```
                 OPERATING SYSTEM =  NOS 2.8.7 871/871.   23/09/20. PRINTED = 24/05/29. 17.41.46.

                 UJN          =  6DE871      FAMILY    = CYBER         JOB ORIGIN    = INTERACTIVE.
                 CREATING JSN =  AACY        USER NAME = INSTALL       SERVICE CLASS = INTERACTIVE.





    AAAAAAAAAA    AAAAAAAAAA    AAAAAAAAAA   IIIIIIIIIIII   AAAAAAAAAA    AAAAAAAAAA   DDDDDDDDDD     AAAAAAAAAA
   AAAAAAAAAAAA  AAAAAAAAAAAA  AAAAAAAAAAAA  IIIIIIIIIIII  AAAAAAAAAAAA  AAAAAAAAAAAA  DDDDDDDDDDD   AAAAAAAAAAAA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AAAAAAAAAAAA  AAAAAAAAAAAA  AAAAAAAAAAAA       II       AAAAAAAAAAAA  AAAAAAAAAAAA  DD        DD  AAAAAAAAAAAA
   AAAAAAAAAAAA  AAAAAAAAAAAA  AAAAAAAAAAAA       II       AAAAAAAAAAAA  AAAAAAAAAAAA  DD        DD  AAAAAAAAAAAA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA       II       AA        AA  AA        AA  DD        DD  AA        AA
   AA        AA  AA        AA  AA        AA  IIIIIIIIIIII  AA        AA  AA        AA  DDDDDDDDDDD   AA        AA
   AA        AA  AA        AA  AA        AA  IIIIIIIIIIII  AA        AA  AA        AA  DDDDDDDDDD    AA        AA


MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM
WMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMW
MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM
WMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMW
MWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWMWM
```

```
MODIFY INPUT.
MODIFY,L=LIST.


    1   *EDIT 6DE
```

DECK - COPYRT

COPYRT MODIFIERS.

NS2796

4 ACTIVE LINE(S). 1 INACTIVE LINE(S). 1 INSERTED LINE(S).

6DE MODIFIERS.

NS2352 251L664 NS2446 253L688 NS2723 NS2741 281L803

```
*CALL     COMPMAC                                                  6DE        100
*CALL     COMSCPS                                                  6DE        101
*CALL     COMSDFS                                                  6DE        102
*CALL     COMSMSP                                                  6DE        103
*CALL     COMSPIM                                                  6DE        104
```

458 ACTIVE LINE(S). 151 INACTIVE LINE(S). 122 INSERTED LINE(S).

DECKS ON PROGRAM LIBRARY.

COPYRT	COMCSFN	COMPC2D	COMPVID	COMSWEI	0ST	IHFU	TDUMP	COMFXFO	COMXSEB	EORSS15	SUBMT
CETEXT	COMCSKW	COMPDDT	COMPVLC	COMSZOL	0VJ	INSTALL	TDUOUT	COMFXSB	COMTALT	M86FORM	TARO
ECSTEXT	COMCSNF	COMPDLI	COMPVMS	COMS0VU	0VU	ISF	TDUTAB	COMFXSC	COMTBLD	M86SERV	TERMDEF
PPTEXT	COMCSNM	COMPDTS	COMPVPA	COMS1DS	1AJ	KEY	TERMIO	COMFXWK	COMTBLP	EORSS16	TSIM
PSSTEXT	COMCSOE	COMPDVC	COMPVSP	COMS1MV	1CD	KEYEX	TRMDEF	FSEBUFF	COMTCTW	VERMSGC	TSTAT
NOSTEXT	COMCSRI	COMPDV5	COMPWBB	COMS1RM	1CK	KEYPAN	ULIB	FSECMDS	COMTDBG	EORSS17	WAIT
SSYTEXT	COMCSRT	COMPECX	COMPWCB	COMS176	1CL	KRONREF	VALEX	FSEDATA	COMTDBP	MSE	WAITINP
SYSTEXT	COMCSSN	COMPFAT	COMPWEI	COMTBAN	1DL	LDI	VALNET	FSEEDIT	COMTDEF	MSESLAV	WSTAT
CPCOM	COMCSST	COMPFLF	COMPWSS	COMTCVT	1DS	LIBEDIT	VCC	FSEEX	COMTDER	MSECONF	BTASK
PPCOM	COMCSTF	COMPGBN	COMPWVE	COMTDA8	1HY	LIBGEN	VDTSUBS	FSEFILE	COMTDFP	EORSS18	CRMTASK
COMCMAC	COMCSYS	COMPGFP	COMSACC	COMTDP6	1IO	LIBRARY	VERIFY	FSEFORM	COMTERR	SSCONTL	CTASK
COMCCMD	COMCTIO	COMPGTN	COMSATF	COMTDP9	1IS	LIDOU	VFYLIB	FSEHELP	COMTFMT	FREEDSK	ITASK
COMABZF	COMCUPC	COMPICT	COMSBIO	COMTDSP	1LC	LISTLB	VIRTERM	FSELIB	COMTLAB	DESTAGE	KDIS
COMAFET	COMCUSB	COMPIFR	COMSCIO	COMTNAP	1MA	LISTLID	MAC1	FSEMAIN	COMTLBP	EORSS19	LOGT
COMAMSS	COMCVDE	COMPIMB	COMSCPD	COMTVDT	1MB	LIST80	MAC2	FSEPROC	COMTMOV	ISHARED	MSABT
COMAPFP	COMCVDT	COMPIOU	COMSCPS	COMT6DP	1MC	LOADBC	RFORM	FSESCRN	COMTMVD	COMKMAC	OFFTASK
COMAPFS	COMCVLC	COMPIRA	COMSCVS	COMT8AD	1MD	LO72	SYMSERV	FSESUBS	COMTMVP	COMKARF	RCTASK
COMCARG	COMCVQF	COMPLDA	COMSDFS	COMT9DP	1MI	MAG	CPUREL	FSETABL	COMTOUT	COMKBRD	RTASK
COMCARM	COMCWOD	COMPLDB	COMSDFT	COMUCPD	1MS	MAGNET	APRINST	FSEWORK	COMTSIT	COMKBST	STASK
COMCBAN	COMCWTA	COMPMRA	COMSDSL	COMUEST	1MT	MFILES	CMRINST	FSTEACH	COMTUSE	COMKCBD	SYSMSG
COMCBLP	COMCWTC	COMPMRM	COMSDSP	COMUFMT	1MU	MLSEXEC	EQPINST	SMFEX	COMTUSP	COMKCBT	XTASK
COMCCCE	COMCWTH	COMPMRQ	COMSDST	COMUJCA	1MV	MODIFY	IPRINST	SMFSTAT	COMTVLD	COMKCRM	COMCCDM
COMCCDD	COMCWTO	COMPMSV	COMSEJT	COMUOUT	1PP	MODVAL	COMLBAS	SMF	COMTVLF	COMKDPB	COMCCDP
COMCCFD	COMCWTS	COMPNFL	COMSESS	COMUPRB	1RI	MSI	COMLESM	1HP	COMTVLM	COMKFIO	COMSSTM
COMCCHD	COMCWTW	COMPPDI	COMSEVT	COMUQPR	1RM	NOTE	COMLFLD	COMCLNI	COMTVLP	COMKFLD	ADC
COMCCHG	COMCZAP	COMPPPR	COMSHIO	COMUQQC	1RO	OPLEDIT	COMLIPR	IAFP	COMTVLV	COMKIPR	BAT
COMCCIO	COMCZTB	COMPRBB	COMSIOQ	CALLCPU	1SJ	PACK	COMLSCD	IAFTM	COMTVLX	COMKKIM	DCC
COMCCNS	COMDMAC	COMPRCB	COMSIOU	CALLDIS	1TA	PANEL	COMLUEM	IAFTR	CALLFAS	COMKNWC	DDF
COMCCOD	COMDDBS	COMPRCS	COMSJCE	CALLPPU	1TM	PANSUBS	COMLVER	1TN	1SS	COMKNWF	DOG
COMCCPA	COMDDCM	COMPREI	COMSJIO	CALLSYS	1TO	PDU	APRDECK	RECOVER	EORSS1	COMKOPD	DS1
COMCCPM	COMDDIS	COMPREL	COMSJRO	CALLTAB	1VP	PFAM	CMRDECK	0MF	GMSG	COMKRRD	HFM
COMCCPT	COMDDSP	COMPRFI	COMSLFD	CALLINT	1XD	PFDM	EQPDECK	1MR	SMSG	COMKSCD	MPF
COMCCUA	COMDD7S	COMPRJC	COMSLFM	CPM	1XM	PFDUMP	IPRDECK	MREC	CALPFU	COMKSTC	SMP
COMCCVI	COMDGJD	COMPRLA	COMSLSD	CVL	1XY	PFHELPR	LIBDECK	MTE	GETMST	COMKTAF	WRM
COMCCVL	COMDSYS	COMPRLI	COMSMLS	DIO	5ME	PFILES	RDFP	COMBFAS	SETQP	COMKTDM	1TS
COMCDCM	COMDTFN	COMPRLM	COMSMMF	DIS	6DC	PFLIST	SUPERM	COMBBZF	EORSS2	COMKTER	DDFILE
COMCDCP	COMFCID	COMPRLS	COMSMRT	DSD	6DD	PFLOAD	VEMEM	COMBCDD	SSOVL	COMKTIF	DEMUX
COMCDTC	COMFVD2	COMPRNS	COMSMSC	DSP	6DE	PFS	ZTDAMT0	COMBCHN	SSARG	COMKTIP	DMPCCC
COMCDXB	COMFVD3	COMPRSI	COMSMSI	ELM	6DI	PROFILE	ZTDCCLC	COMBCMD	EORSS3	COMKTLD	KEYUTIL
COMCECM	COMFXTI	COMPRSS	COMSMSP	FDL	6DP	PURGALL	ZTDCCON	COMBCMS	SSEXEC	COMKTRF	LPT
COMCECS	COMFXVT	COMPSAF	COMSMST	IMS	6DX	QDSPLAY	ZTDCERR	COMBCPR	EORSS4	COMKTRN	MST
COMCEDT	COMFPAN	COMPSCA	COMSMTR	LFM	BATCHIO	QDUMP	ZTDCVRB	COMBFET	SSSLV	COMKTSA	PACKER
COMCFCE	COMFTIO	COMPSDA	COMSMTX	MDD	BLANK	QFSP	ZTDNMT0	COMBHFC	EORSS5	COMKTSC	SCRSIM
COMCFLD	COMFVDT	COMPSDI	COMSNCD	MSM	CATALOG	QFTLIST	ZTDPCLP	COMBKDA	ACCCAT	COMKTST	STIMULA
COMCFQO	COMFVD1	COMPSDN	COMSNET	MTR	CATLIST	QGET	ZTDPERR	COMBKDD	ACCMAP	COMKZFN	TST
COMCGMS	COMPMAC	COMPSDR	COMSPDT	OSB	CHKPT	QLOAD	ZTDPFIL	COMBLBL	SSINIT	TAFPRC	DFSORT
COMCGTO	COMPACS	COMPSEI	COMSPFM	O26	CLASS	QMOVE	ZTDPTBD	COMBLRQ	EORSS6	CALLKTS	PSAMP
COMCHXB	COMPANS	COMPSES	COMSPFS	PFM	CLDT	QREC	ZTDPTBS	COMBMAP	SSALTER	KTSDMP	SECART
COMCIQP	COMPAPI	COMPSFB	COMSPFU	PFU	CODING	RECLAIM	ZTDTFIL	COMBMAT	EORSS7	LIBTASK	MSGID
COMCJCR	COMPAST	COMPSFE	COMSPIM	PPR	CONFIG	REDO	ZTDTTAB	COMBMCT	SSBLD	TAFLOG	ABC
COMCLFM	COMPCDB	COMPSFI	COMSPRD	QAC	CONTROL	RESEQ	ZTDVERB	COMBOVL	EORSS8	TAF	CHD
COMCLOD	COMPCDD	COMPSFN	COMSPRO	QAP	COPYB	RESEX	ZTDVMT0	COMBPFP	SSDEBUG	TAFREC	DEBUG
COMCMSF	COMPCEA	COMPSIC	COMSQAC	QFM	COPYC	RESTART	ZTDVPDT	COMBPFS	EORSS9	BAAML	CPD
COMCMTM	COMPCFP	COMPSMI	COMSQFS	REC	CPMEM	ROUTE	5870JDL	COMBRCD	SSDEF	DMREC	ICPD
COMCMTP	COMPCHD	COMPSNT	COMSREM	RPV	CPUMLD	SCREX	EOR1	COMBSIT	EORSS10	TARL	ACPD

COMCMVE	COMPCHI	COMPSOF	COMSRPV	SET	CPUMTR	SCTD	EOR2	COMBSNS	SSLABEL	TMSG	PROBE
COMCOVL	COMPCHL	COMPSPA	COMSRSX	SFM	CPUPFM	SDSPLAY	EOR3	COMBTDM	EORSS11	AAMI	XEDIT
COMCPFM	COMPCHM	COMPSRA	COMSSCD	SFP	CUESHEL	SECHDR	EOR4	COMBUCR	SSMOVE	AAML	XEDITH
COMCPFP	COMPCIB	COMPSRR	COMSSCP	SLL	CVLCP	SETCORE	EOR5	COMBUDT	EORSS12	BEGIN	1DA
COMCPFS	COMPCLC	COMPSRU	COMSSCR	STL	DAYFILE	SFORM	EOR6	COMXACM	SSUSE	BLDABH	0CT
COMCPFU	COMPCKP	COMPSSE	COMSSFM	TLX	DFTERM	SFS	EOR7	COMXBST	EORSS13	CALLRTN	COMCCKD
COMCPOP	COMPCLD	COMPSSF	COMSSFS	VEJ	DOCMENT	SHOW	EOR8	COMXCCB	SSVAL	CALLTRN	COMCMBS
COMCQFM	COMPCLX	COMPSTA	COMSSRT	VER	DSDI	SHOWEX	EOR9	COMXCTF	EORSS14	CALLTSK	COMPTFM
COMCQFP	COMPCMA	COMPSTI	COMSSRU	XHC	EDIT	SMFSUBS	EOR10	COMXEMC	EXDRVR	CEASE	COMSTFU
COMCRDA	COMPCMX	COMPSUD	COMSSSD	0AU	ENQUIRE	SORT	COMFDS1	COMXEXP	SXDEST	CHKON	TFM
COMCRDC	COMPCOB	COMPSUT	COMSSSE	0AV	FCOPY	STAGE	COMFDS2	COMXFCQ	SXHLR	CMDUMP	TFU
COMCRDH	COMPCPE	COMPTGB	COMSSSJ	0BF	FILES	SUBMIT	COMFFSE	COMXHLR	SXINIT	DSDUMP	TFILES
COMCRDO	COMPCRA	COMPTLB	COMSTCM	0DF	FOTD	SUBSYST	COMFMLT	COMXINT	SXKD	EXTRACT	TFSP
COMCRDS	COMPCRS	COMPTMA	COMSTDR	0DQ	GENPFD	SYMPCOD	COMFONL	COMXIPR	SXLLR	INTOT	LDISTAP
COMCRDW	COMPCSC	COMPUFT	COMSTFM	0FA	GTR	SYSEDIT	COMFSGL	COMXJCA	SXMAIN	JOURNL	GETTASV
COMCRSB	COMPCTE	COMPUPP	COMSTIO	0PT	HELPLIB	TCOMND	COMFSMF	COMXLTC	SXSERV	LIMITS	SETTASV
COMCRSP	COMPCTI	COMPUPS	COMSTIR	0QM	HOSTCPY	TDU	COMFTAB	COMXMFD	SXSTGE	LOGIN	TMSPROC
COMCRTN	COMPCUA	COMPVEI	COMSTRX	0RF	HSTCOPY	TDUEX	COMFXCM	COMXMMF	SXSLV	MULTCB	TMSPROG
COMCSCB	COMPCUT	COMPVFC	COMSVED	0RP	IAFEX	TDUFILE	COMFXED	COMXMSC	SXUCP	SEND	
COMCSFM	COMPCVI	COMPVFN	COMSVER	0RT	IEDIT	TDUIN	COMFXFL	COMXOVL	SX3UCP	SETCHT	

COMMON DECKS ON PROGRAM LIBRARY.

COPYRT	COMCGTO	COMCSYS	COMPAST	COMPIFR	COMPSIC	COMSCVS	COMSRPV	COMUEST	COMFXED	COMXHLR	COMKBST
CPCOM	COMCHXB	COMCTIO	COMPCDB	COMPIMB	COMPSMI	COMSDFS	COMSRSX	COMUFMT	COMFXFL	COMXINT	COMKCBD
PPCOM	COMCIQP	COMCUPC	COMPCDD	COMPIOU	COMPSNT	COMSDFT	COMSSCD	COMUJCA	COMFXFO	COMXIPR	COMKCBT
COMCMAC	COMCJCR	COMCUSB	COMPCEA	COMPIRA	COMPSOF	COMSDSL	COMSSCP	COMUOUT	COMFXSB	COMXJCA	COMKCRM
COMCCMD	COMCLFM	COMCVDE	COMPCFP	COMPLDA	COMPSPA	COMSDSP	COMSSCR	COMUPRB	COMFXSC	COMXLTC	COMKDPB
COMABZF	COMCLOD	COMCVDT	COMPCHD	COMPLDB	COMPSRA	COMSDST	COMSSFM	COMUQPR	COMFXWK	COMXMFD	COMKFIO
COMAFET	COMCMSF	COMCVLC	COMPCHI	COMPMRA	COMPSRR	COMSEJT	COMSSFS	COMUQQC	COMCLNI	COMXMMF	COMKFLD
COMAMSS	COMCMTM	COMCVQF	COMPCHL	COMPMRM	COMPSRU	COMSESS	COMSSRT	COMLBAS	COMBFAS	COMXMSC	COMKIPR
COMAPFP	COMCMTP	COMCWOD	COMPCHM	COMPMRQ	COMPSSE	COMSEVT	COMSSRU	COMLESM	COMBBZF	COMXOVL	COMKKIM
COMAPFS	COMCMVE	COMCWTA	COMPCIB	COMPMSV	COMPSSF	COMSHIO	COMSSSD	COMLFLD	COMBCDD	COMXSEB	COMKNWC
COMCARG	COMCOVL	COMCWTC	COMPCLC	COMPNFL	COMPSTA	COMSIOQ	COMSSSE	COMLIPR	COMBCHN	COMTALT	COMKNWF
COMCARM	COMCPFM	COMCWTH	COMPCKP	COMPPDI	COMPSTI	COMSIOU	COMSSSJ	COMLSCD	COMBCMD	COMTBLD	COMKOPD
COMCBAN	COMCPFP	COMCWTO	COMPCLD	COMPPPR	COMPSUD	COMSJCE	COMSTCM	COMLUEM	COMBCMS	COMTBLP	COMKRRD
COMCBLP	COMCPFS	COMCWTS	COMPCLX	COMPRBB	COMPSUT	COMSJIO	COMSTDR	COMLVER	COMBCPR	COMTCTW	COMKSCD
COMCCCE	COMCPFU	COMCWTW	COMPCMA	COMPRCB	COMPTGB	COMSJRO	COMSTFM	ZTDAMT0	COMBFET	COMTDBG	COMKSTC
COMCCDD	COMCPOP	COMCZAP	COMPCMX	COMPRCS	COMPTLB	COMSLFD	COMSTIO	ZTDCCLC	COMBHFC	COMTDBP	COMKTAF
COMCCFD	COMCQFM	COMCZTB	COMPCOB	COMPREI	COMPTMA	COMSLFM	COMSTIR	ZTDCCON	COMBKDA	COMTDEF	COMKTDM
COMCCHD	COMCQFP	COMDMAC	COMPCPE	COMPREL	COMPUFT	COMSLSD	COMSTRX	ZTDCERR	COMBKDD	COMTDER	COMKTER
COMCCHG	COMCRDA	COMDDBS	COMPCRA	COMPRFI	COMPUPP	COMSMLS	COMSVED	ZTDCVRB	COMBLBL	COMTDFP	COMKTIF
COMCCIO	COMCRDC	COMDDCM	COMPCRS	COMPRJC	COMPUPS	COMSMMF	COMSVER	ZTDNMT0	COMBLRQ	COMTERR	COMKTIP
COMCCNS	COMCRDH	COMDDIS	COMPCSC	COMPRLA	COMPVEI	COMSMRT	COMSWEI	ZTDPCLP	COMBMAP	COMTFMT	COMKTLD
COMCCOD	COMCRDO	COMDDSP	COMPCTE	COMPRLI	COMPVFC	COMSMSC	COMSZOL	ZTDPERR	COMBMAT	COMTLAB	COMKTRF
COMCCPA	COMCRDS	COMDD7S	COMPCTI	COMPRLM	COMPVFN	COMSMSI	COMS0VU	ZTDPFIL	COMBMCT	COMTLBP	COMKTRN
COMCCPM	COMCRDW	COMDGJD	COMPCUA	COMPRLS	COMPVID	COMSMSP	COMS1DS	ZTDPTBD	COMBOVL	COMTMOV	COMKTSA
COMCCPT	COMCRSB	COMDSYS	COMPCUT	COMPRNS	COMPVLC	COMSMST	COMS1MV	ZTDPTBS	COMBPFP	COMTMVD	COMKTSC
COMCCUA	COMCRSP	COMDTFN	COMPCVI	COMPRSI	COMPVMS	COMSMTR	COMS1RM	ZTDTFIL	COMBPFS	COMTMVP	COMKTST
COMCCVI	COMCRTN	COMFCID	COMPC2D	COMPRSS	COMPVPA	COMSMTX	COMS176	ZTDTTAB	COMBRCD	COMTOUT	COMKZFN
COMCCVL	COMCSCB	COMFVD2	COMPDDT	COMPSAF	COMPVSP	COMSNCD	COMTBAN	ZTDVERB	COMBSIT	COMTSIT	COMCCDM
COMCDCM	COMCSFM	COMFVD3	COMPDLI	COMPSCA	COMPWBB	COMSNET	COMTCVT	ZTDVMT0	COMBSNS	COMTUSE	COMCCDP
COMCDCP	COMCSFN	COMFXTI	COMPDTS	COMPSDA	COMPWCB	COMSPDT	COMTDA8	ZTDVPDT	COMBTDM	COMTUSP	COMSSTM
COMCDTC	COMCSKW	COMFXVT	COMPDVC	COMPSDI	COMPWEI	COMSPFM	COMTDP6	COMFDS1	COMBUCR	COMTVLD	COMCCKD
COMCDXB	COMCSNF	COMFPAN	COMPDV5	COMPSDN	COMPWSS	COMSPFS	COMTDP9	COMFDS2	COMBUDT	COMTVLF	COMCMBS
COMCECM	COMCSNM	COMFTIO	COMPECX	COMPSDR	COMPWVE	COMSPFU	COMTDSP	COMFFSE	COMXACM	COMTVLM	COMPTFM
COMCECS	COMCSOE	COMFVDT	COMPFAT	COMPSEI	COMSACC	COMSPIM	COMTNAP	COMFMLT	COMXBST	COMTVLP	COMSTFU

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 COMCEDT   COMCSRI   COMFVD1   COMPFLF   COMPSES   COMSATF   COMSPRD   COMTVDT   COMFONL   COMXCCB   COMTVLV
 COMCFCE   COMCSRT   COMPMAC   COMPGBN   COMPSFB   COMSBIO   COMSPRO   COMT6DP   COMFSGL   COMXCTF   COMTVLX
 COMCFLD   COMCSSN   COMPACS   COMPGFP   COMPSFE   COMSCIO   COMSQAC   COMT8AD   COMFSMF   COMXEMC   COMKMAC
 COMCFQO   COMCSST   COMPANS   COMPGTN   COMPSFI   COMSCPD   COMSQFS   COMT9DP   COMFTAB   COMXEXP   COMKARF
 COMCGMS   COMCSTF   COMPAPI   COMPICT   COMPSFN   COMSCPS   COMSREM   COMUCPD   COMFXCM   COMXFCQ   COMKBRD

DECKS WRITTEN ON COMPILE FILE.

 6DE

   103600B STORAGE USED.           4803 LINES WRITTEN ON COMPILE FILE.
```

6DE

1412THE

1

STORAGE ALLOCATION.

```
                ADDRESS   LENGTH            BINARY CONTROL CARDS.


                    527       314           IDENT  6DE,MSFW
                   1043       (52)


                ADDRESS   LENGTH            BINARY CONTROL CARDS.

