



1 \*EDIT MSM

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1412THE

COPYRT MODIFIERS.

NS2796

4 ACTIVE LINE(S).

1 INACTIVE LINE(S).

1 INSERTED LINE(S).

MSM

MODIFIERS.

NS2547	MSM35	MSM38	271L716	MSM41	MSM45	281L803	MSM47	MSM48	NS2780A
NS2552	MSM36	NS2632	NS2669	MSM43	MSM46	NS2768	284L847	MSM49	NS2783
NS2576	MSM37	MSM40	NS2682	MSM44	272L774	283L840	NS2780	NS2776	NS2788

*CALL	COMPMAC	MSM	76
*CALL	COMSACC	MSM	77
*CALL	COMSCPS	MSM	78
*CALL	COMSDSL	MSM	79
*CALL	COMSEVT	MSM	80
*CALL	COMSHIO	MSM	81
*CALL	COMSIOQ	MSM	82
*CALL	COMSLSD	MSM	83
*CALL	COMSMLS	MSM	84
*CALL	COMSMMF	MSM	86
*CALL	COMSMSC	MSM	87
*CALL	COMSMSP	MSM	88
*CALL	COMSPFM	MSM	89
*CALL	COMSPIM	MSM	90
*CALL	COMSSSD	MSM	91
*CALL	COMSWEI	MSM	92
*CALL	COMSZOL	MSM	93
*CALL	COMSMST	MSM	96
*CALL	COMP2D	MSM	118
*CALL	COMPIFR	MSM	119
*CALL	COMPTGB	MSM	120
*CALL	COMPACS	MSM	895
*CALL	COMPRSI	MSM	896
*CALL	COMP2D	MSM	2217
*CALL	COMP2D	MSM	2218
*CALL	COMSJIO	MSM	2469
*CALL	COMSPFM	MSM	2470
*CALL	COMSSSE	MSM	2471
*CALL	COMPACS	MSM	3782
*CALL	COMPCLC	NS2547	5 3782
*CALL	COMP2D	MSM	3788
*CALL	COMP2D	MSM	3789
*CALL	COMP2D	MSM	3790
*CALL	COMPRSS	MSM	3791
*CALL	COMPSEI	NS2788	130 3791
*CALL	COMPSES	MSM	3792
*CALL	COMP2D	NS2788	131 3792
*CALL	COMP2D	NS2788	132 3792
*CALL	COMPTLB	MSM	3793
*CALL	COMPTGB	MSM	3794
*CALL	COMPVLC	NS2788	134 3794
*CALL	COMPWEI	NS2788	136 3794
*CALL	COMPWSS	NS2788	137 3794
*CALL	COMPVEI	MSM	3795

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*CALL	COMPCEA	MSM	3869	
*CALL	COMPCEA	MSM	4005	
*CALL	COMPCLC	MSM	4007	
*CALL	COMPRLA	MSM	4011	
*CALL	COMPSES	MSM	4012	
*CALL	COMPSSI	MSM	4013	
*CALL	COMPTLB	MSM	4014	
*CALL	COMPSFE	MSM	6680	
*CALL	COMPUFT	NS2552	84	6680
*CALL	COMPVFN	MSM	7207	
*CALL	COMPCTI	MSM	7929	
*CALL	COMPSTI	MSM	7930	
*CALL	COMPSTR	MSM	9557	
*CALL	COMPCHM	283L840	1490	9602
*CALL	COMPCTI	MSM	9946	
*CALL	COMPSEI	MSM	9947	
*CALL	COMPSTI	MSM	9948	
*CALL	COMPORA	MSM	10160	
*CALL	COMPRNS	MSM	10166	

10817 ACTIVE LINE(S).      2238 INACTIVE LINE(S).      2882 INSERTED LINE(S).

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## DECKS ON PROGRAM LIBRARY.

1	COPYRT	COMCSFN	COMP2D	COMPVID	COMSWEI	0ST	IHFU	TDUMP	COMFXFO	COMXSEB	EORSS15	SUBMT	1
2	CETEXT	COMCSKW	COMPDDT	COMPVLC	COMSZOL	0VJ	INSTALL	TDUOUT	COMFXSB	COMTALT	M86FORM	TARO	2
3	ECSTEXT	COMCSNF	COMPDLI	COMPVMS	COMS0VU	0VU	ISF	TDUTAB	COMFXSC	COMTBLD	M86SERV	TERMDEF	3
4	PPTXT	COMCSNM	COMPPTS	COMPVPA	COMS1DS	1AJ	KEY	TERMIO	COMFXWK	COMTBLP	EORSS16	TSIM	4
5	PSSTEXT	COMCSOE	COMPVVC	COMPVSP	COMS1MV	1CD	KEYEX	TRMDEF	FSEBUFF	COMTCTW	VERMSGC	TSTAT	5
6	NOSTEXT	COMCSRI	COMPV5	COMPWBB	COMS1RM	1CK	KEYPAN	ULIB	FSECMDS	COMTDBG	EORSS17	WAIT	6
7	SSYTEXT	COMCSRT	COMPECX	COMPWCB	COMS176	1CL	KRONREF	VALEX	FSEDATA	COMTDBP	MSE	WAITINP	7
8	SYSTEXT	COMCSSN	COMPFAT	COMPWEI	COMTBAN	1DL	LDI	VALNET	FSEEDIT	COMTDEF	MSESLAV	WSTAT	8
9	CPCOM	COMCSST	COMPFLF	COMPWSS	COMTCVT	1DS	LIBEDIT	VCC	FSEEX	COMTDER	MSECONF	BTASK	9
10	PPCOM	COMCSTF	COMPGBN	COMPWVE	COMTDA8	1HY	LIBGEN	VDTSUBS	FSEFILE	COMTDFP	EORSS18	CRMTASK	10
11	COMCMAC	COMCSYS	COMPGBP	COMSACC	COMTDP6	1IO	LIBRARY	VERIFY	FSEFORM	COMTERR	SSCONTL	CTASK	11
12	COMCCMD	COMCTIO	COMPBTN	COMSATF	COMTDP9	1IS	LIDOU	VFYLIB	FSEHELP	COMTFMT	FREEDSK	ITASK	12
13	COMABZF	COMCUPC	COMPICP	COMSBIO	COMTDSP	1LC	LISTLB	VIRTERM	FSELIB	COMTLAB	DESTAGE	KDIS	13
14	COMAFET	COMCUSB	COMPIFR	COMSCIO	COMTNAP	1MA	LISTLID	MAC1	FSEMAIN	COMTLBP	EORSS19	LOGT	14
15	COMAMSS	COMCVDE	COMPIMB	COMSCPD	COMTVDT	1MB	LIST80	MAC2	FSEPROC	COMTMOV	ISHARED	MSABT	15
16	COMAPFP	COMCVDT	COMPIOU	COMSCPS	COMT6DP	1MC	LOADBC	RFORM	FSESCRN	COMTMVD	COMKMAC	OFFTASK	16
17	COMAPFS	COMCVLC	COMPIRA	COMSCVS	COMT8AD	1MD	L072	SYMSERV	FSESUBS	COMTMVP	COMKARF	RCTASK	17
18	COMCARG	COMCVQF	COMPLDA	COMSDFS	COMT9DP	1MI	MAG	CPUREL	FSETABL	COMTOUT	COMKBRD	RTASK	18
19	COMCARM	COMCWOD	COMPLDB	COMSDFT	COMUCPD	1MS	MAGNET	APRINST	FSEWORK	COMTSIT	COMKBST	STASK	19
20	COMCBAN	COMCWTA	COMPMRA	COMSDSL	COMUEST	1MT	MFILES	CMRINST	FSTEACH	COMTUSE	COMKCBT	SYMSG	20
21	COMCBLP	COMCWTC	COMPMM	COMSDSP	COMUFMT	1MU	MLSEXEC	EQPINST	SMFEX	COMTUSP	COMKCBT	XTASK	21
22	COMCCCE	COMCWTH	COMPMMQ	COMSDST	COMUJCA	1MV	MODIFY	IPRINST	SMFSTAT	COMTVLD	COMKCRM	COMCCDM	22
23	COMCCDD	COMCWTO	COMPMSV	COMSEJT	COMUOUT	1PP	MODVAL	COMLBAS	SMF	COMTVLF	COMKDPB	COMCCDP	23
24	COMCCFD	COMCWTS	COMPNFL	COMSESS	COMUPRB	1RI	MSI	COMLESM	1HP	COMTVLM	COMKFIO	COMSSTM	24
25	COMCCHD	COMCWTW	COMPPI	COMSEVT	COMUQPR	1RM	NOTE	COMLFLD	COMCLNI	COMTVLP	COMKFLD	ADC	25
26	COMCCHG	COMCZAP	COMPPIR	COMSHIO	COMUQQC	1RO	OPLEDIT	COMLIPR	IAFP	COMTVLV	COMKIPR	BAT	26
27	COMCCIO	COMCZTB	COMPRBB	COMSIOQ	CALLCPU	1SJ	PACK	COMLSCD	IAFTM	COMTVLX	COMKKIM	DCC	27
28	COMCCNS	COMDMAC	COMPRCB	COMSIOU	CALLDIS	1TA	PANEL	COMLUEM	IAFTR	CALLFAS	COMKNWC	DDF	28
29	COMCCOD	COMDDBS	COMPRCS	COMSJCE	CALLPPU	1TM	PANSUBS	COMLVER	1TN	1SS	COMKNWF	DOG	29
30	COMCCPA	COMDDCM	COMPRI	COMSJIO	CALLSYS	1TO	PDU	APRDECK	RECOVER	EORSS1	COMKOPD	DS1	30
31	COMCCPM	COMDDIS	COMPREL	COMSJRO	CALLTAB	1VP	PFAM	CMRDECK	0MF	GMSG	COMKRRD	HFM	31
32	COMCCPT	COMDDSP	COMPRFI	COMSLFD	CALLINT	1XD	PFDM	EQPDECK	1MR	SMSG	COMKSCD	MPF	32
33	COMCCUA	COMDD7S	COMPRJC	COMSLFM	CPM	1XM	PFDUMP	IPRDECK	MREC	CALPFU	COMKSTC	SMP	33
34	COMCCVI	COMDGJD	COMPRLA	COMSLSD	CVL	1XY	PFHELPR	LIBDECK	MTE	GETMST	COMKTAF	WRM	34
35	COMCCVL	COMDSYS	COMPRLI	COMSMLS	DIO	5ME	PFILES	RDFP	COMBFAS	SETQP	COMKTDI	1TS	35
36	COMCDCM	COMDTFN	COMPRLM	COMSMMF	DIS	6DC	PFLIST	SUPERM	COMBBZF	EORSS2	COMKTER	DDFILE	36
37	COMCDCP	COMFCID	COMPRLS	COMSMRT	DSD	6DD	PFLOAD	VEMEM	COMBCDD	SSOVL	COMKTIF	DEMUX	37
38	COMCDTC	COMFVD2	COMPRNS	COMSMSC	DSP	6DE	PFS	ZTDAMT0	COMBCHN	SSARG	COMKTIP	DMPCCC	38
39	COMCDXB	COMFVD3	COMPRSI	COMSMSI	ELM	6DI	PROFILE	ZTDCCLC	COMBCMD	EORSS3	COMKTLI	KEYUTIL	39
40	COMCECM	COMFXTI	COMPRSS	COMSMSP	FDL	6DP	PURGALL	ZTDCCON	COMBCMS	SSEXEC	COMKTRF	LPT	40
41	COMCECS	COMFXVT	COMPSAF	COMSMST	IMS	6DX	QDSPLAY	ZTDCERR	COMBCPR	EORSS4	COMKTRN	MST	41
42	COMCEDT	COMFPAN	COMPSCA	COMSMTR	LFM	BATCHIO	QDUMP	ZTDCVRB	COMBFET	SSSLV	COMKTTA	PACKER	42
43	COMCFCE	COMFTIO	COMPSDA	COMSMTX	MDD	BLANK	QFSP	ZTDNMT0	COMBHFC	EORSS5	COMKTSC	SCRSIM	43
44	COMCFLD	COMFVDT	COMPSDI	COMSNCD	MSM	CATALOG	QFTLIST	ZTDPCLP	COMBKDA	ACCCAT	COMKTST	STIMULA	44
45	COMCFQO	COMFVD1	COMPSDN	COMSNET	MTR	CATLIST	QGET	ZTDPERR	COMBKDD	ACCMAP	COMKZFN	TST	45
46	COMCGMS	COMPAC	COMPSDR	COMSPDT	OSB	CHKPT	QLOAD	ZTDPFIL	COMBLBL	SSINIT	TAFPRC	DFSORT	46
47	COMCGTO	COMPACS	COMPSEI	COMSPFM	026	CLASS	QMOVE	ZTDPTBD	COMBLRQ	EORSS6	CALLKTS	PSAMP	47
48	COMCHXB	COMPANS	COMPSES	COMSPFS	PFM	CLDT	QREC	ZTDPTBS	COMBMAP	SSALTER	KTSDMP	SECART	48
49	COMCIQP	COMPAPI	COMPSFB	COMSPFU	PFU	CODING	RECLAIM	ZTDTFIL	COMBMAT	EORSS7	LIBTASK	MSGID	49
50	COMCJCR	COMPAST	COMPSFE	COMSPIM	PPR	CONFIG	REDO	ZTDTTAB	COMBMCT	SSBLD	TAFLOG	ABC	50
51	COMCLFM	COMPADB	COMPSFI	COMSPRD	QAC	CONTROL	RESEQ	ZTDVERB	COMBOVL	EORSS8	TAF	CHD	51
52	COMCLOD	COMPADD	COMPSFN	COMSPRO	QAP	COPYB	RESEX	ZTDVMT0	COMBPFP	SSDEBUG	TAFREC	DEBUG	52
53	COMCMSF	COMPCEA	COMPSIC	COMSQAC	QFM	COPYC	RESTART	ZTDV PDT	COMBPFS	EORSS9	BAAML	CPD	53
54	COMCMTM	COMPCEP	COMPSMI	COMSQFS	REC	CPMEM	ROUTE	5870JDL	COMBRCD	SSDEF	DMREC	ICPD	54
55	COMCMTP	COMPCHD	COMPSNT	COMSREM	RPV	CPUMLD	SCREX	EOR1	COMBSIT	EORSS10	TARL	ACPD	55
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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	COMP CIB	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	DOCUMENT	SHOW	EOR8	COMXCCB	SSVAL	CALLTRN	COMCMBS
COMCQFM	COMPCLX	COMPSTA	COMSSRT	VER	DSDI	SHOWEX	EOR9	COMXCTF	EORSS14	CALLTSK	COMPTFM
COMCQFP	COMP CMA	COMPSTI	COMSSRU	XHC	EDIT	SMFSUBS	EOR10	COMXEMC	EXDRVR	CEASE	COMSTFU
COMCRDA	COMP CMX	COMPSUD	COMSSSD	0AU	ENQUIRE	SORT	COMFDS1	COMXEXP	SXDEST	CHKON	TFM
COMCRDC	COMP COB	COMPSUT	COMSSSE	0AV	FCOPY	STAGE	COMFDS2	COMXFCQ	SXHLR	CMDUMP	TFU
COMCRDH	COMP CPE	COMPTGB	COMSSSJ	0BF	FILES	SUBMIT	COMFFSE	COMXHLR	SXINIT	DSDUMP	TFILES
COMCRDO	COMP CRA	COMPTLB	COMSTCM	0DF	FOTD	SUBSYST	COMFMLT	COMXINT	SXKD	EXTRACT	TFSP
COMCRDS	COMP CRS	COMPTMA	COMSTDR	0DQ	GENPFD	SYMPCOD	COMFONL	COMXIPR	SXLLR	INTOT	LDISTAP
COMCRDW	COMP CSC	COMPUFT	COMSTFM	0FA	GTR	SYSEDIT	COMFSGL	COMXJCA	SXMAIN	JOURNAL	GETTASV
COMCRSB	COMP CTE	COMPUPP	COMSTIO	0PT	HELPLIB	TCOMND	COMFSMF	COMXLTC	SXSERV	LIMITS	SETTASV
COMCRSP	COMP CTI	COMPUPS	COMSTIR	0QM	HOSTCPY	TDU	COMFTAB	COMXMFD	SXSTGE	LOGIN	TMSPROC
COMCRTN	COMP CUA	COMPVEI	COMSTRX	0RF	HSTCOPY	TDUEX	COMFXCM	COMXMMF	SXSLV	MULTCB	TMSPROG
COMCSCB	COMP CUT	COMPVFC	COMSVED	0RP	IAFEX	TDUFILE	COMFXED	COMXMSC	SXUCP	SEND	
COMCSFM	COMP CVI	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	COMP CDB	COMPIMB	COMPSMI	COMSDFS	COMSRSX	COMUFMT	COMFXFL	COMXINT	COMK CBD
PPCOM	COMCIQP	COMCUPC	COMP CDD	COMP IOU	COMPSNT	COMSDFT	COMSSCD	COMUJCA	COMFXFO	COMXIPR	COMK CBT
COMCMAC	COMCJCR	COMCUSB	COMPCEA	COMP IRA	COMPSOF	COMSDSL	COMSSCP	COMUOUT	COMFXSB	COMXJCA	COMK CRM
COMCCMD	COMCLFM	COMCVDE	COMP CFP	COMPLDA	COMPSPA	COMSDSP	COMSSCR	COMUPRB	COMFXSC	COMXLTC	COMKDPB
COMABZF	COMCLOD	COMCVDT	COMP CHD	COMPLDB	COMPSRA	COMSDST	COMSSFM	COMUQPR	COMFXWK	COMXMFD	COMK FIO
COMAFET	COMCMSF	COMCVLC	COMP CHI	COMP MRA	COMPSRR	COMSEJT	COMSSFS	COMUQQC	COMCLNI	COMXMMF	COMK FLD
COMAMSS	COMCMTM	COMCVQF	COMP CHL	COMP MRM	COMPSRU	COMSESS	COMSSRT	COMLBAS	COMBFAS	COMXMSC	COMK IPR
COMAPFP	COMCMTP	COMCWOD	COMP CHM	COMP MRQ	COMPSSE	COMSEVT	COMSSRU	COMLESM	COMBBZF	COMXOVL	COMK KIM
COMAPFS	COMCMVE	COMCWTA	COMP CIB	COMP MSV	COMPSSF	COMSHIO	COMSSSD	COMLFLD	COMBCDD	COMXSEB	COMK NWC
COMCARG	COMCOVL	COMCWTC	COMP CLC	COMP NFL	COMPSTA	COMSIOQ	COMSSSE	COMLI PR	COMBCHN	COMTALT	COMK NWF
COMCARM	COMCPFM	COMCWTH	COMP CKP	COMP PDI	COMPSTI	COMSIOU	COMSSSJ	COMLSCD	COMBCMD	COMTBLD	COMK OPD
COMCBAN	COMCPFP	COMCWTO	COMP CLD	COMP PPR	COMPSUD	COMSJCE	COMSTCM	COMLUEM	COMBCMS	COMTBLP	COMK RRD
COMCBLP	COMCPFS	COMCWTS	COMP CLX	COMP RBB	COMPSUT	COMSJIO	COMSTDR	COMLVER	COMBCPR	COMTCTW	COMK SCD
COMCCCE	COMCPFU	COMCW TW	COMP CMA	COMP RCB	COMPTGB	COMSJRO	COMSTFM	ZTDAMT0	COMBFET	COMTDBG	COMK STC
COMCCDD	COMCPOP	COMCZAP	COMP CMX	COMP RCS	COMPTLB	COMSLFD	COMSTIO	ZTDCCLC	COMBHFC	COMTDBP	COMK TAF
COMCCFD	COMCQFM	COMCZTB	COMP COB	COMP REI	COMPTMA	COMSLFM	COMSTIR	ZTDCCON	COMBKDA	COMTDEF	COMK TDM
COMCCHD	COMCQFP	COMDMAC	COMP CPE	COMP REL	COMPUFT	COMSLSD	COMSTRX	ZTDCERR	COMBKDD	COMTDER	COMK TER
COMCCHG	COMCRDA	COMDDBS	COMP CRA	COMP RFI	COMPUPP	COMSMLS	COMSVED	ZTDCVRB	COMLBLBL	COMTDFP	COMK TIF
COMCCIO	COMCRDC	COMDDCM	COMP CRS	COMP RJC	COMPUPS	COMSMMF	COMSVER	ZTDNMT0	COMBLRQ	COMTERR	COMK TIP
COMCCNS	COMCRDH	COMDDIS	COMP CSC	COMP RLA	COMPVEI	COMSMRT	COMSWEI	ZTDPCLP	COMBMAP	COMTFMT	COMK TLD
COMCCOD	COMCRDO	COMDDSP	COMP CTE	COMP RLI	COMPVFC	COMSMSC	COMSZOL	ZTDPERR	COMBMAT	COMTLAB	COMK TRF
COMCCPA	COMCRDS	COMDD7S	COMP CTI	COMP RLM	COMPVFN	COMSMSI	COMS0VU	ZTDPFIL	COMBMCT	COMTLBP	COMK TRN
COMCCPM	COMCRDW	COMDGJD	COMP CUA	COMP RLS	COMPVID	COMSMSP	COMS1DS	ZTDPTBD	COMBOVL	COMTMOV	COMK TSA
COMCCPT	COMCRSB	COMDSYS	COMP CUT	COMP RNS	COMPVLC	COMSMST	COMS1MV	ZTDPTBS	COMBPFP	COMTMVD	COMK TSC
COMCCUA	COMCRSP	COMDTFN	COMP CVI	COMP RSI	COMPVMS	COMSMTR	COMS1RM	ZTDTFIL	COMBPFS	COMTMVP	COMK TST
COMCCVI	COMCRTN	COMFCID	COMP C2D	COMP RSS	COMPVPA	COMSMTX	COMS176	ZD TTTAB	COMBRCD	COMTOUT	COMK ZFN
COMCCVL	COMCSCB	COMFVD2	COMP DDT	COMP SAF	COMPVSP	COMSNCD	COMTBAN	ZTDVERB	COMBSIT	COMTSIT	COMCCDM
COMCDCM	COMCSFM	COMFVD3	COMP DLI	COMP SCA	COMPWBB	COMSNET	COMTCVT	ZTDVMT0	COMBSNS	COMTUSE	COMCCDP
COMCDCP	COMCSFN	COMFXTI	COMP DTS	COMP SDA	COMPWCB	COMSPDT	COMTDA8	ZTDV PDT	COMBTDM	COMTUSP	COMSSTM
COMCDTC	COMCSKW	COMFXVT	COMP DVC	COMP SDI	COMPWEI	COMSPFM	COMTDP6	COMFDS1	COMBU CR	COMTVLD	COMCCKD
COMCDXB	COMCSNF	COMFPAN	COMP DV5	COMP SDN	COMPWSS	COMSPFS	COMTDP9	COMFDS2	COMBUDT	COMTVLF	COMCMBS
COMCECM	COMCSNM	COMFTIO	COMP ECX	COMP SDR	COMPWVE	COMSPFU	COMTDSP	COMFFSE	COMXACM	COMTVLM	COMPTFM
COMCECS	COMCSOE	COMFVDT	COMP FAT	COMP SEI	COMSACC	COMSPIM	COMTNAP	COMFMLT	COMXBST	COMTVLP	COMSTFU

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COMCEDT	COMCSRI	COMFVD1	COMPFLF	COMPSES	COMSATF	COMSPRD	COMTVDT	COMFONL	COMXCCB	COMTVLV
COMCFCE	COMCSRT	COMPAC	COMPGBN	COMPSFB	COMSBIO	COMSPRO	COMT6DP	COMFSGL	COMXCTF	COMTVLX
COMCFLD	COMCSSN	COMPACS	COMPGBP	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.

MSM

102600B STORAGE USED.

25248 LINES WRITTEN ON COMPILE FILE.

CMS

1412THE



ADDRESS LENGTH BINARY CONTROL CARDS.

1115 1520 IDENT CMS,OBOV-2  
2635 (253)

BLOCKS TYPE ADDRESS LENGTH  
PROGRAM\* ABSOLUTE 0 2262  
LITERALS\* ABSOLUTE 2262 4  
LITERALS ABSOLUTE 2266 347

ADDRESS LENGTH BINARY CONTROL CARDS.

1115 2712 IDENT RMS,OBOV-2  
4027 (452)

BLOCKS TYPE ADDRESS LENGTH  
PROGRAM\* ABSOLUTE 0 2274  
LITERALS\* ABSOLUTE 2274 72  
LITERALS ABSOLUTE 2366 1441

ADDRESS LENGTH BINARY CONTROL CARDS.

1100 136 IDENT 1RF,PPFW  
1236 (24)

ADDRESS LENGTH BINARY CONTROL CARDS.

1742 4464 IDENT 4DA,/RDA/RDEX  
6426 (731)

BLOCKS TYPE ADDRESS LENGTH  
PROGRAM\* ABSOLUTE 0 6072  
LITERALS\* ABSOLUTE 6072 123  
LITERALS ABSOLUTE 6215 211  
OVERFLOW ABSOLUTE 6426 0

ADDRESS LENGTH BINARY CONTROL CARDS.

1412THE









**	PROGRAMMING NOTE.	MSM	25
*	DIRECT CELLS *LA* AND *EE* (*RG* AND *RG+1*)	MSM	26
*	ARE USED DURING LEVEL 3 RECOVERY IN OVERLAY *4DB* IF	MSM	27
*	EXECUTING ON A CENTRAL MEMORY EXTENSION MAINFRAME.	MSM	28
**	CALL.	MSM	30
*		MSM	31
*T,	18/ CMS,6/,12/ R,24/	MSM	32
*		MSM	33
*	R = POSITION IN EQUIPMENTS FOR UNLOAD INTERLOCK.	MSM	34
***	DAYFILE MESSAGES.	MSM	36
*		MSM	37
*	SEE *4DA* DOCUMENTATION.	MSM	38
***	ERROR LOG MESSAGES.	MSM	40
*		MSM	41
*	*ETXXX, UYY,PS=ZZZZZ.* = A NEW DEVICE HAS BEEN INTRODUCED ON	MSM	42
*	EST ORDINAL *XXX* OF TYPE *ET*. UNIT *YY* OF THE DEVICE HAS	MSM	43
*	A PACK SERIAL NUMBER OF *ZZZZZ*.	MSM	44
*		MSM	45
*	SEE *4DB* DOCUMENTATION FOR ADDITIONAL MESSAGES.	MSM	46
***	ACCOUNT FILE MESSAGES.	MSM	48
*		MSM	49
*	*ADDU, XXX, FFFFFFFF, DD.* = EST ORDINAL XXX WITH FAMILY NAME	MSM	50
*	FFFFFFF AND DEVICE NUMBER DD HAS BEEN UNLOADED.	MSM	51
*		MSM	52
*	*ADPD, XXX, PPPPPPP, UUUUUUU.* = EST ORDINAL XXX WITH	MSM	53
*	PACKNAME PPPPPPP HAS BEEN DISMOUNTED. IF PRESENT, UUUUUUU	MSM	54
*	INDICATES THAT THE PACK WAS A PRIVATE PACK BELONGING TO	MSM	55
*	THAT USER.	MSM	56
*		MSM	57
*	SEE *4DA* DOCUMENTATION FOR ADDITIONAL MESSAGES.	MSM	58
***	OPERATOR MESSAGES.	MSM	60
*		MSM	61
*	*ERROR ON ACTIVE DEVICES.* = LABEL CHECKING HAS DETECTED	MSM	62
*	A DEVICE WITH ACTIVE FILES AS HAVING SOME TYPE OF ERROR (SEE	MSM	63
*	E,M DISPLAY FOR ERROR TYPE ). THIS IS AN ABNORMAL SITUATION	MSM	64
*	AND SHOULD BE CORRECTED IMMEDIATELY.	MSM	65
*		MSM	66

\* SEE E,M DISPLAY (DSD DOCUMENTATION) FOR ERROR TYPES POSSIBLE. MSM 67  
 \* SEE \*4DB\* DOCUMENTATION FOR ADDITIONAL MESSAGES. MSM 68  
 \* SEE \*4DB\* DOCUMENTATION FOR ADDITIONAL MESSAGES. MSM 69

\*\* ROUTINES CALLED. MSM 71  
 \* MSM 72  
 \* 0PI - LIST PACK SERIAL NUMBERS. MSM 73  
 \* 5ME - FORMAT ERROR MESSAGES. MSM 74

0		CTEXT	COMPMAC	- PP SYSTEM MACROS.	COMPMAC	1
0		CTEXT	COMSACC	- USER FILE EQUIVALENCES.	COMSACC	1
0		CTEXT	COMSCPS	- CPUMTR SUBFUNCTION CODES.	COMSCPS	1
0		CTEXT	COMSDSL	- DEAD START LOAD PARAMETERS.	COMSDSL	1
0		CTEXT	COMSEVT	- EVENT DESCRIPTORS.	COMSEVT	1
46		CTEXT	COMSHIO	- HIGH-SPEED BUFFERED I/O EQUIVALENCES.	COMSHIO	1
46		CTEXT	COMSIOQ	- DAYFILE/QPROTECT EQUIVALENCES.	COMSIOQ	1
46		CTEXT	COMSLSD	- LABEL SECTOR DEFINITION.	COMSLSD	1
46		CTEXT	COMSMLS	- MULTI-LEVEL SECURITY PARAMETERS AND OPTIONS.	COMSMLS	1
	1	EQU	1	INITIALIZE COMSMMF DIRECT CELLS	MSM	85
46		CTEXT	COMSMMF	- MULTI-MAINFRAME EQUIVALENCES.	COMSMMF	1
46		CTEXT	COMSMSC	- MISCELLANEOUS SYSTEM CONSTANTS.	COMSMSC	1
46		CTEXT	COMSMSP	- MASS STORAGE PROCESSING EQUIVALENCES.	COMSMSP	1
					# COMSPFM	1
46		CTEXT	COMSPFM	- PERMANENT FILE EQUIVALENCES.	COMSPFM	2
46		CTEXT	COMSPIM	- PP INSTRUCTION MNEMONICS.	COMSPIM	1
46		CTEXT	COMSSSD	- SUBSYSTEM DEFINITIONS.	COMSSSD	1
46		CTEXT	COMSWEI	- ENHANCED EOI SECTOR DEFINITIONS.	COMSWEI	1
46		CTEXT	COMSZOL	- ZERO LEVEL OVERLAY LENGTHS.	COMSZOL	1

LIST X MSM 95

46

M\_D

\*

CTEXT COMSMST - MST FLAG/INTERLOCK DEFINITIONS.  
 BASE D  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

COMSMST 1  
 281L803 1  
 281L803 2

\*\*\*

COMSMST - MST FLAG/INTERLOCK DEFINITIONS.

COMSMST 3

\*

P. D. HAAS. 75/09/23.

COMSMST 4

\*\*\*

COMSMST CONTAINS SYMBOL DEFINITIONS FOR THE  
 VARIOUS FLAG AND INTERLOCK BITS IN THE MST.

COMSMST 7

\*

COMSMST 8

\*\*\*

MACRO TO GENERATE SYMBOL DEFINITION + ASSOCIATED MASK.

COMSMST 10

\*

COMSMST 11

\*SYM

MSTF BIT

COMSMST 12

COMSMST 13

COMSMST 14

MACRO MSTF,SYM,BIT

COMSMST 15

SYM

= BIT

COMSMST 16

PP

IFPP

COMSMST 17

.2

SET BIT/12\*12

COMSMST 18

M\_SYM

BITSET BIT-.2

COMSMST 19

PP

ENDIF

COMSMST 20

MSTF

ENDM

COMSMST 21

\*\*

GLOBAL AREA SYMBOLS - ACGL WORD.

COMSMST 23

COMSMST 24

COMSMST 25

46

GCTI

MSTF 59

\*CTI\* PRESENT

COMSMST 26

46

GDSF

MSTF 58

SYSTEM DEADSTART FILE PRESENT

251L670 1

46

GCTO

MSTF 57

CATALOG TRACK OVERFLOW

COMSMST 28

46

GPDA

MSTF 48

PARITY DEVICE ACCESS BITS (MACHINE MASKS)

NS2783 1

COMSMST 30

46

GRDR

MSTF 11

REDEFINITION REQUESTED

COMSMST 31

46

GPRS

MSTF 7

SHARED RMS PRESET REQUEST

COMSMST 32

46

GLAP

MSTF 6

SECTOR OF LOCAL AREAS PRESENT

COMSMST 33

46

GUNL

MSTF 5

UNLOADED - ALL MACHINES

COMSMST 34

46

GDEI

MSTF 4

DEVICE ERROR IDLE

COMSMST 35

46

GDRI

MSTF 3

DAS PARITY RESTORE INITIATION

NS2783 2

46

GDPL

MSTF 2

DAS PARITY PROTECTION LOST

NS2783 3

46

GDER

MSTF 1

DAS ERROR RECOVERY IN PROGRESS

283L840 2

46

GDUR

MSTF 0

DAS PARITY UNIT RESTORE IN PROGRESS

NS2783 4

\*\*

LOCAL AREA SYMBOLS - STLL WORD.

COMSMST 37

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						COMSMST	38
						COMSMST	39
	46	LFPR	MSTF	59	FORMAT PACK REQUEST	COMSMST	40
1	46	LIAL	MSTF	58	INITIALIZE ALL	COMSMST	41
2	46	LIHD	MSTF	57	INITIALIZE HALF TRACK DEVICE	COMSMST	42
3	46	LIFD	MSTF	56	INITIALIZE FULL TRACK DEVICE	COMSMST	43
4	46	LIPF	MSTF	55	INITIALIZE PERMANENT FILES	COMSMST	44
5	46	LIQF	MSTF	54	INITIALIZE INACTIVE QUEUE FILES	COMSMST	45
6	46	LIRP	MSTF	53	INITIALIZE REQUEST PENDING	COMSMST	46
7	46	LPTU	MSTF	52	PROHIBIT TABLE UPDATE FROM ISD	COMSMST	47
8	46	LUNL	MSTF	51	UNLOAD REQUESTED	COMSMST	48
9	46	LCKP	MSTF	50	CHECKPOINT REQUEST	COMSMST	49
10	46	LDUL	MSTF	49	DEVICE UNLOADED	COMSMST	50
11	46	RASD	MSTF	48	ALTERNATE SYSTEM DEVICE	COMSMST	51
12						COMSMST	52
13	46	LIDF	MSTF	47	INITIALIZE INACTIVE DAYFILE	COMSMST	53
14	46	LIAF	MSTF	46	INITIALIZE INACTIVE ACCOUNT FILE	COMSMST	54
15	46	LIEF	MSTF	45	INITIALIZE INACTIVE ERRLOG	COMSMST	55
16	46	LIMF	MSTF	44	INITIALIZE INACTIVE MAINTENANCE LOG	COMSMST	56
17	46	L1MV	MSTF	43	*1MV* ACTIVE FLAG	242L642	1
18						COMSMST	57
19	46	LDIU	MSTF	2	DEVICE IN USE	COMSMST	58
20	46	LUAI	MSTF	1	UTILITY ACTIVE INTERLOCK	COMSMST	59
21	46	LMTI	MSTF	0	LOCAL AREA MST INTERLOCK	COMSMST	60
22						COMSMST	61
23						COMSMST	62
24		D_M	BASE	*		COMSMST	63
25		PP	IFPP			COMSMST	64
26							
27							
28							
29							
30		***			MACROS TO SET/CLEAR MST FLAGS.	COMSMST	66
31		*				COMSMST	67
32		*			REQUIRES COMMON DECKS - COMPTGB, COMPTLB.	COMSMST	68
33						COMSMST	69
34						COMSMST	70
35			NOREF	.A		COMSMST	71
36							
37							
38							
39							
40		**			SMSTF - SET SPECIFIED MST FLAG.	COMSMST	73
41		*				COMSMST	74
42		*			SMSTF A	COMSMST	75
43						COMSMST	76
44						COMSMST	77
45		SMSTF	MACRO	A		COMSMST	78
46			MACREF	SMSTF		283L840	4
47		.A	MICRO	1,1, A		COMSMST	79
48			LDN	A		COMSMST	80
49			RJM	T".A"B		COMSMST	81
50		SMSTF	ENDM			COMSMST	82
51							
52							
53							
54							
55							
56							
57							
58							
59							
60							

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\*\* CMSTF - CLEAR SPECIFIED MST FLAG.  
\*  
\* CMSTF A

COMSMST 84  
COMSMST 85  
COMSMST 86  
COMSMST 87  
COMSMST 88  
COMSMST 89  
283L840 5  
COMSMST 90  
COMSMST 91  
COMSMST 92  
COMSMST 93  
COMSMST 94  
COMSMST 95

CMSTF MACRO A  
MACREF CMSTF  
.A MICRO 1,1, A  
LCN A  
RJM T".A"B  
CMSTF ENDM  
PP ENDIF  
ENDX

LIST \*

MSM 98

\*\* MACRO DEFINITIONS. MSM 100

1									
2									
3	**	COMMON			COMMON CODE FOR *CMS* AND *RMS*.	MSM		102	
4	*					MSM		103	
5	*				THIS MACRO PROVIDES IDENTICAL CODE FOR *CMS* AND *RMS*	MSM		104	
6	*				WHICH MAY BE CALLED BY THE OVERLAYS COMMON TO THESE TWO	MSM		105	
7	*				ROUTINES.	MSM		106	
8						MSM		107	
9						MSM		108	
10		COMMON	MACRO			MSM		109	
11			QUAL			MSM		110	
12			SPACE	4,10		MSM		111	
13	*		COMMON		WORKING STORAGE.	MSM		112	
14						MSM		113	
15						MSM		114	
16		ECLT	CON	0	EXTENDED MEMORY LABEL TRACK	MSM		115	
17		LDMP	CON	0	LINK DEVICE MST POINTER	MSM		116	
18			SPACE	4,10		MSM		117	
19			CTEXT		COMPC2D - CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMPC2D		1	
20		C2D	SPACE	4		COMPC2D		2	
21			IF	-DEF,QUAL\$,1		COMPC2D		3	
22			QUAL	COMPC2D		COMPC2D		4	
23	*	COMMENT			COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.	281L803		1	
24		C2D	SPACE	4		COMPC2D		6	
25	***				C2D - CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMPC2D		7	
26	*				G. R. MANSFIELD. 70/08/30.	COMPC2D		8	
27		C2D	SPACE	4		COMPC2D		9	
28	***				C2D CONVERTS 2 OCTAL DIGITS TO DISPLAY CODE.	COMPC2D		10	
29	*					COMPC2D		11	
30	*	ENTRY	(A)	=	DIGITS RIGHT JUSTIFIED.	COMPC2D		12	
31	*					COMPC2D		13	
32	*	EXIT	(A)	=	CONVERSION.	COMPC2D		14	
33	*					COMPC2D		15	
34	*	USES	T0.			COMPC2D		16	
35	*					COMPC2D		17	
36	*	CALLS	NONE.			COMPC2D		18	
37						COMPC2D		19	
38						COMPC2D		20	
39		C2D	SUBR		ENTRY/EXIT	COMPC2D		21	
40			LPN	77	UNPACK	COMPC2D		22	
41			STD	T0		COMPC2D		23	
42			SHN	3		COMPC2D		24	
43			LMD	T0		COMPC2D		25	
44			SCN	70		COMPC2D		26	
45			ADC	2R00	CONVERT	COMPC2D		27	
46			UJN	C2DX	RETURN	COMPC2D		28	
47			SPACE	4		COMPC2D		29	
48		QUAL\$	IF	-DEF,QUAL\$		COMPC2D		30	
49			QUAL	*		COMPC2D		31	
50		C2D	EQU	/COMPC2D/C2D		COMPC2D		32	
51		QUAL\$	ENDIF			COMPC2D		33	
52			ENDX			COMPC2D		34	
53			CTEXT		COMPIFR - SET/CLEAR FLAG REGISTER INTERLOCK.	COMPIFR		1	
54			IF	-DEF,QUAL\$,1		COMPIFR		2	
55									
56									
57									
58									
59									
60									

