188
37170  2516003         RNO                 WAIT                                     04189
37171  2620002         BRU  2       1      NOT DOWN                                 04190
37172  0640054         LDX  RIN     2      PICK UP LAST USED READ-IN AREA           04191
```

REPRODUCER

```
37173  2540010          RCF 0       2          READ A CARD                                  04192
37174  2617047          RRU REP                AND START UP AGAIN                           04193
                                                                                            04194
                                                                                            04195
                                                                                            04196
37176  2514007  .RST.   RPR                    IF PUNCH READY, GO TO TASK, ELSE NOT         04197
37177  0737035          SPR RST     1                                                       04198
37200  0001000  RADS    DEC 101                BUFFER ADDRESSES                             04199
37201  0001200          DEC 102                                                             04200
37202  0001006  RQUOT   OCT 1006                                                            04201
37203  0001006          OCT 1006                                                            04202
37204  1770001  RSYNC   OCT 1770001            SYNCWORD OK CHECK                            04203
37205  0770001  RSYNCH  OCT 0770001                                                         04204
37206  0004000  RBIT8   OCT 4000               BIT 8 FOR SPECIAL BAD CARD CHECK             04205
                                                                                            04206
   37207       RPNR    BSS 0                  PUNCH NOT READY                              04207
37207  0374764          OCT 374764                                                          04208
37210  0452330          ALF NCH                                                             04209
37211  0604546          ALF  NO                                                             04210
37212  0636051          ALF T R                                                             04211
37213  0252124          ALF EAD                                                             04212
37214  0703337          OCT 703337                                                          04213
37215  0557777          OCT 557777                                                          04214
                                                                                            04215
   37216       RCRN    BSS 0                  CARD READER NOT READY                        04216
37216  0372321          OCT 372321                                                          04217
37217  0512460          ALF RD                                                              04218
37220  0512521          ALF REA                                                             04219
37221  0242551          ALF DER                                                             04220
37222  0604546          ALF  NO                                                             04221
37223  0636051          ALF T R                                                             04222
37224  0252124          ALF EAD                                                             04223
37225  0703337          OCT 703337                                                          04224
37226  0557777          OCT 557777                                                          04225
                                                                                            04226
37227  0000000          OCT 0                                                               04227
37230  0000000          DDC 0                                                               04228
37231  0000000
   37232               BSS -3                                                              04229
   37227       REPC    BSS 0                  REPRODUCTION COMPLETED                       04230
37227  0375125          OCT 375125                                                          04231
37230  0475146          ALF PRO                                                             04232
37231  0246423          ALF DUC                                                             04233
37232  0633146          ALF TIO                                                             04234
37233  0456023          ALF N C                                                             04235
37234  0464447          ALF OMP                                                             04236
37235  0432563          ALF LET                                                             04237
37236  0252433          ALF ED.                                                             04238
37237  0606060          ALF                                                                 04239
37240  0606060  RDAT1   ALF                                                                 04240
37241  0606060          ALF                                                                 04241
```

REPRODUCER

```
 37242  0603046          ALF  HO                                    04242
 37243  0645162          ALF URS                                    04243
 37244  0373755          OCT 373755                                 04244
                                                                    04245
          37245  RCRE     BSS 0          CARD READ ERROR            04246
 37245  0372321          OCT 372321                                 04247
 37246  0512460          ALF RD                                     04248
 37247  0512521          ALF REA                                    04249
 37250  0246025          ALF D E                                    04250
 37251  0515146          ALF RRO                                    04251
 37252  0516022          ALF R B                                    04252
 37253  0212342          ALF ACK                                    04253
 37254  0624721          ALF SPA                                    04254
 37255  0232560          ALF CE                                     04255
 37256  0016023          ALF 1 C                                    04256
 37257  0215124          ALF ARD                                    04257
 37260  0602145          ALF  AN                                    04258
 37261  0246063          ALF D T                                    04259
 37262  0462727          ALF OGG                                    04260
 37263  0432560          ALF LE                                     04261
 37264  0026066          ALF 2 W                                    04262
 37265  0302545          ALF HEN                                    04263
 37266  0605125          ALF  RE                                    04264
 37267  0212470          ALF ADY                                    04265
 37270  0333755          OCT 333755                                 04266
                                                                    04267
                                                                    04268
                                                                    04269
          00054          ORG T          TEMPORARY STORAGE          04270
          00054  RIN      BSS 2          BUFFER AREAS FLIP FLOP     04271
          00056  RINF     BSS 1          INITIAL FLAG               04272
          00057  RPOIN    BSS 1          ENTRY POINTER              04273
T01574                    TCD LOVWRT     TRANSFER                   04274
                                                                    04275
                                                                   STL04276
                                                                   EJT04277
```

CATALOGUE PRINTOUT

```
                                                                        04278
                                                                        04279
THE CATALOGUE PRINTOUT, DISK DUMP AND                                   04280
BILLING PACK ROUTINES ARE ALL ONE PACKAGE,                              04281
TH+ BILLING AND THE CATALOGUE ROUTINES MAY                              04282
BE CALLED SEPARATELY BY *BIL* OR *CAT* RES-                             04283
PECTIVELY BUT THE USUAL SEQUENCE IS TO CALL                             04284
IN THE DUMP ROUTINE WITH *DUM*,  THE DUMP                               04285
THEN CALLS IN THE CATALOGUE AND BILLING                                 04286
ROUTINES.                                                               04287
                                                                        04288
MEMORY ALLOCATION FOR THE DISK DUMP PACKAGE                             04289
IS AS FOLLOWS...                                                        04290
                                                                        04291
CATALOGUE TEMPORARY STORAGE                                             04292
      4000  - 4077                                                      04293
PRINTER BUFFER AREAS                                                    04294
      4100  - 4477                                                      04295
CATALOGUE BUFFER # 1                                                    04296
      5000  - 6777                                                      04297
CATALOGUE BUFFER # 2                                                    04298
      7100  - 11077                                                     04299
DISK DUMP CATALOGUE FILE AREA                                           04300
      11176 - 13177                                                     04301
BILLING ROUTINE BUFFER AREA                                             04302
      13300 - 16777                                                     04303
BILLING TEMPORARY STORAGE                                               04304
      17000 - 17777                                                     04305
CATALOGUE FILE KEY                                                      04306
      20000 - 20577                                                     04307
PRINTE LINE BUILD AREA                                                  04308
      20700 - 20777                                                     04309
CATALOGUE ROUTINE                                                       04310
      21000 - 21777                                                     04311
BILLING ROUTINE                                                         04312
      22000 - 22777                                                     04313
DISK DUMP BUFFER # 1                                                    04314
      23076 - 27077                                                     04315
DISK DUMP BUFFER # 2                                                    04316
      27176 - 33177                                                     04317
                                                                        04318
CMESS IS USED AS A FLAG AND HAS THE                                     04319
FOLLOWING CODE                                                          04320
   BIT 19 - DUMP IN MEMORY                                              04321
   BIT 18 - CATALOGUE IN MEMORY                                         04322
   BIT 17 - BILLING IN MEMORY                                           04323
                                                                        04324
                                                                        04325
04100   PR      EQU 4100        PRINT LINE BUFFERS                      04326
05000   CIN1    EQU 5000        CATALOGUE FILE BUFFERS                  04327
07100   CIN2    EQU 7100        CATALOGUE FILES                         04328
```

CATALOGUE PRINTOUT

```
                20000   CKEY    EQO 20000                                        04329
                21000   CATW    EQO 21000                                        04330
                                                                                 04331
                11200   JFILE   EQO 11200                                        04332
                23100   JBUF1   EQO 23100       BUFFER 1                         04333
                27200   JBUF2   EQO 27200       BUFFER 2                         04334
                                                                                 04335
                13300   BIN1    EQO 13300       BILLING BUFFER AREA              04336
                17000   BILTMP  EQO 17000       BILLING TEMPORARY STORAGE        04337
                22000   BILLW   EQO 22000       BILLING PROGRAM                  04338
                                                                                 04339
                23076   LCR1    EQO 23076                                        04340
                27176   LCR2    EQO 27176                                        04341
                11200   LTAP    EQU JFILE                                        04342
                11234   LTAP1   EQU LTAP+28                                      04343
                                                                                 04344
                                                                                 04345
                                                                                 04346
                01670           ORG PERNUM                                       04347
          01670 0000004         DEC 4                                            04348
          01671 0000466         DEC CAT                                          04349
                                                                                 04350
                                                                                 04351
                                                                                 04352
                37000           ORG EXECOV                                       04353
          37000 0000316         LDA THREE       ASK TIME STOP                    04354
          37001 0756430         SPB SPMESS  2                                    04355
          37002 0000321         LDA SIX         ASK FOR OFF                      04356
          37003 0756430         SPB SPMESS  2                                    04357
          37004 1077010         DLD *+4     3   MOVE CATALOBUE DOWN TO WHERE IT SHOULD GO  04358
          37005 2437000         MOV EXECOV                                       04359
          37006 2601012         BRU CATA        AND TRANSFER TO IT               04360
          37007 3777777         DEC -1          SPARE                            04361
          37010 0021000         DEC CATW        ALL GOES DOW                     04362
          37011 3777000         DEC -512                                         04363
                                                                                 04364
                                                                                 04365
                                                                                 04366
CATALOG FORMAT                                                                   04367
                                                                                 04368
EACH ENTRY IN THE CATALOG IS 8 WORDS LONG                                        04369
AND CONTAINS INFORMATION ABOUT A SINGLE                                          04370
SAVED PROGRAM IN THE FOLLOWING FORMAT..                                          04371
WORD 1 - FIRST THREE CHARACTERS OF THE USER                                      04372
         NUMBER.                                                                 04373
WORD 2 - SECOND THREE CHARACTERS                                                 04374
WORD 3 - FIRST THREE CHARACTERS OF PROBLEM                                       04375
NAME.                                                                            04376
WORD 4 - SECOND THREE CHARACTERS.                                                04377
WORD 5 - BEGINNING DISK ADDRESS OF PROGRAM                                       04378
WORD 6 - ENDING DISK ADDRESS OF PROGRAM                                          04379
```

CATALOGUE PRINTOUT

```
                                                  WORD 7 - CODED DATE ON WHICH PROGRAM WAS LAST      04380
                                                       ACCESSED.                                    04381
                                                  WORD 8 - PRESENTLY CONTAINS ONLY LENGTH           04382
                                                       INFORMATION, 0 IF LESS THAN A HALF K         04383
                                                       1 IF GREATER.                                04384
                                                                                                    04385
                                                  THE END OF THE ENTRIES IN A GIVEN CATALOG IS      04386
                                                  SIGNIFIED BY A 555555 APPEARING IN WORD           04387
                                                  2. IF MORE THAN 127 PROGRAMS ARE SAVED BY USE     04388
                                                  IN A PARTICULAR EQUIVALANCE CALSS, ANOTHER        04389
                                                  1024 WORD BLOCK WILL BE ADDRD TO THE CATALOG      04390
                                                  THE PRESENCE OF ANOTHER LINK IS INDICATED         04391
                                                  AS FOLLOWS.  IN WORD 2 OF WHAT WOULD BE THE       04392
                                                  128TH ENTRY WILL APPEAR AN 373737.  THE WORD      04393
                                                  BEFORE THIS WILL BE THE DISK ADDRESS OF THE       04394
                                                  ADDED CATALOG.                                    04395
                                                                                                    04396
                                                                                                    04397
          21012             ORG  CATW+10                                                          04398
21012  0755464   CATA     SPR  DSKB    2          GO ASK FOR DISK                                  04399
21013  0755560             SPR  DSKOP   2          READ IN KEY TO CATALOGUE                         04400
21014  1200006             Z12  6                  6 RECORDS, WITH LABELS                           04401
21015  0020000             DEC  CKEY               MEMORY ADDRESS                                   04402
21016  2000451             Z20  KEY+2              INDIRECT TO DISK ADDRESS                         04403
21017  2601017             BRU  *                  SHOULD NEVER EVER RETURN HERE                    04404
21020  0756330             SPR  MESSG   2          ACKNOWLEDGE REQUEST                              04405
21021  0000541             DEC  PCR                                                                 04406
                                                                                                    04407
21022  0755560   CATB     SPR  DSKOP   2          GO READ IN DATE                                  04408
21023  1200001             Z12  1                  1 RECORD                                         04409
21024  0005000             DEC  CIN1               INTO AREA 1                                      04410
21025  0000400             OCT  400                DISK ADDRESS                                     04411
21026  3777777             DEC  -1                 SHOULD NEVER RETURN HERE                         04412
21027  0755771             SPR  RELIN   2          GIVE UP DISK                                     04413
21030  0000150             LDA  CMESS              SET FLAG ON TO INDICATE CATALOGUE IN             04414
21031  0100314             ADD  TWO                                                                 04415
21032  0300150             STA  CMESS                                                               04416
21033  0756472             SPR  TIME    2          GET TIME FOR HEADING LINE                        04417
21034  1361670             DST  CHEAD1  3                                                           04418
21035  2506133             SXG  5                  SET EXECUTIVE GROUP                              04419
21036  2506015             SET  PST                AND EXIT PRIORITY MODE                           04420
21037  2601040             BRU  *+1     3                                                           04421
21040  0660337             LDX  8K      3          AND MAKE SURE UPPER 8K BIT IS IN RIGHT PLACE     04422
21041  1061574             DLD  CINIT   3          GET BUFFER FLIPFLOPS                             04423
21042  1304000             DST  CIN                                                                 04424
21043  1000276             DLD  ZERO                                                                04425
21044  1300100             DST  IM                                                                  04426
21045  0304022             STA  CDASS              RESET SAVE AREA FOR ADDRESS                      04427
21046  0640276             LDX  ZERO    2                                                           04428
21047  0000360             LDA  OVFLO                                                               04429
21050  1344002             DST  CPNUM   2          SET FLAG IN PROGRAM COUNTERS FOR DECMODE         04430
```

CATALOGUE PRINTOUT

```
21051  1440002          INX 2          2                                    04431
21052  0457760          RXL 16         2                                    04432
21053  2601050          BRU *-3                                             04433
21054  0000357          LDA NBLNK                NEGATIVE BLANK FOR PRINT LINE  04434
21055  0360722          STA P16        3                                    04435
21056  0300130          STA PERIN                KNOCK OUT INDICATOR         04436
21057  2000361          EXT SIGN                 AND RESET SIGN BIT          04437
21060  2504004          LQA                      COPY IN Q                   04438
21061  1360700          DST P*0        3         AND PUSH LINE OVER ON PAGE  04439
21062  0360703          STA P1         3                                    04440
21063  0360704          STA P2         3                                    04441
21064  1360724          DST PTL        3                                    04442
21065  1460002          INX 2          3                                    04443
21066  0477730          RXL 40         3                                    04444
21067  2601064          BRU *-3                                             04445
21070  0000343          LDA MASK6                SET END OF LINE             04446
21071  0360722          STA PTL-2      3                                    04447
21072  0660337          LDX 8K         3         RESET REGISTER              04448
21073  0005000          LDA CIN1                 PICK UP DLONG - LONG PROGRAMS COUNTER  04449
21074  0756452          SPB CONVRT     2         CONVERT IT                  04450
21075  1361716          DST CHDAS2     3         PUT AWAY IN HEADING LINE    04451
21076  0005002          LDA CIN1+2               PCIK UP CODED DATE          04452
21077  0756452          SPB CONVRT     2         CONVERT IT                  04453
21100  1361726          DST CHCODE     3         PUT AWAY IN NEXT HEADING LINE  04454
21101  1061576          DLD CTDAT      3         MOVE CONSTANT FOR DATE      04455
21102  2405003          MOV CIN1+3                                           04456
21103  2506113          SXG 4                    AND USE ALL SORTS OF INDEX GROUPS  04457
21104  0640337          LDX 8K         2         SET SOME REGISTERS          04458
21105  0660337          LDX 8K         3                                    04459
21106  0040000          LDA CKEY       2         GET FIRST CATALOGUE ENTY    04460
21107  1440001          INX 1          2         AND STEP FOR NEXT           04461
21110  0361555          STA CFILEA+23            AND SET IN PARAMETER LIST   04462
21111  2506073          SXG 3                                                04463
21112  2506016          SET PBK                                              04464
21113  0756052          SPB DRAMB      2         GET CATALOGUE               04465
21114  0021553          DEC CFILEA               FILE 1                      04466
21115  2506015          SET PST                                              04467
21116  2506133          SXG 5                    AND GET INTO SOME DECENT GROUP  04468
21117  0741545          SPB SLT8       2         SLEW TO TOP OF PAGE         04469
21120  0741537          SPB SLW3       2         SLEW PAGE THREE LINES       04470
21121  0061605          LDA LINIT      3         INITIALIZE LINE COUNTER AT EIGHT  04471
21122  0304025          STA CLINE                                            04472
21123  2516620          BCS BPN        6         WAIT FOR PRINTER READY      04473
21124  2601123          BRU *-1                                              04474
21125  2500620          SEL 6                                                04475
21126  2600000          Z26 --                                               04476
21127  0221635          Z02 CHEAD      1         SKIP TWO LINES WHEN PRINTING HEADERS  04477
21130  2516620          BCS BPN        6         WAIT AGAIN                  04478
21131  2601130          BRU *-1                                              04479
21132  2500620          SEL 6                                                04480
21133  2600000          Z26 --                                               04481
```

CATALOGUE PRINTOUT

```
21134  0221676          Z02 CHDASS  1                                    04482
21135  2516620          BCS RPN     6          WAIT                      04483
21136  2601135          BRU *-1                                          04484
21137  2500620          SEL 6                                            04485
21140  2600000          Z26 --                                           04486
21141  0421721          Z04 CDATE   1          CODED DATE HEADING LINE   04487
                                                                         04488
                                                                         04489
21142  0004001  CLOOP   LDA CIN+1             GET NEXT ADDRESS          04490
21143  0300026          STA XR52              AND SET IN REGISTER       04491
21144  0361161          STA CMORE+1 3         AND IN INDIRECT PARAMETER 04492
21145  2506113          SXG 4                 GET NEXT CATALOGUE ADDRESS 04493
21146  0040000          LDA CKEY    2                                    04494
21147  1440001          INX 1       2                                    04495
21150  2506133          SXG 5                                            04496
21151  2514001          BMI                   CHECK ADDRESS             04497
21152  2601426          BRU CRUMP1            IF NEGATIVE, STOP         04498
21153  2514002          BZE                   IF ZERO                   04499
21154  2601172          BRU CFLIP             THEN PRINT LAST ENTRY AND CRUMP 04500
21155  0340002          STA 2       2         SET IN PARAMETER LIST     04501
21156  2506073          SXG 3                                            04502
21157  2506016          SET PBK                                          04503
                                                                         04504
21160  0756052  CMORE   SPB DRAMB   2         GET CATALOGUE             04505
21161  0000000          Z00 --                CONSTRUCTED INDIRECT      04506
21162  2506015          SET PST                                          04507
21163  2506133          SXG 5                                            04508
21164  0644000          LDX CIN     2         GET LAST USED FILE ADDRESS 04509
21165  0040003          LDA 3       2         AND CHECK DONE WORD       04510
21166  2514002          BZE                   WAIT FOR DISK TO FINISH   04511
21167  2601165          BRU *-2                                          04512
21170  2516000          BEV                   IF ERROR, STOP SO CAN SEE WHAT AND WHERE 04513
21171  3777777          DEC -1                                           04514
21172  2504102  CFLIP   LMO                   SET PRINT FLAG            04515
21173  0304024          STA PFLAG                                        04516
21174  1004000          DLD CIN               SWITCH BUFFERS            04517
21175  2504005          XAQ                                              04518
21176  1304000          DST CIN                                          04519
21177  0644001          LDX CIN+1   2         LAST ENTRY IS NOW +1      04520
21200  0040001          LDA 1       2         GET MEMORY ADDRESS        04521
21201  0300025          STA XR52-1                                       04522
21202  0040002          LDA 2       2         AND GET ADDRESS           04523
21203  0304023          STA CADRS             SAVE IT FOR LATER         04524
                                                                         04525
21204  0020001  CSCAN   LDA 1       1         CHECK FOR 55 S IN SECOND WORD 04526
21205  2161604          CAB C55S    3                                    04527
21206  2601210          BRU *+2               IF NOT, CONTINUE          04528
21207  2601142          BRU CLOOP             ELSE TRY AGAIN            04529
21210  2161567          CAR C37S    3         SEE IF ONE OF KIPS CRAZY CATALOGS 04530
21211  2601213          BRU *+2                                          04531
21212  2601404          BRU CCON              YEP                       04532
```

CATALOGUE PRINTOUT

```
21213  0000106          LDA  BZYF          CHECK FOR CRUMP                          04533
21214  2514002          BZE                IF SO, THEN FLAG WILL BE ZERO            04534
21215  2614001          BRU  WAIT          SO GET OUT                               04535
21216  0004024          LDA  PFLAG         LOOK AT PRINT FLAG                       04536
21217  2514002          BZE                IF ZERO, SPECIAL CASE                    04537
21220  2601376          BRU  PSET          WIPE OUT DISK ADDRESS                    04538
21221  2516001          BPL                IF PLUS GET OUT                          04539
21222  2601234          BRU  PNEXT                                                  04540
21223  0000360          LDA  OVFLO                                                  04541
21224  0360705          STA  P3       3                                             04542
         21225  CCONK   BSS  0                                                     04543
21225  0004023          LDA  CADRS                                                  04544
21226  0756452          SPB  CONVRT   2                                             04545
21227  0360701          STA  P*0+1    3    MOVE ADDRESS OVER                        04546
21230  2504005          XAQ                                                         04547
21231  0360702          STA  P0       3                                             04548
21232  0000276          LDA  ZERO                                                   04549
21233  0304024          STA  PFLAG                                                  04550
                                                                                    04551
21234  0060705  PNEXT   LDA  P3       3    INCREMENT COUNTER                        04552
21235  2506016          SET  PBK                                                    04553
21236  2506011          SET  DECMODE       FOR DECIMAL MODE ARITHMETIC              04554
21237  0100312          ADD  ONE                                                    04555
21240  2506012          SET  BINMODE       RESET BINARY MODE                        04556
21241  2506015          SET  PST                                                    04557
21242  0360705          STA  P3       3    PUT AWAY COUNTER                         04558
21243  1020002          DLD  2        1    PROBLEM NUMBER                           04559
21244  1360710          DST  P6       3                                             04560
21245  0020004          LDA  4        1    STARTING DISK ADDRESS                    04561
21246  2000340          EXT  MASK1         CHECK FOR LEGAL ADDRESS                  04562
21247  2100334          CAB  0300                                                   04563
21250  2601253          BRU  *+3                                                    04564
21251  2601252          BRU  *+1                                                    04565
21252  0741526          SPB  CERR     2    NO                                       04566
21253  0020004          LDA  4        1    GET ADDRESS AGAIN                        04567
21254  2104022          CAB  CDASS         CHECK AGAINST LAST HIGHEST AVAILABLE     04568
21255  2601260          BRU  *+3           LOCATION FOR SAVED PROGRAMS              04569
21256  2601260          BRU  *+2                                                    04570
21257  0304022          STA  CDASS                                                  04571
21260  0756452          SPB  CONVRT   2    CONVERT IT                               04572
21261  1360712          DST  P8       3                                             04573
21262  0020005          LDA  5        1    ENDING DISK ADDRESS                      04574
21263  0220004          SUB  4        1    COMPUTE LENGTH OF PROGRAM                04575
21264  2514002          BZE                                                         04576
21265  0741526          SPB  CERR     2    ZERO LENGTH IS ILLEGAL                   04577
21266  2514001          BMI                CHECK IF LENGTH ALL WRONG                04578
21267  0741526          SPB  CERR     2    YES                                      04579
21270  2100331          CAB  0100          OR OUT OF BOUNDS                         04580
21271  2601274          BRU  *+3                                                    04581
21272  2601274          BRU  *+2                                                    04582
21273  0741526          SPB  CERR     2    YES                                      04583
```

CATALOGUE PRINTOUT

```
21274  1020000          DLD 0        1      USET NUMBER                          04584
21275  1360706          DST P4       3      PUT AWAY                             04585
21276  0261571          SUB C77S     3      AND SEE IF HOLE                      04586
21277  2514002          BZE                                                      04587
21300  2601314          BRU *+12            IF SO DO NOT COUNT IT                04588
21301  2506016          SET PBK                                                  04589
21302  2506011          SET DECMODE         DECIMAL MODE FOR COUNTING PROBLEMS   04590
21303  0020007          LDA 7        1      LENGTH CODE                          04591
21304  2000341          EXT MASK3           JUST LOW END OF INTEREST             04592
21305  2512001          SLA 1               DOUBLE LENGTH TABLE                  04593
21306  0300026          STA XR52            IN GROUP 5                           04594
21307  1044002          DLD CPNUM    2                                           04595
21310  1161600          DAD CONE     3      INCREMENT                            04596
21311  1344002          DST CPNUM    2                                           04597
21312  2506012          SET BINMODE                                              04598
21313  2506015          SET PST                                                  04599
21314  0020005          LDA 5        1      PICK UP ENDING DISK ADDRESS AGAIN    04600
21315  0756452          SPB CONVRT   2                                           04601
21316  1360714          DST P10      3                                           04602
21317  0020006          LDA 6        1      PICK UP CODED DATE                   04603
21320  0756452          SPB CONVRT   2                                           04604
21321  1360716          DST P12      3                                           04605
21322  0020007          LDA 7        1      PICK UP UNUSED WORD                  04606
21323  0756452          SPB CONVRT   2      CONVERT                              04607
21324  1360720          DST P14      3      PUT AWAY                             04608
21325  0061606          LDA CERRF    3      CHECK ERROR FLAG                     04609
21326  2514001          BMI                                                      04610
21327  0741531          SPB CERR1    2                                           04611
21330  1061602          DLD PPRNT    3      GET NUMBER OF WORDS IN Q             04612
21331  0061342          LDA CPL      3      GET CURRENTLY USED BUFFER ADDRESS    04613
21332  0100333          ADD 0200            SWITCH IT                            04614
21333  2000335          EXT 0400                                                 04615
21334  0361342          STA CPL      3      AND RESTORE                          04616
21335  2420700          MOV P*0             MOVE INTO PRINT AREA                 04617
21336  2516620          BCS BPN      6      WAIT FOR PRINTER                     04618
21337  2601336          BRU *-1                                                  04619
21340  2500620          SEL 6                                                    04620
21341  3621611          Z36 CFORM    1      FORMAT LINE                          04621
21342  0104100  CPL     Z01 PR              PRINT LINE                           04622
21343  1420010          INX 8        1      INCREMENT AREA POINTER               04623
21344  0004025          LDA CLINE           CHECK IF SLEW NECESSARY              04624
21345  0100312          ADD ONE                                                  04625
21346  0304025          STA CLINE           PUT AWAY INCREMENTED COUNTER         04626
21347  2161570          CAR C57      3      57 LINES PER PAGE                    04627
21350  2601204          BRU CSCAN           IF LESS, GO AND SCAN AGAIN           04628
21351  0000316          LDA THREE           ELSE RESET COUNTER                   04629
21352  0304025          STA CLINE           AND SLEW PAGE                        04630
21353  0741545          SPB SLT8     2      SLEW TO TOP                          04631
21354  2516620          BCS BPN      6      WAIT FOR PRINTER                     04632
21355  2601354          BRU *-1                                                  04633
21356  2500620          SEL 6                                                    04634
```

CATALOGUE PRINTOUT

```
21357  0600000          SLW 1                    SLEW ONE LINE AT TOP                  04635
21360  0100000
21361  0060772          LDA PTL1     3           AND GET PAGE                          04636
21362  2506016          SET PBK                                                        04637
21363  2506011          SET DECMODE              COUNT                                 04638
21364  2504032          ADO                                                            04639
21365  2506012          SET BINMODE              GET BACK                              04640
21366  2506015          SET PST                                                        04641
21367  0360772          STA PTL1     3                                                 04642
21370  2516620          BCS BPN      6           WAIT AGAIN                            04643
21371  2601370          BRU *-1                                                        04644
21372  2500620          SEL 6                                                          04645
21373  2600000          Z26 --                                                         04646
21374  0320724          Z03 PTL      1           TITLE PRINT                           04647
21375  2601204          BRU CSCAN                GO SCAN                               04648
                                                                                       04649
                                                                                       04650
21376  0000441  PSET    LDA DUMPBL               BLANKS                                04651
21377  0360701          STA P*0+1    3           WIPE OUT DISK ADDRESS                 04652
21400  0360702          STA P0       3                                                 04653
21401  0360703          STA P1       3                                                 04654
21402  0304024          STA PFLAG                RESET FLAG TO POSITIVE                04655
21403  2601234          BRU PNEXT                GET BACK                              04656
                                                                                       04657
                                                                                       04658
                                                THIS IS USED TO FUDGE THE RIGHT CATALOG WHEN  04659
                                                 A LINKED ONE IS FOUND.  IT READS THE LINKED  04660
                                                CATALOG OVER THE ONE IT JUST LISTED AND       04661
                                                THEN LISTS IT.                                04662
   21404  CCON    BSS 0                                                               04663
21404  0644001          LDX CIN+1    2                                                 04664
21405  0040001          LDA 1        2           FUDGE RIGHT CATALOG                   04665
21406  0361564          STA CCONL+1  3                                                 04666
21407  0020000          LDA 0        1                                                 04667
21410  0361565          STA CCONL+2  3                                                 04668
21411  0304023          STA CADRS                                                      04669
21412  2506016          SET PBK                                                        04670
21413  0756052          SPB DRAMB    2                                                 04671
21414  0021563          DEC CCONL                                                      04672
21415  2506015          SET PST                                                        04673
21416  0061566          LDA CCONL+3  3                                                 04674
21417  2514002          BZE                                                            04675
21420  2601416          BRU *-2                  WIAT TILL DONE                        04676
21421  2516000          REV                                                            04677
21422  2601422          BRU *                                                          04678
21423  0061564          LDA CCONL+1  3                                                 04679
21424  0300025          STA XR52-1                                                     04680
21425  2601225          BRU CCONK                                                      04681
                                                                                       04682
                                                CATALOG PRINTOUT FINISHED, DETERMINE NEXT     04683
                                                AVAILABLE LOCATION AND NUMBER OF PROGRAMS.    04684
```

CATALOGUE PRINTOUT

```
                                                                                    04685
 21426  0741537  CRUMP1 SPR SLW3    2          SLEW THREE LINES                     04686
 21427  0004022         LDA CDASS              NEXT AVAILABLE LOCATION FOR SAVED PROGRAMS 04687
 21430  0100331         ADD 0100               ROUND UP                             04688
 21431  0304022         STA CDASS              SAVE                                 04689
 21432  2000340         EXT MASK1              CHECK LEGALITY                       04690
 21433  0200334         SUR 0300                                                    04691
 21434  2516001         BPL                    BAD                                  04692
 21435  2601440         BRU *+3                                                     04693
 21436  2504002         LDZ                    OK                                   04694
 21437  2601441         BRU *+2                                                     04695
 21440  0000331         LDA 0100                                                    04696
 21441  0104022         ADD CDASS              GET GOOD ADDRESS                     04697
 21442  0756452         SPB CONVRT  2          CONVERT IT                           04698
 21443  1361746         DST CCOM2   3          PUT AWAY                             04699
 21444  2516620         BCS BPN     6                                               04700
 21445  2601444         BRU *-1                                                     04701
 21446  2500620         SEL 6                  PRINT IT                             04702
 21447  2600000         Z26 --                                                      04703
 21450  0221731         Z02 CCOM1   1                                               04704
                                          NOW START TOTALING PROGRAMS               04705
 21451  0640276  CRUMP2 LDX ZERO    2          LOOP COUNTER                         04706
 21452  2516620         BCS BPN     6          WAIT AT START                        04707
 21453  2601452         BRU *-1                                                     04708
 21454  1044002         DLD CPNUM   2          NUMBER OF PROGRAMS                   04709
 21455  2100360         CAB OVFLO                                                   04710
 21456  2601457         BRU *+1                                                     04711
 21457  0161607         ADD CIG1    3          DELETE RIGHT NUMBER OF CHARACTERS    04712
 21460  0161610         ADD CIG2    3                                               04713
 21461  1361760         DST CTOTP   3          TOTAL PROGRAMS                       04714
 21462  2506016         SET PBK                                                     04715
 21463  2506011         SET DECMODE                                                 04716
 21464  1044002         DLD CPNUM   2                                               04717
 21465  1161772         DAD CTOT+6  3          KEEP TOTAL PROGRAMS                  04718
 21466  1361772         DST CTOT+6  3                                               04719
 21467  2506012         SET BINMODE                                                 04720
 21470  2506015         SET PST                                                     04721
 21471  0000026         LDA XR52               GET COUNTER                          04722
 21472  2510001         SRA 1                                                       04723
 21473  0161610         ADD CIG2    3          DO NOT WANT ZEROS                    04724
 21474  0361751         STA CEND1   3          PUT IN PRINT LINE                    04725
 21475  2500620         SEL 6                  PRINT IT                             04726
 21476  2600000         WPL CEND1                                                   04727
 21477  0121751
 21500  1440002         INX 2       2                                               04728
 21501  0457764         BXL 12      2                                               04729
 21502  2601452         BRU CRUMP2+1           START AGAIN                          04730
 21503  0741537         SPB SLW3    2          SLEW THREE LINES                     04731
 21504  1061772         DLD CTOT+6  3          GET RID OF HIGH ORDER ZEROS ON THIS TOO 04732
 21505  2100360         CAB OVFLO                                                   04733
 21506  2601507         BRU *+1                                                     04734
```

CATALOGUE PRINTOUT

```
21507  0161607          ADD  CIG1    3                                  04735
21510  0161610          ADD  CIG2    3                                  04736
21511  1361772          DST  CTOT+6  3                                  04737
21512  2516620          BCS  BPN     6                                  04738
21513  2601512          BRU  *-1                                        04739
21514  2500620          SEL  6          PRINT TOTAL PROGRAMS            04740
21515  2400000          724  --                                         04741
21516  0021764          DEC  CTOT                                       04742
21517  0741545          SPR  SLT8    2                                  04743
21520  0000150          LDA  CMESS      DELTE CATALOGUE FROM ROISTER    04744
21521  0200314          SUB  TWO                                        04745
21522  0300150          STA  CMESS                                      04746
21523  2516002          BNZ                                             04747
21524  2614001          BRU  WAIT       YES, SO CRUMP                   04748
21525  2614163          BRU  ICRUMP     AND TYPE MESSAGE                04749
                                                                        04750
                                                                        04751
21526  2504102  CERR    LMO             SET FLAG                        04752
21527  0361606          STA  CERRF   3                                  04753
21530  2640001          BRU  1       2  AND GET OUT                     04754
21531  1061572  CERR1   DLD  ****    3  GET ASTERISKS                   04755
21532  1360716          DST  P12     3  AND SET IN LAST WORDS           04756
21533  1360720          DST  P14     3                                  04757
21534  2504002          LDZ             RESET FLAG                      04758
21535  0361606          STA  CERRF   3                                  04759
21536  2640001          BRU  1       2  AND GET OUT                     04760
                                                                        04761
                                                                        04762
21537  2516620  SLW3    BCS  BPN     6  WAIT                            04763
21540  2601537          BRU  *-1                                        04764
21541  2500620          SEL  6                                          04765
21542  0600000          SLW  3                                          04766
21543  0300000
21544  2640001          BRU  1       2                                  04767
                                                                        04768
                                                                        04769
21545  2516620  SLT8    BCS  BPN     6                                  04770
21546  2601545          BRU  *-1                                        04771
21547  2500620          SEL  6                                          04772
21550  0400000          SLT  8                                          04773
21551  0000000
21552  2640001          BRU  1       2                                  04774
                                                                        04775
                        CONSTANTS                                       04776
                                                                        04777
                                                                        04778
                                                                        04779
21553  1200020  CFILEA  Z12  16         READ, 16 RECORDS - FILE PARAMETER LIST  04780
21554  0005000          DEC  CIN1       AREA 1                          04781
21555  0000000          Z00  --         CONSTRUCTED DISK ADDRESS        04782
21556  0000000          Z00  --         SPECIAL TERMINATE WORD          04783
```

CATALOGUE PRINTOUT

```
                                                                                  04784
21557  1200020  CFILER Z12 16                                                     04785
21560  0007100        DEC CIN2                                                    04786
21561  0000000        Z00 --                                                      04787
21562  0000000        Z00 --                                                      04788
                                                                                  04789
                                                                                  04790
                                                                                  04791
21563  1200020  CCONL  Z12 16                                                     04792
21564  0000000        Z00 --                                                      04793
21565  0000000        Z00 --                                                      04794
21566  0000000        Z00 --                                                      04795
                                                                                  04796
                                                                                  04797
21567  0373737  C37S   OCT 373737                                                 04798
21570  0000071  C57    DEC 57          NUMBER OF LINES PER PAGE                   04799
21571  0777777  C77S   OCT 777777                                                 04800
21572  0545454  ****   ALF ***         SPECIAL INDICATORS                         04801
21573  0545454        ALF ***                                                     04802
21574  0021553  CINIT  DEC CFILEA      AREAS FLIP FLOP                            04803
21575  0021557        DEC CFILEB                                                  04804
21576  0021661  CTDAT  DEC CHEAD2      MOVE CONSTANT FOR DATE                     04805
21577  3777773        DEC -5                                                      04806
21600  0000000  CONF   OCT 0                                                      04807
21601  0000001        OCT 1                                                       04808
21602  0000000  PPRNT  DEC 0           PRINT MOVE CONSTANT                        04809
21603  3777755        DEC -19                                                     04810
21604  0555555  C55S   OCT 555555                                                04811
21605  0000013  LINIT  DEC 11          INITIAL VALUE FOR LINE COUNTER             04812
21606  0000000  CERRF  OCT 0            FLAG                                       04813
21607  0000035  CIG1   OCT 35                                                     04814
21610  0603500  CIG2   OCT 603500                                                 04815
                                                                                  04816
                        FORMAT LINE                                               04817
                                                                                  04818
21611  0353535  CFORM  OCT 353535                                                 04819
21612  0353535        OCT 353535                                                  04820
21613  0353535        OCT 353535                                                  04821
21614  0353535        OCT 353535                                                  04822
21615  0373757        OCT 373757                                                  04823
21616  0353535        OCT 353535                                                  04824
21617  0363535        OCT 363535                                                  04825
21620  0353535        OCT 353535                                                  04826
21621  0363535        OCT 363535                                                  04827
21622  0353535        OCT 353535                                                  04828
21623  0363535        OCT 363535                                                  04829
21624  0353535        OCT 353535                                                  04830
21625  0363535        OCT 363535                                                  04831
21626  0353535        OCT 353535                                                  04832
21627  0363535        OCT 363535                                                  04833
21630  0353535        OCT 353535                                                  04834
```

CATALOGUE PRINTOUT

```
21631  0363535          OCT 363535                                          04835
21632  0353535          OCT 353535                                          04836
21633  0353535          OCT 353535                                          04837
                                                                            04838
                                    GENERAL HEADING LINE                    04839
                                                                            04840
21634  0000000          OCT 0          MAKE INTO ODD LOCATION               04841
21636  0000000          DDC 0                                               04842
21637  0000000
         21635          ORG *-3                                             04843
21635  0242151  CHEAD   ALF DAR        DARTMOUTH COLLEGE TIME-SHARING SYSTEM 04844
21636  0634446          ALF TMO        CATALOGUE FILES AS OF   DATE          04845
21637  0646330          ALF UTH                                             04846
21640  0602346          ALF  CO                                             04847
21641  0434325          ALF LLE                                             04848
21642  0272560          ALF GE                                              04849
21643  0633144          ALF TIM                                             04850
21644  0254062          ALF E-S                                             04851
21645  0302151          ALF HAR                                             04852
21646  0314527          ALF ING                                             04853
21647  0606270          ALF  SY                                             04854
21650  0626325          ALF STE                                             04855
21651  0446023          ALF M C                                             04856
21652  0216321          ALF ATA                                             04857
21653  0434627          ALF LOG                                             04858
21654  0642560          ALF UE                                              04859
21655  0263143          ALF FIL                                             04860
21656  0256260          ALF ES                                              04861
21657  0216260          ALF AS                                              04862
21660  0462660          ALF OF                                              04863
21661  0606060  CHEAD2  ALF            DATE GOES IN THESE FIVE LOCATIONS    04864
21662  0606060          ALF                                                 04865
21663  0606060          ALF                                                 04866
21664  0606060          ALF                                                 04867
21665  0606060          ALF                                                 04868
21666  0606063          ALF   T                                             04869
21667  0314425          ALF IME                                             04870
21670  0606060  CHEAD1  ALF            TIME GOES IN THESE TWO LOCATIONS     04871
21671  0606060          ALF                                                 04872
21672  0603046          ALF  HO                                             04873
21673  0645162          ALF URS                                             04874
21674  2336060          OCT 2336060                                         04875
                                                                            04876
                                    SECOND HEADING LINE                     04877
                                                                            04878
21675  0000000          OCT 0          MAKE SURE CHDASS IS EVEN             04879
21676  0353545  CHDASS  OCT 353545                                          04880
21677  0256763          ALF EXT                                             04881
21700  0602165          ALF  AV                                             04882
21701  0213143          ALF AIL                                             04883
21702  0212243          ALF ABL                                             04884
```

CATALOGUE PRINTOUT

```
21703  0256043          ALF E L                                          04885
21704  0462321          ALF OCA                                          04886
21705  0633146          ALF TIO                                          04887
21706  0456026          ALF N F                                          04888
21707  0465160          ALF OR                                           04889
21710  0622165          ALF SAV                                          04890
21711  0252460          ALF ED                                           04891
21712  0475146          ALF PRO                                          04892
21713  0275121          ALF GRA                                          04893
21714  0446260          ALF MS                                           04894
21715  0316260          ALF IS                                           04895
21716  0606060  CHDAS2  ALF          DASSGN GOES IN THESE TWO LOCATIONS  04896
21717  0606060          ALF                                              04897
21720  2336060          OCT 2336060                                      04898
                                                                         04899
                      THIRD HEADING LINE                                 04900
                                                                         04901
21721  0353523  CDATE   OCT 353523     CODED DATE--                      04902
21722  0462425          ALF ODE                                          04903
21723  0246024          ALF D D                                          04904
21724  0216325          ALF ATE                                          04905
21725  0404060          OCT 404060                                       04906
21726  0606060  CHCODE  ALF          CODED DATE GOES IN THESE TWO LOCATIONS 04907
21727  0606060          ALF                                              04908
21730  2336060          OCT 2336060                                      04909
                                                                         04910
                      COMPUTED NEXT AVAILABLE LOCATION                   04911
                                                                         04912
21731  0234644  CCOM1   ALF COM                                          04913
21732  0476463          ALF PUT                                          04914
21733  0252460          ALF ED                                           04915
21734  0452567          ALF NEX                                          04916
21735  0636021          ALF T A                                          04917
21736  0652131          ALF VAI                                          04918
21737  0432122          ALF LAB                                          04919
21740  0432560          ALF LE                                           04920
21741  0434623          ALF LOC                                          04921
21742  0216331          ALF ATI                                          04922
21743  0464560          ALF ON                                           04923
21744  0601660          OCT 601660     EQUAL SIGN                        04924
21745  0353535          OCT 353535     IGNORES                           04925
21746  0606060  CCOM2   ALF                                              04926
21747  0606060          ALF                                              04927
21750  2336060          OCT 2336060                                      04928
                                                                         04929
                      TERMINATING LINES FOR CATALOG PRINTOUT             04930
                                                                         04931
21751  0606060  CEND1   ALF                                              04932
21752  0604325          ALF  LE                                          04933
21753  0452763          ALF NGT                                          04934
21754  0306047          ALF H P                                          04935
```

CATALOGUE PRINTOUT

```
21755  0514627          ALF ROG                                          04936
21756  0512144          ALF RAM                                          04937
21757  0626016          ALF S =                                          04938
21760  0606060  CTOTP   ALF                                              04939
21761  0606060          ALF                                              04940
21762  2336060          OCT -336060                                      04941
21763  0000000          OCT 0              MAKE NEXT EVEN                04942
21764  0606346  CTOT    ALF  TO                                          04943
21765  0632143          ALF TAL                                          04944
21766  0604751          ALF  PR                                          04945
21767  0462751          ALF OGR                                          04946
21770  0214462          ALF AMS                                          04947
21771  0601660          ALF  =                                           04948
21772  0000000          DUC 0                                            04949
21773  0000000
21774  2336060          OCT -336060                                      04950
                                                                        04951
                                 PRINT LINE BUILD AREA                  04952
                                                                        04953
         20700           LOC 20700                                      04954
         20700  P*0      BSS 2              LEADING BLANKS              04955
         20702  P0       BSS 1                                          04956
         20703  P1       BSS 1                                          04957
         20704  P2       BSS 1                                          04958
         20705  P3       BSS 1                                          04959
         20706  P4       BSS 2                                          04960
         20710  P6       BSS 2                                          04961
         20712  P8       BSS 2                                          04962
         20714  P10      BSS 2                                          04963
         20716  P12      BSS 2                                          04964
         20720  P14      BSS 2                                          04965
         20722  P16      BSS 1                                          04966
         20724  PTL      BSS 40             SAVE 40 PLACE FOR TITLE     04967
         20772  PTL1     EQU PTL+38                                     04968
                                                                        04969
                                 TEMPORARY STORAGE                      04970
                                                                        04971
         04000           ORG K6AREA                                     04972
         04000  CIN      BSS 2                                          04973
         04002  CPNUM    BSS 16             COUNTERS FOR PROGRAMS       04974
         04022  CDASS    BSS 1                                          04975
         04023  CADRS    BSS 1                                          04976
         04024  PFLAG    BSS 1                                          04977
         04025  CLINE    BSS 1                                          04978
                                                                        04979
                                                                        04980
         06000           ORG K2AREA         SPECIAL FUDGING ROUTINE     04981
         37000  EXCV     EQU EXECOV                                     04982
06000  0037012           DEC EXCV+10                                    04983
06001  3777012           DEC -502                                       04984
06002  1006000  CATMOV   OLD *-2            MOVE CATALOGUE UP FOR LOADING ONTO DISK  04985
```

CATALOGUE PRINTOUT

```
06003  2421012        MOV CATA
06004  2601574        BRU LOVWRT          AND GO WRITE OVERLAY
                                                                  04986
                                                                  04987
                                                                  04988
T06002                TCD CATMOV                                  04989
                                                                  04990
                                                                  STL04991
                                                                  EJT04992
```

DISK DUMP

```
                                                                                04993
                                    TIME-SHARING DISK DUMP.                     04994
                                    THE FOLLOWING AREAS WILL BE DUMPED          04995
                                    1) THE FIRST HALF OF DISK ZERO              04996
                                    2) THE CATALOGUE FILES                      04997
                                    3) ALL SAVED PROGRAMS                       04998
                                    USUALLY ONLY ONE TAPE WILL BE REQUIRED,     04999
                                    AND IT SHOULD BE MOUNTED ON HANDLER 3.      05000
                                    IF A SECOND TAPE WERE REQUIRED, THE         05001
                                    PROGRAM WILL ASK FOR IT VIA THE CONSOLE     05002
                                    TYPEWRITER AND WAIT FOR ZERO TO BE TOGGLED. 05003
                                    THE SECOND TAPE MUST BE PPACED ON HANDLER   05004
                                    7.  IN THIS CASE TAPE THREE WILL HAVE TO    05005
                                    BE REWOUND MANUALLY.                        05006
          01670     ORG PERNUM          HEADING INFORMATION                     05007
01670     0000006   DEC 6                                                       05008
01671     0000471   DEC DUM                                                     05009
                                                                                05010
          37000     ORG EXECOV                                                  05011
37000     0000316   LDA THREE           ASK FOR TIME COUNT STOP                 05012
37001     0756430   SPB SPMESS  2                                               05013
37002     0000321   LDA SIX             ASK FOR OFF                             05014
37003     0756430   SPB SPMESS  2                                               05015
37004     0000434   LDA WAIT1           RESET P-COUNTER                         05016
37005     0300127   STA PCT                                                     05017
37006     2504102   LMO                 RESET SOME INDICATORS                   05018
37007     0300130   STA PERIN           PERIPHERAL INDICATOR                    05019
37010     0300100   STA IN              SYSTEM INDICATOR                        05020
37011     2504022   LDO                 SET CMESS                               05021
37012     0300150   STA CMESS                                                   05022
37013     0755464   SPB DSKB    2       ASK FOR DISK                            05023
37014     0755560   SPB DSKOP   2       AND READ IN TAPE ROUTINE                05024
37015     1200003   Z12 3               300 OCTAL WORDS                         05025
37016     0037500   DEC TREQST                                                  05026
37017     2000524   Z20 TAP+2           INDIRECT TO DISK ADDRESS                05027
37020     2617020   BRU *               SHOULD NEVER HAPPEN                     05028
37021     0757500   SPB TREQST  2       THEN USE IT                             05029
37022     2500120   SEL 1               TO REWIND TAPE 3                        05030
37023     2000000   RWD         3                                               05031
37024     1000000
37025     0000000   OCT 0               FLAG TO INDICATE RETURN                 05032
37026     0755560   SPB DSKOP   2       READ IN CATALOGUE ROUTINE               05033
37027     1200010   Z12 8               1K OCTAL                                05034
37030     0021000   DEC CATW                                                    05035
37031     2000470   Z20 CAT+2           INDIRECT TO ADDRESS                     05036
37032     2617032   BRU *               NEITHER SHOULD IT RETURN HERE           05037
37033     0755560   SPB DSKOP   2       READ IN KEY TO CATALOGUE                05038
37034     1200006   Z12 6               6 RECORDS, WITH LABELS FOR DUMP         05039
37035     0020000   DEC CKEY            KEY AREA                                05040
37036     2000451   Z20 KEY+2           INDIRECT TO DISK ADDRESS                05041
37037     2617037   BRU *               REAL TROUBLE IF IT RETURNS HERE         05042
```

DISK DUMP

```
37040  0755560          SPR DSKOP   2          READ IN BILLING ROUTINE                05043
37041  1200010          Z12 8                                                         05044
37042  0022000          DEC BILLW                                                     05045
37043  2000501          Z20 BIL+2              INDIRECT TO DISK ADDRESS               05046
37044  2617044          BRU *                                                         05047
37045  1077452          DLD .JLNK.  3          GET LINKAGE TO DUMP ROUTINE            05048
37046  0754217          SPR INSERT  2          AND INSERT IN TASK LIST                05049
37047  0300062          STA JLIST              SAVE ENTRANCE                          05050
37050  2601022          BRU CATB               AND TRANSFER TO CATALOGUE              05051
                                                                                      05052
                                                                                      05053
                                JLNK IS ENTERED AFTER THE CATALOGUE ROUTINE           05054
                                IS INITIALIZED, AND IT WRITES LABEL S ON              05055
                                TAPES AND TYPES THEM OUT AND DOES OTHER ODD           05056
                                THINGS                                                05057
                                                                                      05058
                                                                                      05059
37051  0020001  JLNK   LDA 1        1          SWITCH ENTRIES FOR REST OF TIME        05060
37052  0320000          STA 0        1                                                05061
37053  1077454          DLD JINIT    3          POINTS TO JFILA, JFILB                 05062
37054  1300060          DST JIN                                                       05063
37055  0756052          SPB DRAMB    2          PICK UP FIRST 2K FROM DISK ZERO        05064
37056  0037436          DEC JFILA                                                     05065
37057  1077460          DLD DLAB3    3          GET DATE                               05066
37060  2400241          MOV SDATE+1                                                   05067
37061  0756472          SPB TIME     2          AND TIME                               05068
37062  1360212          DST DLAB2    3                                                05069
37063  2504102          LMO                     SET FLAG WORD NEGATIVE                 05070
37064  0360204          STA DLAB5    3          TO INDICATE TAPE # 1                   05071
37065  0757315          SPB JEXEC    2          AND EXIT WITH RETURN SAVED             05072
37066  2514123          BCS BRW      1          WAIT FOR TAPE TO FINISH REWINDING      05073
37067  2620002          BRU 2        1          IF SO, EXIT                            05074
37070  0742277          SPB BILLI    2          INITIALIZE BILLING ROUTINE             05075
37071  0757500          SPB TREQST   2          WRITE LABEL                            05076
37072  2500120          SEL 1                                                         05077
37073  0320150          WTB DLAB1    3                                                05078
37074  1000036               30                                                     05079
37075  0000000          OCT 0                                                         05080
37076  0757315          SPB JEXEC    2          DO NOT OVERLOAD TASK TABLE             05081
37077  0077075          LDA *-2      3                                                05082
37100  2514002          BZE                     IF LABLE NOT DONE, CRUMP               05083
37101  2620002          BRU 2        1                                                05084
37102  0756330          SPB MESSG    2          AND TYPE MESSAGE                       05085
37103  0020150          DEC DLAB1               LABEL                                  05086
37104  0756330          SPB MESSG    2          AND TIME                               05087
37105  0020205          DEC DUMTIM                                                    05088
                                                                                      05089
                                                                                      05090
                                                                                      05091
                                JLOOPA READS IN THE FIRST HALF OF DISK ZERO            05092
                                AND WRITES IT ON THE DUMP TAPE                        05093
```

DISK DUMP

```
                                                                                                  05094
                                                                                                  05095
                                                                                                  05096
 37106  0757315  JLOOPA SPB JEXEC   2          EXIT                                             05097
 37107  0640060         LDX JIN     2          POINTS TO CURRENT FILE                           05098
 37110  0717426         SPB JCHK    0          SEE IF ANY ERRORS                                05099
 37111  0737255         SPB JTAPE   1          GO WRITE RECORD ON TAPE                          05100
 37112  0640060         LDX JIN     2          GET FILE ADDRESSES AGAIN                         05101
 37113  0620061         LDX JIN+1   1                                                           05102
 37114  0040002         LDA 2       2          DISK ADDRESSES                                   05103
 37115  2177462         CAB JLAST   3          AND CHECK FOR END FIRST HALF DISK ZERO            05104
 37116  2617120         BRU *+2                                                                 05105
 37117  2617140         BRU JLBA               EXIT IF SO                                       05106
 37120  0100331         ADD 0100               STEP 2K                                          05107
 37121  0320002         STA 2       1          AND SET IN NEXT FILE                             05108
 37122  2000340         EXT MASK1              CHECK FOR ILLEGAL                                05109
 37123  2100334         CAB 0300                                                                05110
 37124  2617131         BRU *+5                OK                                               05111
 37125  2617126         BRU *+1                NO, SO STEP POSITION                             05112
 37126  0020002         LDA 2       1                                                           05113
 37127  0100331         ADD 0100                                                                05114
 37130  0320002         STA 2       1                                                           05115
 37131  1740061         STX JIN+1   2          FLIP BUFFER ADDRESSES                            05116
 37132  0000201         LDA Z1                 GET NEXT ONE                                     05117
 37133  0300060         STA JIN                                                                 05118
 37134  0377136         STA *+2     3          AND SET IN CALLING POINTER                       05119
 37135  0756052         SPB DRAMB   2          PICK UP NEXT 2K                                  05120
 37136  0037442         DEC JFILR                                                               05121
 37137  2617106         BRU JLOOPA             AND GET NEXT                                     05122
                                                                                                 05123
                                                                                                 05124
                                       JL6 PICKS UP CATALOGUE FILES AS INDICATED                 05125
                                       BY THE ADDRESSSS IN THE KEY.                              05126
                                                                                                 05127
                                                                                                 05128
 37140  0640337  JLBA   LDX 8K      2          BEGIN SAVED PROGRAMS DUMP                        05129
 37141  1740063         STX JKEY    2          INITIALIZE CATALOGUE POINTER                     05130
 37142  0640063  JLBB   LDX JKEY    2          GET FILE POINTER                                 05131
 37143  0040000         LDA CKEY    2          AND ENTRY FOR FILE                               05132
 37144  2514002         BZE                    CHECK FOR ALL DONE                               05133
 37145  2617364         BRU JEND               YES, SO TERMINATE DUMP                           05134
 37146  1440001         INX 1       2          STEP POINTER                                     05135
 37147  1740063         STX JKEY    2          AND SAVE                                         05136
 37150  0377450  JLCN   STA JFILC+2 3                                                           05137
 37151  0757315         SPB JEXEC   2          NOW EXIT                                         05138
 37152  0077312         LDA JTFLG   3          AND CHECK TO MAKE SURE LAST ENTRY WRITTEN         05139
 37153  2514002         BZE                    ON TAPE IF ONE FILE EMPTY                        05140
 37154  2620002         BRU 2       1          WAIT IF NOT                                      05141
 37155  0756052         SPB DRAMB   2          IF OK, BRING IN FILE                             05142
 37156  0037446  JLFDG  DEC JFILC              FUDGE FACTOR                                     05143
 37157  0757315         SPB JEXEC   2          AND EXIT                                         05144
```

DISK DUMP

```
37160  0077456          LDA JDFILC  3                                    05145
37161  0300202          STA Z2                                           05146
37162  0717426          SPB JCHK    0       SEE IF ANY ERRORS            05147
37163  0077156          LDA JLFDG   3       GET FUDGE CONSTANT           05148
37164  0300202          STA Z2              AND SET IN REGISTER 2        05149
37165  0737255          SPB JTAPE   1       WRITE FILE ON TAPE           05150
37166  0077447          LDA JFILC+1 3       GET MEMORY ADDRESS AND INITIALIZE RUNNING  05151
37167  0277464          SUB JEIG    3       DEC 8                        05152
37170  0300064          STA JKVAR           POINTER                      05153
37171  0300202          STA Z2              AND SET IN REGISTER          05154
37172  2617177          BRU JL1             AND BEGIN SAVING PROGRAMS    05155
                                                                         05156
                                                                         05157
                                JLOOPB PICKS UP SAVED PROGRAMS ACCORDING OT  05158
                                THE ENTRIES IN EACH INDIVIDUAL CATALOGUE     05159
                                FILE, AND WRITES THEM OUT ONTO THE DUMP      05160
                                TAPE.                                        05161
                                                                             05162
                                                                             05163
37173  0757315  JLOOPB SPB JEXEC   2       EXIT                         05164
37174  0640061          LDX JIN+1   2       GET CURRENT FILE ENTRY POINTER  05165
37175  0717426          SPB JCHK    0       SEE IF ANY ERRORS            05166
37176  0737255          SPB JTAPE   1       WRITE OUT JUST READ PROGRAM  05167
37177  0640064  JL1     LDX JKVAR   2       GET RUNNING POINTER          05168
37200  1440010          INX 8       2       AND STEP                     05169
37201  1740064          STX JKVAR   2       SAVE                         05170
37202  0040001          LDA 1       2       CHECK FOR END FILE           05171
37203  2161567          CAB C37S    3       CHECK LINKED CATALOG         05172
37204  2617206          BRU *+2                                          05173
37205  2617253          BRU JL2             GET NEXT LINK                05174
37206  2177463          CAB J55S    3       SEE IF END OF CATALOG FILE   05175
37207  2617211          BRU *+2             NO                           05176
37210  2617142          BRU JLBB            GET NEXT CATALOG RECORD      05177
37211  2161571          CAB C77S    3       SEE IF HOLE                  05178
37212  2617214          BRU *+2             NO                           05179
37213  2617177          BRU JL1             YES JUST SKIP IT             05180
37214  0040004          LDA 4       2       GET STARTING DISK ADDRESS    05181
37215  2000340          EXT MASK1                                        05182
37216  2100334          CAB 0300            CHECK FOR LEGAL              05183
37217  2617222          BRU *+3                                          05184
37220  2617177          BRU JL1             NO, CRUMP IT                 05185
37221  2617177          BRU JL1                                          05186
37222  0040005          LDA 5       2       GET LENGTH                   05187
37223  0240004          SUB 4       2                                    05188
37224  2510001          SRA 1               MOD 64                       05189
37225  2516001          BPL                 CHECK IF BAD LENGTH, SUCH AS  05190
37226  2514002          BZE                 ZERO                         05191
37227  2617177          BRU JL1             OR NEGATIVE                  05192
37230  2100327          CAB 040             OR TOO LONG                  05193
37231  2617234          BRU *+3                                          05194
37232  2617234          BRU *+2                                          05195
```

DISK DUMP

```
37233  2617177          BRU JL1                                                  05196
37234  0620061          LDX JIN+1   1        GET POINTER TO NEXT PAR*METER LIST  05197
37235  2720000          STO 0       1        AND SET LENGTH IN COMMAND          05198
37236  0040004          LDA 4       2        GET ADDRESS AGAIN                  05199
37237  0320002          STA 2       1        AND SET IN PARAMETER LIST          05200
37240  1000060          DLD JIN              FLIP ENTRIES                       05201
37241  2504005          XAQ                                                     05202
37242  1300060          DST JIN                                                 05203
37243  0377245          STA *+2     3        AND IN CALL                        05204
37244  0756052          SPR DRAMB   2        NOW READ A PROGRAM                 05205
37245  0000000          DEC 0                CONSTRUCTD PARAMETER LIST POINTER  05206
                                     THESE ARE FUDGES FOR THE BUFFERING.  SKIP  05207
                                     WRITE OUT OF PROGRAM FIRST TIME THROUGH AND 05208
                                     MAKE SURE LAST ONE GETS WRITTEN            05209
37246  0077252          LDA *+4     3        GET BRANCH FOR NEXT TIME           05210
37247  0377246          STA *-1     3                                           05211
37250  0377172          STA JL00PB-13        MAKE SURE LAST PROGRAM GETS WRITTEN 05212
37251  2617177          BRU JL1              AND GET NEXT PROGRAM               05213
37252  2617173          BRU JL00PB           NORMATL ENTRANCE                   05214
                                                                                05215
37253  0040000  JL2     LDA 0       2        THIS IS A FUDGE TO GET EXTENDED CATALOG 05216
37254  2617150          BRU JLCN             AND GET IT                         05217
                                                                                05218
                                     JTAPE IS ENTERED ON XREG1.  INDEX REGISTER 2 05219
                                     POINTS TO THE DISK PARAMETER LIST          05220
                                     CONTAINING THE INFORMATION ABOUT THE RECORD 05221
                                     TO BE WRITTEN ON THE TAPE.                 05222
                                     THIS INFORMATION BECOMES PART OF EACH TAPE 05223
                                     RECORD IN A SPECIAL TWO WORD KEY AT THE    05224
                                     BEGINNING OF EACH ONE, AS FOLLOWS,         05225
                                                                                05226
                                        WORD 1 - DISK ADDRESS                   05227
                                        WORD 2 - LENGTH [MOD 64]                05228
                                                                                05229
                                                                                05230
37255  1720065  JTAPE   STX JTMP    1        SAVE ENTRANCE                      05231
37256  1740066          STX JTMPP   2        AND SAVE OTHER                     05232
37257  0757315          SPR JEXEC   2        AND EXIT                           05233
37260  0077312          LDA JTFLG   3        GET COMPLETION FLAG                05234
37261  2514002          BZE                  IF ZERO, NOT YET DONE              05235
37262  2620002          BRU 2       1                                           05236
37263  2510001          SRA 1                CHECK FOR END OF TAPE              05237
37264  2514000          BOD                                                     05238
37265  2617322          BRU JSWTCH           IN WHICH CASE CHANGE TAPES         05239
37266  0640066  JT2     LDX JTMPP   2        GET FILE POINTER                   05240
37267  0040001          LDA 1       2        AND GET MEMORY ADDRESS             05241
37270  0200314          SUB TWO              DECREMENT FOR KEY                  05242
37271  0300201          STA Z1               AND SET IN REGISTER                05243
37272  0077310          LDA JTAP+2  3        GET OPERATION                      05244
37273  2000350          EXT MASK11           LESS ADDRESS                       05245
37274  0100201          ADD Z1               AND ADD MEMORY ADDRESS             05246
```

DISK DUMP