                   7644       137           IDENT  7DE,7644  MASS STORAGE ERROR PROCESSOR.
                  10003       (24)          END



                                                                                                  6DE          1
                                             IDENT  6DE,MSFW                                      6DE          2
                                             PERIPH                                               6DE          3
                        D_M                  BASE   MIXED                                         6DE          4
                                             SST                                                  6DE          5
                                   COMMENT   85/07/29. 92/09/17. 6DE - *PIOM* DEVICE DRIVER.      NS2723       1
                                             COMMENT  COPYRIGHT CONTROL DATA SYSTEMS INC.  1992.   281L803     1



                                   ***       6DE - *PIOM* DEVICE DRIVER.                          NS2723       4
                                   *         G. R. MANSFIELD.  70/04/07.                          6DE         10
                                   *         W. E. GOEBEL.      78/04/29.                         6DE         11


                                   ***       *6DE* PROVIDES ACCESS TO EXTENDED MEMORY AND BUFFERED DISK   NS2723       5
                                   *         DEVICES THROUGH THE *PIOM* *CPUMTR* INTERFACE.               NS2723       6


                                   **        ENTRY CONDITIONS.                                    6DE         85
                                   *                                                              6DE         86
                                   *                                                              6DE         87
                                   *         (T5) = EST ORDINAL.                                  6DE         88
                                   *         (T6) = TRACK.                                        6DE         89
                                   *         (T7) = SECTOR.                                       6DE         90
```

```
                          **        EXIT CONDITIONS.                                                6DE         92
                          *                                                                         6DE         93
                          *                                                                         6DE         94
                          *         NONE.                                                           6DE         95




                          **        COMMON DECKS.                                                   6DE         97
                                                                                                    6DE         98
                                                                                                    6DE         99
               0                    CTEXT   COMPMAC - PP SYSTEM MACROS.                             COMPMAC      1
               0                    CTEXT   COMSCPS - CPUMTR SUBFUNCTION CODES.                       COMSCPS      1
                                                                                                  #  COMSDFS      1
               0                    CTEXT   COMSDFS - COMMON DAYFILE SYMBOL DEFINITIONS.            COMSDFS      2
                                    LIST    X                                                       NS2723       8
```

```
   0                                CTEXT  COMSMSP - MASS STORAGE PROCESSING EQUIVALENCES.        COMSMSP      1


                                                                                                                 
                          M_M            BASE   M                                                 COMSMSP      3
                                *        COMMENT  COPYRIGHT CONTROL DATA SYSTEMS INC.  1992.       281L803      1
                                ***      COMSMSP - MASS STORAGE PROCESSING EQUIVALENCES.           COMSMSP      4
                                *        R. E. TATE.        72/02/26.                              COMSMSP      5
                                *        R. J. THIELEN.     75/01/08.                              COMSMSP      6
                                *        W. E. GOEBEL.      77/01/24.                              COMSMSP      7
                                                                                                                 
                                                                                                                 
                                                                                                                 
                                **       MSEQ - DEFINES SUPPORTED MASS STORAGE EQUIPMENTS.         COMSMSP      9
                                *                                                                 COMSMSP     10
                                *        MSEQ IS A MICRO CONTAINING ALL THE CURRENTLY SUPPORTED MASS COMSMSP    11
                                *        STORAGE EQUIPMENT MNEMONICS.  THIS MICRO IS GENERATED BY  COMSMSP     12
                                *        THE *MSDC* MACRO.                                         COMSMSP     13
                                                                                                                 
                                                                                                                 
                                **       TBL - GENERATE TABLE BASED UPON PARAMETER STRING.         COMSMSP     15
                                *                                                                 COMSMSP     16
                                *        ENTRY  TBLM IS A USER SUPPLIED MACRO TO GENERATE EACH     COMSMSP     17
                                *               INDIVIDUAL TABLE ENTRY. TBLM HAS ONE PARAMETER THE COMSMSP     18
                                *               EQUIPMENT TYPE TO GENERATE THE TABLE ENTRY FOR.   COMSMSP     19
                                                                                                  COMSMSP     20
                                                                                                  COMSMSP     21
                                         PURGMAC  TBL                                             COMSMSP     22
                                TBL      MACRO  P                                                 COMSMSP     23
                                         IRP    P                                                 COMSMSP     24
                                         TBLM   P                                                 COMSMSP     25
                                         IRP    P                                                 COMSMSP     26
                                         ENDM                                                     COMSMSP     27
                                                                                                                 
                                                                                                                 
                                **       DRIVER INDEX DEFINITIONS.                                 COMSMSP     29
                                                                                                  COMSMSP     30
                                                                                                  COMSMSP     31
          0                     BEGIN    BSSN   1                                                 COMSMSP     32
     L    1                     LA6DI    BSSN   1          *6DI* DRIVER INDEX                     COMSMSP     35
     L    2                     LA6DJ    BSSN   1          *6DJ* DRIVER INDEX                     COMSMSP     36
     L    3                     LA6DP    BSSN   1          *6DP* DRIVER INDEX                     COMSMSP     37
     L    4                     LA6DE    BSSN   1          *6DE* DRIVER INDEX                     COMSMSP     38
     L    5                     LA6DX    BSSN   1          *6DX* DRIVER INDEX                     COMSMSP     39
     L    6                     LA6MX    BSSN   0          MAXIMAL DRIVER INDEX + 1               COMSMSP     40
                                                                                                  COMSMSP     43
                                                                                                  COMSMSP     44
                                                                                                                 
                                                                                                                 
                                                                                                                 
                                                                                                                 
                                                                                                                 