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Line	Code	Label	Text	Code	Line
		QUAL	COMPIFR	COMPIFR	3
	*	COMMENT	COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.	281L803	1
	IFR	SPACE	4	COMPIFR	4
1	***	IFR - SET/CLEAR	FLAG REGISTER INTERLOCK.	COMPIFR	5
2	*	P. D. HAAS.	75/01/20.	COMPIFR	6
3	IFR	SPACE	4	COMPIFR	7
4	***	IFR SETS UP A MONITOR REQUEST TO SET OR CLEAR		COMPIFR	8
5	*	THE ECS FLAG REGISTER.		COMPIFR	9
6	*			COMPIFR	10
7	*	ENTRY (A) = INTERLOCK TO BE SET.		COMPIFR	11
8	*	= COMPLEMENT OF INTERLOCK TO BE CLEARED.		COMPIFR	12
9	*			COMPIFR	13
10	*	EXIT (A) = MONITOR STATUS.		COMPIFR	14
11	*			COMPIFR	15
12	*	USES CM+1, CM+3.		COMPIFR	16
13				COMPIFR	17
14				COMPIFR	18
15	IFR	SUBR	ENTRY/EXIT	COMPIFR	19
16		SHN	6 POSITION INTERLOCK	COMPIFR	20
17		PJN	IFR1 IF SETTING FLAG REGISTER	COMPIFR	21
18		LMC	677777	COMPIFR	22
19	IFR1	STD	CM+1 SET INTERLOCK IN REQUEST	COMPIFR	23
20		SHN	-6	COMPIFR	24
21		ADC	SFRS*1000 SET SUBFUNCTION	COMPIFR	25
22		STD	CM+3	COMPIFR	26
23		MONITOR	ECSM ISSUE REQUEST	COMPIFR	27
24		LDD	CM+1	COMPIFR	28
25		UJN	IFRX RETURN	COMPIFR	29
26	IFR	SPACE	4	COMPIFR	30
27	QUAL\$	IF	-DEF,QUAL\$	COMPIFR	31
28		QUAL	*	COMPIFR	32
29	IFR	EQU	/COMPIFR/IFR	COMPIFR	33
30	QUAL\$	ENDIF		COMPIFR	34
31		ENDX		COMPIFR	35
32		CTEXT	COMPTGB - SET/CLEAR GLOBAL MST FLAG (ACGL).	COMPTGB	1
33		IF	-DEF,QUAL\$,1	COMPTGB	2
34		QUAL	COMPTGB	COMPTGB	3
35	*	COMMENT	COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.	281L803	1
36	TGB	SPACE	4	COMPTGB	4
37	***	TGB - SET/CLEAR BIT IN GLOBAL MST WORD *ACGL*.		COMPTGB	5
38	*	P. D. HAAS.	75/09/19.	COMPTGB	6
39	TGB	SPACE	4	COMPTGB	7
40	***	TGB SETS UP A MONITOR REQUEST TO SET OR CLEAR		COMPTGB	8
41	*	A SPECIFIED BIT IN THE *ACGL* WORD OF THE MST.		COMPTGB	9
42	*			COMPTGB	10
43	*	ENTRY (A) = BIT TO BE SET.		COMPTGB	11
44	*	= COMPLEMENT OF BIT TO BE CLEARED.		COMPTGB	12
45	*	(T5) = EST ORDINAL.		NS22000	1
46	*			COMPTGB	14
47	*	EXIT (A) = 0.		COMPTGB	15
48	*			COMPTGB	16
49	*	USES CM - CM+4.		COMPTGB	17
50				COMPTGB	18
51				COMPTGB	19
52	TGB	SUBR	ENTRY/EXIT	COMPTGB	20
53		PJN	TGB1 IF SETTING BIT	COMPTGB	21
54		LMC	377777	COMPTGB	22

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	TGB1	STD	CM+2	SET BIT NUMBER IN REQUEST	COMPTGB	23
		SHN	0-21		COMPTGB	24
		ADN	SGBS	SET SUBFUNCTION	COMPTGB	25
1		STD	CM+3		COMPTGB	26
2		LDD	T5	SET EST ORDINAL	NS22000	2
3		STD	CM+1		COMPTGB	28
4		MONITOR	STBM	ISSUE REQUEST	COMPTGB	29
5		UJN	TGBX	RETURN	COMPTGB	30
6	TGB	SPACE	4		COMPTGB	31
7	QUAL\$	IF	-DEF,QUAL\$		COMPTGB	32
8		QUAL	*		COMPTGB	33
9	TGB	EQU	/COMPTGB/TGB		COMPTGB	34
10	QUAL\$	ENDIF			COMPTGB	35
11		ENDX			COMPTGB	36
12	LRA	SPACE	4,15		MSM	121
13	**	LRA	- LOAD REFERENCE ADDRESS.		MSM	122
14	*				MSM	123
15	*	ENTRY	(LRAB) = RA/100 OF FREE AREA.		MSM	124
16	*		(TA) = RA/100 OF FREE AREA FOR NON-CME.		MSM	125
17	*		= 4000 IF CME PRESENT.		MSM	126
18	*		(LRAA) = MODIFIED FOR DESIRED OPERATION.		MSM	127
19	*		(LRAC) = MODIFIED FOR DESIRED OPERATION.		MSM	128
20	*				MSM	129
21	*	EXIT	(A) = REFERENCE ADDRESS.		MSM	130
22	*		*R* REGISTER LOADED IF NECESSARY.		MSM	131
23	*				MSM	132
24	*	USES	RG, RG+1.		MSM	133
25					MSM	134
26					MSM	135
27	LRA1	LDC	0	LOAD RA INTO *R* REGISTER	MSM	136
28	LRAB	EQU	*-1		MSM	137
29		STD	RG+1		MSM	138
30		SHN	-14		MSM	139
31		STD	RG		MSM	140
32		LRD	RG		MSM	141
33	LRA2	LDD	RA	SET RA	MSM	142
34	LRAC	EQU	*-1		MSM	143
35	*	LDD	TA		MSM	144
36		SHN	6		MSM	145
37					MSM	146
38	LRA	SUBR		ENTRY/EXIT	MSM	147
39	LRAA	UJN	LRA2	SET RA	MSM	148
40	*	UJN	LRA1	(CME PRESENT)	MSM	149
41	PTA	SPACE	4,10		MSM	150
42	**	PTA	- PRESET FIRST WORD ADDRESS OF TRT.		MSM	151
43	*				MSM	152
44	*	ENTRY	(FN - FN+4) = EST ENTRY OF DEVICE.		MSM	153
45	*				MSM	154
46	*	EXIT	(STAA) = FWA OF TRT.		MSM	155
47	*				MSM	156
48	*	USES	CM - CM+4.		MSM	157
49					MSM	158
50					MSM	159
51	PTA	SUBR		ENTRY/EXIT	MSM	160
52		LDD	FN+4	GET FWA OF TRT	MSM	161
53		SHN	3		MSM	162
54		ADN	TRLL		MSM	163

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		CRD	CM		MSM	164
		LDD	CM+3	SET FWA OF TRT	MSM	165
		LPN	77		MSM	166
1		LMC	LDCI		MSM	167
2		STM	STAA-1		MSM	168
3		LDD	CM+4		MSM	169
4		STM	STAA		MSM	170
5		UJN	PTAX	RETURN	MSM	171
6	STA	SPACE	4,10		MSM	172
7	**	STA - SET FIRST WORD ADDRESS OF TRT.			MSM	173
8	*				MSM	174
9	*	ENTRY	(STAA)	= FWA OF TRT.	MSM	175
10					MSM	176
11					MSM	177
12	STA	SUBR		ENTRY/EXIT	MSM	178
13		LDC	0		MSM	179
14	STAA	EQU	*-1	(FWA TRT)	MSM	180
15		UJN	STAX	RETURN	MSM	181
16		QUAL	*		MSM	182
17		ENDM			MSM	183
18						
19						
20						
21						
22	**	UJMF - GENERATE LIST OF INSTRUCTIONS TO BE MODIFIED			MSM	185
23	*	IF RECOVERING MMF SYSTEM.			MSM	186
24	*				MSM	187
25	*	UJMF	TAG		MSM	188
26					MSM	189
27					MSM	190
28	UJMF	MACRO	TAG		MSM	191
29		LOCAL	A		MSM	192
30		MACREF	UJMF		283L840	3
31	A	UJN	TAG		MSM	193
32	L"QUAL"	RMT			MSM	194
33		CON	A		MSM	195
34		RMT			MSM	196
35	UJMF	ENDM			MSM	197
36						
37						
38						
39						
40	**	MMTE - GENERATE MACHINE MASK TABLE ENTRY.			MSM	199
41	*				MSM	200
42	*	MMTE	ADDR		MSM	201
43	*	ADDR = INSTRUCTION ADDRESS.			MSM	202
44					MSM	203
45					MSM	204
46	MMTE	MACRO	L		MSM	205
47		LOCAL	B		MSM	206
48		MACREF	MMTE		283L840	4
49	B	EQU	L		MSM	207
50	T"QUAL"	RMT			MSM	208
51		CON	B		MSM	209
52		RMT			MSM	210
53	MMTE	ENDM			MSM	211
54						
55						
56						
57						
58						
59						
60						

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\*\*\*\* DIRECT LOCATION ASSIGNMENTS.

1	15	RG	EQU	15 - 16	*R* REGISTER LOADING TEMP CELLS	MSM	213	1
2	16	RI	EQU	16 - 17	RANDOM INDEX FOR *CRA*	MSM	214	2
3	16	T8	EQU	16	SCRATCH	MSM	215	3
4	17	T9	EQU	17	SCRATCH	MSM	216	4
5	17	QF	EQU	17	FIRST TRACK OF INACTIVE QUEUE FILE	MSM	217	5
6	17	SN	EQU	17	SECTOR NUMBER DURING LABEL PROCESSING	NS2547	1	6
7	20	FS	EQU	20 - 24	CM WORD BUFFER (5 LOCATIONS)	MSM	219	7
8	25	TA	EQU	25	REFERENCE ADDRESS (LEVEL 3 RECOVERY)	MSM	220	8
9	25	CD	EQU	25	CHECKPOINT DEVICE (4DA, 4DK)	MSM	221	9
10	26	TW	EQU	26	CONSTANT TWO	MSM	222	10
11	27	QT	EQU	27	QUEUED FILE TRACK (4DA)	MSM	223	11
12	30	CN	EQU	30 - 34	CM WORD BUFFER (5 LOCATIONS)	MSM	224	12
13	35	QS	EQU	35	QUEUED FILE SECTOR (4DA)	MSM	225	13
14	36	QI	EQU	36	QUEUE INDEX (4DA)	MSM	226	14
15	37	EC	EQU	37	ERROR CODE	MSM	227	15
16	37	CR	EQU	37	CM BUFFER ADDRESS (4DA)	MSM	228	16
17	40	FN	EQU	40 - 44	EST ENTRY	MSM	229	17
18	43	RD	EQU	FN+3 - FN+7	DEVICE RECOVERY STATUS INFORMATION	MSM	230	18
19	45	TS	EQU	FN+5	MST TRACKS FOR MMF SHARED DEVICES	MSM	231	19
20	46	RE	EQU	FN+6	EQUIPMENT RECOVERY STATUS INFORMATION	MSM	232	20
21	47	AL	EQU	FN+7	CM ADDRESS FOR MST LABEL DATA	MSM	233	21
22	53	EQ	EQU	IR+3	EST ORDINAL	MSM	234	22
23	54	RS	EQU	IR+4	RECOVERY STATUS	MSM	235	23
24	57	AM	EQU	57	ACCESS MODE FLAG	MSM	236	24
25	60	RC	EQU	60	DEVICE RECOVERY COUNT	MSM	237	25
26	60	CF	EQU	60	CONTROL POINT FOR MESSAGES (*1RF*/*4DA*)	MSM48	1	26
27	61	LO	EQU	61	LAST MASS STORAGE ORDINAL + 1	MSM	238	27
28	62	UC	EQU	62	UNIT COUNT	MSM	239	28
29	62	DI	EQU	62	DAT INDEX	MSM	240	29
30	62	ET	EQU	62	EOI TRACK	MSM	241	30
31	63	ES	EQU	63	EOI SECTOR	MSM	242	31
32	63	SL	EQU	63	SECTOR LIMIT	MSM	243	32
33	63	EF	EQU	63	ERROR FLAG	MSM	244	33
34	64	CA	EQU	64 - 65	CENTRAL ADDRESS	MSM	245	34
35	66	P1	EQU	66	SCRATCH	MSM	246	35
36	67	P2	EQU	67	SCRATCH	MSM	247	36
37		****				MSM	248	37
38							249	38
39							250	39
40							251	40
41							252	41
42		*		DEFINE QUAL BLOCK ORDER.		MSM	253	42
43						MSM	254	43
44						MSM	255	44
45			QUAL	CMS		MSM	256	45
46			QUAL	RMS		MSM	257	46
47			QUAL	RDA		MSM	258	47
48			QUAL	ISD		MSM	260	48
49			QUAL	RDC		NS2552	1	49
50			QUAL	RDD		MSM	262	50
51			QUAL	RDG		MSM	263	51
52			QUAL	RDI		MSM	264	52
53			QUAL			MSM	265	53
54								54
55								55
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57								57
58								58
59								59
60								60

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Line	Address	Device	Length	Description	MSM	Value
1	1100	FLRC	EQU 1100	FIELD LENGTH FOR TRT RECOVERY	MSM	270
6		**		INTERNAL BUFFERS AND TABLES.	MSM	272
7					MSM	273
8					MSM	274
9	1100	BAEI	EQU PPFW	*BAET* IMAGE	283L840	6
10					283L840	7
11	1105	DLPB	EQU BAEI+5	LABEL PARAMETER BLOCK (PFGL + PUGL)	283L840	8
12					MSM	276
13	1117	OBOV	EQU DLPB+5*2	BASE OVERLAY ORIGIN	MSM	277
18		**		DEVICE RECOVERY STATUS TABLE.	MSM	279
19		*			MSM	280
20		*		THE DEVICE RECOVERY TABLE IS CONTAINED IN *MSM-S*	MSM	281
21		*		FL. IT CONSISTS OF ONE WORD ENTRIES FOR EACH MASS	MSM	282
22		*		STORAGE EQUIPMENT. THE FORMAT IS AS FOLLOWS -	MSM	283
23		*T,		12/ DT,12/ MT,12/ TS,12/ RE,12/ AL	MSM	284
24		*			MSM	285
25		*		DT = DEVICE TYPE.	MSM	286
26		*		MT = MST/10B.	MSM	287
27		*		TS = MST TRACKS FOR MMF SHARED DEVICES.	MSM	288
28		*		RE = EQUIPMENT RECOVERY STATUS INFORMATION.	MSM	289
29		*		WHERE RE IS DEFINED AS:	MSM	290
30		*		1/M,1/S,1/V,1/R,1/C,1/U,1/D,1/I,1/A,1/T,1/E,1/L	MSM	291
31		*		M = MASS STORAGE DEVICE.	MSM	292
32		*		S = SYSTEM/ASL/LINK DEVICE.	MSM	293
33		*		V = SHARED DEVICE.	MSM	294
34		*		R = REMOVABLE DEVICE.	MSM	295
35		*		C = DEVICE CLEARED FOR RECOVERY.	MSM	296
36		*		U = UNAVAILABLE DEVICE.	MSM	297
37		*		D = INCORRECT FULL TRACK ACCESS.	MSM	298
38		*		I = DEVICE INITIALIZATION SELECTED.	MSM	299
39		*		A = ACCESSED PREVIOUSLY (DAP) BY THIS MF (SHARED	MSM	300
40		*		DEVICES).	MSM	301
41		*		T = ECS TRACK FOR MST/TRT REQUIRED (MMF SHARED	MSM	302
42		*		DEVICES).	MSM	303
43		*		E = DEVICE ACCESSED PREVIOUSLY (DAP) BY SOME MF	MSM	304
44		*		(SHARED DEVICES ONLY).	MSM	305
45		*		L = LABEL STATUS (0 = LABEL IMAGE PRESENT).	MSM	306
46		*		AL = CM ADDRESSES FOR MST LABEL DATA.	MSM	307

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1115			QUAL	CMS			MSM	310
1115	0100 2266		ORG	OBOV-2			MSM	311
			LJM	PRS	PRESET *CMS*		MSM	312

1117			LIST	M			283L840	11
			COMMON				MSM	314
			QUAL				COMMON	.1

1117	0000		ECLT	CON	0	EXTENDED MEMORY LABEL TRACK	COMMON	.1
1120	0000		LDMP	CON	0	LINK DEVICE MST POINTER	COMMON	.1

1121			CTEXT	COMPC2D	-	CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMMON	.1
1133			CTEXT	COMPIFR	-	SET/CLEAR FLAG REGISTER INTERLOCK.	COMMON	.1
1153			CTEXT	COMPTGB	-	SET/CLEAR GLOBAL MST FLAG (ACGL).	COMMON	.1

1172	2000 0000		LRA1	LDC	0	LOAD RA INTO *R* REGISTER	COMMON	.1
		1173	LRAB	EQU	*-1		COMMON	.1

1174	3416			STD	RG+1		COMMON	.1
1175	1063			SHN	-14		COMMON	.1
1176	3415			STD	RG		COMMON	.1

1177	2415			LDD	RA	SET RA	COMMON	.1
1200	3055		LRA2	LDD	RA		COMMON	.1
		1200	LRAC	EQU	*-1		COMMON	.1

1201	1006			SHN	6		COMMON	.1
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1202			LRA	SUBR		ENTRY/EXIT	COMMON	.1
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1202	0100 1202		LRA_X	IFC	EQ, \$\$\$, 2		SUBR	.2
				LJP	*		SUBR	.2
				ELSE	1		SUBR	.2

		1203	LRA EQU *-1				SUBR	.2
			ENDM				SUBR	.2
1204	0373		LRAA	UJN	LRA2	SET RA	COMMON	.1

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1205	PTA	SUBR	ENTRY/EXIT	COMMON
		IFC	EQ, \$\$\$, 2	.1
1205	0100 1205	LJP	*	.1
		ELSE	1	.1
	1206	PTA EQU *-1		.2
		ENDM		.2
1207	3044	LDD	FN+4 GET FWA OF TRT	.1
1210	1003	SHN	3	.1
1211	1620	ADN	TRLL	.1
1212	6010	CRD	CM	.1
1213	3013	LDD	CM+3 SET FWA OF TRT	.1
1214	1277	LPN	77	.1
1215	2300 2000	LMC	LDCI	.1
1217	5400 1227	STM	STAA-1	.1
1221	3014	LDD	CM+4	.1
1222	5400 1230	STM	STAA	.1
1224	0360	UJN	PTAX RETURN	.1

1225	STA	SUBR	ENTRY/EXIT	COMMON
		IFC	EQ, \$\$\$, 2	.1
1225	0100 1225	LJP	*	.1
		ELSE	1	.1
	1226	STA EQU *-1		.2
		ENDM		.2
1227	2000 0000	LDC	0	.1
	1230	STAA	EQU *-1 (FWA TRT)	.1
1231	0373	UJN	STAX RETURN	.1
		QUAL	*	.1
		ENDM		.1
		LIST	*	283L840 12

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\*\* CMS - MAIN PROGRAM.

Line	Address	Code	Label	Operation	Device	Description	MSM	Count
1							MSM	316
2	1232	2037 0402	CMS	EXECUTE	4DB		MSM	317
3	1236	2000 6473		LDC	LCMS	ENABLE MMF RECOVERY ROUTINES	MSM	318
4	1240	0200 6436		RJM	EMF		MSM	319
5	1242	2000 4572	CMS1	LDC	RDL	READ LABELS	MSM	320
6	1244	0200 2441		RJM	MRL		MSM	324
7	1246	3060	CMS2	LDD	RC		MSM	325
8	1247	0403		ZJN	CMS3	IF NO REDEFINITION REQUESTS	MSM	326
9	1250	0100 1531		LJM	CIR1	PROCESS DEVICE REDEFINITION	MSM	327
10							MSM	328
11	1252	2037 0404	CMS3	EXECUTE	4DD	LOAD VERIFICATION ROUTINES	MSM	329
12	1256	2000 5604		LDC	CAD	VERIFY ACTIVE DEVICES	MSM	330
13	1260	0200 2441		RJM	MRL		MSM	331
14	1262	2000 5732	CMSB	LDC	CID	CHECK INACTIVE DEVICES	NS2768	1
15			*	UJN	CMS4	(DEADSTART SEQUENCING IN EFFECT)	NS2768	2
16	1264	0200 2441		RJM	MRL		MSM	339
17	1266	1400	CMS4	LDN	0	CLEAR RECOVERY COUNT	MSM	340
18	1267	3460		STD	RC		MSM	341
19	1270	2037 0405		EXECUTE	4DE	LOAD UNAVAILABLE DEVICE ROUTINES	283L840	14
20	1274	2000 5614		LDC	CUD	CHECK UNAVAILABLE DEVICES	MSM	342
21	1276	0200 2441		RJM	MRL		MSM	343
22	1300	3060		LDD	RC		MSM	344
23	1301	0430		ZJN	CMS7	IF NO EQUIPMENT TO RECOVER	MSM	345
24	1302	0303		UJMF	CMS5		MSM	346
25	1303	0200 1650		RJM	GDT	LOAD DEVICE ACCESS TABLE	MSM	347
26	1305	2037 0407	CMS5	EXECUTE	4DG	LOAD RECOVERY ROUTINES	MSM	348
27	1311	3071		LDD	HN	DO NOT CLEAR UNAVAILABLE	MSM	349
28	1312	5500 6037		RAM	/RDG/EMTB		MSM	350
29	1314	2000 2067		LDC	RCD	RECOVER DEVICES	MSM	351
30	1316	0200 2441		RJM	MRL		MSM	352
31	1320	0303		UJMF	CMS6		MSM	353
32	1321	0200 2155		RJM	UMT	UPDATE MMF TABLES	MSM	354
33	1323	2037 0403	CMS6	EXECUTE	4DC	VERIFY PF SYSTEM	NS2552	2
34	1327	0200 1430		RJM	RPF	RELEASE DA INTERLOCKS	MSM	356
35	1331	0200 1522	CMS7	RJM	CIR	CHECK FOR INITIALIZE REQUESTS	MSM	357
36	1333	1400	CMSD	LDN	0		MSM	358
37	1334	0410		ZJN	DPP	IF NO ACTIVE DEVICE ERRORS	MSM	359
38	1335	1470		LDN	NCPL		MSM	360
39	1336	6010		CRD	CM		MSM	361
40	1337	3611		AOD	CM+1	DISPLAY MESSAGE AT SYSTEM CP	MSM	362
41	1340	1007		SHN	7		MSM	363
42	1341	1636		ADN	MS2W		MSM	364
43	1342	6373 1357		CWM	CMSE,TR		MSM	365
44							MSM	366
45			*		DROP PP.		MSM	367
46							MSM	368
47	1344	0306	DPP	UJN	DPP1	DEADSTART SEQUENCING NOT IN EFFECT	NS2768	3
48			*	LDN	CIRD-CIRB	(DEADSTART SEQUENCING)	NS2768	4
49			*	LDN	CIRE-CIRB	(DEADSTART SEQUENCING- RECOVERY DEADSTART)	NS2768	5
50							NS2768	6
51	1345	5500 1606	1344	DPPB	EQU *-1		MSM	375
52	1347	1403		RAM	CIRA		MSM	376
53				LDN	CIRF	NUMBER OF COMMANDS	MSM	377
54			*	LDN	CIRF-1	(RECOVERY DEADSTART)	MSM	378
55			1347	DPPC	EQU *-1		MSM	378

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1350	0100 1565	LJM	CIR5	WRITE COMMAND BUFFER	MSM	379
1352	1461	DPP1	MONITOR	DPPM	MSM	380
1355	0100 0257	LJM	PPR		MSM	381
1357	5505	CMSE	DATA	C* ERROR ON ACTIVE DEVICES.*	MSM	382
					MSM	383
					MSM	384

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	**			RPF - RELEASE DIRECT ACCESS INTERLOCKS.		MSM	387
	*					MSM	388
	*			ENTRY (RE) SET FOR DEVICES RECOVERED.		MSM	389
	*					MSM	390
	*			EXIT INTERLOCKS FOR DA FILES ON DEVICES RECOVERED, CLEARED.		MSM	391
	*			*IQFT* BUILT IF QUEUED FILES FOUND.		MSM	392
	*			PACK SERIAL NUMBERS LISTED FOR DEVICES RECOVERED.		MSM	393
	*					MSM	394
	*			USES T5, EQ, CR, FN - FN+4.		MSM	395
	*					MSM	396
	*			CALLS IFR, LSN, 4DA.		284L847	1
	*					MSM	398
	*			MACROS EXECUTE, SFA, UJMF.		MSM	399
						MSM	400
						MSM	401
1375		3055	RPF1	LDD RA		MSM	402
1376		1006		SHN 6		MSM	403
1377		3105		ADD T5		MSM	404
1400		6043		CRD RD		MSM	405
1401		3046		LDD RE	DETERMINE IF DEVICE RECOVERED	MSM	406
1402		1012		SHN 21-7		MSM	407
1403		0612		PJN RPF2	IF DEVICE NOT RECOVERED	MSM	408
1404		3005		SFA EST,T5	READ EST ENTRY	MSM	409
				ADK EQDE		MSM	410
1407		6040		CRD FN		MSM	411
1410		0200 4221		RJM /RDA/LSN	LIST PACK SERIAL NUMBERS	284L847	2
1412		1400		LDN 0	INDICATE NO INITIALIZE	MSM48	2
1413		0200 1745		RJM /RDA/RDA	RECOVER PRESERVED FILES	MSM48	3
1415		3653	RPF2	AOD EQ	ADVANCE TO NEXT EQUIPMENT	MSM	415
1416		3405	RPF3	STD T5		MSM	416
1417		3361		LMD LO		MSM	417
1420		0554		NJN RPF1	IF NOT END OF MS ENTRIES	MSM	418
1421		0306	RPF4	UJMF RPFX		MSM	419
1422		1400	RPFB	LDN 0		MSM	420
1423		0504		NJN RPFX	IF DATI SET FOR INITIALIZATION	MSM	421
1424		1505		LCN DATI	CLEAR FLAG REGISTER INTERLOCK	MSM	422
1425		0200 1134		RJM IFR		MSM	423
						MSM	424
1427		0100 1427	RPF	SUBR	ENTRY/EXIT	MSM	425
1431		3060		LDD RC		MSM	426
1432		0466		ZJN RPF4	IF NO EQUIPMENT RECOVERED	MSM	427
1433		2037 0401		EXECUTE 4DA	LOAD DA INTERLOCK ROUTINES	MSM	428
1437		3065		LDD CA+1	SET *IQFT* BUFFER ADDRESS	MSM	429
1440		3437		STD CR		MSM	430
1441		1405		LDN NOPE	INITIALIZE EST ORDINAL FOR SEARCH	MSM	431
1442		3453		STD EQ		MSM	432
1443		0352		UJN RPF3		MSM	433
	**			CIR - CHECK FOR INITIALIZE REQUESTS.		MSM	435
	*					MSM	436
	*			EXIT *MSI* CALLED IF ANY INITIALIZE REQUESTS FOUND.		MSM	437
	*					MSM	438
	*			USES EQ, P2, RC, FS - FS+4, FN - FN+4, CN - CN+4.		MSM	439
	*					MSM	440

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Line	Address	Code	Label	Operation	Comments	MSM	Address	
		*	CALLS	IFR.		MSM	441	
		*				MSM	442	
		*	MACROS	NFA, SFA, UJMF.		MSM	443	
1						MSM	444	
2						MSM	445	
3	1444	3040	CIR6	LDD	FN	MSM	446	
4	1445	1064		SHN	0-13	MSM	447	
5	1446	0415		ZJN	CIR7	IF NOT MASS STORAGE	MSM	448
6	1447	3040		LDD	FN	MSM	449	
7	1450	1202		LPN	2	MSM	450	
8	1451	0535		NJN	CIR10	IF DEVICE OFF OR DOWN	MSM	451
9	1452	3044		LDD	FN+4	READ *STLL*	MSM	452
10	1453	1003		SHN	3	MSM	453	
11	1454	1615		ADN	STLL	MSM	454	
12	1455	6020		CRD	FS	MSM	455	
13	1456	1701		SBN	STLL-DULL	MSM	456	
14	1457	6010		CRD	CM	MSM	457	
15	1460	3021		LDD	FS+1	MSM	458	
16	1461	1104		LMN	STNR	MSM	459	
17	1462	1277		LPN	77	MSM	460	
18	1463	0423	CIR7	ZJN	CIR10	IF EQUIPMENT NOT READY	MSM	461
19	1464	3020		LDD	FS	MSM	462	
20	1465	2200 4050		LPC	MLFPR+MLUNL+MLIRP	MSM	463	
21	1467	1140		LMN	MLIRP	MSM	464	
22	1470	0516		NJN	CIR10	IF INITIALIZE NOT TO BE PROCESSED	MSM	465
23	1471	3020		LDD	FS	MSM	466	
24	1472	1070		SHN	-7	MSM	467	
25	1473	0412		ZJN	CIR9	IF PERMANENT FILES NOT INVOLVED	MSM	468
26	1474	1210		LPN	MLIAL/1S7	MSM	469	
27	1475	0507		NJN	CIR8	IF DEADSTART INITIALIZE	MSM	470
28	1476	3014		LDD	CM+4	CHECK ACTIVITY	MSM	471
29	1477	2200 3777		LPC	3777	MSM	472	
30	1501	3111		ADD	CM+1	MSM	473	
31	1502	3123		ADD	FS+3	MSM	474	
32	1503	0503		NJN	CIR10	IF ACTIVE FILES ON DEVICE	MSM	475
33	1504	3660	CIR8	AOD	RC	INCREMENT RECOVERY COUNT	MSM	476
34	1505	3667	CIR9	AOD	P2	ADVANCE INITIALIZATION COUNT	MSM	477
35	1506	3653	CIR10	AOD	EQ	ADVANCE TO NEXT EQUIPMENT	MSM	478
36	1507	3361		LMD	LO	MSM	479	
37	1510	0407		ZJN	CIR11	IF END OF MASS STORAGE DEVICES	MSM	480
38	1511	3053		SFA	EST,EQ	MSM	481	
39				ADK	EQDE	MSM	482	
40	1514	6040		CRD	FN	MSM	483	
41	1515	0100 1444		LJM	CIR6	MSM	484	
42						MSM	485	
43	1517	3067	CIR11	LDD	P2	CHECK INITIALIZE STATUS	MSM	486
44	1520	0514		NJN	CIR2	IF INITIALIZE REQUESTS PRESENT	MSM	487
45						MSM	488	
46	1521	0100 1521	CIR	SUBR		ENTRY/EXIT	MSM	489
47	1523	1400		LDN	0	PRESET EQUIPMENT INDEX	MSM	490
48	1524	3460		STD	RC	CLEAR INITIALIZE COUNT	MSM	491
49	1525	3467		STD	P2	MSM	492	
50	1526	1404		LDN	NOPE-1	INITIALIZE EST ORDINAL FOR SEARCH	MSM	493
51	1527	3453		STD	EQ	MSM	494	
52	1530	0355		UJN	CIR10	ENTER LOOP	MSM	495
53						MSM	496	
54			*	ENTERED	HERE EXTERNALLY.	MSM	497	

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	1531	1405		CIR1	LDN	CIRC-CIRB	CHANGE COMMAND CALL TO *CONFIG.*	MSM	498
	1532	5500 1606			RAM	CIRA		MSM	499
1	1534	0330		CIR2	UJMF	CIR4		MSM	501
2	1535	3060			LDD	RC		MSM	502
3	1536	0426			ZJN	CIR4	IF NO REQUESTS INVOLVING PF DESCRIPTION	MSM	503
4	1537	2000 0122			LDC	MMFL	READ MMF STATUS WORD	MSM	504
5	1541	6030			CRD	CN		MSM	505
6	1542	3032			LDD	CN+2	CHECK DATI STATUS	MSM	506
7	1543	2300 4000			LMC	4000		MSM	507
8	1545	0412			ZJN	CIR3	IF DAT INTERLOCKED	MSM	508
9	1546	3432			STD	CN+2	SET DAT INTERLOCKED	MSM	509
10	1547	1064			SHN	0-13		MSM	510
11	1550	0414			ZJN	CIR4	IF INTERLOCKED BY THIS MACHINE	MSM	511
12	1551	1405			LDN	DATI	GET FLAG REGISTER INTERLOCK	MSM	512
13	1552	0200 1134			RJM	IFR		MSM	513
14	1554	0403			ZJN	CIR3	IF DAT INTERLOCKED	MSM	514
15	1555	0100 1665			LJM	GDT1	RECALL *CMS*	MSM	515
16								MSM	516
17	1557	3060		CIR3	LDD	RC	SET INITIALIZATION COUNT	MSM	517
18	1560	3532			RAD	CN+2		MSM	518
19	1561	2000 0122			LDC	MMFL		MSM	519
20	1563	6230			CWD	CN		MSM	520
21								MSM	521
22				*			SET UP COMMAND TO INITIATE *MSI*.	MSM	522
23								MSM	523
24	1564	1401		CIR4	LDN	1		MSM	524
25								MSM	525
26				*			ENTERED HERE FROM *DPP*.	MSM	526
27				*			(A) = NUMBER OF COMMAND WORDS.	MSM	527
28								MSM	528
29	1565	3401		CIR5	STD	T1	NUMBER OF COMMAND WORDS	MSM	529
30	1566	3074			LDD	CP	READ COMMAND POINTER WORD	MSM	530
31	1567	1673			ADN	CSPW		MSM	531
32	1570	6010			CRD	CM		MSM	532
33	1571	2000 0205			LDC	CSBN	SET FWA OF COMMANDS	MSM	533
34	1573	3413			STD	CM+3		MSM	534
35	1574	3201			SBD	T1	SET LIMIT OF COMMANDS	MSM	535
36	1575	3414			STD	CM+4		MSM	536
37	1576	3074			LDD	CP	WRITE *CSPW*	MSM	537
38	1577	1673			ADN	CSPW		MSM	538
39	1600	6210			CWD	CM		MSM	539
40	1601	3055			NFA	CSBN	STORE COMMANDS	MSM	540
41	1605	6301 1611			CWM	CIRB,T1		MSM	541
42			1606	CIRA	EQU	*-1		MSM	542
43	1607	0100 1352			LJM	DPP1	DROP PPU	MSM	543
44								MSM	544
45								MSM	545
46	1611	1523		CIRB	VFD	60/0LMSI.		MSM	546
47	1612	1157							
48	1613	0000							
49	1614	0000							
50	1615	0000							
51	1616	0317		CIRC	VFD	60/0LCONFIG.		MSM	547
52	1617	1606							
53	1620	1107							
54	1621	5700							



1622	0000							MSM	548
1623		CIRD	BSS	0				MSM	549
1623	0314		DATA	C*CLDT.*				MSM	550
1627	0000		CON	0				MSM	551
1630	5311		CIRE	DATA	C*\$ISF(FM=0,SJ,SP)*			MSM	552
		*	DATA	C*\$ISF(FM=0,SJ)*	(RECOVERY DEADSTART)			MSM	553
1641	0000		CON	0				MSM	554
		17	CIRF2	EQU	*-CIRD			MSM	555
		3	CIRF	EQU	CIRF2/5	CM LENGTH OF COMMANDS		MSM	556
		35	ERRNG	40-CIRF	COMMAND BUFFER OVERFLOW			MSM	557
		**	GDT	- GET DEVICE ACCESS TABLE.				MSM	559
		*	EXIT	DEVICE ACCESS TABLE LOADED.				MSM	560
		*		TO *RCL* IF DAT BUSY.				MSM	561
		*	USES	P2, CN - CN+4.				MSM	562
		*	CALLS	CLK, IFR, LDT.				MSM	563
		*	MACROS	EXECUTE.				MSM	564
		*						MSM	565
		*						MSM	566
		*						MSM	567
		*						MSM	568
		*						MSM	569
		*						MSM	570
1642	0200 4400	GDT3	RJM	LDT	LOAD DEVICE ACCESS TABLE			MSM	571
1644	3067		LDD	P2	SET *DATI* STATUS FOR *RPF*			MSM	572
1645	5500 1422		RAM	RPFB				MSM	573
								MSM	574
1647	0100 1647	GDT	SUBR		ENTRY/EXIT			MSM	575
1651	2000 0122		LDC	MMFL	READ MMF STATUS WORD			MSM	576
1653	6030		CRD	CN				MSM	577
1654	3032		LDD	CN+2	CHECK DATI STATUS			MSM	578
1655	1071		SHN	-6				MSM	579
1656	3467		STD	P2				MSM	580
1657	1140		LMN	40				MSM	581
1660	0461		ZJN	GDT3	IF DAT INTERLOCKED			MSM	582
1661	1405		LDN	DATI	GET DAT INTERLOCK			MSM	583
1662	0200 1134		RJM	IFR				MSM	584
1664	0455		ZJN	GDT3	IF INTERLOCK SET			MSM	585
		*		ENTERED HERE EXTERNALLY.				MSM	586
		*						MSM	587
		*						MSM	588
1665	3074	GDT1	LDD	CP				MSM	589
1666	1636		ADN	MS2W				MSM	590
1667	6373 1674		CWM	GDTA,TR				MSM	591
1671	1414		LDN	FIRR	FLAG REGISTER INTERLOCK REJECT			MSM	592
1672	0100 1714		LJM	RCL	RECALL CMS			MSM	593
								MSM	594
1674	5327	GDTA	DATA	C*\$WAITING - RECOVERY INTERLOCK.*				MSM	595

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	**			RCL - RECALL PP.			MSM	653
	*						MSM	654
	*			ENTRY (A) = RECALL STACK REASON CODE.			MSM	655
1	*						MSM	656
2	*			EXIT TO *PPR*.			MSM	657
3	*						MSM	658
4	*			USES LA, CM - CM+4.			MSM	659
5	*						MSM	660
6	*			MACROS MONITOR.			MSM	661
7							MSM	662
8							MSM	663
9		1714	3410	RCL	STD	CM	SET REASON CODE	MSM 664
10		1715	1466		LDK	ZERL		MSM 665
11		1716	6011		CRD	CM+1		MSM 666
12		1717	3077		LDD	MA	ENTER PP RECALL REQUEST	MSM 667
13		1720	6370	1730	CWM	RCLA,ON		MSM 668
14		1722	6210		CWD	CM		MSM 669
15		1723	1472		MONITOR	RECM		MSM 670
16		1726	0100	0257	LJM	PPR	EXIT TO PP RESIDENT	MSM 671
17								MSM 672
18		1730	0315		RCLA	VFD	60/0LCMS	MSM 673
19		1731	2300					
20		1732	0000					
21		1733	0000					
22		1734	0000					
23								MSM 674
24	*							MSM 675
25								MSM 676
26		1735	SDVR		EQU	*		MSM 677
27								
28								
29								
30								
31	**			IAM - ISSUE ACCOUNTING MESSAGE.			MSM	679
32	*						MSM	680
33	*			ENTRY (EQ) = EST ORDINAL.			MSM	681
34	*			(FN - FN+4) = EST ENTRY.			MSM	682
35	*						MSM	683
36	*			EXIT MESSAGE ISSUED TO ACCOUNTING DAYFILE.			MSM	684
37	*						MSM	685
38	*			USES T1, CM - CM+4, CN - CN+4.			MSM	686
39	*						MSM	687
40	*			CALLS ACS, C2D, DFM.			MSM	688
41							MSM	689
42							MSM	690
43		1735	0100	1735	IAM	SUBR	ENTRY/EXIT	MSM 691
44		1737	2000	2046	LDC	IAMB	SET ADDRESS OF ASSEMBLY BUFFER	MSM 692
45		1741	3401		STD	T1		MSM 693
46		1742	3053		LDD	EQ	CONVERT UPPER TWO DIGITS OF EST ORDINAL	MSM 694
47		1743	1074		SHN	-3		MSM 695
48		1744	0200	1122	RJM	C2D		MSM 696
49		1746	3410		STD	CM		MSM 697
50		1747	3053		LDD	EQ	CONVERT LOWER DIGIT OF EST ORDINAL	MSM 698
51		1750	1207		LPN	7		MSM 699
52		1751	1633		ADN	1R0		MSM 700
53		1752	1006		SHN	6		MSM 701
54		1753	3411		STD	CM+1		MSM 702

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1754	1410			LDN	CM	ADD EST ORDINAL TO MESSAGE	MSM	703
1755	0200 2205			RJM	ACS		MSM	704
1757	2000 2262			LDC	=C*, *	ADD SEPARATOR TO MESSAGE	MSM	705
1761	0200 2205			RJM	ACS		MSM	706
1763	3044			LDD	FN+4	GET DEVICE DESCRIPTION	MSM	707
1764	1003			SHN	3		MSM	708
1765	1604			ADN	PFGL		MSM	709
1766	6010			CRD	CM		MSM	710
1767	1601			ADN	PUGL-PFGL	READ USER NAME	MSM	711
1770	6030			CRD	CN		MSM	712
1771	3013			LDD	CM+3	EXTRACT DEVICE NUMBER	MSM	713
1772	1277			LPN	77		MSM	714
1773	0411			ZJN	IAM1	IF AUXILIARY DEVICE	MSM	715
1774	0200 1122			RJM	C2D	CONVERT TO DISPLAY CODE	MSM	716
1776	3430			STD	CN		MSM	717
1777	3013			LDD	CM+3	SET END OF FAMILY NAME	MSM	718
2000	1377			SCN	77		MSM	719
2001	3413			STD	CM+3		MSM	720
2002	2000 2421			LDC	2RDU&2RPD		MSM	721
2004	2300 2004		IAM1	LMC	2RPD	SET MESSAGE PREFIX	MSM	722
2006	5400 2044			STM	IAMA+1		MSM	723
2010	1410			LDN	CM	ADD FAMILY/PACKNAME TO MESSAGE	MSM	724
2011	0200 2205			RJM	ACS		MSM	725
2013	3030			LDD	CN		MSM	726
2014	0413			ZJN	IAM2	IF NO USER/DEVICE NUMBER	MSM	727
2015	2000 2262			LDC	=C*, *		MSM	728
2017	0200 2205			RJM	ACS		MSM	729
2021	3033			LDD	CN+3	SET END OF USER NAME	MSM	730
2022	1377			SCN	77		MSM	731
2023	3433			STD	CN+3		MSM	732
2024	1430			LDN	CN	ADD USER/DEVICE NUMBER TO MESSAGE	MSM	733
2025	0200 2205			RJM	ACS		MSM	734
2027	2000 2264		IAM2	LDC	=C*.*	SET MESSAGE TERMINATOR	MSM	735
2031	0200 2205			RJM	ACS		MSM	736
2033	2005 2043			LDC	IAMA+ACFN	ISSUE MESSAGE TO ACCOUNT FILE	MSM	737
2035	0200 0423			RJM	DFM		MSM	738
			*	LDN	0	CLEAR ASSEMBLY BUFFER	MSM	739
2037	5400 2046			STM	IAMB		MSM	740
2041	0100 1735			LJM	IAMX	RETURN	MSM	741
							MSM	742
2043	0104		IAMA	DATA	6HADPD,		MSM	743
2046		15	IAMB	BSSZ	15	ASSEMBLY BUFFER	MSM	744
			**		RCD - RECOVER DEVICES.		MSM	746
			*				MSM	747
			*	ENTRY	(RE) = EQUIPMENT TO RECOVER.		MSM	748
			*		(AL) = CM ADDRESS CONTAINING LABEL MST.		MSM	749
			*		(RC) = RECOVERY COUNT.		MSM	750
			*		(EQ) = (T5) = EST ORDINAL.		MSM	751
			*		(CA+1) = CM ADDRESS OF TRT BUFFER.		MSM	752
			*		(FN - FN+4) = EST ENTRY.		MSM	753
			*				MSM	754
			*	EXIT	DEVICES RECOVERED OR SET UNAVAILABLE.		MSM	755
			*		(A) .LT. 0 IF RECOVERY INFORMATION NOT TO		MSM	756