```
37275  0377310          STA JTAP+2  3        THEN SET IN CALL                          05247
37276  0040000          LDA 0       2        GET LENGTH                                05248
37277  2000347          EXT MASK10           EXTRACT HIGH ORDER END                    05249
37300  0320001          STA 1       1        AND SET IN KEY                            05250
37301  2512006          SLA 6                AND SET AS # OF WORDS                     05251
37302  0100314          ADD TWO              INCREMENTED FOR KEY                       05252
37303  2777311          STO JTAP+3  3        IN CALL                                   05253
37304  0040002          LDA 2       2        SET DISK ADDRESS IN KEY                   05254
37305  0320000          STA 0       1                                                  05255
37306  0757500  JTAP    SPB TREQST  2        WRITE RECORD ON TAPE                      05256
37307  2500120          SEL 1                                                          05257
37310  0300000          WTR --      3        CO-STRUCTED                               05258
37311  1000000              0                                                          05259
37312  0000001  JTFLG   OCT 1                FLAG WORD - INITIALIZED                   05260
37313  0620065          LDX JTMP    1        GET RETURN                                05261
37314  2620001          BRU 1       1        AND RETURN                                05262
                                                                                       05263
                                                                                       05264
                                                                                       05265
37315  1740067  JEXEC   STX JPOIN   2        SAVE CALLER                               05266
37316  0620062          LDX JLIST   1        GET ENTRANCE POINT                        05267
37317  2640001          BRU 1       2        GET BACK                                  05268
                                                                                       05269
37320  0640067  JENT    LDX JPOIN   2        GET CALLER                                05270
37321  2640001          BRU 1       2        AND RETURN                                05271
                                                                                       05272
                                                                                       05273
                                                                                       05274
37322  0077311  JSWTCH  LDA JTAP+3  3        CHECK FOR TAPE 7 ALREADY                  05275
37323  2514001          RMI                  IF SO, REAL TROUBLE                       05276
37324  2617362          BRU JTROUB                                                     05277
37325  0756330          SPB MESSG   2        ELSE TYPE MESSAGE TO CHANGE TAPES         05278
37326  0020217          DEC TO7                                                        05279
37327  0000361          LDA SIGN             NOW SWITCH HANDLERS                       05280
37330  2377311          ORY JTAP+3  3                                                  05281
37331  2377367          ORY JEND+3  3                                                  05282
37332  2377404          ORY JEND1+3 3                                                  05283
37333  0757500          SPB TREQST  2        AND REWIND OLD TAPE                       05284
37334  2500120          SEL 1                                                          05285
37335  2000000          RWD         3                                                  05286
37336  1000000
37337  0000000          OCT 0                                                          05287
37340  0757315          SPB JEXEC   2        EXIT                                      05288
37341  2504002          LDZ                  AND WAIT FOR 2 TO BE TOGGLED              05289
37342  2500011          RCS                                                            05290
37343  2512002          SLA 2                                                          05291
37344  2516003          RNO                                                            05292
37345  2620002          BRU 2       1        EXIT IF NOT DOWN YET                      05293
37346  2504002          LDZ                  SET FLAG FOR SECOND LABEL                 05294
37347  0360204          STA DLAB5   3                                                  05295
37350  0757500          SPB TREQST  2        AND WRITE IT ON SECOND TAPE WHICH HAD BETTER 05296
```

DISK DUMP

```
 37351  2500120          SEL  1                    BE REWOUND                                  05297
 37352  0320150          WTR  DLAB1   7           WRITE LABEL OUT ON 7                        05298
 37353  3000036               30                                                              05299
 37354  0000000          OCT  0                                                               05300
 37355  0757315          SPB  JEXEC   2           EXIT AND WAIT FOR LABEL TO BE DONE          05301
 37356  0077354          LDA  *-2     3                                                       05302
 37357  2514002          BZE                                                                  05303
 37360  2620002          BRU  2       1                                                       05304
 37361  2617266          BRU  JT2                                                             05305
                                                                                              05306
 37362  0756330  JTROUB  SPB  MESSG   2           TYPE MESSAGE AND ABORT RUN                  05307
 37363  0020236          DEC  PS00                                                            05308
                                                  JEND MUST WRITE OUT THE LAST PROGRAM WHICH IS 05309
                                                  STILL IN MEMORY                             05310
                                                                                              05311
 37364  0757315  JEND    SPB  JEXEC   2           EXIT FIRST                                  05312
 37365  0640061          LDX  JIN+1   2           GET CURRENT FILE ENTRY POINTER              05313
 37366  0717426          SPB  JCHK    0           CHECK DISK                                  05314
 37367  0737255          SPB  JTAPE   1           WRITE ON TAPE                               05315
 37370  0757315          SPB  JEXEC   2           EXIT AGAIN                                  05316
 37371  0077312          LDA  JTFLG   3           CHECK DONE                                  05317
 37372  2514002          BZE                                                                  05318
 37373  2620002          BRU  2       1           NOT YET                                     05319
 37374  0757502          SPB  TREQB   2           NOW REWIND 3 - OR 7 AS MAY BE               05320
 37375  2500120          SEL  1                   AND WRITE END OF FILE ON THREE - OR 7       05321
 37376  0200000          WEF          3                                                       05322
 37377  1000000
 37400  0000000          OCT  0                                                               05323
 37401  0757502  JEND1   SPB  TREQB   2                                                       05324
 37402  2500120          SEL  1                                                               05325
 37403  2000000          RWD          3                                                       05326
 37404  1000000
 37405  0000000          OCT                                                                  05327
 37406  0757315          SPB  JEXEC   2           EXIT AND WAIT                               05328
 37407  0077405          LDA  *-2     3           KEEP CHECKING                               05329
 37410  2514002          BZE                      PUNT IFNOT DONE                             05330
 37411  2620002          BRU  2       1                                                       05331
 37412  0000150          LDA  CMESS               DECREMENT FLAG TO INDICATE COMPLETION       05332
 37413  2504112          SBO                                                                  05333
 37414  0300150          STA  CMESS                                                           05334
 37415  2510002          SRA  2                   CHECK FOR BILLING IN                        05335
 37416  2516000          BEV                                                                  05336
 37417  0757735          SPB  TCLOS   2           IF NOT, CLOSE OUT TAPE ROUTINE              05337
 37420  0620062          LDX  JLIST   1           GET ENTRY POINT                             05338
 37421  0754212          SPB  IRASE   2           AND ERASE                                   05339
 37422  0000150          LDA  CMESS                                                           05340
 37423  2514002          BZE                      CHECK IF BILLING OR CATALOGUE STILL IN      05341
 37424  2614163          BRU  ICRUMP              IF NONE IN, EXIT AND TYPE MESSAGE           05342
 37425  2620002          BRU  2       1           AND EXIT                                    05343
                                                                                              05344
                                                                                              05345
```

DISK DUMP

```
37426  0040003  JCHK   LDA 3        2          CHECK FOR FILE READ                    05346
37427  2514002         RZE                                                          05347
37430  2620002         BRU 2        1          IF NOT PUNT                         05348
37431  1700133         STX RAWT     0          SAVE ENTERANCE                      05349
37432  2516000         REV                     HANG IF ANY ERRORS                  05350
37433  2617433         BRU *                   NOT RECOVERED                       05351
37434  0620133         LDX RAWT     1                                              05352
37435  2620001         BRU 1        1          RETURN                              05353
                                                                                    05354
                                                                                    05355
                                   DISK PARAMETER LISTS                             05356
                                                                                    05357
                                                                                    05358
37436  1200040  JFILA  Z12 32                  READ IN FIRST HALF OF DISK ZERO      05359
37437  0023100         DEC JBUF1               INTO BUFFER # 1                     05360
37440  0000000         DEC 0                   CONSTRUCTED                         05361
37441  0000000         DEC 0                   COMPLETION INDICATOR                05362
                                                                                    05363
37442  1200040  JFILB  Z12 32                  READ 2K                             05364
37443  0027200         DEC JBUF2               BUFFER 2                            05365
37444  0000000         DEC 0                   CONSTRUCTED                         05366
37445  0000000         DEC 0                   COMPLETION INDICATOR                05367
                                                                                    05368
37446  1200020  JFILC  Z12 16                  SPECIAL FILE FOR CATALOGUES          05369
37447  0011200         DEC JFILE                                                   05370
37450  0000000         DEC 0                                                       05371
37451  0000000         DEC 0                                                       05372
                                                                                    05373
                                                                                    05374
                                                                                    05375
37452  0737051  .JLNK. SPB JLNK     1          LINKAGE ENTRY FOR FIRST TIME        05376
37453  0737320         SPB JENT     1          SUBSEQUENT TIMES ENTRY              05377
37454  0037436  JINIT  DEC JFILA               FILES FLIP FLOP                     05378
37455  0037442         DEC JFILB                                                   05379
37456  0037446  JDFILC DEC JFILC                                                   05380
37460  0020176  DLAB3  DEC DLAB                DATE MOVE                           05381
37461  3777773         DEC -5                                                      05382
37462  0037600  JLAST  OCT 37600               LAST RECORD ON DISK ZERO            05383
37463  0555555  J55S   OCT 555555                                                 05384
37464  0000010  JEIG   DEC 8                   START JKVAR OFF RIGHT               05385
                                                                                    05386
                                   **********************************************   05387
                                   DO NOT GO ABOVE 37500--TAPE SUB. OVERLAY         05388
                                   **********************************************   05389
                                                                                    05390
                                                                                    05391
                                                                                    05392
         00060           ORG TA                LEAVE TREQST SOME ROOM              05393
         00060  JIN     BSS 2                                                      05394
         00062  JLIST   BSS 1                                                      05395
         00063  JKEY    BSS 1                                                      05396
```

DISK DUMP

```
          00064   JKVAR   BSS 1                                    05397
          00065   JTMP    BSS 1                                    05398
          00066   JTMPP   BSS 1                                    05399
          00067   JPOIN   BSS 1                                    05400
T01574                    TCD LOVWRT          TRANSFER             05401
                                                                   05402
                                                                  STL05403
                                                                  EJT05404
```

BILLING MASTER PACK

```
                                                THE BILLING MASTER PACKING ROUTINE WRITES AN      05405
                                                END OF FILE ON TAPE 0, REWINDS 0 AND 6,           05406
                                                THEN SPACES FORWARD 6 UNTIL IT SENSES AND         05407
                                                END-OF -FILE.  IT THEN PACKS TAPE 0 ONTO 6,       05408
                                                BLOCKING THE LATTER BY A FACTOR OF TEN.           05409
                                                IF CALLED BY *BILL*, IT MOBES ITSELF DOWN TO      05410
                                                22000, BUT NORMALLY IT IS READ IN BY THE          05411
                                                DUMP ROUTINE AND IS PART OF THE DUMP - CAT        05412
                                                - BILLING PACKAGE.                                05413
                                                                                                  05414
                                                                                                  05415
          01670          ORG PERNUM                                                               05416
01670     0000010        DEC 8                                                                    05417
01671     0000477        DEC BIL                                                                  05418
                                                                                                  05419
                                                                                                  05420
          37000          ORG EXECOV                                                               05421
37000     0000316        LDA THREE          ASK FOR OFF                                           05422
37001     0756430        SPB SPMESS  2                                                            05423
37002     0000321        LDA SIX            TURN OFF OTHER TELETYPES                              05424
37003     0756430        SPB SPMESS  2                                                            05425
37004     1077010        DLD *+4     3      MOVE PROGRAM DOWN                                     05426
37005     2437000        MOV EXECOV                                                               05427
37006     2602012        BRU BILLA                                                                05428
37007     3777777        DEC -1             SPARE WORD                                            05429
37010     0022000        DEC BILLW                                                                05430
37011     3777000        DEC -512           LOTS OF WORDS...P                                     05431
                                                                                                  05432
                                                                                                  05433
          22012          ORG BILLW+10                                                             05434
22012     0000434  BILLA LDA WAIT1          RESET P-COUNTER                                       05435
22013     0300127        STA PCT                                                                  05436
22014     0756330        SPB MESSG   2      AND ACKNOWLEDGE                                       05437
22015     0000541        DEC PCR                                                                  05438
22016     0755464        SPB DSKB    2      GET DISK TO READ IN TAPE ROUTINE                      05439
22017     0755560        SPB DSKOP   2      AND READ IN TAPE ROUTINE                              05440
22020     1200003        Z12 3                                                                    05441
22021     0037500        DEC TREQST         UPPER PART OF OVERLAY                                 05442
22022     2000524        Z20 TAP+2          INDIRECT TO ITS ADDRESS                               05443
22023     2602023        BRU *              THIS SHOULD NEVER HAPPEN                              05444
22024     0755771        SPB RELIN   2      RELINQUISH DISK, SO WE CAN GET IT LATER               05445
22025     1062312        DLD .BLII.  3      GET ENTRY                                             05446
22026     2504005        XAQ                                                                      05447
22027     0754217        SPB INSERT  2      AND INSERT IN TABLE                                   05448
22030     0317001        STA BILIN          AND SAVE                                              05449
                                                                                                  05450
                                                                                                  05451
22031     0757502  BILLB SPB TREQB   2      NORMAL RUNNING ROUTINE                                05452
22032     2500120        SEL 1              WRITE END OF FILE ON ZERO                             05453
22033     0200000        WEF         0                                                            05454
22034     0100000
```

BILLING MASTER PACK

```
22035  0000000          OCT 0                  RETURN FLAG                    05455
22036  0757502          SPB TREQR   2          AND REWIND 6                   05456
22037  2500120          SEL 1                                                 05457
22040  2000000          RWD         6                                         05458
22041  2400000
22042  0000000  BILRW   OCT 0                  FLAG FOR COMPLETION            05459
22043  2504102          LMO                    RESET SOME INDICATORS          05460
22044  0300130          STA PERIN                                             05461
22045  0300100          STA IN                                                05462
22046  0000150          LDA CMESS              SET CMESS TO INDICATE BILLING IN 05463
22047  0100317          ADD FOUR                                              05464
22050  0300150          STA CMESS                                             05465
22051  0742307          SPB BEXEC   2          EXIT AND RETURN                05466
22052  0062042          LDA BILRW   3          TO CHECK IF REWIND OF 6 DONE   05467
22053  2514002          BZE                                                   05468
22054  2620002          BRU 2       1          NO, SO EXIT                    05469
22055  2514123          BCS BRW     1          WAIT FOR REWIND                05470
22056  2620002          BRU 2       1                                         05471
22057  0757502          SPB TREQR   2          GO REWIND ZERO                 05472
22060  2500120          SEL 1                                                 05473
22061  2000000          RWD         0                                         05474
22062  0100000
22063  0000000          OCT 0                                                 05475
22064  0742307  BILSUM  SPB BEXEC   2          RESET SUMMARY                  05476
22065  0754212          SPB IRASE   2                                         05477
22066  0755464          SPB DSKB    2                                         05478
22067  0755560          SPB DSKOP   2          READ IN SUMMARY                05479
22070  1200001          Z12 1                                                 05480
22071  0000600          DEC FCLOCK                                            05481
22072  0000402          OCT 402                                               05482
22073  2504012          NOP                                                   05483
22074  2504002          LDZ                    RESET FIRST WORD               05484
22075  0300600          STA FCLOCK                                            05485
22076  0755560          SPB DSKOP   2          REWRITE SUMMARY                05486
22077  3700001          Z37 1                                                 05487
22100  0000600          DEC FCLOCK                                            05488
22101  0000402          OCT 402                                               05489
22102  2504012          NOP                                                   05490
22103  1062312          DLD .BLII.  3          RESTORE BILLING                05491
22104  2504005          XAQ                                                   05492
22105  0754217          SPB INSERT  2                                         05493
22106  0317001          STA BILIN                                             05494
22107  0755771          SPB RELIN   2          DONE WITH DISK                 05495
22110  0757502  BLSRCH  SPB TREQR   2          GO SEARCH FOR END OF MASTER    05496
22111  2500120          SEL 1                                                 05497
22112  0513300          RTR BIN1    6          READ IN RECORD                 05498
22113  2400000              0                  BUT NOT MUCH                   05499
22114  0000000          OCT 0                  FLAG WORD                      05500
22115  0742307          SPB BEXEC   2          EXIT AND WAIT                  05501
22116  0062114          LDA BLSRCH+43          CHECK FLAG ON READ             05502
22117  2514002          BZE                                                   05503
```

BILLING MASTER PACK

```
22120  2620002          BRU 2       1        CRUMP IF NOT DONE YET                    05504
22121  2510002          SRA 2                CHECK FOR EOF                            05505
22122  2516000          BEV                                                           05506
22123  2602110          BRU BLSRCH           NONE                                     05507
22124  0757502          SPB TREQB   2        NOW BEGIN COPYING 0 ONTO 6               05508
22125  2500120          SEL 1                                                         05509
22126  1600000          BKW         6        BACKSPACE SIX OVER EOF                   05510
22127  2400000
22130  0000000          OCT 0                                                         05511
22131  0742307          SPB REXEC   2        EXIT AND WAIT                            05512
22132  0062130          LDA *-2     3        CHECK FLAG                               05513
22133  2514002          BZE                                                           05514
22134  2620002          BRU 2       1        EXIT                                     05515
22135  0062063          LDA BILSUM-13        CHECK FLAG ON THAT OP                    05516
22136  2514002          BZE                                                           05517
22137  2620002          BRU 2       1        CRUMP IFUNATTENDED                       05518
22140  2514123          BCS BRW     1        ELSE WAIT FOR REWIND                     05519
22141  2620002          BRU 2       1                                                 05520
                                                                                     05521
                                                                                     05522
22142  0757502  BILL3   SPB TREQB   2        BEGIN READING AND SEARCH FOR BOO MESSG   05523
22143  2500120          SEL 1                                                         05524
22144  0513300          RTB BIN1    0                                                 05525
22145  0100036              30                                                        05526
22146  0000000          OCT 0                                                         05527
22147  0742307          SPB REXEC   2        EXIT AND WAIT                            05528
22150  0062146          LDA BILL3+4 3                                                 05529
22151  2514002          BZE                  CHECK FLAG                               05530
22152  2620002          BRU 2       1        EXIT IF NOT YET DONE                     05531
22153  1013300          DLD BIN1             ELSE CHECK FOR MESSAGE                   05532
22154  1262314          DSU BOO1    3                                                 05533
22155  2514002          BZF                  FIRST WORD ZERO                          05534
22156  2504005          XAQ                  CHECK SECOND                             05535
22157  2516002          BNZ                  EITHER NON-ZERO                          05536
22160  2602142          BRU BILL3            KEEP AT IT                               05537
                                                                                     05538
                                                                                     05539
                        BILL4 READS IN RECORDS FROM THE BILLING                      05540
                        SCRATCH TAPE, DISCARDSA ALL DEBUGGING INFO,                  05541
                        THEN PACKS THE GOOD RECORDS IN 20 RECORD                     05542
                        BLOCKS WHICH GET WRITTEN ONTO THE PACKED                     05543
                        BILLING TAPE, ON 6                                           05544
                                                                                     05545
                                                                                     05546
                                                                                     05547
22161  0062316  BILL4   LDA BIN2    3        GET ADDRESS                              05548
22162  0620276          LDX ZERO    1        AND INITIALIZE COUNTER                   05549
22163  1737000          STX BINF    1        SAVE                                     05550
22164  2602167          BRU *+3              AND SKIP FIRST PART                      05551
                                                                                     05552
                                                                                     05553
```

BILLING MASTER PACK

```
22165  0062320  BILL5  LDA BIN      3        GET ADDRESS                                  05554
22166  0162317         ADD B24      3        STEP IT                                      05555
22167  0362320         STA BIN      3        AND SAVE                                     05556
22170  2762173         STO *+3      3        +ND SET IN CALL                              05557
22171  0757502         SPB TREQB    2        READ TAPE ZERO                               05558
22172  2500120         SEL 1                                                             05559
22173  0500000         RTB --       0        CONSTRUCTED                                  05560
22174  0100030             24                                                            05561
22175  0000000         OCT 0                 FLAG WORD                                    05562
22176  0742307         SPB BEXEC    2        EXIT AND WAIT                                05563
22177  0062175         LDA *-2      3                                                     05564
22200  2514002         BZE                   EXIT IF NOT DONE                             05565
22201  2620002         BRU 2        1                                                     05566
22202  2510002         SRA 2                                                             05567
22203  2514000         BOD                   CHECK FOR END OF FILE                        05568
22204  2602231         BRU BILL8             FOUND, SO END NEAR                           05569
22205  0062320         LDA BIN      3        GET ADDRESS                                  05570
22206  0300202         STA Z2                SET IN REGISTER                              05571
22207  0040030         LDA 24       2        GET RESIDUE WORD                             05572
22210  2516002         BNZ                   AND CHECK FOR GREATER OR LESS                05573
22211  2602171         BRU BILL5+4           CRUMP IF NOT 24 WORDS                        05574
22212  0637000         LDX BINF     1        GET COUNTER                                  05575
22213  1420001         INX 1        1        STEP IT                                      05576
22214  1737000         STX BINF     1        AND SAVE                                     05577
22215  0437754         BXL 20       1        CHECK FOR 20                                 05578
22216  2602165         BRU BILL5             NO, SO GO BACK AND READ SOME MORE            05579
22217  0757500         SPB TREQST   2        THIS TIME CHECK FOR ERRORS                   05580
22220  2500120         SEL 1                                                             05581
22221  0313300         WTB BIN1     6        WRITE MANY RECORDS                           05582
22222  2400740             480                                                           05583
22223  0000000         OCT 0                                                             05584
22224  0742307         SPB BEXEC    2        EXIT AND WAIT                                05585
22225  0062223         LDA *-2      3        NOW WAIT                                     05586
22226  2514002         BZE                                                               05587
22227  2620002         BRU 2        1        AND EXIT IF NOT DONE                         05588
22230  2602161         BRU BILL4             RESTART SEQUENCE ELSE                        05589
                                                                                         05590
                                                                                         05591
                                                                                         05592
22231  0757502  BILL8  SPB TREQB    2        WRAPUP OPERATION                             05593
22232  2500120         SEL 1                                                             05594
22233  2000000         RWD          0        REWIND ZERO                                  05595
22234  0100000
22235  0000000         OCT 0                 FLAG WORD                                    05596
22236  0017000         LDA BINF              GET LAST USED ADDRESS COUNTER                05597
22237  2514002         BZE                   CHECK FOR NONE WRITTEN THIS TIME             05598
22240  2602252         BRU BILL9             EOF CAME FIRST, SO EXIT                      05599
22241  2504006         MAQ                                                               05600
22242  1562317         MPY B24      3        ELSE GET NUMBER OF WORDS LEFT                05601
22243  2504001         LAQ                   PICK THEM UP                                 05602
22244  2762250         STO *+4      3        AND PUT AWAY IN CALL                         05603
```

BILLING MASTER PACK

```
22245  0757500          SPR TREQST  2        AND WIRTE ON BILLING TAPE LAST TIME   05604
22246  2500120          SEL 1                                                     05605
22247  0313300          WTB BIN1    6                                             05606
22250  2400000              0               CONSTRUCTED                           05607
22251  0000000          OCT 0                                                     05608
                                                                                  05609
22252  0757502  BILL9   SPR TREQB   2        PILE THEM UP                          05610
22253  2500120          SEL 1                                                     05611
22254  0200000          WEF         6        WRITE EOF ON 6                        05612
22255  2400000
22256  0000000          OCT 0                                                     05613
22257  0757502          SPR TREQB   2        AND SOME MORE                         05614
22260  2500120          SEL 1                                                     05615
22261  2000000          RWD         6        REWIND 6                              05616
22262  2400000
22263  0000000          OCT 0                                                     05617
22264  0000150          LDA CMESS                                                 05618
22265  0200317          SUB FOUR             DELETE BILLING FROM ROISTER          05619
22266  0300150          STA CMESS                                                 05620
22267  2516000          REV                  CHECK IF DUMP STILL IN               05621
22270  0757735          SPR TCLOS   2        ELSE CLOSE OUT TAPE                  05622
22271  0637001          LDX BILIN   1        GET ENTRANCE                         05623
22272  0754212          SPR IRASE   2        AND ERASE                            05624
22273  0000150          LDA CMESS            GET AGAIN                            05625
22274  2514002          RZE                  CHECK IF ANY IN                      05626
22275  2614163          BRU ICRUMP           AND TYPE MESSAGE IF NONE             05627
22276  2620002          BRU 2       1        AND EXIT                             05628
                                                                                  05629
                                                                                  05630
                                                                                  05631
22277  1062312  BILLI   DLD .BLII.  3        GET FIRST ENTRY                      05632
22300  2614217          BRU INSERT           AND EXIT                             05633
                                                                                  05634
                                                                                  05635
                                                                                  05636
22301  1737001  BLII    STX BILIN   1        SAVE ENTRY                           05637
22302  0062313          LDA .BLIN.  3        GET USUAL ENTRY                      05638
22303  0320000          STA 0       1        AND SET IN LIST                      05639
22304  2602031          BRU BILLB            AND INITIALIZE OPERATIONS            05640
                                                                                  05641
                                                                                  05642
                                                                                  05643
22305  0657002  BLIN    LDX BPOIN   2        GET EXIT POINT                       05644
22306  2640001          BRU 1       2        AND GET GOING                        05645
                                                                                  05646
                                                                                  05647
22307  1757002  BEXEC   STX BPOIN   2        SAVE EXIT POINT                      05648
22310  0637001          LDX BILIN   1        AND GET ENTRY POINT                  05649
22311  2640001          BRU 1       2        AND EXIT                             05650
                                                                                  05651
                                                                                  05652
```

BILLING MASTER PACK

```
                                                                                05653
 22312  0722301   .BLII. SPR BLII    1      BILL INITIALIZER                     05654
 22313  0722305   .BLIN. SPR BLIN    1      REGULAR BILLING ENTRY                05655
 22314  2606060   B001   OCT 2606060       SPECIAL CHECK CONSTANT               05656
 22315  0557755          OCT 557755                                             05657
 22316  0013300   BIN2   DEC BIN1          BUFFER ADDRESS                       05658
 22317  0000030   B24    DEC 24                                                 05659
          22320   BIN    BSS 1             ADDRESS                              05660
                                                                                05661
                                                                                05662
          17000          ORG BILTMP        TEMPORARY STORAGE                    05663
          17000   BINF   BSS 1             COUNTER                              05664
          17001   BILIN  BSS 1             ENTRY POINT SAVE                     05665
          17002   BPOIN  BSS 1             EXIT POINTER                         05666
                                                                                05667
                                                                                05668
                                                                                05669
          06000          ORG K2AREA        FUDGE ROUTINE                        05670
 06000  0037012          DEC EXCV+10                                            05671
 06001  3777012          DEC -502                                               05672
 06002  1006000   BILMOV DLD *-2           MOVE BILLING ROUTINE UP SO CAN WRITE ON DISK 05673
 06003  2422012          MOV BILLA                                              05674
 06004  2601574          BRU LOVWRT        AND TRANSFER                         05675
T06002                   TCD BILMOV                                             05676
                                                                                05677
                                                                              STL05678
                                                                              EJT05679
```

CATALOGUE FILES KEY

```
                                                                                05680
                                    CATALOGUE FILES KEY.                        05681
                                                                                05682
                                    CONTAINS IN ADDITION CERTAIN LABELS FOR THE 05683
                                    DUMP AND LOAD ROUTINES.                     05684
                                    THIS OVERLAY IS READ IN BY THE CATALOGUE    05685
                                    INTO 20000                                  05686
                                                                                05687
                                                                                05688
                                                                                05689
          01670          ORG PERNUM      SPECIAL OVERLAY CALLED BY DUMP AND CATALOGUE 05690
01670     0000012        DEC 10                                                  05691
01671     0000447        DEC KEY                                                 05692
                                                                                05693
                                                                                05694
                                                                                05695
          20000          ORG CKEY                                              05696
                                    KEY TO THE CATALOG                          05697
                                    DISK 1                                      05698
20000     0061400        OCT 061400                                            05699
20001     0061440        OCT 061440                                            05700
20002     0061500        OCT 061500                                            05701
20003     0061540        OCT 061540                                            05702
20004     0061600        OCT 061600                                            05703
20005     0061640        OCT 061640                                            05704
                                                                                05705
                                    DISK 2                                      05706
20006     0121400        OCT 121400                                            05707
20007     0121440        OCT 121440                                            05708
20010     0121500        OCT 121500                                            05709
20011     0121540        OCT 121540                                            05710
20012     0121600        OCT 121600                                            05711
20013     0121640        OCT 121640                                            05712
                                                                                05713
                                    DISK 3                                      05714
20014     0161400        OCT 161400                                            05715
20015     0161440        OCT 161440                                            05716
20016     0161500        OCT 161500                                            05717
20017     0161540        OCT 161540                                            05718
20020     0161600        OCT 161600                                            05719
20021     0161640        OCT 161640                                            05720
                                                                                05721
                                    DISK 4                                      05722
20022     0221400        OCT 221400                                            05723
20023     0221440        OCT 221440                                            05724
20024     0221500        OCT 221500                                            05725
20025     0221540        OCT 221540                                            05726
20026     0221600        OCT 221600                                            05727
20027     0221640        OCT 221640                                            05728
                                                                                05729
                                    DISK 5                                      05730
```

CATALOGUE FILES KEY

```
20030  0261400          OCT 261400                                  05731
20031  0261440          OCT 261440                                  05732
20032  0261500          OCT 261500                                  05733
20033  0261540          OCT 261540                                  05734
20034  0261600          OCT 261600                                  05735
20035  0261640          OCT 261640                                  05736
                                                                    05737
                                                DISK 6              05738
20036  0321400          OCT 321400                                  05739
20037  0321440          OCT 321440                                  05740
20040  0321500          OCT 321500                                  05741
20041  0321540          OCT 321540                                  05742
20042  0321600          OCT 321600                                  05743
20043  0321640          OCT 321640                                  05744
                                                                    05745
                                                DISK 7              05746
20044  0361400          OCT 361400                                  05747
20045  0361440          OCT 361440                                  05748
20046  0361500          OCT 361500                                  05749
20047  0361540          OCT 361540                                  05750
20050  0361600          OCT 361600                                  05751
20051  0361640          OCT 361640                                  05752
                                                                    05753
                                                DISK 8              05754
20052  0421400          OCT 421400                                  05755
20053  0421440          OCT 421440                                  05756
20054  0421500          OCT 421500                                  05757
20055  0421540          OCT 421540                                  05758
20056  0421600          OCT 421600                                  05759
20057  0421640          OCT 421640                                  05760
                                                                    05761
                                                DISK 9              05762
20060  0461400          OCT 461400                                  05763
20061  0461440          OCT 461440                                  05764
20062  0461500          OCT 461500                                  05765
20063  0461540          OCT 461540                                  05766
20064  0461600          OCT 461600                                  05767
20065  0461640          OCT 461640                                  05768
                                                                    05769
                                                DISK 10             05770
20066  0521400          OCT 521400                                  05771
20067  0521440          OCT 521440                                  05772
20070  0521500          OCT 521500                                  05773
20071  0521540          OCT 521540                                  05774
20072  0521600          OCT 521600                                  05775
20073  0521640          OCT 521640                                  05776
                                                                    05777
                                                DISK 11             05778
20074  0561400          OCT 561400                                  05779
20075  0561440          OCT 561440                                  05780
20076  0561500          OCT 561500                                  05781
```

CATALOGUE FILES KEY

```
20077  0561540          OCT 561540
20100  0561600          OCT 561600
20101  0561640          OCT 561640

                                      DISK 12
20102  0621400          OCT 621400
20103  0621440          OCT 621440
20104  0621500          OCT 621500
20105  0621540          OCT 621540
20106  0621600          OCT 621600
20107  0621640          OCT 621640

                                      DISK 13
20110  0661400          OCT 661400
20111  0661440          OCT 661440
20112  0661500          OCT 661500
20113  0661540          OCT 661540
20114  0661600          OCT 661600
20115  0661640          OCT 661640

                                      DISK 14
20116  0721400          OCT 721400
20117  0721440          OCT 721440
20120  0721500          OCT 721500
20121  0721540          OCT 721540
20122  0721600          OCT 721600
20123  0721640          OCT 721640

                                      DISK 15
20124  0761400          OCT 761400
20125  0761440          OCT 761440
20126  0761500          OCT 761500
20127  0761540          OCT 761540
20130  0761600          OCT 761600
20131  0761640          OCT 761640

                                      EXTRA CATALOGS ON DISK 15
20132  0761000          OCT 761000
20133  0761040          OCT 761040
20134  0761100          OCT 761100
20135  0761140          OCT 761140
20136  0761200          OCT 761200
20137  0761240          OCT 761240

20140  0760400          OCT 760400
20141  0760440          OCT 760440
20142  0760500          OCT 760500
20143  0760540          OCT 760540
20144  0760600          OCT 760600
20145  0760640          OCT 760640
20146  0000000          OCT 0
20147  3777777          DEC -1

                                      END FOR DUMP
                                      END FOR CATALOGUE PRINTOUT
```

CATALOGUE FILES KEY

```
                                                                                05833
                                                                                05834
                                    LABELS FOR DUMP AND LOAD                    05835
                                                                                05836
                                                                                05837
 20150  0000000          DDC 0          INSURE EVEN                            05838
 20151  0000000
          20152          BSS -2                                                05839
          20150  DLAB1   BSS 0          DARTMOUTH COLLEGE TIME-SHARING SYSTEM   05840
 20150  0377777          OCT 377777                                            05841
 20151  0242151          ALF DAR                                               05842
 20152  0634446          ALF TMO        DISK DUMP-LOAD TAPES.  DATE            05843
 20153  0646330          ALF UTH                                               05844
 20154  0602346          ALF  CO                                               05845
 20155  0434325          ALF LLE                                               05846
 20156  0272560          ALF GE                                                05847
 20157  0633144          ALF TIM                                               05848
 20160  0254062          ALF E-S                                               05849
 20161  0302151          ALF HAR                                               05850
 20162  0314527          ALF ING                                               05851
 20163  0606270          ALF  SY                                               05852
 20164  0626325          ALF STE                                               05853
 20165  0446024          ALF M D                                               05854
 20166  0316242          ALF ISK                                               05855
 20167  0602464          ALF  DU                                               05856
 20170  0444740          ALF MP-                                               05857
 20171  0434621          ALF LOA                                               05858
 20172  0246063          ALF D T                                               05859
 20173  0214725          ALF APE                                               05860
 20174  0623360          ALF S,                                                05861
 20175  0606037          OCT 606037                                            05862
 20176  0606060  DLAB    ALF                                                   05863
 20177  0606060          ALF                                                   05864
 20200  0606060          ALF                                                   05865
 20201  0606060          ALF                                                   05866
 20202  0606060          ALF                                                   05867
 20203  0375577          OCT 375577                                            05868
 20204  0000000  DLAB5   OCT 0          THIS WORD INDICATES WHICH TAPE IS ON   05869
                                                                                05870
                                                                                05871
 20205  0000000          OCT 0          MUST BE ODD LOCATION                   05872
 20206  0000000          DDC 0                                                 05873
 20207  0000000
          20210          BSS -3                                                05874
          20205  DUMTIM  BSS 0                                                 05875
 20205  0243162          ALF DIS                                               05876
 20206  0426024          ALF K D        DISK DUMP TIME   ETC.                  05877
 20207  0644447          ALF UMP                                               05878
 20210  0336063          ALF . T                                               05879
 20211  0314425          ALF IME                                               05880
 20212  0606060  DLAB2   ALF                                                   05881
```

CATALOGUE FILES KEY

```
                                                                                05882
      20213  0606060          ALF                                              05883
      20214  0603046          ALF  RO                                          05884
      20215  0645162          ALF URS                                          05885
      20216  0373755          OCT 373755                                       05886
                                                                                05887
        20217  T07    BSS 0                PLACE TAPE 2 ON HANDLER 7.  TOGGLE ZERO
      20217  0374743          OCT 374743     ZERO WHEN READY                   05888
      20220  0212325          ALF ACE                                          05889
      20221  0606321          ALF  TA                                          05890
      20222  0472560          ALF PE                                           05891
      20223  0026046          ALF 2 0                                          05892
      20224  0456030          ALF N H                                          05893
      20225  0600733          ALF  7.                                          05894
      20226  0606063          ALF   T                                          05895
      20227  0462727          ALF OGG                                          05896
      20230  0432560          ALF LE                                           05897
      20231  0026066          ALF 2 W                                          05898
      20232  0302545          ALF HEN                                          05899
      20233  0605125          ALF  RE                                          05900
      20234  0212470          ALF ADY                                          05901
      20235  0333755          OCT 333755                                       05902
                                                                                05903
        20236  PS00   BSS 0                  TAPES ON WRONG DENSITY           05904
      20236  0376321          OCT 376321                                       05905
      20237  0472562          ALF PES                                          05906
      20240  0604645          ALF  ON                                          05907
      20241  0606651          ALF  WR                                          05908
      20242  0464527          ALF ONG                                          05909
      20243  0602425          ALF  DE                                          05910
      20244  0456231          ALF NSI                                          05911
      20245  0637033          ALF TY.                                          05912
      20246  0375577          OCT 375577                                       05913
                                                                                05914
                                                                                05915
                                  FUDGE ROUTINE TO MOVE OVERLAY UP              05916
                                                                                05917
                                                                                05918
        06000          ORG K2AREA                                              05919
      06000  0037000          DEC EXECOV                                       05920
      06001  3777000          DEC -512                                         05921
      06002  1006000  FILMOV  DLO *-2                                         05922
      06003  2420000          MOV CKEY       AND MOVE                          05923
      06004  2601574          BRU LOVWRT     NOW WRITE ON DISK                 05924
    T06002                    TCD FILMOV                                       05925
                                                                                05926
                                                                              STL05927
                                                                              EJT05928
```

DISK LOAD

```
                                                                                                                    05929
                                                                                                                    05930
                01670           ORG PERNUM                                                                          05931
01670   0000014                 DEC 12                                                                              05932
01671   0000474                 DEC LOA                                                                             05933
                                                                                                                    05934
                                                                                                                    05935
                                                                                                                    05936
                                                TIME-SHARING DISK LOAD.  THIS ROUTINE EX-                           05937
                                                PECTS EACH RECORD ON THE TAPE TO HAVE TWO                           05938
                                                CODE WORDS AT THE BEGINNING, WITH THE                               05939
                                                FOLLOWING INFORMATION                                               05940
                                                                                                                    05941
                                                   WORD 1 - DISK ADDRESS                                            05942
                                                   WORD 2 - LENGTH (MOD 64)                                         05943
                                                                                                                    05944
                                                                                                                    05945
                                                      TAPE ONE OF THE LOAD SET MUST BE                              05946
                                                MOUNTED ON HANDLER 3.  THE TAPE WILL BE                             05947
                                                TRANSFERRED TO THE DISK UNTIL AND END OF                            05948
                                                FILE IS SENSED, AT WHICH POINT THE LOAD                             05949
                                                TERMINATES.  IF AN EOT IS SENSED BEFORE THE                         05950
                                                EOF IS REACHED, THE PROGRAM WILL ASK TO HAVE                        05951
                                                THE SECOND TAPE FROM THE LOAD SET MOUNTED                           05952
                                                ON HANDLER # 7.                                                     05953
                                                      THE FIRST TAPE MUST HAVE THE CORRECT                          05954
                                                LABEL WRITTEN ON IT BY THE DUMP ROUTINE AND                         05955
                                                THE LAST WORD OF THIS MUST BE NEGATIVE, FOR                         05956
                                                SECOND TAPE, THE LABEL IS THE SAME BUT THE                          05957
                                                CODE WORD IS ZERO.                                                  05958
                                                                                                                    05959
                                                MEMORY LAYOUT IS THE SAME AS FOR THE DUMP                           05960
                                                ROUTINE                                                             05961
                                                                                                                    05962
                37000           ORG EXECOV                                                                          05963
                                                                                                                    05964
                                                                                                                    05965
37000   0000316                 LDA THREE               ASK FOR TIME COUNT STOP                                     05966
37001   0756430                 SPB SPMESS  2                                                                       05967
37002   0000321                 LDA SIX                 ASK FOR OFF                                                 05968
37003   0756430                 SPB SPMESS  2                                                                       05969
37004   0000434                 LDA WAIT1               RESET COUNTER                                               05970
37005   0300127                 STA PCT                                                                             05971
37006   0756330                 SPB MESSG   2           ACKNOWLEDGE                                                 05972
37007   0000541                 DEC PCR                                                                             05973
37010   0755464                 SPB DSKB    2           ASK FOR DISK                                                05974
37011   0755560                 SPB DSKOP   2                                                                       05975
37012   1200003                 Z12 3                   AND READ IN TAPE SUBROUTINE                                 05976
37013   0037500                 DEC TREQST                                                                          05977
37014   2000524                 Z20 TAP+2               INDIRECT TO DISK ADDRESS                                    05978
37015   2617015                 BRU *                                                                               05979
```

DISK LOAD

```
37016  0755771          SPB RELIN   2        RELINQUISH DISK                05980
37017  0757500          SPB TREQST  2        NOW REWIND 3                   05981
37020  2500120          SEL 1                                               05982
37021  2000000          RWD         3                                       05983
37022  1000000
37023  0000000  LCRWD   OCT 0               FLAG WORD                      05984
37024  1077256          DLD .LINK.  3        SET UP LINKAGE                 05985
37025  0754217          SPB INSERT  2                                       05986
37026  0300062          STA LCLIST           SAVE ENTRY POINT               05987
37027  1077260          DLD LD3     3        DATE MOVE CONSTANT             05988
37030  2400241          MOV SDATE+1                                         05989
37031  2504102          LMO                  RESET VARIOUS INDICATORS       05990
37032  0300100          STA IN                                              05991
37033  0300130          STA PERIN                                           05992
37034  0756472          SPB TIME    2        GET TIME                       05993
37035  1377306          DST LD2     3        AND SET IN MESSAGE             05994
37036  0756330          SPB MESSG   2        TYPE HEADING LINE              05995
37037  0037271          DEC LDM                                             05996
37040  0757251          SPB LEXEC   2        EXIT AND WAIT                  05997
37041  0077023          LDA LCRWD   3        WAIT FOR REWIND TO FINISH      05998
37042  2514002          BZE                                                 05999
37043  2620002          BRU 2       1                                       06000
37044  2514123          BCS BRW     1                                       06001
37045  2620002          BRU 2       1        EXIT IF ALL NOT OK             06002
37046  0757500          SPB TREQST  2        READ IN LABEL                  06003
37047  2500120          SEL 1                                               06004
37050  0511200          RTB LTAP    3                                       06005
37051  1000036              30                                              06006
37052  0000000          OCT 0                                               06007
37053  0757251          SPB LEXEC   2        EXIT AND WAIT                  06008
37054  0077052          LDA *-2     3        WAIT FOR LABEL TO COME IN      06009
37055  2514002          BZE                                                 06010
37056  2620002          BRU 2       1        EXIT IF NOT                    06011
37057  0640276          LDX ZERO    2        PREPARE TO COMPARE LABELS      06012
37060  1051200          DLD LTAP    2        CHECK LABEL OUT                06013
37061  2277314          DCB LABL    3                                       06014
37062  2617230          BRU LDERR                                           06015
37063  2617065          BRU *+2                                             06016
37064  2617230          BRU LDERR            NO MATCH                       06017
37065  1440002          INX 2       2        STEP POINTERS                  06018
37066  1460002          INX 2       3                                       06019
37067  0477754          BXL 20      3        COUNT                          06020
37070  2617060          BRU *-8                                             06021
37071  0660337          LDX 8X      3        RESTORE REGISTER               06022
37072  0011234          LDA LTAP1            GET CODE WORD                  06023
37073  2516001          BPL                                                 06024
37074  2617230          BRU LDERR            ALL OVER IF PLUS               06025
37075  0756330          SPB MESSG   2        TYPE MESSAGE                   06026
37076  0011200          DEC LTAP             TYPE OUT LABEL                 06027
37077  0757500          SPB TREQST  2        AND READ TAPE                  06028
37100  2500120          SEL 1                                               06029
```

DISK LOAD

```
37101  0523076          RTB LCR1    3        READ IN FIRST RECORD                          06030
37102  1004002              2050             MANY WORDS...                                 06031
37103  0000000          OCT 0                COMPLETION INDICATOR                          06032
37104  0757251          SPR LEXEC   2        EXIT AND RETURN                               06033
37105  0077103          LDA *-2     3                                                      06034
37106  2514002          BZE                                                                06035
37107  2620002          BRU 2       1                                                      06036
37110  1077262          DLD LDAR3   3        READY, SO GET BUFFER ADDRESSES                06037
37111  1300060          DST LCBUF                                                          06038
37112  2504022          LDO                                                                06039
37113  0300112          STA DSTAKF           INHIBIT RELINQUISHES                          06040
                                                                                           06041
                                                                                           06042
                                                                                           06043
37114  1000060  LLOOPA  DLD LCBUF            GET AREAS                                     06044
37115  2504005          XAQ                 SWITCH THEM                                   06045
37116  1300060          DST LCBUF           AND SAVE                                      06046
37117  0077125          LDA LCREAD+23       GET INSTRUCTION                               06047
37120  2000350          EXT MASK11          GET RID OF ADDRESS                            06048
37121  0100060          ADD LCBUF           ADD NEW ADDRESS                               06049
37122  0377125          STA LCREAD+23                                                      06050
37123  0757500  LCREAD  SPB TREQST  2        NOW READ AGAIN                                06051
37124  2500120          SEL 1                                                              06052
37125  0500000          RTB --      3        CONSTRUCTED                                   06053
37126  1004002              2050                                                           06054
37127  0000000          OCT 0                COMPLETION INDICATOR                          06055
37130  0757251          SPR LEXEC   2                                                      06056
37131  0077127          LDA LCREAD+43       WAIT FOR TAPE                                 06057
37132  2514002          BZE                                                                06058
37133  2620002          BRU 2       1        EXIT IF NOT READY                             06059
37134  2511002          SRD 2               NOW CHECK FOR EOF                             06060
37135  2514000          BOD                                                                06061
37136  2617232          BRU LCEND           CRUMP IF SO                                   06062
37137  2512201          SLD 1               ELSE CHECK FOR EOT                            06063
37140  2514000          BOD                                                                06064
37141  2617160          BRU LSWTCH          GO SWITCH TAPES IF SO                         06065
37142  0077267          LDA LFILA+3 3       WAIT FOR LAST DISK OPERATION TO FINISH        06066
37143  2514002          BZE                                                                06067
37144  2620002          BRU 2       1        NOT DONE                                      06068
37145  0640060          LDX LCBUF   2        GET ADDRESS                                   06069
37146  0040000          LDA 0       2        AND PICK UP CODE WORDS                        06070
37147  0377266          STA LFILA+2 3        AND SET IN PARAMETER LIST                     06071
37150  0040001          LDA 1       2        GET NUMBER OF WORDS                           06072
37151  2777264          STO LFILA   3        AND SET IN FILE PARAMETER LIST                06073
37152  1440002          INX 2       2        STEP ADDRESS                                  06074
37153  0000202          LDA Z2              GET IT                                        06075
37154  0377265          STA LFILA+1 3        AND SET IN PARAMETER LIST                     06076
37155  0756052          SPR DRAMB   2        NOW USE DISK                                  06077
37156  0037264          DEC LFILA           AND WRITE OUT PREVIOUS RECORD                 06078
37157  2617114          BRU LLOOPA          KEEP GOING ELSE                               06079
                                                                                           06080
```

DISK LOAD

```
                                                                                    06081
                                                                                    06082
 37160  0756330  LSWTCH SPB MESSG   2          TYPE MESSAGE                        06083
 37161  0037342         DEC L07                                                    06084
 37162  0757500         SPB TREQST  2          NOW REWIND 3                        06085
 37163  2500120         SEL 1                                                      06086
 37164  2000000         RWD         3                                              06087
 37165  1000000
 37166  0000000         OCT 0                  FLAG                                06088
 37167  0757251         SPB LEXEC   2          EXIT AND WAIT ON SWITCH 2           06089
 37170  2504002         LDZ                                                        06090
 37171  2500011         RCS                                                        06091
 37172  2512002         SLA 2                  CHECK 2                             06092
 37173  2516003         BNO                                                        06093
 37174  2620002         BRU 2       1          IF NIT DOWN, EXIT                   06094
 37175  0000361         LDA SIGN               SWITCH HANDLERS TO 7                06095
 37176  2377126         ORY LCREAD+33                                              06096
 37177  2377235         ORY LCEND+3 3                                              06097
 37200  0757500         SPB TREQST  2          READ LABEL FROM 7 AND BEWARE CLODS WHO 06098
 37201  2500120         SEL 1                  DONT REWIND TAPES                   06099
 37202  0511200         RTB LTAP    7                                              06100
 37203  3000036             30                                                     06101
 37204  0000000         OCT 0                                                      06102
 37205  0757251         SPB LEXEC   2          EXIT AND WAIT                       06103
 37206  0077204         LDA *-2     3          AND CHECK CODE WORD                 06104
 37207  2514002         BZE                                                        06105
 37210  2620002         BRU 2       1          +NO EXIT IF NOT READY               06106
 37211  0640276         LDX ZERO    2          SET UP FOR LABEL SCAN               06107
 37212  1051200         DLD LTAP    2          CHECK LABELS                        06108
 37213  2277314         DCB LABL    3                                              06109
 37214  2617230         BRU LDERR              NO MATCH                            06110
 37215  2617217         BRU *+2                                                    06111
 37216  2617230         BRU LDERR              NO MATCH                            06112
 37217  1440002         INX 2       2          STEP POINTERS                       06113
 37220  1460002         INX 2       3                                              06114
 37221  0477754         BXL 20      3          COUNT                               06115
 37222  2617212         BRU *-8                                                    06116
 37223  0660337         LDX BK      3          RESTORE REGISTER                    06117
 37224  0011234         LDA LTAP1              CHECK KEY WORD                      06118
 37225  2516002         BNZ                    HAD BETTER BE ZERO                  06119
 37226  2617230         BRU LDERR              NO, SO ERROR                        06120
 37227  2617114         BRU LLOOPA             ELSE GET BACK AND KEEP GOING        06121
                                                                                    06122
                                                                                    06123
                                                                                    06124
 37230  0756330  LDERR  SPB MESSG   2          BAD ERROR, ABORT RUN                06125
 37231  0037363         DEC LW                                                     06126
                                                                                    06127
 37232  0757500  LCEND  SPB TREQST  2          REWIND 3 - OR 7 IF THAT IS THE CASE 06128
 37233  2500120         SEL 1                                                      06129
 37234  2000000         RWD         3                                              06130
```

DISK LOAD

```
37235  1000000
37236  0000000          OCT 0                 COMPLETION INDICATOR                    06131
37237  0757251          SPB LEXEC   2         EXIT AND WAIT                           06132
37240  0077236          LDA *-2     3         ON THE INDICATOR                        06133
37241  2514002          BZE                                                           06134
37242  2620002          BRU 2       1         EXIT IF NOT READY                       06135
37243  0757735          SPB TCLOS   2         JUST TO CLOSE UP TAPE                   06136
37244  1720154          STX OVTSK   1         ERASE TASK TO LINK                      06137
37245  2504002          LDZ                                                           06138
37246  0300112          STA DSTAKF            UNFUDGE                                 06139
37247  0755771          SPB RELIN   2         GIVE DISK BACK                          06140
37250  2614163          BRU ICRUMP            AND CRUMP                               06141
                                                                                      06142
                                                                                      06143
                                                                                      06144
37251  0620062  LEXEC   LDX LCLIST  1         GET ENTRY POINT                         06145
37252  1740063          STX LCPOIN  2         *ND SAVE EXIT                           06146
37253  2640001          BRU 1       2         NOW GET RIGHT BACK                      06147
                                                                                      06148
                                                                                      06149
                                                                                      06150
37254  0640063  LINK    LDX LCPOIN  2         GET EXIT POINT                          06151
37255  2640001          BRU 1       2         AND RETURN                              06152
                                                                                      06153
                                                                                      06154
                                                                                      06155
                                                                                      06156
                                                                                      06157
37256  0737254  .LINK.  SPB LINK    1         ENTRANCE LINKAGE                        06158
37257  3777777          DEC -1                                                       06159
37260  0037277  LD3     DEC LD1               DATE MOVE CONSTANT                      06160
37261  3777773          DEC -5                                                       06161
37262  0023076  LDAR3   DEC LCR1              BUFFER AREAS                            06162
37263  0027176          DEC LCR2                                                     06163
                                                                                      06164
                                                                                      06165
37264  3700040  LFILA   Z37 32                DISK PARAMETER LIST                     06166
37265  0023100          DEC LCR1+2            MEMORY ADDRESS                          06167
37266  0000000          OCT 0                 DISK ADDRESS                            06168
37267  0000001          OCT 1                 FLAG WORD                               06169
                                                                                      06170
                                                                                      06171
                                                                                      06172
37270  0000000          OCT 0                 MAKE SURE IS ODD                        06173
37272  0000000          DDC 0                                                        06174
37273  0000000
         37274          BSS -3                                                       06175
37271  0377777  LDM     OCT 377777            LDM MUST BE ODD  $$$$$$$$$$$$$$$$$$$$  06176
37272  0243162          ALF DIS                                                      06177
37273  0426043          ALF K L                                                      06178
37274  0462124          ALF OAD                                                      06179
```

DISK LOAD

```
37275  0336060          ALF .                                          06180
37276  0606060          ALF                                            06181
37277  0606060  LD1     ALF                                            06182
37300  0606060          ALF                                            06183
37301  0606060          ALF                                            06184
37302  0606060          ALF                                            06185
37303  0606060          ALF                                            06186
37304  0606063          ALF   T                                        06187
37305  0314425          ALF IME                                        06188
37306  0606060  LD2     ALF                                            06189
37307  0606060          ALF                                            06190
37310  0603046          ALF  HO                                        06191
37311  0645162          ALF URS                                        06192
37312  0373755          OCT 373755                                     06193
                                                                       06194
    37314       LABL    BSS 0          LABL MUST BE EVEN  $$$$$$$$$$$$$$$$$$$$  06195
37314  0377777          OCT 377777                                     06196
37315  0242151          ALF DAR                                        06197
37316  0634446          ALF TMO                                        06198
37317  0646330          ALF UTH                                        06199
37320  0602346          ALF  CO                                        06200
37321  0434325          ALF LLE                                        06201
37322  0272560          ALF GE                                         06202
37323  0633144          ALF TIM                                        06203
37324  0254062          ALF E-S                                        06204
37325  0302151          ALF HAR                                        06205
37326  0314527          ALF ING                                        06206
37327  0606270          ALF  SY                                        06207
37330  0626325          ALF STE                                        06208
37331  0446024          ALF M D                                        06209
37332  0316242          ALF ISK                                        06210
37333  0602464          ALF  DU                                        06211
37334  0444740          ALF MP-                                        06212
37335  0434621          ALF LOA                                        06213
37336  0246063          ALF D T                                        06214
37337  0214725          ALF APE                                        06215
37340  0623360          ALF S.                                         06216
37341  0606037          OCT 606037                                     06217
                                                                       06218
    37342       LO7     BSS 0          PUT TAPE 2 ON HANDLER 7.  TOGGLE 0  06219
37342  0377777          OCT 377777     WHEN READY.                     06220
37343  0476463          ALF PUT                                        06221
37344  0606321          ALF  TA                                        06222
37345  0472560          ALF PE                                         06223
37346  0636646          ALF TWO                                        06224
37347  0464560          ALF ON                                         06225
37350  0302145          ALF HAN                                        06226
37351  0244325          ALF DLE                                        06227
37352  0516007          ALF R 7                                        06228
37353  0336063          ALF . T                                        06229
                                                                       06230
```

DISK LOAD

```
 37354  0462727          ALF OGG                                          06231
 37355  0432560          ALF LE                                           06232
 37356  0026066          ALF 2 W                                          06233
 37357  0302545          ALF HEN                                          06234
 37360  0605125          ALF  RE                                          06235
 37361  0212470          ALF ADY                                          06236
 37362  0333755          OCT 333755                                       06237
                                                                          06238
 37363  0665146  LW      ALF WRO                                          06239
 37364  0452760          ALF NG                                           06240
 37365  0632147          ALF TAP                                          06241
 37366  0253337          OCT 253337                                       06242
 37367  0375577          OCT 375577                                       06243
                                                                          06244
                         ************************************************ 06245
                         DO NOT GO ABOVE 37500--TAPE SUB. OVERLAY         06246
                         ************************************************ 06247
                                                                          06248
                                                                          06249
                                                                          06250
    00060                ORG TA          LEAVE TAPE SOME ROOM - TEMPORARY STORAGE 06251
    00060  LCBUF  BSS 2                  BUFFER FLIP-FLOPS                06252
    00062  LCLIST BSS 1                  ENTRY SAVE                       06253
    00063  LCPOIN BSS 1                  EXIT SAVE                        06254
T01574              TCD LOVWRT                                           06255
                                                                         06256
                                                                        STL06257
                                                                        EJT06258
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
                                                                        06259
      TREQST IS A TAPE OPERATIONS ROUTINE                               06260
THAT MAY BE CALLED FROM EITHER API OR NON-                              06261
API ROUTINES.  RETURN IS IMMEDIATE, AND A FLG                           06262
WILL BE SET IN THE LAST WORD OF THE CALLING                             06263
SEQUENCE TO INDICATE COMPLETION.  NON-API                               06264
SYSTEMS USING IT MUST DO A *SET PBK* BEFORE                             06265
ENTERING AND A *SET PST* AFTER CONTROL IS                               06266
RETURNED TO THEM.                                                       06267
      AS MANY AS SIX REQUESTS WILL BE                                   06268
STACKED UP AT ONE TIME, AND THE OPERATIONS                              06269
WILL BE EXECUTED IN THE ORDER THAT THEY ARE                             06270
RECEIVED.                                                               06271
TREQB IS ENTERED WHEN ERROR CORRECTING IS TO                            06272
BE LEFT UP TO THE PROGRAM.                                              06273
                                                                        06274
CALLING SEQUENCE...                                                     06275
                                                                        06276
A      SPB TREQST,  2                                                   06277
A+1    SEL X              WHERE X IS A PLUG                            06278
A+2    ZZZ YYYY,     H    OP, LOC, HANDLER                             06279
A+3       NNNN            NUMBER OF WORDS                              06280
A+4    ---                COMPLETION INDICATOR                         06281
                                                                        06282
                                                                        06283
      THE FLAG AT *A+4* IS SET ZERO UPON                                06284
ENTRANCE TO THE TAPE ROUTINE, AND IS SET NON-                           06285
ZERO UPON COMPLETION OF AN OPERATION.                                   06286
THE CODES FOR OPERATION COMPLETION ARE                                  06287
AS FOLLOWS...                                                           06288
   1    INDICATES OP SUCCESSFUL                                         06289
   2    INDICATES END OF TAPE SENSED                                    06290
   4    INDICATES END OF FILE SENSED                                    06291
  20    INDICATES AN ERROR WAS ENCOUNTERED                              06292
  40    INDICATES THE REQUEST WAS NOT                                   06293
ACCEPTED BECAUSE THERE WERE TOO MANY                                    06294
REQUESTS STACKED UP. SO TRY LATER                                       06295
                                                                        06296
      UPON SENSING AN ERROR, THE PROGRAM                                06297
ATTEMPTS TO CORRECT IT SEVEN TIMES. IF THE                              06298
CALLING PROGRAM SPECIFIED THAT IT WAS TO DO                             06299
ITS OWN ERROR CORRECTING, THEN NO MORE ACTION                           06300
IS TAKEN, OTHERWISE A CONSOLE TYPEWRITER                                06301
MESSAGE IS TYPED OUT AND ACTION IS LEFT UP                              06302
TO THE OPERATOR.                                                        06303
                                                                        06304
                                                                        06305
        01670          ORG PERNUM                                       06306
01670   0000016        DEC 14                                           06307
01671   0000522        DEC TAP                                          06308
                                                                        06309
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
                37000           ORG EXECOV                                      06310
                37000           BSS 320         SAVE SPACE FOR OTHER ROUTINES   06311
                                                                                06312
37500  2504002  TREQST LDZ                      ERROR CORRECTING TO BE DONE INTERNALLY  06313
37501  2617503         BRU *+2                                                 06314
                                                                                06315
37502  0000360  TREQB  LDA OVFLO                ERROR CORRECTING TO BE DONE BY PROGRAM  06316
37503  0377751         STA TERF    3           SET ERROR FLAG                  06317
37504  0737724         SPB TINIT   1           INITIALIZE ENTRANCE - ELSE LDX TPOIN,1  06318
37505  1420001         INX 1       1           STEP POINTER AND CHECK          06319
37506  0537772         BXH 6       1           FOR WRAPAROUND                  06320
37507  0620337         LDX BK      1           RE-INITIALIZE IF END OF TABLE   06321
37510  0037743         LDA TTAB    1           CHECK NEXT ENTRY                06322
37511  2516002         BNZ                     IF NON-ZERO, THEN TABLE FULL    06323
37512  2617721         BRU TRFUL               TOO MANY REQUESTS STACKED UP    06324
37513  1720054         STX TPOIN   1           SAVE POINTER                    06325
37514  0340004         STA 4       2           RESET FLAG IN CALLING SEQUENCE  06326
37515  1740136         STX TEMP    2           +ND GET CALLER                  06327
37516  0000136         LDA TEMP                                                06328
37517  0177751         ADD TERF    3           ADD ERROR CORRECTING INDICATOR  06329
37520  0337743         STA TTAB    1           AND SET IN TABLE                06330
37521  1440004         INX 4       2           STEP FOR RETURN                 06331
37522  2504202         LAC                     SET TIMER                       06332
37523  0100322         ADD SEVEN                                               06333
37524  0377761         STA TLAPS   3           SET TIMER                       06334
37525  1077752         DLD .TINT.  3           AND GET ENTRY                   06335
37526  2614217         BRU INSERT              AND INSERT IN TASK LIST         06336
                                                                                06337
                                                                                06338
                                                                                06339
37527  0640055  TINT   LDX TXPOIN  2           POINTS TO ENTRY TO BE PROCESSED 06340
37530  0057743         LDA TTAB    2           CHECK IF THIS CORRECT ENTRY     06341
37531  2514001         BMI                     IF NEGATIVE, THEN ERROR CORRECTOR HAS IT  06342
37532  2620002         BRU 2       1           SO PUNT FOR NOW                 06343
37533  1720133         STX RAWT    1           SAVE ENTRNACE POINT             06344
37534  0300202         STA Z2                  GET POINTER TO SPB LIST         06345
37535  0040001         LDA 1       2           GET SELECT INSTRUCTION          06346
37536  0377554         STA TCW     3                                           06347
37537  0040002         LDA 2       2           INSTRUCTION AND MEMORY LOCATIONS  06348
37540  0377555         STA TCW+1   3                                           06349
37541  0040003         LDA 3       2           GET HANDLER # AND LENGTH        06350
37542  0377556         STA TCW+2   3                                           06351
37543  0737645         SPB TTEST   1           TEST FOR TAPE READY             06352
37544  0640055         LDX TXPOIN  2           GET POINTER AGAIN               06353
37545  0000361         LDA SIGN                AND SET SIGN IN TABLE OFR ERROR CORRECTOR  06354
37546  2357743         ORY TTAB    2                                           06355
37547  0000322         LDA SEVEN               IF SO, INITIALIZE ERROR COUNTER 06356
37550  0300056         STA TCNT                                                06357
37551  0620133  TEXEC  LDX RAWT    1           GET ENTRY                       06358
37552  0020001         LDA 1       1           SET ERROR CORRECT ENTRY INTO LIST  06359
37553  0320000         STA 0       1                                           06360
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
                37554   TCW     BSS 1                   AND EXECUTE INSTRUCTIONS - SELECT       06361
                37555           BSS 1                   OP AND LOC                              06362
                37556           BSS 1                   HANDLER NADLENGTH                       06363
   37557  2620002           BRU 2       1                                                       06364
                                                                                                06365
                                                                                                06366
   37560  1720133   TCHK    STX RAWT    1               SAVE ENTRY                              06367
   37561  0737645           SPB TTEST   1               AND CHECK FORREADY                      06368
   37562  2554007           OCT 2554007                 YES, CHECK FOR ERROR                    06369
   37563  2617613           BRU TERCOR                  YES, GO CORRECT                         06370
   37564  0620055   TCCPT   LDX TXPOIN  1               GET EXECUTION POINTER                   06371
   37565  0037743           LDA TTAB    1               AND PICK UP SPB LOCATION                06372
   37566  0300203           STA Z3                      AND LIVE DANGEROUSLY                    06373
   37567  2504002           LDZ                         FREE ENTRY                              06374
   37570  0337743           STA TTAB    1                                                       06375
   37571  2554002           OCT 2554002                 AND THEN FOR END-OF-TAPE                06376
   37572  0100314           ADD TWO                                                             06377
   37573  2554001           OCT 2554001                 CHECK FOR END-OF-FILE                   06378
   37574  0100317           ADD FOUR                                                            06379
   37575  2554007           OCT 2554007                 AND THEN IF 19 TOGGLED                  06380
   37576  0100325           ADD 020                     IF SO, SET BIT 15 ON                    06381
   37577  2514002           BZE                         TEST FOR ALL OK                         06382
   37600  2504022           LDO                         IF SO, SET ODD                          06383
   37601  0360004           STA 4       3               AND SET IN SPB FILE                     06384
   37602  0660337           LDX 8K      3               RESET REGISTER                          06385
   37603  1420001           INX 1       1               STEP POINTER FOR EXECUTION TO NEXT ENTRY 06386
   37604  0537772           BXH 6       1               CHECK FOR WRAPAROUND                    06387
   37605  0620337           LDX 8K      1               YES                                     06388
   37606  1720055           STX TXPOIN  1               AND SAVE EXECUTION POINTER              06389
   37607  0620133           LDX RAWT    1               GET RETURN                              06390
   37610  0640133           LDX RAWT    2                                                       06391
   37611  2506014           OCT 2506014                                                         06392
   37612  2614212           BRU IRASE                   AND ERASE ENTRY                         06393
                                                                                                06394
                                                                                                06395
                                        TERCOR ATTEMPTS TO RETRIEVE AN ERROR SEVEN              06396
                                        TIMES, AFTER WHICH IT TRASNFERS TO TMANY                06397
                                        WITH THE TAPE POSITIONED AFTER THE ERROR                06398
                                                                                                06399
                                                                                                06400
   37613  0000056   TERCOR LDA TCNT                   CHECK ERROR COUNTER                     06401
   37614  2514001          BMI                                                                 06402
   37615  2617671          BRU TMANY                  FIVE TIMES                              06403
   37616  2504112          SBO                                                                 06404
   37617  0300056          STA TCNT                   SAVE IT                                 06405
   37620  0077556          LDA TCW+2   3              GET HANDLER AND NUMBER OF WORDS         06406
   37621  2000350          EXT MASK11                 AND GET RID OF WORD COUNT               06407
   37622  0377635          STA TCWX+1  3              AND STORE                               06408
   37623  0077555          LDA TCW+1   3              GET INSTRUCTION                         06409
   37624  2511020          SRO 16                     AND PREPARE TO CONVERT                  06410
   37625  2514000          ROD                        IF ODD, THEN WRITE COMMAND              06411
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
37626  1000316          OLD THREE              SO PICK UP BKW INSTRUCTION          06412
37627  2511002          SRD 2                                                      06413
37630  2504032          ADO                    FLIP                                06414
37631  2512222          SLD 18                 AND RESTORE                         06415
37632  0377634          STA TCWX    3          AND SET IN STORAGE                  06416
37633  2540000          OCT 2540000            NOW EXECUTE REVERSE INSTRUCTIONS    06417
37634  0000000  TCWX    OCT 0                                                      06418
37635  0000000          OCT 0                                                      06419
37636  0077754          LDA .TERR.  3          ERROR ENTRY                         06420
37637  0620133  TEX1    LDX RAWT    1          GET ENTRY                           06421
37640  0320000          STA 0       1          +ND SET IN LIST                     06422
37641  2620002          BRU 2       1          +ND GET BACK                        06423
                                                                                   06424
                                                                                   06425
37642  1720133  TERR    STX RAWT    1          SAVE ENTRY                          06426
37643  0737645          SPR TTEST   1          +ND CHECK IF READY                  06427
37644  2617551          BRU TEXEC              YES, GO EXECUTE ORIGINAL INSTRUCTIONS 06428
                                                                                   06429
                                                                                   06430
37645  0077554  TTEST   LDA TCW     3          GET SELECT INSTRUCTION              06431
37646  0300202          STA Z2                 AND SET IN REGISTER                 06432
37647  2504202          LAC                    GET CLOCK                           06433
37650  2554000          OCT 2554000            TEST FOR READY                      06434
37651  2617663          BRU *+10                                                   06435
37652  2177761          CAB TLAPS   3          CHECK AGAINST TIMER                 06436
37653  2617661          BRU *+6                OK                                  06437
37654  2617661          BRU *+5                OK                                  06438
37655  0100327          ADD 040                NO, TYPE MESSAGE                    06439
37656  0377761          STA TLAPS   3          RESTORE AND WAIT                    06440
37657  0756330          SPB MESSG   2          TYPE MESSAGE                        06441
37660  0037762          DEC TCNR               TAPE NOT READY                      06442
37661  0620133  TTRET   LDX RAWT    1          GET ENTRANCE                        06443
37662  2620002          BRU 2       1                                              06444
37663  0100322          ADD SEVEN              STEP                                06445
37664  0377761          STA TLAPS   3          SAVE                                06446
37665  0000135          LDA SWFLG              CHECK IF BILLING GOING ON           06447
37666  2514000          BOD                    IFF ODD, THEN ON                    06448
37667  2617661          BRU TTRET              SO CRUMP                            06449
37670  2620001          BRU 1       1          AND GET BACK                        06450
                                                                                   06451
                                                                                   06452
                                   TMANY CHECKS THE ERROR FLAG SET ON ENTRY.       06453
                                   IF BIT 1 IS ON IN THE TABLE ENTRY CORRES-       06454
                                   PONDING TO THE TABLE ENTRY, THE CALLING         06455
                                   PROGRAM WILL DO ITS OWN ERROR CORRECTING.       06456
                                                                                   06457
                                                                                   06458
37671  0620055  TMANY   LDX TXPOIN  1          GET EXECUTION POINTER               06459
37672  0037743          LDA TTAB    1          AND TABLE ENTRY                     06460
37673  2512001          SLA 1                  CHECK BIT 1                         06461
37674  2514003          BOV                                                        06462
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
37675  2617564          BRU TCCPT              IF ON, THEN ACCEPT ERROR AND RETURN          06463
37676  0756330          SPB MESSG   2          ELSE TYPE MESSAGE TO OPERATOR                06464
37677  0037764          DEC TTOG               BAD TAPE ERROR, 2 DOWN TO ACCEPT THEN TOG 1  06465
37700  0077755          LDA .TWT.   3          AND SWITCH ANOTHER ENTRY                     06466
37701  2617637          BRU TEX1               AND GET OUT                                  06467
                                                                                            06468
                                                                                            06469
                                       SWITCH OPTIONS AFTER A TAPE ERROR ARE                06470
                                         1 DOWN TO REWRITE THE RECORD AFTER THE BAD         06471
                                           ONE.                                             06472
                                         2 DOWN TO RETRY                                    06473
                                         BOTH UP TO ACCEPT THE ERROR                        06474
                                       THEN TOGGLE 19                                       06475
37702  1720133  TWT     STX RAWT    1          ERROR CHECK                                  06476
37703  0737645          SPB TTEST   1          WAIT FOR TAPE READY                          06477
37704  2504002          LD7                    CHECK SWITCHES                               06478
37705  2500011          RCS                                                                 06479
37706  2516000          BEV                                                                 06480
37707  2617661          BRU TTRET              19 NOT DOWN SO GET OUT                       06481
37710  2512001          SLA 1                                                               06482
37711  2514003          BOV                                                                 06483
37712  2617551          BRU TEXEC              REWRITE - BUT DO NOT RESET ERROR COUNT       06484
37713  2512001          SLA 1                                                               06485
37714  2516003          BNO                                                                 06486
37715  2617564          BRU TCCPT              ACCEPT                                       06487
37716  0000322          LDA SEVEN              ELSE RESET ERROR COUNTER AND                 06488
37717  0300056          STA TCNT                                                            06489
37720  2617613          BRU TERCOR             TRY AGAIN                                    06490
                                                                                            06491
37721  0000361  TRFUL   LDA SIGN               TOO MANY REQUESTS STACKED UP                 06492
37722  0340004          STA 4       2          RESET FLAG TO INDICATE THIS                  06493
37723  2620005          BRU 5       1          AND CRUMP                                    06494
                                                                                            06495
                                                                                            06496
                                                                                            06497
37724  0000337  TINIT   LDA 8K                 INITIALIZE POINTERS AND ENTRIES              06498
37725  0300054          STA TPOIN                                                           06499
37726  2504032          ADO                    FUDGE FOR FIRST EXECUTION                    06500
37727  0300055          STA TXPOIN                                                          06501
37730  0077756          LDA .TRQR.  3                                                       06502
37731  0375270          STA KBFDG   3          SET IN BILLING                               06503
37732  0077757          LDA .LDX.   3          CLEAR FOR NEXT TIMES                         06504
37733  0320000          STA 0       1          AND SET IN ENTRY POINT                       06505
37734  2620000          BRU 0       1          AND GET BACK TO IT                           06506
                                                                                            06507
                                                                                            06508
                                                                                            06509
37735  0077500  TCLOS   LDA TREQST  3          LDZ                                          06510
37736  0375270          STA KBFDG   3          MAKE BILLING HARMLESS                        06511
37737  0375274          STA KBFDG+4 3                                                       06512
37740  0077760          LDA TSPR    3          AND SET ENTRANCE                             06513
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
37741  0377504          STA  TREQB+2 3                                  06514
37742  2640001          BRU  1       2      GET BACK TO CALLER         06515
                                                                       06516
                                                                       06517
37743  0000000  TTAB    OCT  0              TABLE STACK - 6 ENTRIES    06518
37744  0000000          OCT  0                                         06519
37745  0000000          OCT  0                                         06520
37746  0000000          OCT  0                                         06521
37747  0000000          OCT  0                                         06522
37750  0000000          OCT  0                                         06523
                                                                       06524
                                                                       06525
         37751  TERF    BSS  1              ERROR FLAG INDICATOR       06526
37752  0737527  .TINT.  SPB  TINT    1      INITIAL ENTRY              06527
37753  0737560          SPB  TCHK    1      ERROR CHECKING ENTRY       06528
37754  0737642  .TERR.  SPB  TERR    1      ERROR CORRECT              06529
37755  0737702  .TWT.   SPB  TWT     1      TOGGLE WAIT                06530
37756  0757502  .TRQB.  SPB  TREQB   2      ENTERED WHEN BILLING ON    06531
37757  0620054  .LDX.   LDX  TPOIN   1      USED TO INITIALIZE         06532
37760  0757724  TSPB    SPB  TINIT   2      USED TO CLOSE OUT          06533
         37761  TLAPS   BSS  1              TIMING INTERVAL            06534
                                                                       06535
         37762  TCNR    BSS  0                                        06536
37762  0632147          ALF  TAP            TAPE                       06537
37763  0253755          OCT  253755                                    06538
                                                                       06539
                                                                       06540
         37764  TTOG    BSS  0                                        06541
37764  0376347          OCT  376347         TP 1 DW TO RWR 2 DW TO RTY TOG 19  06542
37765  0600160          ALF   1                                        06543
37766  0246660          ALF  DW                                        06544
37767  0634660          ALF  TO                                        06545
37770  0516651          ALF  RWR                                       06546
37771  0600260          ALF   2                                        06547
37772  0246660          ALF  DW                                        06548
37773  0634660          ALF  TO                                        06549
37774  0516370          ALF  RTY                                       06550
37775  0606346          ALF   TO                                       06551
37776  0276001          ALF  G 1                                       06552
37777  0113755          OCT  113755                                    06553
                                                                       06554
                                                                       06555
                                                                       06556
         00054          ORG  T              TEMPORARY STORAGE          06557
         00054  TPOIN   BSS  1              STACKING POINTER           06558
         00055  TXPOIN  BSS  1              EXECUTION POINTER          06559
         00056  TCNT    BSS  1              TAPE ERROR COUNT           06560
         00057          BSS  1              SPARE FOR REWRITING DUE SHORTLY  06561
                                                                       06562
                                                                       06563
                                                                       06564
```

TAPE OPERATIONS ROUTINE - CALLED BY OVERLAYS