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**        MSDC - GENERATE MASS STORAGE DEVICE CHARACTERISTICS.          COMSMSP    46
*         THIS MACRO IS INTENDED TO SUPPLY VIRTUALLY ALL PARAMETERS     COMSMSP    47
*         ASSOCIATED WITH A MASS STORAGE DEVICE.  IN MOST PROGRAMS NO   COMSMSP    48
*         WORK SHOULD BE INVOLVED ADDING OR DELETING EQUIPMENT          COMSMSP    49
*         SUPPORT.  THIS IS THE GOAL OF SPECIFYING PARAMETERS           COMSMSP    50
*         IN THIS COMMON DECK.                                          COMSMSP    51
*                                                                       COMSMSP    52
* TY      MSDC N,S,C,P,M,T,U,F,A,D,B,F1,F2,F3,F4,F5,F6,O1,T1,O2,T2,F7,F8284L847     1
*,,F9,BC,RT,RB,NP,CP,MLI,MI,DD                                         284L847     2
*         PARAM  TAG          MEANING                                   COMSMSP    55
*         TY                  DEVICE TYPE.                              COMSMSP    56
*         N      NTTY         NUMBER OF TRACKS PER PARTITION/DEVICE.    284L847     3
*         S      SLTY         SECTOR LIMIT.                             COMSMSP    58
*         C      CTTY         DEFAULT NUMBER OF CATALOG TRACKS.         COMSMSP    59
*         P      PKTY         NUMBER OF PACKS ALLOWED PER DEVICE        COMSMSP    60
*         M      SDTY         SHARED DEVICE ALLOWED FLAG                COMSMSP    61
*         T      TTTY         FULL / HALF TRACK FLAG.                   251L670     2
*         U      NUTY         MAXIMUM UNIT NUMBER+1 ALLOWED.            COMSMSP    63
*         F      FWTY         DEFAULT FIRMWARE TYPE OF EQUIPMENT.       COMSMSP    64
*         A      LDAMTY       ALGORITHM INDEX CONTROL OR OVERRIDE.      284L847     4
*                             *LDAM* = DEVICE IS AN *LDAM* DEVICE.      284L847     5
*                AITY = AIXX  *XX* MEANS USE THE SAME ALGORITHM INDEX   284L847     6
*                             PREVIOUSLY DEFINED FOR DEVICE TYPE *XX*.  284L847     7
*         D      DRNTY        *6XX* DRIVER NAME FOR DEVICE TYPE         272L774     2
*         B      BFTY         BUFFERED DEVICE FLAGS (3 BITS)            COMSMSP    67
*                             BIT 2 = DEVICE SUPPORTS DIRECT TRANSFER.  COMSMSP    68
*                             BIT 1 = DEVICE IS BUFFERED RMS.           COMSMSP    69
*                             BIT 0 = DEVICE IS PARITY PROTECTED.       284L847     8
*                AITY         ALGORITHM INDEX GENERATED IF BFTY.NE.4    284L847     9
*                             AND IF NOT OVERRIDDEN BY PARAMETER *A*.   284L847    10
*         F1     CYUNTY       PHYSICAL CYLINDERS PER UNIT               COMSMSP    71
*         F2     PTCYTY       PHYSICAL TRACKS PER CYLINDER              COMSMSP    72
*         F3     LSPTTY       LOGICAL SECTORS PER PHYSICAL TRACK.       251L670     3
*         F4     CFSTY        CONVERSION FACTOR SHIFT COUNT;            272L774     3
*                             USED TO DETERMINE NUMBER OF -             272L774     4
*                LSPSTY       LOGICAL SECTORS PER PHYSICAL SECTOR.      251L670     6
*                PSBFTY       PHYSICAL SECTORS PER I/O BUFFER.          251L670     7
*                PSPTTY       PHYSICAL SECTORS PER PHYSICAL TRACK.      251L670     8
*                LTCYTY       LOGICAL TRACKS PER CYLINDER.              272L774     5
*                PSLTTY       PHYSICAL SECTORS PER LOGICAL TRACK.       272L774     6
*         F5     GSTY         GAP SECTORS PER LOGICAL TRACK.            251L670     9
*         F6     MCLTTY       MAINTENANCE CYLINDER LOGICAL TRACK.       251L670    10
*         O1     SOH1TY       SEEK OVERHEAD FOR SEEKS .LE. 30           253L688     2
*                             CYLINDERS (MICROSECONDS)                  253L688     3
*         T1     SC1TY        SEEKS .LE. 30 TIME PER CYLINDER           253L688     4
*                             (MICROSECONDS)                            253L688     5
*         O2     SOH2TY       SEEK OVERHEAD FOR SEEKS .GT. 30           253L688     6
*                             CYLINDERS (MICROSECONDS)                  253L688     7
*         T2     SC2TY        SEEKS .GT. 30 TIME PER CYLINDER           253L688     8
*                             (MICROSECONDS)                            253L688     9
*         F7     LCTY         FIRST SECTOR OF LABEL COPY.               253L688    10
*         F8     SPSCTY       SPARE PHYSICAL SECTORS PER CYLINDER       272L774     7
*         F9     PNUNTY       PARTITIONS PER PHYSICAL UNIT.             284L847    11
*                             USED WITH CYUNTY TO DERIVE -              284L847    12
*                CYPNTY       CYLINDERS PER PARTITION.                  284L847    13
*         BC     BCTTY        DEFAULT BUFFER COUNT FOR DEVICE.          284L847    14
*         RT     RATTY        READ-AHEAD THRESHOLD FOR DEVICE.          284L847    15
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*         RB     RBTTY       DEFAULT READ BUFFER THRESHOLD FOR DEVICE.  284L847   16
*         NP     NPPTY       NIO PP DRIVER NAME FOR DEVICE.             284L847   17
*         CP     CPPTY       CIO PP DRIVER NAME FOR DEVICE.             284L847   18
*         MLI    MLIDTY      MAINTENANCE LOG IDENTIFIER FOR DEVICE.     284L847   19
*         MI     MDLTY       MODEL NUMBER IDENTIFIER FOR DEVICE.        284L847   20
*                            (HEXADECIMAL REPRESENTATION)               284L847   21
*         DD     PDDTY       NUMBER OF PARALLEL DATA DRIVES PER DEVICE. 284L847   22
                                                                        COMSMSP   77
          PURGMAC MSDC                                                  COMSMSP   78
   MACRO  MSDC,TY,N,S,C,P,M,T,U,F,A,D,B,F1,F2,F3,F4,F5,F6,O1,T1,O2,T2,F7 253L688  11
,,F8,F9,BC,RT,RB,NP,CP,MLI,MI,DD                                       284L847   23
 MSEQ     MICRO  1,, "MSEQ"".1"TY                                      COMSMSP   80
 .1       MICRO  1,,*,*                                                COMSMSP   81
          IFC    EQ,*N**                                               COMSMSP   82
 NT_TY    EQU    TL_TY*4      NUMBER OF TRACKS IS TLTY*4               COMSMSP   83
          ELSE   1                                                     COMSMSP   84
 NT_TY    EQU    N            NUMBER OF TRACKS                         COMSMSP   85
 .1       SET    N+3                                                   COMSMSP   86
 TL_TY    EQU    .1/4                                                  COMSMSP   87
 SL_TY    EQU    S            NUMBER OF SECTORS PER TRACK              COMSMSP   88
 CT_TY    EQU    C            NUMBER OF CATALOG TRACKS                 COMSMSP   89
 PK_TY    EQU    P            PACK TYPE DEVICE FLAG                    COMSMSP   90
 SD_TY    EQU    M            SHARED DEVICE ALLOWED FLAG               COMSMSP   91
          IFC    EQ,*T*FT*                                             COMSMSP   92
 TT_TY    EQU    0            SET FULL TRACK STATUS                    COMSMSP   93
          ELSE   1                                                     COMSMSP   94
 TT_TY    EQU    1            SET HALF TRACK STATUS                    COMSMSP   95
 .A1      SET    U 0                                                   284L847   24
 NU_TY    EQU    .A1          MAXIMUM UNIT NUMBER ALLOWED              284L847   25
          IFC    EQ,*F**                                               COMSMSP  100
 FW_TY    MICRO  1,,*NNC*                                              COMSMSP  101
          ELSE   1                                                     COMSMSP  102
 FW_TY    MICRO  1,,*F*                                                COMSMSP  103
 .A2      SET    0                                                     284L847   26
 .A2      IFC    EQ,*A*LDAM*                                           284L847   27
 LDAM_TY  EQU    1                                                     284L847   28
 .A2      ELSE                                                         284L847   29
 LDAM_TY  EQU    0                                                    284L847   30
          IFC    NE,*A**,1                                             284L847   31
 .A2      SET    1                                                     284L847   32
 .A2      ENDIF                                                        284L847   33
 .A1      SET    B 0          BUFFERED DEVICE FLAGS                    284L847   34
 BF_TY    EQU    .A1                                                   284L847   35
          ERRNG  7-BF_TY      DEFINITION EXCEEDS FIELD SIZE            284L847   36
 .A2      IFNE   .A2,0                                                 284L847   37
 AI_TY    EQU    AI_A                                                  284L847   38
 .A2      ELSE                                                         284L847   39
 .A1      IFEQ   .A1,4                                                 284L847   40
 AI_TY    EQU    0                                                     284L847   41
 .A1      ELSE                                                         284L847   42
 AI_TY    EQU    .AI          SET ALGORITHM INDEX                      COMSMSP  105
 .AI      SET    .AI+1                                                 COMSMSP  106
 .A1      ENDIF                                                        284L847   43
 .A2      ENDIF                                                        284L847   44
          IFC    EQ,*D**                                               COMSMSP  109
 DRN_TY   MICRO  1,,*TY*      DRIVER NAME IS DEVICE TYPE               272L774    9
          ELSE   1                                                     COMSMSP  111
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                    DRN_TY   MICRO  1,,*D*       DRIVER NAME                                    272L774  10
                    DI_TY    EQU    LA6"DRN_TY"                                                 272L774  11
                    .A1      SET    F1 0                                                        284L847  45
                    CYUN_TY  EQU    .A1          CYLINDERS PER UNIT                             284L847  46
                    .A1      SET    F2 0                                                        284L847  47
                    PTCY_TY  EQU    .A1          PHYSICAL TRACKS PER CYLINDER                   284L847  48
                    .A1      SET    F3 0                                                        284L847  49
                    LSPT_TY  EQU    .A1          LOGICAL SECTORS PER PHYSICAL TRACK             284L847  50
                    .A1      SET    F4 0                                                        284L847  51
                    CFS_TY   EQU    .A1          CONVERSION FACTOR                              284L847  52
                    .2       DECMIC .A1                                                         284L847  53
                    LSPS_TY  EQU    1S".2"       LOGICAL SECTORS PER PHYSICAL SECTOR            251L670  28
                             IFNE   BF_TY,0,1                                                   251L670  29
                    PSBF_TY  EQU    40/LSPS_TY   PHYSICAL SECTORS PER I/O BUFFER                251L670  30
                    .A1      SET    LSPT_TY/LSPS_TY                                            284L847  54
                    PSPT_TY  EQU    .A1          PHYSICAL SECTORS PER PHYSICAL TRACK            284L847  55
                    .A1      SET    F5 0                                                        284L847  56
                    GS_TY    EQU    .A1          GAP SECTORS PER LOGICAL TRACK                  284L847  57
                    .A1      SET    F6 0                                                        284L847  58
                    MCLT_TY  EQU    .A1          LOGICAL TRACK OF TEST MAINTENANCE CYLINDER     284L847  59
                    .A1      SET    O1 0                                                        284L847  60
                    SOH1_TY  EQU    .A1          CYLINDER POSITION OVERHEAD TIME (MICROSEC)     284L847  61
                    .A1      SET    T1 0                                                        284L847  62
                    SC1_TY   EQU    .A1          SEEK TIME PER CYLINDER (MICROSECONDS)          284L847  63
                    .A1      SET    O2 0                                                        284L847  64
                    SOH2_TY  EQU    .A1          CYLINDER POSITION OVERHEAD TIME (MICROSEC)     284L847  65
                    .A1      SET    T2 0                                                        284L847  66
                    SC2_TY   EQU    .A1          SEEK TIME PER CYLINDER (MICROSECONDS)          284L847  67
                    .A1      SET    F7 0                                                        284L847  68
                    LC_TY    EQU    .A1          FIRST SECTOR OF LABEL COPY                     284L847  69
                    .A1      SET    PTCY_TY*LSPT_TY/SL_TY                                       284L847  70
                    LTCY_TY  EQU    .A1          LOGICAL TRACKS/CYLINDER                        284L847  71
                    .A1      SET    SL_TY+GS_TY                                                 284L847  72
                    .A2      SET    TT_TY+1                                                     284L847  73
                    .A1      SET    .A1*.A2/LSPS_TY                                             284L847  74
                    PSLT_TY  EQU    .A1          PHYSICAL SECTORS PER LOGICAL TRACK             284L847  75
                    .A1      SET    F8 0                                                        284L847  76
                    SPSC_TY  EQU    .A1          SPARE PHYSICAL SECTORS PER CYLINDER            284L847  77
                    .A1      SET    F9 1                                                        284L847  78
                    PNUN_TY  EQU    .A1          PARTITIONS PER PHYSICAL UNIT                   284L847  79
                    CYPN_TY  EQU    CYUN_TY/.A1  CYLINDERS PER PARTITION                        284L847  80
                    .A1      SET    BC 0                                                        284L847  81
                    BCT_TY   EQU    .A1          DEFAULT BUFFER COUNT FOR DEVICE                284L847  82
                    .A1      SET    RT 0                                                        284L847  83
                    RAT_TY   EQU    .A1          READ-AHEAD THRESHOLD FOR DEVICE                284L847  84
                    .A1      SET    RB 0                                                        284L847  85
                    RBT_TY   EQU    .A1          DEFAULT READ BUFFER THRESHOLD FOR DEVICE       284L847  86
                             IFC    NE,*NP**                                                    284L847  87
                    NPP_TY   MICRO  1,,*NP*      NIO PP DRIVER NAME                             284L847  88
                             ELSE   1                                                           284L847  89
                    NPP_TY   MICRO  1,,*NIL*                                                    284L847  90
                             IFC    NE,*CP**                                                    284L847  91
                    CPP_TY   MICRO  1,,*CP*      CIO PP DRIVER NAME                             284L847  92
                             ELSE   1                                                           284L847  93
                    CPP_TY   MICRO  1,,*NIL*                                                    284L847  94
                    .A1      SET    MLI 0                                                       284L847  95
                    MLID_TY  EQU    .A1          MAINTENANCE LOG IDENTIFIER FOR DEVICE          284L847  96
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                    .A1     SET     MI 0                                                    284L847    97
                    MDL_TY  EQU     .A1             MODEL NUMBER IDENTIFIER FOR DEVICE      284L847    98
                    .A1     SET     DD 1                                                    284L847    99
                    PDD_TY  EQU     .A1             PARALLEL DATA DRIVES PER DEVICE         284L847   100
                                                                                            251L670    41
                    .NT     SET     .NT+1           SET NUMBER OF MASS STORAGE TYPES        COMSMSP   134
                            ENDM                                                            COMSMSP   135
                                                                                            271L716     4
                                                                                            271L716     5
                            IF      DEF,MSP$,1                                              271L716     6
                                                                                                      7
                                                                                                      8
                                                                                                      9
                                                                                                     10
                                                                                                     11
                  **        DEFINE MASS STORAGE DEVICE CHARACTERISTICS.                      COMSMSP   137
                                                                                            COMSMSP   138
                                                                                            COMSMSP   139
                   MSEQ     MICRO   1,, (           INITIALIZE *MSEQ* MICRO                 COMSMSP   140
                   .1       MICRO   1,,                                                     COMSMSP   141
                0  .NT      SET     0               INITIALIZE NUMBER OF MASS STORAGE TYPES  COMSMSP   142
                                                                                            COMSMSP   143
                  *         NON-ROTATING MASS STORAGE DEVICES.                              COMSMSP   144
                  *         FOR EXTENDED MEMORY, THE SECTORS PER TRACK IS DETERMINED AT     252L678     1
                  *         DEADSTART TIME.                                                 252L678     2
                                                                                            252L678     3
                   DE  MSDC  0,0,4,0,1,,,,,4,,,,,4001,,,,0                                  253L688    22
                   DP  MSDC  0,0,4,0,1,,,,,4,,,,,4001,,,,0                                  253L688    23
                                                                                            COMSMSP   148
                  *         STANDARD ROTATING MASS STORAGE DEVICES.                         COMSMSP   149
                  *                                                                         COMSMSP   150
                  *         NOTE THAT THESE DEVICES CONSIST OF FULL TRACK AND HALF          COMSMSP   151
                  *         TRACK VARIANTS.  THEREFORE, THEY MUST BE THE FIRST GROUP        COMSMSP   152
                  *         OF *LDAM* DEVICES, AND MUST BE ORDERED SO THAT THE ALGORITHM    COMSMSP   153
                  *         INDEX FOR A HALF-TRACK DEVICE PLUS *AIHT* EQUALS THE            COMSMSP   154
                  *         ALGORITHM INDEX FOR THE EQUIVALENT FULL TRACK DEVICE.           COMSMSP   155
                                                                                            COMSMSP   156
                1 .AI       SET     1               INITIALIZE ALGORITHM INDEX              COMSMSP   157
                                                                                            COMSMSP   158
                   DI  MSDC  3140,153,40,10,1,HT,100,LHT,LDAM,DI,,630,22,30,,1,7144,7333D,271L716     8
                  ,7,12200D,4,47,,,,,,,0002                                                 284L847   101
                   DJ  MSDC  3150,343,40,10,1,HT,100,LHT,LDAM,DI,,1464,23,30,,1,7152,7333D271L716    10
                  ,,7,12200D,4,47,,,,,,,0003                                               284L847   102
                   DM  MSDC  3222,1200,10,3,1,HT,100,LFM,LDAM,DI,,1511,50,40,,0,7224,4666D253L688    28
                  ,,7,10200D,4,47,,,,,,,0007                                               284L847   103
                                                                                            COMSMSP   162
                3  AIHT     EQU     .AI-1           END OF HALF TRACK ALGORITHMS            COMSMSP   163
                                                                                            COMSMSP   164
                   DK  MSDC  3140,160,40,10,1,FT,100,LFT,LDAM,DI,,630,23,30,,2,7144,7333D,253L688    30
                  ,7,12200D,4,77,,,,,,,0004                                                 284L847   104
                   DL  MSDC  3150,343,40,10,1,FT,100,LFT,LDAM,DI,,1464,23,30,,1,7152,7333D271L716    11
                  ,,7,12200D,4,77,,,,,,,0005                                               284L847   105
                   DQ  MSDC  3222,1200,10,3,1,FT,100,LFM,LDAM,DI,,1511,50,40,,0,7224,4666D253L688    34
                  ,,7,10200D,4,67,,,,,,,0017                                               284L847   106
                   DR  MSDC  3777,3600,10,1,1,FT,100,,LDAM,DI,,6000,50,40,,0,7777,4666D,7,NS2776     1
                  ,10200D,4,67,,,,,,,0015                                                   NS2776     2
                                                                                            COMSMSP   168
               10  AIIB     EQU     .AI             BEGINNING OF ISMD DEVICES               COMSMSP   169
                                                                                                     55
                                                                                                     56
                                                                                                     57
                                                                                                     58
                                                                                                     59
                                                                                                     60
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                                                                                COMSMSP   170
                DD  MSDC  3136,240,40,10,1,FT,74,LID,LDAM,DJ,,1457,12,40,,0,7136,11666D253L688    36
               ,,7,19400D,3,43,,,,,,,0110                                       284L847   107
                DG  MSDC  2566,1064,10,3,1,FT,74,LID,LDAM,DJ,,1273,30,57,,0,6566,11666D253L688    38
               ,,4,14000D,0,57,,,,,,,0111                                       284L847   108
                                                                                COMSMSP   173
        12      AIIE    EQU    .AI         END OF ISMD DEVICES                  COMSMSP   174
                                                                                COMSMSP   175
               *        FEDERAL STANDARD CHANNEL MASS STORAGE DEVICES.           284L847   109
                                                                                284L847   110
                DX  MSDC  3140,142,40,10,1,FT,100,LAD,LDAM,DI,,630,23,25,,2,7144,,,,,35284L847   111
               ,,,,,,,,0010                                                     284L847   112
                DY  MSDC  3130,306,40,10,1,FT,100,LAD,LDAM,DI,,1454,23,25,,2,7132,,,,,3284L847   113
               ,5,,,,,,,,0011                                                   284L847   114
                DZ  MSDC  2134,644,10,4,1,FT,100,LAD,LDAM,DI,,1056,36,34,,0,6134,,,,,35284L847   115
               ,,,,,,,,,0012                                                    284L847   116
                DA  MSDC  2140,1510,10,2,1,FT,100,LAD,LDAM,DI,,2140,36,34,,0,,,,,,35,,,284L847   117
               ,,,,,,0013                                                       284L847   118
                                                                                284L847   119
                                                                                COMSMSP   176
               *        BUFFERED MASS STORAGE DEVICES.                          COMSMSP   177
                                                                                COMSMSP   178
        16      AIBB    EQU    .AI         BEGINNING OF BUFFERED DEVICES        284L847   120
                                                                                284L847   121
                DB  MSDC  3222,1200,10,3,0,FT,100,LPH,LDAM,DE,6,1511,12,200,2,0,7224,,,NCCDEMA     1
               ,,,15,,,4,3,3,1HP,,0014                                          NCCDEMA     2
                DC  MSDC  3346,1300,10,2,0,FT,100,LCC,LDAM,DE,6,1563,17,140,5,0,7350,,,284L847   124
               ,,,15,1,,4,3,3,1XM,1XY,0115                                      284L847   125
                                                                                284L847   126
        20      AIDS    EQU    .AI         END OF DEVICES USABLE FOR DEADSTART   284L847   127
                                                                                284L847   128
                DV  MSDC  1456,1440,10,1,0,FT,10,,,DE,6,627,12,240,3,0,,,,,,15,,,4,3,3,284L847   129
               ,,,0006                                                          284L847   130
                DW  MSDC  3144,1440,10,1,0,FT,10,,,DE,6,1462,12,240,3,0,,,,,,15,,,4,3,3284L847   131
               ,,,,,0006                                                        284L847   132
                DF  MSDC  3344,1140,10,3,0,FT,10,,,DE,6,1562,4,460,3,0,7344,,,,,15,,,6,284L847   133
               ,4,5,,1HY,0120                                                   284L847   134
                DH  MSDC  3344,1300,10,2,0,FT,10,,,DE,6,1562,4,540,5,0,7344,,,,,15,,,6,284L847   135
               ,4,5,,1HY,0121                                                   284L847   136
                DN  MSDC  3727,2140,10,1,0,FT,10,,,DE,6,2601,23,124,2,0,7730,,,,,15,,,4284L847   137
               ,,3,3,,1XD,0124                                                  284L847   138
                                                                                284L847   139
        25      AIAB    EQU    .AI         BEGINNING OF DAS ARRAY DEVICES       284L847   140
                                                                                284L847   141
               *        DAS SOLID-STATE DEVICES.                                284L847   142
                                                                                284L847   143
                EA  MSDC  3746,240,10,10,1,FT,40,,,DE,6,1514,4,140,5,0,7746,,,,,15,,,4,284L847   144
               ,3,3,,1DA,0130,0#3137,1                                          284L847   145
                EB  MSDC  3746,500,10,6,1,FT,10,,,DE,6,1514,4,300,5,0,7746,,,,,15,,,4,3284L847   146
               ,,3,,1DA,0131,0#3137,2                                           284L847   147
                                                                                284L847   148
               *        DAS SABRE DEVICES                                       284L847   149
                                                                                284L847   150
                EC  MSDC  3776,1740,10,2,1,FT,40,,,DE,6,3135,7,300,5,0,7776,,,,,15,2,,4284L847   151
               ,,3,3,,1DA,0132,0#4C32,1                                         284L847   152
                ED  MSDC  3776,1740,10,2,1,FT,10,,EC,DE,7,3135,7,300,5,0,7776,,,,,15,2,284L847   153
               ,,4,3,3,,1DA,0133,0#4C32,1                                       284L847   154
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                        EE  MSDC  3762,3600,10,1,1,FT,10,,,DE,6,3135,7,540,5,0,7762,,,,,15,2,,4284L847   155
,,3,3,,1DA,0134,0#4C32,2                                                                        284L847   156
                        EF  MSDC  3762,3600,10,1,1,FT,10,,EE,DE,7,3135,7,540,5,0,7762,,,,,15,2,284L847   157
,,4,3,3,,1DA,0137,0#4C32,2                                                                      284L847   158
                                                                                                284L847   159
                        *         DAS SABRE MULTI-PARTITION DEVICES.                            284L847   160
                                                                                                284L847   161
                        EM  MSDC  3747,2740,10,1,1,FT,10,,,DE,7,3135,7,1040,5,0,7747,,,,,15,2,2284L847   162
,,4,3,3,,1DA,0135,0#4C32,3                                                                      284L847   163
                        EN  MSDC  3751,3640,10,1,1,FT,10,,,DE,6,3135,7,1300,5,0,7751,,,,,15,2,2284L847   164
,,4,3,3,,1DA,0136,0#4C32,4                                                                      284L847   165
                                                                                                284L847   166
                        *         DAS ELITE II DEVICES.                                         284L847   167
                                                                                                284L847   168
                        EG  MSDC  3751,3240,10,1,1,FT,40,,,DE,6,5074,11,240,5,0,7751,,,,,15,4,,284L847   169
,4,3,3,,1DA,0142,0#4C31,1                                                                       284L847   170
                        EH  MSDC  3751,3240,10,1,1,FT,10,,EG,DE,7,5074,11,240,5,0,7751,,,,,15,4284L847   171
,,,4,3,3,,1DA,0143,0#4C31,1                                                                     284L847   172
                                                                                                NS2768      3
                        *         DAS ELITE II MULTI-PARTITION DEVICES.                         284L847   173
                                                                                                284L847   174
                        EI  MSDC  3737,3100,10,1,1,FT,10,,,DE,6,5074,11,440,5,0,7737,,,,,15,4,2284L847   175
,,4,3,3,,1DA,0144,0#4C31,2                                                                      284L847   176
                        EJ  MSDC  3737,3100,10,1,1,FT,10,,EI,DE,7,5074,11,440,5,0,7737,,,,,15,4284L847   177
,,2,4,3,3,,1DA,0147,0#4C31,2                                                                    284L847   178
                        EK  MSDC  3727,3240,10,1,1,FT,10,,,DE,7,5074,11,700,5,0,7727,,,,,15,4,3284L847   179
,,4,3,3,,1DA,0145,0#4C31,3                                                                      284L847   180
                        EL  MSDC  3752,3140,10,1,1,FT,10,,,DE,6,5074,11,1100,5,0,7752,,,,,15,4,284L847   181
,4,4,3,3,,1DA,0146,0#4C31,4                                                                     284L847   182
                                                                                                284L847   183
                        *         DAS 3.5IN DEVICES.                                            284L847   184
                                                                                                284L847   185
                        EO  MSDC  3755,3240,10,1,1,FT,40,,,DE,6,4362,17,150,3,0,7755,,,,,15,7,,284L847   186
,4,3,3,,1DA,0162,0#3153,1                                                                       284L847   187
                        EP  MSDC  3755,3240,10,1,1,FT,10,,EO,DE,7,4362,17,150,3,0,7755,,,,,15,7284L847   188
,,,4,3,3,,1DA,0163,0#3153,1                                                                     284L847   189
                                                                                                284L847   190
                        *         DAS 3.5IN MULTI-PARTITION DEVICES.                            284L847   191
                                                                                                284L847   192
                        ES  MSDC  3754,3240,10,1,1,FT,10,,,DE,6,4362,17,320,4,0,7754,,,,,15,7,2284L847   193
,,4,3,3,,1DA,0164,0#3153,2                                                                      284L847   194
                        EU  MSDC  3754,3240,10,1,1,FT,10,,ES,DE,7,4362,17,320,4,0,7754,,,,,15,7284L847   195
,,2,4,3,3,,1DA,0167,0#3153,2                                                                    284L847   196
                        EV  MSDC  3764,3200,10,1,1,FT,10,,,DE,7,4362,17,460,4,0,7764,,,,,15,7,3284L847   197
,,4,3,3,,1DA,0165,0#3153,3                                                                      284L847   198
                        EW  MSDC  3744,3200,10,1,1,FT,10,,,DE,6,4362,17,620,4,0,7744,,,,,15,7,4284L847   199
,,4,3,3,,1DA,0166,0#3153,4                                                                      284L847   200
                                                                                                284L847   201
43      AIAE    EQU     .AI         END OF DAS ARRAY DEVICES                                    284L847   202
43      AIBD    EQU     .AI         END OF BUFFERED DEVICES                                     284L847   203
                                                                                                284L847   204
                        PURGMAC  MSDC                                                           COMSMSP   191
                                                                                                COMSMSP   192
                        MSEQ    MICRO  1,, "MSEQ") TERMINATE *MSEQ* MICRO                       COMSMSP   193
43      AIMX    EQU     .AI                                                                     COMSMSP   194
                                                                                                COMSMSP   195
53      MXNT    EQU     .NT+1       MAXIMUM NUMBER OF MASS STORAGE TYPES                        COMSMSP   196
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                                                                                271L716    15
                                                                                271L716    16
                                IF      DEF,MSP$,1                              271L716    17
                                        **      DRIVER OPERATION CODES.         COMSMSP   198
                                                                                COMSMSP   199
                              0 REDP    EQU     0       READ                    COMSMSP   200
                              1 WRIP    EQU     1       WRITE                   COMSMSP   201
                                        **      *DSWM* TIMEOUT INDICES.         253L688    54
                                                                                253L688    55
                              1 IXST    EQU     1       SEEK TIMEOUT INDEX      253L688    56
                              2 IXUR    EQU     2       UNIT RESERVE INDEX      253L688    57
                              3 IXIW    EQU     3       ISD WRITE TIMEOUT INDEX 253L688    58
                              4 IXCR    EQU     4       CONTROLLER RESERVE TIMEOUT INDEX 253L688 59
                              4 IXMX    EQU     4       MAXIMUM TIMEOUT INDEX   253L688    60
                                                                                COMSMSP   202
                                                                                COMSMSP   203
                                        **      RETRY COUNTS AND THRESHOLDS.    COMSMSP   204
                                                                                COMSMSP   205
                              7 CRTH    EQU     7       CONTROLWARE RELOAD THRESHOLD COMSMSP 206
                             10 CRTO    EQU     10      MAXIMUM TIME (IN SECONDS) FOR C/W RELOAD 251L664  3
                             17 IWTO    EQU     15D     MAXIMUM 834/836 WRITE WAIT TIME (SECONDS) 253L688 61
                              5 RSTO    EQU     5       MAX UNIT/CONTROLLER WAIT TIME (SECONDS) 253L688 62
                             17 SKTO    EQU     15D     MAXIMUM SEEK WAIT TIME (SECONDS) 253L688  63
                              4 CHRT    EQU     4       CHANNEL PARITY ERROR RETRY LIMIT 251L664  5
                              2 CSRT    EQU     2       CONTROLLER STOP RETRY LIMIT NS2632        1
                              2 RART    EQU     2       7155 RAM PARITY ERROR RETRY LIMIT 251L664 7
                              4 FTRT    EQU     4       FUNCTION TIMEOUT RETRY LIMIT 251L664      8
                              2 SURT    EQU     2       NUMBER OF RETRIES BEFORE SETTING SUSPECT NS2507 2
                                                                                COMSMSP   220
                                                                                COMSMSP   221
                                        **      MISCELLANEOUS CONSTANTS.        COMSMSP   222
                                                                                COMSMSP   223
                             37 CNAC    EQU     31D     CYLINDER NUMBER OF *LDAM* ALGORITHM CHANGE 253L688 64
                              5 DBSV    EQU     5       *DSWM* BASE SHIFT VALUE 253L688           65
                            102 ECBL    EQU     102     EXTENDED MEMORY BUFFER LENGTH COMSMSP     224
                             24 MXSL    EQU     24      MAXIMUM DETAILED STATUS LENGTH COMSMSP    225
                             12 SCDT    EQU     10D     SWEEP CYCLING DELAY TIME (IN MINUTES) NS2494 1
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                      **        LOCATION SYMBOLS.                                                COMSMSP   227
                                                                                                 COMSMSP   228
                100   DRSW      EQU   100        DRIVER SCRATCH                                  COMSMSP   229
                 71   D1        EQU   HN         INDIRECT REFERENCE TO *DRSW*                    COMSMSP   230
                101   WDSE      EQU   101        WRITE ERROR PROCESSING BUFFER                   COMSMSP   231
                102   ERXA      EQU   102        EXIT ADDRESS SAVED FOR *7ES*                    COMSMSP   232
                103   RDCT      EQU   103        DRIVER INTERFACE WORD                           COMSMSP   233
                104   STSA      EQU   104        DEVICE STATUS                                   COMSMSP   234
                105   STSB      EQU   105        DEVICE CHANNEL STATUS BYTE                      COMSMSP   235
                106   UERR      EQU   106        USER ERROR PROCESSING OPTIONS                   COMSMSP   236
                107   SLM       EQU   107        SECTOR LIMIT                                    COMSMSP   237
                110   MSD       EQU   110        MASS STORAGE DESIGNATOR                         COMSMSP   238
                111   CHRV      EQU   111        CHANNEL RESERVATION STATUS                      COMSMSP   239
                                                                                                 COMSMSP   240
                410   BEP       EQU   410        MS ERROR PROCESSOR TRAP                         271L716    19
                413   LEP       EQU   413        *7EP* ERROR PROCESSOR CALL                      271L716    20
                414   LEP1      EQU   414        GENERAL ERROR PROCESSOR LOADER                  271L716    21
                                                                                                 COMSMSP   243
                473   SMSX      EQU   473        EXIT FROM DRIVER PRESET                         271L716    22
                                                                                                 COMSMSP   245
                556   .RDS2     EQU   556        *LDA* EXIT ADDRESS, NEEDED BY *LDAM*            NS2776     3
                625   .DST1     EQU   625        *DST* ENTRY ADDRESS, NEEDED BY *1MS*            NS2776     4
                                                                                                 COMSMSP   248
                                                                                                 COMSMSP   249
                      **        *RDCT* - ERROR PROCESSING INTERFACE WORD.                        COMSMSP   250
                      *                                                                          COMSMSP   251
                      *         CELL *RDCT* IS USED FOR RETURNING STATUS TO THE CALLER OF       COMSMSP   252
                      *         *RDS* AND *WDS*.  ITS FORMAT IS AS FOLLOWS -                    COMSMSP   253
                      *                                                                          COMSMSP   254
                      *         BIT(S)                        MEANING                           COMSMSP   255
                      *                                                                          COMSMSP   256
                      *          13     SET IF THE OPERATION IS A READ AND THE LINKAGE BYTES     COMSMSP   257
                      *                 ARE BAD.  SET ALSO FOR A WRITE OPERATION WHEN NO DATA    COMSMSP   258
                      *                 WAS WRITTEN TO DISK.                                     COMSMSP   259
                      *                                                                          COMSMSP   260
                      *          12     SET IF THE ERROR IS NON-RECOVERABLE. AN ERROR IS         COMSMSP   261
                      *                 CONSIDERED TO BE NON-RECOVERABLE IF ONE OF THE           COMSMSP   262
                      *                 FOLLOWING CONDITIONS IS TRUE -                           COMSMSP   263
                      *                    1. THE CAUSE OF THE ERROR IS NOT SOMETHING THAT       COMSMSP   264
                      *                       CAN BE REPAIRED.  FOR EXAMPLE, A MEDIA ERROR IS    COMSMSP   265
                      *                       NON-RECOVERABLE SINCE NO HARDWARE REPAIR ACTION    COMSMSP   266
                      *                       CAN BE PERFORMED TO CORRECT THE BAD SPOT ON THE    COMSMSP   267
                      *                       DISK SURFACE.                                      COMSMSP   268
                      *                    2. IT IS IMPOSSIBLE TO RESUME THE I/O SEQUENCE AT     COMSMSP   269
                      *                       THE POINT OF FAILURE FOLLOWING REPAIR OF THE       COMSMSP   270
                      *                       HARDWARE.  AN EXAMPLE OF THIS CASE IS AN ERROR     COMSMSP   271
                      *                       OCCURRING ON AN ISD DISK DURING A MULTI-SECTOR     COMSMSP   272
                      *                       WRITE OPERATION.  THE DATA BUFFERING IN THE        COMSMSP   273
                      *                       ISD DISK SUBSYSTEM ALLOWS THE PP TO SEND DATA      COMSMSP   274
                      *                       TO THE 7255 ADAPTER AND UPDATE FET POINTERS        COMSMSP   275
                      *                       PRIOR TO TRANSMISSION OF THE DATA TO THE DISK.     COMSMSP   276
                      *                       IN THIS CASE, EVEN THOUGH THE HARDWARE MAY BE      COMSMSP   277
                      *                       REPAIRABLE, THE JOB MUST NOT BE ALLOWED TO         COMSMSP   278
                      *                       CONTINUE WITH ITS I/O SEQUENCE FOLLOWING THE       COMSMSP   279
                      *                       REPAIR SINCE DATA THAT WAS IN TRANSIT BETWEEN      COMSMSP   280
                      *                       THE PP AND THE DISK WILL HAVE BEEN LOST.           COMSMSP   281
                      *          11     SET IF A BUFFER TO DISK ERROR OCCURRED AND WAS           COMSMSP   282
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                                *                RECOVERED BUT NO WRITE ERROR PROCESSING BUFFER WAS    COMSMSP    283
                                *                SPECIFIED ON THE *SETMS* CALL.  IN RESPONSE TO THIS   COMSMSP    284
                                *                BIT BEING SET, THE CALLER SHOULD REISSUE THE WRITE    COMSMSP    285
                                *                OF THE CURRENT SECTOR.                                COMSMSP    286
                                *          10    SET IF THE DEVICE MAY HAVE MULTIPLE SECTORS IN        COMSMSP    287
                                *                TRANSIT TO THE DISK.  THIS BIT IS USED BY PP PROGRAMS COMSMSP    288
                                *                THAT MUST KNOW HOW MUCH DATA WAS WRITTEN TO DISK      COMSMSP    289
                                *                BEFORE AN ERROR OCCURRED.  THIS BIT IS SET FOR ISD    251L664     9
                                *                DEVICES AND FOR DEVICES BUFFERED THROUGH EXTENDED     251L664    10
                                *                MEMORY.                                               251L664    11
                                *           7    UNUSED.                                               253L688    67
                                *                FLAG IS FOR INTERNAL USE AND IS NOT RETURNED TO THE   COMSMSP    294
                                *                CALLER.                                               COMSMSP    295
                                *           6    SET IF THE RECOVERY PROCESS IS IN PROGRESS.  THIS     253L688    68
                                *         5-0    ERROR CODE.                                           253L688    69
                                **        *CHRV* - DRIVER CONTROL WORD.                                COMSMSP    298
                                *                                                                      COMSMSP    299
                                *         CELL *CHRV* IS USED FOR VARIOUS DRIVER CONTROL FUNCTIONS SUCH COMSMSP    300
                                *         AS RESOURCE RESERVATION (CHANNEL/CONTROLLER/BUFFER) AND      COMSMSP    301
                                *         CONTROL OF THE OPERATION.                                    COMSMSP    302
                                *                                                                      COMSMSP    303
                                *         BIT(S)                        MEANING                        COMSMSP    304
                                *                                                                      COMSMSP    305
                                *           13    UNUSED.  THIS BIT MUST REMAIN UNUSED UNTIL ROUTINE   COMSMSP    306
                                *                 *DSW* IN *6DI* IS CHANGED TO DO *LDN 0* BEFORE       COMSMSP    307
                                *                 JUMPING TO *DSW1* AFTER ISSUING *DSWM*.              251L664     12
                                *           12    UNUSED.                                              COMSMSP    309
                                *           11    SET IF STREAMING DATA ON A PRU READ OPERATION.       COMSMSP    310
                                *                 (BUFFERED DEVICES ONLY).                             COMSMSP    311
                                *           10    SET IF DIRECT TRANSFER CONTINUATION CALL.            COMSMSP    312
                                *                 (BUFFERED DEVICES ONLY).                             COMSMSP    313
                                *            7    SET IF BUFFERED I/O LINK SET.                        COMSMSP    314
                                *                 (BUFFERED DEVICES ONLY).                             COMSMSP    315
                                *            6    SET IF PP IS IN RECALL DUE TO BUFFER FLUSH DURING    251L664     13
                                *                 DEVICE VERIFICATION OPERATION.  (BUFFERED DEVICES    251L664     14
                                *                 ONLY).                                               251L664     15
                                *            5    SET IF SYSTEM FILE READ OPERATION.                   COMSMSP    318
                                *            4    SET IF CHANNEL SELECTED BY CALLER.                   COMSMSP    319
                                *            3    SET IF CONTROLLER RESERVED.                          COMSMSP    320
                                *            2    SET IF ACCESS SHOULD BE ALLOWED ON *OFF* OR *SUSPECT* COMSMSP    321
                                *                 DEVICE.                                              COMSMSP    322
                                *            1    SET IF ACCESS SHOULD BE ALLOWED ON *DOWN* DEVICE.    COMSMSP    323
                                *            0    SET IF CHANNEL RESERVED (NON-BUFFERED DEVICES).      251L664     16
                                *                 SET IF PP BUFFER RESERVED (BUFFERED DEVICES).        251L664     17
                                                                                                       NS2364      1
                          0              ERRNZ  EPAD-2      DRIVERS AND *CPUMTR* ASSUME BIT 1          NS2364      2
                          0              ERRNZ  EPNS-4      DRIVERS AND *CPUMTR* ASSUME BIT 2          NS2364      3
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                                **        DRIVER ERROR PROCESSOR COMMUNICATION AREAS.                      COMSMSP   326
                                *                                                                          COMSMSP   327
                                *         DATA USED BY THE ERROR PROCESSOR DURING RECOVERY ATTEMPTS        COMSMSP   328
                                *         IS LOCATED IN TWO AREAS.  THE *LONG TERM DATA AREA*              COMSMSP   329
                                *         LOCATED IN THE DRIVER PRESET AREA, HOLDS DATA                    COMSMSP   330
                                *         THAT MUST REMAIN INTACT THROUGHOUT THE RECOVERY PROCESS.         COMSMSP   331
                                *         THIS DATA MUST NOT BE DESTROYED BY THE ERROR PROCESSOR           COMSMSP   332
                                *         OVERLAY LOADS.  THE OTHER DATA AREA, CALLED *THE SHORT           COMSMSP   333
                                *         TERM DATA AREA*, IS LOCATED BEGINNING AT *EPFW*.                 COMSMSP   334
                                *         DATA IN THIS AREA IS REGENERATED DURING EACH RETRY               COMSMSP   335
                                *         ATTEMPT.  THIS DATA DOES NOT NEED TO BE PRESERVED ACROSS         COMSMSP   336
                                *         RETRY ATTEMPTS.                                                  COMSMSP   337
                                                                                                           COMSMSP   338
                                                                                                           COMSMSP   339
                                *         LONG TERM DATA AREA.                                             COMSMSP   340
                                                                                                           COMSMSP   341
                                          IFPP                                                             COMSMSP   342
L     6                          BEGIN     BSSB   PPFW-5-3                                               COMSMSP   343
L  1070                          DENR      BSSB   1           *NON-RECOVERABLE ERROR* FLAG              COMSMSP   346
L  1067                          DERC      BSSB   1           RETRY COUNT                               COMSMSP   347
L  1066                          DEWR      BSSB   1           *DATA WRITTEN/READ* FLAG                  COMSMSP   348
L  1065                          DEFW      BSSB   0           FWA OF LONG TERM DATA AREA                NS2483      1
L  1065                          END       BSSB                                                         COMSMSP   353
                                           ENDIF                                                        COMSMSP   354
                                                                                                        COMSMSP   355
                                *         LONG TERM DATA AREA FORMAT AND CONTROL.                      COMSMSP   356
                                *                                                                      COMSMSP   357
                                *         ALL CELLS IN THE *LONG TERM DATA AREA* ARE INITIALIZED       COMSMSP   358
                                *         BY THE DRIVER ERROR PROCESSORS (*7DE*, *7BI*, *7DP*, *7DX*). COMSMSP   359
                                *                                                                      COMSMSP   360
                                *         DENR   *NON-RECOVERABLE ERROR* FLAG.                         COMSMSP   361
                                *                = 1 IF THE ERROR IS NON-RECOVERABLE.                  COMSMSP   362
                                *                ONCE THIS FLAG IS SET DURING A PARTICULAR RETRY       COMSMSP   363
                                *                ATTEMPT, IT WILL REMAIN SET THROUGH ALL SUBSEQUENT    COMSMSP   364
                                *                RETRIES.  *DENR* IS SET BY *7EI*, *7FI*, AND *7EN*.   COMSMSP   365
                                *                                                                      COMSMSP   366
                                *         DERC   RETRY COUNT.                                          COMSMSP   367
                                *                *DERC* IS INCREMENTED BY *7EN*.  IT IS ALSO CHANGED BY COMSMSP   368
                                *                *7CI* WHEN AN UNRECOVERED CHANNEL PARITY ERROR OCCURS COMSMSP   369
                                *                WHILE INPUTTING STATUS.  *DERC* IS MODIFIED BY *7FI*, COMSMSP   370
                                *                *7GI* AND *7EP* ALSO.                                 COMSMSP   371
                                *                                                                      COMSMSP   372
                                *         DEWR   *DATA WRITTEN/READ* FLAG.                             COMSMSP   373
                                *                = 0 IF THE OPERATION IS A READ AND THE DATA IN THE    COMSMSP   374
                                *                BUFFER HAS INCORRECT LINKAGE BYTES.  *DEWR* IS        COMSMSP   375
                                *                ALSO 0 WHEN ATTEMPTING TO RECOVER A WRITE ERROR       COMSMSP   376
                                *                AND DATA MAY HAVE BEEN WRITTEN TO DISK, EITHER        COMSMSP   377
                                *                BEFORE THE ERROR WAS DETECTED OR DURING THE RECOVERY  COMSMSP   378
                                *                ATTEMPT(S).  SUCH INFORMATION IS USEFUL TO PP-S THAT  COMSMSP   379
                                *                NEED TO KNOW IF A DATA SECTOR MAY HAVE BEEN CORRUPTED COMSMSP   380
                                *                DUE TO AN ERROR.  ONCE THIS FLAG BECOMES SET, IT WILL COMSMSP   381
                                *                REMAIN SET THROUGH ALL SUBSEQUENT RETRIES.            COMSMSP   382
                                *                *DEWR* IS SET BY *7DI*, *7EI*, *7FI* AND *7EM*.       COMSMSP   383
                                                                                                      COMSMSP   384
                                                                                                      COMSMSP   385
                                *         SHORT TERM DATA AREA.                                       COMSMSP   386
                                                                                                      COMSMSP   387
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                0                BEGIN   BSSN   EPFW                                                    COMSMSP   388
          L 7500                 DEAI    BSSN   1          ALGORITHM INDEX                              COMSMSP   391
          L 7501                 DEDT    BSSN   1          BML MESSAGE CONTROL WORD                     COMSMSP   392
          L 7502                 DEEC    BSSN   1          ERROR CODE                                   COMSMSP   393
          L 7503                 DEGS    BSSN   1          LAST GENERAL STATUS TAKEN                    COMSMSP   394
          L 7504                 DELF    BSSN   1          LAST FUNCTION ISSUED BEFORE TIMEOUT          COMSMSP   395
          L 7505                 DERW    BSSN   1          READ/WRITE FLAG                              COMSMSP   396
          L 7506                 DEST    BSSN   1          ERROR PROCESSING CONTROL WORD                COMSMSP   397
          L 7507                 DEXA    BSSN   1          ERROR PROCESSOR EXIT ADDRESS                 COMSMSP   398
          L 7510                 MSGH    BSSN   1*5        *EMB* MESSAGE HEADER                         252L678     6
          L 7515                 HEDR    BSSN   2*5        BML MESSAGE HEADER                           252L678     7
          L 7527                 DDMD    BSSN   1*5        DRIVER DEPENDENT MESSAGE DATA                252L678     8
          L 7534                 DSFA    BSSN   4*5        BML MESSAGE TEXT (DETAILED STATUS)           COMSMSP   400
          L 7560                 DEPL    BSSN   1          PARAMETER LIMIT                              COMSMSP   401
          L 7561                 END     BSSN                                                           COMSMSP   404
                                                                                                        COMSMSP   405
                                 *       SHORT TERM DATA AREA FORMAT AND CONTROL.                       COMSMSP   406
                                 *                                                                      COMSMSP   407
                                 *       DEAI   ALGORITHM INDEX.                                        COMSMSP   408
                                 *              SET BY *7BI*.                                           COMSMSP   409
                                 *                                                                      COMSMSP   410
                                 *       DEDT   ERROR PROCESSING CONTROL WORD (*DEST* EXTENSION).       252L678     9
                                 *              BIT(S)      MEANING                                     252L678    10
                                 *               13-5       UNUSED.                                     252L678    11
                                 *                 4        = 1 IF RETURN TO ERROR PROCESSOR            252L678    12
                                 *                           VIA (*ERXA*).  SET BY *7MP*.                252L678    13
                                 *                3-0       DRIVER TYPE.                                252L678    14
                                 *                           VALUE     DRIVER     SET BY                 COMSMSP   422
                                 *                             0       *6DI*      *7BI*                  COMSMSP   423
                                 *                             0       *6DJ*      *7BI*                  COMSMSP   424
                                 *                             1       *6DP*      *7DP*                  COMSMSP   425
                                 *                             2       *6DE*      *7DE*                  COMSMSP   426
                                 *                             3       *6DX*      *7DX*                  COMSMSP   427
                                 *                                                                      COMSMSP   428
                                 *       DEEC   ERROR CODE.                                             COMSMSP   429
                                 *              SET BY *7CI*, *7EI*, *7DP*, *7DE*, *7DX*.               COMSMSP   430
                                 *                                                                      COMSMSP   431
                                 *       DEGS   LAST GENERAL STATUS.                                    COMSMSP   432
                                 *              SET BY *7CI*.                                           COMSMSP   433
                                 *                                                                      COMSMSP   434
                                 *       DELF   LAST FUNCTION ISSUED BEFORE TIMEOUT.                    COMSMSP   435
                                 *              SET BY *7CI*.                                           COMSMSP   436
                                 *                                                                      COMSMSP   437
                                 *       DERW   READ/WRITE FLAG.                                        COMSMSP   438
                                 *                 0   IF READ.                                         COMSMSP   439
                                 *                 1   IF WRITE.                                        COMSMSP   440
                                 *              SET BY *7BI*, *7DE*, *7DP*, *7DX*.                      COMSMSP   441
                                 *                                                                      COMSMSP   442
                                 *       DEST   ERROR PROCESSING CONTROL WORD.                          COMSMSP   443
                                 *              BIT(S)      MEANING                                     COMSMSP   444
                                 *               13         = 1 IF MST RECOVERED/UNRECOVERED ERROR      COMSMSP   445
                                 *                            COUNTER SHOULD BE INCREMENTED FOR THIS    COMSMSP   446
                                 *                            ERROR TYPE AND A BML MESSAGE SHOULD BE    COMSMSP   447
                                 *                            ISSUED.  SET BY *7EN*.                    COMSMSP   448
                                 *               12         = 1 IF UNRECOVERED ERROR.  SET BY *7DE*,    COMSMSP   449
                                 *                            *7EI*, *7GI*, *7EM*, *7EN*, *7EP*         COMSMSP   450
                                 *                            AND *7MP*.                                COMSMSP   451
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*          11        = 1 IF IMMEDIATE RETURN TO CALLER WAS      COMSMSP   452
*                      SELECTED.  SET BY *7EM* AND *7EP*.       COMSMSP   453
*          10        = 1 IF DEVICE CAN HAVE MULTIPLE SECTORS    251L664    18
*                      IN TRANSIT DURING A WRITE OPERATION.     251L664    19
*                      SET BY *7DE* AND *7EI*.                  251L664    20
*           7        = 1 IF ISD DEVICE.  SET BY *7EI*.          COMSMSP   455
*           6        = 1 IF RAM PARITY ERROR.  SET BY *7FI*.    COMSMSP   456
*           5        = 1 IF *7EO* SHOULD CALL *7KI* TO EXECUTE  COMSMSP   457
*                      LEVEL 1 CONTROL MODULE DIAGNOSTICS WHEN  COMSMSP   458
*                      AN ISD DRIVE FAULT IS SUSPECTED.  SET BY COMSMSP   459
*                      *7DI*.                                   COMSMSP   460
*           4        = 1 IF *7SI* SHOULD BE CALLED IMMEDIATELY  COMSMSP   461
*                      TO CORRECT THE ERROR AND/OR ISSUE A      COMSMSP   462
*                      CONTINUE FUNCTION.  SET BY *7EI* IF BIT  COMSMSP   463
*                      2**8 OF GENERAL STATUS IS SET UNLESS THE COMSMSP   464
*                      CONTROLLER IS A 7X54 AND THE BUFFER IS   COMSMSP   465
*                      OVERLAYED BY THE ERROR PROCESSOR AND THE COMSMSP   466
*                      OPERATION IS A READ.                     COMSMSP   467
*           3        = 1 IF THE BUFFER READBACK FAILED DURING   COMSMSP   468
*                      THE RECOVERY OF A PREVIOUS SECTOR WRITE  COMSMSP   469
*                      ERROR.                                   COMSMSP   470
*                      SET BY *7EI*.                            COMSMSP   471
*         2-1        CONTROLLER TYPE.  SET BY *7FI*.            COMSMSP   472
*                      VALUE     TYPE                           COMSMSP   473
*                        0       7155 MODEL A.                  COMSMSP   474
*                        1       7155 MODEL B OR C.             COMSMSP   475
*                        2       7255 ADAPTER.                  COMSMSP   476
*                        3       CONTROL MODULE.                COMSMSP   477
*           0        = 1 IF BUFFER TO DISK ERROR.  SET BY       COMSMSP   478
*                      *7DI*.                                   COMSMSP   479
*                    *DEST* IS INITIALIZED BY *7BI*, *7DE*, *7DP*, *7DX*.  COMSMSP   480
*                                                               COMSMSP   481
*         DEXA       ERROR PROCESSOR EXIT ADDRESS.              COMSMSP   482
*                    SET BY *7BI*, *7EI*, *7DE*, *7DP*, *7DX*.  COMSMSP   483
```