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Line	Code	Subcode	Device	Mode	Function	MSM	Count
	*				BE REWRITTEN TO CM UPON RETURN TO *MRL*.	MSM	757
	*					MSM	758
	*	USES	CA, EC, T1, CN - CN+4.			MSM	759
	*					MSM	760
	*	CALLS	CSD, DFM, IES, SEC, UDT.			NS2552	3
	*					MSM	763
	*	MACROS	SMSTF, UJMF.			MSM	764
						MSM	765
						MSM	766
7	2063	1302	RCD9	SCN 2	CLEAR INTERNAL SHARED STATUS	MSM	767
8	2064	1010		SHN 7+1		MSM	768
9	2065	3446		STD RE		MSM	769
11	2066	0100 2066	RCD	SUBR	ENTRY/EXIT	MSM	771
12	2070	1012		SHN 21-7		MSM	772
13	2071	0671		PJN RCD9	IF DEVICE NOT BEING RECOVERED	MSM	773
14	2072	1464		SMSTF LPTU	PROHIBIT TRT UPDATE BY *1RU*	MSM	774
15	2075	0200 6673		RJM SEC	SET PROPER EQUIPMENT CONFIGURATION	MSM	775
16	2077	0327		UJMF RCD3	NON MMF TRANSFER	MSM	776
17	2100	3055		LDD RA	GET DEVICE NAME FROM LABEL MST	MSM	777
18	2101	1006		SHN 6		MSM	778
19	2102	3147		ADD AL		MSM	779
20	2103	1604		ADN PFGL		MSM	780
21	2104	6030		CRD CN		MSM	781
22	2105	0200 4105		RJM CSD	CHECK SHARED DEVICE STATUS	MSM	782
23	2107	0510		NJN RCD1	IF *DAT* CONFLICT	MSM	783
24	2110	3054		LDD RS		MSM	784
25	2111	0512		NJN RCD2	IF CONTINUATION OF RECOVERY DEADSTART	MSM	785
26	2112	3046		LDD RE		MSM	786
27	2113	1210		LPN 10		MSM	787
28	2114	0407		ZJN RCD2	IF NOT ACCESSED BY THIS MACHINE	MSM	788
29	2115	2000 4210		LDC CSDC		MSM	789
30	2117	0200 0423	RCD1	RJM DFM	ISSUE MESSAGE TO DAYFILE	MSM	790
31	2121	1402		LDN STCE	SET CONFIGURATION ERROR	MSM	791
32	2122	0314		UJN RCD5	ENTER ERROR STATUS	MSM	792
33						MSM	793
34	2123	0200 4657	RCD2	RJM UDT	UPDATE DEVICE ACCESS TABLE	MSM	794
35	2125	0571		NJN RCD1	IF MST/TRT TRACK UNAVAILABLE	MSM	795
36	2126	3046	RCD3	LDD RE	CHECK STATUS OF LABEL READ	MSM	796
37	2127	1240		LPN 40		MSM	797
38	2130	0403		ZJN RCD4	IF VALID ACCESS MODE	MSM	798
39	2131	1401		LDN STLE	SET LABEL ERROR	MSM	799
40	2132	0304		UJN RCD5	ENTER ERROR STATUS	MSM	800
41						MSM	801
42	*				READ AND EDIT TRT.	MSM	802
43						MSM	803
44	2133	0200 6436	RCD4	RJM RTT		NS2552	4
45	2135	0405		ZJN RCD6	IF RECOVERY COMPLETE	NS2552	5
46						MSM	807
47	*				ERROR IN RECOVERY OF DEVICE.	MSM	808
48						MSM	809
49	2136	3437	RCD5	STD EC	SET ERROR STATUS	MSM	810
50	2137	3760		SOD RC	DECREMENT RECOVERY COUNT	MSM	811
51	2140	0200 3460		RJM IES	INITIALIZE EQUIPMENT STATUS	MSM	812
52			*	LCN 0	(*MRL* REWRITE RECOVERY TABLE FLAG)	MSM	813
53	2142	0100 2066	RCD6	LJM RCDX	RETURN	NS2552	6

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	**			RQS - REQUEST STORAGE.			MSM	835
	*						MSM	836
	*			ENTRY (A) = STORAGE REQUIRED.			MSM	837
1	*						MSM	838
2	*			EXIT STORAGE ASSIGNED.			MSM	839
3	*			TO *RCL* IF REQUEST PENDING.			MSM	840
4	*						MSM	841
5	*			CALLS RSI.			MSM	842
6							MSM	843
7							MSM	844
8		2144	0100 2144	RQS	SUBR	ENTRY/EXIT	MSM	845
9		2146	0200 2235		RJM RSI	REQUEST STORAGE INCREASE	MSM	846
10		2150	0473		ZJN RQSX	IF ASSIGNED	MSM	847
11		2151	1401		LDN CFIR	CM FL INCREASE PENDING	MSM	848
12		2152	0100 1714		LJM RCL	RECALL *CMS*	MSM	849
13								
14								
15								
16								
17	**			UMT - UPDATE MMF TABLES IN EXTENDED MEMORY.			MSM	851
18	*						MSM	852
19	*			ENTRY (RC) = NUMBER OF EQUIPMENTS RECOVERED.			MSM	853
20	*						MSM	854
21	*			CALLS *4DF*, MRL.			MSM	855
22							MSM	856
23							MSM	857
24		2154	0100 2154	UMT	SUBR	ENTRY/EXIT	MSM	858
25		2156	3060		LDD RC		MSM	859
26		2157	0474		ZJN UMTX	IF NO EQUIPMENT RECOVERED	MSM	860
27		2160	2037 0406		EXECUTE 4DF		MSM	861
28		2164	2000 4063		LDC UER	UPDATE EXTENDED MEMORY RESIDENT	MSM	862
29		2166	0200 2441		RJM MRL		MSM	863
30		2170	0363		UJN UMTX	RETURN	MSM	864
31								
32								
33								
34								
35	**			COMMON DECKS.			MSM	892
36							MSM	893
37							MSM	894
38		2171			CTEXT COMPACS	- ASSEMBLE CHARACTER STRING.	COMPACS	1
39		2227			CTEXT COMPRSI	- REQUEST STORAGE INCREASE.	COMPRSI	1
40							MSM	897
41							MSM	898
42				USE	LITERALS		MSM	899
43								
44								
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Line	Address	Code	Label	Description	MSM	Address
		**	PRS - PRESET.		MSM	902
		*			MSM	903
		*	EXIT	DEVICE STATUS TABLE IN *MSM-S* FL SET WITH	MSM	904
		*		RECOVERY STATUS INFORMATION AND CM ADDRESSES	MSM	905
		*		FOR MST LABEL DATA.	MSM	906
					MSM	907
					MSM	908
	2266	PRS	BSS	0	MSM	909
	2266		LDD	CP	MSM	910
				CHECK ORIGIN OF CALL		
	2267		ADN	JCIW	MSM	911
	2270		CRD	CM	MSM	912
	2271		ADN	SNSW-JCIW	MSM	913
	2272		CRD	CN	MSM	914
	2273		LDD	CM+2	MSM	915
	2274		LMC	MSSI	MSM	916
	2276		ZJP	PRS2	NS2768	9
				IF VALID SUBSYSTEM CALL		
	2301		LMN	DSSI&MSSI	MSM	918
	2302		NJP	PRS3	NS2768	10
				IF NOT DEADSTART SEQUENCING PRIORITY		
	2305		ISTORE	CMSB,(UJN CMS4)	NS2768	11
				SET DEADSTART SEQUENCING STATUS		
	2311		ISTORE	DPPB,(LDN CIRD-CIRB)	NS2768	12
	2315		LDD	CP	MSM	922
				SET SYSTEM USER NAME/INDEX		
	2316		ADN	UIDW	MSM	923
	2317		CWM	PRSA,ON	MSM	924
	2321		LDN	DSSL	MSM	925
				SET RECOVERY LEVEL		
	2322		CRD	CM	MSM	926
	2323		LDD	CM+4	MSM	927
				SET RECOVERY STATUS		
	2324		LPN	3	MSM	928
	2325		STD	T1	MSM	929
	2326		ZJN	PRS1	MSM	930
				IF NOT RECOVERY DEADSTART		
	2327		LDC	100*1R)	MSM	931
				PREVENT *SYSPROC* CALL		
	2331		STM	CIRE+6	MSM	932
	2333		LDN	0	MSM	933
	2334		STM	CIRE+7	MSM	934
	2336		SOM	DPPC	MSM	935
				PREVENT *CLDT* CALL		
	2340		LDN	CIRE-CIRD	MSM	936
	2341		RAM	DPPB	MSM	937
	2343		LDM	TRCO,T1	MSM	938
	2345	PRS1	UJN	PRS5	MSM	939
		PRS2		SET RECOVERY STATUS	MSM	940
	2346	PRS3	LDC	PRSB	MSM	941
				ISSUE * INCORRECT CMS CALL.*		
	2350		RJM	DFM	MSM	942
	2352	PRS4	LDC	MMFL	MSM	943
				READ MMF STATUS WORD		
	2354		CRD	CN	MSM	944
	2355		LDD	CN+2	MSM	945
				CHECK RECOVERY INTERLOCK		
	2356		SHN	0-13	MSM	946
	2357		ZJN	ABT	MSM	947
				IF DAT NOT INTERLOCKED		
	2360		LCN	DATI	MSM	948
				RELEASE RECOVERY INTERLOCK		
	2361		RJM	IFR	MSM	949
	2363		STD	CN+2	MSM	950
				CLEAR INTERLOCK STATUS		
	2364		LDC	MMFL	MSM	951
	2366		CWD	CN	MSM	952
	2367	ABT	MONITOR	ABTM	MSM	953
	2372		LJM	PPR	MSM	954
					MSM	955
	2374	PRS5	STD	RS	MSM	956
	2375		PAUSE		MSM	957
				CHECK ERROR FLAG		
	2403		LDD	CM+1	MSM	958

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2404	0545	NJN	PRS4	IF ERROR FLAG SET	MSM	959
2405	3033	LDD	CN+3	CLEAR PAUSE BIT	MSM	960
2406	1301	SCN	1		MSM	961
2407	3433	STD	CN+3		MSM	962
2410	3074	LDD	CP		MSM	963
2411	1630	ADN	SNSW		MSM	964
2412	6230	CWD	CN		MSM	965
2413	1637	ADN	PFCW-SNSW	SWITCH TO NULL FAMILY	MSM	966
2414	6030	CRD	CN		MSM	967
2415	3033	LDD	CN+3		MSM	968
2416	3411	STD	CM+1		MSM	969
2417	1102	LMN	NEEQ	CHECK FOR NULL FAMILY	MSM	970
2420	0413	ZJN	PRS6	IF NULL FAMILY	MSM	971
2421	1407	LDN	DFCS		MSM	972
2422	3413	STD	CM+3		MSM	973
2423	1442	MONITOR	SMDM		MSM	974
2426	1402	LDN	NEEQ	SET NULL FAMILY IN *PFCW*	MSM	975
2427	3433	STD	CN+3		MSM	976
2430	3074	LDD	CP		MSM	977
2431	1667	ADN	PFCW		MSM	978
2432	6230	CWD	CN		MSM	979
2433	1472	LDN	ESTP	PR6 READ EST POINTER	MSM	980
2434	6010	CRD	CM		MSM	981
2435	1402	LDN	2	SET CONSTANT TWO	MSM	982
2436	3426	STD	TW		MSM	983
2437	3013	LDD	CM+3	SET LAST MASS STORAGE ORDINAL + 1	MSM	984
2440	3461	STD	LO		MSM	985
2441	1607	ADN	7	SET INDEX INTO MST TABLE	MSM	986
2442	1307	SCN	7		MSM	987
2443	3464	STD	CA		MSM	988
2444	1670	ADN	70		MSM	989
2445	1071	SHN	-6		MSM	990
2446	3401	STD	T1		MSM	991
2447	3256	SBD	FL		MSM	992
2450	0704	MJN	PRS7	IF ENOUGH STORAGE AVAILABLE	MSM	993
2451	3001	LDD	T1		MSM	994
2452	0200 2145	RJM	RQS		MSM	995
					MSM	996
		*		INITIALIZE TABLES.	MSM	997
2454	0200 2566	RJM	IET	PR7 INITIALIZE TABLES	MSM	998
					MSM	999
		*		CHECK FOR MULTI-MAINFRAME SYSTEM.	MSM	1000
					MSM	1001
2456	2000 0122	LDC	MMFL	READ MMF STATUS WORD	MSM	1002
2460	6010	CRD	CM		MSM	1003
2461	3011	LDD	CM+1		MSM	1004
2462	2200 0777	LPC	777		MSM	1005
2464	0434	ZJN	PRS10	IF NOT MMF ENVIRONMENT	MSM	1006
2465	3453	STD	EQ		MSM	1007
2466	3055	LDD	RA	GET LINK DEVICE	MSM	1008
2467	1006	SHN	6		MSM	1009
2470	3153	ADD	EQ		MSM	1010
2471	6043	CRD	RD		MSM	1011
2472	3046	LDD	RE	ASSIGN SYSTEM STATUS TO LINK DEVICE	MSM	1012
2473	2200 5500	LPC	5500		MSM	1013
2475	2300 2000	LMC	2000		MSM	1014
					MSM	1015



2477	3446		STD	RE		MSM	1016
2500	3055		LDD	RA	STORE LINK DEVICE RECOVERY INFORMATION	MSM	1017
2501	1006		SHN	6		MSM	1018
2502	3153		ADD	EQ		MSM	1019
2503	6243		CWD	RD		MSM	1020
2504	3044		LDD	FN+4	SET EXTENDED MEMORY MST POINTER	MSM	1021
2505	5400	1120	STM	LDMP		MSM	1022
2507	1003		SHN	3	GET ALLOCATION WORD FROM MST	MSM	1023
2510	1603		ADN	ALGL		MSM	1024
2511	6030		CRD	CN		MSM	1025
2512	3031		LDD	CN+1	SET EXTENDED MEMORY LABEL TRACK	MSM	1026
2513	5400	1117	STM	ECLT		MSM	1027
2515	1407		LDN	10-1	ADVANCE FL AS NEEDED FOR *DAT* TABLE	MSM	1028
2516	5500	2526	RAM	PRSC		MSM	1029
2520	0401		PRS10	ZJN	PRS12 IF STAND ALONE SYSTEM	MSM	1030
						MSM	1041
			*		SET FL REQUIRED FOR LABEL MSTs.	MSM	1042
						MSM	1043
2521	3064		PRS12	LDD	CA SET ADDRESS OF TRT BUFFER	MSM	1044
2522	3465		STD	CA+1		MSM	1045
2523	1677		ADN	77		MSM	1046
2524	1071		SHN	-6		MSM	1047
2525	2100	0012	ADC	FLRC/100+1	REQUEST FL FOR LABELS, MSTs AND TRT EDIT	MSM	1048
		2526	PRSC	EQU	*-1	MSM	1049
2527	0200	2145	RJM	RQS		MSM	1050
2531	0100	1232	LJM	CMS	RETURN	MSM	1051
						MSM	1052
						MSM	1058
2533	2331		PRSA	VFD	42/0LSYSTEMX,18/SYUI	MSM	1059
2534	2324						
2535	0515						
2536	3037						
2537	7777						
2540	5511		PRSB	DATA	C* INCORRECT CMS CALL.*	MSM	1060
			**		IET - INITIALIZE TABLES.	MSM	1062
			*			MSM	1063
			*	EXIT	DEVICE RECOVERY STATUS TABLE INITIALIZED.	MSM	1064
			*			MSM	1065
			*	USES	TS, RE, AL, EQ, UC, CM - CM+4, FN - FN+4, FS - FS+4.	MSM	1066
			*			MSM	1067
			*	MACROS	SFA.	MSM	1068
						MSM	1069
						MSM	1070
2553	1466		IET3	LDN	ZERL CLEAR RECOVERY TABLE ENTRY	MSM	1071
2554	6043			CRD	RD	MSM	1072
2555	3055		IET4	LDD	RA STORE RECOVERY TABLE INFORMATION	MSM	1073
2556	1006			SHN	6	MSM	1074
2557	3153		ADD	EQ		MSM	1075
2560	6243		CWD	RD		MSM	1076
2561	3653		AOD	EQ	ADVANCE EST ORDINAL	MSM	1077
2562	3361		LMD	LO		MSM	1078
2563	0506		NJN	IET1	IF NOT END OF MASS STORAGE EQUIPMENTS	MSM	1079
2564	3460		STD	RC		MSM	1080

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2565	0100	2565	IET	SUBR	ENTRY/EXIT	MSM	1081
2567	1404			LDN	NOPE-1	MSM	1082
2570	3453			STD	EQ	MSM	1083
2571	3053		IET1	SFA	EST,EQ	MSM	1084
				ADK	EQDE	MSM	1085
2574	6040			CRD	FN	MSM	1086
2575	3040			LDD	FN	MSM	1087
2576	2200	7500		LPC	7500	MSM	1088
2600	3446			STD	RE	MSM	1089
2601	1006			SHN	21-13	MSM	1090
2602	0650			PJN	IET3	MSM	1091
2603	3064			LDD	CA	MSM	1092
2604	3447			STD	AL	MSM	1093
2605	3044			LDD	FN+4	MSM	1094
2606	1003			SHN	3	MSM	1095
2607	1615			ADN	STLL	MSM	1096
2610	6020			CRD	FS	MSM	1097
2611	1601			ADN	DDLL-STLL	MSM	1098
2612	6010			CRD	CM	MSM	1099
2613	3010			LDD	CM	MSM	1100
2614	1074			SHN	-3	MSM	1101
2615	1207			LPN	7	MSM	1102
2616	3462			STD	UC	MSM	1103
2617	1420		IET2	LDN	MSTL	MSM	1104
2620	3564			RAD	CA	MSM	1105
2621	3762			SOD	UC	MSM	1106
2622	0674			PJN	IET2	MSM	1107
2623	3020			LDD	FS	MSM	1108
2624	1201			LPN	MRASD	MSM	1109
2625	1012			SHN	12-RASD+RASD/12D*12D	MSM	1110
2626	3546			RAD	RE	MSM	1111
2627	0100	2555		LJM	IET4	MSM	1112
					INITIALIZE DEVICE RECOVERY INFORMATION	MSM	1113

\*\* TRCO - TABLE OF RECOVERY OPTIONS.

2631			TRCO	BSS	0	MSM	1115
L	0			LOC	0	MSM	1116
L	0	0000		CON	0	MSM	1117
L	1	0021		CON	FLT+SYTB	MSM	1118
L	2	0020		CON	FLT	MSM	1119
L	3	0000		CON	0	MSM	1120
2635				LOC	*0	MSM	1121
						MSM	1122
						MSM	1123
						MSM	1124
						MSM	1125

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IDENT RMS,OBOV-2  
 COMMENT 87/07/09. 96/06/05. MSM - MASS STORAGE RECOVERY MANAGER.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

MSM 1128  
 MSM 1129  
 281L803 2

1				
2				
3				
4				
5	***	*RMS* SURVEYS ALL MASS STORAGE DEVICES AND RECOVERS	MSM	1132
6	*	ANY DEVICE POSSIBLE. UPON COMPLETION, *REC* IS CALLED	MSM	1133
7	*	INTO THIS PP TO PROCEED WITH SYSTEM RECOVERY.	MSM	1134
8				
9				
10				
11				
12	***	ENTRY CONDITIONS.	MSM	1136
13	*		MSM	1137
14	*	(IR+3) = CPUMTR MMF INITIALIZATION STATUS-	MSM	1139
15	*	LINK DEVICE LABEL TRACK IF NO ERROR.	MSM	1140
16	*	ERROR MESSAGE NUMBER IF ERROR.	MSM	1141
17	*	(IR+4) = RECOVERY STATUS.	MSM	1142
18				
19				
20				
21				
22	***	OPERATOR MESSAGES.	MSM	1144
23	*		MSM	1145
24	*		MSM	1146
25	*	REFER TO OPERATORS GUIDE FOR INFORMATION AS TO CAUSE OF	MSM	1147
26	*	ERROR AND RECOMMENDED CORRECTIVE ACTION.	MSM	1148
27	*		MSM	1149
28	*	*DEVICE ACTIVE IN DAT.* (MMF)	MSM49	1
29	*		MSM	1151
30	*	*END OF DAT TRACK CHAIN.* (MMF)	MSM49	2
31	*		MSM	1165
32	*	*EQXXX EQYYY CONFLICTING DN.*	MSM	1166
33	*		MSM	1167
34	*	*EQXXX EQYYY CONFLICTING PN.*	MSM	1168
35	*		MSM	1169
36	*	*EQXXX EQYYY CONFLICTING UM.*	MSM	1170
37	*		MSM	1171
38	*	*EQXXX, DEVICE ACCESS ERROR.*	MSM	1172
39	*		MSM	1173
40	*	*ERROR ON DEVICE WITH ACTIVE FILES.*	MSM49	3
41	*		MSM	1175
42	*	*ERROR ON SYSTEM DEVICE.*	MSM49	4
43	*		MSM	1177
44	*	*EXTENDED MEMORY LABEL TRACK NOT FOUND.* (MMF)	MSM49	5
45	*		MSM	1179
46	*	*EXTENDED MEMORY READ/WRITE PARITY ERRORS.* (MMF)	MSM49	6
47	*		MSM	1181
48	*	*INSUFFICIENT MEMORY FOR CM RECOVERY.*	MSM49	7
49	*		MSM49	8
50	*	*LABEL TRACK CONFLICT.*	MSM49	9
51	*		MSM49	10
52	*	*LINK DEVICE SIZE ERROR.* (MMF)	MSM49	11
53	*		MSM49	12
54	*	*LOCAL AREA SECTOR ERROR.*	MSM49	13
55				
56				
57				
58				
59				
60				

1	*		MSM49	14	1
2	*	*MAXIMUM NUMBER MIDS ACTIVE.* (MMF)	MSM49	15	2
3	*		MSM	1183	3
4	*	*MID UNDEFINED IN EXTENDED MEMORY.* (MMF)	MSM	1184	4
5	*		MSM	1185	5
6	*	*MID CURRENTLY ACTIVE IN EXTENDED MEMORY.* (MMF)	MSM	1186	6
7	*		MSM	1187	7
8	*	*MMF DEVICE ACCESS ERROR.* (MMF)	MSM49	16	8
9	*		MSM	1189	9
10	*	*NON-SHARED DEVICE ACTIVE IN DAT.* (MMF)	MSM49	17	10
11	*		MSM	1191	11
12	*	*PF LINKAGE ERROR.*	MSM49	18	12
13	*		MSM49	19	13
14	*	*PRESET NOT ALLOWED.* (MMF)	MSM	1192	14
15	*		MSM	1193	15
16	*	*REMOVABLE DEVICE CONFLICT.* (MMF)	MSM49	20	16
17	*		MSM	1195	17
18	*	*SHARED DEVICE ACTIVE IN DAT.* (MMF)	MSM49	21	18
19	*		MSM49	22	19
20	*	*TRT LENGTH ERROR.*	MSM49	23	20
21	*		MSM49	24	21
22	*	*UNMATCHED SYSTEM DEVICES.*	MSM49	25	22
23					23
24	**	ROUTINES CALLED.	MSM	1198	24
25	*		MSM	1199	25
26	*	OMF - PRESET MMF LINK DEVICE.	MSM	1200	26
27	*	OSD - SPIN UP/DOWN ISMD DRIVES.	MSM	1201	27
28					28
29					29
30					30
31					31
32					32
33					33
34					34
35					35
36					36
37					37
38					38
39					39
40					40
41					41
42					42
43					43
44					44
45					45
46					46
47					47
48					48
49					49
50					50
51					51
52					52
53					53
54					54
55					55
56					56
57					57
58					58
59					59
60					60

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1115			QUAL	RMS			MSM	1204
1115	0100 2366		ORG	OBOV-2			MSM	1205
			LJM	PRS	PRESET *RMS*		MSM	1206

1117			LIST	M			283L840	17
			COMMON				MSM	1208
			QUAL				COMMON	.1

1117	0000		ECLT	CON	0	EXTENDED MEMORY LABEL TRACK	COMMON	.1
1120	0000		LDMP	CON	0	LINK DEVICE MST POINTER	COMMON	.1

1121			CTEXT	COMPC2D	-	CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMMON	.1
1133			CTEXT	COMPIFR	-	SET/CLEAR FLAG REGISTER INTERLOCK.	COMMON	.1
1153			CTEXT	COMPTGB	-	SET/CLEAR GLOBAL MST FLAG (ACGL).	COMMON	.1

1172	2000 0000		LRA1	LDC	0	LOAD RA INTO *R* REGISTER	COMMON	.1
		1173	LRAB	EQU	*-1		COMMON	.1

1174	3416			STD	RG+1		COMMON	.1
1175	1063			SHN	-14		COMMON	.1
1176	3415			STD	RG		COMMON	.1

1177	2415			LDD	RA	SET RA	COMMON	.1
1200	3055		LRA2	LDD	RA		COMMON	.1
		1200	LRAC	EQU	*-1		COMMON	.1

1201	1006			SHN	6		COMMON	.1
------	------	--	--	-----	---	--	--------	----

1202			LRA	SUBR		ENTRY/EXIT	COMMON	.1
------	--	--	-----	------	--	------------	--------	----

1202	0100 1202		LRA_X	IFC	EQ, \$\$\$, 2		SUBR	.2
				LJP	*		SUBR	.2
				ELSE	1		SUBR	.2

		1203	LRA EQU *-1				SUBR	.2
			ENDM				SUBR	.2

1204	0373		LRAA	UJN	LRA2	SET RA	COMMON	.1
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1205	PTA	SUBR	ENTRY/EXIT	COMMON
		IFC	EQ, \$\$\$, 2	.1
1205	0100 1205	LJP	*	.1
		ELSE	1	.1
	1206	PTA EQU *-1		.1
		ENDM		.1
1207	3044	LDD	FN+4 GET FWA OF TRT	.1
1210	1003	SHN	3	.1
1211	1620	ADN	TRLL	.1
1212	6010	CRD	CM	.1
1213	3013	LDD	CM+3 SET FWA OF TRT	.1
1214	1277	LPN	77	.1
1215	2300 2000	LMC	LDCI	.1
1217	5400 1227	STM	STAA-1	.1
1221	3014	LDD	CM+4	.1
1222	5400 1230	STM	STAA	.1
1224	0360	UJN	PTAX RETURN	.1

1225	STA	SUBR	ENTRY/EXIT	COMMON
		IFC	EQ, \$\$\$, 2	.1
1225	0100 1225	LJP	*	.1
		ELSE	1	.1
	1226	STA EQU *-1		.1
		ENDM		.1
1227	2000 0000	LDC	0	.1
	1230	STAA	EQU *-1 (FWA TRT)	.1
1231	0373	UJN	STAX RETURN	.1
		QUAL	*	.1
		ENDM		.1
		LIST	*	283L840 18

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\*\* RMS - MAIN PROGRAM.

Line	Address	Code	Label	Operation	Description	MSM	Count
						MSM	1210
						MSM	1211
						MSM	1212
1	1232	2037 0402	RMS1	EXECUTE 4DB	LOAD RECOVERY ROUTINES	MSM	1213
2	1236	0200 2206		RJM RLD	RECOVER MMF LINK DEVICE	MSM	1214
3	1240	2000 0000		LDC 0	SET UEM EQUIPMENT FOR SPECIAL PROCESSING	MSM	1215
4			1241	RMSE	EQU *-1	MSM	1216
5	1242	5400 2403		STM MRLC		MSM	1217
6	1244	2000 0000		LDC ZJNI-ZJNI	SET JUMP TO PROCESS OR IGNORE UEM	MSM	1218
7			*	LDC NJNI-ZJNI	(IF PROCESSING ONLY UEM)	MSM	1219
8			1245	RMSH	EQU *-1	MSM	1220
9	1246	5500 2406		RAM MRLD		MSM	1221
10	1250	2000 4572		LDC RDL	READ LABELS	MSM	1222
11	1252	0200 2441		RJM MRL		MSM	1223
12	1254	1400	RMSA	LDN 0		MSM	1224
13	1255	0415		ZJN RMS2	IF NO DEVICE INITIALIZATION	MSM	1225
14	1256	2037 0404		EXECUTE 4DD	LOAD VERIFICATION ROUTINES	283L840	20
15	1262	2037 0410		EXECUTE 4DH	LOAD INITIALIZATION ROUTINES	283L840	21
16	1266	2000 5065		LDC IMS	PROCESS DEVICE INITIALIZATION	MSM	1227
17	1270	0200 2441		RJM MRL		MSM	1228
18	1272	2037 0404	RMS2	EXECUTE 4DD	LOAD VERIFICATION ROUTINES	MSM	1229
19	1276	2037 0407		EXECUTE 4DG	LOAD RECOVERY ROUTINES	283L840	22
20	1302	0314	RMSB	UJN RMS3	IF NOT CM RECOVERY	MSM	1230
21			*	PSN		MSM	1231
22	1303	2000 1375		LDC CAD	CHECK ACTIVE DEVICES	MSM	1232
23	1305	0200 2441		RJM MRL		MSM	1233
24	1307	2000 5700		LDC RMR	UPDATE MRT TABLES	MSM	1234
25	1311	0200 2441		RJM MRL		MSM	1235
26	1313	0200 2237		RJM UMT	UPDATE MMF TABLES	MSM	1236
27	1315	0327		UJN DPP	CALL *REC*	MSM	1237
28						MSM	1238
29	1316	2000 1544	RMS3	LDC CDS	CHECK DEVICE STATUS	MSM	1239
30	1320	0200 2441		RJM MRL		MSM	1240
31	1322	3060		LDD RC		MSM	1241
32	1323	0413		ZJN RMS4	IF NO EQUIPMENTS TO RECOVER	MSM	1242
33	1324	2000 1722		LDC RCD	RECOVER DEVICES	MSM	1245
34	1326	0200 2441		RJM MRL		MSM	1246
35	1330	0200 2044		RJM REM	RESTORE UEM (LEVEL 1 OR 2 AND UEM PRESENT)	MSM	1247
36	1332	2000 0000		LDC **	WRITE DAYFILE RECOVERY SELECTIONS BACK	MSM	1248
37			1333	RMSC	EQU *-1	MSM	1249
38	1334	6370 1362		CWM RMSF,ON		MSM	1250
39	1336	0200 2237	RMS4	RJM UMT	UPDATE MMF TABLES	MSM	1251
40	1340	2037 0403		EXECUTE 4DC	VERIFY PF SYSTEM	NS2552	7
41						MSM	1253
42	1344	2000 0231	DPP	LDC DSCP*200+MS1W	STORE *RECOVERY* MESSAGE	MSM	1254
43	1346	6370 1367		CWM RMSG,ON		MSM	1255
44	1350	3075		LDD IA	CALL *REC* INTO THIS PP	MSM	1256
45	1351	6370 1355		CWM RMSD,ON		MSM	1257
46	1353	0100 0257		LJM PPR		MSM	1258
47						MSM	1259
48	1355	2205	RMSD	VFD	18/3LREC,6/DSCP,36/0	MSM	1260
49	1356	0301					
50	1357	0000					
51	1360	0000					
52	1361	0000					
53	1362		5	RMSF	BSS 5 DAYFILE RECOVERY SELECTIONS	MSM	1261
54	1367	2205		RMSG	DATA C*RECOVERY*	MSM	1262

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	**				CAD - CHECK ACTIVE DEVICES (CM RECOVERY).		MSM	1265
	*						MSM	1266
	*				ENTRY (EQ) = (T5) = EST ORDINAL.		MSM	1267
	*				(FN - FN+4) = EST ENTRY.		MSM	1268
	*						MSM	1269
	*				EXIT (A) .LT. 0 IF RECOVERY INFORMATION NOT TO		MSM	1270
	*				BE REWRITTEN TO CM UPON RETURN TO *MRL*.		MSM	1271
	*						MSM	1272
	*				USES T5 - T7, FN - FN+4, FS - FS+4.		MSM	1273
	*						MSM	1274
	*				CALLS ATC, CTD, EBP, IES, VLP.		283L840	23
							MSM	1276
							MSM	1277
11		1374	0100 1374		CAD SUBR ENTRY/EXIT		MSM	1278
12		1376	1013		SHN 21-6		MSM	1279
13		1377	0774		MJN CADX IF DEVICE UNAVAILABLE		MSM	1280
14		1400	1006		SHN 6-0		MSM	1281
15		1401	0772		MJN CADX IF LABEL NOT READ		MSM	1282
16		1402	3044		LDD FN+4 READ PF DESCRIPTION		MSM	1283
17		1403	1003		SHN 3		MSM	1284
18		1404	1604		ADN PFGL		MSM	1285
19		1405	6126 1105		CRM DLPB,TW		MSM	1286
20		1407	1607		ADN STLL-PFGL-2 READ STATUS (STLL)		MSM	1287
21		1410	6020		CRD FS		MSM	1288
22		1411	0316		UJMF CAD2		MSM	1289
23		1412	0200 4507		RJM RDE READ *DAT* ENTRY		MSM	1290
24		1414	5000 2377		LDM DATB+11 CHECK ACCESS BY THIS MACHINE		MSM	1291
25		1416	2200 0000		LPC 0		MSM	1292
26				1417	CADA EQU *-1		MSM	1293
27		1420	0505		NJN CAD1 IF DEVICE SET		MSM	1294
28		1421	2000 2274		LDC =C*MMF DEVICE ACCESS ERROR.*		MSM	1295
29		1423	0100 1474		LJM HNG DISPLAY MESSAGE AND HANG		MSM	1296
30							MSM	1297
31		1425	1410		CAD1 LDN 10 SET ACCESS BY THIS MACHINE		MSM	1298
32		1426	3546		RAD RE		MSM	1299
33		1427	0200 4246		CAD2 RJM EBP ENABLE BST/BAT PROCESSING, IF REQUIRED		283L840	24
34		1431	0200 5257		RJM VLP VERIFY LABEL PARAMETERS		283L840	25
35		1433	0716		MJN CAD3 IF NOT FIRST EQUIPMENT IN CHAIN		MSM	1301
36		1434	0517		NJN CAD4 IF ERRORS FOR THIS EQUIPMENT		MSM	1302
37		1435	0200 2734		RJM ATC ADJUST TRACK COUNT (AND CLEAR INTERLOCKS)		MSM	1303
38		1437	3040		LDD FN		MSM	1304
39		1440	1220		LPN 20		MSM	1305
40		1441	0410		ZJN CAD3 IF NOT ISHARED DEVICE		MSM	1306
41		1442	3046		LDD RE		MSM	1307
42		1443	1210		LPN 10		MSM	1308
43		1444	0405		ZJN CAD3 IF CURRENT TRT NOT IN THIS MACHINE		MSM	1309
44		1445	1502		LCN 2		MSM	1310
45		1446	3546		RAD RE		MSM	1311
46		1447	0200 5545		RJM CTD		MSM	1312
47					* LDN 0 (*MRL* REWRITE RECOVERY TABLE FLAG)		MSM	1313
48		1451	0100 1374		CAD3 LJM CADX RETURN		MSM	1314
49							MSM	1315
50					* ERROR IN LABEL DETECTED.		MSM	1316
51							MSM	1317
52		1453	3040		CAD4 LDD FN		MSM	1318
53		1454	1011		SHN 21-10		MSM	1319
54		1455	0615		PJN CAD5 IF NOT REMOVABLE DEVICE		MSM	1320

1456	3044			LDD	FN+4	CHECK ACTIVITY	MSM	1321
1457	1003			SHN	3		MSM	1322
1460	1614			ADN	DULL		MSM	1323
1461	6010			CRD	CM		MSM	1324
1462	3014			LDD	CM+4		MSM	1325
1463	2200	3777		LPC	3777		MSM	1326
1465	3123			ADD	FS+3		MSM	1327
1466	0504			NJN	CAD5	IF ACTIVE FILES ON DEVICE	MSM	1328
1467	0200	3460		RJM	IES	INITIALIZE EQUIPMENT STATUS	MSM	1329
			*	LCN	0	(*MRL* REWRITE RECOVERY TABLE FLAG)	MSM	1330
1471	0357			UJN	CAD3		MSM	1331
							MSM	1332
1472	2000	2311	CAD5	LDC	=C*ERROR ON DEVICE WITH ACTIVE FILES.*		MSM	1333
			*	LJM	HNG		MSM	1334
			**		HNG - DISPLAY ERROR AND HANG PP.		MSM	1336
			*				MSM	1337
			*		ENTRY (A) = ADDRESS OF MESSAGE.		MSM	1338
			*				MSM	1339
			*		USES T2.		MSM	1340
			*				MSM	1341
			*		CALLS IFR.		MSM	1342
			*				MSM	1343
			*		MACROS UJMF.		MSM	1344
							MSM	1345
							MSM	1346
1474	5400	1507	HNG	STM	HNGA		MSM	1347
1476	0304			UJMF	HNG1		MSM	1348
1477	1505			LCN	DATI	CLEAR FLAG REGISTER INTERLOCK	MSM	1349
1500	0200	1134		RJM	IFR		MSM	1350
1502	1404		HNG1	LDN	4		MSM	1351
1503	3402			STD	T2		MSM	1352
1504	2000	0236		LDC	CPAS+MS2W	SET MESSAGE IN RECOVERY MESSAGE BUFFER	MSM	1353
1506	6302	1506		CWM	*,T2		MSM	1354
		1507	HNGA	EQU	*-1		MSM	1355
1510	0300			UJN	*	STOP	MSM	1356
			**		SEM - SET EQUIPMENT MESSAGE.		MSM	1358
			*				MSM	1359
			*		ENTRY (EQ) = EST ORDINAL.		MSM	1360
			*		(FN - FN+4) = EST ENTRY.		MSM	1361
			*				MSM	1362
			*		USES CM - CM+4.		MSM	1363
			*				MSM	1364
			*		CALLS C2D.		MSM	1365
							MSM	1366
							MSM	1367
1511	0100	1511	SEM	SUBR		ENTRY/EXIT	MSM	1368
1513	1455			LDN	1R		MSM	1369
1514	3410			STD	CM		MSM	1370
1515	1400			LDN	0	SET END OF ASSEMBLY	MSM	1371

1516	3414	STD	CM+4		MSM	1372
1517	3043	LDD	FN+3	ENTER EQUIPMENT MNEMONIC	MSM	1373
1520	3411	STD	CM+1		MSM	1374
1521	3053	LDD	EQ	CONVERT UPPER TWO DIGITS OF EST ORDINAL	MSM	1375
1522	1074	SHN	-3		MSM	1376
1523	0200 1122	RJM	C2D		MSM	1377
1525	3412	STD	CM+2		MSM	1378
1526	3053	LDD	EQ	CONVERT LOWER DIGIT OF EST ORDINAL	MSM	1379
1527	1207	LPN	7		MSM	1380
1530	1633	ADN	1R0		MSM	1381
1531	1006	SHN	6		MSM	1382
1532	3413	STD	CM+3		MSM	1383
1533	2000 0232	LDC	CPAS+MS1W+1		MSM	1384
1535	6210	CWD	CM		MSM	1385
1536	1604	ADN	MS2W-MS1W-1	CLEAR SECOND LINE OF MESSAGE	MSM	1386
1537	6214	CWD	CM+4		MSM	1387
1540	0350	UJN	SEMX		MSM	1388