```
                 06000          ORG K2AREA          MOVING PATCH          06565
 06000   0037000                DEC EXECOV                                06566
 06001   3777500                DEC -192                                  06567
 06002   1006000   TAPMOV       DLD *-2                                   06568
 06003   2437500                MOV TREQST                                06569
 06004   2601574                BRU LOVWRT                                06570
T06002                          TCD TAPMOV                                06571
                                                                          06572
                                                                        STL06573
                                                                        EJT06574
```

```
                                                                                                                    06575
                                                NORMAL CALL IS C/T IN WHICH CASE DECIMAL                            06576
                                                CARDS WILL BE WRITTEN ON TAPE FOUR.                                 06577
                                                                                                                    06578
                                                IF IT IS DESIRED TO USE ANY OTHER OPTIONS,                          06579
                                                A HANDLER NUMBER MUST BE GIVEN IMMEDIATELY AF                       06580
                                                AFTER THE C/T, YOU CAN STOP THERE OR READ IN                        06581
                                                BINARY OR FULL MODES.  THESE ARE B AND F                            06582
                                                RESPECTIVELY.                                                       06583
                                                                                                                    06584
                                                THE PROGRAM TERMINATES ON FINDING A QUOTE CAR                       06585
                                                OR HOPPER EMPTY.  DECIMAL NAD FULL QUOTE CARD                       06586
                                                HAVE 0-7-8 PUNCHES IN COLUMNS 1-6. BINARY                           06587
                                                QUOTE CARDS HAVE 0 IN 1 AND 2 AND 0-7-8 IN 3-                       06588
                                                6.  THE PROGRAM THEN WRITES AN EOF.                                 06589
                                                                                                                    06590
                                                IF IT IS DESIRED TO SKIP TO AN EOF ON THE TAP                       06591
                                                TYPE S AT THE END OF THE OPTIONS.  THIS WILL                        06592
                                                STAT WRITING OVER THE EOF.                                          06593
          01670          ORG PERNUM                                                                                 06594
01670     0000020        DEC 16                                                                                     06595
01671     0000516        DEC C/T                                                                                    06596
                                                                                                                    06597
          37000          ORG EXECOV                                                                                 06598
                                                                                                                    06599
                                                                                                                    06600
37000     1077410        DLD CTBUP   3          INITIALIZE BUFFER POINTERS                                          06601
37001     1300060        DST CTBP               IN LOWER MEMORY                                                     06602
37002     0000031        LDA TY+1               GET CONTROL WORD FROM TYPEWRITER                                    06603
37003     2511014        SRD 12                 GET FIRST CHARACTER                                                 06604
37004     2100326        CAR CR                 SEE IF DONE                                                         06605
37005     2617007        BRU *+2                                                                                    06606
37006     2617110        BRU CTSCA              DECIMAL CARDS ALL SET UP                                            06607
37007     0300130        STA PERIN              CALL IN NEW NEXT TIME                                               06608
37010     0300202        STA Z2                                                                                     06609
37011     0557771        BXH 7       2          SEE IF LEGAL TAPE - - NOT 7                                         06610
37012     2617051        BRU CTER1              QUESTION MARKS                                                      06611
37013     1457777        INX 8191    2          GET 8K ON ALMOST                                                    06612
37014     0057376        LDA CTTAB+1 2          GET HANDLER INFORMATION                                             06613
37015     0377132        STA CTEXE+3 3          PUT IN INSTRUCTION                                                  06614
37016     0600276        LDX ZERO    0          COUNTER                                                             06615
37017     0517776  CTSC  BXH 2       0          SEE IF DONE                                                         06616
37020     2617110        BRU CTSCA              START CARDS                                                         06617
37021     1400001        INX 1       0          STEP FOR NEXT TIME THROUGH                                          06618
37022     2504002        LDZ                                                                                        06619
37023     2512206        SLD 6                  GET CHARACTER                                                       06620
37024     2177447        CAB CTB1    3          SEE IF BINARY                                                       06621
37025     2617051        BRU CTER1              REALLY ILLEGAL                                                      06622
37026     2617054        BRU CTB                BINARY                                                              06623
37027     2177450        CAB CTD1    3          SEE IF DECIMAL                                                      06624
37030     2617051        BRU CTER1              ILLEGAL                                                             06625
```

CARD TO TAPE

```
37031  2617017          BRU CTSC                DECIMAL ALL SET UP                    06626
37032  2177451          CAB CTF1    3           SEE IF FULL                           06627
37033  2617051          BRU CTER1               ILLEGAL                               06628
37034  2617072          BRU CTF                 FULL                                  06629
37035  2100326          CAB CR                                                        06630
37036  2617051          BRU CTER1                                                     06631
37037  2617110          BRU CTSCA               BEGIN - WAS A CARRIAGE RETURN         06632
37040  2177452          CAB CTS1    3           SEE IF SKIP                           06633
37041  2617051          BRU CTER1               ILLEGAL                               06634
37042  2617044          BRU *+2                                                       06635
37043  2617051          BRU CTER1                                                     06636
37044  0000200          LDA Z0                  SEE IF SKIP LAST                      06637
37045  2504112          SBO                                                           06638
37046  2514002          BZE                                                           06639
37047  2617051          BRU CTER1               NO                                    06640
37050  2617266          BRU CTSKIP              SO SKIP                               06641
                                                                                      06642
37051  2504002  CTER1   LDZ                                                          06643
37052  0300106          STA BZYF                TURN OFF BUSY FLAG                    06644
37053  2614156          BRU ILD                 QUESTION MARKS                        06645
                                                                                      06646
37054  0077441  CTB     LDA CRCB1   3           READ CARD IN BINARY                   06647
37055  2777120          STO CRINS1  3           SET UP READ INSTRUCTIONS              06648
37056  2777146          STO CRINS2  3                                                 06649
37057  2777173          STO CRINS3  3                                                 06650
37060  0077443          LDA CTD40   3           DEC40                                 06651
37061  2777132          STO CTEXE+3 3           WORDS TO WRITE                        06652
37062  0077371          LDA CBSYN   3           NORMAL BINARY SYNC                    06653
37063  0377370          STA CNSYN   3           FILL IN SHYNCWORD CHECK               06654
37064  0077445          LDA CBQ1    3           QUOTE CARD                            06655
37065  0377176          STA CROK    3           BRANCH TO QUOTE CARD CHECK            06656
37066  0077373          LDA CBSYNP  3           GET LOCATION OF SYNCWORD              06657
37067  0377150          STA CSYNC   3           AND STORE IT IN THE CHECK AREA        06658
37070  0377211          STA CSYNC2  3                                                 06659
37071  2617017          BRU CTSC                AND SEE IF HAVE AN S                  06660
                                                                                      06661
37072  0077442  CTF     LDA CRCF1   3           READ CARD FULL                        06662
37073  2777120          STO CRINS1  3                                                 06663
37074  2777146          STO CRINS2  3                                                 06664
37075  2777173          STO CRINS3  3                                                 06665
37076  0077444          LDA CTD80   3           DEC 80                                06666
37077  2777132          STO CTEXE+3 3           WORDS TO WRITE                        06667
37100  0077372          LDA CFSYN   3           FULL SYNC                             06668
37101  0377370          STA CNSYN   3           NORMAL                                06669
37102  0077446          LDA CFQ1    3           BRANCH                                06670
37103  0377176          STA CROK    3                                                 06671
37104  0077374          LDA CFSYNP  3           GET LOCATION OF FULL SYNCWORD         06672
37105  0377150          STA CSYNC   3           AND PUT IN CHECK                      06673
37106  0377211          STA CSYNC2  3                                                 06674
37107  2617017          BRU CTSC                AND SEE IF HAVE AN S                  06675
                                                                                      06676
```

CARD TO TAPE

```
                37110  CTSCA  BSS  0                          START EVERYTHING HERE                          06677
37110  1077406                DLD  .CTST.  3                   GET ENTRANCE                                   06678
37111  0754217                SPB  INSERT  2                   AND PUT IN TASK LIST                           06679
37112  0300154                STA  OVTSK                       SAVE POINTER                                   06680
37113  0300201                STA  Z1                                                                         06681
37114  0757323                SPB  CTEXT   2                                                                  06682
37115  2516006                RCN                              FIRST WAIT FOR READER                          06683
37116  2620002                BRU  2       1                                                                  06684
37117  0620061                LDX  CTBP+1  1                   GET FIRST BUFFER                               06685
37120  2520000  CRINS1 RCD  0             1                   FIRST CARD READ INSTRUCTION                    06686
37121  2500004                HCR                                                                             06687
                                                              INSTRUCTIONS NOW SET UP                        06688
37122  0757135  CTCR   SPB  CREAD   2                         READ A CARD AND CHECK LAST SYNC WORD           06689
37123  0757323                SPB  CTEXT   2                   SET UP EXIT                                    06690
37124  0077133                LDA  CTEXE+4 3                   SEE IF TAPE WRITE COMPLETED                    06691
37125  2514002                RZE                                                                             06692
37126  2620002                BRU  2       1                   NO SO WAIT SOME MORE                           06693
37127  0757500  CTEXE  SPB  TREQST  2                         TAPE SUBROUTINE                                06694
37130  2500120                SEL  1                                                                          06695
37131  0300009                WTB  0       4                                                                  06696
37132  2100033                     27                                                                         06697
37133  0000001                OCT  1                           FLAG                                           06698
37134  2617122                BRU  CTCR                        AND GET ANOTHER CARD                           06699
                                                                                                              06700
                                                              CREAD READS A CARD IN PROPER MODE CHECKS       06701
                                                              SYNCWORD AND QUOTE AND THEN FLIPS BUFFER       06702
                                                              ADDRESSES.                                     06703
                                                                                                              06704
37135  1740063  CREAD  STX  CREN    2                         SAVE ENTRANCE                                  06705
37136  2504202                LAC                                                                             06706
37137  0100317                ADD  FOUR                        INCREMENT TIME FOR CHECK                       06707
37140  0300064                STA  CTIME                                                                      06708
37141  0757323                SPB  CTEXT   2                   SET UP EXIT                                    06709
37142  0640061                LDX  CTBP+1  2                                                                  06710
37143  2516006                RCN                                                                             06711
37144  2617205                BRU  CRHOP                       CHECK HOPPER EMPTY CONDITION                   06712
37145  0620060                LDX  CTBP    1                   GET BUFFER POINTER IN INDEX REGISTER           06713
37146  2520000  CRINS2 RCD  0             1                   READ THE CARD                                  06714
37147  2500004                HCR                                                                             06715
37150  0040033  CSYNC  LDA  27      2                         GET LAST SYNCWORD                              06716
37151  2177370                CAB  CNSYN   3                   NORMAL SYNC                                    06717
37152  2617154                BRU  *+2                         ERROR MESSAGE                                  06718
37153  2617176                BRU  CROK                        OK                                             06719
37154  0756330                SPB  MESSG   2                                                                  06720
37155  0037422                DEC  CRERM2                      CARD READER ERROR BACKSPACE 2 AND TOGGLE 1     06721
37156  0757323                SPB  CTEXT   2                                                                  06722
37157  2504002                LDZ                              WAIT FOR TOGGLE                                06723
37160  2500011                RCS                                                                             06724
37161  2512001                SLA  1                                                                          06725
37162  2516003                BNO                                                                             06726
37163  2620002                BRU  2       1                   NOT YES                                        06727
```

CARD TO TAPE

```
 37164  0757323          SPB CTEXT   2          1 DOWN                                   06728
 37165  2504002          LDZ                                                             06729
 37166  2500011          RCS                                                             06730
 37167  2512001          SLA 1                                                           06731
 37170  2514003          BOV                                                             06732
 37171  2620002          BRU 2       1                                                   06733
 37172  0640061          LDX CTBP+1  2          PRIME BUFFER AGAIN                       06734
 37173  2540000 CRINS3   RCD 0       2                                                   06735
 37174  2500004          HCR                                                             06736
 37175  2617136          BRU CREAD+1            AND READ AGAIN                           06737
                                    CARD READ WAS OK - CHANGE BUFFERS AND GET OUT       06738
                                                                                        06739
          37176  CROK    BSS 0                  CHECK FOR QUOTE - FILLED IN WITH A BRU   06740
 37176  2617240          BRU CDQ                NORMAL IS DECIMAL                        06741
 37177  1000060          DLD CTBP                                                        06742
 37200  2504005          XAQ                                                             06743
 37201  1300060          DST CTBP                                                        06744
 37202  2777131          STO CTEXE+2 3          STORE ADDRESS IN WITE INSTRUCITON        06745
 37203  0640063          LDX CREN    2          GET ENTRANCE                             06746
 37204  2640001          BRU 1       2          AND RETURN                               06747
                                    CHECK FOR HOPPER EMPTY                              06748
 37205  2504202 CRHOP    LAC                                                             06749
 37206  2100064          CAB CTIME              SEE IF SHOULD BE READY                   06750
 37207  2620002          BRU 2       1          OK                                       06751
 37210  2620002          BRU 2       1          OK                                       06752
 37211  0040033 CSYNC2   LDA 27      2          CHECK LAST SYNCWORD                      06753
 37212  2512001          SLA 1                                                           06754
 37213  2514003          BOV                                                             06755
 37214  2617326          BRU CTTER              TERMINAL - WRITE EOF AND GET OUT         06756
 37215  0756330          SPB MESSG   2                                                   06757
 37216  0037412          DEC CTERM3                                                      06758
 37217  2504202          LAC                                                             06759
 37220  0100326          ADD CR                 INCREMENT WAIT TIME                      06760
 37221  0300064          STA CTIME                                                       06761
 37222  2620002          BRU 2       1          AND GET OUT                              06762
                                    BINARY QUOTE CHECK                                  06763
 37223  0040000 CBQ      LDA 0       2                                                   06764
 37224  2516002          BNZ                                                             06765
 37225  2617177          BRU CROK+1             OK GO ON                                 06766
 37226  0040001          LDA 1       2                                                   06767
 37227  0277237          SUB CBQU1   3          SECOND QUOTE WORD                        06768
 37230  2516002          BNZ                                                             06769
 37231  2617177          BRU CROK+1             OK                                       06770
 37232  0040002          LDA 2       2          THIRD WORD                               06771
 37233  0277237          SUB CBQU1   3                                                   06772
 37234  2516002          BNZ                                                             06773
 37235  2617177          BRU CROK+1             GO ON                                    06774
 37236  2617326          BRU CTTER              QUOTE CARD - TERMINAL EXIT               06775
 37237  2015006 CBQU1    OCT 2015006            BINARY QUOTE                             06776
                                    DECIMAL QUOTE                                       06777
 37240  1040000 CDQ      DLD 0       2                                                   06778
```

CARD TO TAPE

```
37241  2277246          DCB CDQU1   3                                  06779
37242  2617177          BRU CROK+1      OK - PROCESS                   06780
37243  2617326          BRU CTTER                                      06781
37244  2617177          BRU CROK+1                                     06782
37246  0777777  CDQU1   OCT 777777                                     06783
37247  0777777          OCT 777777                                     06784
                                    FULL QUOTE                        06785
37250  0600276  CFQ     LDX ZERO    0                                  06786
37251  1040000          DLD 0       2                                  06787
37252  2277264          DCB CFQU1   3                                  06788
37253  2617177          BRU CROK+1                                     06789
37254  2617256          BRU *+2         FIRST MATCHES                  06790
37255  2617177          BRU CROK+1                                     06791
37256  0517776          BXH 2       0   CHECK FOR DONE                 06792
37257  2617326          BRU CTTER       QUOTE FOUND                    06793
37260  1400001          INX 1       0   STEP                           06794
37261  1440002          INX 2       2                                  06795
37262  2617251          BRU CFQ+1       AND TRY AGAIN                  06796
37264  0001006  CFQU1   OCT 1006        FULL QUOTE                     06797
37265  0001006          OCT 1006                                       06798
                                                                      06799
                                    READ TILL END OF FILE BACKSPACE AND START
37266  1077406  CTSKIP  DLD .CTST.  3       PUT TASK IN LIST           06800
37267  0754217          SPB INSERT  2                                  06801
37270  0300154          STA QVTSK           SAVE WHERE IT IS           06802
37271  0077132          LDA CTEXF+3 3       GET HANDLER                06803
37272  0377300          STA *+6     3                                  06804
37273  2000350          EXT MASK11          77777                      06805
37274  0377314          STA CTSK1+1 3                                  06806
37275  0757500          SPB TREQST  2       TAPE OP                    06807
37276  2500120          SEL 1                                          06808
37277  0501000          RTB IO1     4                                  06809
37300  2100033              27                                         06810
37301  0000000          OCT 0                                          06811
37302  0757323          SPB CTEXT   2                                  06812
37303  0077301          LDA *-2     3                                  06813
37304  2514002          BZE                 IF FLAG ZERO GET OUT       06814
37305  2620002          BRU 2       1                                  06815
37306  2510002          SRA 2               CHECK FOR EOF              06816
37307  2516000          BEV                                            06817
37310  2617275          BRU CTSKIP+7        NOT YET                    06818
37311  0757500          SPB TREQST  2                                  06819*
37312  2500120          SEL 1                                          06820
37313  1600000  CTSK1   BKW         4       BACKSPACE                  06821
37314  2100000                                                        06822
37315  0000000          OCT 0                                          06823
37316  0757323          SPB CTEXT   2                                  06824
37317  0077315          LDA *-2     3                                  06825
37320  2514002          BZE                                            06826
37321  2620002          BRU 2       1       GET OUT                    06827
37322  2617114          BRU CTSCA+4         START AT BEGINNING - ALMOST 06828
```

CARD TO TAPE

```
                                                                                    06829
 37323  1740062  CTEXT  STX CTPOI2  2                                               06830
 37324  0620154         LDX OVTSK   1                                               06831
 37325  2640001         BRU 1       2                                               06832
                                     WRITE END OF FILE.  IF FROM BATCH RETURN TO I   06833
                                     IT IF NOT RESET FLAGS AND EXIT TO TASK LIST     06834
                                                                                    06835
 37326  0077132  CTTER  LDA CTEXE+3 3          GET HANDLER                         06836
 37327  2000350         EXT MASK11            77777                               06837
 37330  0377335         STA *+5     3                                               06838*
 37331  0377342         STA *+9     3                                               06839*
 37332  0757500         SPB TREQST  2          TAPE OP                            06840
 37333  2500120         SEL 1                                                      06841
 37334  0200000         WEF         4                                              06842
 37335  2100000
 37336  0000000         OCT 0                  FLAG                                06843
 37337  0757500         SPB TREQST  2                                              06844
 37340  2500120         SEL 1                  REWIND NOW                          06845
 37341  2000000         RWD         4                                              06846
 37342  2100000
 37343  0000000         OCT 0                                                      06847
 37344  0757323         SPB CTEXT   2                                              06848
 37345  0077343         LDA *-2     3                                              06849
 37346  2514002         BZE                                                        06850
 37347  2620002         BRU 2       1                                              06851
 37350  2514123         BCS BRW     1                                              06852
 37351  2620002         BRU 2       1                                              06853
 37352  0000151         LDA CMESSB             SEE IF BATCH IN                     06854
 37353  2514002         BZE                                                        06855
 37354  2614165         BRU IREDY              NO                                  06856
 37355  0640276         LDX ZERO    2          GET BATCH                           06857
 37356  1440513         INX BATCH   2                                              06858
 37357  2504102         LMO                                                        06859
 37360  0301000         STA I01                FRONT IN                            06860
 37361  2616030         BRU PGETB              GET BATCH                           06861
                                                                                    06862
                                     NORMAL ENTRANCE IS HERE                        06863
 37362  2504002  CTST   LDZ                    CHECK FOR ZERO DOWN                 06864
 37363  2500011         RCS                                                        06865
 37364  2514001         BMI                                                        06866
 37365  2620002         BRU 2       1           YES GET OUT                        06867
 37366  0640062         LDX CTPOI2  2          GET ENTRANCE TO ROUTINE             06868
 37367  2640001         BRU 1       2          AND GO THERE                        06869
                                                                                    06870
                                                                                    06871
                                     TABLE OF SYNCWORDS AND PLACES                  06872
 37370  2606077  CNSYN  OCT 2606077            NORMAL DECIMAL SYNC                 06873
 37371  2001777  CBSYN  OCT 2001777            BINARY                              06874
 37372  2007777  CFSYN  OCT 2007777            FULL                                06875
 37373  0040051  CBSYNP LDA 41       2          LOCATION OF BINARY SYNCWORD AFTER READ 06876
 37374  0040123  CFSYNP LDA 83       2          LOCATION OF FULL SYNC AFTER WEAD    06877
```

```
                                                                                    06878
                                        TAPE HANDLER TABLE                          06879
                                                                                    06880
                                                                                    06881
          37375   CTTAB  BSS 0                                                      06882
37375  2100033          Z21 27                                                      06883
37376  0200033          Z02 27                                                      06884
37377  0400033          Z04 27                                                      06885
37400  1000033          Z10 27                                                      06886
37401  2100033          Z21 27                                                      06887
37402  2200033          Z22 27                                                      06888
37403  2400033          Z24 27                                                      06889
37404  2100033          Z21 27          MAKE 0 TO 4                                 06890
                                                                                    06891
37406  0737362  .CTST. SPR CTST    1                                               06892
37407  3777777          DEC -1                                                      06893
                                                                                    06894
37410  0001000  CTBUP  DEC I01          BUFFER POINTERS                             06895
37411  0001200         DEC I02                                                     06896
                                                                                    06897
                                        CARD READER TROUBLE                         06898
37412  0372321  CTERM3 OCT 372321                                                  06899
37413  0512460         ALF RD                                                      06900
37414  0512521         ALF REA                                                     06901
37415  0242551         ALF DER                                                     06902
37416  0606351         ALF  TR                                                     06903
37417  0466422         ALF OUR                                                     06904
37420  0432533         ALF LE.                                                     06905
37421  0375577         OCT 375577                                                  06906
                                                                                    06907
                                        CARD READER ERROR BACKSPACE 2 AND TOGGLE 1  06908
                                                                                    06909
37422  0372321  CRERM2 OCT 372321                                                  06910
37423  0512460         ALF RD                                                      06911
37424  0512521         ALF REA                                                     06912
37425  0242551         ALF DER                                                     06913
37426  0602551         ALF  ER                                                     06914
37427  0514651         ALF ROR                                                     06915
37430  0602221         ALF  RA                                                     06916
37431  0234262         ALF CKS                                                     06917
37432  0472123         ALF PAC                                                     06918
37433  0256002         ALF E 2                                                     06919
37434  0602145         ALF  AN                                                     06920
37435  0246063         ALF D T                                                     06921
37436  0462727         ALF OGG                                                     06922
37437  0432560         ALF LE                                                      06923
37440  0013755         OCT 13755                                                   06924
37441  2500001  CRCB1  RCB 0                                                       06925
37442  2500010  CRCF1  RCF 0                                                       06926
37443  0000050  CTD40  DEC 40                                                      06927
37444  0000120  CTD80  DEC 80                                                      06928
37445  2617223  CR01   BRU CR0
```

CARD TO TAPE

```
                37446  2617250  CFQ1   BRU CFQ                                          06929
                37447  0000022  CTB1   ALF 00B                                         06930
                37450  0000024  CTD1   ALF 00D                                         06931
                37451  0000026  CTF1   ALF 00F                                         06932
                37452  0000062  CTS1   ALF 00S                                         06933
                                                                                       06934
                                                    LOWER MEMORY                       06935
                   00060         ORG TA                                                06936
                   00060  CTBP   BSS 2                                                 06937
                   00062  CTPOI2 BSS 1              MASTER RETURN                      06938
                   00063  CREN   BSS 1                                                 06939
                   00064  CTIME  BSS 1                                                 06940
                                                                                       06941
                   06000         LOC 6000           PUT TAPE SUBROUTINE ON THE END OF THIS 06942
         06000     0000524  CTFIX  LDA TAP+2          DISK ADDRESS OF SUBROUTINE       06943
         06001     0306006        STA *+5                                               06944
         06002     2516020        BCS BRN     0                                         06945
         06003     2606002        BRU *-1                                               06946
         06004     2500020        SEL 0                                                 06947
         06005     2510000        PRF         0                                         06948
         06006     0000000        OCT 0                                                 06949
         06007     2516020        BCS BRN     0                                         06950
         06010     2606007        BRU *-1                                               06951
         06011     2500020        SEL 0                                                 06952
         06012     1211003        RRD 3       0                                         06953
         06013     0037500            TREQST                                            06954
         06014     2516020        BCS BRN     0                                         06955
         06015     2606014        BRU *-1                                               06956
         06016     2514027        BCS BER     0                                         06957
         06017     2606004        BRU *-11                                              06958
                                                                                       06959
         06020     2601574        BRU LOVWRT         NOW GO AND LOAD                    06960
                                                                                       06961
        T06000                    TCD CTFIX                                            06962
                                                                                       06963
                                                                                      STL06964
                                                                                      EJT06965
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SYSTEM LOADER

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THE SYSTEM LOADER WILL LOAD A TIME-SHARING COMPATIBLE SYSTEM FROM THE CARD READER, TRANSFER TO THE END CARD ON INDEX REGISTER 2 AND INDEX GROUP ZERO, AND EXPECT A RETURN TO 1,2. THE LOADER WILL THEN WRITE THE SYSTEM ON THE DISK AND READ IN THE NEXT CARD. IT TERMINATES ON A HOPPER EMPTY CONDITION. IT ALSO CHECKS FOR CARDS LOADED INTO ILLEGAL ADDRESSES, NAMELY ALL THOSE NOT IN BETWEEN 1400 AND 33777. IT WORKS WHILE TIME-SHARING IS RUNNING BY ASKING THE D-30 TO START A BATCH RUN. THIS PREVENTS WIPING PEOPLE OUT

AFTER AN OVERLAY HAS BEEN LOADED THE LOADER EXPECTS TO FIND THE LENGTH OF THE OVERLAY RAISED TO THE NEXT HIGHEST MULTIPLE OF 64 WORDS IN THE A REGISTER.

```
                01670           ORG PERNUM
01670           0000022         DEC 18
01671           0000463         DEC SYS                 SYSTEM

                37000           ORG EXECOV
37000           0000323         LDA 010
37001           0756430         SPB SPMESS  2           START BATCH
37002           2620002         BRU 2       1           RETURN TO EXEC
37003           0000316         LDA THREE               ASK FOR CLOCK OFF
37004           0756430         SPB SPMESS  2
37005           0000312         LDA KERMES              ERROR MESSAGE
37006           0300214         STA MBX0                WILL CRUMP BATCH
37007           1077552         DLD .SIN.   3           INSERT TASK
37010           0754217         SPB INSERT  2
37011           0300154         STA OVTSK               AND SAVE WHERE
37012           0756330         SPB MESSG   2           ACNOWLEDGE MESSAGE
37013           0000541         DEC PCR
37014           0000337         LDA 8K                  AND INITIALIZE
37015           0300054         STA SPOIN               TASK POINTER
37016           0301051         STA IO1+41              SYNCHWORD
37017           0300100         STA IN                  RESET SYSTEM INDICATOR
37020           0300130         STA PERIN               KNOCK OUT OVERLAY IN MEMORY INDICATOR
37021           2504202         LAC                     AND SET INTERVAL
37022           0100322         ADD SEVEN
37023           0300055         STA SLAPSE
37024           0077565         LDA SWDCT1  3           WORD COUNT MASK
37025           0300057         STA SWDCT
37026           0077564         LDA SADDR1  3           ADDRESS MASKP
37027           0300060         STA SADDR
37030           0077566         LDA SOCTC1  3           ONE BITS FOR OCTAL CORRECTION MODULE
```

SYSTEM LOADER

```
37031  0300061          STA SOCTC                                        07017
37032  0000361          LDA SIGN          CONSTRUCT MASK                 07018
37033  2510005          SRA 5                                            07019
37034  0300065          STA SMASK         3760000                        07020
37035  0000434          LDA WAIT1         UPPER BOUND CHECK              07021
37036  0300127          STA PCT           SET RETURN TO WAIT LOOP        07022
37037  0300064          STA SLIM                                         07023
37040  2504002          LDZ               CLEAR MEMORY                   07024
37041  0301250          STA IO2+40                                       07025
37042  0300056          STA SX3SV                                        07026
37043  2500011          RCS               TO CONTENTS OF SWITCHES        07027
37044  2514000          BOD                                              07028
37045  2617051          BRU *+4                                          07029
37046  0301400          STA SL1                                          07030
37047  1077554          DLD SL2     3                                    07031
37050  2401400          MOV SL1                                          07032
37051  0000321          LDA .SIN1.                                       07033
37052  2700054          STO SPOIN                                        07034
37053  2506014          OCT 2506014       SET PRQ TO GET STARTED         07035
37054  2614001          BRU WAIT          AND WAIT IN LOOP               07036
                                                                         07037
37055  0757123  SIN1    SPB SRCHK   2     CHECK READER                   07038
37056  2501001          RCB IO1           READ FIRST CARD                07039
37057  2500004          HCR               AND CRUMP THE SILLY THING      07040
37060  0000322          LDA .SWN.         SET POINTER                    07041
37061  2700054          STO SPOIN                                        07042
37062  2617233          BRU SLRET         AND GET OUT                    07043
                                                                         07044
                                                                         07045
                                                                         07046
37063  0757123  SWN     SPB SRCHK   2     SET POINTER FOR MAIN ROUTINE   07047
37064  0000276          LDA .SLD.                                        07048
37065  2700054          STO SPOIN                                        07049
37066  1001000          DLD IO1           AND CHECK CARD                 07050
37067  1277560          DSU .SWON1  3     CHECK IF FIRST CARD IS SYSTEM LOADER  07051
37070  2514002          BZE                                              07052
37071  2504005          XAQ                                              07053
37072  2516002          BNZ               IF NOT, PROCESS IT             07054
37073  2617147          BRU SLD                                          07055
37074  1001002          DLD IO1+2         ELSE CHECK NEXT WORD           07056
37075  1277562          DSU .SWON2  3                                    07057
37076  2514002          BZE                                              07058
37077  2504005          XAQ                                              07059
37100  2516002          BNZ               IF UNEQUAL, PROCESS            07060
37101  2617147          BRU SLD                                          07061
37102  2501001          RCB IO1           IF MATCHES, CRUMP THIS CARD    07062
37103  2500004          HCR                                              07063
37104  2617233          BRU SLRET         AND GET OUT                    07064
                                                                         07065
                                                                         07066
                                                                         07067
```

SYSTEM LOADER

```
37105  2504002  SIN    LDZ                    ALL ENTRIES BEGIN HERE                07068
37106  2500011         RCS                    AND CHECK SWITCH 0                    07069
37107  2514001         BMI                    IF DOWN, CRUMP                        07070
37110  2620002         BRU 2        1                                                07071
37111  0640054         LDX SPOIN    2                                                07072
37112  2657113         BRU *+1      2                                                07073
37113  2617147         BRU SLD                                                       07074
37114  2617363         BRU SROR               CHECKSUM ERROR                        07075
37115  2617403         BRU SDSK               WRITE SYSTEM ON DISK                  07076
37116  2620002         BRU 2        1         RETURN AND DO NOTHING                 07077
37117  2620002         BRU 2        1         NOT USED NOW                          07078
37120  2620002         BRU 2        1         NOT USED NOW                          07079
37121  2617055         BRU SIN1               AND INTIAL SEQUENCE                   07080
37122  2617063         BRU SWN                FIRST CARD CHECK                      07081
         00276  .SLD.  EQU ZERO                                                     07082
         00312  .SROR. EQU ONE                                                      07083
         00314  .SDSK. EQU TWO                                                      07084
         00316  .STYP. EQU THREE                                                    07085
         00321  .SIN1. EQU SIX                                                      07086
         00322  .SWN.  EQU SEVEN                                                    07087
                                                                                    07088
                                                                                    07089
                                                                                    07090
37123  2516006  SRCHK  BCN                    CHECK READER                          07091
37124  2617131         BRU SCHK               NOT READY                             07092
37125  2504202         LAC                    SET TIMER                             07093
37126  0100322         ADD SEVEN                                                    07094
37127  0300055         STA SLAPSE                                                   07095
37130  2640001         BRU 1        2         AND GET BACK                          07096
                                                                                    07097
37131  0001051  SCHK   LDA IO1+41            CHECK SYNCWORD FOR HOPPER EMPTY       07098
37132  0277571         SUB .SCHK    3                                               07099
37133  2514002         BZE                    IF EMPTY, COMPLETELY DONE             07100
37134  2617504         BRU SYEND                                                    07101
37135  2620002         BRU 2        1                                               07102
37136  2504202         LAC                    ELSE CHECK TIME                       07103
37137  2100055         CAB SLAPSE                                                   07104
37140  2617233         BRU SLRET                                                    07105
37141  2617233         BRU SLRET              CRUMP                                 07106
37142  0100326         ADD CR                 AND SET IT UP IF OVER                 07107
37143  0300055         STA SLAPSE                                                   07108
37144  0756330         SPB MESSG    2                                               07109
37145  0037605         DEC SCRN               CARD READER NOT READY                 07110
37146  2617233         BRU SLRET                                                    07111
                                                                                    07112
                                                                                    07113
                                                                                    07114
37147  0757123  SLD    SPB SRCHK    2         THIS IS THE MAIN ROUTINE - CHECK READER 07115
37150  1077556         DLD SR2      3                                               07116
37151  2401000         MOV IO1                MOVE CARD IMAGE INTO WORKING AREA     07117
37152  0300201         STA Z1                 INITIALIZE WORD POINTER               07118
```

SYSTEM LOADER

```
37153  0300066          STA SDISKF          BLANK FLAG                                  07119
37154  0021200          LDA I02     1       BEGINS IN LOWER BANK... GET FIRST WORD      07120
37155  2514002          BZE                 OCTAL CORRECTIONS MODULE                    07121
37156  2617236          BRU SOCT                                                        07122
37157  0660056          LDX SX3SV   3       KEEP SAME BANK AS BEFORE                    07123
37160  2000057          EXT SWDCT           MASK OFF ALL BUT WORD COUNT                 07124
37161  2514002          BZE                 IF NONE, TRANSFER CARD                      07125
37162  2617317          BRU STRAN                                                       07126
37163  2501001          RCB I01             AND GET NEXT CARD                           07127
37164  2500004          HCR                                                             07128
                                                                                        07129
37165  2510015  SNEXT   SRA 13              GET WORD COUNT RIGHT JUSTIFIED              07130
37166  0300200          STA Z0              AND SET IN COUNTER                          07131
37167  0021200          LDA I02     1       GET WORD AGAIN                              07132
37170  2000060          EXT SADDR           AND GET ADDRESS                             07133
37171  2514001          BMI                 IF NEGATIVE, DARTMOUTH STYLE CARD           07134
37172  2617307  SDART2  BRU SDART1          CHANGE LOADER TO TAKE DAR CARDS             07135
37173  2700203          STO Z3              ELSE SET IN REGISTER AND LEAVE BANK         07136
37174  0000203          LDA Z3              CHECK IF TOO LOW                            07137
37175  2000065          EXT SMASK                                                       07138
37176  2100432          CAB MENDT                                                       07139
37177  2617376          BRU SERAD           CRUMP                                       07140
37200  2617201          BRU *+1             OK                                          07141
37201  1420001  SMORE   INX 1       1       INCREMENT WORKING AREA POINTER              07142
37202  0000203          LDA Z3              CHECK WHERE STORING FOR TOO FAR UP           07143
37203  2000065          EXT SMASK                                                       07144
37204  2100064          CAB SLIM                                                        07145
37205  2617210          BRU *+3             OK                                          07146
37206  2617376          BRU SERAD           CRUMP                                       07147
37207  2617376          BRU SERAD                                                       07148
37210  0021200          LDA I02     1       GET NEXT WORD                               07149
37211  0360000          STA 0       3       AND PUT AWAY                                07150
37212  0121177          ADD I02-1   1       CHECKSUM                                    07151
37213  2514003          BOV                 IF OVERFLOW, STEP BY ONE                    07152
37214  2504032          ADO                                                             07153
37215  0321200          STA I02     1       AND SAVE ACROSS CARD                        07154
37216  1417777          INX -1      0       DECREMENT COUNTER                           07155
37217  1460001          INX 1       3       STEP ADDRESS COUNTER                        07156
37220  0517777          BXH 1       0       AND CHECK IF END OF BLOCK                   07157
37221  2617201          BRU SMORE           NO, GET SOME MORE WORDS                     07158
37222  0221201          SUB I02+1   1       SEE IF CHECKWORD OK                         07159
37223  2516002          BNZ                 CHECK SUM ERROR                             07160
37224  2617356          BRU SER1                                                        07161
37225  1420002          INX 2       1       GET NEXT ORIGIN                             07162
37226  0021200          LDA I02     1                                                   07163
37227  2000057          EXT SWDCT           AND LEAVE WORD COUNT                        07164
37230  2516002          BNZ                 IF WORDS, GET THEM                          07165
37231  2617165          BRU SNEXT                                                       07166
37232  1760056          STX SX3SV   3                                                   07167
                                                                                        07168
                                                                                        07169
```

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                                                                                07170
37233  0660337  SLRET  LDX  BK       3      RESET REGISTER                      07171
37234  0620154         LDX  OVTSK    1      GET RETURN                          07172
37235  2620002         BRU  2        1      AND GET OUT                         07173
                                                                                07174
                                                                                07175
                                                                                07176
37236  2501001  SOCT   RCB  I01             OCTAL CORRECTIONS MODULE            07177
37237  2500004         HCR                                                     07178
37240  2617257         BRU  SOCTE            AND BEGIN SCANNING                  07179
                                                                                07180
37241  2510012  SOCTB  SRA  10               GET LEFT HALF                       07181
37242  2000061         EXT  SOCTC            AND MASK OFF SIGN AND HIGHORDER END 07182
37243  2513020         NOR  16                                                 07183
37244  2512001         SLA  1                CHECK FOR WORD                      07184
37245  0000062         LDA  SOCACC           GET ACCUMULATED WORD SO FAR         07185
37246  2514003         ROV                   OVERFLOW IF WORD                    07186
37247  2617262         BRU  SOCTD                                                07187
37250  0477776         BXL  2        3       NOTHING SO FAR, KEEP SCANNING       07188
37251  2617257         BRU  SOCTF                                                07189
37252  0477775         BXL  3        3       TERMINATE ON SINGLE CHARACTER FIELD 07190
37253  2617233         BRU  SLRET                                                07191
37254  0577771         BXH  7        3       6 OR 7 CHARACTER IS INSTRUCTION     07192
37255  2617302         BRU  SOCTF                                                07193
37256  0300063         STA  SOCADD           ELSE ADDRESS                        07194
                                                                                07195
37257  1000276  SOCTE  DLD  ZERO             ZERO OUT A, Q, AND REGISTER 3       07196
37260  0300203         STA  Z3                                                   07197
37261  2617266         BRU  SOCTA-1          AND CHECK CARD                      07198
                                                                                07199
37262  2512203  SOCTD  SLD  3                ACCUMULATE CHARACTERS               07200
37263  2000000         EXT  0                                                    07201
37264  2516003         BNO                                                       07202
37265  2504040         CHS                                                       07203
37266  0300062         STA  SOCACC           AND SAVE                            07204
37267  1460001  SOCTA  INX  1        3       STEP CHARACTER COUNTER IMMEDIATELY  07205
37270  0537730         BXH  40       1       AND CHECK IF END OF CARD            07206
37271  2617233         BRU  SLRET                                                07207
37272  0000061         LDA  SOCTC                                                07208
37273  2504004         LQA                   PUT SOME ONE BITS IN Q              07209
37274  0021200         LDA  I02      1       GET WORD                            07210
37275  0457777         BXL  1        2       CHECK IF END OF WORD                07211
37276  0757241         SPB  SOCTB    2       NO, GET FIRST HALF                  07212
37277  1420001         INX  1        1       ELSE GET NEXT WORD                  07213
37300  0640276         LDX  ZERO     2       AND RESET FLAG                      07214
37301  2617242         BRU  SOCTB+1                                              07215
                                                                                07216
37302  0660063  SOCTF  LDX  SOCADD   3       GET ADDRESS COUNTER                 07217
37303  0360000         STA  0        3       AND PUT AWAY WORD                   07218
37304  1460001         INX  1        3       BUMP UP COUNTER                     07219
37305  1760063         STX  SOCADD   3       AND SAVE                            07220
```

SYSTEM LOADER

```
37306  2617257          BRU SOCTE              AND GET SOME MORE                          07221
                                                                                          07222
                                                                                          07223
                                                                                          07224
37307  0660337  SDART1  LDX 8K      3          RESET REGISTER                             07225
37310  0077570          LDA SDART   3          CHANGE INSTRUCTIONS                        07226
37311  0377172          STA SDART2  3          TO ASSUME ALL REST WILL BE DARTMOUTH STYLE  07227
37312  0377321          STA SDART3  3                                                     07228
37313  0077260          LDA SOCTE+1 3                                                     07229
37314  0377173          STA SDART2+13                                                     07230
37315  0377322          STA SDART3+13                                                     07231
37316  2677167          BRU SNEXT+2 3          GET BACK                                   07232
                                                                                          07233
                                                                                          07234
                                                                                          07235
37317  0021200  STRAN   LDA I02     1          TRANSFER CARD                              07236
37320  2514001          BMI                    IF NEGATIVE, DARTMOUTH UPPER MEORY         07237
37321  0660337  SDART3  LDX 8K      3          IF FIRST OF KIND, TRANSFER CORRECTLY       07238
37322  2700203          STO Z3                 ELSE STAY IN BANK                          07239
37323  0000203          LDA Z3                 SAVE LOCATION                              07240
37324  0300003          STA XR03                                                          07241
37325  2504102          LMO                    RESET FLAG FOR CORRECT EXIT                07242
37326  0300066          STA SDISKF                                                        07243
37327  2506013          SXG 0                  SET GROUP ZERO FOR SYSTEM                  07244
37330  2506015          SET PST                AND PREPARE TO EXIT API                    07245
37331  2506016          SET PBK                WITH NO INTERRUPTS                         07246
37332  0660337          LDX 8K      3          RESTORE REGISTER                           07247
37333  2677335          BRU *+2     3                                                     07248
37334  2660000          BRU 0       3          TRANSFER                                   07249
37335  0757334          SPB *-1     2          SAVE RETURN FOR SYSTEMS                    07250
37336  2501001          RCB I01                NOW GET NEXT CARD - AS WELL AS GENERATE    07251
37337  2500004          HCR                    INTERRUPT ON 225                           07252
37340  0660203          LDX Z2+1    3                                                     07253
37341  0300067          STA SLENG              LENGTH OF OVERLAY                          07254
37342  2510006          SRA 6                                                             07255
37343  2777464          STO SDSKB+1 3          NUMBER OF RECORDS FOR OPERATION            07256
37344  0060005          LDA SNAME+1 3          SEE IF OVERLAY                             07257
37345  2516002          BNZ                                                               07258
37346  2617351          BRU *+3                                                           07259
37347  0077567          LDA SO140   3          SYSTEM SO PUT 96 RECORDS BACK              07260
37350  2777464          STO SDSKB+1 3                                                     07261
37351  0000314          LDA .SDSK.             RETURN IS TO HERE                          07262
37352  2700054          STO SPOIN              AND SET POINTER                            07263
37353  2506015          SET PST                                                           07264
37354  2506014          OCT 2506014            SET PRQ                                    07265
37355  2614001          BRU WAIT                                                          07266
                                                                                          07267
                                                                                          07268
                                                                                          07269
37356  0660337  SER1    LDX 8K      3          SET UP REGISTER                            07270
37357  0000312          LDA .SROR.                                                        07271
```

SYSTEM LOADER

```
37360  2700054          STO SPOIN          AND SET POINTER                          07272
37361  0756330          SPB MESSG   2                                               07273
37362  0037616          DEC SCHKSM         CHECKSUM ERROR - BACKSPACE TWO CARDS AND 07274
37363  2504002  SROR    LDZ                TOGGLE 2 WHEN READY.                     07275
37364  2500011          RCS                CHECK 2                                  07276
37365  2512002          SLA 2                                                       07277
37366  2516003          BNO                NOT DOWN, CRUMP                          07278
37367  2617233          BRU SLRET                                                   07279
37370  0757123          SPB SRCHK   2                                               07280
37371  2501001          RCB 101            OK                                       07281
37372  2500004          HCR                                                         07282
37373  0000276          LDA .SLD.                                                   07283
37374  2700054          STO SPOIN          AND SET IT TO LOAD                       07284
37375  2617233          BRU SLRET                                                   07285
                                                                                    07286
                                                                                    07287
                                                                                    07288
37376  1760056  SERAD   STX SX3SV   3      ADDRESS OUT OF BOUNDS                    07289
37377  0660337          LDX 8K      3      RESTORE REGISTER                         07290
37400  0756330          SPB MESSG   2      AND TYPE MESSAGE                         07291
37401  0037643          DEC SILAD                                                   07292
37402  2617233          BRU SLRET          AND GET NEXT CARD                        07293
                                                                                    07294
                                                                                    07295
                                                                                    07296
37403  0640276  SDSK    LDX ZERO    2      SET REGISTER FOR SEARCH                  07297
37404  0060004          LDA SNAME   3      GET NAME                                 07298
37405  2140370          CAB SYTAB   2      SEARCH ADDRESS TABLE                     07299
37406  2617410          BRU *+2                                                     07300
37407  2617417          BRU SFND           FOUND                                    07301
37410  1440001          INX 1       2      AND STEP POINTER                         07302
37411  0457741          RXL LAST    2      CHECK END OF TABLE                       07303
37412  2617405          BRU *-5            OK                                       07304
37413  0377664          STA SSN01   3                                               07305
37414  0756330          SPB MESSG   2                                               07306
37415  0037654          DEC SSNO           SYSTEM NOT AVAILABLE                     07307
37416  2614163          BRU ICRUMP                                                  07308
                                                                                    07309
                                                                                    07310
37417  0000316  SFND    LDA .STYP.         SET UP TO DO NOTHING WHILE WRITING ON DISK 07311
37420  2700054          STO SPOIN          AND SET IN POINTER                       07312
37421  0060005          LDA SNAME+1 3      GET REPLACEMENT OR OVERLAY NUMBER        07313
37422  2777603          STO SYL02   3      SET IN OVERLAY MESSAGE                   07314
37423  2777424          STO *+1     3      AND SET FOR STEP TO GET ADDRESS          07315
37424  1440000          INX 0       2      STEP POINTER BY IDENTIFYING NUMBER       07316
37425  0040371          LDA SYTAB+1 2      GET CORRECT DISK ADDRESS                 07317
37426  0377466          STA SDSKB+3 3      SET IN PARAMETER LIST                    07318
37427  0060004          LDA SNAME   3      GET SYSTEM NAME AGAIN                    07319
37430  0640337          LDX 8K      2      AND INITIALIZE FOR SEARCH                07320
37431  2157516          CAB SNAMS   2      CHECK AGAINST LIST OF SYSTEM NAMES       07321
37432  2617434          BRU *+2            NOT FOUND                                07322
```

SYSTEM LOADER

```
37433  2617436          BRU *+3                  FOUND OK                                                07323
37434  1440003          INX 3        2           KEEP SEARCHING                                          07324
37435  2617431          BRU *-4                  AND TRY AGAIN                                           07325
37436  0377573          STA SYL1     3           GET NAMES AND SET IN TYPEWRITER MESSAGE                 07326
37437  0057517          LDA SNAMS+1  2           SECOND WORD                                             07327
37440  0377574          STA SYL1+1   3                                                                   07328
37441  0057520          LDA SNAMS+2  2           THIRD WORD                                              07329
37442  0377575          STA SYL1+2   3                                                                   07330
37443  0756330          SPB MESSG    2           OUTPUT SYSTEM NAME                                      07331
37444  0037572          DEC SYL                  SYSTEM                                                  07332
37445  0060005          LDA SNAME+1  3           GET IDENTIFYING NUMBER AND SEE IF OVERLAY               07333
37446  2514002          BZE                      IF ZERO, THEN SYSTEM                                    07334
37447  2617462          BRU *+11                 SO PUNT                                                 07335
37450  0756330          SPB MESSG    2           ELSE TYPE OVERLAY NUMBER                                07336
37451  0037577          DEC SYLO                                                                         07337
37452  0000067          LDA SLENG                SEE IF OVERLAY FITS IN SPACE                            07338
37453  2510005          SRA 5                    POSITION FOR DISK COMMAND                               07339
37454  0200314          SUB TWO                  TRANSLATE TO ZERO                                       07340
37455  0177466          ADD SDSKB+3  3           DISK ADDRESS                                            07341
37456  2000340          EXT MASK1                3777400                                                 07342
37457  0200334          SUB 0300                                                                         07343
37460  2516001          BPL                                                                              07344
37461  2617476          BRU SLER                 TOO LONG                                                07345
37462  0755464          SPB DSKB     2           ASK FOR DISK                                            07346
                                                                                                         07347
37463  0755560  SDSKB   SPB DSKOP    2           AND WRITE SYSTEM ON DISK                                07348
37464  3700140          Z37 96                   WRITE, 96 RECORDS                                       07349
37465  0020000          DEC SYSTEM               FROM SYSTEM LOCATION                                    07350
37466  0000000          Z00 --                   CONSTRUCTED DISK ADDRESS                                07351
37467  2617501          BRU STERM                ERROR - CRUMP WORKS                                     07352
37470  0755771          SPB RELIN    2           RELINQUISH DISK                                         07353
37471  0000276  SDSKB2  LDA .SLD.                                                                        07354
37472  2700054          STO SPOIN                                                                        07355
37473  2504002          LDZ                      RESET LOWER BANK                                        07356
37474  0300056          STA SX3SV                                                                        07357
37475  2617147          BRU SLD                  PROCESS                                                 07358
                                                                                                         07359
                                                                                                         07360
37476  0756330  SLER    SPB MESSG    2                                                                   07361
37477  0037703          DEC STLO                 OVERLAY TOO LONG                                        07362
37500  2617471          BRU SDSKB2               CONTINUE                                                07363
                                                                                                         07364
                                                                                                         07365
37501  0756330  STERM   SPB MESSG    2           TYPE NO LOAD MESSAGE AND CRUMP AS DISK ERROR            07366
37502  0037666          DEC SNOL                 NO LOAD                                                 07367
37503  2614163          BRU ICRUMP               AND PUNT                                                07368
                                                                                                         07369
                                                                                                         07370
                                                                                                         07371
37504  0000066  SYEND   LDA SDISKF               CHECK FOR SILLY CLODS WHO LEAVE OFF                     07372
37505  2514001          BMI                      EXTRA BLANK                                             07373
```

SYSTEM LOADER

```
37506  2614163          BRU  ICRUMP          OK                                  07374
37507  0756330          SPB  MESSG    2     ELSE TYPE MESSAGE                   07375
37510  0037672          DEC  SBLANK                                             07376
37511  0620154          LDX  OVTSK    1                                         07377
37512  0754212          SPB  IRASE    2     AND DELTE ENTRY                     07378
37513  0000317          LDA  FOUR           ASK FOR COUNT                       07379
37514  0756430          SPB  SPMESS   2                                         07380
37515  2614172          BRU  IRESP          AND RESET POINTERS                  07381
                                                                                07382
                                                                                07383
                                                                                07384
37516  0222162  SNAMS   ALF  BAS           BASIC                               07385
37517  0312377          OCT  312377                                            07386
37520  0777777          OCT  777777                                            07387
37521  0214327          ALF  ALG           ALGOL                               07388
37522  0464377          OCT  464377                                            07389
37523  0777777          OCT  777777                                            07390
37524  0672221          ALF  XBA           XBASIC                              07391
37525  0623123          ALF  SIC                                               07392
37526  0777777          OCT  777777                                            07393
37527  0672143          ALF  XAL           XALGOL                              07394
37530  0274643          ALF  GOL                                               07395
37531  0777777          OCT  777777                                            07396
37532  0264651          ALF  FOR           FORTRAN                             07397
37533  0635121          ALF  TRA                                               07398
37534  0457777          OCT  457777                                            07399
37535  0672646          ALF  XFO           XFORTRAN                            07400
37536  0516351          ALF  RTR                                               07401
37537  0214577          OCT  214577                                            07402
37540  0243147          ALF  DIP           DARTMOUTH INTERPRETIVE PROGRAM      07403
37541  0606060          ALF                                                    07404
37542  0606060          ALF                                                    07405
37543  0636221          ALF  TSA           TIME-SHARING ASSEMBLY PROCESSOR     07406
37544  0476060          ALF  P                                                 07407
37545  0606060          ALF                                                    07408
37546  0252431          ALF  EDI           EDIT SYSTEM                         07409
37547  0636060          ALF  T                                                 07410
37550  0606060          ALF                                                    07411
                                                                                07412
                                                                                07413
                                                                                07414
37552  0737105  .SIN.   SPB  SIN      1     ENTRY                               07415
37553  3777777          DEC  -1                                                07416
37554  0001401  SL2     DEC  SL3                                               07417
37555  3745402          DEC  -13566                                            07418
37556  0001200  SR2     DEC  I02                                               07419
37557  3777730          DEC  -40                                               07420
37560  2504022  .SWON1  LDO                FIRST FOUR WORDS OF SYSTEM LOADER CARD  07421
37561  0300226          STA  PMBX0                                             07422
37562  2516020  .SWON2  RCS  BRN      0                                        07423
37563  2600002          BRU  2                                                 07424
```

SYSTEM LOADER