```
**        ERROR PROCESSING OPTIONS.                              COMSMSP   485
*                                                                COMSMSP   486
*         IT IS POSSIBLE TO SELECT RETURN ON ANY TYPE OF ERROR VIA  COMSMSP   487
*         THE ERROR PROCESSING OPTIONS ON THE *SETMS* MACRO.  THE   COMSMSP   488
*         FOLLOWING IS A DEFINITION OF THESE OPTIONS.  THE PARTICULAR  COMSMSP   489
*         ERRORS WHICH ARE RETURNED FOR EACH ERROR OPTION ARE DEFINED  COMSMSP   490
*         BY THE *DMSE* MACRO.  WHEN AN ERROR IS INITIALLY DETECTED    COMSMSP   491
*         A CHECK IS MADE TO SEE IF THE ERROR PROCESSING OPTION IS     COMSMSP   492
*         SELECTED WHICH CORRESPONDS TO THAT ERROR TYPE.  IF ERROR     COMSMSP   493
*         PROCESSING IS SELECTED FOR THAT ERROR TYPE CONTROL IS        COMSMSP   494
*         RETURNED TO THE CALLER WITHOUT RETRYING THE ERROR.           COMSMSP   495
                                                                       COMSMSP   496
1       EPNR    EQU     1       RETURN WHEN DEVICE NOT READY           COMSMSP   497
2       EPAD    EQU     2       ALLOW ACCESS OF *DOWN* DEVICE          COMSMSP   498
4       EPNS    EQU     4       ALLOW ACCESS OF *OFF* OR *SUSPECT* DEVICE  COMSMSP   499
10      EPRR    EQU     10      RETURN ON RESERVE STATUS               COMSMSP   500
20      EPSM    EQU     20      SUPPRESS *1DD* LOAD INTO THIS PP       COMSMSP   501
40      EPER    EQU     40      RETURN ON NORMAL ERRORS                COMSMSP   502
100     EPRW    EQU     100     REWRITE DATA OPERATION                 COMSMSP   503
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          200     EPNF    EQU   200          NO ESM/LCM/UEM BUFFER FLUSH ON *WLSF*     251L664   21
          420     EPDE    EQU   400+EPSM     DISABLE *ENDMS*                           COMSMSP   505
         1000     EPND    EQU   1000         NO LEVEL 1 DIAGNOSTICS                    COMSMSP   506
         2000     EPDF    EQU   2000         DISABLE FAILURE EVALUATION                COMSMSP   507
           51     EPAR    EQU   EPER+EPNR+EPRR  RETURN ON ALL ERRORS                  COMSMSP   508


                  **      CPU MASS STORAGE ERROR CODES.                               COMSMSP   510
                  *                                                                   COMSMSP   511
                  *             THE FOLLOWING MASS STORAGE ERROR CODES CAN BE PASSED  COMSMSP   512
                  *       TO A CPU PROGRAM BY *1MS* WHEN THE CALLING PROGRAM SETS THE COMSMSP   513
                  *       ERROR PROCESSING BIT IN THE *FET* AND AN UNRECOVERABLE MASS COMSMSP   514
                  *       STORAGE ERROR OCCURS.  MASS STORAGE ERRORS AT THE DRIVER    COMSMSP   515
                  *       LEVEL ARE MAPPED INTO ONE OF THESE CPU LEVEL ERROR CODES BY COMSMSP   516
                  *       *1MS* IN ORDER TO INSULATE CPU PROGRAMS FROM CHANGES AT THE COMSMSP   517
                  *       DRIVER LEVEL.                                               COMSMSP   518
                  *             BIT 13 OF THE ERROR STATUS IS SET BY *1MS* TO REFLECT COMSMSP   519
                  *       BIT 13 OF THE DRIVER REPLY WORD, *RDCT*.  FOR READ OPERATIONS COMSMSP 520
                  *       THIS BIT IS CLEAR IF DATA IS IN THE BUFFER AND THE SECTOR   COMSMSP   521
                  *       LINKAGE BYTES ARE VALID.  FOR WRITE OPERATIONS THIS BIT IS  COMSMSP   522
                  *       CLEAR IF NO DATA IS WRITTEN TO DISK ON THE CURRENT DRIVER   COMSMSP   523
                  *       CALL AND A COUPLER TO DISK ERROR DID NOT OCCUR ON THE       COMSMSP   524
                  *       PREVIOUS SECTOR (IF ANY).  IN ALL OTHER CASES THE BIT WILL  COMSMSP   525
                  *       BE SET.                                                     COMSMSP   526
                                                                                      COMSMSP   527
                                                                                      COMSMSP   528
           1      PTYE    EQU   1            PARITY ERROR                            COMSMSP   529
           2      ADRE    EQU   2            ADDRESS ERROR                           COMSMSP   530
           3      STSE    EQU   3            DEVICE STATUS ERROR                     COMSMSP   531
           4      COME    EQU   4            COMMUNICATION ERROR                     COMSMSP   532
           5      RSVE    EQU   5            DEVICE RESERVED ERROR                   COMSMSP   533
           6      NORE    EQU   6            DEVICE NOT READY ERROR                  COMSMSP   534
        4007      TLME    EQU   4007         TRACK LIMIT ERROR                       COMSMSP   535


                  **      DMSE - DEFINE MASS STORAGE ERROR.                           COMSMSP   537
                  *                                                                   COMSMSP   538
                  *ERRC   DMSE    NM,RT,TY,ER,MN,IC,IM,RC,SS,DC,CR,SY,TX              251L664    22
                  *             ERRC = ERROR CODE NAME.                               COMSMSP   540
                  *       NM = TWO CHARACTER NAME DEFINING ERROR TYPE.                COMSMSP   541
                  *       RT = RETRY COUNT TO DECLARE ERROR UNRECOVERED.              COMSMSP   542
                  *       TY = ERROR TYPE TO RETURN TO CPU PROGRAMS.                  COMSMSP   543
                  *       ER = ERROR PROCESSING OPTION WHICH RETURNS FOR              COMSMSP   544
                  *            THIS ERROR TYPE.                                       COMSMSP   545
                  *       MN = ERROR MNEMONIC WHICH APPEARS ON ERROR MESSAGES.        COMSMSP   546
                  *       IC = INCREMENT MST ERROR COUNT/ISSUE BML MESSAGE INDICATOR. COMSMSP   547
                  *              N = DO NOT INCREMENT MST ERROR COUNT AND DO NOT ISSUE COMSMSP   548
                  *                  BML MESSAGE.                                    COMSMSP   549
                  *              Y = INCREMENT MST ERROR COUNT AND ISSUE BML MESSAGE.  COMSMSP  550
                  *              M = INCREMENT MST ERROR COUNT AND ISSUE BML MESSAGE IF COMSMSP  551
                  *                  THE ERROR IS UNRECOVERED.                       COMSMSP   552
                  *       IM = ERROR LOG MESSAGE INDICATOR.                          251L664    23
                  *              N = DO NOT ISSUE ERROR LOG MESSAGE.                 251L664    24
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                *               L = ISSUE ERROR LOG MESSAGE WITH DETAILED STATUS.      251L664   25
                *               S = ISSUE ERROR LOG MESSAGE WITHOUT DETAILED STATUS.   251L664   26
                *         RC = RECOVERABILITY TYPE.                                    COMSMSP   553
                *               N = NON-RECOVERABLE.                                   COMSMSP   554
                *               R = RECOVERABLE.                                       COMSMSP   555
                *               C = RECOVERABLE ON A READ REQUEST.                     COMSMSP   556
                *         SS = *S* IF THIS ERROR CAN CAUSE THE SUSPECT FLAG TO BE SET. 251L664   27
                *         DC = *D* IF THIS ERROR CAN CAUSE A CHANNEL TO BE DOWNED.     251L664   28
                *         CR = *R* IF THIS ERROR CAN CAUSE A CONTROLWARE RELOAD.       251L664   29
                *         SY = *SYM* THE HARDWARE SYMPTOM CODE FOR THE ERROR.          COMSMSP   559
                *         TX = *TXT* THE TEXTUAL DESCRIPTION OF THE ERROR.             COMSMSP   560
                                                                                       COMSMSP   561
                                                                                       COMSMSP   562
                          PURGMAC DMSE                                                 COMSMSP   563
                          MACRO  DMSE,ERRC,NM,RT,TY,ER,MN,IC,IM,RC,SS,DC,CR,SY,TX      251L664   30
                DREC      MICRO  1,, "DREC"".1"_NM                                     COMSMSP   565
                .1        MICRO  1,, ,                                                 COMSMSP   566
                ERRC      BSSN   1                                                     COMSMSP   567
                RTC._NM   EQU    RT                                                    COMSMSP   568
                CEC._NM   EQU    TY                                                    COMSMSP   569
                EPO._NM   EQU    EP_ER                                                 COMSMSP   570
                EMN._NM   EQU    2R_MN                                                 COMSMSP   571
                IEC._NM   SET    0                                                     COMSMSP   572
                          IFC    EQ,*IC*Y*,1                                           COMSMSP   573
                IEC._NM   SET    1                                                     COMSMSP   574
                          IFC    EQ,*IC*M*,1                                           COMSMSP   575
                IEC._NM   SET    2                                                     COMSMSP   576
                IEM._NM   SET    0                                                     251L664   31
                          IFC    EQ,*IM*L*,1                                           251L664   32
                IEM._NM   SET    1                                                     251L664   33
                          IFC    EQ,*IM*S*,1                                           251L664   34
                IEM._NM   SET    2                                                     251L664   35
                REC._NM   SET    0                                                     COMSMSP   577
                          IFC    EQ,*RC*R*,1                                           COMSMSP   578
                REC._NM   SET    1                                                     COMSMSP   579
                          IFC    EQ,*RC*C*,1                                           COMSMSP   580
                REC._NM   SET    2                                                     COMSMSP   581
                SUS._NM   SET    0                                                     COMSMSP   582
                          IFC    NE,*SS**,1                                            COMSMSP   583
                SUS._NM   SET    1                                                     COMSMSP   584
                IDC._NM   SET    0                                                     COMSMSP   585
                          IFC    NE,*DC**,1                                            COMSMSP   586
                IDC._NM   SET    1                                                     COMSMSP   587
                CWR._NM   SET    0                                                     251L664   36
                          IFC    NE,*CR**,1                                            251L664   37
                CWR._NM   SET    1                                                     251L664   38
                .2        OCTMIC SY,4                                                  COMSMSP   588
                .2        MICRO  1,, /COMSDFS/HS".2"                                   COMSMSP   589
                          IF     DEF,".2"                                              COMSMSP   590
                SYM._NM   EQU    ".2"                                                  COMSMSP   591
                          ELSE   1                                                     COMSMSP   592
                SYM._NM   SET    0                                                     COMSMSP   593
                TXT._NM   MICRO  1,,*TX*                                              COMSMSP   594
                          ENDM                                                         COMSMSP   595
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                **      DRIVER MASS STORAGE ERROR CODES.                                COMSMSP   597
                *                                                                       COMSMSP   598
                *           TWO TYPES OF DRIVER MASS STORAGE ERRORS ARE DEFINED         COMSMSP   599
                *       AS FOLLOWS.                                                     COMSMSP   600
                *       1)     NORMAL ERRORS ARE DEFINED AS THOSE LESS THAN *RESE*,     COMSMSP   601
                *       THE RESERVE ERROR THRESHOLD. NORMAL ERRORS ARE RETRIED UP TO     COMSMSP   602
                *       THE DEFINED MAXIMUM FOR THE PARTICULAR ERROR AND ARE THEN       COMSMSP   603
                *       CONSIDERED UNRECOVERED.  AN ERROR MESSAGE IS PLACED IN          COMSMSP   604
                *       CONTROL POINT AREA WORD *MS2W* IMMEDIATELY UPON DETECTING       COMSMSP   605
                *       THE ERROR.  IT IS CLEARED AFTER RECOVERING FROM THE ERROR       COMSMSP   606
                *       OR UPON DETERMINING THE ERROR IS UNRECOVERED.  AT THIS          COMSMSP   607
                *       TIME A BML MESSAGE IS ALSO ISSUED.  ADDITIONALLY, IF THE        COMSMSP   608
                *       ERROR IS FOUND TO BE NON-RECOVERABLE, AN ERROR LOG MESSAGE      COMSMSP   609
                *       IS ISSUED AND SYSTEM DAYFILE AND JOB DAYFILE MESSAGES ARE       COMSMSP   610
                *       ALSO ISSUED.                                                    COMSMSP   611
                *       FOR ERRORS DEFINED LESS THAN *NRVE* NO ATTEMPT IS MADE TO       COMSMSP   612
                *       REVERSE THE ORDER OF DUAL ACCESS CHANNELS.  SUCH ERRORS,        COMSMSP   613
                *       WHEN UNRECOVERED, ALSO CAUSE THE ERROR PROCESSOR TO             COMSMSP   614
                *       ATTEMPT TO RELOAD CONTROLWARE OR DOWN THE CHANNEL ON THE        COMSMSP   615
                *       DEVICE.                                                         COMSMSP   616
                *       2)     RESERVE ERRORS ARE THOSE GREATER THAN OR EQUAL TO        COMSMSP   617
                *       *RESE*.  RESERVE ERRORS APPEAR IN *MS2W* BUT NO DAYFILE         COMSMSP   618
                *       MESSAGES ARE ISSUED UNTIL THE RETRY COUNT LIMIT HAS BEEN        COMSMSP   619
                *       REACHED.  THEN THE ERROR IS PROCESSED AS A NORMAL UNRECOVERED   COMSMSP   620
                *       ERROR.                                                          COMSMSP   621
                *                                                                       COMSMSP   622
                *       THE MICRO *DREC* DEFINES THE TWO CHARACTER NAME                 COMSMSP   623
                *       ASSOCIATED WITH ALL DRIVER ERROR CODES.  THIS MICRO             COMSMSP   624
                *       IS USED TO GENERATE TABLES OF DRIVER ERROR CODE                 COMSMSP   625
                *       PARAMETERS.  ALL TAGS DEFINING CHARACTERISTICS OF               COMSMSP   626
                *       THE ERROR CODE ARE OF THE FORMAT *TAG.NM* WHERE *NM*            COMSMSP   627
                *       IS THE ERROR CODE NAME CONTAINED IN THE MICRO *DREC*.           COMSMSP   628
                *       THIS ALLOWS AUTOMATIC EASY MAINTENANCE OF ERROR CODES           COMSMSP   629
                *       BY ONLY MODIFYING *COMSMSP*.                                    COMSMSP   630
                *       THE FOLLOWING IS A LIST OF TAGS GENERATED AND THEIR MEANING.    COMSMSP   631
                *       RTC.NM = RETRY COUNT FOR ERROR TYPE *NM*.                       COMSMSP   632
                *       CEC.NM = CPU PROGRAM ERROR CODE.  THIS IS THE CODE RETURNED     COMSMSP   633
                *                TO CPU PROGRAMS WHEN AN UNRECOVERED ERROR OCCURS.      COMSMSP   634
                *       EPO.NM = ERROR PROCESSING OPTION WHICH WHEN SELECTED WILL       COMSMSP   635
                *                RETURN CONTROL TO THE CALLING PP PROGRAM.  NOTE        COMSMSP   636
                *                THAT NO ERROR MESSAGE IS ISSUED TO THE ERROR LOG       COMSMSP   637
                *                WHEN RETURN TO CALLER IS EXECUTED.  THE ERROR          COMSMSP   638
                *                PROCESSING OPTIONS ARE THOSE SELECTED ON THE           COMSMSP   639
                *                *SETMS* MACRO AND DEFINED BY TAGS OF THE FORM          COMSMSP   640
                *                *ERP.XX*.                                              COMSMSP   641
                *       EMN.NM = ERROR MNEMONIC EXPRESSED AS A 12 BIT DISPLAY           COMSMSP   642
                *                CODE CONSTANT.                                         COMSMSP   643
                *       IEC.NM = INCREMENT MST ERROR COUNT/ISSUE BML MESSAGE            COMSMSP   644
                *                INDICATOR.                                             COMSMSP   645
                *                0    DO NOT INCREMENT MST ERROR COUNT AND DO NOT       251L664    39
                *                     ISSUE BML MESSAGE.                                251L664    40
                *                1    INCREMENT MST ERROR COUNT AND ISSUE BML           251L664    41
                *                     MESSAGE.                                          251L664    42
                *                2    INCREMENT MST ERROR COUNT AND ISSUE BML MESSAGE   251L664    43
                *                     IF THE ERROR IS UNRECOVERED.                      251L664    44
                *       IEM.NM = ERROR LOG MESSAGE INDICATOR.                           251L664    45
                *                0    DO NOT ISSUE ERROR LOG MESSAGE.                   251L664    46
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                                *               1    ISSUE ERROR LOG MESSAGE WITH DETAILED STATUS.   251L664     47
                                *               2    ISSUE ERROR LOG MESSAGE WITHOUT DETAILED        251L664     48
                                *                    STATUS.                                         251L664     49
                                *         REC.NM = RECOVERABILITY INDICATOR.                         COMSMSP    651
                                *                  0    NON-RECOVERABLE.                           COMSMSP    652
                                *                  1    RECOVERABLE.                               COMSMSP    653
                                *                  2    RECOVERABLE IF READ REQUEST.               COMSMSP    654
                                *         SUS.NM = 1 IF AN EQUIPMENT MAY BE SET SUSPECT FOR THIS ERROR  COMSMSP  655
                                *                  TYPE.                                            COMSMSP    656
                                *         IDC.NM = 1 IF A CHANNEL MAY BE DOWNED AS A RESULT OF THIS     COMSMSP  657
                                *                  ERROR TYPE.                                      COMSMSP    658
                                *         CWR.NM = 1 IF CONTROLWARE MAY BE RELOADED AS A RESULT OF THIS 251L664   50
                                *                  ERROR TYPE.                                      251L664     51
                                *         SYM.NM = THE SYMPTOM CODE VALUE FROM *COMSDFS*.            COMSMSP    659
                                *         TXT.NM = TEXTUAL DESCRIPTION OF ERROR TYPE.                251L664     52
                                                                                                     COMSMSP    661
                                                                                                     COMSMSP    662
          0                      BEGIN    BSSN   1           INITIALIZE ERROR TYPE                COMSMSP    663
                                                                                                     COMSMSP    665
                                 DREC     MICRO  1,,                                               COMSMSP    666
                                 .1       MICRO  1,,                                               COMSMSP    667
                                                                                                     COMSMSP    668
     L    1                     CHPE     DMSE   CP,CHRT,COME,ER,CP,Y,S,C,S,D,,24,(CHANNEL PARITY)  251L664     53
     L    2                     CSTE     DMSE   CS,CSRT,COME,ER,CS,Y,S,C,S,D,,51,(CONTROLLER STOP)  251L664     54
     L    3                     RAME     DMSE   RA,RART,COME,ER,RA,Y,S,C,S,D,R,63,(CONTROLLER MEMORY)  SMSP4      1
     L    4                     FTOE     DMSE   FT,FTRT,COME,ER,FT,Y,S,C,S,D,R,50,(FUNCTION TIMEOUT)  251L664    56
     L    5                     CHFE     DMSE   CF,12,COME,ER,CF,Y,S,C,S,D,R,23,(CHANNEL FAILURE)    NS2475      1
     L    6                     IDTE     DMSE   ID,12,COME,ER,ID,Y,S,C,S,D,R,5,(DATA TRANSFER)      NS2475      2
     L    7                     DDFE     DMSE   DF,0,STSE,ER,DF,,,N,,,,64,(DIAGNOSTIC FAILURE)    251L670     62
     L   10                     NRVE     BSSN   0                                                   COMSMSP    673
     L   10                     PARE     DMSE   ME,12,PTYE,ER,ME,Y,L,N,S,,,40,(MEDIA)              251L664     59
     L   11                     ADDE     DMSE   AD,0,ADRE,ER,AD,Y,S,N,S,,,100,(ADDRESS)            251L664     60
     L   12                     DSTE     DMSE   ST,12,STSE,ER,ST,Y,L,R,S,,,102,(DEVICE STATUS)      251L664     61
     L   13                     SKTE     DMSE   SK,FTRT,STSE,ER,SK,Y,S,N,S,,,106,(SEEK TIMEOUT)     253L688     70
     L   14                     IWTE     DMSE   IW,FTRT,COME,ER,IW,Y,S,N,S,,,107,(ISD WRITE TIMEOUT)  253L688   71
     L   15                     LNRE     DMSE   LN,0,NORE,NR,LN,N,N,R,,,,,(LOGICAL NOT READY)      251L664     62
     L   16                     NRDE     DMSE   NR,12,NORE,NR,NR,M,L,R,S,,,43,(HARDWARE NOT READY)  251L664     63
     L   17                     RESE     BSSN   0                                                   COMSMSP    679
     L   17                     DRVE     DMSE   RS,76,RSVE,RR,RS,M,S,R,,,,56,(DRIVE RESERVE)       SMSP3       1
     L   20                     CRSE     DMSE   CR,76,RSVE,RR,CR,M,S,R,,,,103,(CONTROLLER RESERVE)  SMSP3       2
     L   21                     IRTE     BSSN   0                                                   NS2480      1
     L   21                     RDFE     DMSE   RD,77,0,NR,RD,N,N,R,,,,,(REDEFINE)                 NS2480      2
     L   22                     STAE     DMSE   SA,77,0,ER,SA,Y,N,R,,,,102,(STATISTICAL DATA)      253L688     72
     L   23                     MXDE     BSSN   0           MAXIMUM ERROR TYPE                      COMSMSP    682
                                                                                                     NS2480      3
                          -56               ERRPL  MXDE-1-100B  ERROR CODE EXCEEDS FIELD SIZE       253L688     73
     L   23                     END      BSSN                                                        COMSMSP    685
                                         PURGMAC  DMSE                                             COMSMSP    686
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                **      ENTRY - DEFINE OVERLAY ENTRY POINT.                     COMSMSP   688
                *                                                               COMSMSP   689
                *       ENTRY IS USED TO DEFINE THE OVERLAY ENTRY POINT FOR MASS COMSMSP   690
                *       STORAGE OVERLAYS.                                       COMSMSP   691
                *                                                               COMSMSP   692
                * TAG   ENTRY                                                   COMSMSP   693
                *                                                               COMSMSP   694
                *       ENTRY  TAG = OVERLAY ENTRY POINT ADDRESS.               COMSMSP   695
                                                                                COMSMSP   696
                                                                                COMSMSP   697
                      PURGMAC  ENTRY                                            COMSMSP   698
                      MACRO  ENTRY,TAG                                          COMSMSP   699
                      MACREF ENTRY                                              COMSMSP   700
                 TAG  BSS    0           OVERLAY ENTRY POINT                    COMSMSP   701
                      RJM    BEP                                                253L688    74
                      ENDM                                                      COMSMSP   704
                                                                                
                                                                                
                **      MSERR - LOAD MASS STORAGE ERROR PROCESSOR.              COMSMSP   706
                *                                                               COMSMSP   707
                *       MSERR  NAM,C                                            COMSMSP   708
                *                                                               COMSMSP   709
                *       ENTRY  NAM = OVERLAY NAME.                              COMSMSP   710
                *              C = (*) IF NO JUMP TO *LEP1* IS DESIRED.         COMSMSP   711
                *              C = (=) IF NO CODE SHOULD BE GENERATED.          COMSMSP   712
                                                                                COMSMSP   713
                                                                                COMSMSP   714
                      PURGMAC  MSERR                                            COMSMSP   715
                MSERR MACRO  NAM,C                                              COMSMSP   716
                      MACREF MSERR                                              COMSMSP   717
                      QUAL                                                      COMSMSP   718
                (NAM) SET    0                                                  COMSMSP   719
                      QUAL   *                                                  COMSMSP   720
                      IFC    NE,$C$=$                                           COMSMSP   721
                .1    SET    3R7DQ&3R_NAM                                       COMSMSP   722
                      IFLT   .1,100B,1                                          COMSMSP   723
                      LDN    .1                                                 COMSMSP   724
                      IFEQ   .1,100B,1                                          COMSMSP   725
                      LDD    HN                                                 COMSMSP   726
                      IFGT   .1,100B,1                                          COMSMSP   727
                      LDC    .1                                                 COMSMSP   728
                      IFC    NE,.C.*.,1                                         COMSMSP   729
                      LJM    LEP1                                               COMSMSP   730
                      ENDIF                                                     COMSMSP   731
                MSERR ENDM                                                      COMSMSP   732
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                    **        MSOVL - GENERATE NEW MASS STORAGE OVERLAY.                    COMSMSP    734
                    *                                                                       COMSMSP    735
                    * NAME    MSOVL  ORIGIN,LIMIT,MINM,(TEXT)                               COMSMSP    736
                    *                                                                       COMSMSP    737
                    *         ENTRY  NAME   = OVERLAY NAME.                                 COMSMSP    738
                    *                ORIGIN = OVERLAY LOAD ADDRESS.                         COMSMSP    739
                    *                LIMIT  = ADDRESS OF LAST CELL IN THIS OVERLAY.         COMSMSP    740
                    *                MINM   = ADDRESS OF THE LAST CELL WHICH MUST NOT BE    COMSMSP    741
                    *                         DESTROYED WHEN THIS OVERLAY IS LOADED.        COMSMSP    742
                    *                TEXT   = TEXT FOR SUBTITLE AND COMMENT DIRECTIVES.     COMSMSP    743
                    *                                                                       COMSMSP    744
                    *         NOTE   WHEN THIS MACRO IS USED, AN (ERRNZ  LN-*) INSTRUCTION  COMSMSP    745
                    *                MUST BE ADDED TO THE END OF THE OVERLAY IN ORDER TO     COMSMSP    746
                    *                VERIFY THAT THE OVERLAY ENDS AT THE RIGHT LOCATION.    COMSMSP    747
                    *                                                                       NS2741       1
                    *         NOTE   IF *MSOVL* IS USED TO CREATE A NEW MASS STORAGE ERROR  NS2741       2
                    *                PROCESSOR, AN ENTRY MUST BE ADDED TO THE APPROPRIATE   NS2741       3
                    *                TABLE IN *SLL* TO ENSURE THAT THE NEW OVERLAY RESIDES  NS2741       4
                    *                IN CENTRAL MEMORY UNDER THE CORRECT CIRCUMSTANCES.     NS2741       5
                                                                                            COMSMSP    748
                                                                                            COMSMSP    749
                              PURGMAC  MSOVL                                                COMSMSP    750
                              MACRO  MSOVL,NAM,ORIGIN,LIMIT,MINM,(TEXT)                     COMSMSP    751
                              MACREF MSOVL                                                  COMSMSP    752
                              TITLE  "DEC"/NAM - TEXT                                       COMSMSP    753
                              QUAL   NAM                                                    COMSMSP    754
                              IDENT  NAM,ORIGIN  TEXT                                       252L678     15
                       COMMENT 85/07/29. 92/09/17. "DEC" - TEXT                             253L688     75
                              COMMENT  COPYRIGHT CONTROL DATA SYSTEMS INC.  1992.           281L803      2
                              ORG    ORIGIN                                                 COMSMSP    758
                       LN     EQU    10001+LIMIT                                            COMSMSP    759
                       LEN    SET    LN-*                                                   COMSMSP    760
                              ERRNZ  LEN-LEN/5*5 *NAM* LENGTH MUST BE DIVISIBLE BY FIVE     COMSMSP    761
                       OFFW   EQU    MINM+1                                                 COMSMSP    762
                              ERRNG  OFFW-EPFW   *NAM* CANNOT BE LOADED BELOW EPFW          COMSMSP    763
                              LIST   M                                                      COMSMSP    764
                              ERRNG  *-OFFW      *NAM* WILL LOAD ON TOP OF PARAMETERS       COMSMSP    765
                              LIST   *                                                      COMSMSP    766
                              ENDM                                                          COMSMSP    767


                    **        NUMBER OF DIRECT ACCESS FILES TO PROCESS BEFORE PAUSING FOR   COMSMSP    769
                    *         STORAGE RELOCATION WHEN RECOVERING A PF DEVICE.               COMSMSP    770
                                                                                            COMSMSP    771
                                                                                            COMSMSP    772
                         24    NFTP     EQU    20D         NUMBER OF FILES TO PROCESS BEFORE *PAUSE*  COMSMSP    773
                                                                                            COMSMSP    774
                       M_M             BASE   *                                            COMSMSP    775
                                       ENDX                                                COMSMSP    776
                                       LIST   *                                            NS2723       9
                  0                    CTEXT  COMSPIM - PP INSTRUCTION MNEMONICS.          COMSPIM      1
```