1412THE

	**				CDS - CHECK DEVICE STATUS (LEVEL 0, 1, 2 RECOVERY).	MSM	1391	
	*					MSM	1392	
	*				ENTRY (EQ) = (T5) = EST ORDINAL.	MSM	1393	
	*				(FN - FN+4) = EST ENTRY.	MSM	1394	
	*					MSM	1395	
	*				EXIT (RC) = COUNT OF EQUIPMENTS TO RECOVER.	MSM	1396	
	*				(RE) = SET WITH RECOVERY INFORMATION.	MSM	1397	
	*				(A) .LT. 0 IF RECOVERY INFORMATION NOT TO	MSM	1398	
	*				BE REWRITTEN TO CM UPON RETURN TO *MRL*.	MSM	1399	
	*					MSM	1400	
	*				USES FN - FN+4, FS - FS+4, T4 - T7, RC, EQ, EC.	MSM	1401	
	*					MSM	1402	
	*				CALLS CSD, CSE, HNG, IES, UDT, VLP.	MSM	1403	
	*					MSM	1404	
	*				MACROS UJMF.	MSM	1405	
						MSM	1406	
						MSM	1407	
15		1541	1400	CDS12	LDN 0	INHIBIT FURTHER PROCESSING OF DEVICE	MSM	1408
16		1542	3446		STD RE		MSM	1409
18		1543	0100 1543	CDS	SUBR	ENTRY/EXIT	MSM	1411
19		1545	1015		SHN 21-4		MSM	1412
20		1546	0774		MJN CDSX	IF INITIALIZATION SPECIFIED	MSM	1413
21		1547	3040		LDD FN		MSM	1414
22		1550	1202		LPN 2		MSM	1415
23		1551	0567		NJN CDS12	IF DEVICE OFF OR DOWN	MSM	1416
24		1552	3055		LDD RA	READ LABEL DATA	MSM	1417
25		1553	1006		SHN 6		MSM	1418
26		1554	3147		ADD AL		MSM	1419
27		1555	1604		ADN PFGL	READ DEVICE DESCRIPTION	MSM	1420
28		1556	6030		CRD CN		MSM	1421
29				0	ERRNZ PUGL-PFGL-1	ADJUST IF *PUGL* POSITION CHANGES	MSM	1422
30				0	ERRNZ MDGL-PFGL-2	ADJUST IF *MDGL* POSITION CHANGES	MSM	1423
31		1557	6126 1105		CRM DLPB,TW		MSM	1424
32		1561	3044		LDD FN+4	READ STLL	MSM	1425
33		1562	1003		SHN 3		MSM	1426
34		1563	1615		ADN STLL		MSM	1427
35		1564	6020		CRD FS		MSM	1428
36		1565	1707		SBN STLL-MDGL		MSM	1429
37		1566	6013		CRD CM+3		MSM	1430
38		1567	0200 1673		RJM CSE	CHECK SYSTEM EQUIPMENT	MSM	1431
39							MSM	1432
40				*		VERIFY LABELS FOR THIS EQUIPMENT.	MSM	1433
41							MSM	1434
42		1571	0307	CDS1	UJMF CDS2		MSM	1435
43		1572	3034		LDD CN+4		MSM	1436
44		1573	1270		LPN 70		MSM	1437
45		1574	0504		NJN CDS2	IF NOT FIRST UNIT OF EQUIPMENT	MSM	1438
46		1575	0200 4105		RJM CSD	CHECK SHARED DEVICE STATUS	MSM	1439
47		1577	0533		NJN CDS7	IF DAT CONFLICT	MSM	1440
48		1600	0200 5257	CDS2	RJM VLP	VERIFY LABEL PARAMETERS	MSM	1441
49		1602	0715		MJN CDS4	IF NOT FIRST EQUIPMENT IN CHAIN	MSM	1442
50		1603	0520		NJN CDS6	IF ERROR ON ANY LABEL	MSM	1443
51		1604	0304		UJMF CDS3	NON MMF TRANSFER	MSM	1444
52		1605	0200 4657		RJM UDT	UPDATE DEVICE ACCESS TABLE	MSM	1445
53		1607	0523		NJN CDS7	IF EXTENDED MEMORY TRACK UNAVAILABLE	MSM	1446
54		1610	3046	CDS3	LDD RE	CHECK INCORRECT MODE CHANGE	MSM	1447

1611	1240		LPN	40		MSM	1448	
1612	0507		NJN	CDS5	IF FULL TRACK ACCESS SET	MSM	1449	
1613	2000 0200		LDC	200	SET EQUIPMENT RECOVERY	MSM	1450	
1615	3546		RAD	RE		MSM	1451	
1616	3660		AOD	RC	ADVANCE RECOVERY COUNT	MSM	1452	
1617	0100 1543		LJM	CDSX	RETURN	MSM	1453	
						MSM	1454	
1621	1401		CDS5	LDN	STLE	MSM	1455	
1622	3437		STD	EC	SET LABEL ERROR STATUS	MSM	1456	
						MSM	1457	
			*		ERROR IN LABEL VERIFICATION.	MSM	1458	
						MSM	1459	
1623	3046		CDS6	LDD	RE	MSM	1460	
1624	1011		SHN	21-10		MSM	1461	
1625	0712		MJN	CDS10	IF REMOVABLE DEVICE ERROR	MSM	1462	
1626	1020		SHN	21-12+22-21+10		MSM	1463	
1627	0605		CDSA	PJN	CDS9	IF NOT DEVICE WITH SYSTEM STATUS	283L840	27
			*	PJN	CDS11	(LVL0 - IF NOT DEVICE WITH SYSTEM STATUS)	283L840	28
1630	2000 2333		LDC	=C*ERROR ON	SYSTEM DEVICE.*	MSM	1465	
1632	0100 1474		CDS7	LJM	HNG	MSM	1466	
					DISPLAY ERROR AND HANG	MSM	1467	
			*		NON REMOVABLE DEVICE ERROR.	MSM	1468	
						MSM	1469	
1634	2000 2311		CDS9	LDC	=C*ERROR ON DEVICE WITH ACTIVE FILES.*	MSM	1472	
1636	0373		UJN	CDS7	DISPLAY ERROR AND HANG	MSM	1473	
						MSM	1474	
			*		REMOVABLE DEVICE ERROR.	MSM	1475	
						MSM	1476	
1637	3037		CDS10	LDD	EC	283L840	29	
			*	UJN	CDS11	(LEVEL 0 DEADSTART)	283L840	30
		1637	CDSB	EQU	*-1	283L840	31	
1640	1101		LMN	STLE		MSM	1480	
1641	0417		ZJN	CDS11	IF LABEL ERROR	MSM	1481	
1642	1105		LMN	STNR&STLE		MSM	1482	
1643	0415		ZJN	CDS11	IF NOT READY	MSM	1483	
1644	3055		LDD	RA	CHECK LABEL COPY OF *STLL*	MSM	1484	
1645	1006		SHN	6		MSM	1485	
1646	3147		ADD	AL		MSM	1486	
1647	1614		ADN	DULL		MSM	1487	
1650	6010		CRD	CM		MSM	1488	
1651	1601		ADN	STLL-DULL		MSM	1489	
1652	6030		CRD	CN		MSM	1490	
1653	3014		LDD	CM+4	CHECK ACTIVITY	MSM	1491	
1654	2200 3777		LPC	3777		MSM	1492	
1656	3133		ADD	CN+3		MSM	1493	
1657	0554		NJN	CDS9	IF ACTIVE FILES ON DEVICE	MSM	1494	
1660	0200 3460		CDS11	RJM	INITIALIZE EQUIPMENT STATUS	MSM	1495	
			*	LCN	0	(*MRL* REWRITE RECOVERY TABLE FLAG)	MSM	1496
1662	0100 1543		LJM	CDSX	RETURN	MSM	1497	

	**				CSE - CHECK SYSTEM EQUIPMENT.		MSM	1499
	*						MSM	1500
	*				ENTRY (FN - FN+4) = EST ENTRY.		MSM	1501
	*				(CM+3 - CM+7) = MDGL WORD OF MST.		MSM	1502
	*						MSM	1503
	*				EXIT TO *HNG* IF MISMATCHED SYSTEM DEVICES.		MSM	1504
							MSM	1505
							MSM	1506
1664		3043		CSE2	LDD FN+3	SET SYSTEM DEVICE TYPE	MSM	1507
1665		5400 1714			STM CSEA		MSM	1508
1667		3017			LDD CM+7	SET MAXIMUM SECTOR LIMIT	MSM	1509
1670		5400 1715			STM CSEA+1		MSM	1510
							MSM	1511
1672		0100 1672		CSE	SUBR	ENTRY/EXIT	MSM	1512
1674		3040			LDD FN		MSM	1513
1675		1007			SHN 21-12		MSM	1514
1676		0673			PJN CSEX	IF NOT SYSTEM DEVICE	MSM	1515
1677		5000 1714			LDM CSEA		MSM	1516
1701		0462			ZJN CSE2	IF FIRST SYSTEM DEVICE	MSM	1517
1702		3343			LMD FN+3	COMPARE DEVICE TYPE	MSM	1518
1703		0505			NJN CSE1	IF NO MATCH WITH FIRST SYSTEM DEVICE	MSM	1519
1704		5000 1715			LDM CSEA+1	CHECK SECTOR LIMIT	MSM	1520
1706		3317			LMD CM+7		MSM	1521
1707		0462			ZJN CSEX	IF MATCHING TRACK SIZE	MSM	1522
1710		2000 2350		CSE1	LDC =C*UNMATCHED SYSTEM DEVICES.*		MSM	1523
1712		0100 1474			LJM HNG		MSM	1524
							MSM	1525
1714		0000 0000		CSEA	CON 0,0		MSM	1526
	**				RCD - RECOVER DEVICE.		MSM	1528
	*						MSM	1529
	*				ENTRY (A) = (RE) = EQUIPMENT RECOVERY STATUS INFORMATION.		MSM	1530
	*				(EQ) = (T5) = EST ORDINAL.		MSM	1531
	*				(RC) = RECOVERY COUNT.		MSM	1532
	*				(CA+1) = CM ADDRESS OF TRT BUFFER.		MSM	1533
	*				(FN - FN+4) = EST ENTRY.		MSM	1534
	*				(RE) SET WITH DEVICE RECOVERY INFORMATION.		MSM	1535
	*				(AL) = CM ADDRESS CONTAINING LABEL MST.		MSM	1536
	*						MSM	1537
	*				EXIT DEVICE RECOVERED OR LEFT AS UNAVAILABLE.		MSM	1538
	*				(A) .LT. 0 IF RECOVERY INFORMATION NOT TO		MSM	1539
	*				BE REWRITTEN TO CM UPON RETURN TO *MRL*.		MSM	1540
	*						MSM	1541
	*				USES CA, EC, P1, T1.		MSM	1542
	*						MSM	1543
	*				CALLS CDC, HNG, IES, RDY, SEC.		283L840	33
							MSM	1545
							MSM	1546
1716		0200 2011		RCD6	RJM RDY	RECOVER DAYFILES	283L840	34
1720		1400			LDN 0		283L840	35
							NS2552	11
1721		0100 1721		RCD	SUBR	ENTRY/EXIT	MSM	1547
1723		1012			SHN 21-7		MSM	1548
1724		0674			PJN RCDX	IF EQUIPMENT NOT BEING RECOVERED	MSM	1549



1725	1464			SMSTF	LPTU	PROHIBIT TRT UPDATE BY *1RU*	MSM	1550
1730	0200 6673			RJM	SEC	SET EQUIPMENT CONFIGURATION	MSM	1551
							MSM	1552
			*			READ TRT FOR THIS DEVICE.	MSM	1553
							MSM	1554
1732	0200 6436			RJM	RTT		MSM	1555
1734	0461			ZJN	RCD6	IF RECOVERY COMPLETE	NS2552	12
			*			ERROR IN DEVICE RECOVERY.	MSM	1557
							MSM	1558
							MSM	1559
1735	3437			STD	EC	SET ERROR CODE	NS2552	13
1736	1106			LMN	STTL		NS2552	14
1737	0402			ZJN	RCD1	IF LENGTH ERROR	NS2552	15
1740	1412			LDN	RCDB-RCDA		NS2552	16
1741	2100 1764		RCD1	ADC	RCDA	SET ERROR MESSAGE ADDRESS	NS2552	17
1743	3466			STD	P1		NS2552	18
1744	3040		RCDC	LDD	FN		283L840	36
			*	UJN	RCD4	(LEVEL 0 DEADSTART)	283L840	37
1745	1011			SHN	21-10		MSM	1567
1746	0613			PJN	RCD5	IF NOT REMOVABLE DEVICE	MSM	1568
1747	5000 3724			LDM	MBUF+5*STLL+3		MSM	1569
1751	0505			NJN	RCD4	IF ACTIVE USERS	MSM	1570
1752	3760		RCD2	SOD	RC	DECREMENT RECOVERY COUNT	MSM	1571
1753	0200 3460			RJM	IES	INITIALIZE EQUIPMENT STATUS	MSM	1572
			*	LCN	0	(*MRL* REWRITE RECOVERY TABLE FLAG)	MSM	1573
1755	0343		RCD3	UJP	RCDX	RETURN	MSM	1574
							MSM	1575
1756	3046		RCD4	LDD	RE		MSM	1576
1757	1007			SHN	21-12		MSM	1577
1760	0671			PJN	RCD2	IF NOT SYSTEM DEVICE	MSM	1578
1761	3066		RCD5	LDD	P1		MSM	1579
1762	0100 1474			LJM	HNG	DISPLAY MESSAGE AND HANG	MSM	1580
							MSM	1601
							MSM	1602
1764	2422		RCDA	DATA	C*TRT LENGTH ERROR.*		MSM	1603
1776	2006		RCDB	DATA	C*PF LINKAGE ERROR.*		MSM	1604
			**			RDY - RECOVER DAYFILES.	283L840	39
			*				283L840	40
			*			ENTRY (MBUF) = MST.	283L840	41
			*				283L840	42
			*			USES P1.	283L840	43
			*				283L840	44
			*			CALLS CDC, *4DG*, *4DJ*.	283L840	45
			*				283L840	46
			*			MACROS EXECUTE.	283L840	47
							283L840	48
							283L840	49
2010	0100 2010		RDY	SUBR		ENTRY/EXIT	283L840	50
2012	5000 3631			LDM	MBUF+5*ACGL+4		283L840	51
2014	2200 0100			LPC	MGLAP		283L840	52
2016	0471			ZJN	RDYX	IF NO SECTOR OF LOCAL AREAS	283L840	53
2017	1404			LDN	EXDF	SET NUMBER OF EXCESS DAYFILES	283L840	54
2020	3466			STD	P1		283L840	55



2021	3766		RDY1	SOD	P1		283L840	56
2022	0765			MJN	RDYX	IF END OF DAYFILES	283L840	57
2023	5066	3702		LDM	MBUF+5*DALL,P1		283L840	58
2025	0473			ZJN	RDY1	IF NO TRACK ASSIGNED	283L840	59
2026	2037	0412		EXECUTE	4DJ	LOAD DAYFILE RECOVERY ROUTINES	283L840	60
2032	0200	5536		RJM	CDC	CHASE DAYFILE CHAIN	283L840	61
2034	2037	0407		EXECUTE	4DG	RELOAD RECOVERY ROUTINES	283L840	62
2040	0347			UJN	RDYX	RETURN	283L840	63
			**	REM		RESTORE UEM FROM CHECKPOINT FILE IF LEVEL 1 OR 2	MSM	1606
			*			DEADSTART AND UEM IS PRESENT.	MSM	1607
			*				MSM	1608
			*	USES	LO.		MSM	1609
			*				MSM	1610
			*	CALLS	4DK.		MSM	1611
			*				MSM	1612
			*	MACROS	EXECUTE.		MSM	1613
							MSM	1614
2041	5400	2403	REM1	STM	MRLC	RESTORE PROCESSING OF ALL EQUIPMENTS	MSM	1615
2043	0100	2043	REM	SUBR		ENTRY	MSM	1616
2045	5700	2054		SOM	REMA		MSM	1617
2047	0471			ZJN	REM1	IF UEM NOT TO BE RESTORED THIS PASS	MSM	1618
2050	2037	0413		EXECUTE	4DK	RESTORE UEM	MSM	1619
			*			*4DK* DOES NOT RETURN CONTROL HERE. IT EXITS TO *RMS1*.	MSM	1620
							MSM	1621
2054	0001		REMA	CON	1	IF ZERO, *4DK* WILL NOT BE CALLED	MSM	1622
							MSM	1623
			**	RLD		RECOVER LINK DEVICE.	MSM	1624
			*				MSM	1625
			*	ENTRY	(FN - FN+4)	= EST ENTRY FOR LINK DEVICE.	MSM	1626
			*		(RD - RD+4)	= RECOVERY INFORMATION FOR LINK DEVICE.	MSM	1627
			*				MSM	1628
			*	USES	EQ, P1, P2, RC, RE, T5, CM - CM+4, CN - CN+4.		283L840	65
			*				283L840	66
			*	CALLS	CDS, EMF, IMS, LDT, LRA, RCD, RDL, SEM, *0MF*, *4DB*,		283L840	67
			*		*4DD*, *4DG*, *4DH*.		283L840	68
			*				MSM	1633
			*	MACROS	EXECUTE, MONITOR.		MSM	1634
							MSM	1635
2055	3046		RLD2	LDD	RE		MSM	1636
2056	1015			SHN	21-4		MSM	1637
2057	0617			PJN	RLD3	IF INITIALIZE NOT SPECIFIED	MSM	1638
2060	2037	0404		EXECUTE	4DD	LOAD VERIFICATION ROUTINES	283L840	69
2064	2037	0410		EXECUTE	4DH	LOAD INITIALIZATION ROUTINES	283L840	70
2070	1500			LCN	0	INITIALIZE LINK DEVICE	MSM	1641
2071	0200	5065		RJM	IMS		MSM	1642
2073	5700	1254		SOM	RMSA	DECREMENT INITIALIZATION COUNT	MSM	1643

2075	0332			UJN	RLD4	CHECK LABEL TRACK	MSM	1644
2076	1477						MSM	1645
				RLD3	LDN	PSNI	MSM49	26
2077	5400	6110		STM	WMTC		MSM49	27
2101	0200	4572		RJM	RDL	READ DEVICE LABEL	MSM49	28
2103	2037	0404		EXECUTE	4DD	LOAD VERIFICATION ROUTINES	MSM	1647
2107	2037	0407		EXECUTE	4DG	LOAD RECOVERY ROUTINES	283L840	71
2113	0200	4400		RJM	LDT	LOAD DEVICE ACCESS TABLE	MSM	1648
2115	3053			LDD	EQ		MSM	1649
2116	3405			STD	T5		MSM	1650
2117	1400			LDN	0	CHECK DEVICE STATUS	MSM	1651
2120	0200	1544		RJM	CDS		MSM	1652
2122	3053			LDD	EQ		MSM	1655
2123	3405			STD	T5		MSM	1656
2124	3046			LDD	RE		MSM	1657
2125	0200	1722		RJM	RCD	RECOVER DEVICE	MSM	1658
2127	5000	1120		RLD4	LDM	LDMP	MSM	1659
2131	1003			SHN	3	GET DEVICE ALLOCATION WORD FROM MST	MSM	1660
2132	1603			ADN	ALGL		MSM	1661
2133	6030			CRD	CN		MSM	1662
2134	3031			LDD	CN+1	CHECK LABEL TRACK	MSM	1663
2135	5300	1117		LMM	ECLT		MSM	1664
2137	0404			ZJN	RLD5	IF SAME AS FOUND BY *CPUMTR*	MSM	1665
2140	1422			MONITOR	HNGM	HANG PP	MSM	1666
							MSM	1667
2143	3460			RLD5	STD	RC	MSM	1668
2144	3046			LDD	RE	SAVE LINK DEVICE RECOVERY STATUS	MSM	1669
2145	5400	2255		STM	UMTA		MSM	1670
2147	2000	0000		LDC	**	*PRESET* COUNT	283L840	72
			2150	RLDA	EQU	*-1	MSM	1672
2151	0417			ZJN	RLD6	IF PRESET NOT SPECIFIED	283L840	73
2152	3466			STD	P1		283L840	74
2153	2000	0000		LDC	**	BUFFERED DEVICE *PRESET* COUNT	283L840	75
			2154	RLDC	EQU	*-1	283L840	76
2155	3467			STD	P2		MSM	1673
2156	2000	2366		EXECUTE	0MF,PRS		MSM	1675
2165	1400			LDN	0	CLEAR LINK DEVICE RECOVERY STATUS	MSM	1676
2166	5400	2255		STM	UMTA		MSM	1677
2170	3446			RLD6	STD	RE	MSM	1678
2171	0200	1203		RJM	LRA	CLEAR RECOVERY FOR LINK DEVICE	MSM	1679
2173	3153			ADD	EQ	LOAD REFERENCE ADDRESS	MSM	1680
2174	6243			CWD	RD		MSM	1681
2175	2037	0402		EXECUTE	4DB	RELOAD *4DB*	MSM	1682
2201	2000	6501		LDC	LRMS	ENABLE MMF RECOVERY	MSM	1683
2203	0200	6436		RJM	EMF		MSM	1684
							MSM	1685
2205	0100	2205		RLD	SUBR	ENTRY/EXIT	MSM	1686
2207	1400			RLDB	LDN	0	MSM	1687
				*	LDN	1	MSM	1688
2210	0574			NJN	RLDX	(LINK DEVICE ALREADY RECOVERED)	MSM	1689
2211	5600	2207		AOM	RLDB	IF LINK DEVICE ALREADY RECOVERED	MSM	1690
2213	2000	0000		LDC	**	(LINK DEVICE EST ORDINAL)	283L840	77
			2214	RLDD	EQU	*-1	283L840	78
2215	0467			ZJN	RLDX	IF STAND-ALONE SYSTEM	MSM	1695
2216	3405			STD	T5		MSM	1696
2217	3453			STD	EQ		MSM	1697
2220	2000	6501		RLDE	LDC	LRMS	283L840	79

				*	UJN	RLD1	(PRESET SELECTED)	283L840	80
	2222	0200	6436		RJM	EMF		MSM	1701
	2224	5400	6147	RLDF	STM	WMTB	ENABLE LINK DEVICE RECOVERY	283L840	81
				*	UJN	RLDX	(CM RECOVERY)	283L840	82
	2226	0200	1512	RLD1	RJM	SEM	SET EQUIPMENT MESSAGE	MSM	1707
	2230	0100	2055		LJM	RLD2	CHECK FOR INITIALIZATION	MSM	1708
				**	UMT - UPDATE MMF TABLES IN EXTENDED MEMORY.			MSM	1710
				*				MSM	1711
				*	CALLS IFR, LRA, MRL, UIS, 4DF.			MSM	1712
								MSM	1713
								MSM	1714
	2232	2000	4100	UMT1	LDC	UIS	UPDATE ISD TABLES	MSM	1715
	2234	0200	2441		RJM	MRL		MSM	1716
								MSM	1717
	2236	0100	2236	UMT	SUBR		ENTRY/EXIT	MSM	1718
	2240	2037	0406		EXECUTE	4DF		MSM	1719
	2244	0365			UJMF	UMT1		MSM	1720
	2245	2000	0000		LDC	0		MSM	1721
			2246	UMTB	EQU	*-1	(LINK DEVICE EST ORDINAL)	MSM	1722
	2247	3405			STD	T5		MSM	1723
	2250	0200	1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	1724
	2252	3105			ADD	T5		MSM	1725
	2253	6043			CRD	RD		MSM	1726
	2254	2000	2254		LDC	*	RESTORE LINK DEVICE RECOVERY STATUS	MSM	1727
			2255	UMTA	EQU	*-1		MSM	1728
	2256	3446			STD	RE		MSM	1729
	2257	0200	1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	1730
	2261	3105			ADD	T5		MSM	1731
	2262	6243			CWD	RD	RESTORE RECOVERY TABLES	MSM	1732
	2263	2000	4063		LDC	UER	UPDATE EXTENDED MEMORY RESIDENT	MSM	1733
	2265	0200	2441		RJM	MRL		MSM	1734
	2267	1505		UMTC	LCN	DATI	CLEAR FLAG REGISTER INTERLOCK	283L840	83
				*	UJN	UMTX	(LEVEL 0 DEADSTART OR CM RECOVERY)	283L840	84
	2270	0200	1134		RJM	IFR		MSM	1741
	2272	0100	2236		LJM	UMTX	RETURN	MSM	1742

USE LITERALS MSM 1779

Line	Address	Code	Label	Description	MSM	RMS
		**	PRS - PRESET.		1782	
		*			1783	
		*	EXIT	(RS) = RECOVERY STATUS.	1784	
		*		(TW) = CONSTANT 2.	1785	
		*		(LM) = EXTENDED MEMORY MST POINTER IF MMF SYSTEM.	1786	
		*		(LO) = LAST MASS STORAGE ORDINAL + 1.	1787	
		*		(FN - FN+4) = EXTENDED MEMORY EST ENTRY IF MMF SYSTEM.	1788	
		*		(CA+1) = FWA FOR CM TRT BUFFER.	1789	
		*		DEVICE RECOVERY STATUS TABLE IN *MSM-S* FL SET WITH	1790	
		*		RECOVERY STATUS INFORMATION AND CM ADDRESSES FOR MST	1791	
		*		LABEL DATA.	1792	
		*			1793	
		*	USES	CA, CA+1, LO, P1, RE, RS, TA, TW, T5, CM - CM+4,	1794	
		*		CN - CN+4, FN - FN+4, RD - RD+4.	1795	
		*			1796	
		*	CALLS	CRE, CUR, IET, IFR, LCM, SUD.	1797	
		*			1798	
		*	MACROS	SFA.	1799	
					1800	
					1801	
17	2366		PRS	BSS 0	1802	
18	2366	1443	LDN	JSCL READ SCHEDULER CONTROL	1803	
19	2367	6010	CRD	CM	1804	
20	2370	3010	LDD	CM SET SCHEDULER ACTIVE	1805	
21	2371	2200 3777	LPC	3777	1806	
22	2373	2300 4000	LMC	4000	1807	
23	2375	3410	STD	CM	1808	
24	2376	1443	LDN	JSCL STORE SCHEDULER CONTROL	1809	
25	2377	6210	CWD	CM	1810	
26	2400	1402	LDN	2 DEFINE CONSTANT 2	1811	
27	2401	3426	STD	TW	1812	
28	2402	1472	LDN	ESTP READ EST POINTER	1813	
29	2403	6010	CRD	CM	1814	
30	2404	3013	LDD	CM+3 SET LAST MASS STORAGE ORDINAL + 1	1815	
31	2405	3461	STD	LO	1816	
32	2406	1607	ADN	7 SET INDEX IN MST TABLE	1817	
33	2407	1307	SCN	7	1818	
34	2410	3464	STD	CA	1819	
35	2411	3465	STD	CA+1	1820	
36	2412	3054	LDD	IR+4 SET RECOVERY STATUS	1821	
37			*	STD RS	1822	
38	2413	5400 1361	STM	RMSD+4 STORE IN *REC* CALL	1823	
39	2415	0521	NJN	PRS0 IF NOT LEVEL 0 DEADSTART	283L840	85
40	2416	2000 0000	ISTORE	CDSA, (PJN CDS11)	283L840	86
41	2422	2000 0000	ISTORE	CDSB, (UJN CDS11)	283L840	87
42	2426	2000 0000	ISTORE	RCDC, (UJN RCD4)	283L840	88
43	2432	2000 0000	ISTORE	UMTC, (UJN UMTX)	283L840	89
44	2436	3054	PRS0	LDD RS	283L840	90
45	2437	1270	LPN	FLMK	1824	
46	2440	1110	LMN	FLCM	1825	
47	2441	3466	STD	P1	1826	
48	2442	0523	NJN	PRS1 IF NOT CM RECOVERY	1827	
49			IFGT	TA, RA	1828	
50			ELSE	1	1830	
51	2443	1530	LCN	RA-TA	1831	
52	2444	5500 1200	RAM	LRAC	1832	
53	2446	0200 3475	RJM	LCM FIND FREE AREA	1833	

2450	2000	0113	LDK	MABL	CHECK MAINFRAME TYPE	MSM	1834	
2452	6010		CRD	CM		MSM	1835	
2453	3011		LDD	CM+1		MSM	1836	
2454	1006		SHN	21-13		MSM	1837	
2455	0710		MJN	PRS1	IF CME NOT PRESENT	MSM	1838	
2456	2000	4000	LDC	4000		MSM	1839	
2460	3425		STD	TA		MSM	1840	
2461	2000	0000	LDC	0		MSM	1841	
2462			ORG	*-1		MSM	1842	
L 1204			LOC	LRAA		MSM	1843	
L 1204	0365		UJN	LRA1	SET *R* REGISTER	MSM	1844	
2463			LOC	*0		MSM	1845	
2463	5400	1204	STM	LRAA		MSM	1846	
2465	0200	3375	PRS1	RJM	IET	INITIALIZE EQUIPMENT TABLE	MSM	1847
2467	3067		LDD	P2		MSM	1848	
2470	0513		NJN	PRS2	IF NOT ALL-ISD CONFIGURATION	MSM	1849	
2471	1470		LDK	CFGL		MSM	1850	
2472	6010		CRD	CM		MSM	1851	
2473	3013		LDD	CM+3		MSM	1852	
2474	2200	7377	LPC	7377		MSM	1853	
2476	2100	0400	ADC	400	SET ALL-ISD FLAG	MSM	1854	
2500	3413		STD	CM+3		MSM	1855	
2501	1470		LDK	CFGL		MSM	1856	
2502	6210		CWD	CM		MSM	1857	
2503	3064		PRS2	LDD	CA	SET ADDRESS OF TRT BUFFER	MSM	1858
2504	3465		STD	CA+1		MSM	1859	
2505	2000	0231	LDC	CPAS+MS1W	ISSUE *SPINNING UP DRIVES* MESSAGE	MSM	1860	
2507	6373	3117	CWM	PRSE,TR		MSM	1861	
2511	1400		LDN	0	SPIN UP ISMD DRIVES	MSM	1862	
2512	0200	3754	RJM	SUD		MSM	1863	
2514	1400		LDN	0	WAIT - SPIN UP COMPLETE	MSM	1864	
2515	0200	3754	RJM	SUD		MSM	1865	
2517	2000	0231	LDC	CPAS+MS1W	ISSUE RECOVERY MESSAGE	MSM	1866	
2521	6326	2716	CWM	PRSA,TW		MSM	1867	
2523	3066		LDD	P1		MSM	1868	
2524	0507		NJN	PRS3	IF NOT CM RECOVERY	MSM	1869	
2525	5400	1302	STM	RMSB		MSM	1870	
2527	0200	3475	RJM	LCM	CHECK FIELD LENGTH	MSM	1871	
2531	0200	3156	RJM	CRE	CHECK RECOVERY	MSM	1872	
2533	1447		PRS3	LDN	DFPP		MSM	1873
2534	6010		CRD	CM		MSM	1874	
2535	3010		LDD	CM	SET FWA OF DAYFILE POINTERS	MSM	1875	
2536	1014		SHN	14		MSM	1876	
2537	3111		ADD	CM+1		MSM	1877	
2540	6010		CRD	CM		MSM	1878	
2541	3010		LDD	CM	SET ADDRESS OF DAYFILE RECOVERY SELECTIONS	MSM	1879	
2542	5500	1332	RAM	RMSC-1		MSM	1880	
2544	1237		LPN	37		MSM	1881	
2545	1014		SHN	14		MSM	1882	
2546	3111		ADD	CM+1		MSM	1883	
2547	5400	1333	STM	RMSC		MSM	1884	
2551	6170	1362	CRM	RMSF,ON	READ DAYFILE RECOVERY SELECTIONS	MSM	1885	
2553	0200	3317	RJM	CUR	CHECK FOR UEM RECOVERY REQUIRED	MSM	1886	
2555	2000	0122	LDK	MMFL	CHECK MMF STATUS WORD	MSM	1887	
2557	6030		CRD	CN		MSM	1888	
2560	3031		LDD	CN+1	GET LINK DEVICE EST ORDINAL	283L840	91	
2561	2200	0777	LPC	777		MSM	1890	



2563	5400	2214		STM	RLDD		283L840	92
2565	0507			NJN	PRS5	IF NOT STAND ALONE SYSTEM	MSM	1891
2566	2000	0231	PRS4	LDC	DSCP*200+MS1W	STORE RECOVERY MESSAGE	MSM	1892
2570	6326	3132		CWM	PRSF,TW		MSM	1893
2572	0100	1232		LJM	RMS1	EXIT TO MAIN ROUTINE	MSM	1894
							MSM	1895
2574	3405		PRS5	STD	T5		MSM	1896
2575	5400	2246		STM	UMTB		MSM	1897
2577	0200	0245		SFA	EST	READ LINK DEVICE EST ENTRY TO (FN - FN+4)	MSM	1898
				ADK	EQDE		MSM	1899
2601	6040			CRD	FN		MSM	1900
2602	3053			LDD	IR+3	CHECK FOR INITIALIZE ERROR FROM *CPUMTR*	MSM	1901
2603	5400	1117		STM	ECLT		MSM	1902
2605	1006			SHN	21-13		MSM	1903
2606	0705			MJN	PRS6	IF NO ERROR	MSM	1904
2607	5053	2723		LDM	PRSB-1,IR+3	DISPLAY ERROR CONDITION	MSM	1905
2611	0100	1474		LJM	HNG		MSM	1906
							MSM	1907
2613	3033		PRS6	LDD	CN+3	SET MACHINE MASK	MSM	1908
2614	5400	1417		STM	CADA		MSM	1909
2616	0200	1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	1910
2620	3105			ADD	T5		MSM	1911
2621	6043			CRD	RD		MSM	1912
2622	3046			LDD	RE	ASSIGN SYSTEM STATUS TO LINK DEVICE	MSM	1913
2623	2200	5520		LPC	5520		MSM	1914
2625	2300	2000		LMC	2000		MSM	1915
2627	3446			STD	RE		MSM	1916
2630	0200	1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	1917
2632	3105			ADD	T5	RESTORE LINK DEVICE INFORMATION	MSM	1918
2633	6243			CWD	RD		MSM	1919
2634	3044			LDD	FN+4	SET LINK DEVICE MST POINTER	MSM	1920
2635	5400	1120		STM	LDMP		MSM	1921
2637	1407			LDK	DACL	CHECK PRESET REQUESTED	283L840	93
2640	6010			CRD	CM		283L840	94
2641	3013			LDD	CM+3		283L840	95
2642	5400	2150		STM	RLDA		MSM	1923
2644	0405			ZJN	PRS6.1	IF *PRESET* NOT SELECTED	283L840	96
2645	2000	0000		ISTORE	RLDE,(UJN RLD1)		283L840	97
2651	3014		PRS6.1	LDD	CM+4		283L840	98
2652	5400	2154		STM	RLDC		283L840	99
2654	3066			LDD	P1		MSM	1924
2655	0512			NJN	PRS6.2	IF NOT CM RECOVERY	283L840	100
2656	2000	0000		ISTORE	RLDF,(UJN RLDX)		283L840	101
2662	2000	0000		ISTORE	UMTC,(UJN UMTX)		283L840	102
2666	0326			UJN	PRS8	STORE RECOVERY MESSAGE	283L840	103
							283L840	104
2667	3054		PRS6.2	LDD	RS		283L840	105
2670	0507			NJN	PRS7	IF RECOVERY SELECTED	MSM	1927
2671	2000	4000		LDC	4000	SET DAT INTERLOCKED	MSM	1928
2673	3432			STD	CN+2		MSM	1929
2674	2000	0122		LDC	MMFL	STORE MMF STATUS WORD	MSM	1930
2676	6230			CWD	CN		MSM	1931
2677	1701		PRS7	SBN	1	DELAY	MSM	1932
2700	0576			NJN	PRS7		MSM	1933
2701	2000	0232		LDC	CPAS+MS1W+1	STORE *WAITING* MESSAGE	MSM	1934
2703	6370	3074		CWM	PRSC,ON		MSM	1935
2705	1603			ADN	MS2W-MS1W-2		MSM	1936

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2706	6373	3101		CWM	PRSD,TR		MSM	1937
2710	1405			LDN	DATI	GET FLAG REGISTER INTERLOCK	MSM	1938
2711	0200	1134		RJM	IFR		MSM	1939
2713	0563			NJN	PRS7	IF DAT BUSY	MSM	1940
2714	0100	2566	PRS8	LJM	PRS4	STORE RECOVERY MESSAGE	MSM	1941
2716	2205		PRSA	DATA	C*RECOVERY,*		MSM	1942
2724	2732		PRSB	CON	ERM1		MSM	1943
2725	2756			CON	ERM2		MSM	1944
2726	3000			CON	ERM3		MSM	1945
2727	3014			CON	ERM4		MSM	1946
2730	3033			CON	ERM5		MSM	1947
2731	3061			CON	ERM6		MSM	1948
2732	0530		ERM1	DATA	C*EXTENDED MEMORY LABEL TRACK NOT FOUND.*		MSM	1949
2756	1511		ERM2	DATA	C*MID UNDEFINED IN EXTENDED MEMORY.*		MSM	1950
3000	1511		ERM3	DATA	C*MID CURRENTLY ACTIVE.*		MSM	1951
3014	1501		ERM4	DATA	C*MAXIMUM NUMBER MIDS ACTIVE.*		MSM	1952
3033	0530		ERM5	DATA	C*EXTENDED MEMORY READ/WRITE PARITY ERRORS.*		MSM	1953
3061	2022		ERM6	DATA	C*PRESET NOT ALLOWED.*		MSM	1954
3074	2701		PRSC	DATA	C*WAITING*		MSM	1955
3101	1515		PRSD	DATA	C*MMF DEADSTART IN PROGRESS.*		MSM	1956
3117	2320		PRSE	DATA	C*SPINNING UP DRIVES.*		MSM	1957
3132	2205		PRSF	DATA	C*RECOVERING*		MSM	1958
			**	CRE	- CHECK RECOVERY.		MSM	1959
			*				MSM	1960
			*	EXIT	TO *PPR* TO CALL *1CK* IF ONLY TO CHECKPOINT.		MSM	1961
			*				MSM	1962
			*	USES	T1 - T6, CM - CM+4.		MSM	1963
			*	MACROS	SFA.		MSM	1964
3140	1407		CRE7	LDN	7	SET CHECKPOINT OF NON-BUFFERED DEVICES	MSM	1965
3141	5400	3313		STM	CREB+2		MSM	1966
3143	1470		CRE8	LDN	NCPL	CALL *1CK* TO SYSTEM CP	MSM	1967
3144	6010			CRD	CM		MSM	1968
3145	3611			AOD	CM+1		MSM	1969
3146	5500	3312		RAM	CREB+1		MSM	1970
3150	3075			LDD	IA		MSM	1971
3151	6370	3311		CWM	CREB,ON		MSM	1972
				EXECUTE	1CK,=		MSM	1973
3153	0100	0257		LJM	PPR	EXIT TO PP RESIDENT	MSM	1974
3155	0100	3155	CRE	SUBR		ENTRY/EXIT	MSM	1975
3157	3053			LDD	IR+3		MSM	1976
3160	1006			SHN	21-13		MSM	1977
3161	0711			MJN	CRE2	IF LABEL TRACK SPECIFICATION	MSM	1978
3162	1071			SHN	13-21		MSM	1979
3163	1207			LPN	7		MSM	1980
3164	0403			ZJN	CRE1	IF NO MMF PRESET ERROR	MSM	1981
3165	1102			LMN	2		MSM	1982

3166	0566		NJN	CREX	IF NOT *RECOVERY DS PREVENTED THIS MID.*	MSM	1991
3167	3053		CRE1	LDD	IR+3	MSM	1992
3170	1007			SHN	21-12	MSM	1993
3171	0746		MJN	CRE7	IF CHECKPOINT NON-BUFFERED DEVICES	MSM	1994
3172	2000	0147	CRE2	LDC	BIOL	MSM	1995
3174	6010			CRD	CM	MSM	1996
3175	3011			LDD	CM+1	MSM	1997
3176	1014			SHN	14	MSM	1998
3177	3312			LMD	CM+2	MSM	1999
3200	0507		NJN	CRE2.1	IF BUFFERED I/O PRESENT	MSM	2000
3201	3053			LDD	IR+3	MSM	2001
3202	1010			SHN	21-11	MSM	2002
3203	0603		MJP	CRE8	IF CHECKPOINT ALL DEVICES	MSM	2003
3206	0346		UJN	CREX	RETURN	MSM	2004
						MSM	2005
3207	1603		CRE2.1	ADN	PUTP	MSM	2006
3210	6001			CRD	T1	MSM	2007
3211	3004			LDD	T1+3	NS2682	1
3212	1277			LPN	77	NS2682	2
3213	3404			STD	T1+3	NS2682	3
3214	2000	0236		LDC	CPAS+MS2W	MSM	2008
3216	6373	3273		CWM	CREA,TR	MSM	2009
3220	1466			LDN	ZERL	MSM	2010
3221	6010			CRD	CM	MSM	2011
3222	2000	1001		LDC	BMFW*100+1	MSM	2012
3224	3414			STD	CM+4	MSM	2013
3225	1427			MONITOR	BFMM	MSM	2014
3230	3001		CRE3	LDD	T1	MSM	2015
3231	1601			ADN	1	MSM	2016
3232	3406			STD	T6	MSM	2017
3233	3706		CRE4	SOD	T6	MSM	2018
3234	0422			ZJN	CRE5	MSM	2019
3235	1003			SHN	PUTLS	MSM	2020
3236	3105			ADD	T1+4	MSM	2021
3237	1006			SHN	6	MSM	2022
3240	3104			ADD	T1+3	MSM	2023
3241	1014			SHN	14	MSM	2024
				ADK	UNCT	MSM	2025
3242	6010			CRD	CM	MSM	2026
3243	3013			LDD	CM+3	MSM	2027
3244	0466			ZJN	CRE4	MSM	2028
3245	3011			SFA	EST,CM+1	MSM	2029
				ADK	EQDE	MSM	2030
3250	6010			CRD	CM	MSM	2031
3251	3010			LDD	CM	MSM	2032
3252	1203			LPN	3	MSM	2033
3253	1103			LMN	3	MSM	2034
3254	0456			ZJN	CRE4	MSM	2035
3255	0352			UJP	CRE3	MSM	2036
						MSM	2037
3256	3410		CRE5	STD	CM	MSM	2038
3257	2000	0236		LDC	CPAS+MS2W	MSM	2039
3261	6210			CWD	CM	MSM	2040
3262	3053			LDD	IR+3	MSM	2041
3263	1006			SHN	21-13	MSM	2042
3264	0705		MJN	CRE6	IF LABEL TRACK SPECIFICATION	MSM	2043
3265	1002			SHN	21-11-21+13	MSM	2044