```
37564  1760000   SADDR1 OCT 1760000          LEAVE ADDRESS                                  07425
37565  2017777   SWDCT1 OCT 2017777          LEAVE WORD COUNT                               07426
37566  3776000   SOCTC1 OCT 3776000          UPPER END MASK                                 07427
37567  0000140   SO140  OCT 140              96 RECORDS                                     07428
37570  0100337   SDART  ADD 8K               INSTRUCTION CHANGE FOR DARTMOUTH CARDS         07429
37571  3001777   .SCHK  OCT 3001777          HOPPER EMPTY CHECK                             07430
         01400   SL1    EQU 1400                                                           07431
         01401   SL3    EQU SL1+1                                                          07432
                                                                                           07433
                                                                                           07434
                                                                                           07435
                                                                                           07436
         37572   SYL    BSS 0               SYSTEM                                         07437
37572  0373737          OCT 373737                                                        07438
37573  0606060   SYL1   ALF                                                               07439
37574  0606060          ALF                                                               07440
37575  0606060          ALF                                                               07441
37576  0375577          OCT 375577                                                        07442
                                                                                           07443
         37577   SYLO   BSS 0               OVERLAY #                                      07444
37577  0466525          ALF OVE                                                           07445
37600  0514321          ALF RLA                                                           07446
37601  0707777          OCT 707777                                                        07447
37602  0601360          OCT 601360                                                        07448
37603  0606060   SYLO2  ALF                                                               07449
37604  0375577          OCT 375577                                                        07450
                                                                                           07451
         37605   SCRN   BSS 0               CARD READER NIOT READY                         07452
37605  0372321          OCT 372321                                                        07453
37606  0512460          ALF RD                                                            07454
37607  0512521          ALF REA                                                           07455
37610  0242551          ALF DER                                                           07456
37611  0604546          ALF  NO                                                           07457
37612  0636051          ALF T R                                                           07458
37613  0252124          ALF EAD                                                           07459
37614  0703337          OCT 703337                                                        07460
37615  0557777          OCT 557777                                                        07461
                                                                                           07462
         37616   SCHKSM BSS 0               CHECKSUM ERROR, BACKSPACE TWO CARDS AND        07463
37616  0372330          OCT 372330          TOGGLE 0 WHEN READY                            07464
37617  0252342          ALF ECK                                                           07465
37620  0626444          ALF SUM                                                           07466
37621  0602551          ALF  ER                                                           07467
37622  0514651          ALF ROR                                                           07468
37623  0156022          OCT 156022                                                        07469
37624  0212342          ALF ACK                                                           07470
37625  0624721          ALF SPA                                                           07471
37626  0232560          ALF CE                                                            07472
37627  0026023          ALF 2 C                                                           07473
37630  0215124          ALF ARD                                                           07474
37631  0626021          ALF S A                                                           07475
```

SYSTEM LOADER

```
37632  0452460          ALF ND                                          07476
37633  0634627          ALF TOG                                         07477
37634  0274325          ALF GLE                                         07478
37635  0600260          ALF  2                                          07479
37636  0663025          ALF WHE                                         07480
37637  0456051          ALF N R                                         07481
37640  0252124          ALF EAD                                         07482
37641  0703337          OCT 703337                                      07483
37642  0557777          OCT 557777                                      07484
                                                                        07485
         37643  SILAD    BSS 0          ADDRESS OUT OF BOUNDS          07486
37643  0372124          OCT 372124                                      07487
37644  0245125          ALF DRE                                         07488
37645  0626260          ALF SS                                          07489
37646  0466463          ALF OUT                                         07490
37647  0604626          ALF  OF                                         07491
37650  0602246          ALF  BO                                         07492
37651  0644524          ALF UND                                         07493
37652  0623337          OCT 623337                                      07494
37653  0557777          OCT 557777                                      07495
                                                                        07496
         37654  SSNO     BSS 0          SYSTEM NOT AVAILABLE           07497
37654  0376270          OCT 376270                                      07498
37655  0626325          ALF STE                                         07499
37656  0446045          ALF M N                                         07500
37657  0466360          ALF OT                                          07501
37660  0216521          ALF AVA                                         07502
37661  0314321          ALF ILA                                         07503
37662  0224325          ALF BLE                                         07504
37663  0777760          OCT 777760                                      07505
37664  0606060  SSNO1   ALF                                             07506
37665  0333755          OCT 333755                                      07507
                                                                        07508
         37666  SNOL     BSS 0          NO LOAD.                       07509
37666  0374546          OCT 374546                                      07510
37667  0604346          ALF  LO                                         07511
37670  0212433          ALF AD.                                         07512
37671  0375577          OCT 375577                                      07513
                                                                        07514
         37672  SBLANK   BSS 0          **** MISSING BLANK ****        07515
37672  0373754          OCT 373754                                      07516
37673  0545454          ALF ***                                         07517
37674  0604431          ALF  MI                                         07518
37675  0626231          ALF SSI                                         07519
37676  0452760          ALF NG                                          07520
37677  0224321          ALF BLA                                         07521
37700  0454260          ALF NK                                          07522
37701  0545454          ALF ***                                         07523
37702  0543755          OCT 543755                                      07524
                                                                        07525
         37703  STLO     BSS 0          OVERLAY TOO LONG               07526
```

SYSTEM LOADER

```
37703  0374665          OCT 374665                                                07527
37704  0255143          ALF ERL                                                   07528
37705  0217060          ALF AY                                                    07529
37706  0634646          ALF TOO                                                   07530
37707  0604346          ALF  LO                                                   07531
37710  0452760          ALF NG                                                    07532
37711  0375577          OCT 375577                                                07533
                                                                                  07534
                                                                                  07535
                                                                                  07536
                                                                                  07537
       00054            ORG T          TEMPORARY STORAGE                         07538
       00054  SPOIN     BSS 1          ROUTINE POINTER                           07539
       00055  SLAPSE    BSS 1          ELAPSED TIME COUNTER FOR CARD READER      07540
       00056  SX3SV     BSS 1          REGISTER 3 SAVE                           07541
       00057  SWDCT     BSS 1          WORD COUNT MASK                           07542
       00060  SADDR     BSS 1          ADDRESS MASK                              07543
       00061  SOCTC     BSS 1          HIGH ORDER MASK                           07544
       00062  SOCACC    BSS 1          WORD ACCUMULATOR                          07545
       00063  SOCADD    BSS 1          ADDRESS                                   07546
       00064  SLIM      BSS 1          UPPER LIMIT                               07547
       00065  SMASK     BSS 1          MASK FOR ALL HIGH ORDER BITS ABOVE 16K    07548
       00066  SDISKF    BSS 1          DISK FLAG FOR MISSING BLANKS              07549
       00067  SLENG     BSS 1          OVERLAY LENGTH                            07550
T01574                  TCD LOVWRT     END                                       07551
                                                                                  07552
                                                                                STL07553
                                                                                EJT07554
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
                                THESE DEBUGGING ROUTINES ARE CALLED FROM          07555
                                THE CONSOLE TYPEWRITER.                           07556
                                THE COMMANDS ARE...                               07557
                                   *DBGOUT* TO DUMP ON THE PRINTER WITH HSMP      07558
                                   *DBGOCT* TO USE THE OCTAL INSERT ROUTINE       07559
                                   *DBGCOM* TO GET A COMMUNICATIONS DUMP          07560
                                                                                  07561
                                                                                  07562
                                CHAR IS A CHARACTER PICKUP ROUTINE THAT           07563
                                TAKES CHARACTERS FROM TY AND PLACES THEM ONE      07564
                                AT A TIME IN THE A REGISTER                       07565
                                                                                  07566
                                                                                  07567
                                OUT TAKES PARAMETERS INPUTTED FROM THE            07568
                                CONSOLE TYPEWRITER AND WILL DUMP FROM THE         07569
                                SPECIFIED LOCATIONS ONTO THE HIGH SPEED           07570
                                PRINTER.                                          07571
                                THE FORMAT IS AS FOLLOWS                          07572
                                OUT XXXXX,XXXXXX$  WHERE $ STANDS FOR             07573
                                A CARRIAGE RETURN.  INBEDDED BLANKS AND           07574
                                OTHER NONUMERIC CHARACTERS ARE IGNORED.  THE      07575
                                DUMP WILL BE FROM THE LOCATION BEFORE THE         07576
                                COMMA TO THE LOCATION AFTER.  OUT, WILL           07577
                                DUMP FROM 0, BUT THE OTHER PARAMETER MUST         07578
                                BE THERE                                          07579
                                                                                  07580
                                                                                  07581
                                OCTAL TAKES THE INPUT BEFORE A COLON AND SETS     07582
                                IT IN THE LOCATION COUNTER.  A COMMA CAUSES       07583
                                THE PREVIOUS INPUT TO BE STORED IN THE            07584
                                ADDRESS OF THE COUNTER, AND INCREMENTS IT BY      07585
                                ONE.                                              07586
                                OCTAAAAA.XXXXXXX,YYYYYYY, ETC.                    07587
                                OCTAL WITHOUT AN ADDRESS WILL SAVE THE PRE-       07588
                                VIOUSLY USED ONE - ZERO IF NOT INITIALIZED        07589
                                WARNING...8,9 ARE TREATED AS ZERO                 07590
                                                                                  07591
                                                                                  07592
                                DUMP IS A MODIFIED VERSION OF GE S HIGH           07593
                                SPEED PRINTER MEMORY DUMP.  THE DUMP              07594
                                IS ENTERED WITH FROM AND TO ADDRESSES IN          07595
                                A AND Q.  IT USES TWO SEPARATE BUFFER AREAS       07596
                                FOR PRINTING FROM.                                07597
                                                                                  07598
                                                                                  07599
                                                                                  07600
                                                                                  07601
     01670                      ORG PERNUM                                        07602
01670 0000024                   DEC 20                                            07603
01671 0000502                   DEC DBG                                           07604
                                                                                  07605
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
                37000           ORG EXECOV                                      07606
37000  0757263          SPB BGTOFF  2          ASK TIME STOP                    07607
37001  0077741          LDA SLOC1   3          GET ACCUMULATED COUNTER SO FAR   07608
37002  0300064          STA SLOC                                                07609
37003  0077750          LDA COM3    3          SET UP TEST REGISTERS            07610
37004  0300067          STA COM1                                                07611
37005  0077751          LDA COL3    3                                           07612
37006  0300070          STA COL1                                                07613
37007  1077604          DLD DUMPMB  3          SETUP SOME MORE CONSTANTS FOR HSMP07614
37010  1300060          DST DMPMSK                                              07615
37011  0000031          LDA TY+1               CHECK IF OUT OR OCTAL            07616
37012  2177744          CAB COMNIC  3          COMMUNICATIONS DEBUGGING         07617
37013  2617166          BRU SDEL               NO, ERROR                        07618
37014  2617172          BRU COMBUG             DEBUG COMMUNICATIONS SYSTEM      07619
37015  2177743          CAB OCT     3          OCTAL                            07620
37016  2617166          BRU SDEL               NO                               07621
37017  2617120          BRU OCTAL                                               07622
37020  2177742          CAB OUT     3          HSMP DUMP                        07623
37021  2617166          BRU SDEL               NO                               07624
37022  2617045          BRU HSMP                                                07625
37023  2177754          CAB BGTIM   3          CHECK FOR CLOCK SET              07626
37024  2617166          BRU SDEL               NO                               07627
37025  2617267          BRU BGTIME                                              07628
37026  2617166          BRU SDEL               NOT FOUND AT ALL, ERROR          07629
                                                                                07630
37027  0457776  CHAR    RXL 2       2          2 MUST BE INITIALIZED AT PLUS TWO07631
37030  2617042          BRU CHAR23                                              07632
37031  0640276          LDX ZERO    2                                           07633
37032  1420001  CHAR2   INX 1       1          AND INCREMENT ONE                07634
37033  0020030          LDA TY      1          GET WORD                         07635
37034  0300066          STA CH3                AND BREAK UP                     07636
37035  2510006          SRA 6                                                   07637
37036  0300065          STA CH2                                                 07638
37037  2510006          SRA 6                                                   07639
37040  2000344  CHAR1   EXT MASK7              GET RID OF ALL BUT CHARACTER     07640
37041  2660001          BRU 1       3          EXIT                             07641
37042  0040065  CHAR23  LDA CH2     2          GET NEXT CHARACTER               07642
37043  1440001          INX 1       2          AND INCREMENT POINTER            07643
37044  2617040          BRU CHAR1                                               07644
                                                                                07645
                                                                                07646
                                                                                07647
37045  1000276  HSMP    DLD ZERO                                                07648
37046  0300136          STA TEMP               AND TEMPORARY STORAGE            07649
37047  1300200          DST Z0                                                  07650
37050  0300202          STA Z2                                                  07651
37051  0300133          STA RAWT                                                07652
37052  0777032          SPR CHAR2   3          AND GET CHARACTER                07653
37053  2100067          CAB COM1               CHECK FOR COMMA                  07654
37054  2617056          BRU *+2                NO                               07655
37055  2617077          BRU OCOM               YES                              07656
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37056  2100326          CAR CR                AND CHECK FOR CARRIAGE RETURN      07657
37057  2617061          BRU *+2                                                  07658
37060  2617107          BRU OCR               YES                                07659
37061  2100322  COMMON  CAR SEVEN             CHECK IF LESS THAN 7.              07660
37062  2617065          BRU *+3               OK                                 07661
37063  2617065          BRU *+2                                                  07662
37064  2617027          BRU CHAR              IGNORE AND GET ANOTHER             07663
37065  0517771          BXH 7       0         CHECK IF MORE THAN 7               07664
37066  2617166          BRU SDEL                                                 07665
37067  1400001          INX 1       0         INCREMENT COUNTER                  07666
37070  2511003          SRD 3                                                    07667
37071  0100136          ADD TEMP              SAVE CHARACTER AND BUILD WORD      07668
37072  2512203          SLD 3                                                    07669
37073  2514003          BOV                   IF OVERFLOW, SIGN BIT SET          07670
37074  0100361          ADD SIGN                                                 07671
37075  0300136          STA TEMP              SAVE WORD                          07672
37076  2617027          BRU CHAR              AND GET OUT                        07673
                                                                                 07674
                                                                                 07675
37077  2504102  OCOM    LMO                    RESET FLAG                        07676
37100  0300133          STA RAWT                                                 07677
37101  0000136          LDA TEMP              GET WORD                           07678
37102  0300056          STA DUMPBG                                               07679
37103  2504002  OCOMON  LDZ                   RESET COUNTERS AND STORAGE         07680
37104  0300136          STA TEMP                                                 07681
37105  0300200          STA Z0                                                   07682
37106  2617027          BRU CHAR                                                 07683
                                                                                 07684
37107  0000133  OCR     LDA RAWT              IF NO COMMA YET, CRUMP             07685
37110  2516001          BPL                                                      07686
37111  2617166          BRU SDEL                                                 07687
37112  0000136          LDA TEMP              GET TO LOCATION                    07688
37113  2504004          LQA                                                      07689
37114  0000056          LDA DUMPBG            AND FROM IN A                      07690
37115  0660337          LDX 8K      3                                            07691
37116  0737432          SPB DUMP    1                                            07692
37117  2617165          BRU OCT3              GET OUT                            07693
                                                                                 07694
                                                                                 07695
37120  1000276  OCTAL   DLD ZERO              INITIALIZE REGISTERS               07696
37121  0300136          STA TEMP                                                 07697
37122  1300200          DST Z0                                                   07698
37123  0300202          STA Z2                                                   07699
37124  0777032          SPB CHAR2   3         GET CHARACTER                      07700
37125  2100070          CAR COL1              CHECK FOR COLON                    07701
37126  2617130          BRU *+2                                                  07702
37127  2617137          BRU SCOLON            FOUND                              07703
37130  2100067          CAR COM1              CHECK FOR COMMAS                   07704
37131  2617133          BRU *+2                                                  07705
37132  2617142          BRU SCOMMA            FOUND                              07706
                                                                                 07707
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37133  2100326          CAB  CR                AND CARRIAGE RETURN                    07708
37134  2617061          BRU  COMMON                                                   07709
37135  2617161          BRU  SCR                                                      07710
37136  2617061          BRU  COMMON                                                   07711
                                                                                      07712
37137  0000136  SCOLON  LDA  TEMP              GET LOCATION                           07713
37140  0300064          STA  SLOC              SET IN COUNTER                         07714
37141  2617103          BRU  OCOMON            AND RESET STORAGE                      07715
                                                                                      07716
37142  1740133  SCOMMA  STX  RAWT    2         SAVE REGISTER                          07717
37143  1760071          STX  DTMP    3         SAVE REGISTER 3                        07718
37144  0757150          SPB  SCOM1   2                                                07719
37145  0640133          LDX  RAWT    2                                                07720
37146  0660071          LDX  DTMP    3         AND RESTORE 3                          07721
37147  2617027          BRU  CHAR              AND GET ANOTHER CHARACTER              07722
37150  0660064  SCOM1   LDX  SLOC    3         GET LOCATION                           07723
37151  0000136          LDA  TEMP              AND STORE WORD THERE                   07724
37152  0360000          STA  0       3                                                07725
37153  1460001          INX  1       3         BUMP UP ADDRESS COUNTER                07726
37154  1760064          STX  SLOC    3         AND SAVE                               07727
37155  2504002          LDZ                    RESET                                  07728
37156  0300136          STA  TEMP                                                     07729
37157  0300200          STA  Z0                                                       07730
37160  2640001          BRU  1       2                                                07731
                                                                                      07732
37161  0757150  SCR     SPB  SCOM1   2         ACT AS IF COMMA                        07733
37162  0660337          LDX  8K      3                                                07734
37163  0000064          LDA  SLOC              RESTORE LOCATION COUNTER               07735
37164  0377741          STA  SLOC1   3                                                07736
37165  2614163  OCT3    BRU  ICRUMP            GET OUT                                07737
                                                                                      07738
37166  0660337  SDEL    LDX  8K      3         RESTORE REGISTER                       07739
37167  0756330          SPB  MESSG   2         ILLEGAL TASK                           07740
37170  0000545          DEC  DEL                                                      07741
37171  2617165          BRU  OCT3              AND CRUMP                              07742
                                                                                      07743
                                                                                      07744
                                                                                      07745
                        COMBUG IS USED TO DEBUG COMMUNICATIONS BY                     07746
                        PATCHING OUT CERTAIN SELECTED LOCATIONS IN                    07747
                        THE MAIN BODY OF THE EXECUTIVE.  IN PLACE                     07748
                        OF THE ORIGINAL INSTRUCTIONS, WHICH IT SAVES,                 07749
                        IT PLACES BRANCHES TO PRINTOUT ROUTINES,                      07750
                        WHICH DUMP THE LOWER-LOWER STORAGE AREA,                      07751
                        AND THE INSERTED TASKS IN IPLST                               07752
                                                                                      07753
                                                                                      07754
                                                                                      07755
   37172  COMRUG  BSS  0                      THE ROUTINE IS TERMINATED BY STOP.     07756
37172  0074271          LDA  CRUGA   3         GET LOCATIONS THERE AND SAVE           07757
37173  0377755          STA  CRUGAS  3                                                07758
```

DEBUGGING PACKAGE - DRGOUT, DBGOCT, DRGCOM

```
37174  0075234          LDA CBUGR   3      EXIT PATCH                                07759
37175  0377756          STA CBUGRS  3                                                07760
37176  0074163          LDA ICRUMP  3      CRUMP LOCATION                            07761
37177  0377757          STA CBUGCS  3                                                07762
37200  0077745          LDA .COMA.  3      AND SET IN MAILBOX RECEIPT ROUTINE        07763
37201  0374271          STA CBUGA   3                                                07764
37202  0077746          LDA .COMB.  3      GET EXIT PATCHP                           07765
37203  0375234          STA CBUGR   3                                                07766
37204  0077747          LDA .COMC.  3      AND PATCH OUT CRUMP                       07767
37205  0374163          STA ICRUMP  3                                                07768
37206  0300130          STA PERIN          DESTROY SYSTEM IN INDICATOR               07769
37207  0756330          SPB MESSG   2      TYPE READY                                07770
37210  0000551          DEC REA                                                      07771
37211  0757265          SPB BGTON   2      AND ASK FOR ON                            07772
37212  2620002          BRU 2       1      AND GET BACK                              07773
                                                                                     07774
                                                                                     07775
37213  1740071  COMA    STX DTMP    2      ENTRY FROM MAILBOX                        07776
37214  0757263          SPB BGTOFF  2      ASK FOR OFF                               07777
37215  2516620          BCS BPN     6      AND SLEW TO TOP OF PAGE SO WE CAN         07778
37216  2617215          BRU *-1            SEE WHAT WERE DOING                       07779
37217  2500620          SEL 6                                                        07780
37220  0400000          SLT 8                                                        07781
37221  0000000
37222  1077576          DLD OBUG1   3      GET FIRST SET OF LOCATIONS                07782
37223  0737432          SPB DUMP    1      AND DUMP                                  07783
37224  1077600          DLD OBUG2   3      DUMP SAVE AREA                            07784
37225  0737432          SPB DUMP    1                                                07785
37226  1077602          DLD OBUG3   3      IPRIOR-IPLST                              07786
37227  0737432          SPB DUMP    1                                                07787
37230  2516620          BCS BPN     6      WAIT FOR PRINTER                          07788
37231  2617230          BRU *-1            AND SLEW EXTRA FOUR LINES IN BETWEEN      07789
37232  2500620          SEL 6                                                        07790
37233  0600000          SLW 4                                                        07791
37234  0400000
37235  0757265          SPB BGTON   2      ASK FOR ON AGAIN                          07792
37236  0640071          LDX DTMP    2      AND RETURN                                07793
37237  2654272          BRU CBUGA+1 2      AND BRANCH TO LIST                        07794
                                                                                     07795
                                                                                     07796
37240  0300071  COMB    STA DTMP           EXIT DEBUGGING DUMP                       07797
37241  0757263          SPB BGTOFF  2      ASK FOR OFF                               07798
37242  1077602          DLD OBUG3   3      THIRD SET                                 07799
37243  0737432          SPB DUMP    1                                                07800
37244  1077600          DLD OBUG2   3      SECOND SET                                07801
37245  0737432          SPB DUMP    1      AND DUMP                                  07802
37246  1077576          DLD OBUG1   3      FIRST SET                                 07803
37247  0737432          SPB DUMP    1      AND DUMP                                  07804
37250  0757265          SPB BGTON   2      ASK FOR ON                                07805
37251  0000071          LDA DTMP           GET ANSWER AGAIN                          07806
37252  0300214          STA MBX0           AND SET IN MAILBOX                        07807
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37253  2615235          BRU CBUGR+1          GET BACK                          07808
                                                                               07809
                                                                               07810
37254  0077755  COMC    LDA CBUGAS  3        RESTORE DEBUGGING ENTRIES         07811
37255  0374271          STA CBUGA   3                                          07812
37256  0077756          LDA CBUGBS  3        RESTORE SECOND PATCH              07813
37257  0375234          STA CBUGB   3                                          07814
37260  0077757          LDA CBUGCS  3        ICRUMP RESTORE                    07815
37261  0374163          STA ICRUMP  3                                          07816
37262  2614163          BRU ICRUMP           AND GET BACK                      07817
                                                                               07818
                                                                               07819
                                                                               07820
37263  0000316  BGTOFF  LDA THREE            ASK FOR TIME COUNT STOP           07821
37264  2616430          BRU SPMESS                                             07822
                                                                               07823
37265  0000317  BGTON   LDA FOUR             ASK FOR TIME COUNT RESUMPTION     07824
37266  2616430          BRU SPMESS                                             07825
                                                                               07826
                                                                               07827
                        BGTIME CONVERTS A TIME ENTERED IN HOURS AND            07828
                        MINUTES TO OCTAL 6THS OF A SECOND FOR THE              07829
                        REAL-TIME CLOCK.  THE CALL IS DBGTIM                   07830
                        FOLLOWED BY THE HOURS, THE A COLON, THEN THE           07831
                        MINUTES                                                07832
                                                                               07833
                                                                               07834
37267  1000276  BGTIME  DLD ZERO             INTIALIZE SOME AREAS              07835
37270  1300200          DST Z0                                                 07836
37271  0300202          STA Z2                                                 07837
37272  0300136          STA TEMP             AND TEMPORARY STORAGE             07838
37273  0300133          STA RAWT                                               07839
37274  0777032          SPR CHAR2   3        AND THEN GET CHARACTERS           07840
37275  2100070          CAB COL1             CHECK FOR COLON                   07841
37276  2617300          BRU *+2              NO                                07842
37277  2617314          BRU BGCOL            YES, GO PROCESS                   07843
37300  2100326          CAB CR               CHECK FOR CARRIAGE RETURN         07844
37301  2617303          BRU *+2              NO                                07845
37302  2617332          BRU BGCR             ELSE GO PROCESS                   07846
37303  2100324          CAB TEN              CHECK FOR DIGITS                  07847
37304  2617307          BRU BGCON            YES, CONVERT THEM                 07848
37305  2617027          BRU CHAR             ELSE CONTINUE SCAN                07849
37306  2617027          BRU CHAR                                               07850
                                                                               07851
                                                                               07852
37307  0517776  BGCON   BXH 2       0        CHECK IF OVER TWO CHARACTERS      07853
37310  2617166          BRU SDEL             IF SO, CRUMP                      07854
37311  1500324          MPY TEN              ELSE CONVERT TO BINARY            07855
37312  1400001          INX 1       0        AND STEP COUNTER                  07856
37313  2617027          BRU CHAR             AND GET NEXT CHARACTER            07857
                                                                               07858
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37314  2504002  BGCOL  LDZ                    COLON                                          07859
37315  1500435         MPY H1                 GET HOURS IN SIXTHS OF A SECOND                07860
37316  2516002         BNZ                    CHECK FOR TOO MANY                             07861
37317  2617166         BRU SDEL               IF SO, CRUMP                                   07862
37320  2504001         LAQ                    AND GET THEM                                   07863
37321  0300062         STA DUMPX              AND SAVE THEM                                  07864
37322  0000133         LDA RAWT               CHECK IF SECOND TIME OR FUDGE CARRIAGE RET     07865
37323  2514000         BOD                                                                   07866
37324  2617344         BRU BGDON              TWO COLONS WILL ALSO DO                        07867
37325  0000314         LDA TWO                COLONS WILL RESET IF MORE THAN ONE             07868
37326  0300133         STA RAWT                                                              07869
37327  1000276         DLD ZERO               REINITIALIZE                                   07870
37330  0300200         STA Z0                 AND RESET COUNTER                              07871
37331  2617027         BRU CHAR               AND GET SOME MORE CHARACTERS                   07872
                                                                                             07873
                                                                                             07874
37332  0000133  BGCR   LDA RAWT               CHECK IF COLON PREVIOUSLY                      07875
37333  2516002         BNZ                    YES, OK                                        07876
37334  2617340         BRU *+4                                                               07877
37335  2504022         LDO                    ELSE PRETEND COLON                             07878
37336  0300133         STA RAWT                                                              07879
37337  2617314         BRU BGCOL              AND GO PROCESS HOURS                           07880
37340  2504002         LDZ                    GET MINUTES IN SIXTHS OF A SECOND              07881
37341  1500437         MPY H2                                                                07882
37342  2504001         LAQ                                                                   07883
37343  0100062         ADD DUMPX              ADD HOURS                                      07884
                                                                                             07885
37344  0660337  BGDON  LDX 8K       3                                                       07886
37345  2514001         BMI                    CHECK IF TOO LARGE BY FAR                      07887
37346  2617166         BRU SDEL                                                              07888
37347  2177752         CAR BGMAX   3          AND CHECK FOR OVER 24 HOURS                    07889
37350  2617353         BRU *+3                NO, OK                                         07890
37351  2617353         BRU *+2                STILL OK                                       07891
37352  2617166         BRU SDEL               DUMMY...                                       07892
37353  0300062         STA DUMPX              SAVE FOR LATER                                 07893
37354  0757265         SPB BGTON   2          ASK FOR TIME COUNT                             07894
37355  1077606         DLD .BGST.  3          GET ENTRY FOR TABLE                            07895
37356  0754217         SPB INSERT  2                                                         07896
37357  0300154         STA OVTSK              AND MAKE CRUMPABLE                             07897
37360  0756330         SPB MESSG   2          TYPE MESSAGE                                   07898
37361  0000551         DEC REA                                                               07899
37362  2614201         BRU IREST              AND GET BACK                                   07900
                                                                                             07901
                                                                                             07902
37363  0000127  BGST   LDA PCT                CHECK FOR TON                                  07903
37364  2516001         BPL                                                                   07904
37365  2620002         BRU 2       1          IF SO, GET OUT                                 07905
37366  2510123         SNA 19                 ELSE GET CHARACTER                             07906
37367  0277753         SUB BGKEY   3                                                         07907
37370  2516002         BNZ                    IF NOT, KEEP TRYING                            07908
37371  2620002         BRU 2       1                                                         07909
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37372  0000062          LDA DUMPX          ELSE GET TIME                                07910
37373  2504210          LCA                AND SET IN C REGISTER                        07911
37374  0100317          ADD FOUR           SET VARIOUS TIMERS ACCORDING TO NEW CLOCK     07912
37375  0300120          STA INT1                                                        07913
37376  0100316          ADD THREE                                                       07914
37377  0300110          STA DIVAL                                                       07915
37400  0300114          STA HDSKD                                                       07916
37401  0100437          ADD H2                                                          07917
37402  2514001          BMI                CHECK TOO LARGE                              07918
37403  2617407          BRU *+4                                                         07919
37404  2177752          CAB BGMAX   3      CHECK FOR TOO CLOSE TO MIDNIGHT              07920
37405  2617410          BRU *+3            OK                                           07921
37406  2617407          BRU *+1            CLOSE                                        07922
37407  0077752          LDA BGMAX   3      TOO CLOSE                                    07923
37410  0300122          STA ITIM                                                        07924
37411  0100443          ADD K3LOC                                                       07925
37412  2514001          BMI                                                             07926
37413  2617417          BRU *+4            TOO LARGE                                    07927
37414  2177752          CAB BGMAX   3      CHECK FOR CLOSE TO MIDNIGHT                  07928
37415  2617420          BRU *+3            OK                                           07929
37416  2617417          BRU *+1            CLOSE                                        07930
37417  0077752          LDA BGMAX   3                                                   07931
37420  0300113          STA .EFF                                                        07932
37421  0756472          SPB TIME    2      AND TYPE OUT NEW TIME                        07933
37422  1377614          DST BGNEW1  3                                                   07934
37423  0756330          SPB MESSG   2      AND TYPE MESSAGE                             07935
37424  0037610          DEC BGNEW                                                       07936
37425  0754212          SPB IRASE   2      AND ERASE TASK                               07937
37426  2504002          LDZ                ZERO OUT FLAGS                               07938
37427  0300154          STA OVTSK                                                       07939
37430  0300106          STA BZYF           AND BUSY FLAG                                07940
37431  2614201          BRU IREST          AND CRUMP                                    07941
                                                                                        07942
                                                                                        07943
                                                                                        07944
                                                                                        07945
                                                                                        07946
37432  1720063  DUMP    STX DUMPX1  1      SAVE RETURN                                  07947
37433  2000322          EXT SEVEN          FROM A TO Q                                  07948
37434  0300056          STA DUMPBG         SAVE STARTING ADDRESS                        07949
37435  2516620          BCS BPN     6      WAIT FOR PRINTER READY                       07950
37436  2617435          BRU *-1                                                         07951
37437  2500620          SEL 6                                                           07952
37440  0600000          SLW 4              SLEW PAGE 4 LINES                            07953
37441  0400000                                                                         07954
37442  2504001          LAQ                GET ENDING ADDRESS                           07955
37443  2000322          EXT SEVEN          MASK OUT LOW ORDER END                       07956
37444  0300057          STA DUMPED                                                      07957
37445  1077574          DLD DUMPBK  3      GET BUFFER ADDRESSES                         07958
37446  1300054          DST DUMPIO         AND SET IN FLIP FLOPS                        07959
37447  2777510          STO DUMP1X+13      AS WELL AS A COUPLE OF OTHER PLACES
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37450  2777556          STO DUMP04  3                                    07960
37451  0300203          STA Z3                                           07961
37452  0640337          LDX 8K      2    SET REGISTER                    07962
37453  0000441          LDA DUMPBL       GET BLANKS                      07963
37454  0360000          STA 0       3                                    07964
37455  0360050          STA 40      3    BUFFER AREAS DIFFER BY 40       07965
37456  1460001          INX 1       3    INCREMENT AREA                  07966
37457  1440001          INX 1       2    COUNT                           07967
37460  0457735          BXL 35      2    AND TEST                        07968
37461  2617454          BRU *-5          NO                              07969
37462  0100361          ADD SIGN         MAKE LAST ENTRIES NEGATIVE BLANKS 07970
37463  0360000          STA 0       3                                    07971
37464  0360050          STA 40      3                                    07972
37465  0640337          LDX 8K      2    INITIALIZE REGISTERS            07973
37466  0660056          LDX DUMPRG  3                                    07974
37467  2617523          BRU DUMPAD                                       07975
                                                                         07976
37470  1760062  DUMPOV  STX DUMPX   3                                    07977
37471  0000062          LDA DUMPX                                        07978
37472  0200057          SUB DUMPED       TEST FOR END DUMP               07979
37473  2516001          BPL              IF FINISHED DUMPING, GET OUT    07980
37474  2617570          BRU DUMPEX                                       07981
37475  0060000          LDA 0       3    REPETITIVE                      07982
37476  0260010          SUB 8       3     EDIT BY LINES                  07983
37477  2516002          BNZ              NOT ALIKE                       07984
37500  2617522          BRU DUMPIT                                       07985
37501  1460001          INX 1       3    TEST NEXT                       07986
37502  2617470          BRU DUMPOV                                       07987
                                                                         07988
37503  0060000  DUMPWB  LDA 0       3    GET WORD                        07989
37504  2511022          SRD 18           POSITION FOR BUILD              07990
37505  2000060          EXT DMPMSK       OCT 3777774 - MASK OUT HIGH ORDER BITS 07991
37506  0100061          ADD DMPBRZ        WITH LEADING BLANKS            07992
37507  2000361  DUMP1X  EXT SIGN         INSURE PLUS                     07993
37510  0340000          STA 0       2     IN IMAGE                       07994
37511  1440001          INX 1       2    COUNT                           07995
37512  2620001          BRU 1       1    RETURN                          07996
37513  2512003  DUMPBD  SLA 3            BUILD                           07997
37514  2512203          SLD 3             3                              07998
37515  2512003          SLA 3             CHARACTERS                     07999
37516  2512203          SLD 3             IN                             08000
37517  2512003  DUMPA1  SLA 3             A REG.                         08001
37520  2512203          SLD 3             FROM Q REG.                    08002
37521  2617507          BRU DUMP1X        AND GO STORE                   08003
                                                                         08004
37522  1460010  DUMPIT  INX 8       3    CATCH UP ON INDEX               08005
37523  1760062  DUMPAD  STX DUMPX   3    POINTER                         08006
37524  0000062          LDA DUMPX                                        08007
37525  2000322          EXT SEVEN                                        08008
37526  0300056          STA DUMPRG                                       08009
37527  0660056          LDX DUMPRG  3                                    08010
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
37530  1760062          STX DUMPX   3                                  08011
37531  2511014          SRD 12                 POSITION                08012
37532  0100061          ADD DMPBBZ              AND BLANK FILL         08013
37533  0737517          SPB DUMPA1  1          CONVERT                 08014
37534  0737513          SPR DUMPBD  1          AND STORE               08015
37535  0737503 DUMPWD   SPB DUMPWB  1          SET SIGN AND BIT 1      08016
37536  0737513          SPB DUMPRD  1          BUILD 7                 08017
37537  0737513          SPB DUMPBD  1           CHARACTERS PER WORD    08018
37540  1460001          INX 1       3          COUNT FOR NEXT WORD     08019
37541  0457746          BXL 26      2          TEST END OF IMAGE       08020
37542  2617535          BRU DUMPWD              NO.                    08021
37543  1440001          INX 1       2          LEAVE A BLANK SPACE BEFORE BCD DUMP  08022
37544  0660062          LDX DUMPX   3          BUILD BCD PORTION OF LINE  08023
37545  0060000 DUMP03   LDA 0       3                                  08024
37546  1460001          INX 1       3          STEP BLOCK COUNTER      08025
37547  0737507          SPB DUMP1X  1          GO STORE                08026
37550  0457735          BXL 35      2          TEST FOR END OF LINE    08027
37551  2617545          BRU DUMP03                                     08028
37552  2516620          BCS BPN     6          WAIT FOR PRINTER        08029
37553  2617552          BRU *-1                                        08030
37554  2500620          SEL 6                                          08031
37555  2600000          OCT 2600000                                    08032
37556  0120000 DUMP04   ADD 0       1                                  08033
37557  0660337          LDX 8K      3                                  08034
37560  1000054          DLD DUMPIO              GET ADDRESSES AND SWITCH  08035
37561  2504005          XAQ                                            08036
37562  1300054          DST DUMPIO                                     08037
37563  2777556          STO DUMP04  3                                  08038
37564  2777510          STO DUMP1X+13                                  08039
37565  0660056          LDX DUMPBG  3                                  08040
37566  0640337          LDX 8K      2                                  08041
37567  2617470          BRU DUMPOV              GET BACK               08042
                                                                       08043
37570  0620063 DUMPEX   LDX DUMPX1  1          GET RETURN LOCATION     08044
37571  0660337          LDX 8K      3          AND RESTORE X3          08045
37572  2620001          BRU 1       1          AND RETURN              08046
                                                                       08047
                                                                       08048
37574  0037621 DUMPBK   DEC DUMPA              DUMP BUFFER AREAS       08049
37575  0037671          DEC DUMPB                                      08050
37576  0000074 OBUG1    DEC T+16               DUMP QUITE A BIT        08051
37577  0000246          DEC SCLOCK                                     08052
37600  0004000 OBUG2    DEC KCLOCK                                     08053
37601  0004077          DEC MKPR1-1            DUMP SAVE AREA          08054
37602  0034044 OBUG3    DEC IPRIOR                                     08055
37603  0034067          DEC EPLST-1                                    08056
37604  3777774 DUMPMB   OCT 3777774            MASK                    08057
37605  0606000          ALF   0                AND LEADING BLANKS      08058
37606  0737363 .BGST.   SPB BGST    1          ENTRY TO SET TIME IN REGISTER  08059
37607  3777777          DEC -1                                         08060
37610  0374525 BGNEW    OCT 374525             NEW TIME IS...          08061
```

DEBUGGING PACKAGE - DBGOUT, DBGOCT, DBGCOM

```
 37611  0666063          ALF W T                                          08062
 37612  0314425          ALF IME                                          08063
 37613  0603162          ALF  IS                                          08064
 37614  0606060  BGNEW1  ALF                                              08065
 37615  0606060          ALF                                              08066
 37616  0603046          ALF  HO                                          08067
 37617  0645162          ALF URS                                          08068
 37620  0333755          OCT 333755                                       08069
          37621  DUMPA   BSS 40                                          08070
          37671  DUMPB   BSS 40                                          08071
 37741  0000000  SLOC1   DEC 0          LOCATION COUNTER                 08072
 37742  0466463  OUT     ALF OUT                                          08073
 37743  0462363  OCT     ALF OCT                                          08074
 37744  0234644  COMNIC  ALF COM                                          08075
 37745  2617213  .COMA.  BRU COMA                                         08076
 37746  2617240  .COMB.  BRU COMB                                         08077
 37747  2617254  .COMC.  BRU COMC                                         08078
 37750  0000073  COM3    OCT 73           COMMA                           08079
 37751  0000015  COL3    OCT 15           COLON                           08080
 37752  1764370  BGMAX   OCT 1764370      NEARLY 24 HOURS                 08081
 37753  2000053  BGKEY   OCT -53          DOLLAR SIGN                     08082
 37754  0633144  BGTIM   ALF TIM          TIME CHECK CONSTANT             08083
          37755  CBUGAS  BSS 1                                           08084
          37756  CBUGBS  BSS 1                                           08085
          37757  CBUGCS  BSS 1                                           08086
                                                                         08087
                                                                         08088
                                                                         08089
          00054          ORG T            TEMPORARY STORAGE               08090
          00054  DUMPIO  BSS 2            FLIP FLOP FOR PRINT AREAS       08091
          00056  DUMPBG  BSS 1            BLOCK CURRENTLY BEING TYPED  (MUST BE EVEN)  08092
          00057  DUMPED  BSS 1            END OF PRINT BLOCK  (MUST BE IN ORDER)  08093
          00060  DMPMSK  BSS 1            OCT 3777774 - THESE MUST BE IN ORDER AND  08094
          00061  DMPBBZ  BSS 1            THE ABOVE MUST BE EVEN          08095
          00062  DUMPX   BSS 1            INDEX REGISTER 3 TEMPORARY SAVE 08096
          00063  DUMPX1  BSS 1            DUMP ENTRY SAVE                 08097
          00064  SLOC    BSS 1            LOCATION COUNTER FOR OCTAL INSERT  08098
          00065  CH2     BSS 1            CHARACTER STORAGE - THEY MUST BE IN ORDER  08099
          00066  CH3     BSS 1                                           08100
          00067  COM1    BSS 1                                           08101
          00070  COL1    BSS 1                                           08102
          00071  DTMP    BSS 1                                           08103
T01574                   TCD LOVWRT                                      08104
                                                                         08105
                                                                       STL08106
                                                                       EJT08107
```

LISTER FOR GAP TAPES

```
                                                THIS ROUTINE WILL LIST A GAP ASSEMBLY TAPE          08108
                                                3 PROVIDED THE LATTER IS WRITTEN IN BINARY          08109
                                                PRINT LINE IMAGES.                                  08110
                                                IT WILL ALSO PUNCH THE CORRESPONDING BINARY         08111
                                                DECK.                                               08112
                                                                                                    08113
                                                   1)  EJT CARDS WILL CAUSE A SLEW BUT WILL         08114
                                                       NOT BE PRINTED                               08115
                                                   2)  NAM CARDS WILL CHANGE THE TITLE AS           08116
                                                       IN REGULAR GAP ASSEMBLIES                    08117
                                                   3)  REM CARDS WILL BE PRINTED WITH THE OP        08118
                                                       CODE DELETED AND THE REMARKS FIELD           08119
                                                       SHIFTED OVER TWO WORDS.                      08120
                                                                                                    08121
                                                                                                    08122
          01670          ORG PERNUM                                                                08123
01670     0000026        DEC 22                                                                    08124
01671     0000505        DEC G/P                                                                   08125
                                                                                                    08126
                                                                                                    08127
          37000          ORG EXECOV                                                                08128
37000     0000337        LDA 8K                    INITIALIZE RQ REWIND TAPE 3                     08129
37001     0300056        STA GPOIN                                                                 08130
37002     1077660        DLD .GST.   3             AND SET UP BRANCH IN LIST                       08131
37003     0754217        SPB INSERT  2                                                             08132
37004     0300154        STA OVTSK                 SAVE WHERE                                      08133
37005     0300201        STA Z1                    AND SET EXIT REGISTER                           08134
37006     1077662  GINIT DLD GAREAS  3             INITIALIZE BUFFER AREAS                         08135
37007     1300054        DST GIN                                                                   08136
37010     1301000        DST I01                   RESET START LOAD AREA                           08137
37011     2504002        LDZ                       SET PAGE FLAG FOR FIRST TIME                    08138
37012     0300062        STA GEJTF                                                                 08139
37013     0000441        LDA DUMPBL                CLEAR OUT TITLE LINE                            08140
37014     2504004        LQA                                                                       08141
37015     1377606        DST GTL     3                                                             08142
37016     1460002        INX 2       3                                                             08143
37017     0477730        BXL 40      3                                                             08144
37020     2617015        BRU *-3                                                                   08145
37021     0000343        LDA MASK6                 OCT 3000000                                     08146
37022     0377605        STA GTL-1   3             SND SET PAGE COUNT TO ZERO                      08147
37023     0660337        LDX 8K      3             AND RESTORE REGISTER                            08148
                                                                                                    08149
                                                THIS IS THE COMMON ENTRANCE POINT                   08150
                                                                                                    08151
37024     2516120  GST   BCS BTN     1             CHECK ON TAPE                                   08152
37025     2620002        BRU 2       1                                                             08153
37026     2516620        BCS BPN     6             AND PRINTER                                     08154
37027     2620002        BRU 2       1                                                             08155
37030     2514121        BCS BEF     1             IGNORE END OF FILES                             08156
37031     2617344        BRU GREAD-1               GET SELECT INSTRUCION                           08157
37032     0000135        LDA SWFLG                 CHECK IF BILLING ON                             08158
```

LISTER FOR GAP TAPES

```
37033  2514000          BOD                    IS ON IF ODD                    08159
37034  2620002          BRU 2       1                                          08160
37035  2500011          RCS                    OR SWITCH 0 DOWN                08161
37036  2514001          BMI                                                    08162
37037  2620002          BRU 2       1                                          08163
37040  0640056          LDX GPOIN   2          GET ROUTINE POINTER             08164
37041  2657042          BRU *+1     2                                          08165
37042  2617055          BRU GRWD               REWIND                          08166
37043  2617070          BRU GPRM               PRIME BUFFERS                   08167
37044  2617121          BRU GSLT               SLEW TO TOP OF PAGE             08168
37045  2617141          BRU GSLW                                               08169
37046  2617150          BRU GP0                PASS 0                          08170
37047  2617176          BRU GP1                PASS 1                          08171
37050  2617274          BRU GP2                PASS 2                          08172
37051  2617367          BRU GJT                EJECT                           08173
37052  2617433          BRU GPUN               PUNCH CARD                      08174
37053  2617474          BRU GCON               AND SEARCH FOR NEXT ASSEMBLY    08175
         00312  .GPRM.  EQU ONE                                                08176
         00314  .GSLT.  EQU TWO                                                08177
         00316  .GSLW.  EQU THREE                                              08178
         00317  .GP0.   EQU FOUR                                               08179
         00320  .GP1.   EQU FIVE                                               08180
         00321  .GP2.   EQU SIX                                                08181
         00322  .GJT.   EQU SEVEN                                              08182
37054  0000010  .GPUN.  DEC 8                 THESE MUST BE INDEXED           08183
                                                                               08184
                                                                               08185
                                                                               08186
37055  2500120  GRWD    SEL 1                 REWIND TAPE 3                   08187
37056  2000000          RWD         3                                          08188
37057  1000000
37060  0000151          LDA CMESSB             CHECK BATCH FLAG                08189
37061  2514002          BZE                    IF NOT ON, CONTINUE             08190
37062  0756330          SPR MESSG   2          ACNOWLEDGE                      08191
37063  0000541          DEC PCR                                                08192
37064  0757112          SPB GSLT8   2          AND SLEW TO TOP OF PAGE         08193
37065  0000312          LDA .GPRM.                                             08194
37066  2700056          STO GPOIN                                              08195
37067  2620002          BRU 2       1                                          08196
                                                                               08197
                                                                               08198
37070  2514123  GPRM    BCS BRW     1          WAIT FOR REWIND                 08199
37071  2620002          BRU 2       1                                          08200
37072  2516007          BPN                    AND PUNCH                       08201
37073  2620002          BRU 2       1                                          08202
37074  2500120          SEL 1                                                  08203
37075  0501000          RTB IO1     3                                          08204
37076  1000050              40                                                 08205
37077  1001000          DLD IO1                SCAN FOR GAP PASS 0 MESSAGE     08206
37100  2277674          DCB GGAP    3                                          08207
37101  2620002          BRU 2       1          EXIT IF NOT                     08208
```

LISTER FOR GAP TAPES

```
37102  2617104          BRU *+2                  YES                                08209
37103  2620002          BRU 2        1           NO, SO EXIT                        08210
37104  0000317          LDA .GP0.                SET FOR PASS 0                     08211
37105  2700056          STO GPOIN                                                   08212
37106  0757132          SPB GSLEW    2           SLEW TWO LINES                     08213
37107  0757132          SPB GSLEW    2           SLEW TOTAL OF 6 LINES FIRST TIME   08214
37110  0757132          SPB GSLEW    2                                              08215
37111  2620002          BRU 2        1                                              08216
                                                                                    08217
                                                                                    08218
37112  0000056  GSLT8   LDA GPOIN                SAVE POINTER                       08219
37113  0300057          STA GPSAV                                                   08220
37114  1740060          STX GPSAV+1  2                                              08221
37115  0000314          LDA .GSLT.                                                  08222
37116  2700056          STO GPOIN                                                   08223
37117  2516620          BCS BPN      6           WAIT FOR PRINTER                   08224
37120  2617347          BRU GEX                  AND CRUMP IF NOT READY             08225
37121  2500620  GSLT    SEL 6                    SLEW TO TOP                        08226
37122  0400000          SLT 8                                                       08227
37123  0000000
37124  0640060          LDX GPSAV+1  2           RESTORE REGISTERS                  08228
37125  0000057          LDA GPSAV                                                   08229
37126  0300056          STA GPOIN                                                   08230
37127  2504002          LDZ                                                         08231
37130  0300061          STA GLINE                                                   08232
37131  2640001          BRU 1        2           AND RETURN                         08233
                                                                                    08234
                                                                                    08235
37132  0000056  GSLEW   LDA GPOIN                SAVE POINTERS                      08236
37133  0300057          STA GPSAV                                                   08237
37134  1740060          STX GPSAV+1  2                                              08238
37135  0000316          LDA .GSLW.               AND SET FOR SLEW TWO LINES         08239
37136  2700056          STO GPOIN                                                   08240
37137  2516620          BCS BPN      6           WAIT FOR PRINTER                   08241
37140  2617347          BRU GEX                                                     08242
37141  2500620  GSLW    SEL 6                                                       08243
37142  0600000          SLW 2                                                       08244
37143  0200000
37144  0640060          LDX GPSAV+1  2           RESTOE REGISTERS                   08245
37145  0000057          LDA GPSAV                                                   08246
37146  0300056          STA GPOIN                                                   08247
37147  2640001          BRU 1        2           AND RETURN                         08248
                                                                                    08249
                                                                                    08250
37150  1000054  GP0     DLD GIN                  PASS 0 - GET BUFFER ADDRESSES      08251
37151  0300202          STA Z2                                                      08252
37152  2777335          STO GPRNT1   3                                              08253
37153  2504005          XAQ                                                         08254
37154  1300054          DST GIN                                                     08255
37155  2777345          STO GREAD    3                                              08256
37156  0000357          LDA MRLNK                PRESET END OF LINE                 08257
```

LISTER FOR GAP TAPES

```
37157  0340030          STA 24      2                                  08258
37160  0040000          LDA 0       2     AND CHECK FOR END OF PASS 0  08259
37161  0277664          SUB GEND1   3                                  08260
37162  2516002          RNZ                                            08261
37163  2617333          BRU GPRNT         NO                           08262
37164  1040002          DLD 2       2     CHECK REST OF FIELD          08263
37165  2277670          DCB GPASS   3                                  08264
37166  2617333          BRU GPRNT         NO                           08265
37167  2617171          BRU *+2           YUP                          08266
37170  2617333          BRU GPRNT                                      08267
37171  0077715          LDA D54     3                                  08268
37172  0300061          STA GLINE         AND SET LINE SO IT WILL SLEW NEXT TIME  08269
37173  0000320          LDA .GP1.         AND SET FOR PASS1            08270
37174  2700056          STO GPOIN                                      08271
37175  2617333          BRU GPRNT                                      08272
                                                                       08273
                                                                       08274
37176  1000054  GP1     DLD GIN           GET LAST USED ADDRESS        08275
37177  0300202          STA Z2            AND PUT IN REGISTER          08276
37200  2504005          XAQ               FLIP                         08277
37201  1300054          DST GIN           RESAVE                       08278
37202  2777345          STO GREAD   3                                  08279
37203  0000361          LDA SIGN          SET NEGATIVE BIT BEFOREHAND  08280
37204  2340027          ORY 23      2     DO NOT PRINT SEQUENCE NUMBERS  08281
37205  0040000          LDA 0       2     CHECK FOR END PASS 1         08282
37206  0277664          SUB GEND1   3                                  08283
37207  2514002          BZE                                            08284
37210  0737244          SPB GP1CHK  1     CHECK IT OUT                 08285
37211  0040002          LDA 2       2                                  08286
37212  2077717          EXT GZONE   3     CHECK FOR ZONE BITS          08287
37213  2514002          BZE                                            08288
37214  2617220          BRU *+4                                        08289
37215  0000202  GP1B    LDA Z2            GET READ-IN ADDRESS          08290
37216  2777335          STO GPRNT1  3                                  08291
37217  2617333          BRU GPRNT         AND PRINT - NO UNPAXKING     08292
37220  0000055          LDA GIN+1         GET ADDRESS                  08293
37221  0177713          ADD D30     3     AND INCREMENT FOR EXPANDED SYMBOL TABLE  08294
37222  2777335          STO GPRNT1  3     AND SET UP FOR INSTRUCTION   08295
37223  0300201          STA Z1            AND REGISTER 1               08296
37224  0177714          ADD D36     3                                  08297
37225  2504522          NEG               CONSTRUCT END OF LIE         08298
37226  2777241          STO GPCK2   3     END OF LINE TEST             08299
                                                                       08300
37227  1040000  GPACK   DLD 0       2     GET SYMBOL                   08301
37230  1320000          DST 0       1     AND PUT AWAY IN EXPANDED LINE  08302
37231  1077672          DLD GIBN    3     GET SPECIAL BLANKS           08303
37232  0320002          STA 2       1     PUT AWAY FIRST LART          08304
37233  0040002          LDA 2       2     GET ADDRESS OF SYMBOL        08305
37234  0320003          STA 3       1     PUT AWAY MSH                 08306
37235  0040003          LDA 3       2     GET LSH                      08307
37236  1320004          DST 4       1     AND PUT AWAY WITH TRAILING BLANK  08308
```

LISTER FOR GAP TAPES

```
37237  1420006          INX 6       1                                          08309
37240  1440004          INX 4       2                                          08310
37241  0420537  GPCK2   BXL *       1     TEST END OF LINE                     08311
37242  2617227          BRU GPACK                                              08312
37243  2617333          BRU GPRNT         AND PRINT THE STUPID LINE            08313
                                                                               08314
37244  1040002  GP1CHK  DLD 2       2     CHECK REST OF FIELD                  08315
37245  2277670          DCR GPASS   3                                          08316
37246  2620001          BRU 1       1     NO                                   08317
37247  2617251          BRU *+2                                                08318
37250  2620001          BRU 1       1                                          08319
37251  0077715          LDA D54     3     YES, PRESET FOR SLEW                 08320
37252  0300061          STA GLINE                                              08321
37253  0000321          LDA .GP2.         SET FOR PASS2                        08322
37254  2700056          STO GPOIN                                              08323
37255  1000054          DLD GIN           MODIFY ADDRESSES TO LEAVE ROOM FOR PUNCH C 08324
37256  2777265          STO GIDNT1  3                                          08325
37257  2700136          STO TEMP          SAVE ADDRESS FOR SPECIAL CARD PUCNH  08326
37260  1177700          DAD G0100   3                                          08327
37261  1300054          DST GIN                                                08328
37262  2777345          STO GREAD   3                                          08329
37263  0620276          LDX ZERO    1     SET UP FOR IDENTIFYING CARD PUNCH    08330
37264  1077702          DLD GIDENT  3                                          08331
37265  1320000  GIDNT1  DST 0       1     SET IN SPARE BUFFER                  08332
37266  1420002          INX 2       1     COUNT                                08333
37267  0437746          BXL 26      1     AND CHECK FOR BUFFER FILLED          08334
37270  2617265          BRU *-3           STILL MORE                           08335
37271  0620136          LDX TEMP    1     GET ADDRESS                          08336
37272  2520002          WCD 0       1     AND PUNCH CARD                       08337
37273  2617215          BRU GP18          AND GET BACK                         08338
                                                                               08339
                                                                               08340
                                                                               08341
37274  0640054  GP2     LDX GIN     2     GET AREA LAST READ INTO              08342
37275  0040050          LDA 40      2     AND CHECK RESIDUE WORD               08343
37276  2514002          BZE                                                    08344
37277  2617431          BRU GPUNCH                                             08345
37300  2516001          BPL               IF GREATER THAN 40 WORDS, IGNORE     08346
37301  2617344          BRU GREAD-1                                            08347
37302  0000361          LDA SIGN                                               08348
37303  2340041          ORY 33      2     SET MINUS SIGN IN WORD               08349
37304  1000054          DLD GIN                                                08350
37305  2777335          STO GPRNT1  3     AND PRINT INSTRUCTION                08351
37306  2504005          XAQ               FLIP                                 08352
37307  1300054          DST GIN           AND SAVE                             08353
37310  2777345          STO GREAD   3     AND SET IN TAPE INSTRUCTION          08354
37311  0040000          LDA 0       2     GET FIRST WORD AND CHECK FOR ENDGAPPASSES 08355
37312  0277664          SUB GEND1   3                                          08356
37313  2514002          BZE               IF FIRST WORD IS END, THEN           08357
37314  0737450          SPB GP2CHK  1     CHECK OUT REST OF FIELD              08358
37315  0040012          LDA 10      2     NOW GET OP CODED - DAMN FOO9L ODD WORD 08359
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LISTER FOR GAP TAPES

```
37316  2511022          SRD 18                                                  08360
37317  0040011          LDA 9       2                                           08361
37320  2077716          EXT GMASK   3           THIS IS THE ODD WORD            08362
37321  2512206          SLD 6                   NOW GET WHOLE OP CODE           08363
37322  2177706          CAB GEJT1   3           AND CHECK FOR EJT               08364
37323  2617333          BRU GPRNT               NO                              08365
37324  2617351          BRU GEJT                                                08366
37325  2177707          CAB GNAM1   3                                           08367
37326  2617333          BRU GPRNT                                               08368
37327  2617406          BRU GNAM                                                08369
37330  2177710          CAB GREM1   3           REM                             08370
37331  2617333          BRU GPRNT                                               08371
37332  2617414          BRU GREM                                                08372
                                                                                08373
                                                                                08374
37333  2500620  GPRNT   SEL 6                   PRINT THE LINE                  08375
37334  2600000          Z26 --                                                  08376
37335  0100000  GPRNT1  ADD --                                                  08377
37336  0000061          LDA GLINE               AND NOW CHECK FOR END OF PAGE   08378
37337  2504032          ADO                                                     08379
37340  0300061          STA GLINE                                               08380
37341  0277715          SUB D54     3                                           08381
37342  2516001          BPL                                                     08382
37343  2617351          BRU GEJT                YES, EJECT AND PRINT TITLE IF CALLED FOR  08383
                                                                                08384
                                                                                08385
37344  2500120          SEL 1                   TAPE READ                       08386
37345  0501000  GREAD   RTB I01     3                                           08387
37346  1000050                  40                                             08388
37347  0620154  GEX     LDX OVTSK   1           GET ENTRY POINT                 08389
37350  2620002          BRU 2       1           AND GET OUT                     08390
                                                                                08391
                                                                                08392
37351  0000061  GEJT    LDA GLINE               CHECK IF JUST SLEWED TO TOP OF LINE  08393
37352  2514002          BZE                     IF SO,                          08394
37353  2617344          BRU GREAD-1             IGNORE EJT CARD                 08395
37354  0757112          SPB GSLT8   2           ELSE SLEW TO TOP OF PAGE        08396
37355  0757132          SPB GSLEW   2           AND SLEW TWO LINES              08397
37356  0000056          LDA GPOIN               THEN CHECK FOR PASS 2           08398
37357  2000337          EXT 8K                                                  08399
37360  0200321          SUB .GP2.                                               08400
37361  2516002          BNZ                                                     08401
37362  2617404          BRU GEJT2               NO                              08402
37363  0000322          LDA .GJT.               SET FOR HAEDING LINE            08403
37364  2700056          STO GPOIN                                               08404
37365  2516620          BCS BPN     6           CHECK OUT PRINTER               08405
37366  2617347          BRU GEX                 AND WAIT IF NOT                 08406
37367  2500620  GJT     SEL 6                   PRINT HEADING LINE              08407
37370  2600000          Z26 --                                                  08408
37371  0337606          703 GTL     1                                           08409
37372  0077655          LDA GTL+39  3           PAGE NUMBER                     08410
```

LISTER FOR GAP TAPES

```
37373  2506011          SET DECMODE          AND STEP                                  08411
37374  0100062          ADD GEJTF            STEP WITH FLAG                            08412
37375  2506012          SET BINMODE                                                    08413
37376  0377655          STA GTL+39  3         AND RESTORE                               08414
37377  2504022          LDO                  AND SET FLAG FOR SUBSEQUENT TIMES         08415
37400  0300062          STA GEJTF                                                      08416
37401  0000321          LDA .GP2.            AND RESTOEE POINTER                       08417
37402  2700056          STO GPOIN                                                      08418
37403  2617344          BRU GREAD-1                                                    08419
37404  0757132  GEJT2   SPR GSLEW   2        SLEW TWO LINES AT TOP                     08420
37405  2617344          BRU GREAD-1                                                    08421
                                                                                      08422
                                                                                      08423
37406  0000055  GNAM    LDA GIN+1            LAST AREA READ INTO                       08424
37407  0177712          ADD D17     3        AND GET REMARKS FIELD - WE HOPE           08425
37410  0100433          ADD SMOVE1           AND CONSTRUCT MOVE INSTRUCTION            08426
37411  0377413          STA *+2     3                                                  08427
37412  1077656          DLD GNAM2   3                                                  08428
37413  2400000          MOV --                                                         08429
                                                                                      08430
                                                                                      08431
37414  1077704  GREM    DLD GREM2   3        GET CONSTANT                              08432
37415  0000055          LDA GIN+1            THEN BUFFER ADDRESS                       08433
37416  0177711          ADD D11     3        AND STEP TO REMARKS FIELD                 08434
37417  0100433          ADD SMOVE1           CONSTRUCT MOVE                            08435
37420  0377422          STA *+2     3                                                  08436
37421  0200314          SUB TWO              AND MOVE REMARKS FIELD OVER TWO LEFT      08437
37422  2400000          MOV --               ON PAGE                                   08438
37423  0000441          LDA DUMPBL           BLANK OUT END OF LINE                     08439
37424  2504004          LQA                                                            08440
37425  1340036          DST 30      2        BLANK END OF FIELD                        08441
37426  0340011          STA 9       2                                                  08442
37427  0340012          STA 10      2        THIS SHOULD GET RID OF DAMNED REMARK      08443
37430  2617333          BRU GPRNT                                                      08444
                                                                                      08445
                                                                                      08446
37431  0077054  GPUNCH  LDA .GPUN.  3        PUNCH BINARY CARD                         08447
37432  2700056          STO GPOIN                                                      08448
37433  2516007  GPUN    RPN                  CHECK OUT PUNCH                           08449
37434  2617347          BRU GEX                                                        08450
37435  1077676          DLD GPMOV   3        GET Q PORTION FOR MOVE                    08451
37436  0000054          LDA GIN              AREA LAST READ INTO                       08452
37437  0100433          ADD SMOVE1           AND CONSTRUCT INSTRUCTION                 08453
37440  0377443          STA *+3     3                                                  08454
37441  0200331          SUB 0100             AND SET DOWN TO MULTIPLE OF 128           08455
37442  0300202          STA Z2                                                         08456
37443  2400000          MOV --                                                         08457
37444  2540003          WCR 0       2                                                  08458
37445  0000321          LDA .GP2.            RETURN TO PASS 2                          08459
37446  2700056          STO GPOIN                                                      08460
37447  2617344          BRU GREAD-1                                                    08461
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LISTER FOR GAP TAPES