```
                    **        ASSEMBLY CONSTANTS.                                   6DE        106
                                                                                    6DE        107
                                                                                    6DE        108
                     DEC      MICRO  1,, 6DE     DECK NAME                         6DE        109
```

```
527                             ORG     MSFW                                    6DE     111


                                **      ENTRY POINT TRANSFERS.                  6DE     113
                                                                                6DE     114
                                                                                6DE     115
527     1017                            CON     PRS     PRESET ADDRESS          6DE     116
                                                                                6DE     117
                                                                                6DE     118
530     0000            RDS     CON     0       ENTRY                           6DE     119
531     0327                    UJN     RDS.    ENTER DRIVER                    6DE     120
                                                                                6DE     121
                                                                                6DE     122
532     0000            WDS     CON     0       ENTRY                           6DE     123
533     0323                    UJN     WDS0    ENTER DRIVER                    6DE     124


                                **      EMS - END MASS STORAGE OPERATION.       6DE     126
                                *                                               6DE     127
                                *       ENTRY   (CHRV, BIT 6) = 0, IF NO PP BUFFER TO RELEASE.  6DE     128
                                *               (T4) = INCREMENT OF PP BUFFER IF ASSIGNED.      6DE     129
                                *                                               6DE     130
                                *       EXIT    PP I/O BUFFER RELEASED.         6DE     131
                                *               (CHRV) = 0.                     6DE     132
                                *               (A) = 0.                        6DE     133
                                *                                               6DE     134
                                *       CALLS   SEA.                            6DE     135
                                *                                               6DE     136
                                *       NOTE - THE *.EMS* ENTRY POINT IS SUPPORTED ONLY VIA THE 6DE     137
                                *       *ENDMS* MACRO DEFINED IN *COMPMAC*.  IF THIS LOCATION   6DE     138
                                *       CHANGES, THE DEFINITION OF *.EMS* MUST BE CHANGED IN    6DE     139
                                *       *PPCOM* AND ALL PROGRAMS USING THE *ENDMS*              6DE     140
                                *       MACRO MUST BE REASSEMBLED.              6DE     141
                                                                                6DE     142
                                                                                6DE     143
534     0100 0534       .EMS    SUBR            ENTRY/EXIT                      6DE     144
536     5000 0111               LDM     CHRV                                    6DE     145
540     1201                    LPN     1                                       251L664   2
541     0405                    ZJN     EMS1    IF BUFFER NOT RESERVED          251L664   3
542     0200 1012               RJM     SEA     SET ECS BUFFER ADDRESS          6DE     148
544     6370 1043               CWM     ZERO,ON CLEAR BUFFER RESERVATION        6DE     149
546     5000 0111       EMS1    LDM     CHRV    CLEAR BUFFER RESERVATION/LINK FLAGS 251L664   4
550     2277 7576               LPC     -201                                    251L664   5
552     5400 0111               STM     CHRV                                    251L664   6
554     1400                    LDN     0       SET EXIT CONDITION              251L664   7
555     0356                    UJN     .EMSX   RETURN                          6DE     152
                                                                                6DE     153
                                                                                6DE     154
556     0100 0624       WDS0    LJM     WDS.    ENTER DRIVER                    6DE     155
```

```
                                **        RDS - READ SECTOR.                                                6DE        157
                                *                                                                           6DE        158
                                *         ENTRY  (A) = 5/0, 1/S, 12/ BA.                                    6DE        159
                                *                    S = SKIP TRANSFER OF DATA IF SET.                      6DE        160
                                *                    BA = BUFFER ADDRESS FOR SECTOR.                        6DE        161
                                *                                                                           6DE        162
                                *         EXIT   (A) .LT. 0 IF UNRECOVERED ERROR.                           251L664     8
                                *                                                                           6DE        164
                                *         CALLS  ECS, SEA.                                                  6DE        165
                                                                                                            6DE        166
                                                                                                            6DE        167
 560          5400 0606           RDS.    STM    RDSA        SET BUFFER ADDRESS                            6DE        168
 562          1602                        ADN    2                                                         6DE        169
 563          5400 0611                   STM    RDSC                                                      6DE        170
 565          1063                        SHN    -14                                                       6DE        171
                          0              ERRNZ  DTSF-10000  ERROR IF VALUE CHANGES                          6DE        172
 566          0403                        ZJN    RDS1        IF NOT SKIP DATA TRANSFER                     6DE        173
 567          2000 0304                   LDC    UJNI+RDS2-RDSB                                            6DE        174
                        -33              ERRPL  RDS2-RDSB-37  CHECK JUMP IN RANGE                          6DE        175
 571          5400 0607           RDS1    STM    RDSB        MODIFY CODE FOR SKIP                          6DE        176
 573          3071                        LDD    HN          READ SECTOR                                   6DE        177
                          0              ERRNZ  RESS*100B-100B  ERROR IF VALUE CHANGES                     6DE        178
 574          0200 0742                   RJM    ECS                                                       6DE        179
 576          5000 0111                   LDM    CHRV        CHECK IF BUFFER ASSIGNED                      6DE        180
 600          1021                        SHN    21-0                                                      251L664     9
 601          0617                        PJN    RDS3        IF BUFFER NOT ASSIGNED                        6DE        182
 602          0200 1012                   RJM    SEA         SET ECS BUFFER ADDRESS                        6DE        183
 604          1601                        ADN    1                                                         6DE        184
 605          6170 0605                   CRM    *,ON                                                      6DE        185
                        606       RDSA    EQU    *-1                                                       6DE        186
 607          2400                RDSB    PSN                                                              6DE        187
                                  *       UJN    RDS2        (SKIP DATA TRANSFER)                          6DE        188
 610          6171 0610                   CRM    *,HN                                                      6DE        189
                        611       RDSC    EQU    *-1                                                       6DE        190
 612          3271                        SBD    HN                                                        6DE        191
 613          1702                RDS2    SBN    2                                                         6DE        192
 614          6370 1043                   CWM    ZERO,ON     CLEAR BUFFER RESERVATION                      6DE        193
 616          5700 0111                   SOM    CHRV        CLEAR BUFFER RESERVATION FLAG                 251L664     10
 620          5000 0530           RDS3    LDM    RDS         RETURN ADDRESS                                6DE        196
 622          0100 0677                   LJM    CST         CHECK STATUS                                  6DE        197
```

```
                                **        WDS - WRITE SECTOR.                                               6DE        199
                                *                                                                           6DE        200
                                *         ENTRY  (A) = 6/ LSI, 12/ BA.                                      6DE        201
                                *                    LSI = WLSF, IF LAST SECTOR WRITE.                      6DE        202
                                *                        = WCSF, IF CONSECUTIVE SECTOR WRITE.               6DE        203
                                *                    BA = BUFFER ADDRESS FOR SECTOR.                        6DE        204
                                *                                                                           6DE        205
                                *         EXIT   (A) .LT. 0 IF UNRECOVERED ERROR.                           251L664     11
                                *                                                                           251L664     12
                                *         CALLS  ECS, SEA.                                                  6DE        206
                                                                                                            6DE        207
                                                                                                            6DE        208
 624          5400 0664           WDS.    STM    WDSB        SET BUFFER ADDRESS                            6DE        209
```

```
 626          1602                    ADN    2                                                  6DE         210
 627          5400 0666               STM    WDSC                                               6DE         211
 631          1061                    SHN    -16          SAVE WRITE LAST SECTOR FLAG           6DE         212
 632          1203                    LPN    3                                                  6DE         213
 633          1103                    LMN    3                                                  6DE         214
 634          5400 0643               STM    WDSA                                               6DE         215
                           0          ERRNZ  WLSF         ERROR IF VALUE CHANGES                6DE         216
                           0          ERRNZ  WCSF-300000  ERROR IF VALUE CHANGES                6DE         217
 636          5000 0106               LDM    UERR         GET REWRITE AND DISABLE BUFFER FLUSH FLAGS 6DE      218
 640          1071                    SHN    -6                                                 6DE         219
                           0          ERRNZ  EPRW-100     ADJUST IF VALUE CHANGES               6DE         220
                           0          ERRNZ  EPNF-200     ADJUST IF VALUE CHANGES               6DE         221
 641          1102                    LMN    2                                                  6DE         222
 642          2200 0000               LPC    **                                                 6DE         223
                               *      LPC    3            (WRITE LAST SECTOR)                   251L664      13
                               *      LPC    1            (WRITE CONSECUTIVE SECTOR)            251L664      14
                     643   WDSA      EQU    *-1                                                6DE         224
 644          5400 0653               STM    WDSD                                               6DE         225
 646          5000 0111               LDM    CHRV                                               6DE         226
 650          1021                    SHN    21-0                                               251L664      15
 651          0707                    MJN    WDS3         IF BUFFER RESERVED                    6DE         228
 652          2000 0000         WDS2  LDC    **                                                 6DE         229
                     653   WDSD      EQU    *-1                                                6DE         230
                               ADK    REBS*100     RESERVE WRITE BUFFER                         6DE         231
 654          0200 0742               RJM    ECS                                                6DE         232
 656          3011                    LDD    CM+1                                               6DE         233
 657          0525                    NJN    CST1         IF ERROR STATUS SET                   6DE         234
 660          0200 1012         WDS3  RJM    SEA          SET ECS BUFFER ADDRESS                6DE         235
 662          1601                    ADN    1                                                  6DE         236
 663          6370 0663               CWM    *,ON                                               6DE         237
                     664   WDSB      EQU    *-1                                                6DE         238
 665          6371 0665               CWM    *,HN                                               6DE         239
                     666   WDSC      EQU    *-1                                                6DE         240
 667          5000 0653               LDM    WDSD                                               6DE         241
 671          2100 0200               ADC    WESS*100     WRITE SECTOR                          6DE         242
 673          0200 0742               RJM    ECS                                                6DE         243
 675          5000 0532               LDM    WDS          RETURN ADDRESS                        6DE         244
                               *      UJN    CST          CHECK STATUS                          6DE         245


                               **     CST - CHECK STATUS.                                        6DE         247
                               *                                                                 6DE         248
                               *      ENTRY  (A) = RETURN ADDRESS.                               6DE         249
                               *             (CM+1) = STATUS RETURNED BY *PIOM* TRANSFER.        6DE         250
                               *             (MB+1) = PHYSICAL DATA RETURNED BY *PIOM* IF ERROR. 6DE         251
                               *                                                                 6DE         252
                               *      EXIT   RETURN TO CALLER IF NO ERROR.                       6DE         253
                               *                                                                 6DE         254
                               *      EREXIT TO *7DE*.                                           6DE         255
                               *                                                                 6DE         256
                               *      USES   T1, T2.                                             6DE         257
                                                                                                 6DE         258
                                                                                                 6DE         259
 677                     CST   BSS    0            ENTRY                                        6DE         260
 677          3401               STD    T1           SAVE BIAS FOR EXIT ADDRESS                 6DE         261
```

```
 700  3011          LDD   CM+1                                        6DE   262
 701  0503          NJN   CST1       IF ERROR                         6DE   263
 702  0101 0000     LJM   0,T1       RETURN                           6DE   264

                                                                      6DE   265
                    *     PROCESS ERROR.                             6DE   266
                                                                      6DE   267
 704  5400 0104 CST1 STM   STSA       SAVE STATUS                      6DE   268
 706  1424          MSERR 7DE                                        6DE   269


                    **    ECS - ECS TRANSFER.                        6DE   271
                    *                                                6DE   272
                    *     ENTRY  (A) = 6/ *PIOM* SUBFUNCTION, 6/ FUNCTION FLAGS.  6DE  273
                    *                                                6DE   274
                    *     EXIT   (A) = 0.                            6DE   275
                    *            (CM+1) = ERROR CODE IF NONZERO.     6DE   276
                    *            (CM+3 - CM+4) = PHYSICAL DATA IF ERROR.  6DE  277
                    *            TO *WDS2* IF WRITE BUFFER MUST BE RE-RESERVED.  6DE  278
                    *                                                6DE   279
                    *     USES   T4, T5, T6, T7, CM - CM+4.          6DE   280
                    *                                                6DE   281
                    *     MACROS DELAY, MONITOR, PAUSE.              6DE   282
                                                                      6DE   283
                                                                      6DE   284
 711  5000 0111 ECS5 LDM   CHRV                                       6DE   285
 713  3410          STD   CM                                         6DE   286
 714  1220          LPN   20                                         251L664  16
 715  0404          ZJN   ECS6       IF CHANNEL NOT SELECTED BY CALLER  251L664  17
 716  5000 0105     LDM   STSB       STORE CHANNEL NUMBER             251L664  18
 720  3414          STD   CM+4                                       251L664  19
 721  3077     ECS6 LDD   MA         STORE PARAMETERS IN MESSAGE BUFFER  251L664  20
 722  6204          CWD   T4                                         6DE   288
 723  2000 0000     LDC   **         SET FUNCTION CODE                6DE   289
           724 ECSA EQU   *-1                                        6DE   290
 725  3411          STD   CM+1       SET FUNCTION CODE AND FLAGS      6DE   291
 726  1437          MONITOR  PIOM                                    6DE   292
 731  3077          LDD   MA         UPDATE PARAMETERS                6DE   293
 732  6004          CRD   T4                                         6DE   294
 733  3010          LDD   CM                                         6DE   295
 734  5400 0111     STM   CHRV                                       6DE   296
 736  3011          LDD   CM+1       CHECK RETURN STATUS              6DE   297
 737  1064          SHN   -13                                        6DE   298
 740  0537          NJN   ECS4       IF RETRY REQUIRED                6DE   299
                                                                      6DE   300
 741  0100 0741 ECS SUBR             ENTRY/EXIT                       6DE   301
 743  5400 0724     STM   ECSA       SAVE FUNCTION CODE               6DE   302
 745  3076     ECS1 LDD   OA         WAIT OUTPUT REGISTER CLEAR       6DE   303
 746  6010          CRD   CM                                         6DE   304
 747  3010          LDD   CM                                         6DE   305
 750  0440          ZJP   ECS5       IF NO MONITOR FUNCTION PENDING   251L664  21
 751  5000 0255     DELAY                                            6DE   307
 755  0367          UJN   ECS1       LOOP                             6DE   308
                                                                      6DE   309
                    *     RETRY FUNCTION.                            6DE   310
                                                                      6DE   311
```

```
 756          5000 0724          ECS2     LDM    ECSA         CHECK FOR WRITE REJECT                  6DE        312
 760          1070               ECS2     SHN    -7                                                   6DE        313
 761          0463               ECS2     ZJN    ECS1         IF RESERVE BUFFER OR READ SECTOR        6DE        314
 762          5000 0111          ECS2     LDM    CHRV                                                 6DE        315
 764          1013               ECS2     SHN    21-6                                                 NS2446       1
 765          0757               ECS2     MJN    ECS1         IF RECALL AFTER FLUSH                   NS2446       2
 766          1006               ECS2     SHN    21-0-21+6                                            NS2446       3
 767          0755               ECS2     MJN    ECS1         IF WRITE BUFFER RESERVED                6DE        317
 770          0100 0652          ECS2     LJM    WDS2         RE-RESERVE WRITE BUFFER                 6DE        318
                                                                                                       6DE        319
                                 ECS2     *      WAIT FOR PENDING BUFFERED I/O.                       251L664     23
                                                                                                       6DE        321
 772          5000 0255          ECS3     DELAY  1*8D         DELAY 1 MILLISECOND                     6DE        322
 777          1400               ECS4     PAUSE  NE                                                   6DE        323
1002          3076               ECS4     LDD    OA           WAIT FOR REISSUE ALLOWED STATUS         6DE        324
1003          1602               ECS4     ADN    2                                                    6DE        325
1004          6010               ECS4     CRD    CM                                                   6DE        326
1005          3011               ECS4     LDD    CM+1                                                 6DE        327
1006          1007               ECS4     SHN    21-12                                                6DE        328
1007          0662               ECS4     PJN    ECS3         IF PENDING I/O NOT COMPLETE             6DE        329
1010          0345               ECS4     UJN    ECS2         RETRY FUNCTION                          6DE        330
```

```
                                 SEA      **     SEA - SET ECS ADDRESS.                               6DE        332
                                 SEA      *                                                           6DE        333
                                 SEA      *      ENTRY  (T4) = RELATIVE ECS BUFFER ADDRESS.           6DE        334
                                 SEA      *                                                           6DE        335
                                 SEA      *      EXIT   (A) = ECS BUFFER ADDRESS.                     6DE        336
                                                                                                       6DE        337
                                                                                                       6DE        338
1011          0100 1011          SEA      SUBR                ENTRY/EXIT                           6DE        339
1013          2000 0000          SEAA     LDC    **                                                   6DE        340
1015          3104               SEAA     ADD    T4                                                   6DE        341
1016          0372               SEAA     UJN    SEAX         RETURN                                  6DE        342
```

```
                                 PRS      **     PRS - PRESET DRIVER.                                 6DE        344
                                 PRS      *                                                           6DE        345
                                 PRS      *      ENTRY  (CM - CM+4) = EST ENTRY.                      6DE        346
                                 PRS      *                                                           6DE        347
                                 PRS      *      EXIT   NONE.                                         6DE        348
                                                                                                       6DE        349
                                                                                                       6DE        350
1017          2000 0146          PRS      LDC    EPBP         GET FWA ECS PP BUFFERS                  6DE        351
1021          6170 1043          PRS      CRM    ZERO,ON                                              6DE        352
1023          5000 1047          PRS      LDM    ZERO+4                                               6DE        353
1025          5400 1014          PRS      STM    SEAA+1                                               6DE        354
1027          5000 1046          PRS      LDM    ZERO+3                                               6DE        355
1031          1277               PRS      LPN    77                                                   6DE        356
1032          2100 2000          PRS      ADC    LDCI                                                 6DE        357
1034          5400 1013          PRS      STM    SEAA                                                 6DE        358
1036          1466               PRS      LDN    ZERL         ZERO BUFFER                             6DE        359
1037          6170 1043          PRS      CRM    ZERO,ON                                              6DE        360
```

```
1041         0100 0473                    LJM    SMSX        RETURN                                                  6DE         361
                                                                                                                     6DE         362
1043                                 ZERO   BSS    0           FIVE BYTES FOR READING BUFFER ADDRESS                   6DE         363
                                     .1     SET    *+5+4-MSFW  CHECK FOR OVERFLOW                                      NS2352        1
                                     .1     SET    .1/5                                                                NS2352        2
                                     .1     SET    MSFW+.1*5                                                           NS2352        3
                                     .2     SET    PPFW-5-*-5  BYTES AVAILABLE BEFORE OVERFLOW                         NS2352        4
                                            ERRNG  PPFW-5-.1   DRIVER OVERFLOWS INTO *PPFW*-5                       NS2352        5
                                                                                                                     6DE         365
                                                                                                                     6DE         366
                                     *      THE FOLLOWING CHECK VERIFIES THAT CELLS *ZERO* - *ZERO*+4                6DE         367
                                     *      ARE NOT DESTROYED BY THE ERROR PROCESSOR.                                6DE         368
                                                                                                                     6DE         369
                                            ERRPL  ZERO+4-DEFW  CODE IS DESTROYED BY ERROR PROCESSOR                 6DE         370
```

```
                    7DE     MSOVL  7644,T2,EPFW-1,(MASS STORAGE ERROR PROCESSOR.)          251L664    24

                144         ERRNG  *-OFFW      *7DE* WILL LOAD ON TOP OF PARAMETERS       MSOVL   .1
                            LIST   *                                                      MSOVL   .1
                ***         *7DE* IS CALLED BY *6DE* WHEN AN UNRECOVERED ERROR HAS        NS2723     15
                *           OCCURRED.                                                     NS2723     16
                **          MSG - PROCESS MASS STORAGE ERROR.                             6DE        377
                *                                                                         6DE        378
                *           ENTRY  (T1) = RDCT.                                           6DE        379
                *                  (T2) = DEST.                                           6DE        380
                *                  (T4 - T7) = DRIVER PARAMETERS.                         6DE        381
                *                  (RDCT) = ERROR PROCESSOR INTERFACE WORD.               6DE        382
                *                           BIT 4 = 0 IF FIRST RETRY ATTEMPT.             6DE        383
                *                  (STSA) = ERROR CODE RETURNED BY *CPUMTR*.              6DE        384
                *                  (MB+1) = PHYSICAL DATA RETURNED BY *PIOM* FUNCTION.    6DE        385
                *                                                                         6DE        386
                *           EXIT   TO *7EK*.                                              NS2741       1
                *                  (T2) = READ BUFFER ADDRESS.                            6DE        388
                *                  (T4 - T7) = UNCHANGED.                                 6DE        389
                *                  (DEDT) = 8/0, 4/*6DE* DRIVER TYPE.                     6DE        390
                *                  (DEEC) = ERROR CODE.                                   6DE        391
                *                  (DENR) = 0 IF NOT 819 DEVICE OR IF 819 DEVICE AND *NOT NS2723      18
                *                           READY* ERROR.                                 NS2723     19
                *                  (DENR) = 1 IF 819 DEVICE AND NOT *NOT READY* ERROR.    NS2723     20
                *                  (DERC) = 0 IF FIRST RETRY ATTEMPT, ELSE UNCHANGED.     6DE        393
                *                  (DERW) = 1 IF WRITE REQUEST, 0 IF READ REQUEST.        6DE        394
                *                  (DEST) = 2000 (UNRECOVERED ERROR).                     NS2723     21
                *                  (DEWR) = 0 IF FIRST RETRY ATTEMPT, ELSE UNCHANGED.     6DE        397
                *                  (DEXA) = ERROR PROCESSOR EXIT ADDRESS.                 6DE        398
                *                  (RDCT) = ERROR PROCESSOR INTERFACE WORD.               6DE        399
                *                           BITS AFFECTED BY THIS OVERLAY -               6DE        400
                *                           BIT 4 = 1 IF FIRST RETRY ATTEMPT, OTHERS 0.   6DE        401
                *                  (MB+2) = DRIVER DEPENDENT PART OF BML MESSAGE.         6DE        402
                *                           12/, 12/S, 12/W, 24/E.                        6DE        403
                *                           S = ERROR STATUS.                             251L664    29
                *                           W = WORD COUNT.                               6DE        405
                *                           E = EXTENDED MEMORY ADDRESS.                  6DE        406
                *                                                                         6DE        407
                *           USES   T1, T2, CM - CM+4.                                     6DE        408
                *                                                                         6DE        409
                *           MACROS MSERR.                                                 6DE        410
                                                                                          6DE        411
                                                                                          6DE        412
        7644     MSG        ENTRY              *7DE* ENTRY                               6DE        413
                                                                                          6DE        414
                *           PRESET ERROR PROCESSING CELLS.  THE *DEST* UNRECOVERED ERROR  NS2723     22
                *           FLAG IS PRESET *ON* TO AVOID ERROR RETRIES ON BUFFERED DISK   NS2723     23
                *           OR EXTENDED MEMORY DEVICES.  THE BUFFERED DISK DRIVER OR      NS2723     24
                *           *CPUMTR* WILL HAVE ALREADY PERFORMED ANY APPROPRIATE RETRY     NS2723     25
```

```
                                *       SEQUENCE FOR THE ERROR.                                  NS2723    26
                                                                                                 NS2723    27
7646    3005                            SFA     EST,T5      GET EST ENTRY                        6DE     415
                                        ADK     EQDE                                             6DE     416
7651    6010                            CRD     CM                                               6DE     417
7652    5000 0104                       LDM     STSA        PRESET ERROR CODE                    6DE     418
7654    5400 7502                       STM     DEEC                                             6DE     426
                        -154            ERRPL   DEEC-*      CODE DESTROYED                       6DE     427
7656    2000 2000                       LDC     2000        SET UNRECOVERED FLAG                 NS2723    28
7660    4402                            STI     T2                                               251L664   31
7661    1402                            LDK     /COMSDFS/D6DE  SAVE DRIVER TYPE                  6DE     432
7662    5400 7501                       STM     DEDT                                             6DE     433
                        -163            ERRPL   DEDT-*      STORE DESTROYS CODE                  6DE     434
7664    5000 0724                       LDM     ECSA        SET READ/WRITE FLAG                  251L664   32
7666    1071                            SHN     -6                                               6DE     444
7667    1201                            LPN     1                                                6DE     445
7670    1101                            LMN     1                                                6DE     446
7671    5400 7505                       STM     DERW        SAVE READ/WRITE FLAG                 6DE     447
                        -166            ERRPL   DERW-*      STORE DESTROYS CODE                  6DE     448
                           0            ERRNZ   REBS                                             6DE     449
                           0            ERRNZ   RESS-1                                           6DE     450
                           0            ERRNZ   WESS-2                                           6DE     451
                           0            ERRNZ   WRIP-1                                           6DE     452
                           0            ERRNZ   REDP                                             6DE     453
7673    4001                            LDI     T1                                               251L664   33
7674    2200 0100                       LPC     100                                              253L688    1
7676    0507                            NJN     MSG2        IF ERROR RECOVERY ALREADY IN PROGRESS  251L664   35
7677    5400 1067                       STM     DERC        INITIALIZE RETRY COUNT               251L664   36
7701    5400 1070                       STM     DENR        INITIALIZE NON-RECOVERABLE FLAG      251L664   37
7703    3071                            LDD     HN          SET RECOVERY IN PROGRESS FLAG        253L688    2
7704    4401                            STI     T1                                               251L664   39
7705    5000 7505               MSG2    LDM     DERW        SET/CLEAR DATA WRITTEN FLAG          251L664   40
7707    5400 1066                       STM     DEWR                                             251L664   41
                                                                                                 251L664   42
                                *       SINCE THE 819 INTERRUPT HANDLER DOES NOT ATTEMPT TO      251L664   43
                                *       ACCURATELY ASSESS THE RECOVERABILITY OF THE FAILURE, FORCE  251L664   44
                                *       THE ERROR NON-RECOVERABLE UNLESS IT-S A *NOT READY*      251L664   45
                                *       CONDITION.                                               251L664   46
                                                                                                 251L664   47
7711    3013                            LDD     CM+3                                             251L664   48
7712    1277                            LPN     77                                               251L664   49
7713    1126                            LMN     1RV                                              251L664   50
7714    0403                            ZJN     MSG3        IF 819 DEVICE                        251L664   51
7715    1101                            LMN     1RW&1RV                                          251L664   52
7716    0511                            NJN     MSG4        IF NOT 819 DEVICE                    251L664   53
7717    5000 7502               MSG3    LDM     DEEC                                             251L664   54
7721    1116                            LMK     NRDE                                             251L664   55
7722    0405                            ZJN     MSG4        IF DEVICE NOT READY ERROR            NS2723    29
7723    1103                            LMK     LNRE&NRDE                                        NS2723    30
7724    0403                            ZJN     MSG4        IF LOGICAL NOT READY ERROR           NS2723    31
7725    5600 1070                       AOM     DENR        SET ERROR NOT RECOVERABLE            NS2723    32
7727    2000 0756               MSG4    LDC     ECS2        SET RETURN ADDRESS                   NS2723    33
7731    5400 7507                       STM     DEXA                                             251L664   62
                        -224            ERRPL   DEXA-*      STORE DESTROYS CODE                  6DE     456
7733    3013                            LDD     CM+3        CHECK EQUIPMENT TYPE                 6DE     457
7734    1277                            LPN     77                                               251L664   63
7735    1105                            LMN     1RE                                              6DE     459
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                                                                                                  251L664     64
                                *       *7DE* AND ASSOCIATED *PPR* ERROR PROCESSING OVERLAYS ISSUE NO 251L664     65
                                *       BML, ERROR LOG OR DAYFILE MESSAGES FOR BUFFERED DISK DEVICES. 251L664     66
                                *       BUFFERED DEVICE DRIVERS ISSUE ALL SUCH MESSAGES.              251L664     67
                                                                                                      251L664     68
        7736    0520                    NJN     MSG8        IF BUFFERED DISK                          251L664     69
        7737    3077                    LDD     MA          GET PHYSICAL DATA FOR MESSAGE             6DE         461
        7740    1601                    ADN     1                                                     6DE         462
        7741    6010                    CRD     CM                                                    6DE         463
        7742    1400                    LDN     0           CLEAR UNUSED FIELDS IN BML MESSAGE        6DE         464
        7743    3410                    STD     CM                                                    6DE         465
        7744    5000 0104               LDM     STSA        ADD *PIOM* STATUS TO MESSAGE              6DE         466
        7746    1111                    LMK     ADDE                                                  251L664     70
        7747    0402                    ZJN     MSG7        IF ADDRESS ERROR                          251L664     71
        7750    1411                    LDN     1&10        SET *HARDWARE ERROR* FLAG                 251L664     72
        7751    1110            MSG7    LMN     10                                                    251L664     73
        7752    3411                    STD     CM+1                                                  6DE         467
        7753    2000 0101               LDC     101         SAVE WORD COUNT                           6DE         470
        7755    3412                    STD     CM+2                                                  6DE         471
        7756    5000 0606       MSG8    LDM     RDSA        SET READ BUFFER ADDRESS                   251L664     75
        7760    3402                    STD     T2                                                    6DE         473
        7761    3077                    LDD     MA          WRITE *7EK* PARAMETERS                    NS2741      2
        7762    1602                    ADN     2                                                     6DE         475
        7763    6210                    CWD     CM                                                    6DE         476
        7764    2000 0132               MSERR   7EK         EXECUTE *7EK*                             NS2741      3


                          10            ERRNG   10000-*     *7DE* HAS OVERFLOWED                      6DE         479
        7770              10            BSS     10000-*     SPARES (ADJUST ORIGIN BY 5 AS REQUIRED)   6DE         480
       10000    7643                    CON     MSG-1       (T0) = ENTRY ADDRESS - 1                  6DE         481
       10001    0103                    CON     RDCT        (T1) = RDCT                               6DE         482
       10002    7506                    CON     DEST        (T2) = DEST                               6DE         483
                           0            ERRNZ   LN-*        INCORRECT OVERLAY LENGTH                  6DE         484
                                        QUAL    *                                                     6DE         485


       10003                            END                                                           6DE         487

                      75100B CM  STORAGE USED          9827 STATEMENTS     3238 SYMBOLS     000005 INVENTED SYMBOLS
                        PARALLEL CPU ASSEMBLY          4.618 SECONDS       5252 REFERENCES


        SYMBOLIC REFERENCE TABLE.