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3266	0603		PJN	CRE6	IF NO CHECKPOINT ABORT	MSM	2045	
3267	0100 3143		LJM	CRE8	CHECKPOINT ALL DEVICES AND ABORT	MSM	2046	
3271	0100 3155		CRE6	LJM	CREX	RETURN	MSM 2047	
3273	0614		CREA	DATA	C*FLUSHING BUFFERED DEVICES.*	MSM	2048	
3311	3403		CREB	VFD	24/3L1CK,12/6,24/0	MSM	2049	
3312	1300						2050	
3313	0006						2051	
3314	0000							
3315	0000							
			**	CUR - CHECK FOR UEM RECOVERY REQUIRED.			MSM	2053
			*				MSM	2054
			*	ENTRY (RS) = RECOVERY STATUS.			MSM	2055
			*				MSM	2056
			*	USES CM - CM+4.			MSM	2057
			*				MSM	2058
			*	MACROS SFA.			MSM	2059
							MSM	2060
							MSM	2061
3316	0100 3316		CUR	SUBR	ENTRY/EXIT	MSM	2062	
3320	3054			LDD	RS	MSM	2063	
3321	1270			LPN	FLMK	MSM	2064	
3322	1120			LMN	FLT B	MSM	2065	
3323	0572			NJN	CURX	IF NOT LEVEL 1 OR 2 RECOVERY	MSM	2066
3324	1472			LDN	ESTP	SEARCH FOR UEM EQUIPMENT	MSM	2067
3325	6003			CRD	T3	MSM	2068	
3326	1404			LDN	NOPE-1	MSM	2069	
3327	3405			STD	T5	MSM	2070	
3330	3605		CUR1	AOD	T5	MSM	2071	
3331	3306			LMD	T6	MSM	2072	
3332	0463			ZJN	CURX	IF NO UEM EQUIPMENT	MSM	2073
3333	3005			SFA	EST,T5	MSM	2074	
				ADK	EQDE	MSM	2075	
3336	6010			CRD	CM	MSM	2076	
3337	3010			LDD	CM	MSM	2077	
3340	1006			SHN	21-13	MSM	2078	
3341	0666			PJN	CUR1	IF NOT MASS STORAGE	MSM	2079
3342	3014			LDD	CM+4	MSM	2080	
3343	1003			SHN	3	MSM	2081	
3344	1613			ADK	DILL	MSM	2082	
3345	6010			CRD	CM	MSM	2083	
3346	3013			LDD	CM+3	CHECK MEMORY TYPE	MSM	2084
3347	1071			SHN	-6	MSM	2085	
3350	1207			LPN	7	MSM	2086	
3351	1104			LMN	4	MSM	2087	
3352	0555			NJN	CUR1	IF NOT UEM	MSM	2088
3353	3005			LDD	T5	MSM	2089	
3354	5400 1241			STM	RMSE	MSM	2090	
3356	5600 2054			AOM	REMA	ENABLE *4DK* CALL	MSM	2091
3360	0100 3316			UJP	CURX	RETURN	MSM	2092

	**				IET - INITIALIZE EQUIPMENT TABLE.		MSM	2094
	*						MSM	2095
	*				ENTRY (CA) = CM ADDRESS OF MST TABLE.		MSM	2096
1	*						MSM	2097
2	*				EXIT (RC) = 0.		MSM	2098
3	*				(P2) = 0 IF ALL ISD CONFIGURATION.		MSM	2099
4	*				(CA) = LWA OF MST TABLE IN CM.		MSM	2100
5	*				DEVICE RECOVERY INFORMATION IN CM INITIATED.		MSM	2101
6	*						MSM	2102
7	*				USES T5, UC, CM - CM+4, FN - FN+4, FS - FS+4, RD - RD+4.		MSM	2103
8	*						MSM	2104
9	*				CALLS LRA.		MSM	2105
10	*						MSM	2106
11	*				MACROS SFA.		MSM	2107
12							MSM	2108
13							MSM	2109
14		3362	1466	IET5	LDN ZERL	CLEAR RECOVERY TABLE ENTRY	MSM	2110
15		3363	6043		CRD RD		MSM	2111
16		3364	0200 1203	IET6	RJM LRA	LOAD REFERENCE ADDRESS	MSM	2112
17		3366	3105		ADD T5		MSM	2113
18		3367	6243		CWD RD		MSM	2114
19		3370	3605		AOD T5	ADVANCE EST ORDINAL	MSM	2115
20		3371	3361		LMD L0		MSM	2116
21		3372	0510		NJN IET1	IF NOT END OF MASS STORAGE DEVICES	MSM	2117
22		3373	3460		STD RC		MSM	2118
23							MSM	2119
24		3374	0100 3374	IET	SUBR	ENTRY/EXIT	MSM	2120
25		3376	1400		LDN 0	SET ISD CONFIGURATION FLAG	MSM	2121
26		3377	3467		STD P2		MSM	2122
27		3400	1404		LDN NOPE-1	INITIALIZE EST ORDINAL FOR SEARCH	MSM	2123
28		3401	3405		STD T5		MSM	2124
29		3402	3005	IET1	SFA EST,T5	READ EST ENTRY	MSM	2125
30					ADK EQDE		MSM	2126
31		3405	6040		CRD FN		MSM	2127
32		3406	3040		LDD FN	CHECK EST ENTRY	MSM	2128
33		3407	2200 7500		LPC 7500	PRESET RECOVERY TABLE	MSM	2129
34		3411	3446		STD RE		MSM	2130
35		3412	1006		SHN 21-13		MSM	2131
36		3413	0646		PJN IET5	IF NOT MASS STORAGE ENTRY	MSM	2132
37		3414	3064		LDD CA	SET ADDRESS OF MST FOR FIRST UNIT	MSM	2133
38		3415	3447		STD AL		MSM	2134
39		3416	3044		LDD FN+4	READ *STLL*	MSM	2135
40		3417	1003		SHN 3		MSM	2136
41		3420	1615		ADN STLL		MSM	2137
42		3421	6020		CRD FS		MSM	2138
43		3422	1601		ADN DDLL-STLL	READ *DDLL*	MSM	2139
44		3423	6010		CRD CM		MSM	2140
45		3424	3010		LDD CM	SET ORIGINAL UNIT COUNT	MSM	2141
46		3425	1074		SHN -3		MSM	2142
47		3426	1207		LPN 7		MSM	2143
48		3427	3462		STD UC		MSM	2144
49		3430	3043		LDD FN+3	CHECK FOR ISD DEVICE	MSM	2145
50		3431	2300 0405		LMC 2RDE		MSM	2146
51		3433	0406		ZJN IET2	IF EXTENDED MEMORY	MSM	2147
52		3434	1101		LMN 2RDD&2RDE		MSM	2148
53		3435	0404		ZJN IET2	IF ISD	MSM	2149
54		3436	1103		LMN 2RDG&2RDD		MSM	2150

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3437	0402		ZJN	IET2	IF ISD	MSM	2151	
3440	3467		STD	P2	SET NON-ISD FLAG	MSM	2152	
3441	1420		IET2	LDN	MSTL	ADVANCE INDEX IN MST TABLE	MSM	2153
3442	3564		RAD	CA		MSM	2154	
3443	3762		SOD	UC		MSM	2155	
3444	0674		PJN	IET2	IF MORE UNITS THIS EQUIPMENT	MSM	2156	
3445	3020		LDD	FS	ASSIGN SYSTEM STATUS TO ASR DEVICE	MSM	2157	
3446	1201		LPN	MRASD		MSM	2158	
3447	1012		SHN	12-RASD+RASD/12D*12D		MSM	2159	
3450	3546		RAD	RE		MSM	2160	
3451	3020		LDD	FS		MSM	2161	
3452	2200	2000	LPC	MLIAL		MSM	2162	
3454	0407		ZJN	IET4	IF FULL INITIALIZE NOT SPECIFIED	MSM	2163	
3455	1420		LDN	20	SET INITIALIZE FLAG	MSM	2164	
3456	3546		RAD	RE		MSM	2165	
3457	5600	1254	AOM	RMSA	ADVANCE INITIALIZATION COUNT	MSM	2166	
3461	0100	3364	IET3	LJM	IET6	STORE RECOVERY INFORMATION	MSM	2167
						MSM	2168	
3463	3040		IET4	LDD	FN	MSM	2169	
3464	1011		SHN	21-10		MSM	2170	
3465	0673		PJN	IET3	IF NON-REMOVABLE DEVICE	MSM	2171	
3466	3054		LDD	RS		MSM	2172	
3467	1270		LPN	FLMK		MSM	2173	
3470	1120		LMN	FLT B		MSM	2174	
3471	0567		NJN	IET3	IF FILES NOT RECOVERED FROM MASS STORAGE	MSM	2175	
3472	0100	3362	LJM	IET5	DEFER RECOVERY TO *CMS*	MSM	2176	
			**	LCM	- LOCATE CM FOR RECOVERY.	MSM	2178	
			*			MSM	2179	
			*	ENTRY	(A) = 0 IF RECHECKING FIELD LENGTH.	MSM	2180	
			*		(CA+1) = MEMORY REQUIRED.	MSM	2181	
			*			MSM	2182	
			*	EXIT	(LRAB) = RA OF FREE AREA.	MSM	2183	
			*		(CN - CN+3) = PARAMETERS FROM *CMA*.	MSM	2184	
			*			MSM	2185	
			*	CALLS	CMA.	MSM	2186	
						MSM	2187	
						MSM	2188	
3474	0100	3474	LCM	SUBR	ENTRY/EXIT	MSM	2189	
3476	0415		ZJN	LCM1	IF RECHECKING FIELD LENGTH	MSM	2190	
3477	1466		LDN	ZERL		MSM	2191	
3500	6030		CRD	CN		MSM	2192	
3501	1430		LDN	CN	FIND LARGEST FREE AREA	MSM	2193	
3502	0200	3554	RJM	CMA		MSM	2194	
3504	3031		LDD	CN+1	SAVE RA OF AREA	MSM	2195	
3505	5400	1173	STM	LRAB		MSM	2196	
3507	3425		STD	TA		MSM	2197	
3510	3030		LDD	CN		MSM	2198	
3511	5500	1172	RAM	LRAB-1		MSM	2199	
3513	3032		LCM1	LDD	CN+2	MSM	2200	
3514	0557		NJN	LCMX	IF SUFFICIENT FL	MSM	2201	
3515	3065		LDD	CA+1		MSM	2202	
3516	1677		ADN	77		MSM	2203	
3517	1071		SHN	-6		MSM	2204	

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3520	3233	SBD	CN+3		MSM	2205
3521	0752	MJN	LCMX	IF SUFFICIENT MEMORY AVAILABLE	MSM	2206
3522	0451	ZJN	LCMX	IF SUFFICIENT MEMORY AVAILABLE	MSM	2207
3523	2000 3527	LDC	LCMA	* INSUFFICIENT MEMORY FOR CM RECOVERY.*	MSM	2208
3525	0100 1474	LJM	HNG	PROCESS ERROR	MSM	2209

3527	5511	LCMA	DATA	C* INSUFFICIENT MEMORY FOR CM RECOVERY.*	MSM	2212
------	------	------	------	--	-----	------

*	COMMON DECKS.	MSM	2214
		MSM	2215
		MSM	2216

3553		CTEXT	COMPCMA	- CENTRAL MEMORY AVAILABLE ON RECOVERY.	COMPCMA	1
3753		CTEXT	COMPSUD	- SPIN UP/DOWN MASS STORAGE DEVICES.	251L670	1

4027		BSS	0	*0SD* LOAD ADDRESS	MSM	2220
	2247	ERRNG	BFMS-OVL0-ZSDL	*0SD* OVERFLOW	MSM	2222

QUAL		MSM	2223
		MSM	2224

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Line	QUAL	RPF	MSM	Page
1	COMMENT	87/07/09. 96/06/05. MSM - RECOVER PRESERVED FILES.	MSM	2227
2	COMMENT	COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.	MSM	2228
3	QUAL	1RF	MSM	2229
4			281L803	3
5			MSM	2231
6				
7	***	*1RF* IS CALLED BY *REC* TO RECOVER PRESERVED	MSM	2233
8	*	FILES ON A MASS STORAGE DEVICE. WHEN *1RF* HAS FINISHED	MSM	2234
9	*	WITH A DEVICE, IT INDICATES TO *REC* THAT IT IS COMPLETE.	MSM	2235
10	*	*REC* TELLS IT EITHER TO PROCESS ANOTHER DEVICE OR DROP.	MSM	2236
11				
12				
13				
14				
15	***	ENTRY CONDITIONS.	MSM	2238
16	*		MSM	2239
17	*	(IR+2) = EST ORDINAL.	MSM	2240
18	*	(IR+3) = CP NUMBER AT WHICH TO DISPLAY MESSAGES.	MSM	2241
19	*	(IR+4) = RECOVERY STATUS.	MSM	2242
20	*		MSM	2243
21	*	WHEN *1RF* COMPLETES, IT SETS (IR+2) TO 0. *REC* EITHER	MSM	2244
22	*	REPLIES WITH ANOTHER EST ORDINAL OR 4000 WHICH INDICATES	MSM	2245
23	*	THAT *1RF* SHOULD DROP.	MSM	2246
24				
25				
26				
27				
28	**	ROUTINES CALLED.	MSM	2253
29	*		MSM	2254
30	*	4DA - RECOVER PRESERVED FILES.	MSM	2255
31				
32				
33				
34				
35	1100	ORG PPFW	MSM	2257
36			MSM	2258
37	1100	RPF BSS 0 ENTRY	MSM48	4
38	1100	3053 LDD IR+3 SET *IQFT* BUFFER ADDRESS	MSM48	5
39	1101	1006 SHN 6	MSM	2260
40	1102	3437 STD CR	MSM	2261
41	1103	1001 SHN 7-6 SET MESSAGE CONTROL POINT	MSM48	6
42	1104	3460 STD CF	MSM48	7
43		* LDD IR+4 SET RECOVERY STATUS	MSM	2264
44		* STD RS	MSM	2265
45	1105	3054 LDD RS	MSM48	8
46	1106	0507 NJN RPF0 IF RECOVERY DEADSTART	MSM48	9
47	1107	2000 4001 LDC DSCP+ENRS MOVE TO DEADSTART CONTROL POINT	MSM48	10
48	1111	3411 STD CM+1	MSM48	11
49	1112	1452 MONITOR CCAM	MSM48	12
50	1115	1410 RPF0 LDN 10	MSM48	13
51	1116	3401 STD T1	MSM	2276
52	1117	3060 LDD CF SAVE CONTROL POINT MESSAGES	MSM48	14
53	1120	1631 ADK MS1W	MSM	2278
54	1121	6101 1236 CRM RPFC,T1	MSM	2279

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1226	3060		LDD	CF		MSM48	23
1227	1672		ADK	TFSW		MSM	2335
1230	6210		CWD	CM		MSM	2336
1231	1461	RPF4	MONITOR	DPPM		MSM	2337
1234	0100 0257		LJM	PPR	EXIT TO PP RESIDENT	MSM	2338
						MSM	2339
1236		RPFC	BSS	0	CONTROL POINT MESSAGE SAVE AREA	MSM	2340
						MSM	2341
	1306	SDVR	EQU	RPFC+10*5		MSM	2343
			QUAL			MSM	2344

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IDENT	4DA,/RDA/RDEX	MSM	2347
COMMENT	87/07/09. 96/06/05. MSM - RECOVER PRESERVED FILES.	MSM	2348
COMMENT	COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.	281L803	4
***	*RDA* PERFORMS SYSTEM SECTOR CLEANUP ON ALL DIRECT	MSM	2351
*	ACCESS PERMANENT FILES AS WELL AS BUILDING THE *IQFT*	MSM	2352
*	ON LEVEL 0 DEADSTARTS.	MSM	2353
***	ENTRY CONDITIONS.	MSM	2355
*		MSM	2356
*	(A) = 0, IF DEVICE IS NOT BEING INITIALIZED.	MSM48	24
*	(CF) = MESSAGE CONTROL POINT ADDRESS (*1RF* CALL).	MSM48	25
*	(CP) = CONTROL POINT ADDRESS (*CMS* CALL).	MSM48	26
*	(CR) = RELATIVE ADDRESS OF *IQFT* BUFFER.	MSM48	27
*	(FN - FN+4) = EST ENTRY.	MSM	2357
*	(RS) = RECOVERY STATUS.	MSM48	28
*	(T5) = EST ORDINAL.	MSM	2358
***	OPERATOR MESSAGES.	MSM	2365
*		MSM	2366
*	*EQXXX, ANNNN TYYYY SZZZZ LINKAGE* = LENGTH / LINKAGE ERROR	MSM	2367
*	AT TRACK YYYY SECTOR ZZZZ OF PRESERVED FILE ON EST ORDINAL	MSM	2368
*	XXX, FIRST TRACK AT NNNN. OPERATOR INTERVENTION IS REQUIRED.	MSM	2369
*	IF THE OPERATOR ENTERS *GO*, EOI WILL BE WRITTEN AT THE	MSM	2370
*	LOCATION OF THE ERROR AND RECOVERY WILL PROCEED. IF THE	MSM	2371
*	OPERATOR ENTERS *PAUSE*, ERROR IDLE STATUS WILL BE SET AND	MSM	2372
*	RECOVERY OPERATIONS ON THE DEVICE TERMINATED.	MSM	2373
*		MSM	2374
*	*RECOVER EQXXX, ANNNN TMMMM. = RECOVERING PRESERVED FILE ON	MSM	2375
*	EST ORDINAL XXX. FIRST TRACK IS NNNN AND TRACK CURRENTLY	MSM	2376
*	BEING READ IS MMMM.	MSM	2377
***	DAYFILE MESSAGES.	MSM	2379
*		MSM	2380
*	*EQXXX, ERROR IDLE SET.* = THIS FOLLOWS THE *PF LENGTH ERROR*	MSM	2381
*	OR *QF LENGTH ERROR* MESSAGE IF ERROR IDLE WAS FORCED BY THE	MSM	2382
*	SYSTEM OR THE OPERATOR ENTERED *PAUSE*.	MSM	2383
*		MSM	2384
*	*EQXXX NNNN DIRECT ACCESS FILE ERRORS.* = COUNT OF ERRORS	MSM	2385
*	DETECTED IN DIRECT ACCESS FILES ON EST ORDINAL XXX. THE	MSM	2386
*	COUNT SHOULD MATCH THE NUMBER OF ERROR MESSAGES PRODUCED.	MSM	2387
*		MSM	2388
*	*EQXXX NNNN DIRECT ACCESS FILES RECOVERED.* = COUNT OF DIRECT	MSM	2389
*	FILES RECOVERED ON EST ORDINAL XXX.	MSM	2390
*		MSM	2391

1	*	*EQXXX, FFFFFFFF, DD RECOVERED.* = RECOVERY COMPLETE ON EST	MSM	2392
2	*	ORDINAL XXX WITH FAMILY NAME FFFFFFFF AND DEVICE NUMBER DD.	MSM	2393
3	*		MSM	2394
4	*	*EQXXX NNNN PRESERVED FILE ERRORS.* = COUNT OF ERRORS	MSM	2395
5	*	DETECTED WHILE READING SYSTEM SECTORS ON EST ORDINAL XXX.	MSM	2396
6	*		MSM	2397
7	*	*EQXXX NNNN QUEUED FILE ERRORS.* = COUNT OF QUEUED FILE	MSM	2398
8	*	ERRORS DETECTED ON EST ORDINAL XXX. THE COUNT SHOULD	MSM	2399
9	*	MATCH THE NUMBER OF ERROR MESSAGES PRODUCED.	MSM	2400
10	*		MSM	2401
11	*	*EQXXX NNNN QUEUED FILES RECOVERED.* = COUNT OF QUEUED	MSM	2402
12	*	FILES RECOVERED ON EST ORDINAL XXX.	MSM	2403
13	*		MSM	2404
14	*	*EQXXX NNNN QUEUED FILES IGNORED.* = COUNT OF QUEUED FILES	MSM	2405
15	*	NOT WRITTEN TO THE *IQFT* FILE DUE TO LACK OF SPACE.	MSM	2406
16	*		MSM	2407
17	*	*EQXXX, PF CATALOG SIZE ERROR.* = THE PERMANENT FILE CATALOGS	MSM	2408
18	*	ON EST ORDINAL XXX ARE THE WRONG SIZE FOR THE CURRENT SYSTEM.	MSM	2409
19	*		MSM	2410
20	*	*EQXXX, PPPPPP RECOVERED.* = RECOVERY COMPLETE ON EST	MSM	2411
21	*	ORDINAL XXX WITH PACKNAME PPPPPP.	MSM	2412
22	*		MSM	2413
23	*	*EQXXX, PRESERVED FILE RECOVERY INITIATED.* = PRESERVED FILE	MSM41	1
24	*	RECOVERY WAS STARTED FOR EST ORDINAL XXX.	MSM41	2
25	*		MSM41	3
26	*	*EQXXX, TRACK LIMIT ON IQFT.* = NO TRACK AVAILABLE FOR IQFT.	MSM	2414
27	*		MSM	2415
28	*	*EQXXX PF LENGTH ERROR UINDEX FILENAME* = PERMANENT FILE	NS2788	4
29	*	LENGTH WAS INCORRECT.	NS2788	5
30	*		MSM	2418
31	*	*EQXXX QF LENGTH ERROR FILENAME* = QUEUED FILE	NS2788	6
32	*	LENGTH WAS INCORRECT.	NS2788	7
33				
34	***	ACCOUNT FILE MESSAGES.	MSM	2422
35	*		MSM	2423
36	*	*ADDR, XXX, FFFFFFFF, DD, LVLL, LVLU.* = EST ORDINAL XXX	MSM	2424
37	*	WITH FAMILY NAME FFFFFFFF, DEVICE NUMBER DD, LOWER SECURITY	MSM	2425
38	*	ACCESS LEVEL LVLL AND UPPER SECURITY ACCESS LEVEL LVLU	MSM	2426
39	*	HAS BEEN RECOVERED.	MSM	2427
40	*		MSM	2428
41	*	*ADPM, XXX, PPPPPP, UUUUUUU, LVLL, LVLU.* = EST ORDINAL	MSM	2429
42	*	XXX WITH PACKNAME PPPPPP, LOWER SECURITY ACCESS LEVEL	MSM	2430
43	*	LVLL AND UPPER SECURITY ACCESS LEVEL LVLU HAS BEEN MOUNTED.	MSM	2431
44	*	IF PRESENT, UUUUUUU INDICATES THAT THE PACK WAS A PRIVATE	MSM	2432
45	*	PACK BELONGING TO THAT USER.	MSM	2433
46				
47				
48				
49				
50	***	ERROR LOG MESSAGES.	MSM	2435
51	*		MSM	2436
52	*	*EQXXX, ANNNN PF RECOVERY ERROR.* = SYSTEM SECTOR ERROR OR	MSM	2437
53	*	UNIDENTIFIED FILE TYPE WHILE PROCESSING A PRESERVED FILE ON	MSM	2438
54	*	TRACK NNNN OF EST ORDINAL XXX.	MSM	2439
55				
56				
57				
58				
59				
60				

1	*						MSM	2440	
2	*						MSM	2441	
3	*						MSM	2442	
4	*						MSM	2443	
5	*						MSM	2444	
6	*						MSM	2445	
7	*						MSM	2446	
8	*						MSM	2447	
9	*						MSM	2448	
10	*						MSM	2449	
11	*						MSM	2450	
12	*						MSM	2451	
13	*						MSM	2452	
14	*						MSM	2453	
15	*						MSM	2454	
16	*						MSM	2455	
17	*						MSM	2456	
18	*						MSM46	1	
19	*						MSM46	2	
20	*						MSM46	3	
21	*						MSM46	4	
22	*						MSM	2457	
23	*						MSM	2458	
24	*						MSM	2459	
25	*						MSM	2460	
26	*						MSM	2461	
27	*						MSM	2462	
28	*						MSM	2463	
29									
30		1742	04DA	MAX	/CMS/SDVR+5, /1RF/SDVR+5		MSM	2465	
31							MSM	2466	
32				QUAL	RDA		MSM	2467	
33									
34									
35									
36									
37		0		CTEXT	COMSJIO - QFT EQUIVALENCES.		COMSJIO	1	
38							# COMSPFM	1	
39		0		CTEXT	COMSPFM - PERMANENT FILE EQUIVALENCES.		COMSPFM	2	
40		0		CTEXT	COMSSSE - SYSTEM SECTOR EQUIVALENCES.		COMSSSE	1	
41									
42									
43									
44									
45				**	ASSEMBLY CONSTANTS.		MSM	2473	
46							MSM	2474	
47							MSM	2475	
48		1	EQV\$	EQU	1	DO NOT VERIFY EQUIPMENT IN *COMPRSS*	MSM	2476	
49		1	IRA\$	EQU	1	RANDOM ACCESS PROCESSORS INITIALIZED	MSM	2477	
50		5	NSDF	EQU	5	NUMBER OF SPECIAL DAFS	MSM	2478	
51		6274	SBUF	EQU	BFMS-502	SCRATCH BUFFER FOR EOI SECTOR	MSM	2479	
52									
53									
54									
55									
56									
57									
58									
59									
60									



RDA

1735

DATB

EQU

04DA-5

BUFFER FOR DEVICE ACCESS TABLE ENTRY

MSM

2481

1742

ORG

04DA

MSM

2482

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0100 1742

RDE

SUBR

ENTRY/EXIT

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1412THE

\*\* RDA - MAIN ROUTINE.

MSM 2489  
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MSM 2491

1	1744	0100 6225	0	RDA	SUBR	PRS	ENTRY/EXIT	NS2552	19
2					ERRNZ	RDE+1-RDAX	CODE DEPENDS ON VALUE	NS2552	20
3	1746	3403			STD	T3	SAVE INITIALIZE FLAG	MSM48	29
4	1747	0402			ZJN	RDA1	IF DEVICE NOT BEING INITIALIZED	MSM	2496
5	1750	0373			UJMF	RDAX		MSM	2497
6	1751	3005		RDA1	LDD	T5	CONVERT UPPER TWO DIGITS OF EST ORDINAL	MSM	2498
7	1752	1074			SHN	-3		MSM	2499
8	1753	0200 5061			RJM	C2D		MSM	2500
9	1755	5400 2327			STM	RDAD		MSM	2501
10	1757	5400 3146			STM	IQFB+1		MSM	2502
11	1761	5400 3715			STM	IDMC+1		MSM	2503
12	1763	5400 4151			STM	IRMB+1		MSM	2504
13	1765	5400 2476			STM	CPSB+1		MSM	2505
14	1767	5400 2352			STM	RDAI+1		MSM	2506
15	1771	5400 2366			STM	RDAJ+1		MSM41	4
16	1773	5400 4471			STM	PFEE+1		NS2788	8
17	1775	3005			LDD	T5	CONVERT LOWER DIGIT OF EST ORDINAL	MSM	2507
18	1776	1207			LPN	7		MSM	2508
19	1777	1006			SHN	6		MSM	2509
20	2000	2100 3356			ADC	2R0,		MSM	2510
21	2002	5400 2477			STM	CPSB+2		MSM	2511
22	2004	5400 3147			STM	IQFB+2		MSM	2512
23	2006	5400 4152			STM	IRMB+2		MSM	2513
24	2010	5400 2330			STM	RDAD+1		MSM	2514
25	2012	5400 2353			STM	RDAI+2		MSM	2515
26	2014	5400 2367			STM	RDAJ+2		MSM41	5
27	2016	1103			LMN	1R &1R,	REMOVE COMMA FROM MESSAGE	NS2788	9
28	2017	5400 3716			STM	IDMC+2		MSM	2517
29	2021	5400 4472			STM	PFEE+2		NS2788	10
30	2023	3003			LDD	T3		MSM48	30
31	2024	0505			NJN	RDA1.1	IF DEVICE BEING INITIALIZED	MSM48	31
32	2025	2001 2365			LDC	RDAJ+NMSN	*PRESERVED FILE RECOVERY INITIATED*	MSM41	6
33	2027	0200 0423			RJM	DFM	ISSUE DAYFILE MESSAGE	MSM41	7
34	2031	3044		RDA1.1	LDD	FN+4	READ TDGL WORD OF MST	MSM48	32
35	2032	1003			SHN	3		MSM	2519
36					ADK	TDGL		MSM	2520
37	2033	6030			CRD	CN		MSM	2521
38	2034	1606			ADN	MDGL-TDGL	GET MASS STORAGE DRIVER WORD	MSM	2522
39	2035	6007			CRD	T7		MSM	2523
40	2036	1703			SBN	MDGL-ALGL	GET DAT TRACK ADDRESS	MSM	2524
41	2037	6010			CRD	CM		MSM	2525
42	2040	3014			LDD	CM+4	SAVE DAT TRACK ADDRESS	MSM	2526
43	2041	5400 3327			STM	SPFD		MSM	2527
44	2043	3007			LDD	T7	SAVE 16-WORD PFC FLAG	MSM	2528
45	2044	1066			SHN	-11		MSM	2529
46	2045	1201			LPN	1		MSM	2530
47	2046	3401			STD	T1		MSM	2531
48	2047	5400 2451			STM	CPSA		MSM	2532
49	2051	5001 2347			LDM	RDAH,T1	ENABLE / DISABLE DAF PROCESSING	MSM	2533
50	2053	5400 2250			STM	RDAG		MSM	2534
51	2055	0200 3165			RJM	PTA	PRESET TRT ADDRESS	MSM	2535
52	2057	0200 4613			RJM	GDE	GET *DAT* ENTRY	MSM	2536
53	2061	2002 0000			SETMS	IO,DF		MSM	2537
54				*	LDN	0		NS2776	1

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2065	3433			STD	CN+3	INITIALIZE TRACK SEARCH	MSM	2539
2066	0312			UJN	RDA2	CONTINUE	MSM	2540
				PSN		(LEVEL-0 RECOVERY)	MSM	2541
2067	0200	3065		RJM	IQF	INITIALIZE THE *IQFT* FILE	MSM	2542
2071	5400	2522		STM	CQFA		MSM	2543
2073	0405			ZJN	RDA2	IF TRACK NOT ASSIGNED	MSM	2544
2074	5600	2524		AOM	CQFC	FLAG *IQFT* INITIALIZED	MSM	2545
2076	5400	3354		STM	TQFA		MSM	2546
							MSM	2547
				*		LOOP FOR EACH TRACK ON DEVICE.	MSM	2548
							MSM	2549
2100	0200	3257		RDA2	RJM	SPF	SEARCH FOR PRESERVED FILE	NS2788
2102	0403			NJP	RDA5	IF PRESERVED FILE FOUND	NS2788	11
							MSM	12
				*		COMPLETE PROCESSING FOR THIS DEVICE.	MSM	2552
							MSM	2553
2105	3054			LDD	RS		MSM	2554
2106	0503			NJN	RDA3	IF RECOVERY DEADSTART	MSM	2555
2107	0200	3353		RJM	TQF	TERMINATE *IQFT*	MSM	2556
2111	0200	0535		RDA3	ENDMS	RELEASE CHANNEL	NS2788	2557
2113	0200	3622		RJM	IDM	ISSUE DAYFILE MESSAGES	MSM	13
2115	0200	4675		RJM	WDE	UPDATE DAT ENTRY	MSM	2559
2117	2000	0000		LDC	0	SET ERROR IDLE IF NON-ZERO	NS2788	2560
			2120	RDAM	EQU	*-1	NS2788	14
							NS2788	15
2121	0422			ZJN	RDA4	IF NO ERROR IDLE TO BE SET	NS2788	16
2122	2001	2351		LDC	RDAI+NMSN	SEND ERROR IDLE MESSAGES	NS2788	17
2124	0200	0423		RJM	DFM		NS2788	18
2126	2004	2351		LDC	RDAI+ERLN		NS2788	19
2130	0200	0423		RJM	DFM		NS2788	20
2132	1404			SMSTF	GDEI	SET DEVICE ERROR IDLE STATUS	NS2788	21
2135	1416			LDN	STEI		NS2788	22
2136	0200	5376		RJM	SES		NS2788	23
2140	1562			CMSTF	LCKP	CLEAR POSSIBLE CHECKPOINT REQUEST	NS2788	24
2143	1400			RDA4	LDN	0	MSM	2561
2144	3410			STD	CM	CLEAR CONSOLE MESSAGE	MSM	2562
2145	3074			RDAK	LDD	CP	MSM48	33
				*	LDD	CF	(*1RF* CALL)	MSM48
2146	1636			ADN	MS2W		MSM	34
2147	6210			CWD	CM		MSM	2564
2150	0200	2447		RJM	CPS	CHECK PFC SIZE	MSM	2565
2152	0200	2701		RJM	CUS	CLEAR UNAVAILABLE STATUS	MSM	2566
2154	0100	1744		LJM	RDAX	EXIT	MSM	2567
							MSM	2568
				*		CONVERT TRACK NUMBER AND DISPLAY MESSAGE.	MSM	2569
							MSM	2570
							MSM	2571
2156	0200	5061		RDA5	RJM	C2D	MSM	2572
2160	5400	2333		STM	RDAE+1		MSM	2573
2162	3006			LDD	T6		MSM	2574
2163	1071			SHN	-6		MSM	2575
2164	0200	5061		RJM	C2D		MSM	2576
2166	5400	2332		STM	RDAE		MSM	2577
2170	3074			RDAL	LDD	CP	MSM48	35
				*	LDD	CF	(*1RF* CALL)	MSM48
2171	1636			ADN	MS2W		MSM	36
2172	6373	2322		CWM	RDAC,TR		MSM	2579
2174	1701			SBN	1	SAVE ADDRESS FOR *RDC* MESSAGE	MSM	2580
2175	5400	5720		STM	RDCA		MSM	2581
							MSM	2582

2177	1400			SETMS	POSITION		MSM	2583
			*	LDN	0		NS2776	2
2201	3430			STD	CN	CLEAR FILE TYPE	MSM	2584
2202	0200	5256		RJM	RSS	READ SYSTEM SECTOR	NS2776	3
2204	0524			NJN	RDA6	IF ERROR	MSM	2587
			*			DETERMINE TYPE OF PRESERVED FILE.	MSM	2588
							MSM	2589
							MSM	2590
2205	0200	3236		RJM	SFT	SET FILE TYPE	MSM	2591
2207	0521			NJN	RDA6	IF UNKNOWN FILE TYPE	NS2788	25
2210	3054			LDD	RS		NS2788	26
2211	0404			ZJN	RDA5.1	IF NOT RECOVERY DEADSTART	NS2788	27
2212	0200	3465		RJM	VFR	VERIFY FILE FOR RECOVERY DEADSTART	NS2788	28
2214	0316			UJN	RDA7	PROCESS NEXT TRACK	NS2788	29
							NS2788	30
2215	3030		RDA5.1	LDD	CN	CHECK FILE TYPE	NS2788	31
2216	0504			NJN	RDA5.2	IF NOT QUEUED FILE	NS2788	32
2217	0200	2520		RJM	CQF	CREATE QUEUED FILE ENTRY	NS2788	33
2221	0311			UJN	RDA7	PROCESS NEXT TRACK	NS2788	34
							NS2788	35
2222	1112		RDA5.2	LMN	PMFT	CHECK FILE TYPE	NS2788	36
2223	0425			ZJN	RDA9	IF DIRECT ACCESS PERMANENT FILE	NS2788	37
2224	1101			LMN	FAFT&PMFT		MSM	2599
2225	0423			ZJN	RDA9	IF FAST ATTACH FILE	MSM	2600
2226	0100	2272		LJM	RDA10	PROCESS SPECIAL PRESERVED FILE	MSM	2601
							MSM	2602
2230	0200	3035	RDA6	RJM	IEM	ISSUE ERROR LOG MESSAGE	MSM	2603
2232	0100	2100	RDA7	LJM	RDA2	PROCESS NEXT TRACK	MSM	2604
							MSM	2605
			*			RELEASE FILE.	MSM	2606
							MSM	2607
2234	0200	0535	RDA8	ENDMS			MSM	2608
2236	3005			LDD	T5	DROP TRACK CHAIN FOR FILE	MSM	2609
2237	2300	4000		LMC	4000	ADD CHECKPOINT REQUEST	MSM	2610
2241	3411			STD	CM+1		MSM	2611
2242	3006			LDD	T6		MSM	2612
2243	3412			STD	CM+2		MSM	2613
2244	1433			MONITOR	DTKM		MSM	2614
2247	0362			UJN	RDA7		MSM	2615
							MSM	2616
			*			PROCESS PERMANENT FILES.	MSM	2617
							MSM	2618
2250	5000	7170	RDA9	LDM	CASS	CHECK FILE ACCESS	MSM	2619
			*	UJN	RDA7	(8-WORD PFC DEVICE)	MSM	2620
		2250	RDAG	EQU	RDA9		MSM	2621
2252	3431			STD	CN+1	SET SYSTEM SECTOR REWRITE STATUS	NS2788	38
2253	1014			SHN	21-5		MSM	2623
2254	0757			MJN	RDA8	IF PURGE FLAG SET	MSM	2624
2255	1001			SHN	5-4		MSM	2625
2256	0717			MJN	RDA11	IF FILE CAN BE SHORTENED	MSM	2626
2257	5000	7176		LDM	UCSS+1		MSM	2627
2261	5100	7177		ADM	UCSS+2		MSM	2628
2263	5100	7200		ADM	UCSS+3		MSM	2629
2265	5100	7201		ADM	UCSS+4		MSM	2630
2267	5100	7171		ADM	FISS		MSM	2631
2271	3531			RAD	CN+1	SET SYSTEM SECTOR REWRITE STATUS	MSM	2632
2272	0200	6007	RDA10	RJM	VFL	VERIFY FILE LENGTH	MSM	2633

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2274	0412		ZJN	RDA12	IF NO LENGTH ERROR	NS2788	39
2275	0200 5654	RDA11	RJM	RDC	READ DISK CHAIN	MSM	2635
2277	0407		ZJN	RDA12	IF NO LENGTH/LINKAGE/DISK ERROR	NS2788	40
2300	0200 2414		RJM	CFL	CHANGE FILE LENGTH	NS2788	41
2302	3030		LDD	CN		NS2788	42
2303	1110		LMN	LIFT		NS2788	43
2304	0412		ZJN	RDA15	IF LIBRARY TYPE FILE	NS2788	44
2305	0305		UJN	RDA13	ISSUE FILE ERROR MESSAGE	NS2788	45
						MSM	2638
2306	3021	RDA12	LDD	FS+1		NS2788	46
2307	5300 6304		LMM	SBUF+FTEI		MSM	2644
2311	0403		ZJN	RDA14	IF NO BOI/EOI ERROR	NS2788	47
2312	0200 4311	RDA13	RJM	PFE	ISSUE FILE ERROR MESSAGE	NS2788	48
2314	0200 4536	RDA14	RJM	CTU	CLEAR USER COUNTS	MSM	2646
2316	0200 0535	RDA15	ENDMS			NS2788	49
2320	0100 2100		LJM	RDA2	LOOP FOR NEXT TRACK	NS2788	50
						MSM	2649
						MSM	2679
2322	2205	RDAC	DATA	H*RECOVER EQ*		MSM	2680
2327	3030	RDAD	DATA	6HXXX, A		MSM	2681
2332	1616	RDAE	DATA	4HNNNN		MSM	2682
2334	0000	RDAF	CON	0		MSM	2683
2335	0655		DATA	C*F RECOVERY ERROR.*		MSM	2684
						MSM	2685
2347		RDAH	BSS	0	TABLE OF INSTRUCTIONS TO PLUG	MSM	2686
L 2250			LOC	RDAG		MSM	2687
L 2250	0361		UJN	RDA7		MSM	2688
2350			LOC	*0		MSM	2689
2350	5000		CON	LDMI		MSM	2690
						MSM	2691
2351	0521	RDAI	DATA	C*EQXXX, ERROR IDLE SET.*		MSM	2692
						MSM41	8
2365	0521	RDAJ	DATA	C*EQXXX, PRESERVED FILE RECOVERY INITIATED.*		MSM41	9

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	**			CFL - CHANGE FILE LENGTH.			MSM	2711
	*						MSM	2712
	*			ENTRY (T6) = TRACK FOR EOI.			MSM	2713
	*			(T7) = SECTOR FOR EOI.			MSM	2714
	*			(CN) = FILE TYPE.			MSM	2715
	*			(FS+4) = 0, IF EOI REWRITE REQUIRED.			NS2788	51
	*			(BFMS) LOADED WITH SYSTEM SECTOR.			MSM	2716
	*						MSM	2717
	*			EXIT EOI IN TRT CHANGED.			MSM	2718
	*			EOI REWRITTEN, IF (FS+4) = 0.			NS2788	52
	*			ERROR FLAG SET IN SYSTEM SECTOR CATALOG IMAGE.			MSM	2719
	*			(CN+1) NONZERO (SYSTEM SECTOR REWRITE FLAG).			NS2788	53
	*						MSM	2720
	*			USES CM - CM+4.			MSM	2721
	*						MSM	2722
	*			CALLS CLF, WEI.			NS2788	54
							MSM	2724
							MSM	2725
16		2413	0100 2413	CFL	SUBR	ENTRY/EXIT	MSM	2726
17		2415	0200 5632		RJM CLF	CHANGE LENGTH OF FILE IN TRT	MSM	2727
18		2417	3024		LDD FS+4		NS2788	55
19		2420	0511		NJN CFL1	IF NO REWRITE OF EOI REQUIRED	NS2788	56
20		2421	3077		LDD MA	COPY FNT/FST FROM SYSTEM SECTOR TO EOI	NS2788	57
21		2422	6326 7000		CWM FNSS,TW		NS2788	58
22		2424	1702		SBN 2		NS2788	59
23		2425	6126 6276		CRM SBUF+FNEI,TW		NS2788	60
24		2427	0200 5542		RJM WEI	WRITE EOI	NS2788	61
25		2431	3030	CFL1	LDD CN	CHECK FILE TYPE	NS2788	62
26		2432	1110		LMN LIFT		MSM	2729
27		2433	0457		ZJN CFLX	IF LIBRARY FILE	MSM	2730
28		2434	5000 7075		LDM CTSS+FCEC	SET ERROR FLAG IN SYSTEM SECTOR	MSM	2731
29		2436	2200 7077		LPC 7077		MSM	2732
30		2440	2300 0400		LMC 400		MSM	2733
31		2442	5400 7075		STM CTSS+FCEC		MSM	2734
32		2444	3631		AOD CN+1	SET SYSTEM SECTOR REWRITE STATUS	NS2788	63
33		2445	0345		UJN CFLX	RETURN	MSM	2735
38	**			CPS - CHECK PFC SIZE.			MSM	2737
39	*						MSM	2738
40	*			ENTRY (T5) = EST ORDINAL.			MSM	2739
41	*						MSM	2740
42	*			CALLS DFM, SES.			MSM	2741
43	*						MSM	2742
44	*			MACROS CMSTF, SMSTF.			MSM	2743
45							MSM	2744
46							MSM	2745
47		2446	0100 2446	CPS	SUBR	ENTRY/EXIT	MSM	2746
48		2450	2000 2450		LDC *		MSM	2747
49				*	LDC 0	(8-WORD PFC DEVICE)	MSM	2748
50			2451	CPSA	EQU *-1		MSM	2749
51		2452	0573		NJN CPSX	IF NOT 8-WORD PFC DEVICE	MSM	2750
52		2453	2000 2475		LDC CPSB	ISSUE DAYFILE MESSAGE	MSM	2751
53		2455	0200 0423		RJM DFM		MSM	2752
54		2457	2004 2475		LDC CPSB+ERLN	ISSUE MESSAGE TO ERROR LOG	MSM	2753