```
                                                                                08462
                                                                                08463
37450  0040001  GP2CHK LDA 1        2     CHECK REST OF FIELD IF END           08464
37451  0277665         SUB GEND1+1  3                                          08465
37452  2516002         BNZ                                                     08466
37453  2620001         BRU 1        1                                          08467
37454  1040002         DLD 2        2                                          08468
37455  2277666         DCR GEND2    3     CHECK FOR PASSES                     08469
37456  2620001         BRU 1        1     NO                                   08470
37457  2617461         BRU *+2                                                 08471
37460  2620001         BRU 1        1                                          08472
37461  0757112         SPB GSLT8    2     SLEW PAGE                            08473
37462  0757112         SPB GSLT8    2     AGAIN                                08474
37463  1000054         DLD GIN            SET ADDRESSES BACK AS ORIGINALLY     08475
37464  1277700         DSU G0100    3                                          08476
37465  1300054         DST GIN                                                 08477
37466  0620154         LDX OVTSK    1     GET ENTRY POINT                      08478
37467  0077661         LDA .GCON.   3     AND SET UP FOR CONTINUATION          08479
37470  0320000         STA 0        1                                          08480
37471  2504202         LAC                AND SET TIMER IN CASE TAPE RUNS AWAY 08481
37472  0100321         ADD SIX                                                 08482
37473  0300057         STA GPSAV                                               08483
                                                                                08484
                                                                                08485
37474  2516007  GCON   BPN                WAIT FOR PUNCH SO AS NOT TO WIPE OUT LAST 08486
37475  2617347         BRU GFX            TRANSFER CARD                        08487
37476  0000135         LDA SWFLG          CHECK BILLING FLAG                   08488
37477  2514000         BOD                IF ODD, THEN BILLING ON              08489
37500  2620002         BRU 2        1     BILLING ON...                        08490
37501  2500011         RCS                AND THEN CHECK SWITCH 0              08491
37502  2514001         BMI                                                     08492
37503  2620002         BRU 2        1     IF DOWN, CRUMP                       08493
37504  2516120         BCS BTN      1     ELSE CHECK TAPE                      08494
37505  2617550         BRU GTCHK          IF N-T READY, GO CHECK               08495
37506  0000061         LDA GLINE          AND SEARCH SIX ENTRIES FROM TAPE     08496
37507  2504032         ADD                THEN CRUMP FOR GOOD                  08497
37510  0300061         STA GLINE                                               08498
37511  0200324         SUB TEN                                                 08499
37512  2516001         BPL                                                     08500
37513  2617556         BRU GENDP          THE P IS FOR PERMANENT               08501
37514  2504202         LAC                STEP TIMER IF OK                     08502
37515  0100321         ADD SIX                                                 08503
37516  0300057         STA GPSAV                                               08504
37517  1000054         DLD GIN            GET ADDRESSES                        08505
37520  2777345         STO GREAD    3     AND DO IT BACKWARDS                  08506
37521  2504005         XAQ                                                     08507
37522  0300202         STA Z2                                                  08508
37523  1300054         DST GIN                                                 08509
37524  1040000         DLD 0        2                                          08510
37525  2277674         DCR GGAP     3     CHECK FOR GAP 0                      08511
37526  2617344         BRU GREAD-1                                             08512
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LISTER FOR GAP TAPES

```
37527  2617531          BRU *+2                                          08513
37530  2617344          BRU GREAD-1                                      08514
37531  0077660          LDA .GST.   3      GET ORIGINAL ENTRY            08515
37532  0320000          STA 0       1      AND SET UP                    08516
37533  0000312          LDA .GPRM.         SET FOR BUFFER PRIMING        08517
37534  2700056          STO GPOIN                                        08518
37535  0640276          LDX ZERO    2      SET UP FOR END IDENTIFIER     08519
37536  1077702          DLD GIDENT  3                                    08520
37537  1341200          DST IO2     2                                    08521
37540  1440002          INX 2       2      COUNT                         08522
37541  0457746          BXL 26      2      AND CHECK                     08523
37542  2617537          BRU *-3                                          08524
37543  2501202          WCD IO2                                          08525
37544  2500120          SEL 1              NOW READ TAPE BACKWARDS       08526
37545  1501000          RBB IO1     3                                    08527
37546  1000000                     0                                    08528
37547  2617006          BRU GINIT          AND SET FOR NEW LISTING       08529
                                                                         08530
                                                                         08531
                                                                         08532
37550  2504202  GTCHK   LAC                CHECK IF TIME UP              08533
37551  0200057          SUB GPSAV                                        08534
37552  2514001          BMI                NO, THE KEEP ON               08535
37553  2620002          BRU 2       1                                    08536
37554  0077660          LDA .GST.   3      GET ORIGINAL ENTRY AND PREPARE TO AHNG 08537
37555  0320000          STA 0       1      TAPE COMPLETELY AS IT IS RUNNNING AWAY 08538
                                                                         08539
37556  2500120  GENDP   SEL 1                                           08540
37557  2000000          RWD         3                                    08541
37560  1000000
37561  0640276          LDX ZERO    2      SET UP FOR END IDENTIFIER     08542
37562  1077702          DLD GIDENT  3      SET UP FOR LAST CARD          08543
37563  1341200          DST IO2     2                                    08544
37564  1440002          INX 2       2      COUNT                         08545
37565  0457746          BXL 26      2      AND CHECK                     08546
37566  2617563          BRU *-3                                          08547
37567  2501202          WCD IO2                                          08548
37570  0757112          SPB GSLT8   2                                    08549
37571  0000151          LDA CMESSB         CHECK BATCH FLAG              08550
37572  2514002          BZE                                              08551
37573  2614165          BRU IREDY          NORMAL CRUMP IF OFF           08552
37574  0620154          LDX OVTSK   1      ELSE RECALL MONITOR           08553
37575  0754212          SPB IRASE   2                                    08554
37576  2504002          LDZ                RESET POINTER                 08555
37577  0300154          STA OVTSK                                        08556
37600  0300202          STA Z2                                           08557
37601  1440513          INX BATCH   2      GET MONITOR                   08558
37602  2504102          LMO                                              08559
37603  0301000          STA IO1            SET FRONT CARD IN             08560
37604  2616030          BRU PGETB                                        08561
                                                                         08562
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LISTER FOR GAP TAPES

```
                37606   GTL     BSS 40                  TITLE LINE                      08563
                                                                                        08564
 37656  0037606 GNAM2   DEC GTL                        MOVE CONSTANT                   08565
 37657  3777761         DEC -15                                                         08566
 37660  0737024 .GST.   SPB GST     1                                                  08567
 37661  0737474 .GCON.  SPB GCON    1                                                  08568
 37662  0001000 GAREAS  DEC I01                                                        08569
 37663  0001200         DEC I02                                                        08570
 37664  0254524 GEND1   ALF END                                                        08571
 37665  0272147         ALF GAP                                                        08572
 37666  0472162 GEND2   ALF PAS                        CHECKING CONSTANTS              08573
 37667  0622562         ALF SES                                                        08574
 37670  0604721 GPASS   ALF  PA                                                       08575
 37671  0626260         ALF SS                                                         08576
 37672  0603535 GIBN    OCT 603535                     FUDGE BLANKS                    08577
 37673  0606060         ALF                                                            08578
 37674  0272147 GGAP    ALF GAP                        STARTING CHECKER                08579
 37675  0600060         ALF  0                                                         08580
 37676  0000000 GPMOV   DEC 0                                                          08581
 37677  3777730         DEC -40                        FORTY WORDS TO A BINARY CARD    08582
 37700  0000100 G0100   OCT 100                        BUFFER AREAS ADJUST CONSTANT    08583
 37701  0000100         OCT 100                                                        08584
 37702  0212223 GIDENT  ALF ABC                                                       08585
 37703  0242526         ALF DEF                                                        08586
 37704  0000000 GREM2   OCT 0                                                         08587
 37705  3777753         DEC -21                                                        08588
                                                                                       08589
 37706  0254163 GEJT1   ALF EJT                                                       08590
 37707  0452144 GNAM1   ALF NAM                                                       08591
 37710  0512544 GREM1   ALF REM                                                       08592
 37711  0000013 D11     DEC 11                                                        08593
 37712  0000021 D17     DEC 17                                                        08594
 37713  0000036 D30     DEC 30                                                        08595
 37714  0000044 D36     DEC 36                                                        08596
 37715  0000066 D54     DEC 54                                                        08597
 37716  3770000 GMASK   OCT 3770000                                                   08598
 37717  3171717 GZONE   OCT 3171717                                                   08599
                                                                                       08600
                                                                                       08601
                                                                                       08602
        00054           ORG T                          TEMPORARY STORAGE               08603
        00054   GIN     BSS 2                                                          08604
        00056   GPOIN   BSS 1                                                          08605
        00057   GPSAV   BSS 2                                                          08606
        00061   GLINE   BSS 1                                                          08607
        00062   GEJTF   BSS 1                          PAGE COUNT FLAG                 08608
T01574                  TCD LOVWRT                     END                             08609
                                                                                       08610
                                                                                      STL08611
                                                                                      EJT08612
```

SYSOUT LISTER

```
SYSOUT LISTER                                                    08613
                                                                 08614
THE SYSOUT LISTER WILL PROCESS TAPES WRITTEN                     08615
BY BATCH OR ANY TAPES IN THE SAME FORMAT.                        08616
                                                                 08617
IT CAN BE CALLED DIRECTLY FROM THE BATCH                         08618
OVERLAY OR FROM THE CONSOLE TYPEWRITER.                          08619
IF IT IS CALLED FROM BAT IT CHECKS TO SEE                        08620
WHICH TAPE WAS WRITTEN ON LAST AND WAITS                         08621
UNTIL THE PROPER TAPE IS ON HANDLER SEVEN.                       08622
IF CALLED BY THE TYPEWRITER IT ASSUMES THE                       08623
TAPE IS ALREADY ON SEVEN.                                        08624
IT AUTOMATICALLY FLIP-FLOPS BETWEEN HANDLERS                     08625
6 AND 7.                                                         08626
                                                                 08627
THE TAPE FORMAT IS TWO CONTROL WORDS FOLLOWED                    08628
BY THE DATA. EACH HAS EITHER THE WORD COUNT O                    08629
OR ZERO IN WORD TWO (ALMOST). ALL NUMBERS                        08630
ARE OCTAL.                                                       08631
                                                                 08632
START OUTPUT FILE  0 IN BOTH WORDS                               08633
PRINT              1 IN THE LOW ORDER END OF                     08634
                   WORD ONE, THE HIGH ORDER                      08635
                   HIGH ORDER BITS OF CONTROL                    08636
                   WORD ONE. WIRD TWO HAS THE                    08637
                   LENGTH IN THE LOW ORDER                       08638
                   END AND THE HIGH ORDER                        08639
                   IS THE SAME AS THE HIGH                       08640
                   ORDER PART OF CONTROLLER                      08641
                   WORD TWO.                                     08642
SET FORMAT         2 IN WORD ONE. THIS RECORD                    08643
                   CONTAINS THE HORIZONTAL                       08644
                   FORMAT INFORMATION TO BE                      08645
                   USED IN ALL SUBSEQUENT                        08646
                   PRINT WITH FORMAT RECORDS.                    08647
                   WORD COUNT IN TWO.                            08648
PUNCH DECIMAL      7 IN WORD ONE, COUNT IN TW                    08649
PUNCH BINARY       10 IN ONE, COUNT IN TWO                       08650
PUNCH FULL         11 IN ONE, COUNT IN TWO                       08651
END OF OUTPUT FILE 20 IN ONE, 0 IN TWO                           08652
                   TWO.                                          08653
                                                                 08654
AN EOF INDICATES THE END                                         08655
                                                                 08656
BUFFERS USED                                                     08657
   SI01   600    80 WORDS - PUNCH                                08658
   SI02   720    40 WORDS - PRINT                                08659
   SI03   770    40 WORDS - FORMAT LINE                          08660
   SI04  1040   110 WORDS - TAPE READ IN                         08661
   SI05  1217   110 WORDS - TAPE READ IN                         08662
                                                                 08663
```

SYSOUT LISTER

```
                                                FLAGS AND THINGS                                        08664
                                                SLBUFP  BUFFER FLIP-FLOP  UPPER                        08665
                                                SLLEN   WORDS LEFT IN EACH BUFFER    LOWER            08666
                                                SLLEN2  WORDS USED IN FIRST BUFFER   LOWER            08667
                                                SLCON   CONTROL WORDS    UPPER                        08668
                                                SLBUFF  BUFFER TO USE    UPPER                        08669
                                                                                                      08670
                                                THE TAPE SUBROUTINE WAS PUT ON THE END AT             08671
                                                LOAD TIME                                             08672
                                                                                                      08673
          01670          ORG PERNUM                                                                   08674
01670     0000030        DEC 24                                                                       08675
01671     0000510        DEC S/O                                                                      08676
                                                                                                      08677
          37000          ORG EXECOV                                                                   08678
                                                                                                      08679
37000     1077452        DLD .SLE2.   3                                                               08680
37001     0754217        SPB INSERT   2          PUT IN TASK LIST                                     08681
37002     0300154        STA OVTSK               SAVE PLACE IN LIST                                   08682
37003     0756330        SPB MESSG    2          ACKNOWLEDGE RECEIPT                                  08683
37004     0000541        DEC PCR                 WITH CARRIAGE RETURN                                 08684
37005     0757502        SPB TREQB    2          NOW REWIND 7                                         08685
37006     2500120        SEL 1                                                                        08686
37007     2000000        RWD          7                                                               08687
37010     3000000
37011     0000000        OCT 0                   FLAG                                                 08688
37012     0757445        SPB SLEXT    2          SET UP EXIT                                          08689
37013     0077011        LDA *-2      3                                                               08690
37014     2514002        AZE                                                                          08691
37015     2620002        BRU 2        1          NOT READY                                            08692
37016     2514123        RCS BRW      1          NOW SEE IF DONE REWINDING                            08693
37017     2620002        BRU 2        1          NO                                                   08694
37020     2516620        RCS BPN      6                                                               08695
37021     2620002        BRU 2        1                                                               08696
37022     2500620        SEL 6                   START WITH A SLEW                                    08697
37023     0400000        SLT 8                                                                        08698
37024     0000000
                                                PRIME BOTH BUFFERS - SIO4 AND SIO5                    08699
37025     0757043        SPB SLRNR    2          READ                                                 08700
37026     0757062        SPB SLRNC    2          WAIT AND COMPUTE LENGTH                              08701
37027     0757043        SPB SLRNR    2          GET NEXT ONE                                         08702
37030     0077456  SLLST2 LDA SLBUFP  3          FIND BEGINNING OF OUTPUT                             08703
37031     0300202        STA Z2                  GET BUFFER ADDRESS                                   08704
37032     1040000        DLD 0        2          SEE IF START                                         08705
37033     2200276        DCB ZERO                                                                     08706
37034     2617036        BRU *+2                 NOPE                                                 08707
37035     2617041        BRU *+4                 OK                                                   08708
37036     0757062        SPB SLRNC    2          WAIT FOR LAST READ                                   08709
37037     0757043        SPB SLRNR    2          GET NEXT RECORD                                      08710
37040     2617030        BRU *-8                 AND CHECK AGAIN                                      08711
37041     0300062        STA SLLEN2              INITIALIZE                                           08712
```

SYSOUT LISTER

```
37042  2617107          BRU SLGP              AND START                          08713
                                                                                 08714
                                     SUBROUTINE TO GET NEXT RECORD. ENTERED ON 2.  08715
                                     WILL CHECK THE BUFFER FLIP-FLOP READ INTO THE 08716
                                     FIRST AND EXCHANGE THEM.                    08717
                                                                                 08718
37043  1740063  SLRNR  STX SLT1    2      SAVE ENTERANCE                         08719
37044  1077456         DLD SLBUFP  3      BUFFER POINTERS                        08720
37045  2777052         STO SLRNR1  3      SET FOR READ                           08721
37046  2504005         XAQ                                                       08722
37047  1377456         DST SLBUFP  3      AND EXCHANGE                           08723
37050  0757502         SPB TREQR   2      TAPE ROUTINE                           08724
37051  2500120         SEL 1                                                     08725
37052  0501217  SLRNR1 RTB SI05    7                                            08726
37053  3000156            110                                                    08727
37054  0000000         OCT 0              FLAG                                   08728
37055  1000060         DLD SLLEN          LENGTH                                 08729
37056  2504005         XAQ                SWITCH ALSO                            08730
37057  1300060         DST SLLEN                                                 08731
37060  0640063         LDX SLT1    2      GET RETURN BACK                        08732
37061  2640001         BRU 1       2                                            08733
                                                                                 08734
                                     WILL COMPUTE LENGTH OF RECORD JUST READ BY  08735
                                     SLRNR AND STORE IN LENGTH LIST.  MAXIMUM    08736
                                     RECORD LENGTH IS 110 WORDS                  08737
                                     EXITS WITH LENGTH IN A                      08738
                                                                                 08739
37062  1740063  SLRNC  STX SLT1    2      SAVE ENTERANCE                         08740
37063  0757445         SPB SLFXT   2      SET UP EXIT                            08741
37064  0077054         LDA SLRNR1+23      CHECK FLAG                             08742
37065  2514002         BZE                                                       08743
37066  2620002         BRU 2       1      NOT READY                              08744
                                     IF EOF FOUND THEN END OF SYSOUT TAPE        08745
37067  2510002         SRA 2              CHECK FLAG FOR EOF                     08746
37070  2514000         BOD                                                       08747
37071  2617414         BRU SLEND          FINISHED                               08748
37072  0077052         LDA SLRNR1  3                                             08749
37073  2000347         EXT MASK10         3700000                                08750
37074  0300201         STA Z1             ADDRESS READ IN TO                     08751
37075  0020156         LDA 110     1      GET RESIDUE WORD                       08752
37076  2516001         BPL                MAKE SURE RECORD IS NOT TOO LONG       08753
37077  2514002         BZE                                                       08754
37100  2617103         BRU *+3            OK                                     08755
37101  2504002         LDZ                BAD                                    08756
37102  2617104         BRU *+2                                                   08757
37103  0177454         ADD SD110   3      NOW HAVE LENGTH                        08758
37104  0300061         STA SLLEN+1        AND SAVE                               08759
37105  0640063         LDX SLT1    2      GET RETURN                             08760
37106  2640001         BRU 1       2      AND GET BACK                           08761
                                                                                 08762
                                     PULL OUT THE PARAMETER WORDS AND MAKE AN    08763
```

```
                                        INITIAL CHECK ON THEM.                                  08764
                                                                                                08765
                                                                                                08766
        37107   SLGP    RSS 0
37107   0077450         LDA SLRF    3       SEE IF ANOTHER BUFFER NEEDED                        08767
37110   2516001         BPL                                                                     08768
37111   2617121         BRU *+8             NO                                                  08769
37112   0000060         LDA SLLEN           YES, SO FUDGE LENTH BACK                            08770
37113   0300061         STA SLLEN+1                                                             08771
37114   1077456         DLD SLBUFP  3       FLIP BUFFERS BACK                                   08772
37115   2504005         XAQ                                                                     08773
37116   1377456         DST SLBUFP  3                                                           08774
37117   0757043         SPR SLRNR   2       GET BUFFER                                          08775
37120   0377450         STA SLRF    3       RESET READ FLAG - RETURN IS POSITIVE                08776
37121   0000060         LDA SLLEN           AND CHANGE LENGTH POINTERS                          08777
37122   2516002         BNZ                                                                     08778
37123   2617131         BRU *+6                                                                 08779
37124   0300062         STA SLLEN2          NEED NEW BUFFER                                     08780
37125   0757062         SPR SLRNC   2       CHECK LAST READ DONE                                08781
37126   0757043         SPR SLRNR   2       AND GET MORE                                        08782
37127   2514002         RZE                                                                     08783
37130   2617125         BRU *-3             I CAN GO IN CIRCLES TOO.                            08784
37131   0200314         SUB TWO                                                                 08785
37132   0300060         STA SLLEN                                                               08786
37133   0000062         LDA SLLEN2          WORDS USED                                          08787
37134   0300202         STA Z2                                                                  08788
37135   0100314         ADD TWO                                                                 08789
37136   0300062         STA SLLEN2                                                              08790
37137   0077456         LDA SLBUFP  3       BUFFER POINTER                                      08791
37140   2777145         STO *+5     3       SET UP LOADS                                        08792
37141   2504032         ADO                                                                     08793
37142   2777143         STO *+1     3                                                           08794
37143   0057143         LDA *       2       MODIFIED TO COME FROM RIGHT BUFFER                  08795
37144   0377473         STA SLCON+1 3       SAVE CONTROL WORDS                                  08796
37145   0057145         LDA *       2                                                           08797
37146   0377472         STA SLCON   3                                                           08798
37147   2000344         EXT MASK7           JUST SAVE LOW ORDER - 3777700                       08799
37150   0300202         STA Z2                                                                  08800
37151   0457775         RXL 3       2       MAKE FIRST CHECK ON CONTROL WORDS                   08801
37152   2617165         BRU SL02            SET UP BUFFER 2 - PRINT                             08802
37153   0457766         BXL 10      2                                                           08803
37154   2617160         BRU SL01            SET UP BUFFER 1 - PUNCH                             08804
37155   0457757         BXL 17      2                                                           08805
37156   2617376         BRU SLCON1          CONTROL RECORD                                      08806
37157   2617324         BRU SLILL           ILLEGAL CONTROL WORD                                08807
                                                                                                08808
37160   0077460 SL01    LDA SDIO1   3       DEC SIO1                                            08809
37161   0300067         STA SLBUFF          BUFFER TO MOVE TO                                   08810
37162   2504002         LDZ                                                                     08811
37163   0300070         STA SLMIN           SET FOR PUNCH                                       08812
37164   2617171         BRU SLMOV           YES, MOVE IN                                        08813
                                                                                                08814
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SYSOUT LISTER

```
37165  0077461  SL02   LDA  SDI02   3          DEC SI02                          08815
37166  0300067         STA  SLBUFF              BUFFER TO MOVE TO                 08816
37167  0077474         LDA  S0611    3                                            08817
37170  0300070         STA  SLMIN               SET FOR PRINT                     08818
                                              READY SO MOVE                     08819
                                                                                08820
                                              IF ENOUGH WORDS REMAIN IN INPUT BUFFER MOVE   08821
                                              DIRECTLY TO OUTPUT BUFFER, IF NOT FUDGE LIKE  08822
                                              MAD.                              08823
                                                                                08824
37171  0077473  SLMOV  LDA  SLCON+1 3          SECOND CONTROL WORD               08825
37172  2077453         EXT  SLMS1    3          3777600                           08826
37173  0300064         STA  SLT2                SAVE FOR AWHILE                   08827
37174  2100060         CAB  SLLEN               WORDS LEFT                        08828
37175  2617200         BRU  *+3                 OK                                08829
37176  2617200         BRU  *+2                 STILL OK                          08830
37177  2617227         BRU  SLMV                PARTIAL MOVE AND REREAD           08831
37200  2504522  SLMOV1 NEG                      SET UP MOVE COMMAND               08832
37201  2504005         XAQ                                                        08833
37202  0077456         LDA  SLBUFP   3          BUFFER ADDRESS                    08834
37203  0100062         ADD  SLLEN2              GET FROM ADDRESS                  08835
37204  2777224         STO  SLMG+3   3          SET UP MOVE INSTRUCTION           08836
37205  0000067         LDA  SLBUFF              ADDRESS TO MOVE TO                08837
37206  1377470         DST  SLMC1+2  3          AND CONSTANT                      08838
37207  0000060         LDA  SLLEN               WORDS LEFT                        08839
37210  0200064         SUB  SLT2                GET NEW TOTAL                     08840
37211  0300060         STA  SLLEN               AND SAVE                          08841
37212  0000062         LDA  SLLEN2              GET NEW TOTAL OF WORDS USED       08842
37213  0100064         ADD  SLT2                                                  08843
37214  0300062         STA  SLLEN2                                                08844
37215  0757445         SPB  SLEXT    2          GET OUT                           08845
37216  0640070         LDX  SLMIN    2          EITHER PRINTER OR PUNCH           08846
37217  2556007         OCT  2556007             EITHER PRINTER OR PUNCH           08847
37220  2620002         BRU  2        1                                            08848
37221  1077466  SLMG   DLD  SLMC1    3          GET TO ADDRESS AND LENGTH         08849
37222  2400001         MOV  1                   FILLED IN                         08850
37223  1077470         DLD  SLMC1+2  3          SECOND MOVE                       08851
37224  2400001         MOV  1                   FILLED IN                         08852
37225  0377467         STA  SLMC1+1  3          RESET MOVE CONSTANT               08853
37226  2617256         BRU  SLEXE               AND EXECUTE                       08854
                                              NOT ENOUGH WORDS LEFT IN PRESENT BUFFER   08855
                                                                                08856
37227  0200060  SLMV   SUB  SLLEN               GET LEFT OVER WORDS               08857
37230  0300064         STA  SLT2                TEMP LOCATION                     08858
37231  0000060         LDA  SLLEN               GET WORDS TO MOVE                 08859
37232  2504522         NEG                                                        08860
37233  2504005         XAQ                                                        08861
37234  0077456         LDA  SLBUFP   3          BUFFER ADDRES                     08862
37235  0100062         ADD  SLLEN2              MAKE FROM ADDRESS                 08863
37236  2777222         STO  SLMG+1   3          SET UP MOVE INSTRUCTION           08864
37237  0000067         LDA  SLBUFF              MOVE TO                           08865
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SYSOUT LISTER

```
37240  1377466          DST SLMC1   3          MOVE CONSTANT                          08866
                                               COMPUTE NEXT MOVE TO ADDRESS           08867
                                                                                      08868
37241  0100060          ADD SLLEN                                                     08869
37242  0300067          STA SLBUFF                                                    08870
37243  0757062          SPR SLRNC   2          GET LENGTH INFO ON LAST READ           08871
37244  0300060          STA SLLEN              LENGTH LEFT IN A AFTER CALCULATION     08872
37245  1077456          DLD SLBUFP  3          FLIP BUFFERS MANUALLY                  08873
37246  2504005          XAQ                                                           08874
37247  1377456          DST SLBUFP  3                                                 08875
37250  2504102          LMO                                                           08876
37251  0377450          STA SLRF    3          SET READ FLAG FOR SLGP                 08877
37252  2504002          LDZ                                                           08878
37253  0300062          STA SLLEN2             RESET WORDS USED                       08879
37254  0000064          LDA SLT2               GET NUMBER OF LEFT OVER WORDS          08880
37255  2617200          BRU SLMOV1             AND ENTER IN MIDDLE OF MOVE ROUTINE    08881
                                               WILL PICK UP INSTRUCTIONS AND EXECUTE THEM 08882
37256  0077472  SLEXE   LDA SLCON   3          GET FIRST CONTROL WORD                 08883
37257  2000344          EXT MASK7              GET CODE 3777700                       08884
37260  0100337          ADD 8K                                                        08885
37261  0300202          STA Z2                 HAVE UPPER MEMORY BRANCH               08886
37262  2657263          BRU *+1     2                                                 08887
37263  2617353          BRU SLSTA              START FILE                             08888
37264  2617275          BRU SLPRI              PRINT                                  08889
37265  2617311          BRU SLFOR              FORMAT LINE                            08890
37266  2617107          BRU SLGP               ILLEGAL GET NEXT CONTROL WORDS         08891
37267  2617107          BRU SLGP                                                      08892
37270  2617107          BRU SLGP                                                      08893
37271  2617107          BRU SLGP                                                      08894
37272  2617316          BRU SLPUD              PUNCH DECIMAL                          08895
37273  2617320          BRU SLPUB              BINARY                                 08896
37274  2617322          BRU SLPUF              FULL                                   08897
                                                                                      08898
                                               PRINT ROUTINE                          08899
37275  0077472  SLPRI   LDA SLCON   3                                                 08900
37276  0377306          STA SLPRIE+13          GET CONTROL WORDS                      08901
37277  0077473          LDA SLCON+1 3                                                 08902
37300  0377307          STA SLPRIE+23                                                 08903
37301  0000065          LDA SLFORF             FORMAT ADDRESS IF ANY                  08904
37302  2777306          STO SLPRIE+13          PUT IN INSTRUCTION                     08905
37303  0077461          LDA SDIO2   3          BUFFER ADDRESS                         08906
37304  2777307          STO SLPRIE+23                                                 08907
37305  2500620  SLPRIE  SEL 6                                                        08908
37306  0000000          OCT 0                  FILLED IN EARLIER                      08909
37307  0000000          OCT 0                                                         08910
37310  2617107          BRU SLGP               AND START AGAIN                        08911
                                                                                      08912
                                               SET UP FORMAT LINE                     08913
37311  1077464  SLFOR   DLD SLFORM  3          FORMAT MOVE CONSTAND                   08914
37312  2400720          MOV SI02               TO FORMAT LINE                         08915
37313  0077462          LDA SDIO3   3                                                 08916
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SYSOUT LISTER

```
37314  0300065          STA SLFORF          PUT IN FORMAT ADDRESS                08917
37315  2617107          BRU SLGP            AND CONTINUE                         08918
                                                                                 08919
37316  2500602 SLPUD    WCD SIO1            PUCNH DECIMAL                        08920
37317  2617107          BRU SLGP                                                 08921
37320  2500603 SLPUB    WCB SIO1            BINARY                               08922
37321  2617107          BRU SLGP                                                 08923
37322  2500617 SLPUF    WCF SIO1            FULL                                 08924
37323  2617107          BRU SLGP                                                 08925
                                     ILLEGAL CONTROL CODE SO COMPUTE WHERE TO FIND 08926
                                     NEXT USEFUL RECORD                          08927
37324  0077473 SLILL    LDA SLCON+1 3       GET LENGTH                           08928
37325  2077453          EXT SLMS1   3       3777600                              08929
37326  2100060          CAR SLLEN                                                08930
37327  2617343          BRU SLILL2          CAN STAY IN SAME RECORD              08931
37330  2617343          BRU SLILL2                                               08932
37331  0200060          SUB SLLEN           GET WORDS LEFT OVER                  08933
37332  0300064          STA SLT2                                                 08934
37333  0757062          SPB SLRNC   2       WAIT                                 08935
37334  0757043          SPB SLRNR   2       GET NEXT ONE                         08936
37335  0000060          LDA SLLEN                                                08937
37336  0200064          SUB SLT2            GET NEW LENGTH                       08938
37337  0300060          STA SLLEN                                                08939
37340  0000064          LDA SLT2                                                 08940
37341  0300062          STA SLLEN2          WORDS USED                           08941
37342  2617107          BRU SLGP            START AGAIN                          08942
         37343 SLILL2    BSS 0               STAY IN SAME BUFFER                  08943
37343  2504004          LQA                                                      08944
37344  0100062          ADD SLLEN2          GET NEW WORDS USED                   08945
37345  0300062          STA SLLEN2                                               08946
37346  2504005          XAQ                 GET A BACK                           08947
37347  0200060          SUB SLLEN                                                08948
37350  2504522          NEG                 NOW HAVE WORDS LEFT AGAIN            08949
37351  0300060          STA SLLEN                                                08950
37352  2617107          BRU SLGP            AND CONTINUE                         08951
                                                                                 08952
                                     START OUTPUT FILE - 27 WORD IMAGE OF NAME CAR 08953
                                                                                 08954
37353  0077456 SLSTA     LDA SLBUFP  3       BUFFER ADDRESS                       08955
37354  0100314          ADD TWO                                                  08956
37355  2777357          STO *+2     3       SET UP MOVE                          08957
37356  1077374          DLD SLSTA1  3       GET CARD IMAGE TO PUNCH AREA         08958
37357  2400000          MOV --              FILLED IN                            08959
37360  0000361          LDA SIGN                                                 08960
37361  2300632          ORY SIO1+26                                              08961
37362  0757445          SPB SLEXT   2       PREPARE TO EXIT                      08962
37363  2514620          BCS BPR     6       TEST BOTH PRINTER                    08963
37364  2516007          BPN                 AND PUNCH                            08964
37365  2620002          BRU 2       1       GET OUT                              08965
37366  2500620          SEL 6                                                    08966
37367  2600000          WPL SIO1            NAME LINE                            08967
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SYSOUT LISTER

```
37370  0100600                                                          08968
37371  2504002          LDZ                                             08969
37372  0300060          STA SLLEN                                       08970
37373  2617316          BRU SLPUD          PUNCH CARD AND CONTINUE      08971
                                                                        08972
37374  0000600  SLSTA1  DEC SI01                                        08973
37375  3777745          DEC -27                                         08974
                                                                        08975
                     EXAMINE CONTROL RECORDS - THESE ARE BY THEM-       08976
                     SELVES.                                            08977
37376  0457760  SLCON1  BXL 16      2      CHECK TO SEE IF LEGAL        08978
37377  2617324          BRU SLILL          YES                          08979
                     END OF OUTPUT FILE                                 08980
37400  0757434          SPB SSLT8  2       SLEW TO TOP OF PAGE          08981
37401  0757445          SPB SLEXT  2                                    08982
37402  2516007          BPN                                             08983
37403  2620002          BRU 2      1                                    08984
37404  0640276          LDX ZERO   2                                    08985
37405  1077424          DLD SLIDEN 3       PRETTY LAST CARD             08986
37406  1340600          DST SI01   2                                    08987
37407  1440002          INX 2      2                                    08988
37410  0457746          BXL 26     2                                    08989
37411  2617406          BRU *-3                                         08990
37412  2500602          WCD SI01                                        08991
37413  2617030          BRU SLLST2         AND LOOK FOR ZEROS           08992
                                                                        08993
                                                                        08994
37414  0757502  SLEND   SPB TREOP  2       TAPE ROUTINE                 08995
37415  2500120          SEL 1                                           08996
37416  2000000          RWD        7       REWIND 7                     08997
37417  3000000                                                         
37420  0000001          OCT 1              SET TO DONE                  08998
37421  0757735          SPB TCLOS  2       CLOSE OUT TAPE SUBROUTINE    08999
37422  0757434          SPB SSLT8  2       SLEW TO TOP OF PAGE          09000
37423  2614165          BRU IREDY          AND ALL DONE                 09001
                                                                        09002
37424  0212223  SLIDEN  ALF ABC                                         09003
37425  0242526          ALF DEF                                         09004
                                                                        09005
                     NORMAL ENTERANCE IS HERE                           09006
37426  2504002  SLE2    LDZ                                             09007
37427  2500011          RCS                                             09008
37430  2514001          BMI                PUNT IF ZERO IS DOWN         09009
37431  2620002          BRU 2      1                                    09010
37432  0640066          LDX SLPOI2 2       SET UP REENTERANCE           09011
37433  2640001          BRU 1      2       AND GO THERE                 09012
                                                                        09013
                     SLEW TO TOP OF PAGE                                09014
37434  1740063  SSLT8   STX SLT1   2       SAVE ENTRANCE                09015
37435  0757445          SPB SLEXT  2                                    09016
```

SYSOUT LISTER

```
37436  2516020          BCS BRN     6                                    09017
37437  2620002          BRU 2       1                                    09018
37440  2500020          SEL 6                                            09019
37441  0400000          SLT 8                                            09020
37442  0000000
37443  0640063          LDX SLT1    2        GET BACK                    09021
37444  2640001          BRU 1       2                                    09022
                                                                         09023
                                     ENTER ON 2 - SETS UP EXITS          09024
37445  1740066  SLEXT   STX SLPOI2  2                                    09025
37446  0620154          LDX OVTSK   1                                    09026
37447  2640001          BRU 1       2        AND GET BACK                09027
                                                                         09028
37450  0000000  SLRF    DEC 0                READ FLAG - MINUS IF READ NECESSARY AFTER MOV09029
                                                                         09030
37452  0737426  .SLE2.  SPB SLE2    1                                    09031
37453  3777600  SLMS1   OCT 3777600                                      09032
37454  0000156  SD110   DEC 110                                         09033
37456  0001040  SLBUFP  DEC SI04             FLIP-FLOP BUFFER ADDRESSES  09034
37457  0001217          DEC SI05                                         09035
37460  0000600  SDI01   DEC SI01                                         09036
37461  0000720  SDI02   DEC SI02                                         09037
37462  0000770  SDI03   DEC SI03                                         09038
37464  0000770  SLFORM  DEC SI03             FORMAT MOVE CONSTANT        09039
37465  3777730          DEC -40                                          09040
37466  0000001  SLMC1   DEC 1                MOVE CONSTANTS              09041
37467  0000000          DEC 0                                            09042
37470  0000000          DDC 0                                            09043
37471  0000000
37472  0000000  SLCON   DDC 0                CONTROL WORD STORAGE        09044
37473  0000000
37474  0000611  S0611   OCT 611              USED TO CHANGE PUNCH TO PRINTER 09045
                                                                         09046
                                                                         09047
         00060          ORG TA               STORAGE FOR LISTER AFTER TAPE SUBROUTINES 09048
                                                                         09049
         00060  SLLEN   BSS 2                WORDS LEFT                  09050
         00062  SLLEN2  BSS 1                WORDS USED                  09051
         00063  SLT1    BSS 1                TEMP STORAGE                09052
         00064  SLT2    BSS 1                TEMP STORAGE                09053
         00065  SLFORF  BSS 1                FORMAT LINE ADDRESS OR ZERO 09054
         00066  SLPOI2  BSS 1                                            09055
         00067  SLBUFF  BSS 1                BUFFER TO USE               09056
         00070  SLMIN   BSS 1                USED TO INDEX BPN           09057
                                                                         09058
         06000          LOC 6000                                         09059
         06000  SLFIX   BSS 0                GET TAPE SUBROUTINE ON END  09060
06000  0000524          LDA TAP+2            DISK ADDRESS OF SUBROUTINE  09061
06001  0306006          STA *+5                                          09062
06002  2516020          BCS BRN     0                                    09063
06003  2606002          BRU *-1                                          09064
```

SYSOUT LISTER

```
 06004  2500020          SEL  0                                          09065
 06005  2510000          PRF       0                                    09066
 06006  0000000          OCT  0                                         09067
 06007  2516020          RCS  BRN       0                               09068
 06010  2606007          BRU  *-1                                       09069
 06011  2500020          SEL  0                                         09070
 06012  1211003          RRD  3         0                               09071
 06013  0037500               TRFOST                                    09072
 06014  2516020          RCS  BRN       0                               09073
 06015  2606014          BRU  *-1                                       09074
 06016  2514027          RCS  BER       0       CHECK ERRORS            09075
 06017  2606004          BRU  *-11                                      09076
                                                                        09077
 06020  2601574          BRU  LOVWRT            NO GO AND LOAD          09078
                                                                        09079
T06000                   TCD  SLFIX                                     09080
                                                                        09081
                                                                      STL09082
                                                                      EJT09083
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
                                                                                09084
                                    THIS EFFICIENCY SUMMARY OF TIME-SHARING     09085
                                    COMPUTES THE FOLLOWING INFORMATION          09086
                                    AND WRITES IT ON THE DISK EVERY TEN         09087
                                    MINUTES...                                  09088
                                    1) PERCENTAGE OF RUNNING TIME OVER TOTAL    09089
                                       ON TIME                                  09090
                                    2) PERCENTAGE OF SWAP TIME OVER ON TIME     09091
                                    3) PERCENT IDLE TIME OVER TOTAL ON TIME     09092
                                    4) PERCENT DISK TIMES OTHER THAN SWAP OVER  09093
                                       TOTAL ON TIME.                           09094
                                                                                09095
                                    THE OPERATION SUMMARY IS CALLED EVERY TEN   09096
                                    MINUTES THROUGH THE WAIT LOOP.  IT KEEPS A  09097
                                    SUMMARY FOR HALF-HOUR PERIODS, THEN REINITIA-09098
                                    LIZES ITSELF FOR THE N*XT HALF-HOUR PERIOD. 09099
                                                                                09100
          01670          ORG PERNUM                                            09101
01670     0000032        DEC 26                                                09102
01671     0000452        DEC SUMMRY                                            09103
                                                                                09104
          37000          ORG EXECOV                                            09105
37000     1077412        DLD .EFF1.  3       NEW ENTRY                         09106
37001     0754217        SPB INSERT  2                                         09107
37002     0300201        STA Z1              AND SAVE RETURN                   09108
37003     2620002        BRU 2       1       AND GET OUT                       09109
                                                                                09110
          37004  EFF1    BSS 0                                                 09111
37004     0754212        SPB IRASE   2       DELETE ENTRY OTHERWISE            09112
37005     0755464        SPB DSKB    2       PICK UP PREVIOUS SUMMARY          09113
37006     0755560        SPB DSKOP   2                                         09114
37007     1200001        Z12 1                                                 09115
37010     0000600        DEC FCLOCK                                            09116
37011     0000402        OCT 402                                               09117
37012     2504012        NOP                                                   09118
37013     0755771        SPB RELIN   2       AND GET RID OF DISK               09119
37014     0620276        LDX ZERO    1       ELSE MOVE SUMMARY INTO AREA       09120
37015     0020140        LDA FKEDIT  1                                         09121
37016     0320612        STA F4      1                                         09122
37017     1420001        INX 1       1       STEP POINTER                      09123
37020     0437770        BXL FKBAT-F31       TEST FOR END                      09124
37021     2617015        BRU *-4                                               09125
37022     0000600        LDA FCLOCK                                            09126
37023     2514002        BZE                                                   09127
37024     2617036        BRU FSUMR           NEED TO RESET EVERYTHING          09128
37025     2504202        LAC                 CHECK TIME                        09129
37026     0200600        SUB FCLOCK          GET ELAPSED TIME                  09130
37027     0300601        STA FLAPSE          AND CHECK FOR                     09131
37030     2514001        BMI                                                   09132
37031     2617036        BRU FSUMR           IF PAST MIDNIGHT, RESTART EVERYTHING 09133
                                                                                09134
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
37032  0000604          LDA FCNT          CHECK FOR OVER HALF-HOUR          09135
37033  2504032          ADD               STEP                              09136
37034  0300604          STA FCNT          +ND STORE                         09137
37035  2617063          BRU FCREST        NOW COMPUTE                       09138
                                                                            09139
37036  2504002  FSUMR   LDZ               REINITIALIZE                      09140
37037  0300600          STA FCLOCK                                          09141
37040  1077416          DLD FMID    3     MIDNIGHT                          09142
37041  2400600          MOV FCLOCK                                          09143
37042  0300623          STA ACRUN         ZERO ACCUMULATED COUNTERS         09144
37043  0300624          STA ACSWAP                                          09145
37044  0300625          STA ACDISK                                          09146
37045  0300626          STA ACBAT                                           09147
37046  0300601          STA FLAPSE        AND ZERO OUT ELAPSED TIME         09148
37047  0300201          STA Z1                                              09149
37050  2504202          LAC               RESET COUNTERS AND POINTERS       09150
37051  0300600          STA FCLOCK                                          09151
37052  0300622          STA ACSTRT        ACCUMULATED START                 09152
37053  0756472          SPR TIME    2                                       09153
37054  1300602          DST FSTIM                                           09154
37055  1300630          DST ASTIM2                                          09155
37056  0020612          LDA F4      1                                       09156
37057  0320140          STA FKEDIT  1                                       09157
37060  1420001          INX 1       1     STEP                              09158
37061  0437770          BXL FKRAT-F31     TEST FOR END                      09159
37062  2617056          BRU *-4                                             09160
                                                                            09161
                                                                            09162
   37063 FCREST BSS 0                                                       09163
37063  0756472          SPR TIME    2     GET TIME FOR OUTPUT LINE          09164
37064  1377354          DST SSUMP+2 3     SET IN LINE                       09165
37065  0000141          LDA FKSTRT                                          09166
37066  0300632          STA FTEM          TEMPORARY LOCATION                09167
37067  0757321          SPR PCENT   2     COMPUTE PERCENTAGE RUNNING TIME   09168
37070  0377370          STA SSR     3     RUN TIME                          09169
37071  0000143          LDA FKDUMP        SWAP TIMES                        09170
37072  0100142          ADD FKNTNU        DUMP 6 AND CONTINUE               09171
37073  0300633          STA FTEM+1                                          09172
37074  0757321          SPR PCENT   2     COMPUTE PERCENTAGE OF SWAP TIMES  09173
37075  0377374          STA SSS     3     SWAP TIME                         09174
37076  0000144          LDA FKREAD        READ-INS                          09175
37077  0100145          ADD FKWRIT                                          09176
37100  0100140          ADD FKEDIT        EDITS AS WELL                     09177
37101  0100146          ADD FKTEA         AND TEACH, FOR WANT OF A BETTER PLACE 09178
37102  0300634          STA FTEM+2                                          09179
37103  0757321          SPR PCENT   2     COMPUTE PERCENTAGE MISCELLANEOUS  09180
37104  0377404          STA SSM     3     MISC. TIME                        09181
37105  0000147          LDA FKRAT         GET BATCH TIME                    09182
37106  0300635          STA FTEM+3                                          09183
37107  0757321          SPR PCENT   2     COMPUTE PERCENTAGE BATCH          09184
37110  0377400          STA SSR     3     BATCH TIME                        09185
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
37111  0000601          LDA FLAPSE          GET ELAPSED TIME                    09186
37112  0200632          SUB FTEM            AND TRY TO INSURE 100 PERCENT       09187
37113  0200633          SUB FTEM+1                                              09188
37114  0200634          SUB FTEM+2                                              09189
37115  0200635          SUB FTEM+3                                              09190
37116  2514001          BMI                                                     09191
37117  2504002          LDZ                 MAKE IT LOOK NICE                   09192
37120  0757321          SPB PCENT   2       GET PERCENTAGE IDLE TIME            09193
37121  0377410          STA SSI     3       IDLE TIME                           09194
37122  1077414          DLD .EFFE.  3       EFFECIENCY INTERMEDIATE ENTRANCE    09195
37123  0754217          SPB INSERT  2                                           09196
37124  0300154          STA OVTSK           SAVE LOCATION                       09197
37125  0300201          STA Z1              IN CASE PRINTER NOT WORKING         09198
37126  1000602          DLD FSTIM           GET STARTING TIME                   09199
37127  1377364          DST SSUMP+103       SET IN PRINT LINE                   09200
37130  2516620  FCRE2   BCS BPN     6                                           09201
37131  2617154          BRU *+19            JUST PUNT IF NOT READY              09202
37132  2500620          SEL 6                                                   09203
37133  2600000          WPL SSUMP           SUMMARY PRINT OUT                   09204
37134  0137352
37135  0757346          SPB EEXIT   2                                           09205
37136  2516620          BCS BPN     6                                           09206
37137  2620002          BRU 2       1      WAIT AGAIN                           09207
37140  2500620          SEL 6                                                   09208
37141  0600000          SLW 2               SLEW 2 LINES                        09209
37142  0200000
37143  0757346          SPB EEXIT   2                                           09210
37144  2516620          BCS BPN     6                                           09211
37145  2620002          BRU 2       1                                           09212
37146  2500620          SEL 6                                                   09213
37147  2600000          WPL SSUMP+6         GET SHORT SUMMARY                   09214
37150  0137360
37151  0757346          SPB EEXIT   2                                           09215
37152  2516620          BCS BPN     6                                           09216
37153  2620002          BRU 2       1                                           09217
37154  2504202          LAC                 GET ACCUMULATED TIMES               09218
37155  0200622          SUB ACSTRT                                              09219
37156  0300601          STA FLAPSE                                              09220
37157  0000632          LDA FTEM                                                09221
37160  0100623          ADD ACRUN                                               09222
37161  0757321          SPB PCENT   2                                           09223
37162  0377370          STA SSR     3                                           09224
37163  0000633          LDA FTEM+1                                              09225
37164  0100624          ADD ACSWAP                                              09226
37165  0757321          SPB PCENT   2                                           09227
37166  0377374          STA SSS     3                                           09228
37167  0000634          LDA FTEM+2                                              09229
37170  0100625          ADD ACDISK                                              09230
37171  0757321          SPB PCENT   2                                           09231
37172  0377404          STA SSM     3                                           09232
37173  0000635          LDA FTEM+3                                              09233
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
37174  0100626          ADD ACBAT                                          09234
37175  0757321          SPB PCENT   2                                      09235
37176  0377400          STA SSB     3                                      09236
37177  0000601          LDA FLAPSE                                         09237
37200  0200623          SUB ACRUN                                          09238
37201  0200624          SUB ACSWAP                                         09239
37202  0200625          SUB ACDISK                                         09240
37203  0200626          SUB ACBAT                                          09241
37204  0200632          SUB FTEM                                           09242
37205  0200633          SUB FTEM+1                                         09243
37206  0200634          SUB FTEM+2                                         09244
37207  0200635          SUB FTEM+3                                         09245
37210  2514001          BMI                                                09246
37211  2504002          LDZ                      MAKE PRETTY               09247
37212  0757321          SPB PCENT   2                                      09248
37213  0377410          STA SSI     3                                      09249
37214  2516620  FCRE3   BCS BPN     6                                      09250
37215  2617237          BRU *+18                 PUNT IF NOT READY         09251
37216  2500620          SEL 6                    KNOW PRINTER IS REAY      09252
37217  0600000          SLW 2                    SLEW 2 LINES              09253
37220  0200000
37221  1000630          DLD ASTIM2               SET TIME FOR LONG RUN SUMMARY 09254
37222  1377364          DST SSUMP+103                                      09255
37223  0757346          SPB EEXIT   2                                      09256
37224  2516620          BCS BPN     6                                      09257
37225  2620002          BRU 2       1            WAIT                      09258
37226  2500620          SEL 6                                              09259
37227  2600000          WPL SSUMP+6              WRITE LONG RUN SUMMARY    09260
37230  0137360
37231  0757346          SPB EEXIT   2                                      09261
37232  2516620          BCS BPN     6                                      09262
37233  2620002          BRU 2       1                                      09263
37234  2500620          SEL 6                                              09264
37235  0600000          SLW 4                    SLEW 4 LINES              09265
37236  0400000
37237  0754212          SPB IRASE   2            GET RID OF TASK           09266
                                             SEE IF NECESSART TO RESET SUMMARY 09267
37240  0000604          LDA FCNT                 CHECK HALF-HOURS          09268
37241  0200316          SUB THREE                                          09269
37242  2514001          BMI                                                09270
37243  2617276          BRU FCRE4                OK SO PUNT                09271
                                             TIME TO RESTART SO ADD TO ACCUMULATED THINGS 09272
37244  0000632          LDA FTEM                                           09273
37245  0100623          ADD ACRUN                                          09274
37246  0300623          STA ACRUN                                          09275
37247  0000633          LDA FTEM+1                                         09276
37250  0100624          ADD ACSWAP                                         09277
37251  0300624          STA ACSWAP                                         09278
37252  0000634          LDA FTEM+2                                         09279
37253  0100625          ADD ACDISK                                         09280
37254  0300625          STA ACDISK                                         09281
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
37255  0000635          LDA FTEM+3                                          09282
37256  0100626          ADD ACRAT                                           09283
37257  0300626          STA ACRAT                                           09284
37260  2504002          LDZ                    RESTART                      09285
37261  0300600          STA FCLOCK                                          09286
37262  1077416          DLD FMID    3                                       09287
37263  2400600          MOV FCLOCK                                          09288
37264  0300201          STA Z1                                              09289
37265  2504202          LAC                                                 09290
37266  0300600          STA FCLOCK             STARTING TIME                09291
37267  0756472          SPB TIME    2                                       09292
37270  1300602          DST FSTIM                                           09293
37271  0020612          LDA F4      1                                       09294
37272  0320140          STA FKEDIT  1                                       09295
37273  1420001          INX 1       1                                       09296
37274  0437770          BXL FKRAT-F31          CHECK FOR END                09297
37275  2617271          BRU *-4                                             09298
37276  0755464  FCRE4    SPB DSKB    2         AND GET DISK                 09299
37277  0755560          SPB DSKOP   2         AND WRITE OUT SUMMARY        09300
37300  3700001          Z37 1                 WRITE, 1 RECORD              09301
37301  0000600          DEC FCLOCK            FROM SUMMARY AREA            09302
37302  0000402          OCT 402               DISK ADDRESS                 09303
37303  2504012          NOP                   SHOULD NEVER RETURN HERE, BUT PUNT IF IT DOES09304
37304  0755771          SPB RELIN   2         RELINQUISH DISK              09305
37305  2504202          LAC                   AND SET INTERVAL FOR NEXT TIME09306
37306  0177420          ADD FINC    3                                       09307
37307  2514001          BMI                   CHECK FOR TOO LARGE          09308
37310  2617314          BRU *+4                                             09309
37311  2177424          CAB FMID1   3         CHECK FOR MIDNIGHT           09310
37312  2617315          BRU *+3               OK                           09311
37313  2617314          BRU *+1                                            09312
37314  0077424          LDA FMID1   3         TOO CLOSE                    09313
37315  0300113          STA .EFF                                           09314
37316  2504002          LDZ                   RESET BUSY FLAG              09315
37317  0300106          STA BZYF                                           09316
37320  2620002          BRU 2       1         AND GET OUT                  09317
                                                                           09318
                                                                           09319
37321  2504006  PCENT    MAQ                   COMPUTE PERCENTAGE           09320
37322  1577423          MPY FCENT   3         GET ONE EXTRA DIGIT          09321
37323  1600601          DVD FLAPSE            AND GET PERCENTAGE TWICE AS LARGE09322
37324  2504032          ADO                   ROUND UPWARDS                09323
37325  2511024          SRD 20                GET IN Q LESS ONE BIT        09324
37326  1600324          DVD TEN               CONVERT TO DECIMAL           09325
37327  2177421          CAB FINC2   3         CHECK FOR FUNNY CASE         09326
37330  2617334          BRU *+4               OK                           09327
37331  2617332          BRU *+1               YES                          09328
37332  0077422          LDA FINC3   3         GET 100 PERCENT              09329
37333  2640001          BRU 1       2         AND GET OUT                  09330
37334  2514002          BZE                   CHECK FOR LEADING ZERO       09331
37335  0000330          LDA 060               REPLACE BY ZERO IF SO        09332
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
37336  2512006          SLA 6                  SHIFT TO MIDDLE                    09333
37337  0100436          ADD BLZZ               AND GET RID OF HIGH ORDER ZERO     09334
37340  0300103          STA MSTEMP+1           FIRST CHARACTER                    09335
37341  2504001          LAQ                    REMAINDER IS SECOND                09336
37342  0100103          ADD MSTEMP+1           AND TOTAL UP                       09337
37343  2640001          BRU 1       2                                             09338
                                                                                  09339
                                                                                  09340
37344  0640054  EFFE    LDX EPOI2   2          GET CORRECT REENTRANCE             09341
37345  2640001          BRU 1       2          AND GO THERE                       09342
                                                                                  09343
37346  1740054  EEXIT   STX EPOI2   2          TEMPORARY EXIT                     09344
37347  0620154          LDX OVTSK   1                                             09345
37350  2640001          BRU 1       2          AND JUST GO BACK                   09346
                                                                                  09347
                                   PRINT LINES FOR PRINTER SUMMARY                09348
37352  0633144  SSUMP   ALF TIM                                                  09349
37353  0256060          ALF E                                                    09350
37354  0606060          ALF                                                      09351
37355  0606060          ALF                                                      09352
37356  2606060          OCT -606060                                              09353
37357  0000000          OCT 0                                                    09354
37360  0626444          ALF SUM                                                  09355
37361  0442151          ALF MAR                                                  09356
37362  0706026          ALF Y F                                                  09357
37363  0514644          ALF ROM                                                  09358
37364  0606060          ALF                                                      09359
37365  0606060          ALF                                                      09360
37366  0606060          ALF                                                      09361
37367  0516445          ALF RUN                                                  09362
37370  0606060  SSR     ALF                                                      09363
37371  0746060          ALF %                                                    09364
37372  0626621          ALF SWA                                                  09365
37373  0473535          OCT 473535                                               09366
37374  0606060  SSS     ALF                                                      09367
37375  0746060          ALF %                                                    09368
37376  0222163          ALF BAT                                                  09369
37377  0233035          OCT 233035                                               09370
37400  0606060  SSB     ALF                                                      09371
37401  0746060          ALF %                                                    09372
37402  0443162          ALF MIS                                                  09373
37403  0233535          OCT 233535                                               09374
37404  0606060  SSM     ALF                                                      09375
37405  0746060          ALF %                                                    09376
37406  0312443          ALF IOL                                                  09377
37407  0253535          OCT 253535                                               09378
37410  0606060  SSI     ALF                                                      09379
37411  2746060          OCT -746060                                              09380
                                                                                  09381
37412  0737004  .EFF1.  SPB EFF1    1                                            09382
                                                                                  09383
```

TIME-SHARING SYSTEM OPERATION SUMMARY

```
 37414  0737344   .EFFE.  SPB EFFE    1                                    09384
 37415  3777777           DEC -1                                         09385
 37416  0000601   FMID    DEC FLAPSE                                     09386
 37417  3777757           DEC F1-F2                                      09387
 37420  0007020   FINC    OCT 7020          10 * FRACITON                09388
 37421  0000012   FINC2   DEC 10                                         09389
 37422  0010000   FINC3   ALF 100                                        09390
 37423  0000310   FCENT   DEC 200           PERCENTAGE CONSTANT          09391
 37424  1764375   FMID1   OCT 1764375                                    09392
 37425  0000622           DEC F2            JUST TO REFERENCE THEM       09393
 37426  0000137           DEC F3                                         09394
                                                                         09395
          00054           ORG T                                          09396
          00054   EPOI2   BSS 1                                          09397
                                                                         09398
          06000           LOC 6000                                       09399
                                      CHECK FOR PRINTER                  09400
 06000  0660337   FPC     LDX 8K      3                                  09401
 06001  2504002           LDZ                                            09402
 06002  2500011           RCS                                            09403
 06003  2510001           SRA 1             SEE IF SWITCH 18 DOWN        09404
 06004  2516000           REV                                            09405
 06005  2601574           BRU LOVWRT        NO SO LOAD                   09406
 06006  2606010           BRU *+2           IF SO NO PRINTER             09407
 06007  2504012           NOP                                            09408
 06010  0006007           LDA *-1           GET NOP                      09409
 06011  0377130           STA FCRE2   3     AND PLACE IN TEST INSTRUCTIONS 09410
 06012  0377214           STA FCRE3   3                                  09411
 06013  0741274           SPB $ERTYP  2     AND TYPE MESSAGE             09412
 06014  0006016           DEC *+2                                        09413
 06015  2601574           BRU LOVWRT        AND LOAD                     09414
 06016  0377777           OCT 377777        NO PRINTER                   09415
 06017  0454660           ALF NO                                         09416
 06020  0475131           ALF PRI                                        09417
 06021  0456325           ALF NTE                                        09418
 06022  0513360           ALF R.                                         09419
 06023  0375577           OCT 375577                                     09420
                                                                         09421
T06000                    TCD FPC                                        09422
                                                                         09423
                                                                        STL09424
                                                                        TTL09425
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BAT1 - CARD SCAN

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                                                                                09452
                                                                                09453
      01670          ORG PERNUM          LOADING INFORMATION FOR EXEC          09454
01670 0000034        DEC 28                                                    09455
01671 0000513        DEC BATCH           NAME OF OVERLAY                       09456
                                                                                09457
                                                                                09458
      37000          ORG EXECOV          IS STANDARD OVERLAY LOCATION.         09459
37000 0756330        SPB MESSG   2       ACKNOWLEDGE CALL WITH A CARRAIGE RETURN09460
37001 0037022        DEC BCR                                                   09461
37002 0301033        STA I01+27          SET SYNC WORD OFFF AT START           09462
37003 1077460        DLD .BENT.  3       INSERT TASK INTO API LIST             09463
37004 0754217        SPB INSERT  2                                             09464
37005 0300154        STA OVTSK           AND SAVE RETURN LOCATION              09465
37006 0300201        STA Z1                                                    09466
37007 0077023        LDA BPER3   3                                             09467
37010 0300060        STA BPER            AND PUT PERIOD CHARACTER INTO LOWER ARRAY09468
37011 2504022        LDO                                                       09469
37012 0300151        STA CMESSB          SET CMESSB RIGHT                      09470
37013 0001000        LDA I01                                                   09471
                                    BFFLG IS A 3 WAY FLAG. IT IS MINUS IF A FRONT 09472
37014 0377464        STA BFFLG   3       CARD HAS BEEN FOUND, 0 IF IT NEEDS ONE, AND09473
                                    POSITIVE IF IT NEEDS A BACK CARD.           09474
37015 2514007        BPR                 TOO KEEP MY MANY FRIENDS CHECK THE PUNCH FOR09475
37016 2617021        BRU *+3             THEM                                  09476
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BAT1 - CARD SCAN

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37017  0756330          SPB MESSG   2        TYPE THEM A MESSAGE                              09477
37020  0037501          DEC BPNR             PUNCH NOT READY                                  09478
37021  2617037          BRU BCD              AND GO TO NORMAL READ                            09479
37022  0375577  BCR     OCT 375577           CARRAIGE RETURN MESSAGE - GIVEN ON ENTRANCE      09480
37023  0000033  BPER3   OCT 33               PERIOD - USED IN CARD SCAN TERMINATE CHECK.      09481
         37700  BCOM    EQO 37700                                                             09482
                                                                                              09483
                                                                                              09484
                                     NORMAL ENRANCE IS HERE                                   09485
         37024  BENT    BSS 0                                                                 09486
37024  2504002          LDZ                                                                   09487
37025  2500011          RCS                                                                   09488
37026  2514001          BMI                  CHECK CONSOLE SWITCHES                           09489
37027  2620002          BRU 2       1        AND IF NEGATIVE, CRUMP                           09490
37030  0000137          LDA TYPF             DON T EVEN BOTHER IF MESSAGE BEING TYPED         09491
37031  2516002          BNZ                                                                   09492
37032  2620002          BRU 2       1                                                         09493
37033  0640062          LDX BPOIN2  2        SET UP RETURN                                    09494
37034  2640001          BRU 1       2        AND EXECUTE IT                                   09495
37035  0546060  BC1     OCT 546060                                                            09496
37036  0054243  BC2     OCT 54243                                                             09497
37037  0737275  BCD     SPB BCARD   1        CARD PROCESSING LOOP - GET A CARD                09498
37040  0001000          LDA I01              PICK UP FIRST CARD CHARACTER                     09499
37041  0277035          SUB BC1     3        CHECK FOR ASTERIK                                09500
37042  2514002          BZE                                                                   09501
37043  2617047          BRU *+4                                                               09502
37044  0277036          SUB BC2     3                                                         09503
37045  2516002          BNZ                  CHECK FOR SCC                                    09504
37046  2617037          BRU BCD              NON-CONTROL, SO CRUMP                            09505
37047  1000276          DLD ZERO                                                              09506
37050  1300054          DST T                SET SCAN ARRAY 0                                 09507
37051  1300056          DST T+2                                                               09508
                                                                                              09509
                                       ---CARD SCAN ROUTINE---                                09510
                                  SCANS A CARD IN I01, SKIPPING FIRST 6                       09511
                                COLUMNS, AND PUTTING ALL NON-BLANK CHARACTE                   09512
                                INTO T THROUGH T+3. IT TERMINATES ON                          09513
                                REACHING COLUMN 42, OR FINDING A PERIOD,                      09514
                                OR FILLING THE FOURTH WORS OF THE ARRAY.                      09515
                                UNUSED CHARACTERS IN ARRAY BECOME 0                           09516
                                                                                              09517
37052  0620276          LDX ZERO    1                                                         09518
37053  0321001          STA I01+1   1        SET WORD POINTER TO 0                            09519
37054  1460014          INX 12      3        WILL USE XR3 MAXIMUM OF 12 CHARACTERS            09520
         37055  BAW1    BSS 0                                                                 09521
37055  1420001          INX 1       1        BUMP UP WORD POINTER                             09522
37056  0537764          BXH 12      1        CRUMP C                                          09523
37057  2617120          BRU BEX0.1           SEE IF HAVE FRONT CARD                           09524
37060  0021001          LDA I01+1   1                                                         09525
37061  2100441          CAB DUMPBL           SEE IF ALL BLANKS                                09526
37062  2617064          BRU *+2                                                               09527
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BAT1 - CARD SCAN