        ADDE          11                19/32 L   31/13
        ADRE           2                16/30 D   19/32
        AIAB          25                 8/43 D
        AIAE          43                 9/49 D
        AIBB          16                 8/23 D
        AIBD          43                 9/50 D
        AIDA          15                 8/17 D
        AIDB          16                 8/25 D
```

SYMBOLIC REFERENCE TABLE.

AIDC	17	8/27 D	
AIDD	10	8/02 D	
AIDE	0	7/26 D	
AIDF	22	8/36 D	
AIDG	11	8/04 D	
AIDH	23	8/38 D	
AIDI	1	7/39 D	
AIDJ	2	7/41 D	
AIDK	4	7/48 D	
AIDL	5	7/50 D	
AIDM	3	7/43 D	
AIDN	24	8/40 D	
AIDP	0	7/27 D	
AIDQ	6	7/52 D	
AIDR	7	7/54 D	
AIDS	20	8/30 D	
AIDV	20	8/32 D	
AIDW	21	8/34 D	
AIDX	12	8/11 D	
AIDY	13	8/13 D	
AIDZ	14	8/15 D	
AIEA	25	8/47 D	
AIEB	26	8/49 D	
AIEC	27	8/54 D	8/56
AIED	27	8/56 D	
AIEE	30	9/01 D	9/03
AIEF	30	9/03 D	
AIEG	33	9/15 D	9/17
AIEH	33	9/17 D	
AIEI	34	9/22 D	9/24
AIEJ	34	9/24 D	
AIEK	35	9/26 D	
AIEL	36	9/28 D	
AIEM	31	9/08 D	
AIEN	32	9/10 D	
AIEO	37	9/33 D	9/35
AIEP	37	9/35 D	
AIES	40	9/40 D	9/42
AIEU	40	9/42 D	
AIEV	41	9/44 D	
AIEW	42	9/46 D	
AIHT	3	7/46 D	
AIIB	10	7/57 D	
AIIE	12	8/07 D	
AIMX	43	9/55 D	
BCTDA	0	8/17 D	
BCTDB	4	8/25 D	
BCTDC	4	8/27 D	
BCTDD	0	8/02 D	
BCTDE	0	7/26 D	
BCTDF	6	8/36 D	
BCTDG	0	8/04 D	
BCTDH	6	8/38 D	
BCTDI	0	7/39 D	
BCTDJ	0	7/41 D	
BCTDK	0	7/48 D	
BCTDL	0	7/50 D	

BCTDM	0	7/43 D		
BCTDN	4	8/40 D		
BCTDP	0	7/27 D		
BCTDQ	0	7/52 D		
BCTDR	0	7/54 D		
BCTDV	4	8/32 D		
BCTDW	4	8/34 D		
BCTDX	0	8/11 D		
BCTDY	0	8/13 D		
BCTDZ	0	8/15 D		
BCTEA	4	8/47 D		
BCTEB	4	8/49 D		
BCTEC	4	8/54 D		
BCTED	4	8/56 D		
BCTEE	4	9/01 D		
BCTEF	4	9/03 D		
BCTEG	4	9/15 D		
BCTEH	4	9/17 D		
BCTEI	4	9/22 D		
BCTEJ	4	9/24 D		
BCTEK	4	9/26 D		
BCTEL	4	9/28 D		
BCTEM	4	9/08 D		
BCTEN	4	9/10 D		
BCTEO	4	9/33 D		
BCTEP	4	9/35 D		
BCTES	4	9/40 D		
BCTEU	4	9/42 D		
BCTEV	4	9/44 D		
BCTEW	4	9/46 D		
BEP	410	11/15 D	29/52	
BFDA	0	8/17 D	8/17	
BFDB	6	8/25 D	8/25	
BFDC	6	8/27 D	8/27	
BFDD	0	8/02 D	8/02	
BFDE	4	7/26 D	7/26	
BFDF	6	8/36 D	8/36	
BFDG	0	8/04 D	8/04	
BFDH	6	8/38 D	8/38	
BFDI	0	7/39 D	7/39	
BFDJ	0	7/41 D	7/41	
BFDK	0	7/48 D	7/48	
BFDL	0	7/50 D	7/50	
BFDM	0	7/43 D	7/43	
BFDN	6	8/40 D	8/40	
BFDP	4	7/27 D	7/27	
BFDQ	0	7/52 D	7/52	
BFDR	0	7/54 D	7/54	
BFDV	6	8/32 D	8/32	
BFDW	6	8/34 D	8/34	
BFDX	0	8/11 D	8/11	
BFDY	0	8/13 D	8/13	
BFDZ	0	8/15 D	8/15	
BFEA	6	8/47 D	8/47	
BFEB	6	8/49 D	8/49	
BFEC	6	8/54 D	8/54	
BFED	7	8/56 D	8/56	

SYMBOLIC REFERENCE TABLE.

BFEE	6	9/01 D	9/01
BFEF	7	9/03 D	9/03
BFEG	6	9/15 D	9/15
BFEH	7	9/17 D	9/17
BFEI	6	9/22 D	9/22
BFEJ	7	9/24 D	9/24
BFEK	7	9/26 D	9/26
BFEL	6	9/28 D	9/28
BFEM	7	9/08 D	9/08
BFEN	6	9/10 D	9/10
BFEO	6	9/33 D	9/33
BFEP	7	9/35 D	9/35
BFES	6	9/40 D	9/40
BFEU	7	9/42 D	9/42
BFEV	7	9/44 D	9/44
BFEW	6	9/46 D	9/46
CEC.AD	2	19/32 D	
CEC.CF	4	19/27 D	
CEC.CP	4	19/23 D	
CEC.CR	5	19/40 D	
CEC.CS	4	19/24 D	
CEC.DF	3	19/29 D	
CEC.FT	4	19/26 D	
CEC.ID	4	19/28 D	
CEC.IW	4	19/35 D	
CEC.LN	6	19/36 D	
CEC.ME	1	19/31 D	
CEC.NR	6	19/37 D	
CEC.RA	4	19/25 D	
CEC.RD	0	19/42 D	
CEC.RS	5	19/39 D	
CEC.SA	0	19/43 D	
CEC.SK	3	19/34 D	
CEC.ST	3	19/33 D	
CFSDA	0	8/17 D	
CFSDB	2	8/25 D	
CFSDC	5	8/27 D	
CFSDD	0	8/02 D	
CFSDE	0	7/26 D	
CFSDF	3	8/36 D	
CFSDG	0	8/04 D	
CFSDH	5	8/38 D	
CFSDI	0	7/39 D	
CFSDJ	0	7/41 D	
CFSDK	0	7/48 D	
CFSDL	0	7/50 D	
CFSDM	0	7/43 D	
CFSDN	2	8/40 D	
CFSDP	0	7/27 D	
CFSDQ	0	7/52 D	
CFSDR	0	7/54 D	
CFSDV	3	8/32 D	
CFSDW	3	8/34 D	
CFSDX	0	8/11 D	
CFSDY	0	8/13 D	
CFSDZ	0	8/15 D	
CFSEA	5	8/47 D	

SYMBOLIC REFERENCE TABLE.

CFSEB	5		8/49 D									
CFSEC	5		8/54 D									
CFSED	5		8/56 D									
CFSEE	5		9/01 D									
CFSEF	5		9/03 D									
CFSEG	5		9/15 D									
CFSEH	5		9/17 D									
CFSEI	5		9/22 D									
CFSEJ	5		9/24 D									
CFSEK	5		9/26 D									
CFSEL	5		9/28 D									
CFSEM	5		9/08 D									
CFSEN	5		9/10 D									
CFSEO	3		9/33 D									
CFSEP	3		9/35 D									
CFSES	4		9/40 D									
CFSEU	4		9/42 D									
CFSEV	4		9/44 D									
CFSEW	4		9/46 D									
CHFE	5		19/27 L									
CHPE	1		19/23 L									
CHRT	4		10/32 D	19/23								
CHRV	111		11/13 D	23/46	24/24	25/19	26/42 S					
			23/41	23/48 S	24/38 S	26/27	27/04					
CM	10	NOSTEXT	25/26	26/32 S	26/43	27/17 S	30/40	31/11 S	31/24			
			26/01	26/37 S	26/50 S	27/18	30/55	31/17 S				
			26/28 S	26/41	26/51	30/05 S	31/09 S	31/19 S				
CNAC	37		10/41 D									
COME	4		16/32 D	19/23	19/24	19/25	19/26	19/27	19/28	19/35		
CRSE	20		19/40 L									
CRTH	7		10/27 D									
CRTO	10		10/28 D									
CSRT	2		10/33 D	19/24								
CST	677		24/40	25/56 L								
CSTE	2		19/24 L									
CST1	704		25/27	26/02	26/07 L							
CTDA	10		8/17 D									
CTDB	10		8/25 D									
CTDC	10		8/27 D									
CTDD	40		8/02 D									
CTDE	4		7/26 D									
CTDF	10		8/36 D									
CTDG	10		8/04 D									
CTDH	10		8/38 D									
CTDI	40		7/39 D									
CTDJ	40		7/41 D									
CTDK	40		7/48 D									
CTDL	40		7/50 D									
CTDM	10		7/43 D									
CTDN	10		8/40 D									
CTDP	4		7/27 D									
CTDQ	10		7/52 D									
CTDR	10		7/54 D									
CTDV	10		8/32 D									
CTDW	10		8/34 D									
CTDX	40		8/11 D									
CTDY	40		8/13 D									

SYMBOLIC REFERENCE TABLE.

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CTDZ            10                8/15 D
CTEA            10                8/47 D
CTEB            10                8/49 D
CTEC            10                8/54 D
CTED            10                8/56 D
CTEE            10                9/01 D
CTEF            10                9/03 D
CTEG            10                9/15 D
CTEH            10                9/17 D
CTEI            10                9/22 D
CTEJ            10                9/24 D
CTEK            10                9/26 D
CTEL            10                9/28 D
CTEM            10                9/08 D
CTEN            10                9/10 D
CTEO            10                9/33 D
CTEP            10                9/35 D
CTES            10                9/40 D
CTEU            10                9/42 D
CTEV            10                9/44 D
CTEW            10                9/46 D
CWR.AD           0               19/32 D
CWR.CF           1               19/27 D
CWR.CP           0               19/23 D
CWR.CR           0               19/40 D
CWR.CS           0               19/24 D
CWR.DF           0               19/29 D
CWR.FT           1               19/26 D
CWR.ID           1               19/28 D
CWR.IW           0               19/35 D
CWR.LN           0               19/36 D
CWR.ME           0               19/31 D
CWR.NR           0               19/37 D
CWR.RA           1               19/25 D
CWR.RD           0               19/42 D
CWR.RS           0               19/39 D
CWR.SA           0               19/43 D
CWR.SK           0               19/34 D
CWR.ST           0               19/33 D
CYPNDA        2140                8/17 D
CYPNDB        1511                8/25 D
CYPNDC        1563                8/27 D
CYPNDD        1457                8/02 D
CYPNDE           0                7/26 D
CYPNDF        1562                8/36 D
CYPNDG        1273                8/04 D
CYPNDH        1562                8/38 D
CYPNDI         630                7/39 D
CYPNDJ        1464                7/41 D
CYPNDK         630                7/48 D
CYPNDL        1464                7/50 D
CYPNDM        1511                7/43 D
CYPNDN        2601                8/40 D
CYPNDP           0                7/27 D
CYPNDQ        1511                7/52 D
CYPNDR        6000                7/54 D
CYPNDV         627                8/32 D
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SYMBOLIC REFERENCE TABLE.

CYPNDW	1462	8/34 D		
CYPNDX	630	8/11 D		
CYPNDY	1454	8/13 D		
CYPNDZ	1056	8/15 D		
CYPNEA	1514	8/47 D		
CYPNEB	1514	8/49 D		
CYPNEC	3135	8/54 D		
CYPNED	3135	8/56 D		
CYPNEE	3135	9/01 D		
CYPNEF	3135	9/03 D		
CYPNEG	5074	9/15 D		
CYPNEH	5074	9/17 D		
CYPNEI	2436	9/22 D		
CYPNEJ	2436	9/24 D		
CYPNEK	1551	9/26 D		
CYPNEL	1217	9/28 D		
CYPNEM	1456	9/08 D		
CYPNEN	1456	9/10 D		
CYPNEO	4362	9/33 D		
CYPNEP	4362	9/35 D		
CYPNES	2171	9/40 D		
CYPNEU	2171	9/42 D		
CYPNEV	1373	9/44 D		
CYPNEW	1074	9/46 D		
CYUNDA	2140	8/17 D	8/17	
CYUNDB	1511	8/25 D	8/25	
CYUNDC	1563	8/27 D	8/27	
CYUNDD	1457	8/02 D	8/02	
CYUNDE	0	7/26 D	7/26	
CYUNDF	1562	8/36 D	8/36	
CYUNDG	1273	8/04 D	8/04	
CYUNDH	1562	8/38 D	8/38	
CYUNDI	630	7/39 D	7/39	
CYUNDJ	1464	7/41 D	7/41	
CYUNDK	630	7/48 D	7/48	
CYUNDL	1464	7/50 D	7/50	
CYUNDM	1511	7/43 D	7/43	
CYUNDN	2601	8/40 D	8/40	
CYUNDP	0	7/27 D	7/27	
CYUNDQ	1511	7/52 D	7/52	
CYUNDR	6000	7/54 D	7/54	
CYUNDV	627	8/32 D	8/32	
CYUNDW	1462	8/34 D	8/34	
CYUNDX	630	8/11 D	8/11	
CYUNDY	1454	8/13 D	8/13	
CYUNDZ	1056	8/15 D	8/15	
CYUNEA	1514	8/47 D	8/47	
CYUNEB	1514	8/49 D	8/49	
CYUNEC	3135	8/54 D	8/54	
CYUNED	3135	8/56 D	8/56	
CYUNEE	3135	9/01 D	9/01	
CYUNEF	3135	9/03 D	9/03	
CYUNEG	5074	9/15 D	9/15	
CYUNEH	5074	9/17 D	9/17	
CYUNEI	5074	9/22 D	9/22	
CYUNEJ	5074	9/24 D	9/24	
CYUNEK	5074	9/26 D	9/26	

SYMBOLIC REFERENCE TABLE.

CYUNEL	5074	9/28 D	9/28				
CYUNEM	3135	9/08 D	9/08				
CYUNEN	3135	9/10 D	9/10				
CYUNEO	4362	9/33 D	9/33				
CYUNEP	4362	9/35 D	9/35				
CYUNES	4362	9/40 D	9/40				
CYUNEU	4362	9/42 D	9/42				
CYUNEV	4362	9/44 D	9/44				
CYUNEW	4362	9/46 D	9/46				
DBSV	5	10/42 D					
DDFE	7	19/29 L					
DDMD	7527	14/12 L					
DEAI	7500	14/02 L					
DEDT	7501	14/03 L	30/12 S	30/13			
DEEC	7502	14/04 L	30/07 S	30/08	30/46		
DEFW	1065	13/22 L	28/14				
DEGS	7503	14/05 L					
DELF	7504	14/06 L					
DENR	1070	13/19 L	30/29 S	30/51 S			
DEPL	7560	14/14 L					
DERC	1067	13/20 L	30/28 S				
DERW	7505	14/07 L	30/18 S	30/19	30/32		
DEST	7506	14/08 L	31/34				
DEWR	1066	13/21 L	30/33 S				
DEXA	7507	14/09 L	30/53 S	30/54			
DIDA	1	8/17 D					
DIDB	4	8/25 D					
DIDC	4	8/27 D					
DIDD	2	8/02 D					
DIDE	4	7/26 D					
DIDF	4	8/36 D					
DIDG	2	8/04 D					
DIDH	4	8/38 D					
DIDI	1	7/39 D					
DIDJ	1	7/41 D					
DIDK	1	7/48 D					
DIDL	1	7/50 D					
DIDM	1	7/43 D					
DIDN	4	8/40 D					
DIDP	3	7/27 D					
DIDQ	1	7/52 D					
DIDR	1	7/54 D					
DIDV	4	8/32 D					
DIDW	4	8/34 D					
DIDX	1	8/11 D					
DIDY	1	8/13 D					
DIDZ	1	8/15 D					
DIEA	4	8/47 D					
DIEB	4	8/49 D					
DIEC	4	8/54 D					
DIED	4	8/56 D					
DIEE	4	9/01 D					
DIEF	4	9/03 D					
DIEG	4	9/15 D					
DIEH	4	9/17 D					
DIEI	4	9/22 D					
DIEJ	4	9/24 D					

SYMBOLIC REFERENCE TABLE.

DIEK	4		9/26 D							
DIEL	4		9/28 D							
DIEM	4		9/08 D							
DIEN	4		9/10 D							
DIEO	4		9/33 D							
DIEP	4		9/35 D							
DIES	4		9/40 D							
DIEU	4		9/42 D							
DIEV	4		9/44 D							
DIEW	4		9/46 D							
DRSW	100		11/03 D							
DRVE	17		19/39 L							
DSFA	7534		14/13 L							
DSTE	12		19/33 L							
DTSF	10000	NOSTEXT	24/16							
D1	71		11/04 D							
ECBL	102		10/43 D							
ECS	742		24/23	25/25	25/36	26/47 D				
ECSA	724		26/36 D	26/48 S	27/01	30/14				
ECSX	741		26/47 L							
ECS1	745		26/49 L	26/54	27/03	27/06	27/08			
ECS2	756		27/01 L	27/21	30/52					
ECS3	772		27/13 L	27/20						
ECS4	777		26/45	27/14 L						
ECS5	711		26/27 L	26/52						
ECS6	721		26/30	26/33 L						
EMN.AD	104		19/32 D							
EMN.CF	306		19/27 D							
EMN.CP	320		19/23 D							
EMN.CR	322		19/40 D							
EMN.CS	323		19/24 D							
EMN.DF	406		19/29 D							
EMN.FT	624		19/26 D							
EMN.ID	1104		19/28 D							
EMN.IW	1127		19/35 D							
EMN.LN	1416		19/36 D							
EMN.ME	1505		19/31 D							
EMN.NR	1622		19/37 D							
EMN.RA	2201		19/25 D							
EMN.RD	2204		19/42 D							
EMN.RS	2223		19/39 D							
EMN.SA	2301		19/43 D							
EMN.SK	2313		19/34 D							
EMN.ST	2324		19/33 D							
EMS1	546		23/43	23/46 L						
EPAD	2		12/50	15/52 D						
EPAR	51		16/05 D							
EPBP	146	NOSTEXT	27/48							
EPDE	420		16/02 D							
EPDF	2000		16/04 D							
EPER	40		15/56 D	19/23	19/25	19/27	19/29	19/32	19/34	19/43
			16/05	19/24	19/26	19/28	19/31	19/33	19/35	
EPFW	7500	NOSTEXT	14/01	28/15						
EPND	1000		16/03 D							
EPNF	200		16/01 D	25/12						
EPNR	1		15/51 D	16/05	19/36	19/37	19/42			
EPNS	4		12/51	15/53 D						

SYMBOLIC REFERENCE TABLE.

EPO.AD	40		19/32 D				
EPO.CF	40		19/27 D				
EPO.CP	40		19/23 D				
EPO.CR	10		19/40 D				
EPO.CS	40		19/24 D				
EPO.DF	40		19/29 D				
EPO.FT	40		19/26 D				
EPO.ID	40		19/28 D				
EPO.IW	40		19/35 D				
EPO.LN	1		19/36 D				
EPO.ME	40		19/31 D				
EPO.NR	1		19/37 D				
EPO.RA	40		19/25 D				
EPO.RD	1		19/42 D				
EPO.RS	10		19/39 D				
EPO.SA	40		19/43 D				
EPO.SK	40		19/34 D				
EPO.ST	40		19/33 D				
EPRR	10		15/54 D	16/05	19/39	19/40	
EPRW	100		15/57 D	25/11			
EPSM	20		15/55 D	16/02			
EQDE	0	NOSTEXT	30/04				
ERXA	102		11/06 D				
FTN	165	NOSTEXT	26/38	27/14			
FTOE	4		19/26 L				
FTRT	4		10/35 D	19/26	19/34	19/35	
GSDA	0		8/17 D	8/17			
GSDB	0		8/25 D	8/25			
GSDC	0		8/27 D	8/27			
GSDD	0		8/02 D	8/02			
GSDE	0		7/26 D	7/26			
GSDF	0		8/36 D	8/36			
GSDG	0		8/04 D	8/04			
GSDH	0		8/38 D	8/38			
GSDI	1		7/39 D	7/39			
GSDJ	1		7/41 D	7/41			
GSDK	2		7/48 D	7/48			
GSDL	1		7/50 D	7/50			
GSDM	0		7/43 D	7/43			
GSDN	0		8/40 D	8/40			
GSDP	0		7/27 D	7/27			
GSDQ	0		7/52 D	7/52			
GSDR	0		7/54 D	7/54			
GSDV	0		8/32 D	8/32			
GSDW	0		8/34 D	8/34			
GSDX	2		8/11 D	8/11			
GSDY	2		8/13 D	8/13			
GSDZ	0		8/15 D	8/15			
GSEA	0		8/47 D	8/47			
GSEB	0		8/49 D	8/49			
GSEC	0		8/54 D	8/54			
GSED	0		8/56 D	8/56			
GSEE	0		9/01 D	9/01			
GSEF	0		9/03 D	9/03			
GSEG	0		9/15 D	9/15			
GSEH	0		9/17 D	9/17			
GSEI	0		9/22 D	9/22			

SYMBOLIC REFERENCE TABLE.

GSEJ	0		9/24 D	9/24					
GSEK	0		9/26 D	9/26					
GSEL	0		9/28 D	9/28					
GSEM	0		9/08 D	9/08					
GSEN	0		9/10 D	9/10					
GSEO	0		9/33 D	9/33					
GSEP	0		9/35 D	9/35					
GSES	0		9/40 D	9/40					
GSEU	0		9/42 D	9/42					
GSEV	0		9/44 D	9/44					
GSEW	0		9/46 D	9/46					
HEDR	7515		14/11 L						
HN	71	NOSTEXT	11/04	24/21	24/33	24/35	25/32	30/30	
IDC.AD	0		19/32 D						
IDC.CF	1		19/27 D						
IDC.CP	1		19/23 D						
IDC.CR	0		19/40 D						
IDC.CS	1		19/24 D						
IDC.DF	0		19/29 D						
IDC.FT	1		19/26 D						
IDC.ID	1		19/28 D						
IDC.IW	0		19/35 D						
IDC.LN	0		19/36 D						
IDC.ME	0		19/31 D						
IDC.NR	0		19/37 D						
IDC.RA	1		19/25 D						
IDC.RD	0		19/42 D						
IDC.RS	0		19/39 D						
IDC.SA	0		19/43 D						
IDC.SK	0		19/34 D						
IDC.ST	0		19/33 D						
IDTE	6		19/28 L						
IEC.AD	1		19/32 D						
IEC.CF	1		19/27 D						
IEC.CP	1		19/23 D						
IEC.CR	2		19/40 D						
IEC.CS	1		19/24 D						
IEC.DF	0		19/29 D						
IEC.FT	1		19/26 D						
IEC.ID	1		19/28 D						
IEC.IW	1		19/35 D						
IEC.LN	0		19/36 D						
IEC.ME	1		19/31 D						
IEC.NR	2		19/37 D						
IEC.RA	1		19/25 D						
IEC.RD	0		19/42 D						
IEC.RS	2		19/39 D						
IEC.SA	1		19/43 D						
IEC.SK	1		19/34 D						
IEC.ST	1		19/33 D						
IEM.AD	2		19/32 D						
IEM.CF	2		19/27 D						
IEM.CP	2		19/23 D						
IEM.CR	2		19/40 D						
IEM.CS	2		19/24 D						
IEM.DF	0		19/29 D						
IEM.FT	2		19/26 D						

SYMBOLIC REFERENCE TABLE.

IEM.ID	2	19/28 D								
IEM.IW	2	19/35 D								
IEM.LN	0	19/36 D								
IEM.ME	1	19/31 D								
IEM.NR	1	19/37 D								
IEM.RA	2	19/25 D								
IEM.RD	0	19/42 D								
IEM.RS	2	19/39 D								
IEM.SA	0	19/43 D								
IEM.SK	2	19/34 D								
IEM.ST	1	19/33 D								
IRTE	21	19/41 L								
IWTE	14	19/35 L								
IWTO	17	10/29 D								
IXCR	4	10/21 D								
IXIW	3	10/20 D								
IXMX	4	10/22 D								
IXST	1	10/18 D								
IXUR	2	10/19 D								
LA6DE	4	3/49 L	8/32	8/40	8/56	9/10	9/24	9/35	9/46	
		7/26	8/34	8/47	9/01	9/15	9/26	9/40		
		8/25	8/36	8/49	9/03	9/17	9/28	9/42		
		8/27	8/38	8/54	9/08	9/22	9/33	9/44		
LA6DI	1	3/46 L	7/41	7/48	7/52	8/11	8/15			
		7/39	7/43	7/50	7/54	8/13	8/17			
LA6DJ	2	3/47 L	8/02	8/04						
LA6DP	3	3/48 L	7/27							
LA6DX	5	3/50 L								
LA6MX	6	3/51 L								
LCDA	35	8/17 D								
LCDB	15	8/25 D								
LCDC	15	8/27 D								
LCDD	43	8/02 D								
LCDE	0	7/26 D								
LCDF	15	8/36 D								
LCDG	57	8/04 D								
LCDH	15	8/38 D								
LCDI	47	7/39 D								
LCDJ	47	7/41 D								
LCDK	77	7/48 D								
LCDL	77	7/50 D								
LCDM	47	7/43 D								
LCDN	15	8/40 D								
LCDP	0	7/27 D								
LCDQ	67	7/52 D								
LCDR	67	7/54 D								
LCDV	15	8/32 D								
LCDW	15	8/34 D								
LCDX	35	8/11 D								
LCDY	35	8/13 D								
LCDZ	35	8/15 D								
LCEA	15	8/47 D								
LCEB	15	8/49 D								
LCEC	15	8/54 D								
LCED	15	8/56 D								
LCEE	15	9/01 D								
LCEF	15	9/03 D								

SYMBOLIC REFERENCE TABLE.

LCEG	15	9/15	D
LCEH	15	9/17	D
LCEI	15	9/22	D
LCEJ	15	9/24	D
LCEK	15	9/26	D
LCEL	15	9/28	D
LCEM	15	9/08	D
LCEN	15	9/10	D
LCEO	15	9/33	D
LCEP	15	9/35	D
LCES	15	9/40	D
LCEU	15	9/42	D
LCEV	15	9/44	D
LCEW	15	9/46	D
LDAMDA	1	8/17	D
LDAMDB	1	8/25	D
LDAMDC	1	8/27	D
LDAMDD	1	8/02	D
LDAMDE	0	7/26	D
LDAMDF	0	8/36	D
LDAMDG	1	8/04	D
LDAMDH	0	8/38	D
LDAMDI	1	7/39	D
LDAMDJ	1	7/41	D
LDAMDK	1	7/48	D
LDAMDL	1	7/50	D
LDAMDM	1	7/43	D
LDAMDN	0	8/40	D
LDAMDP	0	7/27	D
LDAMDQ	1	7/52	D
LDAMDR	1	7/54	D
LDAMDV	0	8/32	D
LDAMDW	0	8/34	D
LDAMDX	1	8/11	D
LDAMDY	1	8/13	D
LDAMDZ	1	8/15	D
LDAMEA	0	8/47	D
LDAMEB	0	8/49	D
LDAMEC	0	8/54	D
LDAMED	0	8/56	D
LDAMEE	0	9/01	D
LDAMEF	0	9/03	D
LDAMEG	0	9/15	D
LDAMEH	0	9/17	D
LDAMEI	0	9/22	D
LDAMEJ	0	9/24	D
LDAMEK	0	9/26	D
LDAMEL	0	9/28	D
LDAMEM	0	9/08	D
LDAMEN	0	9/10	D
LDAMEO	0	9/33	D
LDAMEP	0	9/35	D
LDAMES	0	9/40	D
LDAMEU	0	9/42	D
LDAMEV	0	9/44	D
LDAMEW	0	9/46	D
LDCI	2000	27/54	

SYMBOLIC REFERENCE TABLE.

LEP	413		11/16	D		
LEP1	414		11/17	D	26/08	31/25
LNRE	15		19/36	L	30/49	
LSPSDA	1		8/17	D	8/17	
LSPSDB	4		8/25	D	8/25	
LSPSDC	40		8/27	D	8/27	
LSPSDD	1		8/02	D	8/02	
LSPSDE	1		7/26	D	7/26	
LSPSDF	10		8/36	D	8/36	
LSPSDG	1		8/04	D	8/04	
LSPSDH	40		8/38	D	8/38	
LSPSDI	1		7/39	D	7/39	
LSPSDJ	1		7/41	D	7/41	
LSPSDK	1		7/48	D	7/48	
LSPSDL	1		7/50	D	7/50	
LSPSDM	1		7/43	D	7/43	
LSPSDN	4		8/40	D	8/40	
LSPSDP	1		7/27	D	7/27	
LSPSDQ	1		7/52	D	7/52	
LSPSDR	1		7/54	D	7/54	
LSPSDV	10		8/32	D	8/32	
LSPSDW	10		8/34	D	8/34	
LSPSDX	1		8/11	D	8/11	
LSPSDY	1		8/13	D	8/13	
LSPSDZ	1		8/15	D	8/15	
LSPSEA	40		8/47	D	8/47	
LSPSEB	40		8/49	D	8/49	
LSPSEC	40		8/54	D	8/54	
LSPSED	40		8/56	D	8/56	
LSPSEE	40		9/01	D	9/01	
LSPSEF	40		9/03	D	9/03	
LSPSEG	40		9/15	D	9/15	
LSPSEH	40		9/17	D	9/17	
LSPSEI	40		9/22	D	9/22	
LSPSEJ	40		9/24	D	9/24	
LSPSEK	40		9/26	D	9/26	
LSPSEL	40		9/28	D	9/28	
LSPSEM	40		9/08	D	9/08	
LSPSEN	40		9/10	D	9/10	
LSPSEO	10		9/33	D	9/33	
LSPSEP	10		9/35	D	9/35	
LSPSES	20		9/40	D	9/40	
LSPSEU	20		9/42	D	9/42	
LSPSEV	20		9/44	D	9/44	
LSPSEW	20		9/46	D	9/46	
LSPTDA	34		8/17	D	8/17	
LSPTDB	200		8/25	D	8/25	
LSPTDC	140		8/27	D	8/27	
LSPTDD	40		8/02	D	8/02	
LSPTDE	0		7/26	D	7/26	
LSPTDF	460		8/36	D	8/36	
LSPTDG	57		8/04	D	8/04	
LSPTDH	540		8/38	D	8/38	
LSPTDI	30		7/39	D	7/39	
LSPTDJ	30		7/41	D	7/41	
LSPTDK	30		7/48	D	7/48	
LSPTDL	30		7/50	D	7/50	

SYMBOLIC REFERENCE TABLE.

LSPTDM	40	7/43	D	7/43
LSPTDN	124	8/40	D	8/40
LSPTDP	0	7/27	D	7/27
LSPTDQ	40	7/52	D	7/52
LSPTDR	40	7/54	D	7/54
LSPTDV	240	8/32	D	8/32
LSPTDW	240	8/34	D	8/34
LSPTDX	25	8/11	D	8/11
LSPTDY	25	8/13	D	8/13
LSPTDZ	34	8/15	D	8/15
LSPTEA	140	8/47	D	8/47
LSPTEB	300	8/49	D	8/49
LSPTEC	300	8/54	D	8/54
LSPTED	300	8/56	D	8/56
LSPTEE	540	9/01	D	9/01
LSPTEF	540	9/03	D	9/03
LSPTEG	240	9/15	D	9/15
LSPTEH	240	9/17	D	9/17
LSPTEI	440	9/22	D	9/22
LSPTEJ	440	9/24	D	9/24
LSPTEK	700	9/26	D	9/26
LSPTEL	1100	9/28	D	9/28
LSPTEM	1040	9/08	D	9/08
LSPTEN	1300	9/10	D	9/10
LSPTEO	150	9/33	D	9/33
LSPTEP	150	9/35	D	9/35
LSPTES	320	9/40	D	9/40
LSPTEU	320	9/42	D	9/42
LSPTEV	460	9/44	D	9/44
LSPTEW	620	9/46	D	9/46
LTCYDA	1	8/17	D	
LTCYDB	2	8/25	D	
LTCYDC	2	8/27	D	
LTCYDD	2	8/02	D	
LTCYDE	0	7/26	D	
LTCYDF	2	8/36	D	
LTCYDG	2	8/04	D	
LTCYDH	2	8/38	D	
LTCYDI	4	7/39	D	
LTCYDJ	2	7/41	D	
LTCYDK	4	7/48	D	
LTCYDL	2	7/50	D	
LTCYDM	2	7/43	D	
LTCYDN	1	8/40	D	
LTCYDP	0	7/27	D	
LTCYDQ	2	7/52	D	
LTCYDR	0	7/54	D	
LTCYDV	2	8/32	D	
LTCYDW	2	8/34	D	
LTCYDX	4	8/11	D	
LTCYDY	2	8/13	D	
LTCYDZ	2	8/15	D	
LTCYEA	2	8/47	D	
LTCYEB	2	8/49	D	
LTCYEC	1	8/54	D	
LTCYED	1	8/56	D	
LTCYEE	1	9/01	D	

SYMBOLIC REFERENCE TABLE.

LTCYEF	1		9/03 D			
LTCYEG	0		9/15 D			
LTCYEH	0		9/17 D			
LTCYEI	1		9/22 D			
LTCYEJ	1		9/24 D			
LTCYEK	2		9/26 D			
LTCYEL	3		9/28 D			
LTCYEM	2		9/08 D			
LTCYEN	2		9/10 D			
LTCYEO	0		9/33 D			
LTCYEP	0		9/35 D			
LTCYES	1		9/40 D			
LTCYEU	1		9/42 D			
LTCYEV	2		9/44 D			
LTCYEW	3		9/46 D			
MA	77	NOSTEXT	26/33	26/39	31/07	31/22
MCLTDA	0		8/17 D			
MCLTDB	7224		8/25 D			
MCLTDC	7350		8/27 D			
MCLTDD	7136		8/02 D			
MCLTDE	4001		7/26 D			
MCLTDF	7344		8/36 D			
MCLTDG	6566		8/04 D			
MCLTDH	7344		8/38 D			
MCLTDI	7144		7/39 D			
MCLTDJ	7152		7/41 D			
MCLTDK	7144		7/48 D			
MCLTDL	7152		7/50 D			
MCLTDM	7224		7/43 D			
MCLTDN	7730		8/40 D			
MCLTDP	4001		7/27 D			
MCLTDQ	7224		7/52 D			
MCLTDR	7777		7/54 D			
MCLTDV	0		8/32 D			
MCLTDW	0		8/34 D			
MCLTDX	7144		8/11 D			
MCLTDY	7132		8/13 D			
MCLTDZ	6134		8/15 D			
MCLTEA	7746		8/47 D			
MCLTEB	7746		8/49 D			
MCLTEC	7776		8/54 D			
MCLTED	7776		8/56 D			
MCLTEE	7762		9/01 D			
MCLTEF	7762		9/03 D			
MCLTEG	7751		9/15 D			
MCLTEH	7751		9/17 D			
MCLTEI	7737		9/22 D			
MCLTEJ	7737		9/24 D			
MCLTEK	7727		9/26 D			
MCLTEL	7752		9/28 D			
MCLTEM	7747		9/08 D			
MCLTEN	7751		9/10 D			
MCLTEO	7755		9/33 D			
MCLTEP	7755		9/35 D			
MCLTES	7754		9/40 D			
MCLTEU	7754		9/42 D			
MCLTEV	7764		9/44 D			

SYMBOLIC REFERENCE TABLE.

MCLTEW	7744	9/46	D
MDLDA	0	8/17	D
MDLDB	0	8/25	D
MDLDC	0	8/27	D
MDLDD	0	8/02	D
MDLDE	0	7/26	D
MDLDF	0	8/36	D
MDLDG	0	8/04	D
MDLDH	0	8/38	D
MDLDI	0	7/39	D
MDLDJ	0	7/41	D
MDLDK	0	7/48	D
MDLDL	0	7/50	D
MDLDM	0	7/43	D
MDLDN	0	8/40	D
MDLDP	0	7/27	D
MDLDQ	0	7/52	D
MDLDR	0	7/54	D
MDLDV	0	8/32	D
MDLDW	0	8/34	D
MDLDX	0	8/11	D
MDLDY	0	8/13	D
MDLDZ	0	8/15	D
MDLEA	30467	8/47	D
MDLEB	30467	8/49	D
MDLEC	46062	8/54	D
MDLED	46062	8/56	D
MDLEE	46062	9/01	D
MDLEF	46062	9/03	D
MDLEG	46061	9/15	D
MDLEH	46061	9/17	D
MDLEI	46061	9/22	D
MDLEJ	46061	9/24	D
MDLEK	46061	9/26	D
MDLEL	46061	9/28	D
MDLEM	46062	9/08	D
MDLEN	46062	9/10	D
MDLEO	30523	9/33	D
MDLEP	30523	9/35	D
MDLES	30523	9/40	D
MDLEU	30523	9/42	D
MDLEV	30523	9/44	D
MDLEW	30523	9/46	D
MLIDDA	13	8/17	D
MLIDDB	14	8/25	D
MLIDDC	115	8/27	D
MLIDDD	110	8/02	D
MLIDDE	0	7/26	D
MLIDDF	120	8/36	D
MLIDDG	111	8/04	D
MLIDDH	121	8/38	D
MLIDDI	2	7/39	D
MLIDDJ	3	7/41	D
MLIDDK	4	7/48	D
MLIDDL	5	7/50	D
MLIDDM	7	7/43	D
MLIDDN	124	8/40	D

SYMBOLIC REFERENCE TABLE.

MLIDDP	0		7/27	D			
MLIDDQ	17		7/52	D			
MLIDDR	15		7/54	D			
MLIDDV	6		8/32	D			
MLIDDW	6		8/34	D			
MLIDDX	10		8/11	D			
MLIDDY	11		8/13	D			
MLIDDZ	12		8/15	D			
MLIDEA	130		8/47	D			
MLIDEB	131		8/49	D			
MLIDEC	132		8/54	D			
MLIDED	133		8/56	D			
MLIDEE	134		9/01	D			
MLIDEF	137		9/03	D			
MLIDEG	142		9/15	D			
MLIDEH	143		9/17	D			
MLIDEI	144		9/22	D			
MLIDEJ	147		9/24	D			
MLIDEK	145		9/26	D			
MLIDEL	146		9/28	D			
MLIDEM	135		9/08	D			
MLIDEN	136		9/10	D			
MLIDEO	162		9/33	D			
MLIDEP	163		9/35	D			
MLIDES	164		9/40	D			
MLIDEU	167		9/42	D			
MLIDEV	165		9/44	D			
MLIDEW	166		9/46	D			
MSD	110	NOSTEXT	11/12	D			
MSFW	527	NOSTEXT	1/18		23/01	28/04	28/06
MSGH	7510		14/10	L			
MXDE	23		19/44	L	19/46		
MXNT	53		9/57	D			
MXSL	24		10/44	D			
NFTP	24		21/48	D			
NORE	6		16/34	D	19/36	19/37	
NRDE	16		19/37	L	30/47	30/49	
NRVE	10		19/30	L			
NTDA	2140		8/17	D			
NTDB	3222		8/25	D			
NTDC	3346		8/27	D			
NTDD	3136		8/02	D			
NTDE	0		7/26	D			
NTDF	3344		8/36	D			
NTDG	2566		8/04	D			
NTDH	3344		8/38	D			
NTDI	3140		7/39	D			
NTDJ	3150		7/41	D			
NTDK	3140		7/48	D			
NTDL	3150		7/50	D			
NTDM	3222		7/43	D			
NTDN	3727		8/40	D			
NTDP	0		7/27	D			
NTDQ	3222		7/52	D			