2461	0200	0423		RJM	DFM		MSM	2754	
2463	1404			SMSTF	GDEI	SET GLOBAL ERROR IDLE FLAG	MSM	2755	
2466	1417			LDN	STCS	SET PF CATALOG SIZE ERROR STATUS	MSM	2756	
2467	0200	5376		RJM	SES		MSM	2757	
2471	1562			CMSTF	LCKP	CLEAR POSSIBLE CHECKPOINT	MSM	2758	
2474	0351			UJN	CPSX	RETURN	MSM	2759	
2475	0521		CPSB	DATA	C*EQXXX, PF CATALOG SIZE ERROR.*		MSM	2760	
							MSM	2761	
				**	CQF	- CREATE QUEUED FILE ENTRY.	MSM	2763	
				*			MSM	2764	
				*	CQF	CREATES THE ENTRY REPRESENTING A QUEUED FILE IN	MSM	2765	
				*		THE INACTIVE QUEUED FILE LIST.	MSM	2766	
				*			MSM	2767	
				*	ENTRY	(BFMS) = SYSTEM SECTOR.	NS2788	64	
				*		(CQFA) = 0 IF NOT *IQFT* SPACE AVAILABLE.	MSM	2771	
				*			MSM	2772	
				*	EXIT	*IQFT* ENTRY CREATED, IF QUEUE FILE RECOVERED.	NS2788	65	
				*			MSM	2775	
				*	USES	QI, T1, T6, CM - CM+4.	NS2669	2	
				*			MSM	2777	
				*	CALLS	IQF, PFE, RSS, VFL, WEI, WQF, WSR.	MSM48	37	
				*			MSM	2779	
				*	MACROS	FILEREC, SETMS.	MSM	2780	
							MSM	2782	
							MSM	2783	
2515	5600	3705		CQF7	AOM	PQIC	ADVANCE QUEUE FILE IGNORED COUNT	MSM	2784
							MSM	2786	
2517	0100	2517		CQF	SUBR		ENTRY/EXIT	MSM	2787
2521	2000	0001		LDC	1			MSM	2789
		2522		CQFA	EQU	*-1		MSM	2790
2523	0471			ZJN	CQF7		IF NO SPACE FOR/ON *IQFT*	MSM	2791
2524	1400			CQFC	LDN	0		MSM	2792
				*	LDN	1	(QUEUE FILE PROCESSING INITIATED)	MSM	2793
2525	0520			NJN	CQF2		IF QUEUE FILE PROCESSING INITIATED	MSM	2794
2526	0200	3065		RJM	IQF		INITIALIZE *IQFT*	MSM	2795
2530	5400	2522		STM	CQFA			MSM	2796
2532	0462			ZJN	CQF7		IF TRACK UNAVAILABLE FOR *IQFT*	MSM	2797
2533	3021			LDD	FS+1		REREAD THE QUEUE FILE SYSTEM SECTOR	MSM	2798
2534	3406			STD	T6			MSM	2799
2535	1400			SETMS	POSITION			MSM	2800
				*	LDN	0	READ SYSTEM SECTOR	MSM	2801
2537	0200	5256		RJM	RSS			MSM	2802
2541	5600	2524		AOM	CQFC			MSM	2803
2543	5400	3354		STM	TQFA			MSM	2804
2545	0200	6007		CQF2	RJM	VFL	VERIFY FILE LENGTH	MSM	2805
2547	0522			NJN	CQF4		IF LENGTH ERROR	MSM	2806
2550	5000	7012		LDM	DTSS			MSM	2808
2552	0512			NJN	CQF3		IF ENHANCED EOI INDICATED	MSM	2809
2553	3077			LDD	MA		COPY FNT/FST FROM SYSTEM SECTOR TO EOI	NS2788	66
2554	6326	7000		CWM	FNSS, TW			NS2788	67
2556	1702			SBN	2			NS2788	68
2557	6126	6276		CRM	SBUF+FNEI, TW			NS2788	69
2561	0200	5542		RJM	WEI		REWRITE EOI	MSM	2810

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2563	0317		UJN	CQF5	ADVANCE RECOVERY COUNT	NS2788	70	
						NS2788	71	
2564	3021		CQF3	LDD	FS+1	VERIFY BOI/EOI	MSM	2813
2565	3406			STD	T6		MSM	2814
2566	5300	6304		LMM	SBUF+FTEI		MSM	2815
2570	0412			ZJN	CQF5	IF VERIFY GOOD	MSM	2816
2571	1500		CQF4	LCN	0	SET LENGTH ERROR	MSM	2818
2572	5400	7166		STM	FLSS		MSM	2819
2574	5400	7167		STM	FLSS+1		MSM	2820
2576	0200	4311		RJM	PFE	ISSUE ERROR MESSAGE	MSM	2821
2600	0100	2515		LJM	CQF7	IGNORE THIS FILE AND RETURN	NS2788	72
							MSM	2824
2602	5600	3703	CQF5	AOM	PMRC	ADVANCE QUEUED FILE RECOVERY COUNT	NS2788	73
2604	5000	7163		LDM	FGSS	SET INACTIVE QUEUE FILE STATUS	NS2788	74
2606	1302			SCN	2		MSM	2826
2607	5400	7163		STM	FGSS		MSM	2827
2611	3021			LDD	FS+1	RESET SYSTEM SECTOR ADDRESS	MSM	2828
2612	0200	4731		RJM	WSR	WRITE SYSTEM SECTOR WITH REWRITE	NS2669	4
							MSM	2832
			*		ENTER THIS FILE IN *IQFT* BUFFER IN CM.		MSM	2833
							MSM	2834
2614	5000	7167		LDM	FLSS+1	INSERT FILE LENGTH	MSM	2835
2616	5400	7234		STM	CDSS+1		MSM	2836
2620	5000	7166		LDM	FLSS		MSM	2837
2622	5400	7233		STM	CDSS		MSM	2838
2624	3005			LDD	T5	SET EST ORDINAL	MSM	2839
2625	5400	7055		STM	IOSS+5*ENTQ		MSM	2840
2627	1410			LDN	10	MAXIMUM QFT ENTRY LENGTH	MSM	2841
2630	3401			STD	T1		MSM	2842
2631	5000	7164		LDM	RMSS	USE THE RESIDENT MACHINE ID FOR RECOVERY	MSM	2843
2633	5400	7213		STM	FMSS+4		MSM	2844
2635	3055			LDD	RA		MSM48	38
2636	1006			SHN	6		MSM48	39
2637	3137			ADD	CR	FWA OF IQFT BUFFER	MSM48	40
2640	3136			ADD	QI		MSM	2846
2641	6301	7050		CWM	IOSS,T1	QFT ENTRY	MSM	2847
2643	6370	7233		CWM	CDSS,ON	DATE, TIME AND FILE LENGTH IN SECTORS	MSM	2848
2645	6370	7207		CWM	FMSS,ON	WRITE FAMILY NAME	MSM	2849
2647	6370	7175		CWM	FDSS,ON	DESTINATION FAMILY NAME	MSM	2850
2651	6370	7214		CWM	OASS,ON	OWNER USER NAME, USER INDEX	MSM	2851
2653	6370	7221		CWM	FOSS,ON	OWNER FAMILY NAME	MSM	2852
2655	1420			LDN	QFEWL	QUEUED FILE ENTRY WORD COUNT	MSM	2853
2656	3536			RAD	QI	ADVANCE BUFFER POINTER	MSM	2854
2657	1071			SHN	-6	WORDS/PRU (0-77)	MSM	2855
2660	0403			ZJN	CQF6	IF NOT FULL SECTOR	MSM	2856
2661	0200	3526		RJM	WQF	WRITE QUEUED FILE SECTOR	MSM	2857
2663	0100	2517	CQF6	LJM	CQFX	RETURN	MSM	2859
							MSM	2860
			*		QUEUED FILE RECOVERY TABLE. (RDAT)		MSM	2861
							MSM	2862
							MSM	2863
				LIST	G		NS2788	75
2665				FILEREC			MSM	2864
2665			RDAT	BSS	0		FILEREC	.1
2665	0017			CON	INFT		FILEREC	.1
2666	0020			CON	QFFT		FILEREC	.1
				LIST	*		NS2788	76

2667	0112		CON	PMFT+100		MSM	2865	
2670	0113		CON	FAFT+100		MSM	2866	
2671	0110		CON	LIFT+100		MSM	2867	
		5	RDATBL	EQU	*-RDAT	MSM	2868	
			**	CUS - CLEAR UNAVAILABLE STATUS.		MSM	2870	
			*			MSM	2871	
			*	ENTRY	(T5) = EST ORDINAL.	MSM	2872	
			*		(FN - FN+4) = EST ENTRY.	MSM	2873	
			*			MSM	2874	
			*	USES	T1, T3, T6, T7, CM - CM+4.	MSM	2875	
			*			MSM	2876	
			*	CALLS	CDC, RDS, SDA, SMI, WDS.	NS2547	2	
			*			MSM	2878	
			*	MACROS	DELAY, ENDMS, PAUSE, SETMS.	MSM	2879	
						MSM	2880	
						MSM	2881	
2672	3054		CUS6	LDD	RS	CHECK RECOVERY STATUS	MSM	2882
2673	1270			LPN	FLMK		MSM	2883
2674	1110			LMN	FLCM		MSM	2884
2675	0403			ZJN	CUSX	IF CM RECOVERY	MSM	2885
2676	0200	5073		RJM	SDA	SET DEVICE AVAILABLE	MSM	2886
							MSM	2887
2700	0100	2700	CUS	SUBR		ENTRY/EXIT	MSM	2888
2702	3040			LDD	FN		MSM	2889
2703	1220			LPN	20		MSM	2890
2704	0465			ZJN	CUS6	IF NOT INDEPENDENT SHARED DEVICE	MSM	2891
2705	2002	4240		SETMS	IO, (DE,DF,NS)		MSM	2892
2711	1441			LDN	FN+1	PRESET ERROR RETRY STATUS	MSM	2893
2712	3403			STD	T3		MSM	2894
2713	3044			LDD	FN+4	SET LABEL TRACK	MSM	2895
2714	1003			SHN	3		MSM	2896
2715	1603			ADN	ALGL		MSM	2897
2716	6010			CRD	CM		MSM	2898
2717	3011			LDD	CM+1		MSM	2899
2720	3406			STD	T6		MSM	2900
2721	1400			LDN	0		MSM	2901
2722	3407			STD	T7		MSM	2902
2723	2000	6776	CUS1	LDC	BFMS	READ LABEL FOR *DIT*	MSM	2903
2725	0200	0530		RJM	RDS		MSM	2904
2727	0731			MJN	CUS3	IF READ ERROR	MSM	2905
2730	5000	7066		LDM	N4SS+5*SDGL+4		MSM	2906
2732	1277			LPN	77		MSM	2907
2733	1076			SHN	-1		MSM	2908
2734	0435			ZJN	CUS5	IF SOFTWARE INTERLOCK NOT SET	MSM	2909
2735	3074		CUSA	LDD	CP		MSM48	41
			*	LDD	CF	(*1RF* CALL)	MSM48	42
2736	1636			ADN	MS2W		MSM	2911
2737	6373	3020		CWM	CUSB,TR	*WAITING FOR INTERLOCK.*	MSM	2912
2741	0200	0535	CUS2	ENDMS			MSM	2913
2743	5000	0255		DELAY			MSM	2914
2747	1400			PAUSE			MSM	2915
2755	3011			LDD	CM+1	CHECK ERROR FLAG	MSM	2916
2756	1146			LMN	ORET		MSM	2917

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2757	0543		NJN	CUS1	IF NOT OPERATOR OVERRIDE	MSM	2918		
2760	3603		AOD	T3		MSM	2919		
2761	1143		LMN	FN+3		MSM	2920		
2762	0403		ZJN	CUS4	IF BOTH CHANNELS TRIED	MSM	2921		
2763	4003		LDI	T3		MSM	2922		
2764	0554		NJN	CUS2	IF ANOTHER CHANNEL PRESENT	MSM	2923		
2765	0200	0535		CUS4	ENDMS	MSM	2924		
2767	0100	1744	LJM	RDAX	EXIT	MSM	2925		
						MSM	2926		
2771	0200	5411		CUS5	RJM	SMI	CALCULATE *DIT* ENTRY ADDRESS	MSM	2927
2773	3401		STD	T1		MSM	2928		
2774	1002		SHN	2		MSM	2929		
2775	2100	7166	ADC	//DISS-5+3		MSM	2930		
2777	3501		RAD	T1		MSM	2931		
3000	4001		LDI	T1	CLEAR DIT INTERLOCK	MSM	2932		
3001	1301		SCN	1		MSM	2933		
3002	4401		STI	T1		MSM	2934		
3003	0200	5030	RJM	CDC	COMPUTE LABEL CHECKSUM	NS2547	3		
3005	5400	7477	STM	CKSS		NS2547	4		
3007	2000	6776	LDC	BFMS+WLSF	REWRITE LABEL	MSM	2935		
3011	0200	0532	RJM	WDS		MSM	2936		
3013	0751		MJN	CUS4	IF WRITE ERROR	MSM	2937		
3014	0200	0535		ENDMS		MSM	2938		
3016	0100	2672	LJM	CUS6	SET DEVICE AVAILABLE	MSM	2939		
						MSM	2940		
3020	2701			CUSB	DATA C*WAITING FOR INTERLOCK.*	MSM	2941		
						MSM	2942		
			**		IEM - ISSUE ERROR LOG MESSAGE.	MSM	2944		
			*			MSM	2945		
			*		ENTRY (T4) = CHANNEL NUMBER.	MSM	2946		
			*		(CN) = FILE TYPE.	MSM	2947		
			*			MSM	2948		
			*		EXIT ERROR COUNT (PMPC) ADVANCED.	MSM	2949		
			*			MSM	2950		
			*		CALLS DFM.	MSM	2951		
			*			MSM	2952		
			*		MACROS ENDMS.	MSM	2953		
						MSM	2954		
3034	0100	3034		IEM	SUBR		ENTRY/EXIT	MSM	2955
3036	3030		LDD	CN		MSM	2956		
3037	1114		LMN	SYFT		MSM	2957		
3040	0473		ZJN	IEMX	IF SYSTEM FILE	MSM	2958		
3041	5600	3701	AOM	PMPC	ADVANCE ERROR COUNT	MSM	2959		
3043	2000	5520	LDC	2R P		MSM	2960		
3045	5400	2334	STM	RDAF		MSM	2961		
3047	0200	0535		ENDMS	RELEASE CHANNEL	MSM	2962		
3051	2004	2326	LDC	ERLN+RDAD-1	ISSUE MESSAGE TO ERROR LOG	MSM	2963		
3053	0200	0423	RJM	DFM		MSM	2964		
			*	LDN	0	MSM	CLEAR END OF CP MESSAGE	2965	
3055	5400	2334	STM	RDAF		MSM	2966		
3057	0354		UJN	IEMX	RETURN	MSM	2967		
						MSM	2968		

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	**								MSM	2970
	*								MSM	2971
	*								MSM	2972
	*								MSM	2973
	*								MSM	2974
	*								MSM	2975
	*								MSM	2976
	*								MSM	2977
	*								MSM	2978
	*								MSM	2979
	*								MSM	2980
	*								MSM48	43
	*								MSM	2982
	*								MSM	2983
	*								MSM	2984
									MSM	2985
14		3060	2000 3145						MSM	2986
15		3062	0200 0423						MSM	2987
16									MSM	2988
17									MSM	2989
18		3064	0100 3064						MSM	2990
19		3066	0200 0535						MSM	2991
20		3070	1466						MSM	2992
21		3071	6010						MSM	2993
22		3072	3005						MSM	2994
23		3073	3411						MSM	2995
24		3074	1441						MSM	2996
25		3077	3014						MSM	2997
26		3100	0457						MSM	2998
27		3101	3406						MSM	2999
28		3102	3417						MSM	3000
29		3103	3427						MSM	3001
30		3104	2000 0500						MSM	3002
31		3106	3403						MSM	3003
32		3107	1400						MSM	3004
33		3110	5403 6777						MSM	3005
34		3112	3703						MSM	3006
35		3113	0573						MSM	3007
36		3114	3436						MSM	3008
37		3115	3055						MSM48	44
38		3116	1006						MSM48	45
39		3117	3137						MSM48	46
40		3120	6371 6776						MSM48	47
41		3122	3077						MSM	3011
42		3123	6370 3140						MSM	3012
43		3125	1701						MSM	3013
44		3126	6170 7000						MSM	3014
45		3130	1400						MSM	3015
46		3132	0200 5567						MSM	3016
47		3134	1401						MSM	3017
48		3135	3435						MSM	3018
49		3136	0100 3064						MSM	3019
50									MSM	3020
51		3140	2125						MSM	3021
52		3141	0525							
53		3142	0523							
54		3143	0001							

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Line	Track	File	Subr	Code	Description	MSM	Track
1	3235	0100 3235	SFT	SUBR	ENTRY/EXIT	MSM	3071
2	3237	1404	LDN	RDATBL-1	SET TABLE LENGTH	MSM	3072
3	3240	3402	STD	T2		MSM	3073
4	3241	5000 7004	LDM	FNSS+4	SET FILE TYPE	MSM	3074
5	3243	1071	SHN	-6		MSM	3075
6	3244	3430	STD	CN		MSM	3076
7	3245	3030	SFT1	LDD	CN	MSM	3077
8	3246	5302 2665	LMM	RDAT,T2	CHECK PRESERVED FILE TYPE	MSM	3078
9	3250	1277	LPN	77		MSM	3079
10	3251	0455	ZJN	SFT2	IF FILE TYPE MATCH	MSM	3080
11	3252	3702	SOD	T2		MSM	3081
12	3253	0671	PJN	SFT1	IF NOT END OF TABLE	MSM	3082
13	3254	1401	LDN	1		NS2788	84
14	3255	0357	UJN	SFTX	RETURN ERROR STATUS	NS2788	85
17			**	SPF	- SEARCH FOR PRESERVED FILE.	MSM	3086
18			*			MSM	3087
19			*	ENTRY	(CN+2) = TRT LENGTH.	MSM	3088
20			*		(CN+3) = CURRENT TRACK - 4000.	MSM	3089
21			*			MSM	3090
22			*	EXIT	(A) = (T6) = (FS+1) = FIRST TRACK OF FILE.	MSM	3091
23			*		= 0 IF END OF TRT (ALL FILES CHECKED).	MSM	3092
24			*		(FS+4) NONZERO.	NS2788	86
25			*			MSM	3093
26			*	USES	T1, T2, CM - CM+4.	MSM	3094
27						MSM	3095
28						MSM	3096
29	3256	0100 3256	SPF	SUBR	ENTRY/EXIT	MSM	3097
30	3260	1401	LDN	1	ENSURE (FS+4) NONZERO	NS2788	87
31	3261	3424	STD	FS+4		NS2788	88
32	3262	3633	AOD	CN+3		MSM	3098
33	3263	1020	SHN	21-1		MSM	3099
34	3264	3402	STD	T2	SET TRT WORD INDEX	MSM	3100
35	3265	3332	LMD	CN+2		MSM	3101
36	3266	0467	ZJN	SPFX	IF END OF TRT	MSM	3102
37	3267	1057	SHN	1-21		MSM	3103
38	3270	3401	STD	T1	SET BYTE INDEX	MSM	3104
39	3271	3002	SPF1	LDD	T2	MSM	3105
40	3272	2100 0000	ADC	0	READ TRT WORD	MSM	3106
41			3273	SPFA	EQU *-1	MSM	3107
42	3274	6010	CRD	CM		MSM	3108
43	3275	3014	LDD	CM+4	CHECK FOR PRESERVED FILES	MSM	3109
44	3276	1067	SHN	-10		MSM	3110
45	3277	5400 3315	STM	SPFB		MSM	3111
46	3301	0511	NJN	SPF5	IF 1 TO 4 PRESERVED FILES THIS WORD	MSM	3112
47	3302	3401	SPF2	STD	T1	MSM	3113
48	3303	3602	AOD	T2	ADVANCE TRT WORD INDEX	MSM	3114
49	3304	3332	LMD	CN+2		MSM	3115
50	3305	0563	NJN	SPF1	IF NOT END OF TRT	MSM	3116
51			*	LDN	0	MSM	3117
52	3306	0347	UJN	SPFX	RETURN	MSM	3118
53						MSM	3119
54	3307	3601	SPF4	AOD	T1	MSM	3120

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3310	1203			LPN	3		MSM	3121
3311	0470			ZJN	SPF2	IF END OF TRT WORD	MSM	3122
3312	5001	3335		LDM	SPFC,T1		MSM	3123
3314	2200	0000		LPC	0	CHECK FIRST TRACK OF PRESERVED FILE	MSM	3124
			3315	SPFB	EQU	*-1	MSM	3125
3316	0470			ZJN	SPF4	IF FILE NOT PRESERVED	MSM	3126
3317	3002			LDD	T2		MSM	3127
3320	1002			SHN	2	CALCULATE TRT POSITION	MSM	3128
3321	3301			LMD	T1		MSM	3129
3322	3433			STD	CN+3		MSM	3130
3323	2300	4000		LMC	4000	SET TRACK NUMBER	MSM	3131
3325	3406			STD	T6		MSM	3132
3326	2300	0000		LMC	**		MSM	3133
			3327	SPFD	EQU	*-1	MSM	3134
3330	0456			ZJN	SPF4	IF *DAT* TRACK	MSM	3135
3331	3006			LDD	T6		MSM	3136
3332	3421			STD	FS+1		MSM	3137
3333	0100	3256		LJM	SPFX	RETURN	MSM	3138
							MSM	3139
3335	0010	0004		SPFC	CON	10,4,2,1	MSM	3140
3337	0002	0001						
				**	TQF	- TERMINATE *IQFT*.	MSM	3142
				*			MSM	3143
				*	ENTRY	(T5) = EST ORDINAL.	MSM	3144
				*		(T4) = CHANNEL.	MSM	3145
				*		(QF) = FIRST TRACK OF *IQFT*.	MSM	3146
				*		(QT) = CURRENT *IQFT* TRACK.	MSM	3147
				*		(QS) = CURRENT *IQFT* SECTOR.	MSM	3148
				*			MSM	3149
				*	EXIT	EOI SECTOR WRITTEN ON *IQFT*.	MSM	3150
				*			MSM	3151
				*	USES	T1, T6, T7, CM - CM+4.	MSM	3152
				*			MSM	3153
				*	CALLS	WEI, WQF.	MSM	3154
				*			MSM	3155
				*	MACROS	MONITOR, SMSTF.	MSM	3156
							MSM	3157
							MSM	3158
3341	3017			TQF2	LDD	QF	MSM	3159
3342	3412			STD	CM+2	RELEASE *IQFT* CHAIN	MSM	3160
3343	3005			LDD	T5		MSM	3161
3344	3411			STD	CM+1		MSM	3162
3345	1433			MONITOR	DTKM		MSM	3163
3350	5600	2522		TQF3	AOM	CQFA	MSM	3164
						RESET QUEUE FILE PROCESSING ENABLED	MSM	3165
3352	0100	3352		TQF	SUBR		MSM	3166
3354	1400			TQFA	LDN	0	MSM	3167
				*	LDN	1	MSM	3168
						(QUEUE FILE PROCESSING INITIATED)	MSM	3169
3355	0472			ZJN	TQF3	IF NO QUEUE FILE PROCESSING	MSM	3170
3356	5700	3354		SOM	TQFA		MSM	3171
3360	5400	2524		STM	CQFC		MSM	3172
3362	3027			LDD	QT		MSM	3173
3363	0455			ZJN	TQF2	IF RELEASING *IQFT*	MSM	3174

3364	0200	3526	RJM	WQF	WRITE LAST *IQFT* SECTOR	MSM	3174
3366	2000	0500	LDC	500		MSM	3175
3370	3401		STD	T1		MSM	3176
3371	1400		LDN	0	CLEAR EOI SECTOR BUFFER	MSM	3177
3372	5401	6275	STM	SBUF+1,T1		NS2788	89
3374	3701		SOD	T1		MSM	3179
3375	0573		NJN	TQF1	LOOP TO START OF BUFFER	MSM	3180
3376	3077		LDD	MA	MOVE FILE NAME TO BUFFER	MSM	3181
3377	6370	3140	CWM	IQFA,ON		MSM	3182
3401	1701		SBN	1		MSM	3183
3402	6170	6276	CRM	SBUF+FNEI,ON		NS2788	90
3404	3005		LDD	T5	SETUP EOI/SYSTEM SECTOR BUFFER	MSM	3185
3405	5400	6303	STM	SBUF+FSEI		NS2788	91
3407	3017		LDD	QF		MSM	3187
3410	5400	6304	STM	SBUF+FTEI		NS2788	92
3412	3027		LDD	QT	SET CURRENT *IQFT* TRACK AND SECTOR	MSM	3189
3413	3406		STD	T6		MSM	3190
3414	3035		LDD	QS		MSM	3191
3415	3407		STD	T7		MSM	3192
3416	0200	5542	RJM	WEI	WRITE EOI SECTOR	MSM	3193
3420	0200	0535	ENDMS			MSM	3194
3422	3005		LDD	T5	SET EOI IN TRT	MSM	3195
3423	3411		STD	CM+1		MSM	3196
3424	3027		LDD	QT		MSM	3197
3425	2200	3777	LPC	3777		MSM	3198
3427	3412		STD	CM+2		MSM	3199
3430	3035		LDD	QS		MSM	3200
3431	3413		STD	CM+3		MSM	3201
3432	1433		MONITOR	DTKM		MSM	3202
3435	1404		LDN	SPFS	SET PRESERVED FILE STATUS ON *IQFT*	MSM	3203
3436	3413		STD	CM+3		MSM	3204
3437	3017		LDD	QF		MSM	3205
3440	3412		STD	CM+2		MSM	3206
3441	3005		LDD	T5		MSM	3207
3442	3411		STD	CM+1		MSM	3208
3443	1443		MONITOR	STBM		MSM	3209
3446	1411		LDN	SIQS	SET *IQFT* INDICATOR IN MST	MSM	3210
3447	3413		STD	CM+3		MSM	3211
3450	3017		LDD	QF		MSM	3212
3451	3412		STD	CM+2		MSM	3213
3452	3005		LDD	T5		MSM	3214
3453	3411		STD	CM+1		MSM	3215
3454	1443		MONITOR	STBM		MSM	3216
3457	1462		SMSTF	LCKP	SET CHECKPOINT REQUEST	MSM	3217
3462	0100	3350	LJM	TQF3	RETURN	MSM	3218

	**			VFR - VERIFY FILE FOR RECOVERY DEADSTART.			NS2788	94
	*						NS2788	95
	*			ENTRY SYSTEM SECTOR IN *BFMS*.			NS2788	96
	*						NS2788	97
	*			EXIT (RDAM) NONZERO IF ERROR IN TRT CHAIN.			NS2788	98
	*						NS2788	99
	*			CALLS PFE, VTC.			NS2788	100
	*						NS2788	101
	*			MACROS ENDMS.			NS2788	102
							NS2788	103
							NS2788	104
1		3464	0100 3464	VFR	SUBR	ENTRY/EXIT	NS2788	105
2		3466	0200 0535		ENDMS		NS2788	106
3		3470	3030		LDD CN		NS2788	107
4		3471	0505		NJN VFR1	IF NOT QUEUED FILE	NS2788	108
5		3472	5000 7166		LDM FLSS		NS2788	109
6		3474	1006		SHN 21-13		NS2788	110
7		3475	0766		MJN VFRX	IF LENGTH ERROR STATUS ALREADY SET	NS2788	111
8		3476	0200 3507	VFR1	RJM VTC	VERIFY TRACK CHAIN	NS2788	112
9		3500	0463		ZJN VFRX	IF NO TRT CHAIN ERROR	NS2788	113
10		3501	0200 4311		RJM PFE	ISSUE FILE ERROR MESSAGE	NS2788	114
11		3503	5600 2120		AOM RDAM	FORCE SETTING OF ERROR IDLE STATUS	NS2788	115
12		3505	0356		UJN VFRX	RETURN	NS2788	116
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25	**			VTC - VERIFY TRACK CHAIN.			MSM	3220
26	*						MSM	3221
27	*			ENTRY (T5) = EST ORDINAL.			MSM	3222
28	*			(T6) = FIRST TRACK OF PRESERVED FILE.			MSM	3223
29	*						MSM	3224
30	*			EXIT (A) = 0 IF TRACK CHAIN GOOD / VALIDATION DISABLED.			MSM	3225
31	*						MSM	3226
32	*			USES CM - CM+4.			MSM	3227
33							MSM	3228
34							MSM	3229
35		3506	0100 3506	VTC	SUBR	ENTRY/EXIT	MSM	3230
36		3510	1400	VTCA	LDN 0		MSM	3231
37		3511	0474		ZJN VTCX	IF MASS STORAGE VALIDATION DISABLED	MSM	3232
38		3512	3005		LDD T5		MSM	3233
39		3513	3411		STD CM+1		MSM	3234
40		3514	3006		LDD T6	SET UP MONITOR CALL	MSM	3235
41		3515	3412		STD CM+2		MSM	3236
42		3516	1402		LDN VTCS	REQUEST TRACK CHAIN VALIDATION	MSM	3237
43		3517	3413		STD CM+3		MSM	3238
44		3520	1444		MONITOR VMSM		MSM	3239
45		3523	3011		LDD CM+1		MSM	3240
46		3524	0361		UJN VTCX	RETURN	MSM	3241
47								
48								
49								
50								
51								
52								
53								
54								
55								
56								
57								
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59								
60								

	**				WQF - WRITE QUEUED FILE SECTOR.		MSM	3243
	*						MSM	3244
	*				WQF WRITES THE SECTOR OF QUEUED FILE ENTRIES.		MSM	3245
	*						MSM	3246
	*				ENTRY (QT) = INACTIVE QUEUES FILE TRACK.		MSM	3247
	*				(QS) = INACTIVE QUEUES FILE SECTOR.		MSM	3248
	*				(QI) = INACTIVE QUEUED FILE INDEX.		MSM	3249
	*						MSM	3250
	*				USES T3, T6, T7, QS, CM - CM+4, CSSA.		MSM	3251
	*						MSM	3252
	*				CALLS DFM, WDS.		MSM48	48
	*						MSM	3254
	*				MACROS ENDMS, MONITOR, SETMS.		MSM	3255
							MSM	3256
							MSM	3257
13		3525	0100 3525	WQF	SUBR	ENTRY/EXIT	MSM	3258
14		3527	3027		LDD QT	SET *IQFT* TRACK	MSM	3259
15		3530	3406		STD T6		MSM	3260
16		3531	3035		LDD QS	SET *IQFT* SECTOR	MSM	3261
17		3532	3407		STD T7		MSM	3262
18		3533	1601		ADN 1	SET SECTOR LINKAGE	MSM	3263
19		3534	5400 6274		STM SBUF		MSM	3264
20		3536	3435		STD QS	SET NEXT *IQFT* SECTOR	MSM	3265
21		3537	5300 0107		LMM SLM		MSM	3266
22		3541	0522		NJN WQF1	IF NOT LAST SECTOR	MSM	3267
23		3542	0200 0535		ENDMS		MSM	3268
24				*	LDN 0		MSM	3269
25		3544	3413		STD CM+3	RESET SECTOR	MSM	3270
26		3545	3414		STD CM+4		MSM	3271
27		3546	3435		STD QS		MSM	3272
28		3547	3005		LDD T5		MSM	3273
29		3550	3411		STD CM+1		MSM	3274
30		3551	3006		LDD T6		MSM	3275
31		3552	3412		STD CM+2		MSM	3276
32		3553	1441		MONITOR RTCM	REQUEST TRACK	MSM	3277
33		3556	3014		LDD CM+4		MSM	3278
34		3557	5400 6274		STM SBUF	DISK LINKAGE	MSM	3279
35		3561	0425		ZJN WQF4	IF TRACK NOT ASSIGNED	MSM	3280
36		3562	3427		STD QT		MSM	3281
37		3563	1400	WQF1	SETMS POSITION		MSM	3282
38		3565	3036		LDD QI	SET WORD COUNT IN LINKAGE	MSM	3283
39		3566	5400 6275		STM SBUF+1		MSM	3284
40		3570	0406		ZJN WQF2	IF EMPTY SECTOR	MSM	3285
41		3571	3055		LDD RA		MSM48	49
42		3572	1006		SHN 6		MSM48	50
43		3573	3137		ADD CR	FWA OF IQFT BUFFER	MSM48	51
44		3574	6136 6276		CRM SBUF+2,QI	READ PRU BACK	MSM	3287
45		3576	2000 6274	WQF2	LDC SBUF+WLSF		MSM	3288
46		3600	0200 0532		RJM WDS	WRITE SECTOR	MSM	3289
47		3602	1400		LDN 0		MSM	3290
48		3603	3436		STD QI	RESET QUEUE INDEX	MSM	3291
49		3604	0100 3525	WQF3	LJM WQFX	RETURN	MSM	3292
50							MSM	3293
51				*	NO SPACE AVAILABLE	LEAVE PRU FOR EOI SECTOR.	MSM	3294
52							MSM	3295
53		3606	5400 2522	WQF4	STM CQFA	DISABLE QUEUE FILE PROCESSING	MSM	3296
54		3610	3007		LDD T7	RESET SECTOR	MSM	3297

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3611	3435		STD	QS		MSM	3298
3612	2000 3145		LDC	IQFB	*EQXXX, TRACK LIMIT ON IQFT.*	MSM	3299
3614	0200 0423		RJM	DFM		MSM	3300
3616	0365		UJN	WQF3	RETURN	MSM	3301
		**		IDM	ISSUE DAYFILE MESSAGES FOR FILES PROCESSED.	MSM	3303
		*		ENTRY	(PMPC) = PRESERVED FILE ERROR COUNT.	MSM	3304
		*			(PMEC) = FILE ERROR COUNT.	MSM	3305
		*			(PMFC) = FILE RECOVERY COUNT.	MSM	3306
		*			(PMRC) = QUEUED FILE RECOVERY COUNT.	MSM	3307
		*			(PMQC) = QUEUED FILE ERROR COUNT.	MSM	3308
		*			(PQIC) = QUEUED FILES IGNORED COUNT.	MSM	3309
		*			(FN - FN+4) = EST ENTRY.	MSM	3310
		*			(T5) = EQUIPMENT.	MSM	3311
		*		EXIT	APPROPRIATE MESSAGES ISSUED TO DAYFILE.	MSM	3312
		*				MSM	3313
		*		USES	T1, T7, CM - CM+4.	MSM	3314
		*				MSM	3315
		*		CALLS	ACS, DFM, IRM.	MSM	3316
		*				MSM	3317
		*				MSM	3318
		*				MSM	3319
3617	0200 3743	IDM3	RJM	IRM	ISSUE RECOVERY MESSAGES	MSM	3320
						MSM	3321
3621	0100 3621	IDM	SUBR		ENTRY/EXIT	MSM	3322
3623	2000 3677		LDC	IDMA-1	SET BIASED MESSAGE ADDRESS	MSM	3323
3625	3407		STD	T7		MSM	3324
		*			ISSUE FILES PROCESSED.	MSM	3325
		*				MSM	3326
3626	3607	IDM1	AOD	T7	ADVANCE ADDRESS	MSM	3327
3627	2300 3706		LMC	IDMB		MSM	3328
3631	0465		ZJN	IDM3	IF END OF MESSAGES	MSM	3329
3632	4007		LDI	T7		MSM	3330
3633	0472		ZJN	IDM1	IF NO COUNT	MSM	3331
3634	1466		LDN	ZERL	CLEAR COUNT	MSM	3332
3635	6010		CRD	CM		MSM	3333
		*			SET COUNT TO COUNT*1000.	MSM	3334
		*				MSM	3335
3636	2000 1750	IDM2	LDC	1000D		MSM	3336
3640	3514		RAD	CM+4		MSM	3337
3641	1063		SHN	-14		MSM	3338
3642	3513		RAD	CM+3		MSM	3339
3643	4707		SOI	T7	DECREMENT COUNT	MSM	3340
3644	0571		NJN	IDM2	IF MORE TO CONVERT	MSM	3341
3645	2000 3721		LDC	IDMD		MSM	3342
3647	3401		STD	T1		MSM	3343
3650	3077		LDD	MA	CONVERT COUNT	MSM	3344
3651	6210		CWD	CM		MSM	3345
3652	1440		MONITOR	RDCM		MSM	3346
3655	4401		STI	T1		MSM	3347
3656	3077		LDD	MA		MSM	3348

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3657	6010		CRD	CM		MSM	3352
3660	3011		LDD	CM+1		MSM	3353
3661	5400	3717	STM	IDMC+3		MSM	3354
3663	3012		LDD	CM+2		MSM	3355
3664	5400	3720	STM	IDMC+4		MSM	3356
3666	5007	0006	LDM	IDMB-IDMA,T7	ADD DESCRIPTION TO MESSAGE	MSM	3357
3670	0200	4767	RJM	ACS		MSM	3358
3672	2000	3714	LDC	IDMC	ISSUE MESSAGE	MSM	3359
3674	0200	0423	RJM	DFM		MSM	3360
3676	0100	3626	LJM	IDM1	LOOP FOR NEXT MESSAGE	MSM	3361
						MSM	3362
						MSM	3363
3700			IDMA	BSS	0	MSM	3364
3700	0000		PMFC	CON	0	MSM	3365
3701	0000		PMPC	CON	0	MSM	3366
3702	0000		PMEC	CON	0	MSM	3367
3703	0000		PMRC	CON	0	MSM	3368
3704	0000		PMQC	CON	0	MSM	3369
3705	0000		PQIC	CON	0	MSM	3370
						MSM	3371
3706	6072		IDMB	CON	=C* DIRECT ACCESS FILES RECOVERED.*	MSM	3372
3707	6113			CON	=C* PRESERVED FILE ERRORS.*	MSM	3373
3710	6130			CON	=C* DIRECT ACCESS FILE ERRORS.*	MSM	3374
3711	6147			CON	=C* QUEUED FILES RECOVERED.*	MSM	3375
3712	6164			CON	=C* QUEUED FILE ERRORS.*	MSM	3376
3713	6177			CON	=C* QUEUED FILES IGNORED.*	MSM	3377
						MSM	3378
3714	0521		IDMC	DATA	H*EQXXX NNNN*	MSM	3379
3721		21	IDMD	BSS	21	MSM	3380
			**	IRM	- ISSUE RECOVERY MESSAGES.	MSM	3382
			*			MSM	3383
			*	ENTRY	(FN - FN+4) = EST ENTRY.	MSM	3384
			*			MSM	3385
			*	EXIT	MESSAGES ISSUED TO ACCOUNTING AND SYSTEM DAYFILES.	MSM	3386
			*		EVENT SET FOR AUXILIARY DEVICE.	MSM	3387
			*			MSM	3388
			*	USES	T1, T3, T4, T6, T7, CM - CM+4, CN - CN+4.	MSM	3389
			*			MSM	3390
			*	CALLS	ACS, C2D, DFM.	MSM	3391
						MSM	3392
						MSM	3393
3742	0100	3742	IRM	SUBR	ENTRY/EXIT	MSM	3394
3744	3044		LDD	FN+4	GET FAMILY/PACKNAME	MSM	3395
3745	1003		SHN	3		MSM	3396
3746	1604		ADN	PFGL		MSM	3397
3747	6010		CRD	CM		MSM	3398
3750	1601		ADN	PUGL-PFGL	READ USER NAME	MSM	3399
3751	6030		CRD	CN		MSM	3400
3752	2000	0521	LDC	2REQ		MSM	3401
3754	5400	4150	STM	IRMB		MSM	3402
3756	2000	4153	LDC	IRMB+3	SET ADDRESS OF ASSEMBLY BUFFER	MSM	3403
3760	3401		STD	T1		MSM	3404
3761	2055	5500	LDC	2L	RESET BUFFER	MSM	3405