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37063  2617055          BRU  BAW1                                    09528
37064  2511014          SRD  12          POSITION                   09529
37065  0757073          SPB  BAWAY   2   AND PUT IT AWAY            09530
37066  2512206          SLD  6                                       09531
37067  0757073          SPB  BAWAY   2                               09532
37070  2512206          SLD  6                                       09533
37071  0757073          SPB  BAWAY   2                               09534
37072  2617055          BRU  BAW1        AND GO GET NEXT WORD       09535
                                                                    09536
                                                                    09537
         37073  BAWAY    BSS  0          CHARACTER PUT AWAY ROUTINE 09538
37073  1721000          STX  IO1     1   SAVE CALLING REGISTER      09539
37074  0621001          LDX  IO1+1   1   AND GET POINTER TO LIST     09540
37075  2100330          CAB  060         CHWCK FOR BLANK CHARACTER  09541
37076  2617100          BRU  *+2                                    09542
37077  2617106          BRU  BBLNK                                  09543
37100  2100060          CAB  BPER        SEE IF TERMINAL PERIOD     09544
37101  2617103          BRU  *+2                                    09545
37102  2617120          BRU  BEX0.1                                 09546
37103  2572000          SLA  0       3   SHIFT                      09547
37104  2320054          ORY  T       1   AND PUT AWAY               09548
37105  1477772          INX  -6      3                              09549
37106  0476030  BBLNK   BXL  1000    3                              09550
37107  2617114          BRU  *+5                                    09551
37110  1460022          INX  18      3                              09552
37111  1420001          INX  1       1                              09553
37112  0537774          BXH  4       1                              09554
37113  2617120          BRU  BEX0.1                                 09555
37114  1721001          STX  IO1+1   1                              09556
37115  2504002          LDZ                                         09557
37116  0621000          LDX  IO1     1                              09558
37117  2640001          BRU  1       2   AND RETURN                 09559
                                                                    09560
                                                                    09561
         37120  BEX0.1   BSS  0                                    09562
37120  0660337          LDX  8K      3                              09563
37121  0077464          LDA  BFFLG   3   CHECK FRONT CARD STATUS     09564
37122  2514001          BMI                                         09565
37123  2617144          BRU  BEX1        YES                        09566
37124  2514002          BZE                                         09567
37125  2617133          BRU  BEX0.2      SEE IF FRONT               09568
37126  1000054          DLD  T           SEE IF BACK                09569
37127  2277142          DCB  BBCARD  3                              09570
37130  2617037          BRU  BCD         NO                         09571
37131  2617243          BRU  BCBACK      YES                        09572
37132  2617037          BRU  BCD                                    09573
37133  1000054  BEX0.2  DLD  T                                      09574
37134  2277140          DCB  BFCARD  3                              09575
37135  2617037          BRU  BCD         TRY AGAIN                  09576
37136  2617240          BRU  BCFRNT      FOUND IT                   09577
37137  2617037          BRU  BCD                                    09578
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BAT1 - CARD SCAN

```
 37140  0265146  BFCARD ALF FRO                                                09579
 37141  0456300         ALF NTO                                                09580
 37142  0222123  BBCARD ALF BAC                                                09581
 37143  0420000         ALF K00                                                09582
                                                                               09583
          37144  BEX1   BSS 0                  CARD SCAN DONE - DO CARD CATALOG SCAN  09584
 37144  0000525         LDA OCAT+2                                             09585
 37145  0377164         STA BTLST+2 3                                          09586
 37146  0300063         STA T+7               AND SET FOR DISK ROUTINE         09587
          37147  BEX2   BSS 0                 ENTER HERE FOR EACH RECORD       09588
 37147  0077164         LDA BTLST+2 3         GET DISK ADDRESS                 09589
 37150  0100314         ADD TWO               AND BUMP IT                      09590
 37151  0377164         STA BTLST+2 3                                          09591
 37152  0756052         SPB DRAMB   2         READ IN A 64 WORD TYPE RECORD    09592
 37153  0037162         DEC BTLST                                              09593
 37154  0737465         SPB BEXIT   1                                          09594
 37155  0077165         LDA BTLST+3 3         CHECK FOR OPERATION COMPLETED    09595
 37156  2514002         BZE                                                    09596
 37157  2620002         BRU 2       1         EXIT                             09597
 37160  0640337         LDX 8K      2                                          09598
 37161  2617166         BRU BAW3              AND SEARCH THIS RECORD           09599
                                                                               09600
          37162  BTLST  BSS 0                 PARAMETER LIST FOR CATALOG READ  09601
 37162  1200001         712 1                 1 RECORD AT A TIME               09602
 37163  0037700         OCT 37700                                              09603
 37164  0000000         OCT 0                 DISK ADDRESS SPECIFIED           09604
 37165  0000000         OCT 0                 FLAG LOCATION ....               09605
                                                                               09606
                                      TABLE SEARCH TO SEE IF CARD TYPE NOE IN  09607
                                NOW MATCHES SOME ENTRY IN THE CATALOG          09608
                                ALL ENTRIES CONSIST OF A 4 WORD ALPFABETIC     09609
                                PART, PLUS A 4 WORD PARAMETER PERT SPECIFYI    09610
                                INFORMATION ABOUT THE TPE - INCLUDING          09611
                                A BRANCH LOCATION TO PROCESS IT                09612
                                                                               09613
          37166  BAW3   BSS 0                                                  09614
 37166  1057700         DLD BCOM    2                                          09615
 37167  2514002         BZE                                                    09616
 37170  2617226         BRU BCDC              CHECK FOR RUN OR SYM             09617
 37171  2200054         DCB T                 CHECK FIRST 2 WOTDS              09618
 37172  2617174         BRU *+2               NO MATCH                         09619
 37173  2617200         BRU BFM               AT LEAST FIRST 2 MATCH           09620
 37174  1440010  BAW6   INX 8       2         BUMP UP CATALOG POINTER          09621
 37175  0557700         BXH 64      2         CHECK THIS RECORD SEARCHED       09622
 37176  2617147         BRU BFX2              YES - SO GO GET THE NEXT         09623
 37177  2617166         BRU BAW3              AND GO TRY ANOTHER ENTRY         09624
 37200  1057702  BFM    DLD BCOM+2  2         CHECK SECOND TWO WORDS           09625
 37201  2514001         BMI                                                    09626
 37202  2617207         BRU *+5               IF MINUS JUST CHECK FIRST TWO    09627
 37203  2200056         DCB T+2                                                09628
 37204  2617174         BRU BAW6              NO MATCH                         09629
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BAT1 - CARD SCAN

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37205  2617207          BRU *+2                                          09630
37206  2617174          BRU BAW6      NO MATCH, CHECK AGAIN.             09631
37207  1457704          INX BCOM+4  2                                    09632
37210  0040000          LDA 0       2                                    09633
37211  0300201          STA Z1                                           09634
37212  2637212          BRU *       1                                    09635
37213  2617243          BRU BCBACK                                       09636
37214  2617440          BRU BINT2                                        09637
37215  2617443          BRU BINT                                         09638
37216  2617245          BRU BCTYPE                                       09639
37217  2617252          BRU BCRWND                                       09640
37220  2617254          BRU BCSLEW                                       09641
37221  2617425          BRU BEXT                                         09642
         37222          BSS 4                                            09643
                                                                         09644
         37226          BSS 0                                            09645
37226  0000054          LDA T         CHECK FOR FIRST WORD RUN OR SYM    09646
37227  2177273          CAB BSYM    3                                    09647
37230  2617232          BRU *+2                                          09648
37231  2617236          BRU BCSYM1    CALL SYM-LOCATOR                   09649
37232  2177274          CAB BRUN    3                                    09650
37233  2617037          BRU BCD                                          09651
37234  2617236          BRU BCSYM1    SYM LOCATOR WILL ALSO POSITION FOR A RUN 09652
37235  2617037          BRU BCD                                          09653
                                                                         09654
37236  0077256  BCSYM1  LDA .BSYM1  3  BRANCH TO BSYM1                   09655
37237  2617264          BRU BCBAT2    CAL BAT2                           09656
37240  0737275  BCFRNT  SPB BCARD   1  GET NEXT CARD FIRST               09657
37241  0077257          LDA .BFRNT  3  THEN LINKAGE                      09658
37242  2617264          BRU BCBAT2                                       09659
37243  0077260  BCBACK  LDA .BBACK  3                                    09660
37244  2617264          BRU BCBAT2                                       09661
37245  0040001  BCTYPE  LDA 1       2  GET CONTROL WORD FOR HALT OF NO HALT 09662
37246  0300055          STA T+1                                          09663
37247  0737275          SPB BCARD   1  AND GET CARD TO TYPE              09664
37250  0077261          LDA .BTYPE  3                                    09665
37251  2617264          BRU BCBAT2                                       09666
37252  0077262  BCRWND  LDA .BRWND  3                                    09667
37253  2617264          BRU BCBAT2                                       09668
37254  0077263  BCSLEW  LDA .BSLEW  3                                    09669
37255  2617264          BRU BCBAT2                                       09670
                                                                         09671
                                                                         09672
37256  2617025  .BSYM1  BRU BSYM1                                        09673
37257  2617141  .BFRNT  BRU BFRNT                                        09674
37260  2617263  .BBACK  BRU BBACK                                        09675
37261  2617122  .BTYPE  BRU BTYPE                                        09676
37262  2617353  .BRWND  BRU BRWND                                        09677
37263  2617377  .BSLEW  BRU BSLEW                                        09678
                                                                         09679
                                                                         09680
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BAT1 - CARD SCAN

```
                                                EXIT TO GET TO BAT2                                09681
                                                                                                   09682
                                                                                                   09683
           37264   BCBAT2 BSS 0                                                                    09684
37264  0300064          STA BBRA                  STORE BRANCH FOR BAT2                           09685
37265  2506014          SET PRO                   MAKE SURE TO GET BACK                           09686
37266  0737465          SPB BEXIT    1            GET OUT SO MESSAGES CAN BE TYPED                09687
37267  0754212          SPB IRASE    2            ERASE PRESENT ENTRY                             09688
37270  0640276          LDX ZERO     2                                                            09689
37271  1440524          INX BAT2     2                                                            09690
37272  2616030          BRU PGETB                 GET IT                                          09691
                                                                                                   09692
37273  0627044   BSYM   ALF SYM                                                                   09693
37274  0516445   BRUN   ALF RUN                                                                   09694
                                                                                                   09695
                                                CARD READ ROUTINE ---                              09696
                                              READS CARDS - CHECK ING FOR ERRORS, EOF, ET          09697
                                                                                                   09698
           37275   BCARD  BSS 0                                                                    09699
37275  2516006          BCN                                                                       09700
37276  2617356          BRU BEOFC                                                                 09701
37277  2504002          LDZ                                                                       09702
37300  0301033          STA I01+27                                                                09703
37301  2501000          RCD I01                                                                   09704
37302  2500004          HCR                                                                       09705
37303  2504202          LAC                                                                       09706
37304  0100330          ADD 060                                                                   09707
37305  0377420          STA BCLK     3            START COUNTDOWN ON READER                       09708
           37306   BCARD1 BSS 0                                                                    09709
37306  1720061          STX BPOIN1   1                                                            09710
37307  0737465          SPB BEXIT    1                                                            09711
37310  0001033          LDA I01+27                WAIT FOR CARD READER SYNC IN                    09712
37311  2514001          BMI                                                                       09713
37312  2617325          BRU BCARD2                                                                09714
37313  2504202          LAC                                                                       09715
37314  2177420          CAB BCLK     3            COUNTDOWN ON IT                                 09716
37315  2617320          BRU *+3                                                                   09717
37316  2617321          BRU BCNR                                                                  09718
37317  2617321          BRU BCNR                                                                  09719
37320  2620002          BRU 2        1                                                            09720
           37321   BCNR   BSS 0                 TYPE CARD READER NOT READY AND RETURN           09721
37321  0620061          LDX BPOIN1   1                                                            09722
37322  0756330          SPB MESSG    2                                                            09723
37323  0037474          DEC BCNL                                                                  09724
37324  2617303          BRU BCARD1-3                                                              09725
           37325   BCARD2 BSS 0                                                                    09726
37325  0277462          SUB BSYNC    3                                                            09727
37326  2516002          BN7                                                                       09728
37327  2617335          BRU BCARD4                                                                09729
37330  0737465          SPB BEXIT    1                                                            09730
37331  2516006          BCN                                                                       09731
37332  2620002          BRU 2        1
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BAT1 - CARD SCAN

```
37333  0620061          LDX BPOIN1  1                                    09732
37334  2620001          BRU 1       1      AND EXIT                      09733
         37335  BCARD4   BSS 0                                          09734
37335  2512001          SLA 1               NOW CHECK FOR EOF            09735
37336  2514002          BZE                                              09736
37337  2617352          BRU BCARD3          EOF ON READ - SET FLAG AND EXIT 09737
37340  0756330          SPB MESSG   2       TYPE OUT CARD READ ERROR     09738
37341  0037470          DEC BCPE                                         09739
37342  0737465          SPB BEXIT   1       AND WAIT FOR READER          09740
37343  2504002          LDZ                                              09741
37344  2500011          RCS                 TO TOGGLE SWITCH 2           09742
37345  2000343          EXT MASK6                                        09743
37346  2514002          BZE                 WAIT FOR SWITCH 2 DOWN       09744
37347  2620002          BRU 2       1                                    09745
37350  0620061          LDX BPOIN1  1       TOGGLED.                     09746
37351  2617275          BRU BCARD           SO TRY READING CARD AGAIN    09747
37352  2504022  BCARD3  LDO                                              09748
37353  0300063          STA BEOF            SET EOF ON LAST READ FLAG    09749
37354  0620061          LDX BPOIN1  1       GET ENTRANCE BACK            09750
37355  2620001          BRU 1       1       AND EXIT.                    09751
                                                                         09752
         37356  BEOFC    BSS 0                                          09753
37356  0000063          LDA BEOF            WILL INDICATE LAST CARD READ 09754
37357  2514002          BZE                                              09755
37360  0756330          SPB MESSG   2       IF NOT READ TYPE OUT NOT READY MESSAGE 09756
37361  0037474          DEC BCNL            AND CRUMP, ELSE JUST CRUMP   09757
37362  0077464          LDA BFFLG   3       CHECK TO SEE IF A BACK CARD WAS FOUND 09758
37363  2516002          BNZ                                              09759
37364  2617243          BRU BCBACK          NO SO MAKE ONE               09760
37365  0000602          LDA FCLOCK+2        SEE IF USING SYSOUT          09761
37366  2177417          CAB BN02    3                                    09762
37367  2617371          BRU *+2                                          09763
37370  2617400          BRU *+8             NO SYSOUT                    09764
37371  0737465          SPB BEXIT   1       IF SO WRITE END-OF-FILE       09765
37372  2516120          BCS BTN     1                                    09766
37373  2620002          BRU 2       1                                    09767
37374  2500120          SEL 1                                            09768
37375  0200000          WEF         7       PUT ON AN EOF                09769
37376  3000000
37377  2617421          BRU BCS/O           AND CALL SYSOUT              09770
37400  0756472          SPB TIME    2                                    09771
37401  0377513          STA BPDO1   3                                    09772
37402  2504005          XAO                                              09773
37403  0377514          STA BPDO1+1 3                                    09774
37404  0756330          SPB MESSG   2                                    09775
37405  0037507          DEC BPDO                                         09776
37406  0620154          LDX OVTSK   1                                    09777
37407  0754212          SPB IRASE   2       GET RID OF THIS TASK FROM LIST 09778
37410  2504002          LDZ                                              09779
37411  0300154          STA OVTSK                                        09780
37412  0300106          STA BZYF                                         09781
```

BAT1 - CARD SCAN

```
37413  0300063          STA BEOF                                          09782
37414  0300151          STA CMESSB        SET BATCH FLAG BACK TO ZERO     09783
37415  0301000          STA IO1                                           09784
37416  2620002          BRU 2       1                                     09785
                                                                         09786
37417  0454660  BNO2    ALF NO                                            09787
37420  0000000  BCLK    DEC 0             USED TO HOLD COUNTDOWN ON CARD READER 09788
                                                                         09789
                                                                         09790
                                                                         09791
                  EXIT TO START LISTING OF SYSOUT TAPE                   09792
37421  0754212  BCS/O   SPB IRASE   2       ERASE PRESENT TASK          09793
37422  0640276          LDX ZERO    2                                     09794
37423  1440510          INX S/O     2                                     09795
37424  2616030          BRU PGETB           AND GET S/O                   09796
                                                                         09797
                                                                         09798
   37425  BEXT    BSS 0                   CALL IN OBA OVERLAY TO EXECUTE 09799
37425  1440001          INX 1       2       GET ADDRESS OF PARAMETERS TO MOVE DOWN 09800
37426  0000202          LDA Z2                                            09801
37427  0177463          ADD BMOVP   3       SET UP MOVE                   09802
37430  0377432          STA *+2     3                                     09803
37431  1077436          DLD BTMOV   3                                     09804
37432  3777777          DEC -1              AND MOVE DOWN TO T ARRAY      09805
37433  0757443          SPB BINT    2       CALL IN OBA OVERLAY           09806
37434  0462221          ALF OBA                                           09807
37436  0000060  BTMOV   DEC T+4                                          09808
37437  3777775          DEC -3              MOVE DOWN THREE PARAMETER WORDS 09809
                                                                         09810
   37440  BINT2   BSS 0                   ENTERED FOR OVERLAYS THAT NEED OPTIONS IN TY+09811
37440  0040001          LDA 1       2                                     09812
37441  0300031          STA TY+1            GET SINGLE SPCA TRANSLATION MESSAGE 09813
37442  1440001          INX 1       2       SET TO NAME                   09814
                  AND CONTINUE                                           09815
   37443  BINT    BSS 0                   ENTER HERE TO CALL PERIPHERAL OVERLAY IN 1,2 09816
37443  0040001          LDA 1       2       GET NAME                      09817
37444  0300200          STA Z0              SAVE                          09818
37445  0620154          LDX OVTSK   1                                     09819
37446  0754212          SPB IRASE   2                                     09820
37447  0640276          LDX ZERO    2                                     09821
37450  0000200          LDA Z0              SEARCH FOR ADDRESS            09822
37451  1440447          INX COM     2                                     09823
37452  2140000          CAB 0       2                                     09824
37453  2617455          BRU *+2                                           09825
37454  2616030          BRU PGETB           GET OVERLAY                   09826
37455  1440003          INX 3       2                                     09827
37456  2617452          BRU *-4             BETTER BE IN LIST             09828
                                                                         09829
37460  0737024  .BENT.  SPB BENT    1                                     09830
37461  3777777          DEC -1                                            09831
                                                                         09832
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BAT1 - CARD SCAN

```
37462  2606077   BSYNC  OCT 2606077          GOOD CARD READ SYNC WORD                    09833
37463  2400000   BMOVP  Z24 0                USED TO CONSTRUCT MOVES                     09834
37464  0000000   BFFLG  DEC 0                FRONT CARD FLAG MINUS IF FOUND ONE          09835
37465  1720062   BEXIT  STX BPOIN2  1                                                    09836
37466  0620154          LDX OVTSK   1                                                    09837
37467  2620002          BRU 2       1                                                    09838
         37470   BCRE   BSS 0                                                          09839
37470  0372351          OCT 372351                                                       09840
37471  0602551          ALF  ER                                                          09841
37472  0514651          ALF ROR                                                          09842
37473  0333755          OCT 333755                                                       09843
         37474   BCNL   BSS 0                                                          09844
37474  0372351          OCT 372351                                                       09845
37475  0604546          ALF  NO                                                          09846
37476  0636051          ALF T R                                                          09847
37477  0252124          ALF EAD                                                          09848
37500  0703755          OCT 703755                                                       09849
                                                                                       09850
         37501   BPNR   BSS 0                PUNCH NOT READY                           09851
37501  0374764          OCT 374764                                                       09852
37502  0452330          ALF NCH                                                          09853
37503  0604546          ALF  NO                                                          09854
37504  0636051          ALF T R                                                          09855
37505  0252124          ALF EAD                                                          09856
37506  0703755          OCT 703755                                                       09857
                                                                                       09858
         37507   BPDO   BSS 0                                                          09859
37507  0372545          OCT 372545                                                       09860
37510  0246022          ALF D B                                                          09861
37511  0216323          ALF ATC                                                          09862
37512  0306060          OCT 306060                                                       09863
37513  0000000   BPDO1  DEC 0                                                          09864
37514  0000000          DEC 0                                                          09865
37515  0606030          ALF   H                                                         09866
37516  0466451          ALF OUR                                                          09867
37517  0623360          ALF S.                                                           09868
37520  0373755          OCT 373755                                                       09869
                                                                                       09870
                                      ****************************************         09871
                                      STOP AT 37677 FOR CATALOG                        09872
                                                                                       09873
           00054          ORG T                                                       09874
           00054          BSS 4               CARD TYPE BUILD AREA                    09875
           00060   BPER   BSS 1               PUT ALPHA PERIOD                        09876
           00061   BPOIN1 BSS 1               INDEX REGISTER STORAGE                  09877
           00062   BPOIN2 BSS 1               INDEX REGISTER STORAGE                  09878
           00063   BEOF   BSS 1               EOF FOR CARD READ                       09879
           00064   BBRA   BSS 1               BRANCH FOR BAT2                         09880
                                                                                       09881
                                      MAKE SURE THIS IS AT LEAST T+8                   09882
           00065   BDC    BSS 1               BATCH DUMP CODE - 0 FOR DISK HANDLER FOR TAPE09883
```

BAT1 - CARD SCAN

T01574 TCD LOVWRT

09884
09885
STL09886
EJT09887

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
                                                THE BAT2 OVERLAY PROCESSES STANDARD CONTROL      09888
                                                CARDS WHICH WOULD NOT FIT IN THE BATCH OVER.     09889
                                                WHEN ENTERED THE T ARRAY HAS A BRANCH TO THE     09890
                                                DESIRED ROUTINE.                                 09891
                                                ANY CARD INPUT WILL BE IN I01                    09892
                                                THE TAPE SUBROUTINE IS TACKED ONTO THE END       09893
                                                WHEN THIS IS LOADED                              09894
                                                                                                 09895
                                                                                                 09896
                                                                                                 09897
                                                     OVERLAY NAME                                09898
                                                                                                 09899
                                                                                                 09900
                                                                                                 09901
                                                     INSERT TASK IN LIST                         09902
                                                                                                 09903
                                                     AND SAVE RETURN LOCATION                    09904
                                                                                                 09905
                                                     GET BRANCH                                  09906
                                                                                                 09907
                                                     BRANCH TO NEEDED ROUTINE                    09908
                                                                                                 09909
                                                NORMAL ENTERANCE TO HERE                         09910
                                                                                                 09911
                                                                                                 09912
                                                                                                 09913
                                                                                                 09914
                                                     IF SW-0 DOWN CRUMP                          09915
                                                                                                 09916
                                                                                                 09917
                                                     PUNT IF TYPING ALSO                         09918
                                                     SET UP RETURN                               09919
                                                     AND GET THERE                               09920
                                                                                                 09921
                                                                                                 09922
                                                                                                 09923
                                                ENTER ON 2                                       09924
                                                                                                 09925
                                                                                                 09926
                                                                                                 09927
                                                                                                 09928
                                                                                                 09929
                                                                                                 09930
                                                BSYM1 LOCATES SYMBOLIC FILE ON TAPE AND          09931
                                                POSITIONS TAPE TO READ AFTER LOCATION            09932
                                                                                                 09933
                                                     GET HANDLER NUMBER                          09934
                                                     EXTRACT PLUG                                09935
                                                                                                 09936
                                                                                                 09937
                                                                                                 09938
```

```
          01670          ORG PERNUM
01670     0000036        DEC 30
01671     0000524        DEC BAT2

          37000          ORG EXECOV
37000     1077020        DLD .BAEN.   3
37001     0754217        SPB INSERT   2
37002     0300154        STA OVTSK
37003     0300201        STA Z1
37004     0000064        LDA BBRA
37005     0377006        STA *+1      3
37006     2504012        NOP

          37007  BAEN    BSS 0
37007     2504002        LDZ
37010     2500011        RCS
37011     2514001        BMI
37012     2620002        BRU 2        1
37013     0000137        LDA TYPF
37014     2516002        BNZ
37015     2620002        BRU 2        1
37016     0640062        LDX BPOIN2   2
37017     2640001        BRU 1        2

37020     0737007 .BAEN. SPB BAEN     1
37021     3777777        DEC -1

37022     1740062 BAEX   STX BPOIN2   2
37023     0620154        LDX OVTSK    1
37024     2640001        BRU 1        2

37025     0001021 BSYM1  LDA I01+17
37026     2000341        EXT MASK3
37027     0100337        ADD 8K
37030     0300201        STA Z1
37031     0037112        LDA BTAB     1
```

```
BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

 37032  0377107          STA BTMSG1+53          CONSTRUCT REWIND                    09939
 37033  0100317          ADD FOUR               READ FOUR WORDS                     09940
 37034  0377040          STA BSYEX+2 3          CONSTRUCT INSTRUCTIONS              09941
 37035  0757500          SPB TREQST  2          TAPE SUBROUTINE                     09942
 37036  2500120  BSYEX   SEL 1                                                      09943
 37037  0501000          Z05 I01                RTB                                 09944
 37040  0000000          OCT 0                  CONSTRUCTED                         09945
 37041  0000000          OCT 0                  FLAG                                09946
 37042  0757022          SPB BAEX    2                                              09947
 37043  0077041          LDA *-2     3          CHECK FLAG WORD                     09948
 37044  2514002          BZE                                                        09949
 37045  2620002          BRU 2       1          NOT READY                           09950
 37046  2514000          BOD                                                        09951
 37047  2617053          BRU *+4                OK                                  09952
 37050  2510001          SRA 1                                                      09953
 37051  2514000          BOD                                                        09954
 37052  2617102          BRU BTMSG1             END OF TAPE                         09955
                                        ONLY OTHER COULD BE EOF SO GO ON.           09956
 37053  0620276          LDX ZERO    1                                              09957
 37054  0021000  BS1     LDA I01     1                                              09958
 37055  2121007          CAB I01+7   1          SEE IF MATCH                        09959
 37056  2617035          BRU BSYEX-1                                                09960
 37057  2617061          BRU *+2                                                    09961
 37060  2617035          BRU BSYEX-1            NO MATCH TRY AGAIN                  09962
 37061  1420001          INX 1       1                                              09963
 37062  0437774          BXL 4       1                                              09964
 37063  2617054          BRU BS1                                                    09965
                                                                                    09966
                                        CHECK TO SEE IF RUN OR SYM.  IF SYM GO BACK T 09967
                                        TO BAT, IF RUN CALL IN OBA FOR TAPE LOADER  09968
 37064  0001000          LDA I01                                                    09969
 37065  2177101          CAB BSYM2   3          ALF SYM                             09970
 37066  2617070          BRU *+2                MUST BE RUN                         09971
 37067  2617413          BRU BARET-1            CLOSE TAPE THEN GET OTHER OVERLAY   09972
 37070  0757735          SPB TCLOS   2          CLOSE TAPE                          09973
 37071  0077100          LDA BTPC    3          TAPE CONSTANT FOR OBA               09974
 37072  0300060          STA T+4                SET IN T ARRAY                      09975
 37073  2504002          LDZ                                                        09976
 37074  0300062          STA T+6                                                    09977
 37075  0300202          STA Z2                                                     09978
 37076  1440521          INX OBA     2          GET ENTERANCE TO OVERLAY CALL       09979
 37077  2616030          BRU PGETB              GET OVERLAY                         09980
                                                                                    09981
 37100  0020004  BTPC    OCT 20004              TELLS OBA TO GET TAPE LOADER        09982
 37101  0627044  BSYM2   ALF SYM                                                   09983
                                                                                    09984
 37102  0756330  BTMSG1  SPB MESSG   2                                             09985
 37103  0037435          DEC BET                END OF TAPE                         09986
 37104  0757500          SPB TREQST  2                                             09987
 37105  2500120          SEL 1                                                     09988
 37106  2000000          Z20 --                 REWIND                              09989
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
37107  0000000          OCT 0                                                09990
37110  0000000          OCT 0                FLAG                            09991
37111  2617423          BRU BARTCL           CLOSE TAPE AND WAIT FOR TYPING  09992
                                                                             09993
         37112  BTAB     BSS 0                                               09994
37112  2100000          Z21 --               MAKE 0 TO 4                     09995
37113  0200000          Z02 --                                               09996
37114  0400000          Z04 --                                               09997
37115  1000000          Z10 --                                               09998
37116  2100000          Z21 --                                               09999
37117  2200000          Z22 --                                               10000
37120  2100000          Z21 --               6 TO 4                          10001
37121  2100000          Z21 --               7 TO 4                          10002
                                                                             10003
                                     TYPE ROUTINE - ENTERED ON READING *TYPE 10004
                                     CARD. LOCATION 1,1 SPECIFIES TYPE OR R  10005
                                     TYPE AND HALT - TYPE AND HALT IS ON SWITCH 1 10006
                                                                             10007
         37122  BTYPE    BSS 0                                               10008
37122  0000055          LDA T+1              PICK UP CONTROL WORD            10009
37123  0377407          STA BTYPF    3       SAVE 0 OR MINUS 1               10010
37124  0077412          LDA BACR     3       PUT IN EOM CHARACTER            10011
37125  0301033          STA IO1+27                                           10012*
37126  0756330          SPB MESSG    2                                       10013
37127  0001000          DEC IO1                                              10014
37130  0757022          SPB BAEX     2                                       10015
37131  0077407          LDA BTYPF    3                                       10016
37132  2516002          BNZ                                                  10017
37133  2617424          BRU BARETW                                           10018
37134  2504002          LDZ                                                  10019
37135  2500011          RCS                                                  10020
37136  2514000          BOD                                                  10021
37137  2617424          BRU BARETW           EXIT TO BAT1                    10022
37140  2620002          BRU 2        1                                       10023
                                                                             10024
                                                                             10025
                                     HANDLE FRONT CARDSS - TAKE NECESSAEY ACTION 10026
                                     TO SIGN ON NEW USER                     10027
                                                                             10028
         37141  BFRNT    BSS 0                                               10029
37141  0001000          LDA IO1              GET PART OF USER NUMBER         10030
37142  0177234          ADD B0606    3       GET RID OF SPECIAL CHARACTERS   10031
37143  2077235          EXT BM1      3       3771717                         10032
37144  2516002          BNZ                  GIVE GAS                        10033
37145  2617236          BRU BILUSE           ILLEGAL USER NUMBER             10034
37146  0754212          SPB IRASE    2       MUST ERASE ENTRY BEFORE DSKB    10035
37147  0756472          SPB TIME     2       GET TIME INTO TYPE LINE         10036
37150  0377226          STA BFTM1    3                                       10037
37151  0301004          STA IO1+4            PUT ON FRONT CARD               10038
37152  2504005          XAQ                                                  10039
37153  0377227          STA BFTM1+1  3                                       10040
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
37154  0301005          STA IO1+5                                          10041
37155  0756330          SPB MESSG   2                                      10042
37156  0037223          DEC BFTM                  FRONT CARD MESSAGE       10043
                                          WRITE FRONT CARD ON SYSOUT TAPE  10044
37157  0755464          SPB DSKB    2             FIND OUT WHAT TAPE TO USE  10045
37160  0755560          SPB DSKOP   2                                      10046
37161  3700001          Z37 1                     WRITE 1 RECORD           10047
37162  0001000          DEC IO1                   FROM IO1                 10048
37163  2037442          720 BFDA    1             INDIRECT TO FRONT CARD DISK ADDRESS  10049
37164  2504012          NOP                                                10050
37165  0755771          SPB RELIN   2             AND RELINQUISH DISK      10051
37166  1000276          DLD ZERO                                           10052
37167  0300065          STA BDC                   INITIALIZE DUMP CODE     10053
37170  1300776          DST IO1-2                 SET START CONTROL WORDS  10054
37171  1077020          DLD .BAEN.  3                                      10055
37172  0754217          SPB INSERT  2             GET ENTERANCE BACK       10056
37173  0300154          STA OVTSK                 AND SAVE PLACE IN LIST   10057
37174  0001002          LDA IO1+2                                          10058
37175  2177231          CAB BNO     3             ALF NO - SEE IF THEY WANT SYSOUT  10059
37176  2617206          BRU *+8                                            10060
37177  2617213          BRU *+12                                           10061
37200  2177232          CAB BT      3             SEE IF DUMP ON TAPE      10062
37201  2617206          BRU *+5                   NOPE                     10063
37202  2617204          BRU *+2                   YES                      10064
37203  2617206          BRU *+3                   NOPE                     10065
37204  0077233          LDA BHAN7   3             ON SYSOUT TAPE           10066
37205  0300065          STA BDC                                            10067
37206  0757500          SPB TREQST  2                                      10068
37207  2500120          SEL 1                                              10069
37210  0300776          WTB IO1-2   7             USE TAPE 7               10070
37211  3000035                      29                                    10071
37212  0000001          OCT 1                     FLAG - INITIALIZE TO DONE  10072
37213  0737345          SPB BPWT    1             WAIT FOR PUNCH           10073
37214  2501002          WCD IO1                                            10074
37215  0737345          SPB BPWT    1                                      10075
37216  0757022          SPB BAEX    2                                      10076
37217  0077212          LDA *-5     3             WAIT FOR TAPE BEFORE EXITING  10077
37220  2514002          BZE                                                10078
37221  2620002          BRU 2       1             NOT DONE                 10079
37222  2617423          BRU BARTCL                                         10080
         37223  BFTM     BSS 0                                           10081
37223  0377777          OCT 377777                                         10082
37224  0464560          ALF ON                                             10083
37225  0216360          ALF AT                                             10084
37226  0000000  BFTM1   DEC 0                                              10085
37227  0000000          DEC 0                                              10086
37230  0375577          OCT 375577                                         10087
                                                                          10088
37231  0454660  BNO     ALF NO                    FOR SYSOUT               10089
37232  0636060  BT      ALF T                     FOR TAPE DUMP            10090
37233  3000000  BHAN7   OCT 3000000               HANDLER BITS FOR TAPE SEVEN  10091
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
 37234  0000606   B0606  OCT 606                                                  10092
 37235  3771717   BM1    OCT 3771717                                              10093
                                                                                 10094
                                                                                 10095
                                        ILLEGAL USER NUMBER, TYPE MESSAGE AND WAIT 10096
                                        FOR 19 TO BE TOGGLED.                    10097
 37236  0756330   BILUSE SPR MESSG   2        USER.                              10098
 37237  0037260          DEC BILUSM                                              10099
 37240  0757022          SPB BAEX   2        GET OUT                            10100
 37241  2504002          LDZ                                                     10101
 37242  2500011          RCS                                                     10102
 37243  2516000          REV                                                     10103
 37244  2620002          BRU 2      1        NOT YET                            10104
 37245  0757022          SPB BAEX   2                                            10105
 37246  2504002          LDZ                                                     10106
 37247  2500011          RCS                                                     10107
 37250  2514000          BOD                                                     10108
 37251  2620002          BRU 2      1                                           10109
 37252  2501000          RCD 101                                                 10110
 37253  2500004          HCR                                                     10111
 37254  0757022          SPB BAEX   2                                            10112
 37255  2516006          BCN                WAIT TO GET IN                       10113
 37256  2620002          BRU 2      1                                           10114
 37257  2617141          BRU BFRNT          AND START OVER                       10115
                                                                                 10116
                                                                                 10117
 37260  0376462   BILUSM OCT 376462                                              10118
 37261  0255133          ALF ER.                                                 10119
 37262  0375577          OCT 375577                                              10120
                                                                                 10121
                                                                                 10122
                                                                                 10123
                                                                                 10124
                                        HANDLE BACK CARD - SIGN USER OFF         10125
                                                                                 10126
          37263   BBACK  BSS 0                                                   10127
 37263  0754212          SPB IRASE  2        ERASE ENTRY SO CAN USE THE DISK     10128
 37264  0755464          SPB DSKB   2        ASK                                 10129
 37265  0755560          SPB DSKOP  2        READ                                10130
 37266  1200001          Z12 1                                                   10131
 37267  0000600          DEC FCLOCK          INTO 600                            10132
 37270  2037442          Z20 BFDA   1        INDIRECT TO ADDRESS                 10133
 37271  2504012          NOP                                                     10134
 37272  0755771          SPB RELIN  2        GET RID OF DISK                     10135
 37273  1077020          DLD .BAEN. 3                                            10136
 37274  0754217          SPB INSERT 2        GET ENTRANCE BACK                   10137
 37275  0300154          STA OVTSK                                               10138
 37276  0000602          LDA FCLOCK+2        SEE IF USING SYSOUT                 10139
 37277  2177231          CAB BNO    3                                            10140
 37300  2617302          BRU *+2                                                 10141
 37301  2617307          BRU *+6             NO SO SKIP                          10142
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
37302  0757502          SPB TREQR   2          YES SO TERMINATE                          10143
37303  2500120          SEL 1                                                         10144
37304  0337333          WTB BS/OF1  7          WRITE ENDING RECORD                    10145
37305  3000035              29                                                        10146
37306  0000001  BBACK2  OCT 1                  INITIALIZE TO DONE                     10147
37307  0756472          SPB TIME    2                                                 10148
37310  0377342          STA BBKM1   3                                                 10149
37311  2504005          XAQ                                                           10150
37312  0377343          STA BBKM1+1 3                                                 10151
37313  0756330          SPB MESSG   2                                                 10152
37314  0037336          DEC BBKM               BACK CARD MESSAGE                      10153
37315  0737345          SPB BPWT    1                                                 10154
37316  0077335          LDA BBWD    3                                                 10155
37317  0301000          STA IO1                                                       10156
37320  1077410          DLD BAMOV   3                                                 10157
37321  2401000          MOV IO1                                                       10158
37322  2501017          WCF IO1                                                       10159
37323  0737345          SPB BPWT    1          WAIT FOR PUNCH                         10160
37324  2504002          LDZ                                                           10161
37325  0301000          STA IO1                LOOK FOR FRONT CARD                    10162
37326  0757022          SPB BAEX    2                                                 10163
37327  0077306          LDA BBACK2  3          SEE IF TAPE DONE                       10164
37330  2514002          BZE                                                           10165
37331  2620002          BRU 2       1          NO                                     10166
37332  2617377          BRU BSLEW              AND SLEW TO TOP TO TERMINATE           10167
                                                                                      10168
37333  0000020  BS/OE1  OCT 20                 CONTROL WORDS FOR END OF FILE          10169
37334  0000000          OCT 0                                                         10170
37335  0004001  BBWD    OCT 4001               USED TO PUNCH BACK CARD                10171
  37336          BBKM    BSS 0                                                       10172
37336  0377777          OCT 377777                                                    10173
37337  0462626          ALF OFF                                                       10174
37340  0602163          ALF  AT                                                       10175
37341  0607777          OCT 607777                                                    10176
37342  0000000  BBKM1   DEC 0                                                       10177
37343  0000000          DEC 0                                                        10178
37344  0375577          OCT 375577                                                   10179
                                                                                     10180
  37345          BPWT    BSS 0                                                      10181
37345  1720061          STX BPOIN1  1          SAVE RETURN                           10182
37346  0757022          SPB BAEX    2                                                10183
37347  2516007          BPN                                                          10184
37350  2620002          BRU 2       1          AND IF PUNCH NOT READY, CONTINUE TO CRUMP 10185
37351  0620061          LDX BPOIN1  1                                                10186
37352  2620001          BRU 1       1          AND RETURN                            10187
                                                                                     10188
                                                                                     10189
                                   REWIND ANY TAPE EXCEPT 0                          10190
                                                                                     10191
  37353          BRWND   BSS 0                                                      10192
37353  0000056          LDA T+2                                                      10193
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
37354  2510014          SRA 12                  RIGHT JUSTIFY HANDLER                    10194
37355  2000341          EXT MASK3               GET RID OF HIGH ORDER                    10195
37356  0100337          ADD BK                                                           10196
37357  0300201          STA Z1                                                           10197
37360  0037112          LDA BTAB     1          GET HANDLER CODE                         10198
37361  0377367          STA *+6      3                                                   10199
37362  0757022          SPB BAEX     2                                                   10200
37363  2516120          BCS BTN      1                                                   10201
37364  2620002          BRU 2        1                                                   10202
37365  2500120          SEL 1                                                            10203
37366  2000000          Z20 --                   REWIND                                  10204
37367  0000000          OCT 0                                                            10205
37370  0757022          SPB BAEX     2                                                   10206
37371  2516120          BCS BTN      1                                                   10207
37372  2620002          BRU 2        1                                                   10208
37373  0757022          SPB BAEX     2                                                   10209
37374  2514123          BCS BRW      1                                                   10210
37375  2620002          BRU 2        1                                                   10211
37376  2617414          BRU BARET                                                        10212
                                                                                         10213
                                                                                         10214
                                 SLEW TO TOP OF PAGE                                     10215
                                                                                         10216
         37377  BSLEW    BSS 0                                                         10217
37377  0757022          SPB BAEX     2                                                   10218
37400  2516620          BCS BPN      6                                                   10219
37401  2620002          BRU 2        1                                                   10220
37402  2500620          SEL 6                                                            10221
37403  0400000          SLT 8                                                            10222
37404  0000000
37405  0757735          SPB TCLOS    2          CLOSE OUT TAPE                           10223
37406  2617416          BRU BARET+2             LEAVE I01 ALONE THIS TIME                10224
                                                                                         10225
37407  0000000  BTYPF   DEC 0                   SET TO INDICATE TYPE AND HALT OR TYPE NO HALT10226
                                                                                         10227
37410  0001001  BAMOV   DEC I01+1               CONSTANTS TO CLEAR PUNCH AREA            10228
37411  3777661          DEC -79                                                          10229
37412  0375577  BACR    OCT 375577                                                       10230
                                                                                         10231
                                 CALL BATCH OVERLAY BACK                                 10232
37413  0757735          SPB TCLOS    2          CLOSE TAPE                               10233
         37414  BARET    BSS 0                                                         10234
37414  2504102          LMO                                                              10235
37415  0301000          STA I01                 SET FRONT CARD IN FLAG                   10236
37416  0620154          LDX OVTSK    1          ERASE ENTRY TO THIS OVERLAY              10237
37417  0754212          SPB IRASE    2                                                   10238
37420  0640276          LDX ZERO     2                                                   10239
37421  1440513          INX BATCH    2                                                   10240
37422  2616030          BRU PGETB               BRING IN OVERLAY                         10241
                                                                                         10242
                                                                                         10243
```

BAT2 - SYM, TYPE, FRONT, BACK, REWIND, SLEW

```
                37423  0757735  BARTCL SPR TCLOS   2          CLOSE TAPE AND THEN WAIT FOR TYPING      10244
                                                          WAIT FOR TYPED MESSAGE AND THEN CALL BATCH   10245
                                                          BACK IN                                      10246
                                                                                                       10247
                       37424    BARETW BSS 0                                                         10248
                37424  0757431         SPR *+5     2          TYPE FUDGE                            10249
                37425  0000137         LDA TYPF               TYPE FLAG                             10250
                37426  2516002         BNZ                                                          10251
                37427  2620002         BRU 2       1                                                10252
                37430  2617414         BRU BARET                                                    10253
                37431  0620154         LDX OVTSK   1                                                10254
                37432  1440001         INX 1       2                                                10255
                37433  1740062         STX BPOIN2  2                                                10256
                37434  2620002         BRU 2       1          EXIT SO TYPF CAN GET SET              10257
                                                                                                       10258
                       37435    BFT     BSS 0                  END OF TAPE                           10259
                37435  0254524         ALF END                                                      10260
                37436  0604626         ALF  OF                                                      10261
                37437  0606321         ALF  TA                                                      10262
                37440  0472533         ALF PE.                                                      10263
                37441  0375577         OCT 375577                                                   10264
                                                                                                       10265
                37442  0003400  BFDA   OCT 3400              DISK ADDRESS FOR BATCH FRONT CARD     10266
                                                                                                       10267
                                                          SET UP A COUPLE DISK ADDRESSES AND PUL IN TAP 10268
                                                          SUBROUTINE                                   10269
                                                                                                       10270
                       06000           LOC 6000                                                     10271
                06000  0660337  B2FIX  LDX BK      3                                                10272
                06001  0000524         LDA TAP+2              GET TAPE SUBROUTINE ON END            10273
                06002  0306007         STA *+5                                                      10274
                06003  2516020         BCS BRN     0                                                10275
                06004  2606003         BRU *-1                                                      10276
                06005  2500020         SEL 0                                                        10277
                06006  2510000         PRF         0                                                10278
                06007  0000000         OCT 0                  DISK ADDRESS FILLED IN                10279
                06010  2516020         BCS BRN     0                                                10280
                06011  2606010         BRU *-1                                                      10281
                06012  2500020         SEL 0                                                        10282
                06013  1211003         RRD 3       0                                                10283
                06014  0037500             TREQST                                                   10284
                06015  2516020         BCS BRN     0          WAIT                                  10285
                06016  2606015         BRU *-1                                                      10286
                06017  2514027         BCS BER     0          CHECK FOR ERRORS                      10287
                06020  2606005         BRU *-11                                                     10288
                06021  2601574         BRU LOVWRT             AND LOAD                              10289
                                                                                                       10290
               T06000                   TCD B2FIX                                                   10291
                                                                                                       10292
                                                                                                   STL10293
                                                                                                   EJT10294
```

BATCH TEMPORARY STORAGE

```
00176   XR312   EQU 126          REGISTER FOR TRAP SAVE                    10295
                                                                           10296
                                                                           10297
00216           LOC 216                                                    10298
00216   OTMP    BSS 1            API                                       10299
00217   ODRET   BSS 1            ODOP, OTTIM                               10300
00230           LOC 230                                                    10301
00230   ODRET2  BSS 1            INDEX REGISTER STORAGE FOR SYSOUT, ODSK   10302
00231   OTMP2   BSS 1            OSOTER, OTRAP, ORTRAP                     10303
00232   OTMP3   BSS 1            OTYPE                                     10304
00233   OTEMP   BSS 1                                                      10305
00234   OTMP1   BSS 1                                                      10306
                         END API AREA DEFINITIONS                          10307
                                                                           10308
                                                                           10309
                                                                          STL10310
                                                                          EJT10311
```

BATCH PART 1

```
                01670           ORG PERNUM                                      10312
          01670 0000040         DEC 32                                          10313
          01671 0000521         DEC OBA                                         10314
                37000           ORG EXECOV                                      10315
                                ********************************************    10316
                                                                                10317
                                   THIS OVERLAY IS CALLED IN BY THE -BAT-       10318
                                OVERLAY WHENEVER THERE IS A CALL TO RUN A       10319
                                BACKGROUND PROGRAM WHICH DESTROYS THE TIME-     10320
                                SHARING EXECUTIVE.                              10321
                                   THE OVERLAY HAS FOUR POSSIBLE ENTRANCES.     10322
                                 1) 37000 - OVERLAY ENTERED HERE WHEN FIRST     10323
                                LOADED BY 235 EXEC. THEN NEVER ENTERED HERE     10324
                                AGAIN.                                          10325
                                 2) 37001 - ENTERED HERE BY THE RUNNING         10326
                                SYSTEM UPON COMPLETION OF THE ENTIRE            10327
                                RUN, OR TOBEGIN THE EXECUTION OF A DISK,        10328
                                TAPE, OR TYPING OPERATION BY THE EXECUTIVE.     10329
                                 3) 37002 - ENTERED HERE BY EXEC WHENEVER       10330
                                EXEC IS LOADED INTO MEMORY, AND OBFLG [IN       10331
                                THE BOOTSTRAP] IS NOT ZERO.                     10332
                                 4) 37003 - ENTER HERE WHEN PERMISSION HAS      10333
                                BEEN GRANTED BY THE D-30 TO RUN A BACKGROUND    10334
                                SYSTEM.                                         10335
                                                                                10336
          37000 2617562         BRU OINIT       ENTER HERE FROM EXEC, FIRST TIME10337
          37001 2616020         BRU OSYS        ENTER HERE FROM CALLING SYSTEM  10338
          37002 2617352         BRU ORES        ENTER HERE FROM EXEC ON RESET   10339
          37003 2617004         BRU ORUN        ENTER HERE FROM 235 EXEC ON RUN FROM D-30 10340
                                                                                10341
                                   ORUN IS ENTERED AT ANY TIME THE D-30         10342
                                GIVES A RUN BATCH MESSAGE TO THE 235 EXEC.      10343
                                THE RESULT OF THIS MAY BE THE INITIAL RUNNING   10344
                                OF A BATCH TASK PREVIOUSLY SET UP, OR THE       10345
                                RESTORATION OF AN OLD PROBLEM PREVIOUSLY RUN.   10346
                                IN ANY CASE, THE FOLLOWING THINGS HAPPEN.       10347
                                 1) IF SWITCH 0 IS DOWN, THE BATCH JOB IS       10348
                                    PUNTED UNTIL NEXT TIME AROUND               10349
                                 2) IF THE 235-EXEC IS TYPING A MESSAGE,        10350
                                    AGAIN, THE RUN TIME IS PUNTED.              10351
                                 3) IF THE TAPES ARE NOT READY AFTER A REASON   10352
                                    -ABLE AMOUNT OF TIME, OR THERE IS AN ERRO   10353
                                    THIS BATCH PERIOD IS PUNTED                 10354
                                 4) THE INTERRUPT BRANCH IS STOLEN FROM THE     10355
                                    235 EXEC, AND GIVEN TO THIS OVERLAY.        10356
                                                                                10357
                                   IF THIS IS A RUN BEING BROUGHT IN FOR THE    10358
                                FIRST TIME, THE PREVIOUSLY CONSTRUCTED          10359
                                LOAD SEQUENCE IS EXECUTED TO BOOTSTRAP THE      10360
                                SYSTEM IN, AND CONTROL IS TRANSFERRED TO IT     10361
                                IN INDEX GROUP 0,NON-TRPMODE,PST,BINMODE        10362
```

```
                                                    AND KON.                                                    10363
                                                                                                                10364
                                                        ON RELOADS OF JOBS PREVIOUSLY RUNNING,                  10365
                                                    THE FOLLOWING CONDITIONS ARE RESTORED -                     10366
                                                    A. ARITHMATIC MODE                                          10367
                                                    B. BINMODE OR DECMODE.                                      10368
                                                    C. AX,QX,A,Q.                                               10369
                                                    D. INDEX GROUP.                                             10370
                                                    E. OVERFLOW.                                                10371
                                                    F. KON IS SET (IT SHOULD NEVER BE OFF).                     10372
                                                    G. NON-TRAPPING MODE IS SET (NEVER ON I HOPE                10373
                                                    H. A SET PRQ IS EXECUTED TO START                           10374
                                                       PERIPHERAL TASKS GOING AGAIN                             10375
                                                             .....AND THEN BACK TO THE PROGRAM.                 10376
                                                                                                                10377
                                                                                                                10378
                                                                                                                10379
      37004   ORUN    BSS 0                                                                                     10380
                                                                                                                10381
37004 2504202         LAC                           SET RUN+SWAP TIME COUNTER                                   10382
37005 0377613         STA OTIM1T  3                                                                             10383
37006 2504002         LDZ                                                                                       10384
37007 2500011         RCS                           CHECK SWITCH 0 - IF DOWN PUNT                               10385
37010 2514001         BMI                                                                                       10386
37011 2617115         BRU ONRUN                     PUNT                                                        10387
37012 0000137         LDA TYPF                      SEE IF 235 TYPING                                           10388
37013 2516002         BNZ                                                                                       10389
37014 2617115         BRU ONRUN                     IF SO PUNT                                                  10390
37015 1077762         DLD BSUMS2  3                 MOVE SUMMARY UP                                             10391
37016 2400140         MOV FKEDIT                                                                                10392
37017 0077640         LDA OFFLG   3                 NOW CHECK FOR INITIAL OR RERUN                              10393
37020 2514002         BZE                                                                                       10394
37021 2617120         BRU ORUNF                     FIRST RUN TO BE EXECUTED                                    10395
37022 2504022         LDO                                                                                       10396
37023 0300151         STA CMFSSB                    JUST IN CASE OF BOOTSTRAP                                   10397
37024 0737044         SPB OLOAD   1                 LOAD I- THE DAMN PROGRAM FROM STORAGE                       10398
37025 0077671         LDA OAPIB   3                 GET API BRANCH INSTRUCTION.                                 10399
37026 0300204         STA Z2+2                      AND PUT WHERE API BRANCH WILL BE TO                         10400
37027 0076742         LDA OARR+4  3                 PICK UP SAVED XR1 CONTENTS                                  10401
37030 0300216         STA OTMP                      AND PUT WHERE ROUTINE WILL RESTORE THEM                     10402
37031 3200001 ORUNA   SET NTPMODE                   SPB ORTRAP,1 IF NECESSARY                                   10403
37032 3076740         FLD OARR+2  3                 RESET AAU REGISTERS                                         10404
37033 3500002         XAQ         A                                                                             10405
37034 3076736         FLD OARR    3                                                                             10406
37035 2500013         KON                           JUST IN CASE                                                10407
37036 2504202         LAC                                                                                       10408
37037 0377614         STA OTIM2T  3                                                                             10409
37040 2506014         OCT 2506014                   SET PRQ - TO GET THINGS GOING                               10410
37041 2617041 ORUNG   BRU *                                                                                     10411
37042 2617042 ORUNM   BRU *                                                                                     10412
37043 2616052         BRU OINT2                     GO TO NORM+L RESTORE SEQUENCE                               10413
```

BATCH PART 1

10414
STL10415
EJT10416

BATCH PART 1 - LOAD

```
                                                ********************************************    10417
                                                OLOAD DETERMINES WHETHER THE PROGRAM WAS    10418
                                                DUMPED ON TAPES OR THE DISK AND THEN LOADS  10419
                                                CORRECTLY.                                  10420
                                                DISK DUMP - FOUR 4K BLOCKS                  10421
                                                TAPE DUMP - LOWER MEMORY ON TAPE, UPPER ON  10422
                                                            DISK                            10423
                                                                                            10424
37044  0757325  OLOAD  SPB  ODASK   2              ALWAYS NEED DISK                        10425
37045  0077642         LDA  OPAR    3              SEE WHERE DUMP IS                       10426
37046  2514002         BZE                                                                 10427
37047  2617054         BRU  *+5                    DISK                                    10428
37050  0757157         SPB  OTOP    2              TAPE                                    10429
37051  1517777         OCT  1517777                READ BACKWARDS                          10430
37052  0017550  OLTC   OCT  0017550                                                        10431
37053  2617073         BRU  *+16                   GET UPPER MEMORY FROM DISK              10432
37054  0757226         SPB  ODOP    2              LOWER MEMORY                            10433
37055  1200002         Z12  2                                                              10434
37056  0000000         DEC  0                                                              10435
37057  0024100         OCT  24100                  DISK ADDRESS                            10436
37060  0757226         SPB  ODOP    2                                                      10437
37061  1200076         Z12  62                                                             10438
37062  0000400         DEC  256                    READ INTO WRONG PLACE                   10439
37063  0024104         OCT  24104                  FROM RIGHT PLACE                        10440
37064  0757300         SPB  ODSKWT  2              WAIT TO GET IN                          10441
37065  1077672         DLD  OAMOV   3              MOVE DOWN                               10442
37066  2400430         MOV  256+24                                                         10443
37067  0757226         SPB  ODOP    2                                                      10444
37070  1200100         Z12  64                                                             10445
37071  0010000         DEC  4096                                                           10446
37072  0024500         OCT  24500                                                          10447
                                                UPPER MEMORY                                10448
37073  0757226         SPB  ODOP    2                                                      10449
37074  1200100         Z12  64                                                             10450
37075  0020000         DEC  8192                                                           10451
37076  0025100         OCT  25100                                                          10452
37077  0757226         SPB  ODOP    2                                                      10453
37100  1200070         Z12  56                                                             10454
37101  0030000         DEC  12288                                                          10455
37102  0025500         OCT  25500                                                          10456
37103  0077642         LDA  OPAR    3                                                      10457
37104  2514002         BZE                                                                 10458
37105  2617113         BRU  *+6                                                            10459
37106  0757157         SPB  OTOP    2                                                      10460
37107  1500177         Z15  127                    GET REST OF TAPE                        10461
37110  0000201  OLTC2  DEC  129                    SET BUSY FLAG                           10462
37111  0757157         SPB  OTOP    2              WAIT FOR TAPE                           10463
37112  0000000         DEC  0                                                              10464
37113  0757333         SPB  ORELIN  2              GET RID OF DISK                         10465
37114  2620001         BRU  1       1              AND RETURN                              10466
                                                                                            10467
```

BATCH PART 1 - LOAD

```
                                                                                10468
                                ********************************************    10469
                                                                                10470
          37115   ONRUN  BSS 0          ENTERED IF FOR SOME REASON A -RUN BATCH-  10471
                                PERMISSION MESSAGE IS TO BE TEMPORARILY         10472
                                IGNORED, AN IMMEDIATE RETURN TO TIME-           10473
                                SHARING IS DESIRED                              10474
                                                                                10475
                                                                                10476
 37115  0077641        LDA OTWO   3          JUST TEELL D-30 TO RESUME NORMAL T-S  10477
 37116  0300214        STA MBX0                                                  10478
 37117  2614046        BRU IPLST             AND GO TO PERIPHERAL TASK LIST      10479
                                ********************************************    10480
                                                                                10481
                                ***TYPED MESSAGES WILL BE PUT HERE****          10482
                                                                                10483
          37120   ORUNF  BSS 0                                                  10484
 37120  0077671        LDA OAPIB  3          GET API BRANCH                      10485
 37121  0300204        STA Z2+2                                                  10486
 37122  2504202        LAC                                                       10487
 37123  0377610        STA OTIM   3          SET RUN START TIME                  10488
 37124  0377777        STA OBZYF  3          SET TO BUZY                         10489
 37125  2504022        LDO                                                       10490
 37126  0377640        STA OFFLG  3          SET NOT FIRST ENTRANCE FLAG         10491
 37127  0757325        SPB ODASK  2          GET DISK FROM D-30                  10492
 37130  0757226        SPB ODOP   2          BRING IN 35000 AND 36000 PARTS OF BATCH  10493
 37131  1200020        Z12 16                                                    10494
 37132  0035000        OCT 35000             MEMORY ADDRESS TO READ INTO         10495
 37133  0000000 ORUNF. OCT 0                FILLED IN WHEN LOADED               10496
 37134  2504022        LDO                                                       10497
 37135  0300151        STA CMESSB            RESET+                              10498
 37136  0757300        SPB ODSKWT 2          WAIT FOR DISK TO FINISH             10499
 37137  1077142        DLD ORUN.2 3          MOVE TRAP ROUTINES WHERE THEY BELONG  10500
 37140  2435000        MOV OSBU1                                                 10501
 37141  2614714        BRU ORUN.3            AND GO FINSIH THIS THERE            10502
                                                                                10503
 37142  0034600 ORUN.2 DEC ORTRAP                                               10504
 37143  3777600        DEC -128                                                  10505
                                                                                10506
          37120        ORG ORUNF                                                 10507
          37120        BSS 31                SAVE SPACE FOR TYPED MESSAGES       10508
                                                                                10509
                                                                               STL10510
                                                                               EJT10511
```

BATCH PART 1 - TAPE ROUTINES

```
                                                                                10512
                                                                                10513
         37157   OTOP   BSS 0                    TAPE OPERATIONS                10514
37157  1740217          STX ODRET   2            SAVE INDEX BEFORE TAPE WAITING 10515
37160  0757174          SPB OTAPWT  2                                           10516
37161  0640217          LDX ODRET   2            AND GET IT BACK AFTER WAIT     10517
37162  0040001          LDA 1       2                                           10518
37163  2514002          RZE                                                     10519
37164  2640002          BRU 2       2                                           10520
37165  0377171          STA OTP2    3                                           10521
37166  0040002          LDA 2       2                                           10522
37167  0377172          STA OTP2+1  3                                           10523
37170  2500120          SEL 1                                                   10524
37171  0000000  OTP2    DEC -                                                   10525
37172  0000000          DEC -                   ***                             10526
37173  2640003          BRU 3       2           AND RETURN                      10527
                                                                                10528
                                                                                10529
37174  0077635  OTAPWT  LDA O8K     3                                           10530
37175  2512002          SLA 2                   GET AREASONABLE COYNDOWN VALUE  10531
37176  2514120          BCS BTR     1                                           10532
37177  2640001          BRU 1       2                                           10533
37200  2504112          SBO                                                     10534
37201  2516002          BNZ                                                     10535
37202  2617176          BRU *-4                                                 10536
37203  0757577          SPB OTYP    2           TYPE OUT THE MESSAGE            10537
37204  0037630          DEC OTEM                ALERT HALT ON  TAPES            10538
37205  2616716          BRU OSTOP-2             AND PUNT RUN                    10539
*****************************************                                       10540
    THE FOLLOWING ROUTINE PICKS UP TAPE                                         10541
COMMANDS FROM TP2 AND TP2+1                                                     10542
CONSTRUCTS CORRECTION COMMANDS FOR EACH TYPE                                    10543
OF OPERATION, AND EXECUTES THESE INSTRUCTIONS                                   10544
ASSUMING THE TAPES ARE READY ON ENTRANCE.                                       10545
 ON FORWARD READS, A BACKWARDS READ IN THE                                      10546
SAME MODE IS CONSTRUCTED                                                        10547
 ON BACKWARDS READS, A FORWARD READ IN THE                                      10548
SAME MODE IS CONSTRUCTED.                                                       10549
 ON WRITE INSTRUCTIONS, A BKW IS CONSTRUCTED.                                   10550
    THESE ROUTINES ARE BASED ON THE                                             10551
FOLLOWING CHARACTERISTICS OF THE GE TAPE                                        10552
INSTRUCTIONS.                                                                   10553
BIT 1 ON ALWAYS MEANS BACKWARDS TAPE MOVEMENT                                   10554
BIT 2 ON ALWAYS MEANS A READ OPERATION                                          10555
BIT 3 ON ALWAYS MEANS A WRITE OPERATION.                                        10556
                                                                                10557
         37206   OTER   BSS 0                                                   10558
                                                                                10559
37206  0077171          LDA OTP2    3                                           10560
37207  2511020          SRD 16                  BKW, EKT, RWD, WEF.             10561
37210  2514000          BOD                     CHECK BIT 3                     10562
```

BATCH PART 1 - TAPE ROUTINES

```
37211  1077626          DLD  OTHREE  3      PICK UP WORDS WHICH WILL GIVE BKW          10563
37212  2511002          SRD  2              NOW CHECK FOR FORWARD OR BACKWARDS          10564
37213  2504032          ADO                 ELSE CONSTRUCT BACKWARDS.                  10565
37214  2512222          SLD  18             GET THE THING BACK                         10566
37215  0377222          STA  OTER2  3       AND PUT IN CORRECTION SEQUENCE             10567
37216  0077172          LDA  OTP2+1 3                                                  10568
37217  2077225          EXT  OTMSK  3       AND MAKE IT A ZERO WORD COUNT              10569
37220  0377223          STA  OTER2+1 3      AND PUT AWAY                               10570
37221  2500120          SEL  1              AND EXECUTE CORRECTION INSTRUCTION.        10571
37222  0000000  OTER2   DEC  -                                                        10572
37223  0000000          DEC  -                                                        10573
37224  2640001          BRU  1      2       RETURN.                                    10574
37225  0077777  OTMSK   OCT  0077777        MASK TO EXTRACT WORD COUNT FROM TAPE COMMAND 10575
                                                                                     10576
                                                                                  STL10577
                                                                                  EJT10578
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```

```
                                                  ********************************************
                                                      ODOP IS THE DISK OPERATION SUBROUTINE
                                                  FOR THE OVERLAY. IT SERVES BOTH THE EXECUTIV
                                                  AND USER S PROGRAMS, BUT MUST BE CALLED
                                                  ONLY WHILE IN AN API PROGRAM. THE CALLING
                                                  SEQUENCE IS -
                                                        SPR ODOP, 2
                                                        RRF [OR WRF], X RECORDS, LESS THAN 97.
                                                        MEMORY ADDRESS FOR READ OR WRITE
                                                        OCT POSITION ON DISK FOR READ OR WRITE
                                                        RETURN LOCATION.

                                                  THERE IS NOT, AT THE MOMENT, ANY PROVISION
                                                  FOR INDIRECT ADDRESSING OF THE PARAMETER
                                                  LIST.  IN ADDITION, THE D-30 SHOULD ALREADY
                                                  HAVE BEEN ASKED FOR THE DISK, AND THIS
                                                  ROUTINE DOES NOT RELINQUISH THE DISK WHEN IT
                                                  IS THROUGH.
                                                  THE DISK IS NOT CHECKED FOR ERRORS ON
                                                  ENTRANCE, NOR DOES IT CHECK ON THE LAST
                                                  OPERATION IT EXECUTES [BECAUSE IT EXITS
                                                  BEFORE IT IS DONE]. ON INTERMEDIATE ERRORS,
                                                  IT TRIES 5 TIMES, AND THEN RETURNS AN
                                                  ERROR MESSAGE. THREE ERROR TYPES ARE CHECKED
                                                  1- DISK NOT READY
                                                  2 - ILLEGAL ADDRESS ON DISK
                                                  3 - PARITY ERROR ON READ OR WRITE.
                                                  THIS ARE ALL INDICATED BY A POSITIVE
                                                  NUMBER IN THE A REGISTER ON RETURN, ELSE A
                                                  WILL BE ZERO.