NTDR	3777		7/54	D			
NTDV	1456		8/32	D			
NTDW	3144		8/34	D			

SYMBOLIC REFERENCE TABLE.

NTDX	3140	8/11 D
NTDY	3130	8/13 D
NTDZ	2134	8/15 D
NTEA	3746	8/47 D
NTEB	3746	8/49 D
NTEC	3776	8/54 D
NTED	3776	8/56 D
NTEE	3762	9/01 D
NTEF	3762	9/03 D
NTEG	3751	9/15 D
NTEH	3751	9/17 D
NTEI	3737	9/22 D
NTEJ	3737	9/24 D
NTEK	3727	9/26 D
NTEL	3752	9/28 D
NTEM	3747	9/08 D
NTEN	3751	9/10 D
NTEO	3755	9/33 D
NTEP	3755	9/35 D
NTES	3754	9/40 D
NTEU	3754	9/42 D
NTEV	3764	9/44 D
NTEW	3744	9/46 D
NUDA	100	8/17 D
NUDB	100	8/25 D
NUDC	100	8/27 D
NUDD	74	8/02 D
NUDE	0	7/26 D
NUDF	10	8/36 D
NUDG	74	8/04 D
NUDH	10	8/38 D
NUDI	100	7/39 D
NUDJ	100	7/41 D
NUDK	100	7/48 D
NUDL	100	7/50 D
NUDM	100	7/43 D
NUDN	10	8/40 D
NUDP	0	7/27 D
NUDQ	100	7/52 D
NUDR	100	7/54 D
NUDV	10	8/32 D
NUDW	10	8/34 D
NUDX	100	8/11 D
NUDY	100	8/13 D
NUDZ	100	8/15 D
NUEA	40	8/47 D
NUEB	10	8/49 D
NUEC	40	8/54 D
NUED	10	8/56 D
NUEE	10	9/01 D
NUEF	10	9/03 D
NUEG	40	9/15 D
NUEH	10	9/17 D
NUEI	10	9/22 D
NUEJ	10	9/24 D
NUEK	10	9/26 D
NUEL	10	9/28 D

SYMBOLIC REFERENCE TABLE.

NUEM	10		9/08 D						
NUEN	10		9/10 D						
NUEO	40		9/33 D						
NUEP	10		9/35 D						
NUES	10		9/40 D						
NUEU	10		9/42 D						
NUEV	10		9/44 D						
NUEW	10		9/46 D						
OA	76	NOSTEXT	26/49	27/15					
ON	70	NOSTEXT	23/45	24/29	24/37	25/30	27/49	27/57	
PARE	10		19/31 L						
PDDDA	1		8/17 D						
PDDDB	1		8/25 D						
PDDDC	1		8/27 D						
PDDDD	1		8/02 D						
PDDDE	1		7/26 D						
PDDDF	1		8/36 D						
PDDDG	1		8/04 D						
PDDDH	1		8/38 D						
PDDDI	1		7/39 D						
PDDDJ	1		7/41 D						
PDDDK	1		7/48 D						
PDDDL	1		7/50 D						
PDDDM	1		7/43 D						
PDDDN	1		8/40 D						
PDDDP	1		7/27 D						
PDDDQ	1		7/52 D						
PDDDR	1		7/54 D						
PDDDV	1		8/32 D						
PDDDW	1		8/34 D						
PDDDX	1		8/11 D						
PDDDY	1		8/13 D						
PDDDZ	1		8/15 D						
PDDEA	1		8/47 D						
PDDEB	2		8/49 D						
PDDEC	1		8/54 D						
PDDED	1		8/56 D						
PDDEE	2		9/01 D						
PDDEF	2		9/03 D						
PDDEG	1		9/15 D						
PDDEH	1		9/17 D						
PDDEI	2		9/22 D						
PDDEJ	2		9/24 D						
PDDEK	3		9/26 D						
PDDEL	4		9/28 D						
PDDEM	3		9/08 D						
PDDEN	4		9/10 D						
PDDEO	1		9/33 D						
PDDEP	1		9/35 D						
PDDES	2		9/40 D						
PDDEU	2		9/42 D						
PDDEV	3		9/44 D						
PDDEW	4		9/46 D						
PIOM	37	NOSTEXT	26/38						
PKDA	2		8/17 D						
PKDB	3		8/25 D						
PKDC	2		8/27 D						

SYMBOLIC REFERENCE TABLE.

PKDD	10	8/02 D
PKDE	0	7/26 D
PKDF	3	8/36 D
PKDG	3	8/04 D
PKDH	2	8/38 D
PKDI	10	7/39 D
PKDJ	10	7/41 D
PKDK	10	7/48 D
PKDL	10	7/50 D
PKDM	3	7/43 D
PKDN	1	8/40 D
PKDP	0	7/27 D
PKDQ	3	7/52 D
PKDR	1	7/54 D
PKDV	1	8/32 D
PKDW	1	8/34 D
PKDX	10	8/11 D
PKDY	10	8/13 D
PKDZ	4	8/15 D
PKEA	10	8/47 D
PKEB	6	8/49 D
PKEC	2	8/54 D
PKED	2	8/56 D
PKEE	1	9/01 D
PKEF	1	9/03 D
PKEG	1	9/15 D
PKEH	1	9/17 D
PKEI	1	9/22 D
PKEJ	1	9/24 D
PKEK	1	9/26 D
PKEL	1	9/28 D
PKEM	1	9/08 D
PKEN	1	9/10 D
PKEO	1	9/33 D
PKEP	1	9/35 D
PKES	1	9/40 D
PKEU	1	9/42 D
PKEV	1	9/44 D
PKEW	1	9/46 D
PNUNDA	1	8/17 D
PNUNDB	1	8/25 D
PNUNDC	1	8/27 D
PNUNDD	1	8/02 D
PNUNDE	1	7/26 D
PNUNDF	1	8/36 D
PNUNDG	1	8/04 D
PNUNDH	1	8/38 D
PNUNDI	1	7/39 D
PNUNDJ	1	7/41 D
PNUNDK	1	7/48 D
PNUNDL	1	7/50 D
PNUNDM	1	7/43 D
PNUNDN	1	8/40 D
PNUNDP	1	7/27 D
PNUNDQ	1	7/52 D
PNUNDR	1	7/54 D
PNUNDV	1	8/32 D

SYMBOLIC REFERENCE TABLE.

PNUNDW	1		8/34 D			
PNUNDX	1		8/11 D			
PNUNDY	1		8/13 D			
PNUNDZ	1		8/15 D			
PNUNEA	1		8/47 D			
PNUNEB	1		8/49 D			
PNUNEC	1		8/54 D			
PNUNED	1		8/56 D			
PNUNEE	1		9/01 D			
PNUNEF	1		9/03 D			
PNUNEG	1		9/15 D			
PNUNEH	1		9/17 D			
PNUNEI	2		9/22 D			
PNUNEJ	2		9/24 D			
PNUNEK	3		9/26 D			
PNUNEL	4		9/28 D			
PNUNEM	2		9/08 D			
PNUNEN	2		9/10 D			
PNUNEO	1		9/33 D			
PNUNEP	1		9/35 D			
PNUNES	2		9/40 D			
PNUNEU	2		9/42 D			
PNUNEV	3		9/44 D			
PNUNEW	4		9/46 D			
PPFW	1100	NOSTEXT	13/18	28/07	28/08	
PRS	1017		23/09	27/48 L		
PSBFDB	10		8/25 D			
PSBFDC	1		8/27 D			
PSBFDE	40		7/26 D			
PSBFDF	4		8/36 D			
PSBFDH	1		8/38 D			
PSBFDN	10		8/40 D			
PSBFDP	40		7/27 D			
PSBFDV	4		8/32 D			
PSBFDW	4		8/34 D			
PSBFEA	1		8/47 D			
PSBFEB	1		8/49 D			
PSBFEC	1		8/54 D			
PSBFED	1		8/56 D			
PSBFEE	1		9/01 D			
PSBFEF	1		9/03 D			
PSBFEG	1		9/15 D			
PSBFEH	1		9/17 D			
PSBFEI	1		9/22 D			
PSBFEJ	1		9/24 D			
PSBFEK	1		9/26 D			
PSBFEL	1		9/28 D			
PSBFEM	1		9/08 D			
PSBFEN	1		9/10 D			
PSBFEO	4		9/33 D			
PSBFEP	4		9/35 D			
PSBFES	2		9/40 D			
PSBFEU	2		9/42 D			
PSBFEV	2		9/44 D			
PSBFEW	2		9/46 D			
PSLTDA	1510		8/17 D			
PSLTDB	240		8/25 D			

SYMBOLIC REFERENCE TABLE.

PSLTDC	26	8/27 D
PSLTDD	240	8/02 D
PSLTDE	0	7/26 D
PSLTDF	114	8/36 D
PSLTDG	1064	8/04 D
PSLTDH	26	8/38 D
PSLTDI	330	7/39 D
PSLTDJ	710	7/41 D
PSLTDK	162	7/48 D
PSLTDL	344	7/50 D
PSLTDM	2400	7/43 D
PSLTDN	430	8/40 D
PSLTDP	0	7/27 D
PSLTDQ	1200	7/52 D
PSLTDR	3600	7/54 D
PSLTDV	144	8/32 D
PSLTDW	144	8/34 D
PSLTDX	144	8/11 D
PSLTDY	310	8/13 D
PSLTDZ	644	8/15 D
PSLTEA	5	8/47 D
PSLTEB	12	8/49 D
PSLTEC	37	8/54 D
PSLTED	37	8/56 D
PSLTEE	74	9/01 D
PSLTEF	74	9/03 D
PSLTEG	65	9/15 D
PSLTEH	65	9/17 D
PSLTEI	62	9/22 D
PSLTEJ	62	9/24 D
PSLTEK	65	9/26 D
PSLTEL	63	9/28 D
PSLTEM	57	9/08 D
PSLTEN	75	9/10 D
PSLTEO	324	9/33 D
PSLTEP	324	9/35 D
PSLTES	152	9/40 D
PSLTEU	152	9/42 D
PSLTEV	150	9/44 D
PSLTEW	150	9/46 D
PSPTDA	34	8/17 D
PSPTDB	40	8/25 D
PSPTDC	3	8/27 D
PSPTDD	40	8/02 D
PSPTDE	0	7/26 D
PSPTDF	46	8/36 D
PSPTDG	57	8/04 D
PSPTDH	13	8/38 D
PSPTDI	30	7/39 D
PSPTDJ	30	7/41 D
PSPTDK	30	7/48 D
PSPTDL	30	7/50 D
PSPTDM	40	7/43 D
PSPTDN	25	8/40 D
PSPTDP	0	7/27 D
PSPTDQ	40	7/52 D
PSPTDR	40	7/54 D

SYMBOLIC REFERENCE TABLE.

PSPTDV	24	8/32	D	
PSPTDW	24	8/34	D	
PSPTDX	25	8/11	D	
PSPTDY	25	8/13	D	
PSPTDZ	34	8/15	D	
PSPTEA	3	8/47	D	
PSPTEB	6	8/49	D	
PSPTEC	6	8/54	D	
PSPTED	6	8/56	D	
PSPTEE	13	9/01	D	
PSPTEF	13	9/03	D	
PSPTEG	5	9/15	D	
PSPTEH	5	9/17	D	
PSPTEI	11	9/22	D	
PSPTEJ	11	9/24	D	
PSPTEK	16	9/26	D	
PSPTEL	22	9/28	D	
PSPTEM	21	9/08	D	
PSPTEN	26	9/10	D	
PSPTEO	15	9/33	D	
PSPTEP	15	9/35	D	
PSPTES	15	9/40	D	
PSPTEU	15	9/42	D	
PSPTEV	23	9/44	D	
PSPTEW	31	9/46	D	
PTCYDA	36	8/17	D	8/17
PTCYDB	12	8/25	D	8/25
PTCYDC	17	8/27	D	8/27
PTCYDD	12	8/02	D	8/02
PTCYDE	0	7/26	D	7/26
PTCYDF	4	8/36	D	8/36
PTCYDG	30	8/04	D	8/04
PTCYDH	4	8/38	D	8/38
PTCYDI	22	7/39	D	7/39
PTCYDJ	23	7/41	D	7/41
PTCYDK	23	7/48	D	7/48
PTCYDL	23	7/50	D	7/50
PTCYDM	50	7/43	D	7/43
PTCYDN	23	8/40	D	8/40
PTCYDP	0	7/27	D	7/27
PTCYDQ	50	7/52	D	7/52
PTCYDR	50	7/54	D	7/54
PTCYDV	12	8/32	D	8/32
PTCYDW	12	8/34	D	8/34
PTCYDX	23	8/11	D	8/11
PTCYDY	23	8/13	D	8/13
PTCYDZ	36	8/15	D	8/15
PTCYEA	4	8/47	D	8/47
PTCYEB	4	8/49	D	8/49
PTCYEC	7	8/54	D	8/54
PTCYED	7	8/56	D	8/56
PTCYEE	7	9/01	D	9/01
PTCYEF	7	9/03	D	9/03
PTCYEG	11	9/15	D	9/15
PTCYEH	11	9/17	D	9/17
PTCYEI	11	9/22	D	9/22
PTCYEJ	11	9/24	D	9/24

SYMBOLIC REFERENCE TABLE.

PTCYEK	11	9/26 D	9/26
PTCYEL	11	9/28 D	9/28
PTCYEM	7	9/08 D	9/08
PTCYEN	7	9/10 D	9/10
PTCYEO	17	9/33 D	9/33
PTCYEP	17	9/35 D	9/35
PTCYES	17	9/40 D	9/40
PTCYEU	17	9/42 D	9/42
PTCYEV	17	9/44 D	9/44
PTCYEW	17	9/46 D	9/46
PTYE	1	16/29 D	19/31
RAME	3	19/25 L	
RART	2	10/34 D	19/25
RATDA	0	8/17 D	
RATDB	3	8/25 D	
RATDC	3	8/27 D	
RATDD	0	8/02 D	
RATDE	0	7/26 D	
RATDF	4	8/36 D	
RATDG	0	8/04 D	
RATDH	4	8/38 D	
RATDI	0	7/39 D	
RATDJ	0	7/41 D	
RATDK	0	7/48 D	
RATDL	0	7/50 D	
RATDM	0	7/43 D	
RATDN	3	8/40 D	
RATDP	0	7/27 D	
RATDQ	0	7/52 D	
RATDR	0	7/54 D	
RATDV	3	8/32 D	
RATDW	3	8/34 D	
RATDX	0	8/11 D	
RATDY	0	8/13 D	
RATDZ	0	8/15 D	
RATEA	3	8/47 D	
RATEB	3	8/49 D	
RATEC	3	8/54 D	
RATED	3	8/56 D	
RATEE	3	9/01 D	
RATEF	3	9/03 D	
RATEG	3	9/15 D	
RATEH	3	9/17 D	
RATEI	3	9/22 D	
RATEJ	3	9/24 D	
RATEK	3	9/26 D	
RATEL	3	9/28 D	
RATEM	3	9/08 D	
RATEN	3	9/10 D	
RATEO	3	9/33 D	
RATEP	3	9/35 D	
RATES	3	9/40 D	
RATEU	3	9/42 D	
RATEV	3	9/44 D	
RATEW	3	9/46 D	
RBTDA	0	8/17 D	
RBTDB	3	8/25 D	

SYMBOLIC REFERENCE TABLE.

RBTDC	3		8/27	D						
RBTDD	0		8/02	D						
RBTDE	0		7/26	D						
RBTDF	5		8/36	D						
RBTDG	0		8/04	D						
RBTDH	5		8/38	D						
RBTDI	0		7/39	D						
RBTDJ	0		7/41	D						
RBTDK	0		7/48	D						
RBTDL	0		7/50	D						
RBTDM	0		7/43	D						
RBTDN	3		8/40	D						
RBTDP	0		7/27	D						
RBTDQ	0		7/52	D						
RBTDR	0		7/54	D						
RBTDV	3		8/32	D						
RBTDW	3		8/34	D						
RBTDX	0		8/11	D						
RBTDY	0		8/13	D						
RBTDZ	0		8/15	D						
RBTEA	3		8/47	D						
RBTEB	3		8/49	D						
RBTEC	3		8/54	D						
RBTED	3		8/56	D						
RBTEE	3		9/01	D						
RBTEF	3		9/03	D						
RBTEG	3		9/15	D						
RBTEH	3		9/17	D						
RBTEI	3		9/22	D						
RBTEJ	3		9/24	D						
RBTEK	3		9/26	D						
RBTEL	3		9/28	D						
RBTEM	3		9/08	D						
RBTEN	3		9/10	D						
RBTEO	3		9/33	D						
RBTEP	3		9/35	D						
RBTES	3		9/40	D						
RBTEU	3		9/42	D						
RBTEV	3		9/44	D						
RBTEW	3		9/46	D						
RDCT	103		11/07	D	31/33					
RDFE	21		19/42	L						
RDS	530	NOSTEXT	23/12	L	24/39					
RDSA	606		24/12	S	24/30	D	31/20			
RDSB	607		24/18		24/19		24/20	S	24/31	L
RDSC	611		24/14	S	24/34	D				
RDS1	571		24/17		24/20	L				
RDS2	613		24/18		24/19		24/36	L		
RDS3	620		24/26		24/39	L				
RDS.	560		23/13		24/12	L				
REBS	0		25/24		30/20					
REC.AD	0		19/32	D						
REC.CF	2		19/27	D						
REC.CP	2		19/23	D						
REC.CR	1		19/40	D						
REC.CS	2		19/24	D						
REC.DF	0		19/29	D						

SYMBOLIC REFERENCE TABLE.

REC.FT	2	19/26	D		
REC.ID	2	19/28	D		
REC.IW	0	19/35	D		
REC.LN	1	19/36	D		
REC.ME	0	19/31	D		
REC.NR	1	19/37	D		
REC.RA	2	19/25	D		
REC.RD	1	19/42	D		
REC.RS	1	19/39	D		
REC.SA	1	19/43	D		
REC.SK	0	19/34	D		
REC.ST	1	19/33	D		
REDP	0	10/10	D	30/24	
RESE	17	19/38	L		
RESS	1	24/22		30/21	
RSTO	5	10/30	D		
RSVE	5	16/33	D	19/39	19/40
RTC.AD	0	19/32	D		
RTC.CF	12	19/27	D		
RTC.CP	4	19/23	D		
RTC.CR	76	19/40	D		
RTC.CS	2	19/24	D		
RTC.DF	0	19/29	D		
RTC.FT	4	19/26	D		
RTC.ID	12	19/28	D		
RTC.IW	4	19/35	D		
RTC.LN	0	19/36	D		
RTC.ME	12	19/31	D		
RTC.NR	12	19/37	D		
RTC.RA	2	19/25	D		
RTC.RD	77	19/42	D		
RTC.RS	76	19/39	D		
RTC.SA	77	19/43	D		
RTC.SK	4	19/34	D		
RTC.ST	12	19/33	D		
SCDT	12	10/45	D		
SC1DA	0	8/17	D		
SC1DB	0	8/25	D		
SC1DC	0	8/27	D		
SC1DD	7	8/02	D		
SC1DE	0	7/26	D		
SC1DF	0	8/36	D		
SC1DG	4	8/04	D		
SC1DH	0	8/38	D		
SC1DI	7	7/39	D		
SC1DJ	7	7/41	D		
SC1DK	7	7/48	D		
SC1DL	7	7/50	D		
SC1DM	7	7/43	D		
SC1DN	0	8/40	D		
SC1DP	0	7/27	D		
SC1DQ	7	7/52	D		
SC1DR	7	7/54	D		
SC1DV	0	8/32	D		
SC1DW	0	8/34	D		
SC1DX	0	8/11	D		
SC1DY	0	8/13	D		

SYMBOLIC REFERENCE TABLE.

SC1DZ	0	8/15 D
SC1EA	0	8/47 D
SC1EB	0	8/49 D
SC1EC	0	8/54 D
SC1ED	0	8/56 D
SC1EE	0	9/01 D
SC1EF	0	9/03 D
SC1EG	0	9/15 D
SC1EH	0	9/17 D
SC1EI	0	9/22 D
SC1EJ	0	9/24 D
SC1EK	0	9/26 D
SC1EL	0	9/28 D
SC1EM	0	9/08 D
SC1EN	0	9/10 D
SC1EO	0	9/33 D
SC1EP	0	9/35 D
SC1ES	0	9/40 D
SC1EU	0	9/42 D
SC1EV	0	9/44 D
SC1EW	0	9/46 D
SC2DA	0	8/17 D
SC2DB	0	8/25 D
SC2DC	0	8/27 D
SC2DD	3	8/02 D
SC2DE	0	7/26 D
SC2DF	0	8/36 D
SC2DG	0	8/04 D
SC2DH	0	8/38 D
SC2DI	4	7/39 D
SC2DJ	4	7/41 D
SC2DK	4	7/48 D
SC2DL	4	7/50 D
SC2DM	4	7/43 D
SC2DN	0	8/40 D
SC2DP	0	7/27 D
SC2DQ	4	7/52 D
SC2DR	4	7/54 D
SC2DV	0	8/32 D
SC2DW	0	8/34 D
SC2DX	0	8/11 D
SC2DY	0	8/13 D
SC2DZ	0	8/15 D
SC2EA	0	8/47 D
SC2EB	0	8/49 D
SC2EC	0	8/54 D
SC2ED	0	8/56 D
SC2EE	0	9/01 D
SC2EF	0	9/03 D
SC2EG	0	9/15 D
SC2EH	0	9/17 D
SC2EI	0	9/22 D
SC2EJ	0	9/24 D
SC2EK	0	9/26 D
SC2EL	0	9/28 D
SC2EM	0	9/08 D
SC2EN	0	9/10 D

SYMBOLIC REFERENCE TABLE.

SC2EO	0	9/33 D				
SC2EP	0	9/35 D				
SC2ES	0	9/40 D				
SC2EU	0	9/42 D				
SC2EV	0	9/44 D				
SC2EW	0	9/46 D				
SDDA	1	8/17 D				
SDDB	0	8/25 D				
SDDC	0	8/27 D				
SDDD	1	8/02 D				
SDDE	1	7/26 D				
SDDF	0	8/36 D				
SDDG	1	8/04 D				
SDDH	0	8/38 D				
SDDI	1	7/39 D				
SDDJ	1	7/41 D				
SDDK	1	7/48 D				
SDDL	1	7/50 D				
SDDM	1	7/43 D				
SDDN	0	8/40 D				
SDDP	1	7/27 D				
SDDQ	1	7/52 D				
SDDR	1	7/54 D				
SDDV	0	8/32 D				
SDDW	0	8/34 D				
SDDX	1	8/11 D				
SDDY	1	8/13 D				
SDDZ	1	8/15 D				
SDEA	1	8/47 D				
SDEB	1	8/49 D				
SDEC	1	8/54 D				
SDED	1	8/56 D				
SDEE	1	9/01 D				
SDEF	1	9/03 D				
SDEG	1	9/15 D				
SDEH	1	9/17 D				
SDEI	1	9/22 D				
SDEJ	1	9/24 D				
SDEK	1	9/26 D				
SDEL	1	9/28 D				
SDEM	1	9/08 D				
SDEN	1	9/10 D				
SDEO	1	9/33 D				
SDEP	1	9/35 D				
SDES	1	9/40 D				
SDEU	1	9/42 D				
SDEV	1	9/44 D				
SDEW	1	9/46 D				
SEA	1012	23/44	24/27	25/28	27/33 D	
SEAA	1013	27/34 L	27/51 S	27/55 S		
SEAX	1011	27/33 L	27/36			
SKTE	13	19/34 L				
SKTO	17	10/31 D				
SLDA	1510	8/17 D	8/17			
SLDB	1200	8/25 D	8/25			
SLDC	1300	8/27 D	8/27			
SLDD	240	8/02 D	8/02			

SYMBOLIC REFERENCE TABLE.

SLDE	0		7/26 D	7/26
SLDF	1140		8/36 D	8/36
SLDG	1064		8/04 D	8/04
SLDH	1300		8/38 D	8/38
SLDI	153		7/39 D	7/39
SLDJ	343		7/41 D	7/41
SLDK	160		7/48 D	7/48
SLDL	343		7/50 D	7/50
SLDM	1200		7/43 D	7/43
SLDN	2140		8/40 D	8/40
SLDP	0		7/27 D	7/27
SLDQ	1200		7/52 D	7/52
SLDR	3600		7/54 D	7/54
SLDV	1440		8/32 D	8/32
SLDW	1440		8/34 D	8/34
SLDX	142		8/11 D	8/11
SLDY	306		8/13 D	8/13
SLDZ	644		8/15 D	8/15
SLEA	240		8/47 D	8/47
SLEB	500		8/49 D	8/49
SLEC	1740		8/54 D	8/54
SLED	1740		8/56 D	8/56
SLEE	3600		9/01 D	9/01
SLEF	3600		9/03 D	9/03
SLEG	3240		9/15 D	9/15
SLEH	3240		9/17 D	9/17
SLEI	3100		9/22 D	9/22
SLEJ	3100		9/24 D	9/24
SLEK	3240		9/26 D	9/26
SLEL	3140		9/28 D	9/28
SLEM	2740		9/08 D	9/08
SLEN	3640		9/10 D	9/10
SLEO	3240		9/33 D	9/33
SLEP	3240		9/35 D	9/35
SLES	3240		9/40 D	9/40
SLEU	3240		9/42 D	9/42
SLEV	3200		9/44 D	9/44
SLEW	3200		9/46 D	9/46
SLM	107	NOSTEXT	11/11 D	
SMSX	473		11/19 D	28/01
SOH1DA	0		8/17 D	
SOH1DB	0		8/25 D	
SOH1DC	0		8/27 D	
SOH1DD	26622		8/02 D	
SOH1DE	0		7/26 D	
SOH1DF	0		8/36 D	
SOH1DG	26622		8/04 D	
SOH1DH	0		8/38 D	
SOH1DI	16245		7/39 D	
SOH1DJ	16245		7/41 D	
SOH1DK	16245		7/48 D	
SOH1DL	16245		7/50 D	
SOH1DM	11072		7/43 D	
SOH1DN	0		8/40 D	
SOH1DP	0		7/27 D	
SOH1DQ	11072		7/52 D	
SOH1DR	11072		7/54 D	

SYMBOLIC REFERENCE TABLE.

SOH1DV	0	8/32	D
SOH1DW	0	8/34	D
SOH1DX	0	8/11	D
SOH1DY	0	8/13	D
SOH1DZ	0	8/15	D
SOH1EA	0	8/47	D
SOH1EB	0	8/49	D
SOH1EC	0	8/54	D
SOH1ED	0	8/56	D
SOH1EE	0	9/01	D
SOH1EF	0	9/03	D
SOH1EG	0	9/15	D
SOH1EH	0	9/17	D
SOH1EI	0	9/22	D
SOH1EJ	0	9/24	D
SOH1EK	0	9/26	D
SOH1EL	0	9/28	D
SOH1EM	0	9/08	D
SOH1EN	0	9/10	D
SOH1EO	0	9/33	D
SOH1EP	0	9/35	D
SOH1ES	0	9/40	D
SOH1EU	0	9/42	D
SOH1EV	0	9/44	D
SOH1EW	0	9/46	D
SOH2DA	0	8/17	D
SOH2DB	0	8/25	D
SOH2DC	0	8/27	D
SOH2DD	45710	8/02	D
SOH2DE	0	7/26	D
SOH2DF	0	8/36	D
SOH2DG	33260	8/04	D
SOH2DH	0	8/38	D
SOH2DI	27650	7/39	D
SOH2DJ	27650	7/41	D
SOH2DK	27650	7/48	D
SOH2DL	27650	7/50	D
SOH2DM	23730	7/43	D
SOH2DN	0	8/40	D
SOH2DP	0	7/27	D
SOH2DQ	23730	7/52	D
SOH2DR	23730	7/54	D
SOH2DV	0	8/32	D
SOH2DW	0	8/34	D
SOH2DX	0	8/11	D
SOH2DY	0	8/13	D
SOH2DZ	0	8/15	D
SOH2EA	0	8/47	D
SOH2EB	0	8/49	D
SOH2EC	0	8/54	D
SOH2ED	0	8/56	D
SOH2EE	0	9/01	D
SOH2EF	0	9/03	D
SOH2EG	0	9/15	D
SOH2EH	0	9/17	D
SOH2EI	0	9/22	D
SOH2EJ	0	9/24	D

SOH2EK	0	9/26 D			
SOH2EL	0	9/28 D			
SOH2EM	0	9/08 D			
SOH2EN	0	9/10 D			
SOH2EO	0	9/33 D			
SOH2EP	0	9/35 D			
SOH2ES	0	9/40 D			
SOH2EU	0	9/42 D			
SOH2EV	0	9/44 D			
SOH2EW	0	9/46 D			
SPSCDA	0	8/17 D			
SPSCDB	0	8/25 D			
SPSCDC	1	8/27 D			
SPSCDD	0	8/02 D			
SPSCDE	0	7/26 D			
SPSCDF	0	8/36 D			
SPSCDG	0	8/04 D			
SPSCDH	0	8/38 D			
SPSCDI	0	7/39 D			
SPSCDJ	0	7/41 D			
SPSCDK	0	7/48 D			
SPSCDL	0	7/50 D			
SPSCDM	0	7/43 D			
SPSCDN	0	8/40 D			
SPSCDP	0	7/27 D			
SPSCDQ	0	7/52 D			
SPSCDR	0	7/54 D			
SPSCDV	0	8/32 D			
SPSCDW	0	8/34 D			
SPSCDX	0	8/11 D			
SPSCDY	0	8/13 D			
SPSCDZ	0	8/15 D			
SPSCEA	0	8/47 D			
SPSCEB	0	8/49 D			
SPSCEC	2	8/54 D			
SPSCED	2	8/56 D			
SPSCEE	2	9/01 D			
SPSCEF	2	9/03 D			
SPSCEG	4	9/15 D			
SPSCEH	4	9/17 D			
SPSCEI	4	9/22 D			
SPSCEJ	4	9/24 D			
SPSCEK	4	9/26 D			
SPSCEL	4	9/28 D			
SPSCEM	2	9/08 D			
SPSCEN	2	9/10 D			
SPSCEO	7	9/33 D			
SPSCEP	7	9/35 D			
SPSCES	7	9/40 D			
SPSCEU	7	9/42 D			
SPSCEV	7	9/44 D			
SPSCEW	7	9/46 D			
STAE	22	19/43 L			
STSA	104	11/08 D	26/07 S	30/06	31/12
STSB	105	11/09 D	26/31		
STSE	3	16/31 D	19/29	19/33	19/34
SURT	2	10/36 D			

SYMBOLIC REFERENCE TABLE.

SUS.AD	1	19/32 D
SUS.CF	1	19/27 D
SUS.CP	1	19/23 D
SUS.CR	0	19/40 D
SUS.CS	1	19/24 D
SUS.DF	0	19/29 D
SUS.FT	1	19/26 D
SUS.ID	1	19/28 D
SUS.IW	1	19/35 D
SUS.LN	0	19/36 D
SUS.ME	1	19/31 D
SUS.NR	1	19/37 D
SUS.RA	1	19/25 D
SUS.RD	0	19/42 D
SUS.RS	0	19/39 D
SUS.SA	0	19/43 D
SUS.SK	1	19/34 D
SUS.ST	1	19/33 D
SYM.AD	100	19/32 D
SYM.CF	23	19/27 D
SYM.CP	24	19/23 D
SYM.CR	103	19/40 D
SYM.CS	51	19/24 D
SYM.DF	64	19/29 D
SYM.FT	50	19/26 D
SYM.ID	5	19/28 D
SYM.IW	107	19/35 D
SYM.LN	0	19/36 D
SYM.ME	40	19/31 D
SYM.NR	43	19/37 D
SYM.RA	63	19/25 D
SYM.RD	0	19/42 D
SYM.RS	56	19/39 D
SYM.SA	102	19/43 D
SYM.SK	106	19/34 D
SYM.ST	102	19/33 D
TLDA	430	8/17 D
TLDB	645	8/25 D
TLDC	672	8/27 D
TLDD	630	8/02 D
TLDE	0	7/26 D
TLDF	671	8/36 D
TLDG	536	8/04 D
TLDH	671	8/38 D
TLDI	630	7/39 D
TLDJ	632	7/41 D
TLDK	630	7/48 D
TLDL	632	7/50 D
TLDM	645	7/43 D
TLDN	766	8/40 D
TLDP	0	7/27 D
TLDQ	645	7/52 D
TLDR	1000	7/54 D
TLDV	314	8/32 D
TLDW	631	8/34 D
TLDX	630	8/11 D
TLDY	626	8/13 D

SYMBOLIC REFERENCE TABLE.

TLDZ	427	8/15	D	
TLEA	772	8/47	D	
TLEB	772	8/49	D	
TLEC	1000	8/54	D	
TLED	1000	8/56	D	
TLEE	775	9/01	D	
TLEF	775	9/03	D	
TLEG	773	9/15	D	
TLEH	773	9/17	D	
TLEI	770	9/22	D	
TLEJ	770	9/24	D	
TLEK	766	9/26	D	
TLEL	773	9/28	D	
TLEM	772	9/08	D	
TLEN	773	9/10	D	
TLEO	774	9/33	D	
TLEP	774	9/35	D	
TLES	773	9/40	D	
TLEU	773	9/42	D	
TLEV	775	9/44	D	
TLEW	771	9/46	D	
TLME	4007	16/35	D	
TTDA	0	8/17	D	8/17
TTDB	0	8/25	D	8/25
TTDC	0	8/27	D	8/27
TTDD	0	8/02	D	8/02
TTDE	1	7/26	D	7/26
TTDF	0	8/36	D	8/36
TTDG	0	8/04	D	8/04
TTDH	0	8/38	D	8/38
TTDI	1	7/39	D	7/39
TTDJ	1	7/41	D	7/41
TTDK	0	7/48	D	7/48
TTDL	0	7/50	D	7/50
TTDM	1	7/43	D	7/43
TTDN	0	8/40	D	8/40
TTDP	1	7/27	D	7/27
TTDQ	0	7/52	D	7/52
TTDR	0	7/54	D	7/54
TTDV	0	8/32	D	8/32
TTDW	0	8/34	D	8/34
TTDX	0	8/11	D	8/11
TTDY	0	8/13	D	8/13
TTDZ	0	8/15	D	8/15
TTEA	0	8/47	D	8/47
TTEB	0	8/49	D	8/49
TTEC	0	8/54	D	8/54
TTED	0	8/56	D	8/56
TTEE	0	9/01	D	9/01
TTEF	0	9/03	D	9/03
TTEG	0	9/15	D	9/15
TTEH	0	9/17	D	9/17
TTEI	0	9/22	D	9/22
TTEJ	0	9/24	D	9/24
TTEK	0	9/26	D	9/26
TTEL	0	9/28	D	9/28
TTEM	0	9/08	D	9/08

SYMBOLIC REFERENCE TABLE.

TTEN	0		9/10 D	9/10								
TTEO	0		9/33 D	9/33								
TTEP	0		9/35 D	9/35								
TTES	0		9/40 D	9/40								
TTEU	0		9/42 D	9/42								
TTEV	0		9/44 D	9/44								
TTEW	0		9/46 D	9/46								
T1	1	NOSTEXT	25/57 S	26/03	30/25	30/31 I						
T2	2	NOSTEXT	28/15	30/10 I	31/21 S							
T4	4	NOSTEXT	26/34	26/40 S	27/35							
T5	5	NOSTEXT	30/03									
UERR	106		11/10 D	25/09								
UJNI	300		24/18									
WCSF	300000	NOSTEXT	25/08									
WDS	532	NOSTEXT	23/16 L	25/37								
WDSA	643		25/06 S	25/17 D								
WDSB	664		24/57 S	25/31 D								
WDSC	666		25/02 S	25/33 D								
WDSD	653		25/18 S	25/23 D	25/34							
WDSE	101	NOSTEXT	11/05 D									
WDS0	556		23/17	23/53 L								
WDS2	652		25/22 L	27/09								
WDS3	660		25/21	25/28 L								
WDS.	624		23/53	24/57 L								
WESS	2		25/35	30/22								
WLSF	0	NOSTEXT	25/07									
WRIP	1		10/11 D	30/23								
ZERL	66	NOSTEXT	27/56									
ZERO	1043		23/45	24/37	27/49 S	27/50	27/52	27/57 S	28/03 L	28/14		
(7DE)	0		26/08 D									
(7EK)	0		31/25 D									
.AI	43		7/37 D	7/50	8/04 D	8/23	8/36	8/49 D	9/15 D	9/40 D		
			7/39	7/50 D	8/07	8/25	8/36 D	8/54	9/22	9/44		
			7/39 D	7/52	8/11	8/25 D	8/38	8/54 D	9/22 D	9/44 D		
			7/41	7/52 D	8/11 D	8/27	8/38 D	9/01	9/26	9/46		
			7/41 D	7/54	8/13	8/27 D	8/40	9/01 D	9/26 D	9/46 D		
			7/43	7/54 D	8/13 D	8/30	8/40 D	9/08	9/28	9/49		
			7/43 D	7/57	8/15	8/32	8/43	9/08 D	9/28 D	9/50		
			7/46	8/02	8/15 D	8/32 D	8/47	9/10	9/33	9/55		
			7/48	8/02 D	8/17	8/34	8/47 D	9/10 D	9/33 D			
			7/48 D	8/04	8/17 D	8/34 D	8/49	9/15	9/40			

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SYMBOLIC REFERENCE TABLE.

.A1             4                   7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/26      7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/33 D
                                    7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/26      7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/33 D
                                    7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/26      7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/33 D
                                    7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/26      7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/33 D
                                    7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/26      7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/17 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/17      9/35 D
                                    7/26 D    7/48      8/04 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/04      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/01 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/01      9/22 D    9/35
                                    7/26      7/48 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/48      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/40 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/40      9/03 D    9/22      9/35 D
                                    7/26 D    7/50      8/11 D    8/27      8/47 D    9/03      9/22 D    9/35
                                    7/26      7/50 D    8/11      8/27 D    8/47      9/03 D    9/22      9/35 D
                                    7/27 D    7/50      8/11 D    8/27      8/47 D    9/03      9/22 D    9/35
                                    7/27      7/50 D    8/11      8/27 D    8/47      9/03 D    9/22      9/35 D
                                    7/27 D    7/50      8/11 D    8/27      8/47 D    9/03      9/22 D    9/35
                                    7/27      7/50 D    8/11      8/27 D    8/47      9/03 D    9/22      9/35 D
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SYMBOLIC REFERENCE TABLE.

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                                    7/48      8/04 D    8/25      8/38 D    9/01      9/17 D    9/33
                                    7/48 D    8/04      8/25 D    8/38      9/01 D    9/17      9/33 D
                                    7/48      8/04 D    8/25      8/40 D    9/01      9/17 D    9/33
                                    7/48 D    8/04      8/25 D    8/40      9/01 D    9/17      9/33 D
.A2             1                   7/26 D    7/48      8/11 D    8/27      8/47 D    9/03      9/24 D    9/40
                                    7/26      7/50 D    8/11      8/32 D    8/47      9/08 D    9/24      9/42 D
                                    7/27 D    7/50      8/13 D    8/32      8/49 D    9/08      9/26 D    9/42
                                    7/27      7/52 D    8/13      8/34 D    8/49      9/10 D    9/26      9/44 D
                                    7/39 D    7/52      8/15 D    8/34      8/54 D    9/10      9/28 D    9/44
                                    7/39      7/54 D    8/15      8/36 D    8/54      9/15 D    9/28      9/46 D
                                    7/41 D    7/54      8/17 D    8/36      8/56 D    9/15      9/33 D    9/46
                                    7/41      8/02 D    8/17      8/38 D    8/56      9/17 D    9/33
                                    7/43 D    8/02      8/25 D    8/38      9/01 D    9/17      9/35 D
                                    7/43      8/04 D    8/25      8/40 D    9/01      9/22 D    9/35
                                    7/48 D    8/04      8/27 D    8/40      9/03 D    9/22      9/40 D
.DLY          255   NOSTEXT        26/53     27/13
.DST1         625                  11/22 D
.EMS          535   NOSTEXT        23/40 D
.EMSX         534                  23/40 L   23/50
.EST          245   NOSTEXT        30/03
```