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3763	4401		STI	T1		MSM	3406
3764	3014		LDD	CM+4	SAVE SECURITY ACCESS LEVELS	MSM	3407
3765	1071		SHN	-6		MSM	3408
3766	3404		STD	T4		MSM	3409
3767	1400		LDN	0	SET *END OF LINE* IN (CM+4)	MSM	3410
3770	3414		STD	CM+4		MSM	3411
3771	3013		LDD	CM+3	EXTRACT DEVICE NUMBER	MSM	3412
3772	1277		LPN	77		MSM	3413
3773	3407		STD	T7		MSM	3414
3774	3313		LMD	CM+3	CLEAR DEVICE NUMBER	MSM	3415
3775	3413		STD	CM+3		MSM	3416
3776	3112		ADD	CM+2	BUILD PACKNAME HASH	MSM	3417
3777	3111		ADD	CM+1		MSM	3418
4000	3110		ADD	CM		MSM	3419
4001	3434		STD	CN+4	SAVE PACKNAME HASH	MSM	3420
4002	3033		LDD	CN+3	SET END OF USER NAME	MSM	3421
4003	1377		SCN	77		MSM	3422
4004	3433		STD	CN+3		MSM	3423
4005	1410		LDN	CM	ADD FAMILY/PACKNAME TO MESSAGE	MSM	3424
4006	0200	4767	RJM	ACS		MSM	3425
4010	3007		LDD	T7		MSM	3426
4011	0415		ZJN	IRM1	IF AUXILIARY DEVICE	MSM	3427
4012	0200	5061	RJM	C2D	CONVERT DEVICE NUMBER	MSM	3428
4014	3413		STD	CM+3		MSM	3429
4015	2000	6213	LDC	=C*, *	ADD SEPARATOR	MSM	3430
4017	0200	4767	RJM	ACS		MSM	3431
4021	1413		LDN	CM+3	ADD DEVICE NUMBER TO MESSAGE	MSM	3432
4022	0200	4767	RJM	ACS		MSM	3433
4024	2000	2437	LDC	2RPM&2RDR	SET ACCOUNT FILE MESSAGE PREFIX	MSM	3434
4026	2300	2015	IRM1	LMC	2RPM	MSM	3435
4030	5400	4147	STM	IRMA+1		MSM	3436
4032	3001		LDD	T1	SAVE CURRENT END OF ASSEMBLY	MSM	3437
4033	3403		STD	T3		MSM	3438
4034	4001		LDI	T1		MSM	3439
4035	3406		STD	T6		MSM	3440
4036	2000	4176	LDC	IRMD	ADD * RECOVERED.* TO MESSAGE	MSM	3441
4040	0200	4767	RJM	ACS		MSM	3442
4042	2000	4150	LDC	IRMB	ISSUE SYSTEM DAYFILE MESSAGE	MSM	3443
4044	0200	0423	RJM	DFM		MSM	3444
4046	3003		LDD	T3	SET START OF NEW ASSEMBLY	MSM	3445
4047	3401		STD	T1		MSM	3446
4050	3006		LDD	T6		MSM	3447
4051	4401		STI	T1		MSM	3448
4052	2000	5655	LDC	2R,	REPLACE *EQ* WITH *, *	MSM	3449
4054	5400	4150	STM	IRMB		MSM	3450
4056	2000	6213	LDC	=C*, *	INSERT SEPARATOR	MSM	3451
4060	0200	4767	RJM	ACS		MSM	3452
4062	3007		LDD	T7		MSM	3453
4063	0510		NJN	IRM2	IF PERMANENT FILE DEVICE	MSM	3454
4064	1430		LDN	CN	ADD USER NAME TO MESSAGE	MSM	3455
4065	0200	4767	RJM	ACS		MSM	3456
4067	2000	6213	LDC	=C*, *	INSERT SEPARATOR	MSM	3457
4071	0200	4767	RJM	ACS		MSM	3458
4073	3004		IRM2	LDD	T4	MSM	3459
4074	1074		SHN	-3		MSM	3460
4075	1002		SHN	2	CALCULATE INDEX INTO ACCESS TABLE	MSM	3461
4076	2100	5501	ADC	TALV	INSERT LOWER ACCESS LEVEL	MSM	3462

4100	0200	4767		RJM	ACS		MSM	3463
4102	2000	6213		LDC	=C*, *	INSERT SEPARATOR	MSM	3464
4104	0200	4767		RJM	ACS		MSM	3465
4106	3004			LDD	T4	GET UPPER ACCESS LEVEL	MSM	3466
4107	1207			LPN	7		MSM	3467
4110	1002			SHN	2	CALCULATE INDEX INTO ACCESS TABLE	MSM	3468
4111	2100	5501		ADC	TALV	INSERT UPPER ACCESS LEVEL	MSM	3469
4113	0200	4767		RJM	ACS		MSM	3470
4115	2000	4203		LDC	IRME	ADD *.* TO END OF MESSAGE	MSM	3471
4117	0200	4767		RJM	ACS		MSM	3472
4121	2005	4146		LDC	IRMA+ACFN	ISSUE ACCOUNT FILE MESSAGE	MSM	3473
4123	0200	0423		RJM	DFM		MSM	3474
4125	1445			LDK	SSTL		MSM	3475
4126	6010			CRD	CM		MSM	3476
4127	3011			LDD	CM+1		MSM	3477
4130	1014			SHN	21-5		MSM	3478
4131	0613			PJN	IRM3	IF DISK VALIDATION IS ENABLED	MSM	3479
4132	3007			LDD	T7		MSM	3480
4133	0511			NJN	IRM3	IF NOT AUXILIARY DEVICE	MSM	3481
4134	3411			STD	CM+1	SET EVENT	MSM	3482
4135	1403			LDN	VSNE/10000		MSM	3483
4136	3413			STD	CM+3		MSM	3484
4137	3034			LDD	CN+4	READ PACKNAME HASH	MSM	3485
4140	3414			STD	CM+4		MSM	3486
4141	1462			MONITOR	EATM		MSM	3487
4144	0100	3742	IRM3	LJM	IRMX	RETURN	MSM	3488
							MSM	3489
							MSM	3490
4146	0104		IRMA	DATA	4HADDR		MSM	3491
4150	0521		IRMB	DATA	H*EQXXX, *		MSM	3492
4154		22	IRMC	BSS	22		MSM	3493
							MSM	3494
4176	5522		IRMD	DATA	10H RECOVERED		MSM	3495
4203	5700		IRME	DATA	C*.*		MSM	3496
			**		LSN - LIST PACK SERIAL NUMBERS.		284L847	4
			*				284L847	5
			*	ENTRY	(EQ) = EST ORDINAL.		284L847	6
			*		(FN - FN+4) = EST ENTRY FOR EQUIPMENT.		284L847	7
			*				284L847	8
			*	EXIT	PACK SERIAL NUMBER IDENTIFICATION MESSAGES ISSUED TO		284L847	9
			*		THE ERROR LOG FOR ALL UNITS OF THE EQUIPMENT.		284L847	10
			*				284L847	11
			*	USES	CM+1, T1, T2, CN - CN+4, FS+1 - FS+3.		284L847	12
			*				284L847	13
			*	CALLS	DFM, SDR, *0PI*.		284L847	14
			*				284L847	15
			*	MACROS	EXECUTE.		284L847	16
							284L847	17
							284L847	18
4205	1403		LSN4	LDN	TLSNL-1	CHECK DEVICE TYPE FOR NON-*LDAM* DEVICE	284L847	19
4206	3401			STD	T1		284L847	20
4207	3043		LSN5	LDD	FN+3		284L847	21
4210	5301	4304		LMM	TLSN,T1		284L847	22

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4212	0406		ZJN	LSNX	IF DEVICE TYPE MATCHES	284L847	23
4213	3701		SOD	T1		284L847	24
4214	0672		PJN	LSN5	IF MORE DEVICE TYPES TO CHECK	284L847	25
4215	1417		LDN	LDIF		284L847	26
4216	0200 5167	LSN6	RJM	/RDA/SDR	SET BUFFERED DEVICE REQUEST	284L847	27
						284L847	28
4220	0100 4220	LSN	SUBR		ENTRY/EXIT	284L847	29
4222	3044		LDD	FN+4		284L847	30
4223	1003		SHN	3		284L847	31
4224	1616		ADN	DDLL	GET LOGICAL UNIT COUNT	284L847	32
4225	6030		CRD	CN		284L847	33
4226	3030		LDD	CN	EXTRACT UNIT COUNT	284L847	34
4227	1207		LPN	7		284L847	35
4230	3430		STD	CN		284L847	36
4231	3402		STD	T2		284L847	37
4232	3040		LDD	FN		284L847	38
4233	1012		SHN	21-7		284L847	39
4234	0650		PJN	LSN4	IF NOT *LDAM* DEVICE	284L847	40
4235	3041		LDD	FN+1		284L847	41
4236	1014		SHN	21-5		284L847	42
4237	0755		MJN	LSN6	IF CONCURRENT CHANNEL	284L847	43
4240	3005		LDD	T5		284L847	44
4241	5400 6274		STM	/RDA/SBUF		284L847	45
4243	2000 6275		EXECUTE	OPI,/RDA/SBUF+1		284L847	46
4252	3423		STD	FS+3	SAVE MAIN PROCESSOR ADDRESS	284L847	47
4253	1400		LDN	0	SET TO FIRST LOGICAL UNIT	284L847	48
4254	3421		STD	FS+1		284L847	49
4255	3021	LSN1	LDD	FS+1	GET MESSAGE FOR A LOGICAL UNIT	284L847	50
4256	0223 0000		RJM	0,FS+3		284L847	51
4260	0417		ZJN	LSN2	IF MASS STORAGE ERROR	284L847	52
4261	3422		STD	FS+2	SAVE MESSAGE TABLE ADDRESS	284L847	53
4262	1063		SHN	-14	SET BML MESSAGE LENGTH	284L847	54
4263	3411		STD	CM+1		284L847	55
4264	2016 0000		LDC	BMLN		284L847	56
4266	5122 0001		ADM	1,FS+2	ADD BML MESSAGE ADDRESS	284L847	57
4270	0200 0423		RJM	DFM		284L847	58
4272	4022		LDI	FS+2	GET ERROR LOG MESSAGE ADDRESS	284L847	59
4273	2304 0000		LMC	ERLN	SEND MESSAGE TO ERROR LOG	284L847	60
4275	0200 0423		RJM	DFM		284L847	61
4277	3621	LSN2	AOD	FS+1	ADVANCE LOGICAL UNIT	284L847	62
4300	3730		SOD	CN	DECREMENT LOGICAL UNIT COUNT	284L847	63
4301	0653		PJN	LSN1	IF MORE LOGICAL UNITS	284L847	64
4302	0100 4220		LJM	LSNX	EXIT	284L847	65
						284L847	66
						284L847	67
4304		TLSN	BSS	0	NON-*LDAM* DEVICES WITH NO PSN-S TO LIST	284L847	68
4304	0405		CON	2RDE	EXTENDED MEMORY	284L847	69
4305	0420		CON	2RDP	EXTENDED MEMORY/STORNET	284L847	70
4306	0426		CON	2RDV	819	284L847	71
4307	0427		CON	2RDW	819	284L847	72
						284L847	73
	4	TLSNL	EQU	*-TLSN	LENGTH OF TABLE	284L847	74

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	**				PFE - PERMANENT FILE ERROR.		MSM	3498
	*						MSM	3499
	*				ENTRY (CN) = FILE TYPE.		NS2788	120
	*				(BFMS) LOADED WITH SYSTEM SECTOR.		MSM	3502
	*						MSM	3503
	*				EXIT ERROR MESSAGE ISSUED TO ERROR LOG AND SYSTEM DAYFILE.		NS2788	121
	*				APPROPRIATE ERROR COUNT INCREMENTED.		NS2788	122
	*						MSM	3505
	*				USES T1 - T3, CM - CM+4.		NS2788	123
	*						MSM	3507
	*				CALLS ACS, C2D, DFM.		MSM	3508
	*						MSM	3509
	*				MACROS ENDMS.		MSM	3510
							MSM	3511
							MSM	3512
13		4310	0100 4310		PFE SUBR ENTRY/EXIT		MSM	3513
14		4312	0200 0535		ENDMS		MSM	3515
15		4314	3030		LDD CN		MSM	3516
16		4315	0506		NJN PFE1 IF NOT QUEUE FILE		MSM	3517
17		4316	5600 3704		AOM PMQC ADVANCE QUEUED FILE ERROR COUNT		MSM46	9
18		4320	2000 2106		LDC 2RQF		MSM46	10
19		4322	0305		UJN PFE1.1 SET MESSAGE PREFIX		MSM46	11
20							MSM46	12
21		4323	1110		PFE1 LMN LIFT		MSM46	13
22		4324	0521		NJN PFE1.2 IF NOT A LIBRARY FILE		MSM46	14
23		4325	2000 1411		LDC 2RLI		MSM46	15
24		4327	5400 4473		PFE1.1 STM PFEA SET MESSAGE PREFIX		MSM46	16
25							MSM	3518
26				*	BLANK USER INDEX FOR QUEUED FILE OR LIBRARY FILE.		MSM46	17
27							MSM	3520
28		4331	2000 5555		LDC 2R BLANK USER INDEX		MSM	3521
29		4333	5400 4503		STM PFEB		MSM	3522
30		4335	5400 4504		STM PFEB+1		MSM	3523
31		4337	5400 4505		STM PFEB+2		MSM	3524
32		4341	3077		LDD MA		MSM	3528
33		4342	6370 7000		CWM FNSS,ON		MSM	3529
34		4344	0335		UJN PFE2 MOVE FILE NAME TO MESSAGE		MSM	3530
35							MSM	3531
36				*	PROCESS PERMANENT FILE ERROR.		MSM	3532
37							MSM	3533
38		4345	5600 3702		PFE1.2 AOM PMEC ADVANCE ERROR COUNT		MSM46	18
39		4347	5000 7053		LDM CTSS+FCUI FIRST 2 DIGITS		MSM	3537
40		4351	0200 5061		RJM C2D		MSM	3538
41		4353	5400 4503		STM PFEB		MSM	3539
42		4355	5000 7054		LDM CTSS+FCUI+1 SECOND 2 DIGITS		MSM	3540
43		4357	1071		SHN -6		MSM	3541
44		4360	0200 5061		RJM C2D		MSM	3542
45		4362	5400 4504		STM PFEB+1		MSM	3543
46		4364	5000 7054		LDM CTSS+FCUI+1 LAST 2 DIGITS		MSM	3544
47		4366	0200 5061		RJM C2D		MSM	3545
48		4370	5400 4505		STM PFEB+2		MSM	3546
49		4372	2000 2006		LDC 2RPF SET FILE TYPE		MSM	3547
50		4374	5400 4473		STM PFEA		MSM	3548
51		4376	3077		LDD MA MOVE FILE NAME TO MESSAGE		MSM	3549
52		4377	6370 7050		CWM CTSS+FCFN,ON		MSM	3550
53		4401	1701		PFE2 SBN 1		MSM	3551
54		4402	6170 4507		CRM PFEC,ON		MSM	3552



4404	5000	4512	LDM	PFEC+3	CLEAR 8TH CHARACTER	MSM	3553	
4406	1377		SCN	77		MSM	3554	
4407	5400	4512	STM	PFEC+3		MSM	3555	
4411	2000	3717	LDC	IDMC+3	SET MESSAGE ADDRESSES	MSM	3556	
4413	3401		STD	T1		MSM	3557	
4414	2000	4521	LDC	PFED+5		MSM	3558	
4416	3403		STD	T3		MSM	3559	
4417	1407		LDN	T7	SET SECTOR ADDRESS	MSM	3560	
4420	3402		STD	T2		MSM	3561	
4421	4002		LDI	T2	CONVERT DISK ADDRESS OF ERROR	MSM	3562	
4422	0200	5061	RJM	C2D		MSM	3563	
4424	4403		STI	T3	STORE IN MESSAGE	MSM	3564	
4425	3703		SOD	T3		MSM	3565	
4426	4002		LDI	T2	CONVERT UPPER HALF OF SECTOR/TRACK	MSM	3566	
4427	1071		SHN	-6		MSM	3567	
4430	0200	5061	RJM	C2D		MSM	3568	
4432	4403		STI	T3	STORE IN MESSAGE	MSM	3569	
4433	1502		LCN	2	DECREMENT MESSAGE ADDRESS	MSM	3570	
4434	3503		RAD	T3		MSM	3571	
4435	3702		SOD	T2	DECREMENT PARAMETER ADDRESS	MSM	3572	
4436	1105		LMN	T6-1		MSM	3573	
4437	0561		NJN	PFEC3	IF TRACK NOT CONVERTED	MSM	3574	
4440	5400	4513	STM	PFEC+4	SET END OF MESSAGE I	MSM	3575	
4442	4401		STI	T1		MSM	3576	
4443	2000	2331	LDC	RDAD+2	ASSEMBLE FIRST PART OF MESSAGE II	MSM	3577	
4445	0200	4767	RJM	ACS		MSM	3578	
4447	3603		AOD	T3	ASSEMBLE END OF MESSAGE II	MSM	3579	
4450	0200	4767	RJM	ACS		MSM	3580	
4452	2004	4470	LDC	PFEE+ERLN	ISSUE TO ERROR LOG	NS2788	124	
4454	0200	0423	RJM	DFM		MSM	3582	
4456	2004	3714	LDC	IDMC+ERLN		MSM	3583	
4460	0200	0423	RJM	DFM		MSM	3584	
4462	2001	4470	LDC	PFEE+NMSN	ISSUE TO SYSTEM	NS2788	125	
4464	0200	0423	RJM	DFM		MSM	3586	
4466	0100	4310	LJM	PFEX	RETURN	NS2788	126	
						MSM	3613	
4470	0521		PFEE	DATA	H*EQXXX *	NS2788	127	
4473	2006		PFEA	DATA	H*PF LENGTH ERROR *	MSM	3631	
4503	2511		PFEB	DATA	H*UINDEX *	MSM	3632	
4507	0611		PFEC	DATA	H*FILENAME *	MSM	3633	
4514	5524		PFED	DATA	C* TTTT SSSS LINKAGE ERROR.*	MSM	3635	
			**		CTU - CLEAR TOTAL USER COUNTS.	MSM	3637	
			*			MSM	3638	
			*	ENTRY	(CN) = FILE TYPE.	MSM	3639	
			*		(FS+1) = FIRST TRACK OF FILE.	MSM	3640	
			*		(CN+1) = SYSTEM SECTOR REWRITE FLAG.	MSM	3641	
			*			MSM	3642	
			*	USES	T1.	NS2669	6	
			*			MSM	3644	
			*	CALLS	WSR.	NS2669	7	
						MSM	3648	
						MSM	3649	
4533	5600	3700	CTU2	AOM	PMFC	ADVANCE DAF RECOVERY COUNT	MSM	3650

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Address	Offset	Label	CTU	Subr	Code	Comment	MSM	Value	
4535	0100	4535					MSM	3651	
4537	3031			LDD	CN+1		MSM	3652	
4540	0472			ZJN	CTU2	IF NO SYSTEM SECTOR REWRITE	MSM	3653	
4541	3030			LDD	CN		MSM	3654	
4542	1110			LMN	LIFT		MSM	3655	
4543	0467			ZJN	CTU2	IF LIBRARY FILE	MSM	3656	
4544	2000	0125		LDC	5*MMPF+5		MSM	3657	
4546	3401			STD	T1		MSM	3658	
4547	1400		CTU1	LDN	0	CLEAR USER COUNT FIELDS	MSM	3659	
4550	5401	7174		STM	UCSS-1,T1		MSM	3660	
4552	3701			SOD	T1		MSM	3661	
4553	0573			NJN	CTU1		MSM	3662	
4554	5400	7170		STM	CASS	CLEAR CURRENT ACCESS MODE	MSM	3663	
4556	5400	7171		STM	FISS	CLEAR FAST ATTACH FLAGS	MSM	3664	
4560	3021			LDD	FS+1	RESET FIRST TRACK	MSM	3665	
4561	0200	4731		RJM	WSR	WRITE SYSTEM SECTOR WITH REWRITE	NS2669	8	
4563	0347			UJN	CTU2	ADVANCE DAF RECOVERY COUNT	MSM	3666	
** GDE - GET DAT ENTRY.								MSM	3672
* ENTRY (FN - FN+4) = EST ENTRY FOR DEVICE.								MSM	3673
* (T3) = 0 IF DEVICE NOT BEING INITIALIZED.								MSM	3674
* (T7) = BYTE 0 OF MDGL WORD.								MSM	3675
* (CN - CN+4) = TDGL WORD OF MST.								MSM	3676
* EXIT (DATB) = SECOND WORD OF DAT ENTRY.								MSM	3677
* USES T1, T2, CM - CM+4.								MSM	3678
* CALLS CPS, CUS, IRM, WDE.								MSM	3679
* MACROS MMTE, MONITOR, UJMF.								MSM	3680
* GDE3 LDD CN+2 SET *DIT* OFFSET								MSM	3681
4564	3032		GDE3	LDD	CN+2		MSM	3682	
4565	1701			SBN	10-7		MSM	3683	
4566	1074			SHN	-3		MSM	3684	
4567	3132			ADD	CN+2		MSM	3685	
4570	3402			STD	T2		MSM	3686	
4571	1400			LDN	0		MSM	3687	
4572	3401			STD	T1		MSM	3688	
4573	3601		GDE4	AOD	T1		MSM	3689	
4574	1120			LMN	MISD		MSM	3690	
4575	0415			ZJN	GDEX	IF ALL ENTRIES CHECKED	MSM	3691	
4576	3001			LDD	T1		MSM	3692	
4577	2100	0000		ADC	0	READ *DIT* ENTRY	MSM	3693	
4600 GDEC EQU *-1								MSM	3694
4601	3102			ADD	T2		MSM	3695	
4602	6010			CRD	CM		MSM	3696	
4603	3014			LDD	CM+4		MSM	3697	
4604	0466			ZJN	GDE4	IF ENTRY NOT USED	MSM	3698	
4605	2300	4605		LMC	*		MSM	3699	
4606 GDED EQU *-1								MSM	3700

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4607	0463		ZJN	GDE4	IF THIS MACHINE	MSM	3707
4610	0100 4662		LJM	GDE1	ISSUE RECOVERY MESSAGES	MSM	3708
						MSM	3709
4612	0100 4612		GDE	SUBR	ENTRY/EXIT	MSM	3710
4614	3040		LDD	FN		MSM	3711
4615	1015		SHN	21-4		MSM	3712
4616	0745		MJN	GDE3	IF INDEPENDENT SHARED DEVICE	MSM	3713
4617	0372		UJMF	GDEX		MSM	3714
4620	1400		LDN	1-1	WORD COUNT FOR *ECSM* REQUEST	MSM	3715
4621	3411		STD	CM+1		MSM	3716
4622	3007		LDD	T7	SET *DAT* ORDINAL FROM INDEX	MSM	3717
4623	2200 0377		LPC	377		MSM	3718
4625	1001		SHN	1		MSM	3719
4626	2100 0001		ADC	1	ADD DAT TRACK ADDRESS	MSM	3720
		4627	GDEA	EQU	*-1	MSM	3721
4630	3414		STD	CM+4		MSM	3722
4631	5400 4710		STM	WDEA		MSM	3723
4633	1063		SHN	-14		MSM	3724
4634	2100 2000		ADC	RECS*1000		MSM	3725
		4635	GDEB	EQU	*-1	MSM	3726
4636	3413		STD	CM+3		MSM	3727
4637	5400 4713		STM	WDEB		MSM	3728
4641	3077		LDD	MA	CM ADDRESS = PP MESSAGE BUFFER	MSM	3729
4642	3412		STD	CM+2		MSM	3730
4643	1434		MONITOR	ECSM		MSM	3731
4646	3077		LDD	MA	READ *DAT* ENTRY TO PP BUFFER	MSM	3732
4647	6170 1735		CRM	DATB,ON		MSM	3733
4651	3003		LDD	T3		MSM	3734
4652	0516		NJN	GDE2	IF DEVICE BEING INITIALIZED	MSM	3735
4653	5000 1741		LDM	DATB+4	CHECK DEVICE STATUS	MSM	3736
4655	2277 7777		LPC	-0		MSM	3737
			MMTE	*-1		MSM	3738
4657	0503		NJN	GDE1	IF RECOVERY COMPLETE	MSM	3739
4660	0100 4612		LJM	GDEX	RETURN	MSM	3740
						MSM	3741
4662	0200 3743		GDE1	RJM	IRM	MSM	3742
4664	0200 2447		RJM	CPS	CHECK PFC SIZE	MSM	3743
4666	0200 2701		RJM	CUS		MSM	3744
4670	0200 4675		GDE2	RJM	WDE	MSM	3745
4672	0100 1744		LJM	RDAX	EXIT OVERLAY	MSM	3746
			**	WDE	- WRITE DAT ENTRY TO EXTENDED MEMORY.	MSM	3748
			*			MSM	3749
			*	ENTRY	*DATI* INTERLOCK SET.	MSM	3750
			*		DAT ENTRY IN DATB.	MSM	3751
						MSM	3752
						MSM	3753
4674	0100 4674		WDE	SUBR	ENTRY/EXIT	MSM	3754
4676	0375		UJMF	WDEX		MSM	3755
4677	5000 1741		LDM	DATB+4	SET MACHINE ACCESS	MSM	3756
4701	2277 7777		LPC	-0		MSM	3757
			MMTE	*-1		MSM	3758
4703	2300 0000		LMC	0		MSM	3759
			MMTE	*-1		MSM	3760

4705	5400	1741		STM	DATB+4		MSM	3761
4707	2000	0000		LDC	**	SET DAT ADDRESS	MSM	3762
			4710	WDEA	EQU	*-1	MSM	3763
4711	3414			STD	CM+4		MSM	3764
4712	2000	0000		LDC	**		MSM	3765
			4713	WDEB	EQU	*-1	MSM	3766
4714	3172			ADD	TH		MSM	3767
			0	ERRNZ	RECS+1-WECS	ADJUST IF *RECS/WECS* VALUES CHANGE	MSM	3768
4715	3413			STD	CM+3		MSM	3769
4716	3077			LDD	MA	SET CM ADDRESS OF ENTRY	MSM	3770
4717	3412			STD	CM+2		MSM	3771
4720	6370	1735		CWM	DATB,ON		MSM	3772
4722	1400			LDN	1-1	WORD COUNT FOR TRANSFER	MSM	3773
				*	SHN	6	MSM	3774
4723	3411			STD	CM+1		MSM	3775
4724	1434			MONITOR	ECSM		MSM	3776
4727	0344			UJN	WDEX	RETURN	MSM	3777
				**	WSR	WRITE SYSTEM SECTOR WITH REWRITE.	NS2669	10
				*			NS2669	11
				*	ENTRY	(A) = FIRST TRACK OF FILE.	NS2669	12
				*		(T5) = EST ORDINAL.	NS2669	13
				*		*SETMS IO* PERFORMED.	NS2669	14
				*			NS2669	15
				*	EXIT	(T6) = FIRST TRACK OF FILE.	NS2669	16
				*			NS2669	17
				*	USES	T6.	NS2669	18
				*			NS2669	19
				*	CALLS	WSS.	NS2669	20
				*			NS2669	21
				*	MACROS	SETMS.	NS2669	22
							NS2669	23
4730	0100	4730		WSR	SUBR	ENTRY/EXIT	NS2669	24
4732	3406			STD	T6		NS2669	25
4733	1400			SETMS	POSITION		NS2669	26
4735	5000	0106		LDM	UERR	SAVE ERROR PROCESSING OPTIONS	NS2669	27
4737	5400	4747		STM	WSRA+1		NS2669	28
4741	3371			LMD	HN	SET REWRITE MODE	NS2669	29
			0	ERRNZ	EPRW-100	CODE DEPENDS ON VALUE	NS2669	30
4742	5400	0106		STM	UERR		NS2669	31
				SETMS	=,IO,RW		NS2669	32
4744	0200	5567		RJM	WSS	REWRITE SYSTEM SECTOR	NS2669	33
4746	2000	0000		WSRA	LDC	0	NS2669	34
4750	5400	0106		STM	UERR		NS2669	35
				SETMS	=,IO		NS2669	36
4752	0355			UJN	WSRX	RETURN	NS2669	37

\*\* COMMON DECKS.

MSM 3779  
MSM 3780  
MSM 3781

1	4753			CTEXT	COMPACS	- ASSEMBLE CHARACTER STRING.	COMPACS	1	1
2	5011			CTEXT	COMPCLC	- CALCULATE DEVICE LABEL CHECKSUM.	COMPCLC	1	2
3	5060			CTEXT	COMP2D	- CONVERT 2 OCTAL DIGITS TO DISPLAY CODE.	COMP2D	1	3
4	5072			CTEXT	COMPDA	- SET DEVICE AVAILABLE.	COMPDA	1	4
5	5125			CTEXT	COMPDR	- SET BUFFERED DISK REQUESTS.	COMPDR	1	5
6	5252			CTEXT	COMPSS	- READ SYSTEM SECTOR.	COMPSS	1	6
7	5332			CTEXT	COMPSEI	- SEARCH FOR END OF INFORMATION.	COMPSEI	1	7
8	5375			CTEXT	COMPSES	- SET ERROR STATUS IN LOCAL MST (STLL).	COMPSES	1	8
9	5410			CTEXT	COMPSSI	- SET MACHINE INDEX.	COMPSSI	1	9
10	5426			CTEXT	COMPST	- SET NEXT TRACK.	COMPST	1	10
11	5443			CTEXT	COMPTLB	- SET/CLEAR LOCAL MST FLAG (STLL).	COMPTLB	1	11
12	5462			CTEXT	COMPTGB	- SET/CLEAR GLOBAL MST FLAG (ACGL).	COMPTGB	1	12
13		1	VAL\$	SET	1		NS2788	133	13
14	5501			CTEXT	COMPVLC	- VALIDATE ACCESS LEVEL OR CATEGORY STRING.	COMPVLC	1	14
15		6274	WEIA	EQU	SBUF	USE *SBUF* FOR EOI BUFFER	NS2788	135	15
16	5541			CTEXT	COMPWEI	- WRITE EOI SECTOR.	COMPWEI	1	16
17	5566			CTEXT	COMPWSS	- WRITE SYSTEM SECTOR.	COMPWSS	1	17
18				LIST	X		NS2788	138	18
19									19
20									20
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5644	2300	4000	LMC	4000		COMPVEI	43
5646	3411		STD	CM+1		COMPVEI	44
5647	1433		MONITOR	DTKM		COMPVEI	45
5652	0356		UJN	CLFX	RETURN	COMPVEI	46
			**		RDC - READ DISK CHAIN.	COMPVEI	48
			*			COMPVEI	49
			*	ENTRY	(A) .GE. 0 IF EOI PARAMETERS SET.	COMPVEI	50
			*		(T5) = EST ORDINAL.	NS22000	2
			*		(FS+1) = FIRST TRACK OF PRESERVED FILE.	COMPVEI	52
			*		(FS+4) NONZERO.	NS2788	1
			*		(RDCA) = ADDRESS AT WHICH TO WRITE THE STATUS MESSAGE.	NS2478	2
			*		*SETMS IO* PERFORMED.	NS2669	1
			*			COMPVEI	53
			*	EXIT	(A) = 0 IF EOI ON DISK MATCHES EOI IN TRT.	COMPVEI	54
			*		(A) .NE. 0 IF LENGTH/LINKAGE/DISK ERROR.	NS2788	2
			*		(T6) = EOI TRACK.	COMPVEI	57
			*		(T7) = EOI SECTOR.	COMPVEI	58
			*		(FS+4) = 0, IF EOI SECTOR MUST BE REWRITTEN.	NS2788	3
			*			COMPVEI	60
			*	USES	NT, FS+2 - FS+4, T2 - T7.	NS2788	4
			*			COMPVEI	62
			*	CALLS	C2D, RDS, SEI, VSL.	NS2478	3
			*			COMPVEI	64
			*	MACROS	SETMS.	COMPVEI	65
						COMPVEI	66
						COMPVEI	67
5653	0100	5653	RDC	SUBR	ENTRY/EXIT	COMPVEI	68
5655	0610			PJN	RDC1	COMPVEI	69
			*	LDN	(NONZERO) (DO NOT FORCE CURRENT TRT)	NS2669	2
5656	0200	5333		RJM	SEI	COMPVEI	70
5660	3420			STD	NT	COMPVEI	71
5661	3006			LDD	T6	COMPVEI	72
5662	3422			STD	FS+2	COMPVEI	73
5663	3007			LDD	T7	COMPVEI	74
5664	3423			STD	FS+3	COMPVEI	75
5665	1400		RDC1	SETMS	POSITION	NS2669	3
5667	3072			LDD	TH	NS2669	4
5670	5500	0111		RAM	CHRV	NS2669	5
				SETMS	=, READSTR	NS2669	6
5672	2000	6274		LDC	SBUF	PVEI2	2
5674	3403			STD	T3	COMPVEI	78
5675	1401			LDN	FSMS	COMPVEI	79
5676	3407			STD	T7	COMPVEI	80
5677	5400	5730		STM	RDCC	NS2788	5
5701	3021			LDD	FS+1	COMPVEI	81
5702	5400	5733		STM	RDCD	NS2788	6
5704	3406		RDC2	STD	T6	COMPVEI	82
5705	1071			SHN	-6	NS2478	4
5706	0200	5061		RJM	C2D	NS2478	5
5710	5400	6002		STM	RDCB+1	NS2478	6
5712	3006			LDD	T6	NS2478	7
5713	0200	5061		RJM	C2D	NS2478	8
5715	5400	6003		STM	RDCB+2	NS2478	9

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1



5717	2000 0231			LDC	DSCP*CPAS+MS1W	STORE STATUS MESSAGE	NS2478	10
		5720		RDCA	EQU	*-1	NS2478	11
5721	6370 6001			CWM	RDCB,ON		NS2478	12
5723	3003			RDC3	LDD	T3	COMPVEI	83
5724	0200 0530			RJM	RDS		COMPVEI	84
5726	0610			PJN	RDC3.1	IF NO ERROR	NS2788	7
5727	2000 0000			LDC	**	(LAST SECTOR BEFORE ERROR)	NS2788	8
		5730		RDCC	EQU	*-1	NS2788	9
5731	3407			STD	T7		NS2788	10
5732	2000 0000			LDC	**	(LAST TRACK BEFORE ERROR)	NS2788	11
		5733		RDCD	EQU	*-1	NS2788	12
5734	3406			STD	T6		NS2788	13
5735	0323			UJN	RDC4.1	SET REWRITE OF EOI SECTOR	NS2788	14
							NS2788	15
5736	3007			RDC3.1	LDD	T7	NS2788	16
5737	5400 5730			STM	RDCC		NS2788	17
5741	3006			LDD	T6		NS2788	18
5742	5400 5733			STM	RDCD		NS2788	19
5744	4003			LDI	T3	CHECK LINKAGE	COMPVEI	86
5745	0505			NJN	RDC4	IF NOT EOF/EOI SECTOR	NS2788	20
5746	5103 0001			ADM	1,T3		COMPVEI	88
5750	0414			ZJN	RDC5	IF EOI SECTOR	COMPVEI	89
5751	4403			STI	T3	SAVE LINKAGE BYTE FOR EOF SECTOR	NS2788	21
5752	0200 6051			RDC4	RJM	VSL	COMPVEI	91
5754	0446			ZJN	RDC3	IF NORMAL SECTOR LINKAGE	COMPVEI	92
5755	0703			PJP	RDC2	IF CROSSING TRACK BOUNDARY	NS2788	22
5760	1400			RDC4.1	LDN	0	NS2788	23
5761	3424			STD	FS+4		COMPVEI	95
5762	1401			LDN	1		NS2788	24
5763	0306			UJN	RDC6	RETURN ERROR STATUS	NS2788	25
							NS2788	26
5764	3006			RDC5	LDD	T6	COMPVEI	96
5765	3322			LMD	FS+2	COMPARE EOI ON DISK WITH TRT EOI	COMPVEI	97
5766	0503			NJN	RDC6	IF NOT SAME TRACK	COMPVEI	98
5767	3007			LDD	T7		COMPVEI	99
5770	3323			LMD	FS+3		COMPVEI	100
5771	3402			RDC6	STD	T2	NS2669	7
5772	2077 6777			LDC	-1000	CLEAR *READSTR* STATUS	NS2669	10
5774	5500 0111			RAM	CHRV		NS2669	11
				SETMS	=,IO		NS2669	12
5776	3002			LDD	T2	RETURN STATUS	NS2788	27
5777	0100 5653			LJM	RDCX	RETURN	NS2669	16
							NS2478	14
6001	5524			RDCB	DATA	C* T0000.*	NS2478	15
							NS2478	16

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```
**      VFL - VERIFY FILE LENGTH.                COMPVEI  103
*      NS2669  17
*      ENTRY (T5) = EST ORDINAL.                 NS2669  18
*      *SETMS IO* PERFORMED.                    NS2669  19
*      COMPVEI  104
*      EXIT (A) = 0 IF NO LENGTH ERRORS.         COMPVEI  105
*      (A) .LT. 0 IF READ ERROR.                COMPVEI  106
*      (NT) = NUMBER OF TRACKS TO EOI.         COMPVEI  107
*      (FS+2) = EOI TRACK.                      COMPVEI  108
*      (FS+3) = EOI SECTOR.                    COMPVEI  109
*      COMPVEI  110
*      CALLS RDS, SEI.                          COMPVEI  111
*      COMPVEI  112
*      MACROS ENDMS, SETMS.                    COMPVEI  113
*      COMPVEI  114
```

```
14      6006      0100 6006      VFL      SUBR      ENTRY EXIT      COMPVEI  115
15      6010      0200 5333      RJM      SEI      COMPVEI  116
16      6012      3420      STD      NT      SET NUMBER OF TRACKS      COMPVEI  117
17      6013      3006      LDD      T6      SAVE EOI TRACK      COMPVEI  118
18      6014      3422      STD      FS+2      COMPVEI  119
19      6015      3007      LDD      T7      SAVE EOI SECTOR      COMPVEI  120
20      6016      3423      STD      FS+3      COMPVEI  121
21      6017      1400      SETMS  POSITION      NS2669  20
22      6021      2000 6274      LDC      SBUF      READ EOI SECTOR      COMPVEI  122
23      6023      0200 0530      RJM      RDS      COMPVEI  123
24      6025      0760      MJN      VFLX      IF READ ERROR      COMPVEI  124
25      6026      0200 0535      ENDMS      COMPVEI  125
26      COMPVEI  126
27      *      DETERMINE IF EOI SECTOR WAS READ.      COMPVEI  127
28      COMPVEI  128
29      6030      5000 6274      LDM      SBUF      COMPVEI  129
30      6032      5100 6275      ADM      SBUF+1      COMPVEI  130
31      6034      0351      UJN      VFLX      COMPVEI  131
32      COMPVEI  132
33      COMPVEI  133
```

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**      VSL - VALIDATE SECTOR LINKAGE.                COMPVEI  135
*
*      ENTRY  (T3) = BUFFER ADDRESS.                  COMPVEI  136
*      (T6) = CURRENT TRACK.                          COMPVEI  137
*      (T7) = CURRENT SECTOR.                        COMPVEI  138
*      (NT) = TRACK COUNT TO EOI.                   COMPVEI  139
*      (FS+2) = EOI TRACK FROM TRT.                 COMPVEI  140
*      (FS+3) = EOI SECTOR FROM TRT.               COMPVEI  141
*
*      EXIT   (A) = 0 IF NORMAL SECTOR LINKAGE.      COMPVEI  142
*      (A) = NEXT TRACK IF CROSSING TRACK BOUNDARY. COMPVEI  143
*      (A) = -0 IF LINKAGE ERROR.                  COMPVEI  144
*      (T6) = NEXT TRACK.                          COMPVEI  145
*      (T6) = EOI TRACK, IF LINKAGE ERROR.         COMPVEI  146
*      (T7) = NEXT SECTOR.                          COMPVEI  147
*      (T7) = EOI SECTOR, IF LINKAGE ERROR.        COMPVEI  148
*      (NT) DECREMENTED IF TRACK BOUNDARY CROSSED. NS2788   29
*
*      USES   NT, T6, T7.                          NS2788   30
*
*      CALLS  SNT.                                  COMPVEI  149

```

6035	4003		VSL3	LDI	T3	CHECK SECTOR LINKAGE	COMPVEI	150
6036	1006			SHN	21-13		NS2788	35
6037	0622			PJN	VSL1	IF LINKAGE DOESNT INDICATE NEW TRACK	COMPVEI	155
6040	3720			SOD	NT	DECREMENT TRACK COUNT FOR FILE	COMPVEI	156
6041	0423			ZJN	VSL2	IF BEYOND EOI IN TRT	COMPVEI	157
6042	0200	5427		RJM	SNT	GET NEXT TRACK FROM TRT	COMPVEI	158
6044	4303			LMI	T3		COMPVEI	159
6045	0514			NJN	VSL1	IF NOT SAME TRACK IN LINKAGE	COMPVEI	160
6046	3407			STD	T7	SET FIRST SECTOR FOR NEXT TRACK	COMPVEI	161
6047	4003			LDI	T3	RETURN WITH (A) = NEXT TRACK	COMPVEI	162
6050	0100	6050	VSL	SUBR		ENTRY/EXIT	COMPVEI	163
6052	3607			AOD	T7	ADVANCE SECTOR NUMBER	COMPVEI	164
6053	5300	0107		LMM	SLM		COMPVEI	165
6055	0457			ZJN	VSL3	IF SECTOR LIMIT	COMPVEI	166
6056	3007			LDD	T7		COMPVEI	167
6057	4303			LMI	T3		COMPVEI	168
6060	0467			ZJN	VSLX	IF VALID SECTOR LINKAGE	COMPVEI	169
6061	3707		VSL1	SOD	T7	SET EOI SECTOR	COMPVEI	170
6062	1500			LCN	0	INDICATE LINKAGE ERROR	NS2788	36
6063	0364			UJN	VSLX	RETURN	COMPVEI	171
6064	3023		VSL2	LDD	FS+3	SET EOI SECTOR	COMPVEI	172
6065	3407			STD	T7		COMPVEI	173
6066	3022			LDD	FS+2	SET EOI TRACK	COMPVEI	174
6067	3406			STD	T6		COMPVEI	175
6070	1500			LCN	0	INDICATE LINKAGE ERROR	NS2788	37
6071	0356			UJN	VSLX	RETURN	COMPVEI	176

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M\_M  
QUAL\$  
QUAL\$  
BASE \*  
IF -DEF,QUAL\$  
ENDIF  
ENDX  
LIST \*

COMPVEI 183  
COMPVEI 184  
COMPVEI 189  
COMPVEI 190  
NS2788 139  
MSM 3798  
MSM 3799  
MSM 3800  
MSM 3801  
MSM 3802

57 ERRNG SBUF-\* CODE OVERFLOWS INTO BUFFER

USE LITERALS

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\*\* PRS - PRESET.