     37226    ODOP    BSS 0

37226  2504002          LDZ                      ZERO ODCNT JUST IN CASE
37227  0377603          STA ODCNT   3
37230  1740217          STX ODRET   2            SAVE ENTRANCE REGISTER
37231  0040003          LDA 3       2            PICKUP THE DISK ADDRESS
37232  0300202          STA Z2                   INDIRECT IF WORD IS MINUS
37233  2514001          RMI
37234  0040000          LDA 0       2
37235  0377247          STA ODSEEK+23            PUT IT AWAY IN CASE IT IS LEGAL
37236  2077617          EXT OMSK2   3            CHECK FOR LEGAL POSITION ADDRESS
37237  0277621          SUB 00300   3
37240  2516001          BPL
37241  2617320          BRU ODKER                ILLEGAL ADDRESS
37242  0077247          LDA ODSEEK+23            GET DISK ADDRESS BACK AND STORE FOR RELINQ
37243  0377342          STA ORELAD  3            STORE DISK ADDRESS FOR THE RELINQUISH
37244  0757300          SPR ODSKWT  2
37245  2500020  ODSEEK  SEL 0                    SEEK COMMAND
37246  2510000          PRF         0            ***
37247  0000000          OCT 0                    ***
```

BATCH PART 1 - DISK ROUTINES

```
37250  0640217          LDX ODRET   2        RESTORE ENTRANCE REGISTER                          10630
37251  0040001          LDA 1       2        GET RRF-WRF-WRD-RRD-                               10631
37252  2777603          STO ODCNT   3        SAVE RECORD COUNT                                  10632
37253  2077616          EXT OMSK1   3        NOW PUNT RECORD COUNT                              10633
37254  0177620          ADD ODINST  3        SET UP PROPER INSTRUCTION                          10634
37255  0377272          STA ODOPER+13        PUT IT AWAY                                        10635
37256  0077603          LDA ODCNT   3        NOW COMPUTE BIT SETTING FOR 96 RECORD RW           10636
37257  2511004          SRD 4                                                                   10637
37260  2504005          XAQ                  REMAINDER MOD 16 IN A                              10638
37261  2510017          SRA 15               POSITION REMAINDER...IF ZERO                       10639
37262  2514002          RZE                  WANT 16 IN A AND 1 LESS IN Q                       10640
37263  1177276          DAD OFUDGE  3        OFUDGE= 15,-1                                      10641
37264  2377272          ORY ODOPER+13        PUT IT AWAY                                        10642
37265  2504002          LDZ                  NOW SET BITS 2-4                                   10643
37266  2511204          SCD 4                                                                   10644
37267  0140002          ADD 2       2        ADD THE MEMORY ADDRESS                             10645
37270  0377273          STA ODOPER+23        PUT IT AWAY                                        10646
37271  2500020  ODOPER  SEL 0                EXECUTE THE INSTRUCTION                            10647
37272  0000000          ZOO 0                ***                                                10648
37273  0000000          ZOO 0                ***                                                10649
37274  2504002          LDZ                                                                     10650
37275  2640004          BRU 4       2        RETURN TO CALLER                                   10651
37276  0000017  OFUDGE  DEC 15                                                                  10652
37277  3777777          DEC -1                                                                  10653
                                             ********************************************       10654
                                             WAIT FOR DISK - IF READY EXIT IMMEDIATELY,         10655
                                             IF NOT, WAIT AWHILE, THEN SEE IF CAN ASK D-30       10656
   37300  ODSKWT  BSS 0                                                                        10657
37300  2504202          LAC                                                                     10658
37301  0177615          ADD OSEVEN  3                                                           10659
37302  0377602          STA ODIVAL  3                                                           10660
37303  2514020          BCS BRR     0                                                           10661
37304  2640001          BRU 1       2                                                           10662
37305  2504202          LAC                                                                     10663
37306  2177602          CAB ODIVAL  3                                                           10664
37307  2617303          BRU ODSKWT+3                                                            10665
37310  2617303          BRU ODSKWT+3                                                            10666
37311  0177606          ADD 0040    3                                                           10667
37312  0377602          STA ODIVAL  3                                                           10668
37313  1740230          STX ODRET2  2        DISK NOT READY SO TYPE MESSAGE                     10669
37314  0757577          SPB OTYP    2                                                           10670
37315  0037645          DEC ODNR             DISK NOT READY                                     10671
37316  0640230          LDX ODRET2  2                                                           10672
37317  2617303          BRU *-12             KEEP TRYING TO GET DISK                            10673
                                                                                               10674
                                                                                               10675
                                                                                               10676
37320  0757577  ODKER   SPB OTYP    2        GIVE ILLEGAL ADDRESS   MESSAGE                     10677
37321  0037644          DEC OIAD                                                                10678
37322  0077627          LDA OFOUR   3        PICK UP ERROR INDICATION.                          10679
37323  0640217          LDX ODRET   2        GET RETURN ADDRESS                                 10680
```

BATCH PART 1 - DISK ROUTINES

```
37324  2640004          BRU 4       2        ERROR EXIT, CODE IN A REGISTER          10681
                                                                                     10682
                                    ********************************************     10683
         37325   ODASK   BSS 0                DISK REQUEST ROUTINE - ASK D-30         10684
37325  2504022          LDO                                                         10685
37326  0300226          STA PMBX0                                                   10686
37327  0000226          LDA PMBX0                                                   10687
37330  2516001          BPL                                                         10688
37331  2617327          BRU *-2                                                     10689
37332  2617300          BRU ODSKWT              NOW WAIT FOR READY                  10690
                                                                                     10691
                                                                                     10692
                                    ********************************************     10693
         37333   ORELIN BSS 0                DISK RELINQUISH - ENTER ON XR2          10694
37333  1740217          STX ODRET   2           SAVE INDEX REGISTER FOR WAIT         10695
37334  0757300          SPB ODSKWT  2                                               10696
37335  0640217          LDX ODRET   2                                               10697
37336  2504022          LDO                                                         10698
37337  2377342          ORY ORELAD  3                                               10699
37340  2500020          SEL 0                                                       10700
37341  2510000          PRF         0           POSITION ON LAST OPERATION          10701
37342  0000000  ORELAD  OCT 0                   ***                                 10702
37343  2516020          BCS BRN     0                                               10703
37344  2617343          BRU *-1                                                     10704
37345  2500020          SEL 0                                                       10705
37346  1213040          OCT 1213040             READ AFTER WRITE - 0 RECORDS        10706
37347  0000000          OCT 0                                                       10707
37350  0077641          LDA OTWO    3           SEND -CAN HAVE DISK MESSAGE -       10708
37351  2617572          BRU OSPMB               AND SET MESSAGE AND WILL BRU 1,2    10709
                                                                                     10710
                                                                                   STL10711
                                                                                   EJT10712
```

BATCH PART 1 - RESTORE AFTER DUMP

```
                                                                                                10713
                                                                                                10714
                                    ********************************************************    10715
                                        ORES IS ENTERED AFTER EVERY RELOAD OF                   10716
                                    THE 235 EXEC BY THIS OVERLAY.                               10717
                                    IT DOES THE FOLLOWING THINGS-                               10718
                                    1) SETS THE BUSY FLAG BZYF TO BUSY                          10719
                                    2) SETS CMESSB - THE BATCH FLAG- TO BATCH MOD               10720
                                    3) TELLS D-30 IT CAN HAVE DISK.                             10721
                                    4) TELLS D-30 TO RESUME NORMAL TIME-SHARING                  10722
                                    5) CHECKS TO SEE IF LAST PROGRAM RAN TO DONE                10723
                                    6) CHECKS TO SEE IF EXIT WAS TO TYPE MESSAGE.               10724
                                       IT THEN EXITS BACK TO THE 235-EXEC.                      10725
                                                                                                10726
                                                                                                10727
     37352   ORES   BSS 0                                                                       10728
37352 0754212       SPB IRASE   2                                                               10729
37353 2504202       LAC                                                                         10730
37354 0277613       SUB OTIM1T  3                                                               10731
37355 0177611       ADD OTIM1   3          ACCUMULATE RUNNING PLUS SWAP TIME                    10732
37356 0377611       STA OTIM1   3                                                               10733
37357 0077641       LDA OTWO    3          ******YESS - MAYBE ***                               10734
37360 0300214       STA MBX0               TELL D-30 TO RESUME NORMAL TIME-SHARING           10735
37361 2504022       LDO                                                                         10736
37362 0300151       STA CMESSB             AND SET CMESSB NON-ZERO                           10737
37363 0300106       STA BZYF               AND SAME FOR BUSY FLAG                            10738
37364 0077627       LDA OFOUR   3          TELL D-30 TO START COUNTING TIME                     10739
37365 0757572       SPB OSPMB   2                                                               10740
37366 2504002       LDZ                                                                         10741
37367 0377646       STA OTYPF   3          SET TYPE FLAG TO 0 FOR NEXT ENTRY                    10742
37370 0077373       LDA *+3     3          CHECK FOR MESSAGE TO BE TYPED                        10743
37371 2516002       BNZ                    IF THERE IS AN ADDRESS                            10744
37372 0756330       SPB MESSG   2          GO TO 235 TO TYPE IT                                 10745
37373 0000000  OTAD  DEC 0                 ADDRESS OF ANY TYPED MESSAGE GOES HERE.           10746
37374 1077604       DLD .ORS2.  3                                                               10747
37375 0754217       SPB INSERT  2                                                               10748
37376 0300154       STA OVTSK                                                                   10749
37377 0077636       LDA OBFLG   3          SEE IF TERMINAL                                      10750
37400 2514002       BZE                                                                         10751
37401 2620002       BRU 2       1          NO                                                   10752
37402 0077623       LDA OSRAT   3          GIVE D-30 A CRUMP BATCH MESSAGE                      10753
37403 0757572       SPB OSPMB   2                                                               10754
37404 2617425       BRU ORST               AND GET OUT                                       10755
     37405  ORS2   BSS 0                                                                       10756
37405 0000137       LDA TYPF                                                                    10757
37406 2516002       BNZ                                                                         10758
37407 2620002       BRU 2       1                                                               10759
37410 2504002       LDZ                                                                         10760
37411 0377373       STA OTAD    3          CRUMP TYPEWRITER TASK                                10761
37412 2514005       BNR                                                                         10762
37413 2510123       SNA 19                 AND CHECK FOR STOP MESSAGE                        10763
```

BATCH PART 1 - RESTORE AFTER DUMP

```
37414  0277622          SUB OST     3                                  10764
37415  2516002          BNZ                                            10765
37416  2617422          BRU *+4                                        10766
37417  2504022          LDO                SET UP TO LOOK FOR BACK CARD 10767
37420  0301000          STA 101            AND CRUMP SINCE S WAS TYPED  10768
37421  2617402          BRU ORS2-3         CRUMP - SOMEBODY TYPED -S-   10769
37422  0077636          LDA OBFLG   3       NOW CHECK FOR ENTERED ON COMPLETION 10770
37423  2514002          BZE                                            10771
37424  2620002          BRU 2       1                                  10772
         37425  ORST     BSS 0              STOP WHOLE OPERATION         10773
37425  0077612          LDA OTIM2   3       REAL RUNNING TIME            10774
37426  0757476          SPB OGTIM   2       CONVERT                      10775
37427  0037546          DEC OTIMR                                        10776
37430  0077611          LDA OTIM1   3                                    10777
37431  0277612          SUB OTIM2   3       GET SWAP TIME                10778
37432  0757476          SPB OGTIM   2                                    10779
37433  0037555          DEC OTIMS                                        10780
37434  2504202          LAC                                              10781
37435  0277610          SUB OTIM    3       GET TOATAL TIME ON MACHINE   10782
37436  0757476          SPB OGTIM   2                                    10783
37437  0037536          DEC OTIMO                                        10784
37440  0620154          LDX OVTSK   1                                    10785
37441  2516620          BCS BPN     6                                    10786
37442  2620002          BRU 2       1                                    10787
37443  2500620          SEL 6                                            10788
37444  0600000          SLW 4                                            10789
37445  0400000
37446  0077605          LDA .ORST1  3       CHANGE BRANCH                10790
37447  0320000          STA 0       1                                    10791
37450  0000137  ORST1   LDA TYPF                                        10792
37451  2514002          BZE                WAIT FOR ALERT HALT MESSAGE  10793
37452  2516620          BCS BPN     6                                    10794
37453  2620002          BRU 2       1                                    10795
37454  2500620          SEL 6              WRITE BILLIBG LINE           10796
37455  2600000          WPL OTIML                                        10797
37456  0137532
37457  2504002          LDZ                                              10798
37460  0377777          STA ORZYF   3       RESET                        10799
37461  0754212          SPB IRASE   2       ERASE THIS ENTRY TO TASK LIST 10800
37462  0755464          SPB DSKB    2       GET DISK                     10801
37463  0755560          SPB DSKOP   2       DISK OPERATION               10802
37464  3700010          Z37 8                                            10803
37465  0037000          OCT 37000          DUMP FORM 37000              10804
37466  0025660          OCT 25660                                        10805
37467  2504012          NOP                ERROR RETURN                 10806
37470  0755771          SPB RELIN   2       AND GET RID OF DISK          10807
37471  0077642          LDA OPAR    3       GET DUMP CODE                10808
37472  0300065          STA BDC            SAVE FOR NEXT PART IF ANY    10809
37473  0640276          LDX ZERO    2                                    10810
37474  1440513          INX BATCH   2       CALL IN BATCH OBERLAY        10811
37475  2616030          BRU PGETB          OVERLAY CALLER IN EXEC       10812
```

BATCH PART 1 - RESTORE AFTER DUMP

```
                                                                                10813
          37476   OGTIM   BSS 0                    CONVERT TIME TO DECIMAL      10814
37476  1740200           STX Z0      2             SAVE CALLING REGISTER        10815
37477  2504006           MAQ                       AND CONVERSION               10816
37500  0040001           LDA 1       2             PICK UP WHERE TO PUT AWAY    10817
37501  0300202           STA Z2                                                 10818
37502  2504002           LDZ                                                    10819
37503  1600435           DVD H1                    52140                        10820
37504  0737520           SPB OBCD    1                                          10821
37505  0340000           STA 0       2                                          10822
37506  2504002           LDZ                                                    10823
37507  1600437           DVD H2                    550                          10824
37510  0737520           SPB OBCD    1                                          10825
37511  0340001           STA 1       2                                          10826
37512  2504002           LDZ                                                    10827
37513  1600321           DVD SIX                                                10828
37514  0737520           SPB OBCD    1                                          10829
37515  0340002           STA 2       2                                          10830
37516  0640200           LDX Z0      2                                          10831
37517  2640001           BRU 1       2                                          10832
                                                                                10833
          37520   OBCD    BSS 0                                                 10834
37520  1377624           DST OAQ     3                                          10835
37521  2504006           MAQ                                                    10836
37522  1600324           DVD TEN                                                10837
37523  2512006           SLA 6                                                  10838
37524  0377624           STA OAQ     3                                          10839
37525  2504005           XAQ                                                    10840
37526  0100440           ADD COLON                                              10841
37527  2377624           ORY OAQ     3                                          10842
37530  1077624           DLD OAQ     3                                          10843
37531  2620001           BRU 1       1                                          10844
                                                                                10845
                                                                                10846
          37532   OTIML   BSS 0                    LINE FOR TIME PRINTOUT       10847
37532  0606346           ALF  TO                                                10848
37533  0632143           ALF TAL                                                10849
37534  0606331           ALF  TI                                                10850
37535  0442560           ALF ME                                                 10851
37536  0000000   OTIMO   DEC 0                     ACTUAL ON-TO-OFF TIME        10852
37537  0000000           DEC 0                                                  10853
37540  0000000           DEC 0                                                  10854
37541  0373751           OCT 373751                                             10855
37542  0644545           ALF UNN                                                10856
37543  0314527           ALF ING                                                10857
37544  0606331           ALF  TI                                                10858
37545  0442560           ALF ME                                                 10859
37546  0000000   OTIMR   DEC 0                     ACTUAL COMPUTER RUNNING TIME 10860
37547  0000000           DEC 0                                                  10861
37550  0000000           DEC 0                                                  10862
37551  0375562           OCT 375562                                             10863
```

BATCH PART 1 - RESTORE AFTER DUMP

```
37552  0662147          ALF WAP
37553  0606331          ALF  TI
37554  0442560          ALF ME
37555  0000000  OTIMS    DEC 0          SWAP TIME
37556  0000000          DEC 0
37557  0000000          DEC 0
37560  0336060          ALF .
37561  3777777          DEC -1         PRINT LINE DELIMITER
```

```
10864
10865
10866
10867
10868
10869
10870
10871
10872
STL10873
EJT10874
```

```
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                                                                                10922
                                                                                10923
                                                                                10924
                                                                                10925
```

```
                                                  **********************************************
                                                  
                                                     OINIT IS ENTERED AFTER THE BATCH OVERLAY
                                                  DISCOVERS A TIME-SHARING DESTROYING SYSTEM IS
                                                  TO BE RUN.  IT EXPECTS TO FIND THE
                                                  FOLLOWING INFORMATION LEFT IN THE ARRAY -T-
                                                  T         = ALPHANUMERIC -RUN-
                                                  T+1       = XXX
                                                  T+2       = XXX
                                                  T+3       = XXX  ALPHANUMERIC SYSTEM NAME
                                                  T+4     = 0,4,10...CODE FOR LOADER TYPE PLUS
                                                              8K BIT ON IN WORD.
                                                                 0 IS STANDARD DISK IMAGE LOADER
                                                                 4 IS BRIDGE TYPE TAPE LOADER
                                                                 10 IS BLOCKED DISK LOADER
                                                                 14 IS BINARY CARD LOADER
                                                  
                                                  T+5       = OCT DISK ADDRESS, OF THE FIRST
                                                              PROGRAM RECORD - USED BY LOADER
                                                  T+6     = 0 IF SYSTEM IS TO BE DUMPED
                                                              INTERMEDIATELY ON DISK.
                                                          = OCTAL HANDLER CONFIGURATION IF
                                                            SYSTEM IS TO BE DUMPED ON TAPES.
                                                  
                                                  OINIT WILL INSERT THE HANDLERS WHERE THEY
                                                  BELONG, SET UP THE SEQUENCE TO LOAD THE
                                                  LOADER, SET UP THE D-30 START BATCH MESSAGE,
                                                  AND EXIT TO WAIT FOR A BEGIN BATCH MESSAGE.

    37562   OINIT   BSS 0

37562   0077750         LDA OBBRU   3       PICK UP A BRU 1,1
37563   0377000         STA EXECOV  3       PRESET API EXIT TO NO ACTION
37564   0000226         LDA PMBX0           SEE IF HAVE AN UNANSWERED MESSAGE
37565   2516001         BPL
37566   2617564         BRU *-2             YES
37567   0077667         LDA OTEN    3       ASK D-30 TO INITIATE BATCH MODE,
37570   0757572         SPR OSPMB   2
37571   2620002         BRU 2       1       AND RETURN IMMEDIATELY TO EXEC.


                                                  **********************************************
    37572   OSPMB   BSS 0                       SENDS SPECIAL MAILBOX MESSAGE TO D-30
37572   0300226         STA PMBX0
37573   0000226         LDA PMBX0           AND WAITS FOR AN ANSWER
37574   2516001         BPL
37575   2617573         BRU *-2
37576   2640001         BRU 1       2
```

BATCH PART 1 - INITIALIZATION

```
                                                                                10926
                                                                                10927
                                                                                10928
                                                                                10929
                                                                                10930
                                                                                10931
                                                                               STL10932
                                                                               EJT10933
```

BATCH PART 1 - CONSTANTS AND THINGS

```
                37602   ODIVAL  BSS 1
    37603   0000000     ODCNT   DEC 0
    37604   0737405     .ORS2.  SPB ORS2    1
    37605   0737450     .ORST1  SPB ORST1   1
    37606   0000040     0040    OCT 40
    37607   0002000             OCT 2000

    37610   0000000     OTIM    DEC 0
    37611   0000000     OTIM1   DEC 0
    37612   0000000     OTIM2   DEC 0
    37613   0000000     OTIM1T  DEC 0
    37614   0000000     OTIM2T  DEC 0

    37615   0000007     OSEVEN  OCT 7
    37616   0077777     OMSK1   OCT 77777
    37617   3777400     OMSK2   OCT 3777400
    37620   0010040     ODINST  OCT 10040
    37621   0000300     00300   OCT 300
    37622   0000062     OST     ALF 00S
              37000     OENT1   EQU EXECOV
    37623   0000011     OSBAT   OCT 11
    37624   0000000     OAQ     DEC 0
    37625   0000000             DEC 0
    37626   0000003     OTHREE  OCT 3
    37627   0000004     OFOUR   OCT 4
    37630   0376321     OTEM    OCT 376321
    37631   0472560             ALF PE
    37632   0214325             ALF ALF
    37633   0516333             ALF RT.
    37634   0375577             OCT 375577
    37635   0020000     08K     DEC 8192
              37635     OTI     EQU 08K
              37635     ODI     EQU 08K
    37636   0000000     OBFLG   DEC 0

    37637   2400000     OMOP    Z24 0
    37640   0000000     OFFLG   DEC 0
    37641   0000002     OTWO    OCT 2
    37642   0000000     OPAR    DEC 0
    37643   0000000     ODEC    DEC 0
              37644     OIAD    BSS 0
    37644   0312155             OCT 312155
              37645     ODNR    BSS 0
    37645   0244255             OCT 244255
    37646   0000000     OTYPF   DEC 0
```

```
      CONSTANTS AND FLAG STORAGE                                    10934
                                                                    10935
        COUNT DISK RECORDS - MUST BE INITIALLY 0                    10936
                                                                    10937
                                                                    10938
                                                                    10939
                                                                    10940
RUNNING TIME COUNTERS                                               10941
        WILL HOLD TOTAL REAL TIME FOR JOB                           10942
        WILL HOLD ACTUAL RUNNING TIME                               10943
        WILL HOLD RUNNING TIME+ SWAP TIME                           10944
        TEMPORARY ACCUMULATOR FOR OTIN1                             10945
        TEMP. ACCUMULATOR FOR OTIM2T                                10946
END TIME HOLDERS                                                    10947
                                                                    10948
                                                                    10949
                                                                    10950
                                                                    10951
                                                                    10952
        OPSTOP MESSAGE ON TYPEWRITER                                10953
        USER S BRANCH PUT HERE                                      10954
        STOP BATCH TO D-30                                          10955
        A NAD Q STORAGE                                             10956
                                                                    10957
        CONSTANT                                                    10958
        CONSTANT                                                    10959
        TAPE ALERT.                                                 10960
                                                                    10961
                                                                    10962
                                                                    10963
                                                                    10964
                                                                    10965
                                                                    10966
                                                                    10967
        FLAG 0 = NO SPECIAL CIRCIMSTANCES                           10968
      1 = JOB RAN TO COMPLETION                                     10969
        MOVE OPCODE, USED IN OVERLAY CALL ROUTINE                   10970
        FIRST RUN FLAG                                              10971
        CONSTANT                                                    10972
        SAVE DISK-OR-TAPE FLAG HERE                                 10973
        ERROR COUNT OF DISKP                                        10974
        ILLEGAL DISK ADDRESS                                        10975
                                                                    10976
        DISK NOT READY MESSAGE                                      10977
                                                                    10978
        SIGNAL S TYPE OF ENTRY TO OBA                               10979
                                                                    10980
        ODAD IS  A TABLE OF PARAMETERS FOR                          10981
THE VARIOUS TYPES OF LOADERS IT IS POSSIBLE                         10982
TO CALL DURING BATCH                                                10983
        EACH ENTRY IS THREE WORDS LONG,                             10984
```

BATCH PART 1 - CONSTANTS AND THINGS

```
                                                    CONSISTING OF THE DISK ADDRESS AND READ          10985
                                                    COMMANDS FOR THIS LOADER. IT IS ASSUMESD         10986
                                                    THAT THE FIRST MEMORY LOCATION FOR THE           10987
                                                    LOADER IS THE FIRST PROGRAM LOCATION AND         10988
                                                    ENTRANCE POINT.                                  10989
                                                                                                     10990
        37647   ODAD    BSS 0                           TABLE OF DISK LOADER PARAMETERS              10991
37647   1200006         Z12 6                           DISK CARD IMAGE LOADER                       10992
37650   0035000         OCT 35000                       INTO 35000 IN MEMORY                         10993
37651   0032000         OCT 32000                       FROM THIS DISK ADDRESS                       10994
37652   0000000         DEC 0                                                                        10995
37653   1200003         Z12 3                           BRIDGE TYPE TAPE LOADER                      10996
37654   0017500         OCT 17500                       INTO MEMORY AT 17500                         10997
37655   0032010         OCT 32010                       FROM THIS DISK ADDRESS                       10998
37656   0000000         DEC 0                                                                        10999
37657   1200007         Z12 7                           BLOCKED DISK LADERE                          11000
37660   0017000         OCT 17000                                                                    11001
37661   0032020         OCT 32020                                                                    11002
37662   0000000         DEC 0                                                                        11003
37663   1200007         Z12 7                           CARD LOADER                                  11004
37664   0035000         OCT 35000                       MEMORY ADDRESS                               11005
37665   0032030         OCT 32030                       INTO MEMORY FROM THIS DISK ADDRESS           11006
37666   0000000         DEC 0                                                                        11007
        37667           BSS 0                           END OF CATALOG                               11008
37667   0000010 OTEN    OCT 10                                                                       11009
37670   0000020 OTWEN   OCT 20                                                                       11010
37671   2676040 OAPIB   BRU OINT    3                  STEAL API BRANCH FROM EXEC TO RUN            11011
37672   0000230 OAMOV   ZUU 128+24                     USED TO MOVE DISK RECORDS DOWN TO API AREA    11012
37673   3770224         DEC -3948                       A FEW TOO MANY MAKES NO DIFFERENCE           11013
                                                                                                     11014
                                                                                                    STL11015
                                                                                                    EJT11016
```

BATCH PART 1 - TAPE CORRECTION FOR HARD ERROR

```
                                                                                11017
                                        THIS ROUTINE IS ENTERED FROM THE TAPE ROUTINE           11018
                                        AFTER IT HAS TRIED THE OPERATION FIVE TIMES             11019
                                        AND STILL GETS AN ERROR INDICATION.                     11020
                                        IF THE OPERATION WAS A WRITE IT WILL ERASE              11021
                                        TAPE AND REWRITE THE RECORD.                            11022
                                        IF THE OPERATION WAS A READ IT WILL TRY                 11023
                                        SWITCHING MODES AND REREADING.  IF THAT DOES            11024
                                        NOT WORK IT WILL RETURN TO THE ORIGINAL MODE            11025
                                        IT PUNTS IF IT FINDS A READ SPECIAL.                    11026
                                                                                11027
37674  0076566  OTERA  LDA OTPB    3          GET BAT TAPE COMMAND                11028
37675  2511020         SRD 16                  CHECK BIT THREE - IF ON IT WAS A WRITE
37676  2514000         BOD                                                     11030
37677  2617732         BRU OTERA1              SO ERASE                        11031
                                        INSTRUCTION WAS A READ SO CHANGE MODES  11032
                                                                                11033
37700  2514001         BMI                                                     11034
37701  2616610         BRU OTWRP2              WAS A READ SPECIAL SO PUNT
37702  0077731         LDA OSWC    3           3 WAY FLAG 0 - FIRST ENTERANCE, MINUS -
                                        SECOND ENTERANCE, PLUS - THIRD (AND FINAL) EN
37703  2516002         BNZ                     SET FLAGS FOR NEXT TIME         11037
37704  2617707         BRU *+3                                                 11038
37705  2504102         LMO                                                     11039
37706  2617712         BRU STORE                                               11040
37707  2516001         BPL                                                     11041
37710  2616610         BRU OTWRP2              LAST TIME SO PUNT               11042
37711  2504022         LDO                                                     11043
37712  0377731  STORE  STA OSWC    3                                           11044
37713  0076566         LDA OTPB    3          GET BAD TAPE COMMAND             11045
37714  2511017         SRD 15                                                  11046
37715  2516000         BEV                                                     11047
37716  2504032         ADO                                                     11048
37717  2077641         EXT OTWO    3          WIPE OUT BIT 18  NOW WE HAVE THE CHANGED
                                        INSTRUCTION                             11050
                                        PUT INSTRUCTION BACK TOGETHER           11051
37720  2512217         SLD 15                                                  11052
37721  0356676         STA OTLST   2          PUT BACK IN LIST                 11053
37722  2077225         EXT OTMSK   3          77777                            11054
37723  0177667         ADD OTEN    3          GET PROPER ERROR BIT ON          11055
37724  0376733         STA OTST    3                                           11056
37725  0757206         SPB OTER    2          BACK UP TAPE                     11057
37726  0077615         LDA OSEVEN  3          RESET ERROR COUNT TO SEVEN       11058
37727  0376734         STA OTEC    3                                           11059
37730  2620001         BRU 1       1          EXIT AND TRY AGAIN               11060
                                                                                11061
37731  0000000  OSWC   DEC 0                                                   11062
                                        COMMAND WAS A WRITE SO ERASE            11063
37732  0076566  OTERA1 LDA OTPB    3          GET COMMAND BACK                 11064
37733  0356676         STA OTLST   2                                           11065
37734  0757206         SPB OTER    2          BACK UP TAPE                     11066
37735  0077223         LDA OTER2+1 3          GET HANDLER INFORMATION          11067
```

BATCH PART 1 - TAPE CORRECTION FOR HARD ERROR

```
 37736  0176403          ADD 002476  3        ERASE AT LEAST 2476 WORDS                    11068
 37737  0377745          STA *+6     3                                                     11069
 37740  0077751          LDA OTAP1.  3        SPB OTAP1  1                              11070
 37741  0376053          STA OINT2+1 3        FUDGE BRANCH                              11071
 37742  2620001          BRU 1       1                                                     11072
 37743  0757157  OTAP1   SPB OTOP    2                                                  11073
 37744  1300000          ERT         4        WILL BE CHANGED                           11074
 37745  2100000              0                                                          11075
 37746  0077764          LDA OTAPE.  3        SPB OTAPE  1                              11076
 37747  0376053          STA OINT2+1 3                                                  11077
 37750  2620001  OBBRU   BRU 1       1        AND EXIT - ALSO CONSTANT TO SET API BRANCH 11078
 37751  0737743  OTAP1.  SPB OTAP1   1                                                  11079
                                                                                        11080
          37752  BSUMS   BSS 8               SPACE FOR SUMMARY                         11081
                                                                                        11082
 37762  0037752  BSUMS2  DEC BSUMS           CONSTANT TO MOVE SUMMARY UP               11083
 37763  3777770          DEC -8                                                        11084
 37764  0736547  OTAPE.  SPB OTAPE   1                                                  11085
                                                                                        11086
          37777          LOC 37777                                                     11087
 37777  0000000  OBZYF   DEC 0               BUSY FLAG IN CASE OF BOOTSTRAPS           11088
                                                                                        11089
                                                                                        11090
          06000          LOC 6000                                                      11091
 06000  0660337  OBAF1   LDX 8K      3                                                 11092
 06001  0002001          LDA OBA3+2                                                    11093
 06002  0377133          STA ORUNF.  3        INITIALIZE DISK ADDRESS                   11094
 06003  2516020          BCS BRN     0                                                 11095
 06004  2606003          BRU *-1                                                       11096
 06005  2500020          SEL 0                                                         11097
 06006  2510000          PRF         0                                                 11098
 06007  0026160          OCT 26160           PUT ON DUMP PART                          11099
 06010  2516020          BCS BRN     0                                                 11100
 06011  2606010          BRU *-1                                                       11101
 06012  2500020          SEL 0                                                         11102
 06013  3711010          WRD 8       0                                                 11103
 06014  0037000              EXECOV                                                    11104
 06015  2516020          BCS BRN     0                                                 11105
 06016  2606015          BRU *-1                                                       11106
 06017  2514027          BCS BER     0                                                 11107
 06020  2606005          BRU *-11                                                      11108
 06021  2601574          BRU LOVWRT                                                    11109
                                                                                        11110
T06000                   TCD OBAF1                                                     11111
                                                                                        11112
                                                                                      STL11113
                                                                                      EJT11114
```

BATCH PART 2

```
                                                                          11115
                                    INFORMATION FOR 235 LOADING ROUTINE   11116
                                                                          11117
            01670           ORG PERNUM                                    11118
 01670  0000042            DEC 34                                        11119
 01671  0001776            DEC OBA2          OVERLAY NAME                11120
        36000               LOC 36000        LOWER MEMORY PART OF BATCH OVERLAY
                                                                          11121
                                                                          11122
                                    THIS ENTERANCE MUST REMAIN AT 36000 TO BE
                                    ENTERED FROM THE LOADER.              11124
 36000  2506053            SXG 2             CALL IN OBA3                11125
 36001  0660203            LDX Z2+1    3                                 11126
 36002  0077641            LDA OTWO    3                                 11127
 36003  0737001            SPR EXEC    1                                 11128
 36004  0036014            DEC OLOBA3                                    11129
 36005  0076017            LDA OLOBA3+33                                 11130
 36006  2514002            BZE                                           11131
 36007  2616005            BRU *-2                                       11132
 36010  2516000            BEV                                           11133
 36011  2616002            BRU *-7           ERROR TRY AGAIN             11134
 36012  2506013            SXG 0                                         11135
 36013  2660000            BRU 0       3     GO TO PROGRAM               11136
 36014  1200010 OLOBA3     Z12 8             8 RECORDS                   11137
 36015  0035000            OCT 35000                                     11138
 36016  0000000            OCT 0             FILLED IN WHEN LOADED       11139
 36017  0000000            OCT 0                                         11140
                                                                          11141
                                                                         STL11142
                                                                         EJT11143
```

```
                                                                                11144
    OSYS HANDLES ENTRANCES FROM USER PROGRAMS                                   11145
IT IS THE ONLY PART OF THE OVERLAY WHICH IS                                     11146
EXECUTED OUTSIDE OF API, AND MAY BE INTERRUPT                                   11147
IT MAY BE ENTERED IN ANY INDEX GROUP, STAYS                                     11148
THERE, AND VERY WELL MAY DESTROY SAID INDEX G                                   11149
THERE ARE FIVE POSSIBLE ENTRANCES, ACCORDING                                    11150
TO THE CONTENTS OF THE A REGISTER.                                              11151
                                                                                11152
CODES ARE AS FOLLOWS                                                            11153
0 = TERMINATION.                                                                11154
1 = TAPE OPERATION                                                              11155
2 = DISK OPERATION                                                              11156
3 = TYPEWRITER OUTPUT                                                           11157
    SIGN ON IS TYPE AND CRUMP                                                   11158
4 = OVERLAY OR NEW SYSTEM CALL.                                                 11159
5 = SYSOUT WRITE, SIGN ON IF INDIRECT                                           11160
                                                                                11161
                                                                                11162
                                                                                11163
                                                                                11164
     36020   OSYS   BSS 0                                                       11165
36020 0300233       STA OTEMP          CONSTRUCT A BRANCH POINTER               11166
36021 0640233       LDX OTEMP    2     FROM CALLING ROUTINE.                    11167
36022 1457777       INX -1       2                                              11168
36023 0660203       LDX Z2+1     3     GET 8K INTO XR3                          11169
36024 2506015       SET PST             JUST IN CASE SOME DUMMY.....            11170
36025 0557770       BXH 8        2     CHECK FOR LEGAL CALLING NUMBER           11171
36026 2615745       BRU OTERM           AND IF IT ISN T, CRUMP THE BUM           11172
36027 2656030       BRU *+1      2     BRANCH ACCORDING TO CALLING VALUE        11173
36030 2616121       BRU OTAP            1 = TAPES                                11174
36031 2616160       BRU ODSK            2 = DISK OPERATION                       11175
36032 2616244       BRU OTYPE           3 = TYPE ROUINE                          11176
36033 2615720       BRU OOVR            4 = OVERLAY CALL                         11177
36034 2615334       BRU OSO             5 = SYSOUT                               11178
                                  6 AND 7 ARE RESERVED FOR SPECIAL MESSAGES TO  11179
                                    THE D-30                                    11180
36035 2615745       BRU OTERM                                                   11181
36036 2615745       BRU OTERM                                                   11182
36037 2614753       BRU OITRAP          10 = START TRAP RESTORE                 11183
                                                                               STL11184
                                                                               EJT11185
```

BATCH PART 2 - INTERRUPT ROUTINE

```
                                                                                11186
                                                                                11187
                                                                                11188
                                                                                11189
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                                                                                11208
                                                                                11209
                                                                                11210
 36040   OINT   BSS 0                                                           11211
                                                                                11212
 36040 1377624          DST OA0     3                                           11213
 36041 2506012          SET BINMODE                                             11214
 36042 2500004          HCR                                                     11215
 36043 1720216          STX OTMP    1                                           11216
 36044 0000214          LDA MBX0                                                11217
 36045 0276732          SUB ODMP    3                                           11218
 36046 2516002          BNZ                                                     11219
 36047 2616052          BRU *+3                                                 11220
 36050 0300214          STA MBX0                                                11221
 36051 2616300          BRU ODUMP                                               11222
 36052   OINT2  BSS 0                                                           11223
 36052 0736430          SPB ODISK   1                                           11224
 36053 0736547          SPB OTAPE   1                                           11225
                                                                                11226
                                                                                11227
 36054 2504002          LD7                                                     11228
 36055 2514005          BNR                                                     11229
 36056 2510123          SNA 19                                                  11230
 36057 0277622          SUB OST     3                                           11231
 36060 2514002          BZE                                                     11232
 36061 2616716          BRU OSTOP-2                                             11233
 36062 2504112          SBO                                                     11234
 36063 2514002          BZE                                                     11235
 36064 0716643          SPB OTTIM   0                                           11236
```

```
*****************************************
   THIS IS THE ENTRANCE FOR API INTERUPTS
DURING THE RUNNING OF A BACKGROUND SYSTEM.
INTERUPT BRANCHES ARE SET UP WHENEVER THE
OVERLAY GETS WORD TO RUN THE BACGROUND
SYSTEM.
ON INTERRUPT , THE ROUTINE HAS ONE DEFINITE
TASK, AND THREE POSSIBLE TASKS.

A. IT CHECKS THE MAILBOX FOR A STOP RUNNING
   BATCH MESSAGE. IF THERE IS SUCH, IT DUMPS
   THE SYSTEM AND TAKES NECESSARY ACTION TO
   RESTORE NORMAL TIME SHARING.
B. IF THERE ARE ANY DISK OPERATIONS TO BE
   DONE, OR JUST COMPLETED, THEY ARE EXECUTED
C. IF THERE ARE TAPE OPERATIONS TO BE DONE,
   OR COMPLETED, THEY ARE TAKEN CARE OF,
D. THE  OVERLAY CHECKS TO SEE IF THE RUNNING
   SYSTEM WANTS TO EXECUTE AN API PROGRAM, IF
   SO IT BRANCHES TO IT.

   THE INTERRUPT ROUTINE ASSUMES 8K IN XR3 OF
INTERRUPT GROUP.

      ENTER OVERLAY HERE ON API INTERRUPT.

      SAVE A AND Q
      WILL RESTORE IT TO DECMODE IF NEEDED
      JUST ON GENERAL PRINCIPLES
      SAVE INDEX REGISTER FOR RETURN
      CHECK FOR D-30 DUMP COMMAND.
      OCTAL 11 - DUMP BATCH MESSAGE.

      NO DUMP MESSAGE FROM THE D-30
      ANSWER D-30 DUMP COMMAND
      AND EXIT
      MAY RETURN HERE
      CHECK TO SEE IF THERE ARE DISK COMMANDS TO BE
EXECUTED
      CHECK TO SEE IF THRE ARE TAPE COMMANDS TO BE
EXECUTED
      CHECK TYPEWRITER INPUT
      IF AN -S- IS INPUT, IT IS COMMAND TO STOP
      PCIK UP N-REG CHARACTER
      SUBTRACT BCD -S-

      STOP PROGRAM EXECUTION  AND LOOK FOR BACK CAR
      SFE IF T

      OUTPUT RUNNING TIME
```

BATCH PART 2 - INTERRUPT ROUTINE

```
36065  0737000          SPR OENT1   1          EXECUTE USER S API PROGRAM, IF ANY          11237
36066  0077646          LDA OTYPE   3          PICK UP TYPE OF ENTRY FLAG.                 11238
                                                0 MEANS NOT SPECIAL                        11239
                                                1 MEANS TYPE MESSAGE TO BE SET UP          11240
                                              ALSO DUMP FOR OVERLAY                        11241
                                                2 MEANS TERMINAL DUMP ENTRANCE             11242
                                                                                           11243
36067  2514002          BZE                                                                11244
36070  2616074          BRU *+4                    NO TASK ASSIGNED BY THIS FLAG           11245
36071  2514000          BOD                                                                11246
36072  2616300          BRU ODUMP                  DUMP IN ORDER TO TYPE OUT MESSAGE.....  11247
36073  2616720          BRU OSTOP                  TERMINAL EXIT SO  DO IT                 11248
36074  2504002          LDZ                        CHECK CONSOLE SWITCHES, AND IF NO GOOD , PUNT11249
36075  2500011          RCS                                                                11250
36076  2514001          BMI                                                                11251
36077  2616300          BRU ODUMP                                                          11252
36100  0620216          LDX OTMP    1          GET RETURN REGISTER.                        11253
36101  0000216          LDA OTMP                                                           11254
36102  2514003          BOV                        RESET OVERFLOW IF ON                    11255
36103  2616104          BRU *+1                                                            11256
36104  2512001          SLA 1                      AND START RESTORING                     11257
36105  2514003          BOV                                                                11258
36106  2500007          TON                        BIT ONE                                 11259
36107  2512001          SLA 1                                                              11260
36110  2514003          BOV                                                                11261
36111  2616112          BRU *+1                    IGNORE DECMODE CARRY                    11262
36112  2512001          SLA 1                                                              11263
36113  2514003          BOV                                                                11264
36114  2506011          SET DECMODE                                                        11265
36115  2512001          SLA 1                                                              11266
36116  1077624          DLD OAQ     3          CONDITIONS                                  11267
36117  2506015          SET PST                    BEFORE                                  11268
36120  2620000          BRU 0       1          RETURNING                                   11269
                                                                                          STL11270
                                                                                          EJT11271
```

BATCH PART 2 - TAPE SET-UP

```
                                                ********************************************      11272
                                                    OTAP IS ENTERED TO PLACE A TAPE COMMAND       11273
                                                INTO THE COMMAND LIST. THE COMMAND S MUST BE      11274
                                                IN THE FORMAT GIVEN IN SUBROUTINE OTAPE, AND      11275
                                                ARE NEVER CHECKED FOR VALIDITY.                   11276
                                                THE INDEX GROUP ENTERED ON IS DESTROYED, WITH     11277
                                                THE EXCEPTINO OF XR1.                             11278
                                                THE FLAG WORD IS SET TO 0 BEFORE EXITING, IT      11279
                                                THE LIST IS FULL, THE ROUTINE WAITS UNTIL         11280
                                                IT CAN INSERT THE TASK BEFORE EXITING.            11281
                                                                                                  11282
          36121   OTAP   BSS 0                                                                    11283
                                                                                                  11284
36121  0076755          LDA OTO      3          PICK UP POINTER TO TAPE TASK LIST                 11285
36122  0300233          STA OTEMP               GET POINTER TO TAPE LIST I- XR2                    11286
36123  0640233          LDX OTEMP    2          AND CHECK FOR ROOM IN TASK LIST                   11287
36124  0056676          LDA OTLST    2          NO ROOM - SO WAIT UNTIL THERE IS.                 11288
36125  2516002          BNZ                     PICK UP POINTER TO TAPE OP                        11289
36126  2616124          BRU *-2                                                                   11290
36127  0020001          LDA 1        1                                                            11291
36130  1720233          STX OTEMP    1                                                            11292
36131  2516001          BPL                                                                       11293
36132  2616136          BRU *+4                 INDIRECT                                          11294
36133  1420003          INX 3        1          SET FOR RETURN, DIRECT                            11295
36134  0000233          LDA OTEMP                                                                 11296
36135  2504032          ADD                     GET ADDRESS CORRECT                               11297
36136  0300233          STA OTEMP                 AND THEN                                        11298
36137  0660233          LDX OTEMP    3              PUT IN XR3 AND                               11299
36140  0356700          STA OTLST+2  2              TAPE TASK LIST                               11300
36141  2504002          LDZ                     ZERO THE TASK DONE FLAG IN USERS PARAM LIST       11301
36142  0360003          STA 3        3                                                            11302
36143  0060002          LDA 2        3          STORE TAPE COMMAND                                11303
36144  0356677          STA OTLST+1  2            IN                                            11304
36145  0060001          LDA 1        3              THE                                          11305
36146  0356676          STA OTLST    2                TAPE TASK LIST                             11306
36147  0660203          LDX Z2+1     3          RESTORE UP8 BIT TO XR3                            11307
36150  1440004          INX 4        2          BUMP UP LIST PONITER                              11308
36151  1740233          STX OTEMP    2                                                            11309
36152  0000233          LDA OTEMP               GET LIST POINTER BACK AND RESET                   11310
36153  0557760          BXH 16       2          CHECK FOR WRAPAROUND = 4 ENTRIES                  11311
36154  0077635          LDA OTI      3          WRAP AROUND                                       11312
36155  0376755          STA OTO      3          AND PUT AWAY THE POINTER                          11313
36156  2506014          OCT 2506014             SET PRQ IN CASE NOTHING IN OPERATION              11314
36157  2620002          BRU 2        1          RETURN TO THE USERS PROGRAM                       11315
                                                                                                  11316
                                                                                                STL11317
                                                                                                EJT11318
```

BATCH PART 2 - DISK SET-UP

```
                                                
```

BATCH PART 2 - DISK SET-UP

```
36232  0557760          BXH 16      2     END OF LIST IF SO                    11370
36233  0077635          LDA ODI     3     SO REINITIALIZE                      11371
36234  0376754          STA ODO     3                                          11372
36235  2506014          OCT 2506014       SET PRQ IN CASE NOTHING GOING        11373
                                                                               11374
36236  0620230  ODSKX   LDX ODRET2  1     GET RETURN BACK                      11375
36237  2620002          BRU 2       1     AND GO BACK AROUND ADDRESS WORD      11376
36240  2504022  ODSKE   LDO               SET TOO MANY RECORDS BIT ON          11377
36241  2512021          SLA 19-2          TASK LIST STAYS ZERO                 11378
36242  0320003          STA 3       1     FLAG LOCATION                        11379
36243  2616236          BRU ODSKX                                              11380
                                                                               11381
                                                                              STL11382
                                                                              EJT11383
```

BATCH PART 2 - TYPE ROUTINE

```
                                                                                                                    11384
                                                                                                                    11385
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                                                                                                                    11428
                                                                                                                   STL11429
                                                                                                                   EJT11430
```

```
                                                  ********************************************
                                                     OTYPE MAKES IT POSSIBLE FOR USER PROGRAMS
                                                  TO TYPE OUT MESSAGES WITOUT USE OF NORMAL
                                                  TIME-SH+RING TIME, AND WITHOUT HAVING THE
                                                  MESSAGE GARBLED BY INTERVENING INTERRUPTS.
                                                  WHEN A TYPE COMMAND IS GIVEN, THE PROGRAM IS
                                                  IMMEDIATELY DUMPED, AND NOT RELOADED UNTIL
                                                  THE MESSAGE HAS BEEN TYPED OUT.
                                                     THE CALLING SEQUENCE FOT THE TYPE ROUTINE
                                                  IS AS FOLLOWS -
                                                     LDA THREE
                                                     SPB TYPE, 1 = 37000
                                                     DEC MESSAGE LOCATION

     36244   OTYPE  BSS 0

36244 2516001        BPL
36245 2616254        BRU *+7
36246 1720232        STX OTMP3   1          SAVE ENTRANCE REGISTER
36247 0301000        STA IO1                HAVE FRONT
36250 0735546        SPB OSOTER  1          TERMINATE SYSOUT BUFFER
36251 2504022        LDO                    SET UP TO CRUMP AFTER MESSAGE
36252 0377636        STA OBFLG   3
36253 0620232        LDX OTMP3   1          GET IT BACK
36254 0020001        LDA 1       1          MOVE MESSAGE TO BE TYPED TO EXEC
36255 0177637        ADD OMOP    3          Z24
36256 0376260        STA *+2     3
36257 1076276        DLD OMTEX   3
36260 2400000        MOV 0
36261 0076744        LDA OEOM    3
36262 2512014        SLA 12
36263 0377156        STA ORUNF+303
36264 0660203        LDX Z2+1    3          GET 8K BACK INTO XR3
36265 2506016        SET PBK                BREAK AROUND TYPE SETUP ROUTINE.
36266 0076276        LDA OMTEX   3          GET POINTER TO MESSAGE FOR EXEC
36267 0377373        STA OTAD    3          AND PUT IT IN ADDRESS FOR RES ROUTINE
36270 2504022        LDO
36271 0377646        STA OTYPE   3          SET UP TYPE ENTRANCE CALL FOR EXEC
36272 2506015        SET PST                AND GET BACK IN API
36273 2506014        OCT 2506014            SET PRQ
36274 2620002        BRU 2       1          AND RETRUN - MESSAGE IS TYPED.
36276 0037120 OMTEX  DEC ORUNF
36277 3777742        DEC -30
```

BATCH PART 2 - DUMP

```
                                                                                11431
                                                                                11432
    ODMP IS ENTERED WHEN THE D-30 GIVES A                                       11433
DUMP BATCHMODE MESSAGE, IT RESULTS IN THE                                       11434
COMPLETE DUMP A SYSTEM ON THE TAPES OR THE                                      11435
DISK, DEPENDING ON PARAMETERS PREVIOUSLY                                        11436
SPECIFIED. ALL CONDITIONS ARE SAVED FOR LARER                                   11437
RESTORATION. THE 235-EXEC IS THEN CALLED                                        11438
BACK IN TO MEMORY, WITH THE BATCH FLAG SET.                                     11439
NO ATTEMPT IS MADE TO RESTORE TRAP MODE                                         11440
CONDITIONS - THUS NO SYSTEM SHOULD RUN IN                                       11441
TRAP MODE UNDER BACKGROUND.                                                     11442
                                                                                11443
DISK DUMP FORMAT -                                                              11444
    FOUR 4K RECORDS WRITTEN ON HIGH SPEED                                       11445
    TRACKS.                                                                     11446
TAPE DUMP FORMAT -                                                              11447
    LOWER MEMORY IN 2 RECORDS ON TAPE                                           11448
    UPPER MEMORY ON TWO 4K DISK RECORDS                                         11449
                                                                                11450
                                                                                11451
                                                                                11452
                                                                                11453
 36300   ODUMP  BSS 0                                                           11454
                                                                                11455
 36300  2504202        LAC                                                     11456
 36301  0277614        SUB OTIM2T  3        ACCUMULATE RUNNING TIME            11457
 36302  0177612        ADD OTIM2   3                                           11458
 36303  0377612        STA OTIM2   3                                           11459
 36304  3376736        FST OARR    3        SAVE AX                            11460
 36305  3500002        XAQ         A                                           11461
 36306  3376740        FST OARR+2  3        AND QX                             11462
 36307  0000216        LDA OTMP                                                11463
 36310  0376742        STA OARR+4  3                                           11464
 36311  0076750        LDA ONFL    3                                           11465
 36312  2514733        BAR BUP     7                                           11466
 36313  0076746        LDA OUNF    3                                           11467
 36314  2514732        BAR BFX     7                                           11468
 36315  0076747        LDA OFIX    3                                           11469
 36316  0377042        STA ORUNM   3        SET MODE SET IN RESTORE SEQUENCE   11470
 36317  0076745        LDA OSXG    3                                           11471
 36320  2500111        OGA                                                     11472
 36321  0377041        STA ORUNG   3        SET INDEX GROUP RESTORE INTO RESTORE SEQUENCE11473
                                                                                11474
 36322  0077626        LDA OTHREE  3        TELL D-30 TO STOP COUNTING         11475
 36323  0757572        SPB OSPMP   2                                           11476
 36324  0076753        LDA OTIP    3        WAIT FOR ANY TAPE OPERATIONS TO BE 11477
 36325  0300202        STA Z2               COMPLETED AND CORRECTED BEFORE EXIT11478
 36326  0056676        LDA OTLST   2                                           11479
 36327  2516001        BPL                                                     11480
 36330  2616335        BRU *+5                                                 11481
 36331  0757157        SPB OTOP    2        WAIT FOR TAPES TO COME READY
 36332  0000000        DEC 0
 36333  0736547        SPB OTAPE   1        GO TO ROUTINE UNTIL NULL CONDITION
```

BATCH PART 2 - DUMP

```
36334  2616324          BRU *-8                 AND SEE IF DONE                                  11482
36335  0076751          LDA ODIP    3           MAEK SURE DISK OPERATION IS DONE                 11483
36336  0300202          STA Z2                                                               11484
36337  0056656          LDA ODLST   2                                                        11485
36340  2514002          BZE                     IF LIST IS ZERO NO TASK                      11486
36341  2616347          BRU *+6                                                              11487
36342  2504032          ADO                     IF MINUS 1 THEN TASK IN PROGRESS             11488
36343  2516002          BNZ                                                                  11489
36344  2616347          BRU *+3                                                              11490
36345  0736470          SPB ODWRP   1           SO FINISH TASK                               11491
36346  2616335          BRU *-9                 AND SEE IF DONE                              11492
36347  0600203          LDX Z2+1    0           WILL SERVE FOR 0, SINCE IS 8K                11493
36350  2514006          BCR                     CHECK CARD READER                            11494
36351  2616355          BRU *+4                 OK - DUMP                                    11495
36352  1400001          INX 1       0                                                        11496
36353  0412110          BXL 3000    0           WILL GIVE SLIGHTLY MORE THAN U/LTH SECOND    11497
36354  2616350          BRU *-4                 GO CHECK AGAIN                               11498
36355  0757325          SPB ODASK   2           ASK D-30                                     11499
36356  0077642          LDA OPAR    3                                                        11500
36357  2514002          BZE                     IF ZERO, DUMP ON DISK, ELSE TAPES            11501
36360  2616417          BRU ODDMP                                                            11502
36361  0757157          SPB OTOP    2           ELSE DUMP ON TAPES                           11503
36362  0300000          Z03 0                   WRITE OUT AROUND INDEX AND MAILBOXES         11504
36363  0000200  ODTC    Z00 128                 NUMBER OF WORDS - HANDLER INSERTED           11505
36364  0757157          SPB OTOP    2                                                        11506
36365  0300230          OCT 0300230             DUMP BEGINNING WORD                          11507
36366  0017550  ODTC2   OCT 0017550             NUMBER OF WORDS, HANDLER INSERTED            11508
                                        ENTER ODMP2 TO DUMP UPPER MEMORY ON DISK             11509
36367  2616370  ODMP2   BRU *+1                 FILLED IN WITH SPB OTRAP,1 IF NECESSARY      11510
36370  0757226          SPB ODOP    2                                                        11511
36371  3700100          Z37 64                  THIRD 4K BLOCK                               11512
36372  0020000          DEC 8192                                                             11513
36373  0025100          OCT 25100               DISK ADDR+SS                                 11514
36374  0757226          SPB ODOP    2                                                        11515
36375  3700100          Z37 64                  LAST BLOCK                                   11516
36376  0030000          DEC 12288                                                            11517
36377  0025500          OCT 25500                                                            11518
36400  0757226          SPB ODOP    2           GET BOOTSTRAP FOR EXEC                       11519
36401  1200001          Z12 1                                                                11520
36402  0006000          DEC LOAD1                                                            11521
36403  0002476  002476  OCT 2476                                                             11522
36404  2504002          LDZ                                                                  11523
36405  0300201          STA Z1                  SET ZERO INTO XR1                            11524
36406  0757300          SPB ODSKWT  2           WAIT FOR BOOTSTRAP TO GET IN                 11525
36407  2504102          LMO                     SET FLAG IN BOOSTRAP TO GET ORES E-TRANCE    11526
36410  0306074          STA SBAK                SET FLAG IN EXEC TO INDICATE BATCH MODE      11527
36411  0001000          LDA I01                                                              11528
36412  0306075          STA SBAK+1              FRONT CARD STATUS                            11529
36413  2506015          SET PST                                                              11530
36414  2506016          SET PBK                 IMMEDIATELY GET OUT                          11531
36415  2506013          SXG 0                                                                11532
```

BATCH PART 2 - DUMP

```
 36416  2626000          BRU LOAD1   1                                  11533
                                                                        11534
          36417   ODDMP  BSS 0                      DUMP FROM DISK      11535
 36417  0757226          SPB ODDP    2                                  11536
 36420  3700100          Z37 64                    DUMP FIRST 4K OF MEMORY 11537
 36421  0000000          DEC 0                                         11538
 36422  0024100          OCT 24100                 ADDRESS ON DISK 0   11539
 36423  0757226          SPB ODDP    2                                  11540
 36424  3700100          Z37 64                    DUMP SECOND 4K      11541
 36425  0010000          DEC 4096                                      11542
 36426  0024500          OCT 24500                 DISK POSITION       11543
 36427  2616367          BRU ODMP2                                     11544
                                                                        11545
                                                                     STL11546
                                                                     EJT11547
```

BATCH PART 2 - DISK ROUTINE

```
                                                                                    11548
                                                                                    11549
                                                                                    11550
                                                                                    11551
                                                                                    11552
                                                                                    11553
                                                                                    11554
                                                                                    11555
                                                                                    11556
      36430   ODISK   RSS 0                                                         11557
36430 0076751         LDA ODIP    3       GET INTERNAL POINTER TO DISK LIST         11558
36431 0300202         STA Z2                                                        11559
36432 1056656 ODISK2  DLD ODLST   2                                                 11560
36433 2514002         BZE                                                           11561
36434 2620001         BRU 1       1       NO DISK TASK WAITING                      11562
36435 2504032         ADO                                                           11563
36436 2514002         BZE                                                           11564
36437 2616470         BRU ODWRP             WAS MINUS 1, SO TASK IN PROGRESS        11565
36440 2504112         SBO                                                           11566
36441 1376456         DST ODPB    3         PUT COMMANDS AWAY                       11567
36442 0056660         LDA ODLST+2 2                                                 11568
36443 0376460         STA ODPB+2  3         AND SET LAST INSTRUCTION                11569
36444 2504102         LMO                   PRESET ENTRY TO IN PROGRESS             11570
36445 0356656         STA ODLST   2                                                 11571
36446 0077626         LDA OTHREE  3         TELL MIKE TO STOP COUNTING TIME         11572
36447 0757572         SPB OSPMB   2                                                 11573
36450 0757325         SPB ODASK   2         ASK FOR DISK BEFORE USING               11574
36451 2504202         LAC                                                           11575
36452 0177670         ADD OTWEN   3                                                 11576
36453 0376770         STA ODCLK   3         SET COUNTDOWN FOR DISK.                 11577
36454 2504012         NOP                                                           11578
36456 0000000         DDC 0                                                         11579
36457 0000000
      36455           ORG *-3                                                     11580
36455 0757226         SPB ODOP    2                                               11581
36456 0000000 ODPB    DEC -                                                       11582
36457 0000000         DEC -                                                       11583
36460 0000000         DEC -                                                       11584
36461 2514002         BZE                   CHECK RETURN STATUS                   11585
36462 2616466         BRU *+4               OK  JUST GET D-30 GOING AGAIN         11586
36463 2504022         LDO                                                         11587
36464 2512017         SLA 19-4              SET ILLEGAL ADDRESS ON                11588
36465 2376752         ORY ODST    3                                               11589
36466 0077627         LDA OFOUR   3         AND START COUNTING TIME               11590
36467 0757572         SPB OSPMB   2                                               11591
36470 2514020 ODWRP   BCS BRR     0                                               11592
36471 2616477         BRU *+6               SKIP CLOCK CHECK AND DISK WAIT        11593
36472 2504202         LAC                   CHECK FOR COUNTDOWNM                  11594
36473 2176770         CAB ODCLK   3                                               11595
36474 2620001         BRU 1       1         NOT COUNTED DOWN YET                  11596
36475 2504012         NOP                                                         11597
```

BATCH PART 2 - DISK ROUTINE

```
36476  0757300          SPR ODSKWT  2        DUMP MUST HAVE INTERVENED - SO GET DISK     11598
36477  2514027          BCS BER     0        NOW SEE IF READ SUCCESSFUL                  11599
36500  2616527          BRU ODERC            AND IF NOT CORRECT IT                       11600
36501  0076751  ODWRP2  LDA ODIP    3        GET LIST POINTER AGAIN                      11601
36502  0300202          STA Z2                                                           11602
36503  2504002          LDZ                                                              11603
36504  0356656          STA ODLST   2        PRESET TASK TO COMPLETED                    11604
36505  0056661          LDA ODLST+3 2        GET ADDRESS OF STATUS RETURN WORD           11605
36506  0300202          STA Z2                                                           11606
36507  0076752          LDA ODST    3        GET DISK STATUS WORD                        11607
36510  2514002          BZE                                                              11608
36511  2504022          LDO                  IF AOK, SET 1 STATUS                        11609
36512  0340003          STA 3       2                                                    11610
36513  2504002          LDZ                                                              11611
36514  0376752          STA ODST    3        AND THEN SET DISK STATUS TO 0 FOR NEXT      11612
36515  0377643          STA ODEC    3        AND SET ERROR COUNT DOWN                    11613
36516  0757333          SPB ORELIN  2        RELINQUISH SO D-30 CAN GET IN               11614
36517  0076751          LDA ODIP    3        BUMP UP POINTER TO DISK LIST                11615
36520  0300202          STA Z2                                                           11616
36521  1440004          INX 4       2                                                    11617
36522  0000202          LDA Z2                                                           11618
36523  0557760          BXH 16      2        CHECK FOR WRAP AROUND                       11619
36524  0077635          LDA O8K     3                                                    11620
36525  0376751          STA ODIP    3        AND PUT BACK FOR NEXT TIME                  11621
36526  2620001          BRU 1       1        AND EXIT                                    11622
                                                                                        11623
36527  0077643  ODERC   LDA ODEC    3        ERROR ON READ                               11624
36530  2504032          ADO                                                              11625
36531  0377643          STA ODEC    3        BUMP UP ERROR COUNT                         11626
36532  2177615          CAB OSEVEN  3                                                    11627
36533  2616535          BRU *+2              NOT LIMIT YET                               11628
36534  2616543          BRU ODTE             TOO LATE GIVE PARITY MESSAGE                11629
36535  2504022          LDO                                                              11630
36536  2512022          SLA 19-1             SET PARITY, BUT RECOVERED MESSAGE           11631
36537  2376752          ORY ODST    3                                                    11632
36540  0076456          LDA ODPB    3        AND RESTORE TASK LIST                       11633
36541  0356656          STA ODLST   2                                                    11634
36542  2616432          BRU ODISK2           AND TRY IT AGAIN                            11635
36543  2504002  ODTE    LDZ                                                              11636
36544  2504040          CHS                  - INDICATES NON-RECOVERED PARITY            11637
36545  2376752          ORY ODST    3                                                    11638
36546  2616501          BRU ODWRP2           AND WRAPUP AS IF R+AD WAS OK                11639
                                                                                        11640
                                                                                      STL11641
                                                                                      EJT11642
```

```
                                                                    11643
*********************************************                       11644
                                                                    11645
    OTAP IS THE TAPE OPERATION SUBROUTINE,                          11646
IT SCANS A LIST OF TAPE OPERATIONS,EXECUTING                        11647
THEM AS THE TAPE CONTROLLER COMES READY,                            11648
SETTING FLAGS AS EACH OPERATION IS COMPLETED.                       11649
ALL ERROR CHECKING, AND ERROR MESSAGES ARE                          11650
TAKEN CARE OF INTERNALLY.                                           11651
    THE CALLING SEQUENCE TO EXECUTE A TAPE                          11652
OPERATION IS AS FOLLOWS-                                            11653
   LDA ONE                                                          11654
   SPB TAPEOP = 37001                                               11655
   DEC POINTER TO THE PARAMETER LIST                                11656
FOUR WORD PARAMETER LIST HAS THE FOLLOWING                          11657
FORM                                                                11658
   SEL X   - TAPE CONTROLLER DESIRED                                11659
   WORD 1 OF TAPE COMMAND -                                         11660
   WORD 2 OF TAPE COMMAND -                                         11661
   DEC 0                                                            11662
                                                                    11663
ALTERNATELY                                                         11664
   LDO                                                              11665
   SPB EXEC   1                                                     11666
   SEL 1                                                            11667
   WORD 1                                                           11668
   WORD 2                                                           11669
   DEC 0    FLAG                                                    11670
   RETURN                                                           11671
                                                                    11672
                                                                    11673
WHEN OTAPE IS ENTERED, IT PUTS THE SUPPLIED                         11674
PARAMETERS INTO A TASK LIST, AND IMMEDIATELY                        11675
EXITS TO THE USER S PROGRAM, AFTER SETTING                          11676
THE -DEC 0 - WORD OF THE CALLING SEQUENCE                           11677
TO 0. THE TAPE OPERATION IS INITIATED AS SOON                       11678
AS SOON AS THE TAPE CONTROLLER IS READY                             11679
WHEN THE OPERATION HAS BEEN COMPLETED, THE                          11680
TAPEOP ROUTINE WILL SET THE -DEC 0- WORD AS                         11681
FOLLOWS -                                                           11682
   = 1 IF OPERATION WAS NORMALLY SUCCESSFUL                         11683
   = 2 IF THERE WAS AN EOT INDICATION                               11684
   = 4 IF THERE WAS ON EOF INDICATION                               11685
   = 10 IF THERE WAS A RECOVERED READ ERROR                         11686
     WHICH WAS RECOVERED BY CHENGING READ MO                        11687
   = 20 IF THE ERROR WAS NOT RECOVERABLE                            11688
     AFTER 5 TRIES AT A READ OR WRITE.                              11689
   = 40 IF THE INSTRUCTION CAUSED THE TAPE                          11690
     CONTROLLER TO GO PERMANENTLY NOT READY.                        11691
                                                                    11692
                                                                    11693
```

BATCH PART 2 - TAPE ROUTINE