SYMBOLIC REFERENCE TABLE.

.NT	52	7/20 D	7/48	8/04 D	8/27	8/40 D	9/03	9/22 D	9/40
		7/26	7/48 D	8/11	8/27 D	8/47	9/03 D	9/24	9/40 D
		7/26 D	7/50	8/11 D	8/32	8/47 D	9/08	9/24 D	9/42
		7/27	7/50 D	8/13	8/32 D	8/49	9/08 D	9/26	9/42 D
		7/27 D	7/52	8/13 D	8/34	8/49 D	9/10	9/26 D	9/44
		7/39	7/52 D	8/15	8/34 D	8/54	9/10 D	9/28	9/44 D
		7/39 D	7/54	8/15 D	8/36	8/54 D	9/15	9/28 D	9/46
		7/41	7/54 D	8/17	8/36 D	8/56	9/15 D	9/33	9/46 D
		7/41 D	8/02	8/17 D	8/38	8/56 D	9/17	9/33 D	9/57
		7/43	8/02 D	8/25	8/38 D	9/01	9/17 D	9/35	
		7/43 D	8/04	8/25 D	8/40	9/01 D	9/22	9/35 D	
.RDS2	556	11/21 D							

SYMBOL QUALIFIER = COMSDFS

D6DE	2	30/11	
HS0005	5	19/28	
HS0023	23	19/27	
HS0024	24	19/23	
HS0040	40	19/31	
HS0043	43	19/37	
HS0050	50	19/26	
HS0051	51	19/24	
HS0056	56	19/39	
HS0063	63	19/25	
HS0064	64	19/29	
HS0100	100	19/32	
HS0102	102	19/33	19/43
HS0103	103	19/40	
HS0106	106	19/34	
HS0107	107	19/35	

SYMBOL QUALIFIER = MACRO$

DELAY	772	26/53 D	27/13 D
ENTRY	7644	29/52 D	
MONITOR	777	26/38 D	27/14 D
MSERR	7764	26/08 D	31/25 D
MSOVL	1043	28/15 D	
PAUSE	777	27/14 D	
SFA	7646	30/03 D	

SYMBOL QUALIFIER = 7DE

LEN	137	28/15 D	28/15

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LN          10003                28/15 D   28/15     31/35
MSG          7644                29/52 L   31/32
MSG2         7705                30/27     30/32 L
MSG3         7717                30/43     30/46 L
MSG4         7727                30/45     30/48     30/50     30/52 L
MSG7         7751                31/14     31/16 L
MSG8         7756                31/06     31/20 L
OFFW         7500                28/15 D   28/15     29/03
.1            132                30/03 D   30/11 D   30/11     31/25 D   31/25
.2              0                30/04 D
```

17.41.52.UCLP, 17, 031, 5.056KLNS.