```
                                                NO OTHER STATUS RETURNS ARE POSSIBLE.          11694
                                                                                               11695
                                                                                               11696
          36547   OTAPE   RSS 0                                                               11697
36547     0076753         LDA OTIP    3         PICK UP POINTER TO TAPE TASK LIST.            11698
36550     0300202         STA Z2                AND PUT IN XR2                                11699
36551     1056676         DLD OTLST   2         PICK UP NEXT LIST ENTRY                       11700
36552     2516002         BNZ                   IF SO THERE IS AN ENTRY                       11701
36553     2516120         BCS BTN     1         SEE IF TAPES READY                            11702
36554     2620001         BRU 1       1         EITHER NO TASKS OR TAPES NOT READY            11703
36555     2504032         ADO                   SEE IF OPERATION JUST COMPLETED               11704
36556     2514002         BZE                   IF SO - WAS MINUS 1                           11705
36557     2616571         BRU OTWRP             SO GO SET FLAGS AND WRAP UP                   11706
36560     2504112         SBO                   RESTORE - IS REAL COMMAND                     11707
36561     1376566         DST OTPB    3         PUT IN OTOP CALLING SEQUENCE                  11708
36562     2504102         LMO                   AND SET ENTRY TO TASK INITIATED               11709
36563     0356676         STA OTLST   2                                                       11710
36564     2504012         NOP                   ***                                           11711
36566     0000000         DDC 0                 ***
36567     0000000
          36565           ORG *-3               ***                                           11712
36565     0757157         SPB OTOP    2         EXECUTE TAPE COMMANDS                         11713
36566     0000000 OTPB    DEC -                                                               11714
36567     0000000         DEC -                                                               11715
36570     2620001         BRU 1       1         AND EXIT                                      11716
                                                                                               11717
          36571   OTWRP   RSS 0                 ENTER HERE AFTER TAPE OPERATION COMPLETED      11718
36571     0356676         STA OTLST   2         AND SET ENTRY TO COMPLETED - FOR NOW -        11719
36572     2516127         BCS BNE     1                                                       11720
36573     2616610         BRU OTWRP2            NO ERRORS                                     11721
36574     0076734         LDA OTEC    3         CHECK ERROR COUNT                             11722
36575     2504112         SBO                   AND DECREMENT                                 11723
36576     0376734         STA OTEC    3                                                       11724
36577     2516002         BNZ                                                                 11725
36600     2616604         BRU OTWRP1            COUNTDOWN NOT DONE - SO TRY AGAIN             11726
36601     0077670         LDA OTWEN   3         GET OCTAL 20 - ERROR FLAG                     11727
36602     0376733         STA OTST    3         AND PUT IN STATUS WORD                        11728
36603     2617674         BRU OTERA             ERASE IF WRITE OR CHANGE MODE IF READ         11729
36604     0076566 OTWRP1  LDA OTPB    3         PCIK UP TAPE COMMAND GIVING ERROR             11730
36605     0356676         STA OTLST   2                                                       11731
36606     0757206         SPB OTER    2         AND GO CORRECT BAD OPERATION                  11732
36607     2620001         BRU 1       1         AND EXIT, WILL TRY AGAIN LATER                11733
36610     2516121 OTWRP2  BCS BNF     1         EOF TEST                                      11734
36611     2616614         BRU *+3               NO END OF FILE                                11735
36612     0077627         LDA OFOUR   3                                                       11736
36613     2376733         ORY OTST    3         PUT EOF BIT ON IN STATUS WORD                 11737
36614     2516122         BCS BNT     1         TEST EOT                                      11738
36615     2616620         BRU *+3               NO END-OF-TAPE                                11739
36616     0077641         LDA OTWO    3         PICK UP EOT INDICATOR                         11740
36617     2376733         ORY OTST    3         AND PUT INTO STATUS WORD.                     11741
36620     0056700         LDA OTLST+2 2         GET FLAG LOCATION                             11742
36621     2504005         XAO                   AND SAVE                                      11743
```

BATCH PART 2 - TAPE ROUTINE

```
36622  1440004          INX 4       2        POINT TO NEXT LIST ENTRY                    11744
36623  0000202          LDA Z2                                                           11745
36624  0557760          BXH 16      2        FOUR ENTRIES IN LIST                        11746
36625  0077635          LDA 08K     3        INITIALIZE POINTER AT 8K                    11747
36626  0376753          STA OTIP    3        AND SAVE PONITER TO NEXT ENTRY              11748
36627  2504005          XAQ                  GET BACK PLACE TO PUT STATUS                11749
36630  0300202          STA Z2                                                           11750
36631  0076733          LDA OTST    3        GET STATUS                                  11751
36632  2514002          PZE                  AND IF IT IS ZERO                           11752
36633  2504022          LDQ                  THEN RETURN NORMAL STATUS RETURN            11753
36634  0340003          STA 3       2        AND STORE IN USERS PARAMETER LIST           11754
36635  2504002          LDZ                  JOB COMPLETED                               11755
36636  0376733          STA OTST    3        SET STATUS WORD ZERO,                       11756
36637  0377731          STA OSWC    3        SET SWITCH MODE FLAG OFF                    11757
36640  0077615          LDA OSEVEN  3        PRESET ERROR COUNT TO 7                     11758
36641  0376734          STA OTEC    3        AND ERROR COUNT 0                           11759
36642  2616547          BRU OTAPE            NOW TAKE A LOOK AT THAT NEXT ENTRY          11760
                                                                                         11761
                                     OUTPUT RUNNING TIME ON THE TYPEWRITER               11762
         36643  OTTIM  BSS 0                                                            11763
36643  1700217          STX ODRET   0                                                    11764
36644  0077612          LDA OTIM2   3        REAL RUNNING TME                            11765
36645  0757476          SPR OGTIM   2                                                    11766
36646  0037546          DEC OTIMR                                                        11767
36647  0757577          SPR OTYP    2        SET UP TO BE TYPED                          11768
36650  0037541          DEC OTIMR-5                                                      11769
36651  2504022          LDQ                                                              11770
36652  0377646          STA OTYPF   3                                                    11771
36653  0640217          LDX ODRET   2                                                    11772
36654  2506014          OCT 2506014                                                      11773
36655  2640001          BRU 1       2                                                    11774
                                                                                         11775
                                                                                   STL11776
                                     ************************************************    11777
                                                                                         11778
         36656  ODLST  BSS 0             DISK TASK LIST                                11779
                                     ENTRY 1                                             11780
36656  0000000          DEC 0                                                            11781
36657  0000000          DEC 0                                                            11782
36660  0000000          DEC 0                                                            11783
36661  0000000          DEC 0        PARAMETER POINTER                                   11784
                                     ENTRY 2                                             11785
36662  0000000          DEC 0                                                            11786
36663  0000000          DEC 0                                                            11787
36664  0000000          DEC 0                                                            11788
36665  0000000          DEC 0                                                            11789
                                     ENTRY 3                                             11790
36666  0000000          DEC 0                                                            11791
36667  0000000          DEC 0                                                            11792
36670  0000000          DEC 0                                                            11793
36671  0000000          DEC 0                                                            11794
```

BATCH PART 2

```
                                                    ENTRY 4                                  11795
 36672  0000000          DEC  0                                                             11796
 36673  0000000          DEC  0                                                             11797
 36674  0000000          DEC  0                                                             11798
 36675  0000000          DEC  0                                                             11799
          36676  OTLST   BSS  0                          TAPE TASK LIST                    11800
                                                    ENTRY 1                                  11801
 36676  0000000          DEC  0                                                             11802
 36677  0000000          DEC  0                                                             11803
 36700  0000000          DEC  0                                                             11804
 36701  0000000          DEC  0                                                             11805
                                                    ENTRY 2                                  11806
 36702  0000000          DEC  0                                                             11807
 36703  0000000          DEC  0                                                             11808
 36704  0000000          DEC  0                                                             11809
 36705  0000000          DEC  0                                                             11810
                                                    ENTRY 3                                  11811
 36706  0000000          DEC  0                                                             11812
 36707  0000000          DEC  0                                                             11813
 36710  0000000          DEC  0                                                             11814
 36711  0000000          DEC  0                                                             11815
                                                    ENTRY 4                                  11816
 36712  0000000          DEC  0                                                             11817
 36713  0000000          DEC  0                                                             11818
 36714  0000000          DEC  0                                                             11819
 36715  0000000          DEC  0                                                             11820
                                                                                           11821
                                                                                           11822
                                                    OSTOP IS ENTERED IF AN S IS TYPED ON THE 11823
                                                    CONSOLE TYPEWRITER WHILE A BATCH PROGRAM IS 11824
                                                    RUNNING. THE RESULT IS THE COMPLETE ABORTION 11825
                                                    OF THIS PROGRAM, AND RESTORATION OF NORMAL 11826
                                                    BATCH MODE.                              11827
                                                                                           11828
 36716  2504022          LDO                        SET FLAG TO LOOK FOR BACK CARD          11829
 36717  0301000          STA  IO1                                                           11830
          36720  OSTOP   BSS  0                                                           11831
 36720  2504202          LAC                        ACCUMULATE RUNNING TIME                 11832
 36721  0277614          SUB  OTIM2T  3                                                     11833
 36722  0177612          ADD  OTIM2   3             ACCUMULATE ACTUAL RUNNING TIME          11834
 36723  0377612          STA  OTIM2   3                                                     11835
                                                                                           11836
 36724  2504022          LDO                        SET FLAG IN OVERLAY TO TELL -ORES- SAME 11837
 36725  0377636          STA  ORFLG   3             TELL ORES BATCH JOB DONE.               11838
 36726  0077626          LDA  OTHREE  3             AND NOW TELL D-30 TO STOP COUNTING      11839
 36727  0757572          SPB  OSPMR   2                                                     11840
 36730  0757325          SPB  ODASK   2             GET DISK                                11841
 36731  2616367          BRU  ODMP2                 AND ENTER IN MIDDLE OF DUMP ROUTINE.    11842
                                                                                           11843
 36732  2000011  ODMP    OCT  -11                   DUMP B+TCH MESSAGE FROM D-30            11844
 36733  0000000  OTST    DEC  0                     USED TO HOLD TAPE STATUS WORD RETURN    11845
```

BATCH PART 2

```
 36734  0000007   OTEC   DEC 7                TAPE ERROR COUNT - INITIALIZE AT SEVEN       11846
          36736   OARR   BSS 6                STROAGE FOR DUMP                             11847
 36744  0000055   OEOM   OCT 55               END OF MESSAGE CHARACTER FOR TYPE ROUTINE    11848
 36745  2506013   OSXG   SXG 0                                                            11849
 36746  3200010   OUNF   SET UFLPOINT                                                     11850
 36747  3500010   OFIX   SET FIXPOINT                                                     11851
 36750  3100010   ONFL   SET NFLPOINT                                                     11852
 36751  0020000   ODIP   DEC 8192             INTERNAL POINTER TO API DISK TASK LIST       11853
 36752  0000000   ODST   DEC 0                HOLDS DISK STATUS FOR SYSTEM SUBROUTINE     11854
 36753  0020000   OTIP   DEC 8192             POINTS TO TAPE LIST COMMAND[INTERNAL]       11855
 36754  0020000   ODO    DEC 8192             POINTER TO DISK TASK LIST                   11856
 36755  0020000   OTO    DEC 8192             POINTER TO TAPE TASK LIST                   11857
          36756   ODSL   BSS 0                LIST OF SCRATCH AREA ADDRESSES ON DISK      11858
 36756  0030000          OCT 30000                                                        11859
 36757  0030400          OCT 30400                                                        11860
 36760  0031000          OCT 31000                                                        11861
 36761  0031400          OCT 31400                                                        11862
 36762  0000000          DEC 0                ONLY 4 AREAS AVAILABLE -                    11863
          36763          BSS 4                [MORE CAN BE PUT HERE-LAST MUST BE A 0]     11864
 36767  0020000   ODSA   DEC 8192             POINTER TO SCRATCH AREA BEING SUPPLIED      11865
 36770  0000000   ODCLK  DEC 0                COUNT DOWN ON DISK WITH REAL CLOCK - SAVED HE11866
                                                                                         11867
          06000          LOC 6000                                                        11868
          36000   AREA   EQU 36000                                                       11869
 06000  0660337   OBA2M  LDX BK      3                                                   11870
 06001  0002001          LDA OBA3+2                                                      11871
 06002  0376016          STA OLOBA3+23                                                   11872
 06003  2606006          BRU *+3                                                         11873
 06004  0037000          DEC EXECOV                                                      11874
 06005  3777000          DEC -512                                                        11875
 06006  1006004          OLD *-2                                                         11876
 06007  2436000          MOV AREA             MOVE                                       11877
                                          READ EXEC BACK IN                              11878
 06010  2516020          BCS BRN     0                                                   11879
 06011  2606010          BRU *-1                                                         11880
 06012  2500020          SEL 0                                                           11881
 06013  2510000          PRF         0                                                   11882
 06014  0002600          OCT 2600             GET EXEC                                   11883
 06015  2516020          BCS BRN     0                                                   11884
 06016  2606015          BRU *-1                                                         11885
 06017  2500020          SEL 0                                                           11886
 06020  1210010          RRF 8       0                                                   11887
 06021  0036000              AREA                                                        11888
 06022  2516020          BCS BRN     0                                                   11889
 06023  2606022          BRU *-1                                                         11890
 06024  2514027          BCS BER     0                                                   11891
 06025  2606012          BRU *-11                                                        11892
 06026  2601574          BRU LOVWRT           NOW WRITE ON DISK                          11893
                                                                                         11894
T06000                   TCD OBA2M                                                       11895
                                                                                         11896
```

BATCH PART 3 - TRAP RESTORE

STL11897
EJT11898

BATCH PART 3 - TRAP RESTORE

```
                01670           ORG PERNUM                                      11899
01670  0000044                  DEC 36                                          11900
01671  0001777                  DEC 0BA3                                        11901
                                                                                 11902
                                                                                 11903
                34600           LOC 34600                                       11904
                                                RESTORE FOR TRAP                 11905
                                                MUST PUT HOLD INDICATORS BACK AND GET INTO  11906
                                                TRAP PROGRAM IF NECESSARY        11907
                                                                                 11908
34600  1720231  ORTRAP STX OTMP2   1                SAVE ENTRANCE                11909
34601  0000203         LDA Z2+1                    GET 8K BIT                   11910
34602  0300213         STA Tx2+1                   SET IN TRAP REGISTER         11911
34603  0074703         LDA .ORST.  3               SET FOR TRAP                 11912
34604  0300205         STA ITRAP-1                                              11913
34605  0300206         STA ITRAP                                                11914
34606  0300207         STA ITRAP+1                                              11915
34607  0074674         LDA OTRFL   3               GET INDICATOR FLAG           11916
34610  0300201         STA Z1                                                   11917
34611  3500010         SET FIXPOINT                MAKE IT EASY TO GET A TRAP   11918
34612  2634613         BRU *+1     1               NOW SEE WHAT HAS TO BE RESTORESD  11919
34613  2614623         BRU ORTRP                   IN TRAP PROGRAM              11920
34614  2614640         BRU ORTRI                   NOT IN TRAP PROGRAM          11921
34615  3200001         SET NTPMODE                 TRAP NOT SET                 11922
                                                                                 11923
34616  0754643  OCREST SPB OHOLD   2               RESTORE HOLD INDICATORS      11924
34617  1074672         DLD OMOVT2  3               RESTORE TRAP REGISTERS       11925
34620  2434705         MOV OSTRP                                                11926
34621  0620231         LDX OTMP2   1               GET BACK TO REST OF RESTORE  11927
34622  2620001         BRU 1       1                                            11928
                                                IN TRAP PROGRAM                  11929
34623  3100001  ORTRP  SET TRPMODE                 FUDGE WAY INTO TRAP          11930
34624  3674666         FDV OZERO   3               GENERATE TRAP                11931
34625  2506015         SET PST                     GET OUT OF API               11932
34626  2506016         SET PBK                                                  11933
34627  2674630         BRU *+1     3                                            11934
34630  3500004  ORSTB  RIN                         ENTER FROM SELF CAUSED TRAP  11935
34631  0074704         LDA .OREX.  3               HAVE TO GET BACK IN API      11936
34632  0300204         STA Z2+2                    FUDGE ENTRANCE               11937
34633  2506015         SET PST                                                  11938
34634  2506014         OCT 2506014                 SET PRQ                      11939
                                                                                 11940
34635  0077671  OREX   LDA OAPIB   3               GET API BRANCH BACK          11941
34636  0300204         STA Z2+2                                                 11942
34637  2614616         BRU OCREST                  AND CONTINUE WITH RESTORE    11943
                                                                                 11944
34640  0754643  ORTRI  SPB OHOLD   2               NOT IN TRAP PROGRAM WHEN INTERRUPTED  11945
34641  3100001         SET TRPMODE                 RESTORE HOLD INDICATORS AND SET TRAP  11946
34642  2614617         BRU OCREST+1                AND LEAVE                    11947
                                                                                 11948
34643  0074675  OHOLD  LDA OTMIFL  3               MODE FLAG                    11949
```

BATCH PART 3 - TRAP RESTORE

```
34644  0300201           STA Z1                                        11950
34645  2634646           BRU *+1      1                                11951
34646  2640001           BRU 1        2      NONE ON                   11952
34647  2614653           BRU OOCOV           OVERFLOW HOLD ON          11953
34650  2614660           BRU OCUN            UNDERFLOW HOLD ON         11954
34651  3674666           FDV OZERO    3      DIVIDE CHECK ON           11955
34652  2640001           BRU 1        2      GET OUT                   11956
                                                                      11957
34653  3074656  OOCOV    FLD OOCOV1   3      OVERFLOW HOLD ON          11958
34654  3174656           FAD OOCOV1   3      1777777,1777777           11959
34655  2640001           BRU 1        2      LEAVE                     11960
34656  1777777  OOCOV1   OCT 1777777                                   11961
34657  1777777           OCT 1777777                                   11962
34660  3074664  OCUN     FLD OCUN1    3      UNDERFLOW ON              11963
34661  3174664           FAD OCUN1    3      2000000,2000001           11964
34662  2640001           BRU 1        2      AND EXIT                  11965
34664  2000000  OCUN1    OCT 2000000                                   11966
34665  2000001           OCT 2000001                                   11967
34666  0000000  OZERO    DDC 0                                         11968
34667  0000000
34670  0034705  OMOVT1   DEC OSTRP                                     11969
34671  3777771           DEC -7                                        11970
34672  0000205  OMOVT2   DEC ITRAP-1                                   11971
34673  3777771           DEC -7                                        11972
         34674  OTRFL    BSS 1               TRAP FLAG                11973
         34675  OTMIFL   BSS 1               MODE FLAG                11974
34676  0700212  .OTRSJ   SPR Tx2      0                               11975
34677  2675702  .OTRS.   BRU OTRS     3                               11976
34700  2675716  .OTRI.   BRU OTRJ     3                               11977
34701  0735627  .OTRA.   SPR OTRAP    1                               11978
34702  0734600  .ORTR.   SPR ORTRAP   1                               11979
34703  2674630  .ORST.   BRU ORSTR    3                               11980
34704  2674635  .OREX.   BRU OREX     3                               11981
         34705  OSTRP    BSS 7               TRAP SAVE                11982
                                                                      11983
                                                                    STL11984
                                                                    EJT11985
```

BATCH PART 3 - PART OF INITIAL START

```
                                                  CONTINUATION OF ORUNF IN OBA1                    11986
                                                  SETS UP FOR PROPER LOADER AND DUMP               11987
                                                                                                   11988
34714  2504022  ORUN.3 LDO                                                                        11989
34715  0300151         STA CMESSB                      RESET                                      11990
34716  0620060         LDX T+4      1                  GET PARAMETERS FROM CATALOG                11991
34717  0037647         LDA ODAD     1                  TYPE OF LOADER                             11992
34720  0374726         STA *+6      3                                                             11993
34721  0037650         LDA ODAD+1   1                  LOADER ADDRESS                             11994
34722  0374727         STA *+5      3                                                             11995
34723  0037651         LDA ODAD+2   1                                                             11996
34724  0374730         STA *+4      3                                                             11997
34725  0757226         SPR ODOP     2                  DISK OPERATION TO GET LOADER               11998
34726  0000000         DEC -                                                                      11999
34727  0000000         DEC -                                                                      12000
34730  0000000         DEC -                                                                      12001
34731  0000065         LDA BDC                         GET DUMP LOAD INFO                         12002
34732  0377642         STA OPAR     3                  0 IF ON DISK, HANDLER BITS IF              12003
34733  2377052         ORY OLTC     3                  ON TAPE                                    12004
34734  2377110         ORY OLTC2    3                                                             12005
34735  2376363         ORY ODTC     3                                                             12006
34736  2376366         ORY ODTC2    3                                                             12007
34737  2504202         LAC                                                                        12008
34740  0377614         STA OTIM2T   3                                                             12009
34741  0757333         SPR ORELIN   2                  GIVE BACK DISK                             12010
34742  2506013         SXG 0                           SET GROUP ZERO FOR LOADER ENTRANCE         12011
34743  0074752         LDA ODECT    3                  POINTER TO PARAMETER LIST                  12012
34744  0300002         STA 2                           FOR LOADER                                 12013
34745  0620060         LDX T+4      1                  LOADER ADDRESS                             12014
34746  0037650         LDA ODAD+1   1                  ADDRESS FROM DISK READ                     12015
34747  0300201         STA Z1                                                                     12016
34750  2506015         SET PST                         OUT OF API AND                             12017
34751  2620000         BRU 0        1                  TO LOADER                                  12018
                                                                                                   12019
34752  0000054  ODECT  DEC T                          *DDRESS OF T ARRAY                         12020
                                                                                                   12021
                                                  INITIALIZE BRANCHES TO TRAP ROUTINES             12022
34753  0074701  OITRAP LDA .OTRA.   3                  GET START                                  12023
34754  0376367         STA ODMP2    3                  PUT IN CORRECT SPB                         12024
34755  0074702         LDA .ORTR.   3                  RESTORE                                    12025
34756  0377031         STA ORUNA    3                                                             12026
34757  2620001         BRU 1        1                  GO BACK TO GUYS PROGRAM                    12027
                                                                                                  STL12028
                                                                                                  EJT12029
```

BATCH PART 3 - SYSOUT

```
                35000           LOC 35000                                                   12030
                                                                                            12031
                                                    SYSOUT BUFFERS                          12032
                                                                                            12033
                35000   OSBU1   BSS 110                                                     12034
                35156   OSBU2   BSS 110                                                     12035
                                                                                            12036
                                                                                            12037
                                                    SYSOUT ROUTINE                          12038
                                                    ENTERANCE ON XR-1, A REG MINUS IF INDIRECT -  12039
                                                    PLUS IF DIRECT.  FIRST TWO WORDS ARE SYSOUT   12040
                                                    CONTROL WORDS, THIRD WORD IS ADDRESS OF DATA  12041
                                                                                            12042
                                                                                            12043
                                                    REGULAR ENTERANCE IS TO HERE            12044
                                                                                            12045
 35334  0660203  OSO    LDX Z2+1    3               GET 8K BIT                              12046
 35335  2516001         BPL                         SEE IF DIRECT OR INDIRECT               12047
 35336  2615342         BRU *+4                     DIRECT                                  12048
 35337  0020001         LDA 1       1               GET POINTER IN A                        12049
 35340  1420002         INX 2       1               RETURN IN 1                             12050
 35341  2615346         BRU *+5                     SKIP INDIRECT                           12051
 35342  1420001         INX 1       1               STEP TO PARAMETER                       12052
 35343  1720230         STX ODRET2  1                                                       12053
 35344  0000230         LDA ODRET2                  GET POINTER IN A                        12054
 35345  1420003         INX 3       1               STEP FOR RETURN                         12055
 35346  0375604         STA OSOP    3               SAVE POINTER PERMANENTLY                12056
 35347  0300230         STA ODRET2                                                          12057
 35350  0640230         LDX ODRET2  2               GET IN 2                                12058
 35351  1720230         STX ODRET2  1               GET RETURN                              12059
 35352  0000230         LDA ODRET2                                                          12060
 35353  0375605         STA OSOR    3               AND PUT WHERE IT BELONGS                12061
 35354  0040000         LDA 0       2               XR-2 HAS POINTER TO LIST                12062
 35355  0375574         STA OSOBL   3               SAVE PARAMETERS IN MY LIST              12063
 35356  0040001         LDA 1       2                                                       12064
 35357  0375575         STA OSOBL+1 3                                                       12065
 35360  0040002         LDA 2       2                                                       12066
 35361  0375576         STA OSOBL+2 3                                                       12067
 35362  0075570         LDA OSORP   3               GET LOCATION TO PUT IN                  12068
 35363  0175572         ADD OSOBW   3                                                       12069
 35364  0300230         STA ODRET2                                                          12070
 35365  0620230         LDX ODRET2  1               ADDRESS TO MOVE TO                      12071
 35366  1075574         DLD OSOBL   3                                                       12072
 35367  0320000         STA 0       1                                                       12073
 35370  2504005         XAQ                                                                 12074
 35371  0320001         STA 1       1               CONTROL WORDS STORED                    12075
 35372  2075611         EXT OMW     3               3777600                                 12076
 35373  0375577         STA OSOBW1  3               NUMBER OF WORDS TO WRITE                12077
 35374  2175607         CAR OD110   3               SEE IF LEGAL LENGTH                     12078
 35375  2615400         BRU *+3                                                             12079
 35376  2615400         BRU *+2                                                             12080
```

BATCH PART 3 - SYSOUT

```
35377  2615563          BRU OSORF                EXIT                                    12081
35400  0075572          LDA OSOBW   3                                                    12082
35401  0177641          ADD OTWO    3                                                    12083
35402  0375572          STA OSOBW   3            INCREMENT WORD COUNT                    12084
35403  0175577          ADD OSOBW1  3                                                    12085
35404  2175607          CAR OD110   3            DEC 110                                 12086
35405  2615433          BRU OSOK                 JUST MOVE IN                            12087
35406  2615433          BRU OSOK                                                         12088
                                                                                        12089
                                                 LENGTH TO GREAT FOR ONE BUFFER SO SPLIT.12090
                                                 CHANGE NUMBER OF WORDS AND ADDRESS AND THEN
                                                 WRITE.                                  12092
                                                                                        12093
35407  0275607          SUB OD110   3            GET NUMBER OF  EXCESS WORDS             12094
35410  0375600          STA OSOBW2  3            SAVE FOR NEXT OPERATION                 12095
35411  0275577          SUB OSOBW1  3            GET NUMBER TO MOVE                      12096
35412  2504004          LQA                      SET UP TO MOVE                          12097
35413  2504522          NEG                                                              12098
35414  0175576          ADD OSOBL+2 3            GET NEW ADDRESS TO WRITE FROM NEXT TIME 12099
35415  0300234          STA OTMP1                SAVE FOR AWHILE                         12100
35416  0075576          LDA OSOBL+2 3            FROM ADDRESS                            12101
35417  0177637          ADD OMOP    3                                                    12102
35420  0375423          STA *+3     3                                                    12103
35421  0075570          LDA OSOBP   3                                                    12104
35422  0175572          ADD OSOBW   3                                                    12105
35423  2435423          MOV *                    CONSTRUCTED                             12106
35424  0075607          LDA OD110   3                                                    12107
35425  0375572          STA OSOBW   3            FOR TAPE WRITE                          12108
35426  0075600          LDA OSOBW2  3                                                    12109
35427  0375577          STA OSOBW1  3            SET TO FINISH OPE-ATION                 12110
35430  0000234          LDA OTMP1                                                        12111
35431  0375576          STA OSOBL+2 3            NEW ADDRESS                             12112
35432  2615455          BRU OSOWR                WRITE IT                                12113
                                                                                        12114
                                                 ROOM TO PLUNK IN PRESETN BUFFER         12115
                                                                                        12116
35433  0075577  OSOK    LDA OSOBW1  3                                                    12117
35434  2504522          NEG                                                              12118
35435  2504005          XAQ                      SET FOR MOVE                            12119
35436  0075576          LDA OSOBL+2 3            FROM ADDRESS                            12120
35437  0177637          ADD OMOP    3            Z24                                     12121
35440  0375443          STA *+3     3            PUT IN MOVE COMMAND                     12122
35441  0075570          LDA OSOBP   3                                                    12123
35442  0175572          ADD OSOBW   3                                                    12124
35443  2435443          MOV *                    CONSTRUCTED                             12125
35444  0075572          LDA OSOBW   3                                                    12126
35445  0175577          ADD OSOBW1  3                                                    12127
35446  0375572          STA OSOBW   3            RESET WORD COUNT                        12128
35447  2175610          CAR OD108   3                                                    12129
35450  2615563          BRU OSORE                DO NOT NEED TO WRITE OUT YET            12130
35451  2615563          BRU OSORF                                                        12131
```

BATCH PART 3 - SYSOUT

```
35452  2504002          LDZ                                                  12132
35453  0375577          STA OSOBW1  3        RESET WORDS TO WRITE            12133
35454  2615455          BRU OSOWR            MUST WRITE OUT, CAN NOT SPLIT ONTROL WORDS  12134
                                                                             12135
                    TIME TO WRITE TAPE, AFTER FINISHED SWITCH                12136
                    BUFFERS IF OTHER ONE READY                               12137
                                                                             12138
35455  1075602  OSOWR  DLD OSOTP   3        POINTER TO NEXT TAPE LIST       12139
35456  0300230         STA ODRET2                                            12140
35457  0375475         STA OSOWR1+13                                         12141
35460  2504005         XAQ                                                   12142
35461  1375602         DST OSOTP   3        SWITCH FOR NEXT TIME            12143
35462  0640230         LDX ODRET2  2                                         12144
35463  1075570         DLD OSOBP   3                                         12145
35464  2740001         STO 1       2        PUT ADDRESS IN                  12146
35465  2504005         XAQ                                                   12147
35466  1375570         DST OSOBP   3        FLIP BUFFER                     12148
35467  0075572         LDA OSOBW   3        WORD COUNT                      12149
35470  2514002         BZF                                                   12150
35471  2615433         BRU OSOK             PUNT IF ZERO                    12151
35472  2740002         STO 2       2        PUT AWAY                        12152
35473  2504022         LDO                                                   12153
35474  0737001  OSOWR1 SPB EXEC    1        WRITE TAPE                      12154
35475  0000000         DEC 0                CONSTRUCTED                     12155
35476  2504002         LDZ                                                   12156
35477  0375572         STA OSOBW   3        SET BUFFER COUNT TO ZERO        12157
                    NOW CHECK TO SEE IF OTHER BUFFER READY                   12158
35500  0075602         LDA OSOTP   3                                         12159
35501  0300230         STA ODRET2                                            12160
35502  0640230         LDX ODRET2  2                                         12161
35503  0040003         LDA 3       2        GET FLAG WORD                   12162
35504  2514002         BZE                  WAIT TILL OPERATION DONE        12163
35505  2615503         BRU *-2                                              12164
35506  2514000         BOD                                                   12165
35507  2615433         BRU OSOK             BUFFER OK TO FILL               12166
35510  2510001         SRA 1                                                 12167
35511  2514000         BOD                                                   12168
35512  2615514         BRU OSOEOT           END OF TAPE, THANGE THEM        12169
35513  2615433         BRU OSOK                                              12170
                                                                             12171
                                                                             12172
                    END OF TAPE OCCURRED, SRITE RECORD AND REW.              12173
                    THEN SWITCH TAPE                                         12174
                                                                             12175
35514  2504022  OSOEOT LDO                                                   12176
35515  0737001         SPB EXEC    1                                         12177
35516  2500120         SEL 1                                                 12178
35517  0335606         WTB OSYET   7        END TAPE RECORD                 12179
35520  3000015             13                                                12180
35521  0000000         DEC 0                                                 12181
35522  2504022         LDO                                                   12182
```

BATCH PART 3 - SYSOUT

```
35523  0737001          SPB EXEC    1                                    12183
35524  2500120          SEL 1                                            12184
35525  2000000          RWD         7                                    12185
35526  3000000
35527  0000000          DEC 0                                            12186
35530  2504002          LDZ                 IF WE GET THIS FAR MAKE SURE DUMP IS ON  12187
35531  0377642          STA OPAR    3       THE DISK                     12188
                                                                         12189
                                    WAIT UNTIL NEXT TAPE IS MOUNTED      12190
35532  0077626          LDA OTHREE  3                                    12191
35533  0737001          SPB EXEC    1                                    12192
35534  0035622          DEC OSOTY           TOGGLE 19 WHEN SYSOUT TAPE IS READY  12193
35535  2504002          LDZ                                              12194
35536  2500011          RCS                                              12195
35537  2516000          REV                                              12196
35540  2615534          BRU *-4                                          12197
35541  2504002          LDZ                                              12198
35542  2500011          RCS                                              12199
35543  2514000          BOD                                              12200
35544  2615541          BRU *-3                                          12201
35545  2615433          BRU OSOK                                         12202
                                                                         12203
                                    ENTER HERE TO WRITE OUT SYSOUT BUFFER  12204
35546  1720231  OSOTER  STX OTMP2   1       SAVE ENTRANCE                12205
35547  0075562          LDA ODTER1  3                                    12206
35550  0375605          STA OSOR    3       SET UP TO RETURN CORRECTLY   12207
35551  2615455          BRU OSOWR           WRITE OUT                    12208
35552  0075615  OSTER1  LDA OSOT1+3 3       MAKE SURE DONE               12209
35553  2514002          BZE                                              12210
35554  2615552          BRU *-2                                          12211
35555  0075621          LDA OSOT2+3 3                                    12212
35556  2514002          BZE                                              12213
35557  2615555          BRU *-2                                          12214
35560  0620231          LDX OTMP2   1       ALL DONE SO GET OUT          12215
35561  2620001          BRU 1       1                                    12216
                                                                         12217
35562  0035552  ODTER1  DEC OSTER1                                       12218
                                                                         12219
                                    ENTER TO RETURN TO USERS PROGRAM     12220
                                                                         12221
35563  0075605  OSORE   LDA OSOR    3       RETURN ADDRESS               12222
35564  0300230          STA ODRET2                                       12223
35565  0620230          LDX ODRET2  1                                    12224
35566  2620000          BRU 0       1       GET BACK                     12225
                                                                         12226
                                    FLIP FLOS CONSTANTS                  12227
                                                                         12228
35570  0035000  OSOBP   DEC OSBU1                                        12229
35571  0035156          DEC OSBU2                                        12230
35572  0000000  OSOBW   DEC 0               NUMBER OF WORDS IN USE IN BUFFER  12231
35574  0000000  OSOBL   DEC 0               USERS PARAMETER LIST         12232
```

BATCH PART 3 - SYSOUT

```
35575  0000000          DEC 0                                                  12233
35576  0000000          DEC 0                                                  12234
35577  0000000  OSOBW1  DEC 0          WORDS TO WRITE                         12235
35600  0000000  OSOBW2  DEC 0          USED IF OVERFLOW                       12236
35602  0035612  OSOTP   DEC OSOT1      NEXT TAPE LIST TO USE                  12237
35603  0035616          DEC OSOT2                                             12238
  35604        OSOP    BSS 1          POINTER TO USERS INFO                  12239
  35605        OSOR    BSS 1          RETURN ADDRESS                         12240
35606  0000021  OSYET   OCT 21                                                12241
35607  0000156  OD110   DEC 110                                               12242
35610  0000154  OD108   DEC 108                                               12243
35611  3777600  OMW     OCT 3777600                                           12244
35612  2500120  OSOT1   SEL 1          DUMMY PARAMETER LIST ACTUAL PARAMETERS ARE 12245
35613  0320000          Z03 0      1                                          12246
35614  3000000          Z30 0                                                 12247
35615  0000001          DEC 1          INITIALIZE FLAG TO 1                   12248
35616  2500120  OSOT2   SEL 1          DUMMY PARAMETERS                       12249
35617  0320000          Z03 0      1                                          12250
35620  3000000          Z30 0                                                 12251
35621  0000001          DEC 1                                                 12252
                                                                             12253
                                 NEW S/O TG 19                               12254
35622  0452566  OSOTY   ALF NEW                                              12255
35623  0606261          ALF  S/                                               12256
35624  0466063          ALF O T                                               12257
35625  0276001          ALF G 1                                               12258
35626  0113755          OCT 113755                                            12259
                                                                             12260
                                                                           STL12261
                                                                           EJT12262
```

BATCH PART 3 - TRAP SAVE

```
                                                  SAVE TRAP CONDITIONS                                    12263
                                                                                                          12264
 35627  1720231   OTRAP  STX OTMP2    1              SAVE ENTRANCE                                       12265
 35630  1074670          DLD OMOVT1   3              SAVE TRAP LOCATIONS                                 12266
 35631  2400205          MOV ITRAP-1                                                                     12267
 35632  0300176          STA XR312                   INITIALIZE REGISTER TO 0                            12268
 35633  0000203          LDA Z2+1                    GET 8K BIT                                          12269
 35634  0300213          STA TX2+1                   PUT IN FOR TRAP                                     12270
 35635  0300177          STA XR312+1                                                                     12271
 35636  0074677          LDA .OTRS.   3                                                                  12272
 35637  0300212          STA TX2                     BRANCH FOR SIMULTANEOUS INTERRUPTS                  12273
 35640  0074676          LDA .OTRS)   3              BUT YOU HAVE TO GET THERE FIRST                     12274
 35641  0300205          STA ITRAP-1                                                                     12275
 35642  0300206          STA ITRAP                                                                       12276
 35643  0300207          STA ITRAP+1                                                                     12277
                                                  NOW SEE HOW FOULED UP TRAP IS                           12278
                                                                                                          12279
                                                  SAVE HOLD INDICATORS                                    12280
 35644  2504002          LDZ                         ZERO IF NONE                                        12281
 35645  2514725          BAR BOO      7                                                                  12282
 35646  2504022          LDO                         OVERLFOW HOLD ON                                    12283
 35647  2514726          BAR BUO      7                                                                  12284
 35650  0077641          LDA OTWO     3              UNDERFLOW HOLD ON                                   12285
 35651  2514730          BAR BDC      7                                                                  12286
 35652  0077626          LDA OTHREE   3              DIVIDE CHECK ON                                     12287
 35653  0100203          ADD Z2+1                    SET UPPER 8K BIT                                    12288
 35654  0374675          STA OTMIFL   3              TRAP INDICATOR FLAG                                 12289
                                                                                                          12290
 35655  2506773          SXG 31                      GET INTO GROUP AWAY FROM PUNCH                      12291
 35656  2506015          SET PST                     GET OUT OF API                                      12292
 35657  2506016          SET PBK                                                                         12293
 35660  2675661          BRU *+1      3              IF SIMULTANEOUS TRAP, THEN PROGRAM                  12294
 35661  0755662          SPB *+1      2              WILL GO TO OTRS, ELSE HERE                          12295
 35662  0000176          LDA XR312                   SEE IF IN TRAP PROGRAM                              12296
 35663  2516002          BNZ                                                                             12297
 35664  2615710          BRU OTRCHK                  NOT IN TRAP PROGRAM, BUT SEE IF IT IS SET           12298
                                                                                                          12299
                                                  OTEX SETS A FLAG AS FOLLOWS                             12300
                                                     0) IN TRAP PROGRAM                                   12301
                                                     1) TRAP MODE SET                                     12302
                                                     2) TRAP MODE NOT SET                                 12303
                                                                                                          12304
 35665  0100203   OBTEX  ADD Z2+1                                                                        12305
 35666  0374674          STA OTRFL    3              TRAP FLAG FOR RESTORE                               12306
 35667  3500004          RIN                         DO NOT FOUL ANYONE ELSE                             12307
 35670  3100001          SET TRPMODE                                                                     12308
 35671  3200001          SET NTPMODE                                                                     12309
 35672  2675673          BRU *+1      3              GET OUT OF TRAP PROGRAM IF IN ONE                   12310
                                                  HAVE TO GET BACK INTO API                               12311
 35673  0000231          LDA OTMP2                   SO SET UP RETURN                                    12312
 35674  0300202          STA Z2                                                                          12313
```

BATCH PART 3 - TRAP SAVE

```
35675  0075701          LDA *+4     3        BRU 1,2                          12314
35676  0300204          STA 72+2                                             12315
35677  2506015          SET PST                                              12316
35700  2506014          OCT 2506014          AND INTERRUPT TO GO THERE       12317
                                                                             12318
35701  2640001          BRU 1       2        CONSTANT FOR OBTEX              12319
                                                                             12320
                                                                             12321
35702  0076742  OTRS    LDA OARR+4  3        SIMULTANEOUS TRAP AND INTERRUPT 12322
35703  0374711          STA OSTRP+4 3        SET TRAP REGISTER 1             12323
                                     FOLLOWING WORKS BECAUSE IN LOWER MEMORY 12324
35704  0000210          LDA TX2-2            GET REGISTER 0                  12325
35705  2776742          STO OARR+4  3        SET FOR PROPER RESTORE          12326
35706  2504002          LD7                                                  12327
35707  2615665          BRU OBTEX                                            12328
                                                                             12329
35710  0074700  OTRCHK  LDA .OTRI.  3        SEE IF TRAP SET                 12330
35711  0300207          STA ITRAP+1          IF SET, A BRANCH TO OTRI WILL OCCUR 12331
35712  3500010          SET FIXPOINT         MAKE SURE FDV WILL TRAP         12332
35713  3674666          FDV OZERO   3                                        12333
35714  0077641          LDA OTWO    3                                        12334
35715  2615665          BRU OBTEX                                            12335
                                                                             12336
35716  2504022  OTRI    LDO                                                  12337
35717  2615665          BRU OBTEX                                            12338
                                                                             12339
                                                                            STL12340
                                                                            EJT12341
```

BATCH PART 3 - OVERLAY CALL AND TERMINAL EXIT

```
                                                    OVERLAY CALLING ENTRANCE - CODE IS          12342
                                                4 IN A REGISTER, AND SPB MUST BE FOLLOWED       12343
                                                BY A 4 WORD ALPHABETIC NAME FOR THE OVERLAY     12344
                                                DESIRED.  THE ROUTINE DESTROYS INDEX GROUPS     12345
                                                1 AND 2 AD THE T ARRAY IN THE USERS PROGRAM     12346
 35720  1420001  OOVR   INX 1       1              GET POINTER TO LIST                          12347
 35721  1720230         STX ODRET2  1                                                           12348
 35722  0000230         LDA ODRET2                                                              12349
 35723  2506013         SXG 0                                                                   12350
 35724  0660203         LDX Z2+1    3                                                           12351
 35725  0375744         STA OOVRP   3              STORE IN POINTER                             12352
 35726  0735546         SPB OSOTER  1              TERMINATE SYSOUT BUFFER                      12353
 35727  0077641         LDA OTWO    3              DSIK OPERATION                               12354
 35730  0737001         SPB EXEC    1                                                           12355
 35731  0035740         DEC OVLST2                                                              12356
 35732  0075743         LDA OVLST2+33                                                           12357
 35733  2514002         BZE                                                                     12358
 35734  2615732         BRU *-2                                                                 12359
 35735  2516000         BEV                        WAIT TILL GET A ONE                          12360
 35736  2615727         BRU *-7                                                                 12361
 35737  2615400         BRU OVSC                   GO TO OVERLAY SCAN                           12362
 35740  1200007  OVLST2 Z12 7                      7 RECORDS                                    12363
 35741  0035000         OCT 35000                                                               12364
 35742  0000000         OCT 0                      FROM                                         12365
 35743  0000000         DEC 0                                                                   12366
                                                                                                12367
          35744  OOVRP  BSS 1                                                                   12368
                                                                                                12369
                                                TERMINAL EXIT                                   12370
 35745  0735546  OTERM  SPB OSOTER  1              TERMINATE SYSOUT BUFFER                      12371
 35746  0077641         LDA OTWO    3              SET JOB DONE CODE INTO API ENTRANCE FLAG     12372
 35747  0377646         STA OTYPF   3                                                           12373
 35750  2504102         LMO                                                                     12374
 35751  0301000         STA I01                    HAVE FRONT                                   12375
 35752  2506014         OCT 2506014                SET PRQ                                      12376
 35753  2615752         BRU *-1                    JUST IN CASE GET A RETURN                    12377
                                                                                                12378
                                                RESTORE FOR OBA3                                12379
          06000         LOC 6000                                                                12380
 06000  0660337  OBA3M  LDX 8K      3                                                           12381
 06001  0002002         LDA OBA4+2                                                              12382
 06002  0375742         STA OVLST2+23              INITIALIZE DISK ADDRESS                      12383
 06003  1006032         DLD OBA3M1                                                              12384
 06004  2434600         MOV ORTRAP                 GET TRAP ROUTINE WITH OVERLAY                12385
 06005  2606010         BRU *+3                                                                 12386
 06006  0037000         DEC EXECOV                                                              12387
 06007  3777000         DEC -512                                                                12388
 06010  1006006         DLD *-2                                                                 12389
 06011  2435000         MOV OVCAT                  MOVE TO 37000                                12390
                                                READ EXEC BACK IN                               12391
 06012  2516020         BCS BRN     0                                                           12392
```

BATCH PART 3 - OVERLAY CALL AND TERMINAL EXIT

```
06013  2606012          BRU *-1                                          12393
06014  2500020          SEL 0                                            12394
06015  2510000          PRF          0                                   12395
06016  0002554          OCT 2554                 0 5 54                  12396
06017  2516020          BCS BRN      0                                   12397
06020  2606017          BRU *-1                                          12398
06021  2500020          SEL 0                                            12399
06022  1210012          RRF 10       0                                   12400
06023  0034000              ORTRAP                                       12401
06024  2516020          BCS BRN      0                                   12402
06025  2606024          BRU *-1                                          12403
06026  2514027          BCS BFR      0                                   12404
06027  2606014          BRU *-11                                         12405
06030  2601574          BRU LOVWRT               NOW WRITE ON THE DISK   12406
                                                                         12407
06032  0035000  OBA3M1  DEC OSRV1                                        12408
06033  3777600          DEC -128                                        12409
                                                                         12410
T06000                  TCD OBA3M                                       12411
                                                                         12412
                                                                       STL12413
                                                                       EJT12414
```

BATCH PART 4 - OVERLAY SCAN

```
                                                                                12415
          01670          ORG PERNUM                                             12416
01670     0000046        DEC 38                                                 12417
01671     0002000        DEC OBA4                                               12418
          35000          LOC 35000                                              12419
                                                                                12420
          35000  OVCAT   BSS 256              SPACE TO READ IN CATALOG          12421
                                                                                12422
                                              OVERLAY LENGTHS ARE CRITICAL.     12423
                                              OBA4 CAN ONLY BE 7 RECORDS LONG BECAUSE IT IS  12424
                                              CALLED FROM THE LAST RECORD OF OBA3.  ALSO TH  12425
                                              DISK IMAGE LOADER CAN ONLY BE 6 RECORDS LONG   12426
                                              BECAUSE IT IS CALLED FROM THE 35600 PART OF T  12427
                                              THIS OVERLAY.                     12428
                                                                                12429
                                              START OF SCAN FOR OVERLAY         12430
                                              EXECUTED IN GROUP ZERO            12431
                                                                                12432
35400  0075744  OVSC    LDA OOVRP    3                                         12433
35401  0177637          ADD OMOP     3          MOVE                           12434
35402  0375404          STA *+2      3                                         12435
35403  1075636          DLD OCOV     3          MOVE TO OVCT ARRAY             12436
35404  2435404          MOV *                                                  12437
35405  0075520          LDA OCATA    3                                         12438
35406  0177641          ADD OTWO     3                                         12439
35407  0375516          STA OVLST1+23            DISK ADDRESS                  12440
35410  0077641  OVS1.1  LDA OTWO     3                                         12441
35411  0737001          SPB EXEC     1                                         12442
35412  0035514          DEC OVLST1               POINTER TO PARAMETERS         12443
35413  0075517          LDA OVLST1+33                                          12444
35414  2514002          BZE                                                    12445
35415  2615413          BRU *-2                  WAIT TILL DONE                12446
35416  2516000          REV                                                    12447
35417  2615410          BRU *-7                                                12448
35420  0640203          LDX Z2+1     2                                         12449
35421  1055000  OVS1.2  DLD OVCAT    2          SCAN CATALOG                   12450
35422  2514002          BZE                                                    12451
35423  2615503          BRU OPUNT                NOT IN CATALOG TERMINAL EXIT  12452
35424  2275626          DCR OVCT     3          CHECK FIRST TWO WORDS          12453
35425  2615427          BRU *+2                                                12454
35426  2615433          BRU OVSC2                CHECK NEXT 2                  12455
35427  1440010  OVS1.3  INX 8        2                                         12456
35430  0557400          BXH 256      2          SEE IF DONE WITH RECORD        12457
35431  2615456          BRU OVSC3                GET NEXT ONE                  12458
35432  2615421          BRU OVS1.2               LOOK AT NEXT RE ORD           12459
35433  1055002  OVSC2   DLD OVCAT+2  2                                         12460
35434  2514001          RMI                                                    12461
35435  2615442          BRU *+5                  MINUS SO JUST CHECK FIRST TWO 12462
35436  2275630          DCR OVCT+2   3          CHECK SECOND TWO               12463
35437  2615427          BRU OVS1.3               NO MATCH                      12464
35440  2615442          BRU *+2                                                12465
```

BATCH PART 4 - OVERLAY SCAN

```
35441  2615427          BRU OVS1.3                                          12466
35442  1455004          INX OVCAT+4 2                                       12467
35443  0040000          LDA 0       2                                       12468
35444  0300001          STA 1                                               12469
35445  2635446          BRU *+1     1                                       12470
35446  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12471
35447  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12472
35450  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12473
35451  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12474
35452  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12475
35453  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12476
35454  2615503          BRU OPUNT           NOT ALLOWED FROM OVERLAY CALL   12477
35455  2615462          BRU OVSC4                                           12478
35456  0075516  OVSC3   LDA OVLST1+23       GET NEXT 4 CATALOG RECORDS      12479
35457  0175511          ADD OV8     3                                       12480
35460  0375516          STA OVLST1+23                                       12481
35461  2615410          BRU OVS1.1          AND READ IT IN                  12482
                                                                            12483
                                        GETS CORRECT LOADER FOR SYSTEM      12484
35462  0000002  OVSC4   LDA 2                                               12485
35463  2504032          ADO                                                 12486
35464  0177637          ADD OMOP    3       MOVE TO T ARRAY                 12487
35465  0375467          STA *+2     3                                       12488
35466  1075512          DLD OCOV1   3                                       12489
35467  2435467          MOV *                                               12490
                                        GO TO OBA TO GET LOADER AND SYSTEM  12491
                                        FUDGE API ENETRANCE                 12492
35470  2506016          SET PBK                                             12493
35471  0000204          LDA Z2+2                                            12494
35472  0300200          STA Z0                                              12495
35473  0075521          LDA OVAPI   3       FUDGE API BRANCH                12496
35474  0300204          STA Z2+2                                            12497
35475  2506014          OCT 2506014         SET PRQ                         12498
35476  2506015          SET PST                                             12499
35477  2504012          NOP                                                 12500
35500  0000200  OVSC5   LDA Z0                                              12501
35501  0300204          STA Z2+2            RESTORE OLD API BRANCH          12502
35502  2615600          BRU ORUNF2          GET LOADER                      12503
                                                                            12504
                                        SOMEONE GOOFED, TERMINAL EXIT       12505
35503  2504022  OPUNT   LDO                                                 12506
35504  0301000          STA I01             LOOK FOR BACK CARD              12507
35505  0077641          LDA OTWO    3       SET UP TERMINAL EXIT            12508
35506  0377646          STA OTYPF   3                                       12509
35507  2506014          OCT 2506014         INTERRUPT                       12510
35510  2615507          BRU *-1                                             12511
                                                                            12512
35511  0000010  OV8     DEC 8                                               12513
35512  0035632  OCOV1   DEC OVCT+4                                          12514
35513  3777775          DEC -3                                              12515
         35514  OVLST1  BSS 0                                               12516
```

BATCH PART 4 - OVERLAY SCAN

```
35514  1200004          Z12 4                    READ 4 RECORDS                    12517
35515  0035000          OCT 35000                INTO 35000                        12518
35516  0000000          OCT 0                    DISK ADDRESS                      12519
35517  0000000          DEC 0                    FLAG                              12520
35520  0000000  OCATA   OCT 0                    ADDRESS OF CATALOG - FILLED IN IN LOAD 12521
35521  2675500  OVAPI   BRU OVSC5   3                                              12522
                                                                                   12523
                                     THIS READS IN THE OVERLAY AFTER IT HAS BEEN   12524
                                     FOUND IN THE CATALOG. IT IS ALMOST THE SAME   12525
                                     AS ORUNF.                                     12526
                                                                                   12527
   35600         LOC 35600                      GET OUT OF THE WAY OF THE LOADER  12528
35600  0075632  ORUNF2 LDA OVCT+4   3           GET POINTER TO TYPE OF DISK LOADER 12529
35601  0300201         STA Z1                                                      12530
35602  0757325         SPB ODASK   2           GET THE DISK                      12531
35603  0037647         LDA ODAD    1           PICK UP                           12532
35604  0375612         STA *+6     3           LOADER ADDRESS                    12533
35605  0037650         LDA ODAD+1  1           AND SET IN PARAMETER LIST         12534
35606  0375613         STA *+5     3                                             12535
35607  0037651         LDA ODAD+2  1                                             12536
35610  0375614         STA *+4     3                                             12537
35611  0757226  ORUNF3 SPB ODOP    2                                             12538
35612  0000000         DEC -                                                     12539
35613  0000000         DEC -                                                     12540
35614  0000000         DEC -                                                     12541
35615  0757333         SPB ORELIN  2           RELINQUISH - READ NEXT MAY BE FROM TAPE 12542
35616  2506013         SXG 0                   SET GROUP ZERO FOR LOADER ENTRANCE 12543
35617  0075636         LDA OCOV    3           PICK UP POINTER TO PARAMETER LIST 12544
35620  0300002         STA 2                   AND PUT IT WHERE LOADER CAN GET IT. 12545
35621  0075613         LDA ORUNF3+23           GIVES ADDRESS FROM DISK READ      12546
35622  0300201         STA Z1                                                    12547
35623  2506015         SET PST                 EXIT API MODE                     12548
35624  2620000         BRU 0       1           AND EXIT TO LOADER.               12549
                                                                                 12550
   35626  OVCT    BSS 7                        T ARRAY FOR OVERLAY CALLS         12551
                                                                                 12552
35636  0035626  OCOV    DEC OVCT                                                 12553
35637  3777774         DEC -4                                                   12554
                                                                                 12555
   37001  EXEC    EQU 37001                                                     12556
                                                                                 12557
                                     RESTORE ROUTINE FOR OBA4                    12558
                                                                                 12559
   06000         LOC 6000                                                      12560
06000  0660337  OBA4M  LDX BK      3                                           12561
06001  0000525         LDA OCAT+2                                              12562
06002  0375520         STA OCATA   3           INITIALIZE DISK ADDRESS         12563
06003  2504002         LDZ                     ZERO BUFFER AREA                12564
06004  0375000         STA OVCAT   3                                           12565
06005  2606010         BRU *+3                                                 12566
06006  0035001         DEC OVCAT+1                                             12567
```

BATCH PART 4 - OVERLAY SCAN

```
06007  3777401          DEC -255                                          12568
06010  1006006          DLD *-2                                           12569
06011  2435000          MOV OVCAT                                         12570
06012  2504012          NOP                                               12571
06013  2606016          BRU *+3                                           12572
06014  0037000          DEC EXECOV                                        12573
06015  3777000          DEC -512                                          12574
06016  1006014          DLD *-2                                           12575
06017  2435000          MOV OVCAT          MOVE TO 37000                  12576
                                       READ EXEC BACK IN                 12577
06020  2516020          BCS BRN     0                                     12578
06021  2606020          BRU *-1                                           12579
06022  2500020          SEL 0                                             12580
06023  2510000          PRF         0                                     12581
06024  0002560          OCT 2560           ADDRESS  0  5  56              12582
06025  2516020          BCS BRN     0                                     12583
06026  2606025          BRU *-1                                           12584
06027  2500020          SEL 0                                             12585
06030  1210010          RRF 8       0                                     12586
06031  0035000              OVCAT                                         12587
06032  2516020          BCS BRN     0                                     12588
06033  2606032          BRU *-1                                           12589
06034  2514027          BCS BER     0                                     12590
06035  2606022          BRU *-11                                          12591
06036  2601574          BRU LOVWRT         NOW WRITE OVERLAY ON THE DISK  12592
                                                                         12593
T06000                  TCD ORA4M                                         12594
                                                                         12595
                                                                        STL12596
                                                                        EJT12597
```

BACKGROUND CARD CATALOG

```
                01670           ORG PERNUM                                  12598
01670           0000050         DEC 40                                      12599
01671           0000523         DEC OCAT                                    12600
                                                                            12601
                                                                            12602
                37000           ORG EXECOV                                  12603
                                                                            12604
                                        DISK ADDRESSES AVAILABLE FOR SYSTEMS 12605
37000           0040000         OCT 40000                                   12606
37001           0000000         OCT 0                                       12607
37002           0040400         OCT 40400                                   12608
37003           0000000         OCT 0                                       12609
37004           0041000         OCT 41000                                   12610
37005           0000000         OCT 0                                       12611
37006           0041400         OCT 41400                                   12612
37007           0000000         OCT 0                                       12613
37010           0042000         OCT 42000                                   12614
37011           0000000         OCT 0                                       12615
37012           0042400         OCT 42400                                   12616
37013           0000000         OCT 0                                       12617
37014           0043000         OCT 43000                                   12618
37015           0000000         OCT 0                                       12619
37016           0043400         OCT 43400                                   12620
37017           0000000         OCT 0                                       12621
37020           0044000         OCT 44000                                   12622
37021           0000000         OCT 0                                       12623
37022           0044400         OCT 44400                                   12624
37023           0000000         OCT 0                                       12625
37024           0045000         OCT 45000                                   12626
37025           0000000         OCT 0                                       12627
37026           0045400         OCT 45400                                   12628
37027           0000000         OCT 0                                       12629
37030           0046000         OCT 46000                                   12630
37031           0000000         OCT 0                                       12631
37032           0046400         OCT 46400                                   12632
37033           0000000         OCT 0                                       12633
37034           0047000         OCT 47000                                   12634
37035           0000000         OCT 0                                       12635
37036           0047400         OCT 47400                                   12636
37037           0000000         OCT 0                                       12637
37040           0050000         OCT 50000                                   12638
37041           0000000         OCT 0                                       12639
37042           0050400         OCT 50400                                   12640
37043           0000000         OCT 0                                       12641
37044           0051000         OCT 51000                                   12642
37045           0000000         OCT 0                                       12643
37046           0051400         OCT 51400                                   12644
37047           0000000         OCT 0                                       12645
37050           3777777         DEC -1                                      12646
                                                                            12647
                                CATALOG OF CARD TYPES ----------            12648
```

BACKGROUND CARD CATALOG

```
                                                                                12649
                                    EACH ENTRY TO THE CATALOG IS 8 WORDS LONG.  12650
                                    THE FIRST 4 WORDS CONSIST OF THE ALPHANUMERIC 12651
                                    SYSTEM NAME, WOTH BLANKS REPLACED BY ZEROES. 12652
                                       THE FIFTH WORD IS A TRANSFER TO THE      12653
                                    EXECUTIVE SUBROUTINE WHICH PROCESSES THIS   12654
                                    TYPE OF CARD.                               12655
                                         THE REST OF THE INFORMATION IS PECULIAR 12656
                                    TO THE TYPE OF CARD THE ENTRY CORRESPONDS TO 12657
                                    AND MAY CONSIST OF DISK ADDRESS, LOADER NAMES 12658
                                    ETC.,ETC.                                   12659
                                    THE CATALOG SEARCH IS TERMINATED UPON FINDING 12660
                                    A 0 ENTRY, OR WRAPPING AROUND MEMORY.       12661
                                                                                12662
                                    THE FIFTH WORD OF EACH CATALOG ENTRY IS USED 12663
                                    FOR AN INDEXED BRANCH AS FOLLOWS.           12664
                                                                                12665
                                    BRACK  20001                                12666
                                    BINT2  20002                                12667
                                    BINT   20003                                12668
                                    BTYPE  20004                                12669
                                    BRWND  20005                                12670
                                    BSLEW  20006                                12671
                                    BEXT   20007                                12672
                                                                                12673
          37100          ORG EXCV+64                                           12674
                                                                                12675
37100  0222123          ALF BAC          BACK CARD                             12676
37101  0420000          ALF K00                                                12677
37102  0000000          ALF 000                                                12678
37103  0000000          ALF 000                                                12679
37104  0020001          OCT 20001                                              12680
37105  0000000          DEC 0                                                  12681
37106  0000000          DEC 0                                                  12682
37107  0000000          DEC 0                                                  12683
                                                                                12684
37110  0433162          ALF LIS          LIST DECK                             12685
37111  0632425          ALF TDE                                                12686
37112  0234200          ALF CK0                                                12687
37113  0000000          ALF 000                                                12688
37114  0020002          OCT 20002                                              12689
37115  0456237          OCT 456237       N,S,CR - INDICATES TO C/P OVERLAY, NO TRANS. 12690
37116  0236147          ALF C/P                                                12691
37117  0000000          DEC 0                                                  12692
                                                                                12693
37120  0433162          ALF LIS          LIST DECK T  (TRANSLATED)             12694
37121  0632425          ALF TDE                                                12695
37122  0234263          ALF CKT                                                12696
37123  0000000          ALF 000                                                12697
37124  0020002          OCT 20002                                              12698
37125  0636237          OCT 636237       T,S,CR                                12699
```

BACKGROUND CARD CATALOG

```
37126  0236147          ALF C/P                                    12700
37127  0000000          DEC 0                                      12701
                                                                   12702
37130  0433162          ALF LIS     LIST GAP ASSEMBLY              12703
37131  0632721          ALF TGA                                    12704
37132  0472162          ALF PAS                                    12705
37133  0622544          ALF SEM                                    12706
37134  0020003          OCT 20003                                  12707
37135  0276147          ALF G/P                                    12708
37136  0000000          DEC 0                                      12709
37137  0000000          DEC 0                                      12710
                                                                   12711
37140  0512547          ALF REP     REPRODUCE                      12712
37141  0514624          ALF ROD                                    12713
37142  0642325          ALF UCE                                    12714
37143  0000000          ALF 000                                    12715
37144  0020003          OCT 20003                                  12716
37145  0236123          ALF C/C                                    12717
37146  0000000          DEC 0                                      12718
37147  0000000          DEC 0                                      12719
                                                                   12720
37150  0232151          ALF CAR     CARD TO TAPE                   12721
37151  0246346          ALF OTO                                    12722
37152  0632147          ALF TAP                                    12723
37153  0250000          ALF E00                                    12724
37154  0020002          OCT 20002                                  12725
37155  0370000          OCT 370000  CR                             12726
37156  0236163          ALF C/T                                    12727
37157  0000000          DEC 0                                      12728
                                                                   12729
37160  0637047          ALF TYP     TYPE AND HALT                  12730
37161  0252145          ALF EAN                                    12731
37162  0243021          ALF DHA                                    12732
37163  0436300          ALF LTO                                    12733
37164  0020004          OCT 20004                                  12734
37165  0000000          DEC 0                                      12735
37166  0000000          DEC 0                                      12736
37167  0000000          DEC 0                                      12737
                                                                   12738
37170  0637047          ALF TYP     TYPE NO HALT                   12739
37171  0254546          ALF ENO                                    12740
37172  0302143          ALF HAL                                    12741
37173  0630000          ALF T00                                    12742
37174  0020004          OCT 20004                                  12743
37175  3777777          DEC -1                                     12744
37176  0000000          DEC 0                                      12745
37177  0000000          DEC 0                                      12746
                                                                   12747
37200  0637047          ALF TYP     TYPE                           12748
37201  0250000          ALF E00                                    12749
37202  0000000          ALF 000                                    12750
```

BACKGROUND CARD CATALOG

```
37203  0000000          ALF 000                                          12751
37204  0020004          OCT 20004                                        12752
37205  0000000          DEC 0                                            12753
37206  0000000          DEC 0                                            12754
37207  0000000          DEC 0                                            12755
                                                                         12756
37210  0512566          ALF REW          REWIND I  [TAPE NUMBER]         12757
37211  0314524          ALF IND                                          12758
37212  3777777          DEC -1           STOP SCAN HERE                  12759
37213  0000000          ALF 000                                          12760
37214  0020005          OCT 20005                                        12761
37215  0000000          DEC 0                                            12762
37216  0000000          DEC 0                                            12763
37217  0000000          DEC 0                                            12764
                                                                         12765
37220  0624325          ALF SLE          SLEW                            12766
37221  0660000          ALF W00                                          12767
37222  0000000          ALF 000                                          12768
37223  0000000          ALF 000                                          12769
37224  0020006          OCT 20006                                        12770
37225  0000000          DEC 0                                            12771
37226  0000000          DEC 0                                            12772
37227  0000000          DEC 0                                            12773
                                                                         12774
37230  0223145          ALF BIN          BINARY                          12775
37231  0215170          ALF ARY                                          12776
37232  0000000          ALF 000                                          12777
37233  0000000          ALF 000                                          12778
37234  0020007          OCT 20007                                        12779
37235  0020014          OCT 20014                                        12780
37236  0032030          OCT 32030                                        12781
37237  0000000          DEC 0                                            12782
                                                                         12783
37240  0000000          DEC 0            END OF CATALOG MARKER           12784
                                                                         12785
                                                                         12786
         06000          LOC 6000                                         12787
06000  0741274  BCATM   SPB $ERTYP  2    TELL THEM CATALOG HAS BEEN LOADED 12788
06001  0006003          DEC *+2                                          12789
06002  2601574          BRU LOVWRT       AND THEN PROCEDE WITH LOAD      12790
06003  0373777          OCT 373777                                       12791
06004  0222163          ALF BAT                                          12792
06005  0233060          ALF CH                                           12793
06006  0232163          ALF CAT                                          12794
06007  0434627          ALF LOG                                          12795
06010  0604346          ALF  LO                                          12796
06011  0212460          ALF AD                                           12797
06012  0234644          ALF COM                                          12798
06013  0474325          ALF PLE                                          12799
06014  0632533          ALF TE.                                          12800
06015  0375577          OCT 375577                                       12801
```

BACKGROUND CARD CATALOG

```
T06000                  TCD BCATM                                       12802
                                                                        12803
                                                                        12804
T01024                  END SRES        END                             12805
```

NO ERRORS IN ABOVE ASSEMBLY