Line	Address	Offset	Label	Op	Op2	Description	MSM	Address
							MSM	3804
							MSM	3805
							MSM	3806
1	6215	3402	PRS2	STD	T2	SET INSTRUCTION ADDRESS	MSM	3807
2	6216	1477		LDN	PSNI	REPLACE INSTRUCTION WITH *PSN*	MSM	3808
3	6217	4402		STI	T2		MSM	3809
4	6220	3601		AOD	T1	ADVANCE LIST ADDRESS	MSM	3810
5	6221	4001	PRS3	LDI	T1		MSM	3811
6	6222	0572		NJN	PRS2	LOOP TO END OF LIST	MSM	3812
7	6223	0100 1742	PRSX	LJM	RDEX	EXIT OVERLAY	MSM	3813
8							MSM	3814
9	6225		PRS	BSS	0	ENTRY	MSM	3815
10	6225	1445		LDN	SSTL	READ SYSTEM STATUS	MSM	3816
11	6226	6010		CRD	CM		MSM	3817
12	6227	3010		LDD	CM	ENABLE/DISABLE TRACK CHAIN VALIDATION	MSM	3818
13	6230	1204		LPN	4		MSM	3819
14	6231	1104		LMN	4		MSM	3820
15	6232	5500 3510		RAM	VTCA		MSM	3821
16	6234	3054		LDD	RS		MSM	3822
17	6235	0504		NJN	PRS0	IF RECOVERY DEADSTART	MSM	3823
18	6236	1477		LDN	PSNI	SET LEVEL-0 RECOVERY	MSM	3826
19	6237	5400 2066		STM	RDAA		MSM	3827
20	6241	2000 0122	PRS0	LDC	MMFL	READ MMF STATUS WORD	MSM	3828
21	6243	6010		CRD	CM		MSM	3829
22	6244	3010		LDD	CM	SET MACHINE ID	MSM	3830
23	6245	5400 4606		STM	GDED		MSM	3831
24	6247	3011		LDD	CM+1		MSM	3832
25	6250	2200 0777		LPC	777		MSM	3833
26	6252	0450		ZJN	PRSX	IF NOT MMF SYSTEM	MSM	3834
27	6253	0200 0245		SFA	EST	READ EST ENTRY FOR LINK DEVICE	MSM	3835
28				ADK	EQDE		MSM	3836
29	6255	6030		CRD	CN		MSM	3837
30	6256	3034		LDD	CN+4	SET EXTENDED MEMORY MST POINTER	MSM	3838
31	6257	5400 1120		STM	LDMP		MSM	3839
32	6261	1003		SHN	3	READ DEVICE ALLOCATION WORD	MSM	3840
33	6262	1603		ADN	ALGL		MSM	3841
34	6263	6030		CRD	CN		MSM	3842
35	6264	3034		LDD	CN+4	SET DAT TRACK	MSM	3843
36	6265	3406		STD	T6		MSM	3844
37	6266	1400		LDN	0		MSM	3845
38	6267	3407		STD	T7		MSM	3846
39	6270	2000 6422		LDC	T"QUAL"	SET LIST ADDRESS	MSM	3847
40	6272	3401		STD	T1		MSM	3848
41	6273	4001		LDI	T1	SET INSTRUCTION ADDRESS	MSM	3849
42	6274	3400	PRS1	STD	T0		MSM	3850
43	6275	3013		LDD	CM+3	SET MACHINE MASK	MSM	3851
44	6276	4300		LMI	T0		MSM	3852
45	6277	4400		STI	T0		MSM	3853
46	6300	3601		AOD	T1	ADVANCE LIST ADDRESS	MSM	3854
47	6301	4001		LDI	T1		MSM	3855
48	6302	0571		NJN	PRS1	LOOP TO END OF TABLE	MSM	3856
49	6303	0200 6355		RJM	CEA		MSM	3857
50	6305	3014		LDD	CM+4	SET ADDRESS IN CODE	MSM	3858
51	6306	5500 4627		RAM	GDEA		MSM	3859
52	6310	3013		LDD	CM+3		MSM	3860
53	6311	5500 4635		RAM	GDEB		MSM	3861
54	6313	2000 6416		LDC	LRDA	ENABLE MMF RECOVERY	MSM	3862

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6315	3401		STD	T1		MSM	3863
6316	0100 6221		LJM	PRS3		MSM	3864

\*\* COMMON DECKS USED BY PRESET.

MSM	3866
MSM	3867
MSM	3868

6320 CTEXT COMPCEA - CONVERT EXTENDED MEMORY ADDRESS.

COMPCEA 1

\* LIST OF \*4DA\* INSTRUCTIONS MODIFIED FOR MMF RECOVERY.

MSM	3870
MSM	3871
MSM	3872

6416	LRDA	BSS	0
	LRDA	HERE	

MSM	3873
MSM	3874

6421	0000	-3	ERRZR	LRDA-*	TABLE EMPTY - REMOVE PRESET CODE	283L840	106
			CON	0	TERMINATE LIST	MSM	3875

MSM 3876

\* LIST OF INSTRUCTIONS TO BE PRESET WITH MACHINE MASK.

MSM 3877

6422	T"QUAL"	BSS	0
	T"QUAL"	HERE	

MSM	3878
MSM	3879
MSM	3880

6425	0000	-3	ERRZR	T"QUAL" -*	TABLE EMPTY - REMOVE PRESET CODE	283L840	107
			CON	0	TERMINATE LIST	MSM	3881

MSM 3882

QUAL

MSM 3883

OVERFLOW 04DA,EPFW CHECK FOR OVERFLOW

272L774 24

OVERFLOW.1

543	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR	OVERFLOW.1
307	ERRNG	.3/500B*500B-*+.1-5	BYTES LEFT IN LAST SECTOR	OVERFLOW.1
1007	ERRNG	.4/500B*500B-*+.1-5	BYTES CAN BE ADDED TO OVERLAY	OVERFLOW.1
10	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY	OVERFLOW.1

OVERFLOW.1
OVERFLOW.1

LIST \*

OVERFLOW.1

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IDENT 4DB,RDBX  
 COMMENT 87/07/09. 96/06/05. MSM - DEVICE RECOVERY ROUTINES.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

MSM 3888  
 MSM 3889  
 281L803 5

1									1
2									2
3									3
4									4
5		***	*4DB* CONTAINS ROUTINES FOR READING LABELS		MSM		3892		5
6		*	AND COMMON SUBROUTINES REQUIRED FOR TRT RECOVERY.		MSM		3893		6
7									7
8									8
9									9
10									10
11		***	OPERATOR MESSAGES.		MSM		3895		11
12		*			MSM		3896		12
13		*	*EQXXX, DEVICE ACCESS ERROR.* = DEADSTART MESSAGE		MSM		3897		13
14		*	INDICATING THAT THE DEVICE ACCESS LEVEL LIMITS IN THE		MSM		3898		14
15		*	DEVICE LABEL OF A NON-REMOVABLE DEVICE ARE NOT WITHIN		MSM		3899		15
16		*	THE EQUIPMENT ACCESS LEVEL LIMITS FROM THE DEVICE EST		MSM		3900		16
17		*	ORDINAL FOR EQUIPMENT XXX.		MSM		3901		17
18		*			MSM		3902		18
19		*	*EQXXX, SECURED DEVICE.* = DEVICE ACCESS LEVEL LIMITS		MSM		3903		19
20		*	IN THE DEVICE LABEL ON AN UNSECURED SYSTEM ARE NOT		MSM		3904		20
21		*	WITHIN THE EQUIPMENT ACCESS LEVEL LIMITS FROM THE		MSM		3905		21
22		*	EST FOR EST ORDINAL XXX.		MSM		3906		22
23									23
24									24
25									25
26									26
27		***	ERRLOG MESSAGES.		MSM		3908		27
28		*			MSM		3909		28
29		*	*EQXXX, SECURED DEVICE.* = DEVICE ACCESS LEVEL LIMITS		MSM		3910		29
30		*	IN THE DEVICE LABEL ON AN UNSECURED SYSTEM ARE NOT		MSM		3911		30
31		*	WITHIN THE EQUIPMENT ACCESS LEVEL LIMITS FROM THE		MSM		3912		31
32		*	EST FOR EST ORDINAL XXX.		MSM		3913		32
33		*			MSM		3914		33
34		*	EQXXX, SECURED DEVICE RECOVERED.* = DEVICE ACCESS LEVEL		MSM		3915		34
35		*	LIMITS IN THE DEVICE LABEL ON AN UNSECURED SYSTEM WERE		MSM		3916		35
36		*	NOT WITHIN THE EQUIPMENT ACCESS LEVEL LIMITS FROM THE		MSM		3917		36
37		*	EST FOR EST ORDINAL XXX, BUT THE OPERATOR ENTERED		MSM		3918		37
38		*	*GO,CMS.* TO RECOVER THE DEVICE.		MSM		3919		38
39									39
40									40
41									41
42									42
43		**	MACRO DEFINITIONS.		MSM		3921		43
44									44
45									45
46									46
47									47
48									48
49									49
50									50
51									51
52									52
53									53
54									54
55									55
56									56
57									57
58									58
59									59
60									60

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```

**      TBLM = GENERATE TABLE OF ALTERNATE LABEL SECTORS.
*
*      TBLM  EQ
*      EQ = MASS STORAGE EQUIPMENT MNEMONIC.
    
```

```

MSM      3923
MSM      3924
MSM      3925
MSM      3926
MSM      3927
MSM      3928
MSM      3929
MSM      3930
MSM      3931
MSM      3932
MSM      3933
    
```

```

          PURGMAC  TBLM
          TBLM  MACRO  EQ
          CON    2R_EQ,LC_EQ
          ENDM
    
```

```

**      INTERNAL TABLES AND BUFFERS.
    
```

```

MSM      3935
MSM      3936
MSM      3937
MSM      3938
MSM      3939
MSM      3940
283L840  108
283L840  109
    
```

```

          2366  .1  MAX  /CMS/PRS,/RMS/PRS  BUFFER FOR *DAT* ENTRY
          2366  DATB EQU  .1
          2374  ORDB EQU  DATB+12-4  *4DB* OVERLAY ORIGIN
          2374  ORDK EQU  ORDB      *4DK* OVERLAY ORIGIN
    
```

```

          2374          ORG  ORDB          283L840  110
          2374          RDB  SUBR          ENTRY/EXIT  MSM      3944
          2376          0100 2374          LJM  PRS          MSM      3945
          2400          0000          MMFP  CON  0          MMF PRESENT FLAG  MSM      3947
          2401          0000          SDIF  CON  0          SHARED DEVICE INTERLOCK FLAG  MSM      3948
    
```

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Line	Address	Code	Label	Description	MSM	Address
		**	MRL - MAIN RECOVERY LOOP.		MSM	3951
		*			MSM	3952
		*	ENTRY (A) = PROCESSOR ADDRESS.		MSM	3953
		*			MSM	3954
		*	EXIT TO SELECTED PROCESSOR.		MSM	3955
		*	(EQ) = (T5) = EST ORDINAL.		MSM	3956
		*	(FN - FN+4) = EST ENTRY.		MSM	3957
		*			MSM	3958
		*	USES T5, EQ, FN - FN+4.		MSM	3959
		*			MSM	3960
		*	CALLS LRA, /RMS/SEM.		MSM	3961
		*			MSM	3962
		*	MACROS SFA.		MSM	3963
					MSM	3964
					MSM	3965
13	2402	2000 0000	MRL1 LDC 0	EQUIPMENT FOR SPECIAL PROCESSING	MSM	3966
14			MRLC EQU *-1		MSM	3967
15	2404	0403	ZJN MRL2	IF NO SPECIAL EQUIPMENT CHECK	MSM	3968
16	2405	3353	LMD EQ		MSM	3969
17	2406	0426	MRLD ZJN MRL3	IF NOT TO PROCESS THIS EQUIPMENT	MSM	3970
18			* NJN MRL3	IF ONLY PROCESSING THIS EQUIPMENT	MSM	3971
19	2407	0200 1203	MRL2 RJM LRA	LOAD REFERENCE ADDRESS	MSM	3972
20	2411	3153	ADD EQ		MSM	3973
21	2412	6043	CRD RD		MSM	3974
22	2413	3046	LDD RE		MSM	3975
23	2414	1064	SHN 0-13		MSM	3976
24	2415	0417	ZJN MRL3	IF NOT MASS STORAGE OR BEING RECOVERED	MSM	3977
25	2416	0200 1512	MRLB RJM /RMS/SEM	SET EQUIPMENT MESSAGE	MSM	3978
26			* UJN **2	(*CMS* CALL)	MSM	3979
27	2420	3053	SFA EST,EQ	READ EST ENTRY	MSM	3980
28			ADK EQDE		MSM	3981
29	2423	6040	CRD FN		MSM	3982
30	2424	3046	LDD RE	CHECK EST ENTRY	MSM	3983
31	2425	0200 2425	RJM *		MSM	3984
32			MRLA EQU *-1		MSM	3985
33	2427	0705	MJN MRL3	IF REWRITE NOT REQUIRED	MSM	3986
34	2430	0200 1203	RJM LRA	LOAD REFERENCE ADDRESS	MSM	3987
35	2432	3153	ADD EQ	REWRITE RECOVERY TABLES	MSM	3988
36	2433	6243	CWD RD		MSM	3989
37	2434	3653	MRL3 AOD EQ	ADVANCE EQUIPMENT INDEX	MSM	3990
38	2435	3405	MRL4 STD T5		MSM	3991
39	2436	3361	LMD LO		MSM	3992
40	2437	0542	NJN MRL1	IF NOT END OF MASS STORAGE DEVICES	MSM	3993
41					MSM	3994
42	2440	0100 2440	MRL SUBR	ENTRY/EXIT	MSM	3995
43	2442	5400 2426	STM MRLA	SET PROCESSOR ADDRESS	MSM	3996
44	2444	1405	LDN NOPE	INITIALIZE EST ORDINAL FOR SEARCH	MSM	3997
45	2445	3453	STD EQ		MSM	3998
46	2446	0366	UJN MRL4	ENTER LOOP	MSM	3999

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\*\* COMMON DECKS.

MSM 4001  
MSM 4002  
MSM 4003  
MSM 4004  
COMPCEA 1  
MSM 4006  
COMPCLC 1  
MSM 4008  
NS2547 6  
MSM 4009  
MSM 4010  
COMPRLA 1  
COMPSES 1  
COMPSMI 1  
COMPTLB 1

1				EQU	0	ASSEMBLE *CEI* IN PRESET		
2	2447	0	CEA\$	CTEXT	COMPCEA	- CONVERT EXTENDED MEMORY ADDRESS.		
3				QUAL	CLC			
4	2506			CTEXT	COMPCLC	- CALCULATE DEVICE LABEL CHECKSUM.		
5				QUAL				
6		2525	CDC	EQU	/CLC/CDC			
7		2535	CLC	EQU	/CLC/CLC			
8		1	RLA\$	EQU	1	DEFINE ENTRY CONDITIONS FOR *COMPRLA*		
9	2555			CTEXT	COMPRLA	- READ SECTOR OF LOCAL AREAS.		
10	2630			CTEXT	COMPSES	- SET ERROR STATUS IN LOCAL MST (STLL).		
11	2643			CTEXT	COMPSMI	- SET MACHINE INDEX.		
12	2661			CTEXT	COMPTLB	- SET/CLEAR LOCAL MST FLAG (STLL).		

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	**			ADE - ACCESS DAT ENTRY.			283L840	113
	*						283L840	114
	*			ENTRY (A) = *ECSM* FUNCTION CODE.			283L840	115
	*			(QS) = DAT INDEX.			283L840	116
	*			(ADEA) = DAT TRACK.			283L840	117
	*						283L840	118
	*			EXIT (T6) = DAT TRACK.			283L840	119
	*						283L840	120
	*			USES T6, T7, CM - CM+4.			283L840	121
	*						283L840	122
	*			CALLS CEA.			283L840	123
	*						283L840	124
	*			MACROS MONITOR.			283L840	125
							283L840	126
							283L840	127
13	2700	0100	2700	ADE	SUBR	ENTRY/EXIT	283L840	128
14	2702	1011			SHN 11	SAVE FUNCTION CODE	283L840	129
15	2703	5400	2720		STM ADEB		283L840	130
16	2705	2000	0000		LDC **	SET DAT TRACK	283L840	131
17			2706	ADEA	EQU *-1		283L840	132
18	2707	3406			STD T6		283L840	133
19	2710	1400			LDN 0		283L840	134
20	2711	3407			STD T7		283L840	135
21	2712	0200	2504		RJM CEA	CONVERT EXTENDED MEMORY ADDRESS	283L840	136
22	2714	3035			LDD QS		283L840	137
23	2715	3514			RAD CM+4		283L840	138
24	2716	1063			SHN -14		283L840	139
25	2717	2300	0000		LMC **	SET SUBFUNCTION	283L840	140
26				*	LMC RECS*1000	(READ SUBFUNCTION)	283L840	141
27				*	LMC WECS*1000	(WRITE SUBFUNCTION)	283L840	142
28			2720	ADEB	EQU *-1		283L840	143
29	2721	3513			RAD CM+3		283L840	144
30	2722	3071			LDD HN	SET WORD COUNT (2 WORDS)	283L840	145
31	2723	3411			STD CM+1		283L840	146
32	2724	3077			LDD MA	CM ADDRESS = PP MESSAGE BUFFER	283L840	147
33	2725	3412			STD CM+2		283L840	148
34	2726	1434			MONITOR ECSM		283L840	149
35	2731	0100	2700		LJM ADEX	RETURN	283L840	150
36								
37								
38								
39								
40				**		ATC - ADJUST TRACK COUNT.	MSM	4017
41				*			MSM	4018
42				*		ENTRY (FN - FN+4) = EST ENTRY.	MSM	4019
43				*		(T5) = EQUIPMENT.	MSM	4020
44				*			MSM	4021
45				*		EXIT REMAINING TRACK AND SECTOR COUNTS SET.	MSM	4022
46				*			MSM	4023
47				*		USES T0 - T3, CM - CM+4, CN - CN+4.	MSM	4024
48				*			MSM	4025
49				*		CALLS PTA, STA.	MSM	4026
50							MSM	4027
51							MSM	4028
52	2733	0100	2733	ATC	SUBR	ENTRY/EXIT	MSM	4029
53	2735	3046			LDD RE	CHECK SHARED DEVICE STATUS	MSM	4030
54	2736	2200	1002		LPC 1002		MSM	4031

2740	2300	1002		LMC	1002		MSM	4032
2742	0470			ZJN	ATCX	IF PREVIOUSLY DEFINED AS SHARED	MSM	4033
2743	0200	1206		RJM	PTA	PRESET FWA OF TRT	MSM	4034
2745	3044			LDD	FN+4	READ TDGL WORD OF MST	MSM	4035
2746	1003			SHN	3		MSM	4036
				ADK	TDGL		MSM	4037
2747	6030			CRD	CN		MSM	4038
2750	3032			LDD	CN+2	SET LENGTH OF TRT	MSM	4039
2751	3402			STD	T2		MSM	4040
2752	1002			SHN	2		MSM	4041
2753	3434			STD	CN+4		MSM	4042
2754	0200	1226		RJM	STA	SET FWA OF TRT	MSM	4043
2756	3102			ADD	T2		MSM	4044
2757	0321			UJN	ATC4	READ TRT	MSM	4045
							MSM	4046
			*			CLEAR TRACK INTERLOCKS.	MSM	4047
							MSM	4048
2760	3014		ATC1	LDD	CM+4		MSM	4049
2761	2200	7417		LPC	7417		MSM	4050
2763	3414			STD	CM+4		MSM	4051
2764	1217			LPN	17	SET RESERVATION BITS	MSM	4052
2765	0407			ZJN	ATC3	IF NONE	MSM	4053
2766	1021		ATC2	SHN	21-0		MSM	4054
2767	0676			PJN	ATC2	IF BIT NOT RESERVED	MSM	4055
2770	3400			STD	T0		MSM	4056
2771	3734			SOD	CN+4		MSM	4057
2772	3000			LDD	T0		MSM	4058
2773	0572			NJN	ATC2	IF MORE RESERVATIONS	MSM	4059
2774	0200	1226	ATC3	RJM	STA	SET FWA OF TRT	MSM	4060
2776	3102			ADD	T2		MSM	4061
2777	6210			CWD	CM		MSM	4062
3000	1701		ATC4	SBN	1		MSM	4063
3001	6010			CRD	CM		MSM	4064
3002	3702			SOD	T2		MSM	4065
3003	0654			PJN	ATC1	IF NOT END OF TRT	MSM	4066
3004	2000	4000		LDC	4000	SET NOS MST FLAG	MSM	4067
3006	3433			STD	CN+3		MSM	4068
3007	3044			LDD	FN+4	STORE *TDGL*	MSM	4069
3010	1003			SHN	3		MSM	4070
				ADK	TDGL		MSM	4071
3011	6230			CWD	CN		MSM	4072
3012	0100	2733		LJM	ATCX	RETURN	MSM	4073
			**			CDA - CHECK DEVICE AVAILABILITY.	MSM	4075
			*				MSM	4076
			*	ENTRY	(EQ) = EST ORDINAL.		MSM	4077
			*		(FN - FN+4) = EST ENTRY.		MSM	4078
			*				MSM	4079
			*	EXIT	(A) = 0, IF AVAILABLE FOR RECOVERY.		MSM	4080
			*		.NE. 0, IF UNLOADED.		MSM	4081
			*		.LT. 0, IF NOT AVAILABLE FOR RECOVERY.		MSM	4082
			*				MSM	4083
			*	USES	FS - FS+4.		MSM	4084
							MSM	4085



Address	Label	Code	Device	Op	Op2	Description	MSM	Address
3014	1500		CDA1	LCN	0			4086
							MSM	4087
							MSM	4088
3015	0100	3015	CDA	SUBR		ENTRY/EXIT	MSM	4089
3017	3046			LDD	RE		MSM	4090
3020	1013			SHN	21-6		MSM	4091
3021	0672			PJN	CDA1	IF DEVICE AVAILABLE	MSM	4092
3022	1064			SHN	6-21		MSM	4093
3023	1201			LPN	1		MSM	4094
3024	0570			NJN	CDAX	IF LABEL NOT READ	MSM	4095
3025	3044			LDD	FN+4	READ *STLL*	MSM	4096
3026	1003			SHN	3		MSM	4097
3027	1615			ADN	STLL		MSM	4098
3030	6020			CRD	FS		MSM	4099
3031	1711			SBN	STLL-PFGL	READ DEVICE DESCRIPTION	MSM	4100
3032	6126	1105		CRM	DLPB,TW		MSM	4101
3034	3024			LDD	FS+4		MSM	4102
3035	1204			LPN	MLDIU		MSM	4103
3036	0555			NJN	CDA1	IF EQUIPMENT IN USE	MSM	4104
3037	3020			LDD	FS		MSM	4105
3040	1210			LPN	MLUNL		MSM	4106
3041	0353			UJN	CDAX	RETURN	MSM	4107
				**		CDI - CLEAR ISD INTERLOCKS.	MSM	4109
				*			MSM	4110
				*		ENTRY (T5) = EST ORDINAL.	MSM	4111
				*		(FN - FN+4) = EST ENTRY.	MSM	4112
				*			MSM	4113
				*		EXIT INTERLOCKS CLEARED IN LABEL.	MSM	4114
				*			MSM	4115
				*		USES T0, T1, T6, T7, CM - CM+4.	MSM	4116
				*			MSM	4117
				*		CALLS CDC, CLT, RDS, SMI, WDS.	NS2547	7
				*			MSM	4119
				*		MACROS ENDMS, SETMS.	MSM	4120
							MSM	4121
3042	0200	0535	CDI3	ENDMS			MSM	4122
							MSM	4123
							MSM	4124
3044	0100	3044	CDI	SUBR		ENTRY/EXIT	MSM	4125
3046	3040			LDD	FN		MSM	4126
3047	1015			SHN	21-4		MSM	4127
3050	0673			PJN	CDIX	IF NOT INDEPENDENT SHARED DEVICE	MSM	4128
3051	0200	3274		RJM	CLT		MSM	4129
3053	0470			ZJN	CDIX	IF NO LABEL TRACK	MSM	4130
3054	1400			LDN	0		MSM	4131
3055	3407			STD	T7		MSM	4132
3056	2002	4200		SETMS	IO, (DE, DF)		MSM	4133
3062	2000	6776		LDC	BFMS		MSM	4134
3064	0200	0530		RJM	RDS		MSM	4135
3066	0755			MJN	CDIX	IF READ ERROR	MSM	4136
3067	0200	2644		RJM	SMI		MSM	4137
3071	3401			STD	T1	SET MACHINE INDEX	MSM	4138
3072	1001			SHN	1		MSM	4139

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3073	5300	7066		LMM	N4SS+5*SDGL+4		MSM	4140
3075	1301			SCN	1		MSM	4141
3076	3400			STD	T0	CHECK MST INTERLOCK	MSM	4142
3077	1276			LPN	76		MSM	4143
3100	0504			NJN	CDI1	IF NOT INTERLOCKED BY THIS MACHINE	MSM	4144
3101	3000			LDD	T0		MSM	4145
3102	5400	7066		STM	N4SS+5*SDGL+4		MSM	4146
3104	3001		CDI1	LDD	T1	CALCULATE ADDRESS OF DIT ENTRY	MSM	4147
3105	1002			SHN	2		MSM	4148
3106	2100	7167		ADC	DISS-5+4		MSM	4149
3110	3501			RAD	T1		MSM	4150
3111	1704			SBN	4		MSM	4151
3112	5400	3122		STM	CDIB		MSM	4152
3114	4001			LDI	T1	CHECK MACHINE ID	MSM	4153
3115	2300	0000		LMC	0		MSM	4154
			3116	CDIA	EQU	*-1	MSM	4155
3117	0514			NJN	CDI2	IF DIT ENTRY NOT ASSIGNED HERE	MSM	4156
3120	1466			LDN	ZERL		MSM	4157
3121	6170	3121		CRM	*,ON		MSM	4158
			3122	CDIB	EQU	*-1	MSM	4159
3123	0200	2525		RJM	CDC	COMPUTE LABEL CHECKSUM	NS2547	8
3125	5400	7477		STM	CKSS		NS2547	9
3127	2000	6776		LDC	BFMS+WLSF		MSM	4160
3131	0200	0532		RJM	WDS		MSM	4161
3133	0100	3042		LJM	CDI3	RETURN	MSM	4162
				**	CLR - CLEAR RESIDENT TRT.		MSM	4164
				*			MSM	4165
				*	ENTRY (FN - FN+4) = EST ENTRY.		MSM	4166
				*			MSM	4167
				*	EXIT (A) = MST ADDRESS OF TDGL WORD.		MSM	4168
				*	CMR AREA FOR TRT CLEARED.		MSM	4169
				*	FLAWS RETAINED FOR NON-REMOVABLE DEVICE.		MSM	4170
				*	MRT FOR SHARED DEVICE CLEARED.		MSM	4171
				*			MSM	4172
				*	USES T0 - T3, CM - CM+7, CN - CN+4.		MSM	4173
				*			MSM	4174
				*	CALLS PTA, STA.		MSM	4175
							MSM	4176
3135	0200	1226		CLR3	RJM	STA	MSM	4177
						SET FWA OF TRT	MSM	4178
3137	3101			ADD	T1		MSM	4179
3140	6010			CRD	CM		MSM	4180
3141	3014			LDD	CM+4		MSM	4181
3142	0427			ZJN	CLR7	IF NO TRACKS RESERVED	MSM	4182
3143	1410			LDN	CM		MSM	4183
3144	3403			STD	T3		MSM	4184
3145	1466			LDN	ZERL	CLEAR ASSEMBLY	MSM	4185
3146	6030			CRD	CN		MSM	4186
3147	4003		CLR4	LDI	T3	CHECK TRACK BYTE	MSM	4187
3150	2300	3777		LMC	3777		MSM	4188
3152	0510			NJN	CLR5	IF TRACK NOT FLAWED	MSM	4189
3153	3600			AOD	T0	ADVANCE FLAWED TRACK COUNT	MSM	4190
3154	4003			LDI	T3	SET FLAW IN ASSEMBLY	MSM	4191

3155	5403	0020		STM	CN-CM,T3		MSM	4192
3157	5003	3257		LDM	CLRB-CM,T3	SET TRACK RESERVATION	MSM	4193
3161	3534			RAD	CN+4		MSM	4194
3162	3603		CLR5	AOD	T3	ADVANCE BYTE INDEX	MSM	4195
3163	1114			LMN	CM+4		MSM	4196
3164	0562			NJN	CLR4	LOOP TO END OF TRT WORD	MSM	4197
3165	0200	1226	CLR6	RJM	STA	SET FWA OF TRT	MSM	4198
3167	3101			ADD	T1		MSM	4199
3170	6230			CWD	CN		MSM	4200
3171	3601		CLR7	AOD	T1	ADVANCE WORD INDEX	MSM	4201
3172	3302			LMD	T2		MSM	4202
3173	0541		CLR8	NJN	CLR3	LOOP TO END OF TRT	MSM	4203
			*	NJN	CLR6	REMOVABLE DEVICE	MSM	4204
3174	3414			STD	CM+4	CLEAR UNUSED BYTE	MSM	4205
3175	3016			LDD	CM+6	SET TRACK COUNTS	MSM	4206
3176	3413			STD	CM+3		MSM	4207
3177	3200			SBD	T0		MSM	4208
3200	3417			STD	CM+7		MSM	4209
3201	2000	4000		LDC	4000	SET NOS MST FLAG	MSM	4210
3203	3416			STD	CM+6		MSM	4211
3204	3044			LDD	FN+4	UPDATE MST	MSM	4212
3205	1003			SHN	3		MSM	4213
				ADK	TDGL		MSM	4214
3206	6213			CWD	CM+3		MSM	4215
							MSM	4216
3207	0100	3207	CLR	SUBR		ENTRY/EXIT	MSM	4217
3211	0200	1206		RJM	PTA	PRESET FWA OF TRT	MSM	4218
3213	3044			LDD	FN+4	READ *TDGL*	MSM	4219
3214	1003			SHN	3		MSM	4220
				ADK	TDGL		MSM	4221
3215	6013			CRD	CM+3		MSM	4222
3216	3013			LDD	CM+3	SAVE TRACK COUNT FOR DEVICE	MSM	4223
3217	3416			STD	CM+6		MSM	4224
3220	1400			LDN	0	SET INDEX	MSM	4225
3221	3401			STD	T1		MSM	4226
3222	3015			LDD	CM+5	SET LENGTH OF TRT	MSM	4227
3223	3402			STD	T2		MSM	4228
3224	3410			STD	CM		MSM	4229
3225	1607			ADN	7	SET END OF MRT	MSM	4230
3226	1074			SHN	-3		MSM	4231
3227	3110			ADD	CM		MSM	4232
3230	3403			STD	T3		MSM	4233
3231	1400			LDN	0		MSM	4234
3232	3400			STD	T0		MSM	4235
3233	1466			LDN	ZERL		MSM	4236
3234	6030			CRD	CN		MSM	4237
3235	3040			LDD	FN		MSM	4238
3236	1010			SHN	21-11		MSM	4239
3237	0614			PJN	CLR2	IF NOT SHARED DEVICE	MSM	4240
3240	1005			SHN	21-4-21+11		MSM	4241
3241	0603			PJN	CLR1	IF NOT AN ISHARED DEVICE	MSM	4242
3242	1420			LDN	MISD	ADD IN *DIT* LENGTH	MSM	4243
3243	3503			RAD	T3		MSM	4244
3244	0200	1226	CLR1	RJM	STA	SET FWA OF TRT	MSM	4245
3246	3110			ADD	CM	SET FWA OF MRT	MSM	4246
3247	6230			CWD	CN	CLEAR MRT WORD	MSM	4247
3250	3610			AOD	CM		MSM	4248

3251	3303		LMD	T3		MSM	4249
3252	0571		NJN	CLR1	LOOP TO END OF MRT	MSM	4250
3253	3040	CLR2	LDD	FN	EXTRACT REMOVABLE STATUS	MSM	4251
3254	1067		SHN	-10		MSM	4252
3255	1201		LPN	1		MSM	4253
3256	3403		STD	T3		MSM	4254
3257	5003	3265	LDM	CLRA,T3	SET LOOP CONDITION	MSM	4255
3261	5400	3173	STM	CLR8		MSM	4256
3263	0100	3173	LJM	CLR8	CLEAR TRT	MSM	4257
3265			CLRA	BSS	0	MSM	4258
L 3173			LOC	CLR8		MSM	4259
L 3173	0541		NJN	CLR3		MSM	4260
L 3173			LOC	CLR8		MSM	4261
L 3173	0571		NJN	CLR6		MSM	4262
3267			LOC	*0		MSM	4263
3267	0010		CLR8			MSM	4264
3270	0004		CON	10	TRACK RESERVATION BITS	MSM	4265
3271	0002		CON	4		MSM	4266
3272	0001		CON	2		MSM	4267
			CON	1		MSM	4268
**			CLT		CHECK LABEL TRACK.	MSM	4269
*			ENTRY	(T5)	= EST ORDINAL.	MSM	4270
*				(FN - FN+4)	= EST ENTRY.	MSM	4271
*			EXIT	(A)	= (T6) = LABEL TRACK.	MSM	4272
*				(CM+7)	= BYTE 4 OF *ALGL* WORD.	MSM	4273
*			USES	CM - CM+7.		MSM	4274
*			CALLS	LRA.		MSM	4275
3273	0100	3273	CLT	SUBR	ENTRY/EXIT	MSM	4276
3275	3044		LDD	FN+4		MSM	4277
3276	1003		SHN	3		MSM	4278
3277	1603		ADN	ALGL	CHECK LABEL TRACK IN MST	MSM	4279
3300	6013		CRD	CM+3		MSM	4280
3301	3014		LDD	CM+4		MSM	4281
3302	0507		NJN	CLT1	IF LABEL TRACK FOUND	MSM	4282
3303	0200	1203	RJM	LRA	LOAD REFERENCE ADDRESS	MSM	4283
3305	3147		ADD	AL		MSM	4284
3306	1603		ADN	ALGL	CHECK MST IMAGE FROM LABEL TRACK	MSM	4285
3307	6010		CRD	CM		MSM	4286
3310	3011		LDD	CM+1	SET LABEL TRACK	MSM	4287
3311	3406		CLT1	STD	T6	MSM	4288
3312	0360		UJN	CLTX	RETURN	MSM	4289

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			**	CMT - CLEAR MST.			MSM	4301
			*				MSM	4302
			*	ENTRY (FN - FN+4) = EST ENTRY.			MSM	4303
			*	(FS - FS+4) = STLL WORD.			MSM	4304
			*	(EC) = ERROR CODE.			MSM	4305
			*	(EQ) = PRIMARY EST ORDINAL.			MSM	4306
			*				MSM	4307
			*	EXIT (T6) = GLOBAL UNLOAD STATUS.			MSM	4308
			*	EST - MST RESTORED TO ORIGINAL STATUS.			MSM	4309
			*	DEVICE SET UNAVAILABLE.			MSM	4310
			*				MSM	4311
			*	USES CN - CN+4, CM - CM+4, FS - FS+4, FN.			MSM	4312
			*				MSM	4313
			*	CALLS CLR, CLT.			MSM	4314
			*				MSM	4315
			*	MACROS CMSTF, SFA.			MSM	4316
							MSM	4317
							MSM	4318
16	3313	0100 3313	CMT	SUBR		ENTRY/EXIT	MSM	4319
17	3315	1466		LDN	ZERL		MSM	4320
18	3316	6030		CRD	CN		MSM	4321
19	3317	3040		LDD	FN		MSM	4322
20	3320	2200 7667		LPC	7667		MSM	4323
21	3322	3371		LMD	HN	SET DEVICE UNAVAILABLE	MSM	4324
22	3323	3440		STD	FN		MSM	4325
23	3324	3005		SFA	EST,T5	UPDATE EST	MSM	4326
				ADK	EQDE		MSM	4327
25	3327	6240		CWD	FN		MSM	4328
26	3330	0200 3274		RJM	CLT		MSM	4329
27	3332	0502		NJN	CMT1	IF LABEL TRACK KNOWN	MSM	4330
28	3333	3017		LDD	CM+7		MSM	4331
29	3334	3434	CMT1	STD	CN+4		MSM	4332
30	3335	1466		LDN	ZERL		MSM	4333
31	3336	6010		CRD	CM		MSM	4334
32	3337	3044		LDD	FN+4	CLEAR DEVICE ALLOCATION WORD	MSM	4335
33	3340	1003		SHN	3		MSM	4336
34	3341	1603		ADN	ALGL		MSM	4337
35	3342	6230		CWD	CN		MSM	4338
36	3343	1611		ADN	DULL-ALGL	CLEAR DAYFILE POINTERS	MSM	4339
37	3344	6210		CWD	CM		MSM	4340
38	3345	1706		SBN	DULL-MDGL	READ DRIVER WORD	MSM	4341
39	3346	6030		CRD	CN		MSM	4342
40	3347	1704		SBN	MDGL-SDGL		MSM	4343
41	3350	6010		CRD	CM		MSM	4344
42	3351	1701		SBN	SDGL-ACGL	GET DEVICE ACTIVITY WORD	MSM	4345
43	3352	6013		CRD	CM+3		MSM	4346
44	3353	3017		LDD	CM+7	RETAIN GLOBAL UNLOAD FLAG	MSM	4347
45	3354	1240		LPN	MGUNL		MSM	4348
46	3355	3417		STD	CM+7		MSM	4349
47	3356	3406		STD	T6		MSM	4350
48	3357	1466		LDN	ZERL	CLEAR TRT UPDATE STATUS	MSM	4351
49	3360	6012		CRD	CM+2		MSM	4352
							MSM	4353
			*	SET DEVICE STATUS.			MSM	4354
							MSM	4355
53	3361	3020		LDD	FS	RETAIN INITIALIZE AND EQUIPMENT STATUS	MSM	4356
54	3362	1304		SCN	MLCKP		MSM	4357



3363	3420		STD	FS		MSM	4358	
3364	1405		LDN	MLDIU+MLMTI	SET DEVICE IN USE	MSM	4359	
3365	3424		STD	FS+4		MSM	4360	
3366	3030		LDD	CN	CLEAR AUXILIARY STATUS	MSM	4361	
3367	2200	5777	LPC	5777		MSM	4362	
3371	3430		STD	CN		MSM	4363	
3372	3005		LDD	T5		MSM	4364	
3373	3353		LMD	EQ		MSM	4365	
3374	0515		NJN	CMT2	IF NOT PRIMARY EQUIPMENT	MSM	4366	
3375	3021		LDD	FS+1	SET ERROR CODE	MSM	4367	
3376	1377		SCN	77		MSM	4368	
3377	3337		LMD	EC		MSM	4369	
3400	3421		STD	FS+1		MSM	4370	
3401	3040		LDD	FN		MSM	4371	
3402	1010		SHN	21-11		MSM	4372	
3403	0714		MJN	CMT3	IF SHARED DEVICE	MSM37	1	
3404	3030		LDD	CN	CLEAR *DAT* INDEX	MSM	4374	
3405	2200	7400	LPC	7400		MSM	4375	
3407	3430		STD	CN		MSM	4376	
3410	0307		UJN	CMT3	STORE MST PARAMETERS	MSM37	2	
						MSM37	3	
3411	3044		CMT2	LDD	FN+4	CLEAR DEVICE AND USER DESCRIPTION	MSM37	4
3412	1003		SHN	3		MSM37	5	
3413	1604		ADK	PFGL		MSM37	6	
3414	6212		CWD	CM+2		MSM37	7	
3415	1601		ADK	PUGL-PFGL		MSM37	8	
3416	6212		CWD	CM+2		MSM37	9	
3417	3044		CMT3	LDD	FN+4	STORE MST PARAMETERS	MSM37	10
3420	1003		SHN	3		MSM	4378	
3421	1606		ADN	MDGL	RESET DRIVER CHARACTERISTICS	MSM	4379	
3422	6230		CWD	CN		MSM	4380	
3423	1607		ADN	STLL-MDGL	STORE *STLL*	MSM	4381	
3424	6220		CWD	FS		MSM	4382	
3425	1713		SBN	STLL-SDGL		MSM	4383	
3426	6210		CWD	CM		MSM	4384	
3427	1701		SBN	SDGL-ACGL	STORE DEVICE ACTIVITY WORD	MSM	4385	
3430	6213		CWD	CM+3		MSM	4386	
3431	1607		ADN	ISGL-ACGL	CLEAR INSTALLATION AREA	MSM	4387	
3432	6212		CWD	CM+2		MSM	4388	
3433	1601		ADN	I2GL-ISGL		MSM	4389	
3434	6212		CWD	CM+2		MSM	4390	
3435	1611		ADN	CTLL-I2GL	CLEAR ERROR COUNTS	MSM	4391	
3436	6212		CWD	CM+2		MSM	4392	
3437	0200	3210	RJM	CLR	CLEAR TRT	MSM	4393	
3441	0200	1203	RJM	LRA	LOAD REFERENCE ADDRESS	MSM	4394	
3443	3105		ADD	T5		MSM	4395	
3444	6043		CRD	RD		MSM	4396	
3445	1502		CMSTF	LDIU	CLEAR DEVICE IN USE	MSM	4397	
			*	LDN	0	MSM	4398	
3450	3446		STD	RE	INHIBIT FURTHER PROCESSING OF DEVICE	MSM	4399	
3451	0200	1203	RJM	LRA	LOAD REFERENCE ADDRESS	MSM	4400	
3453	3105		ADD	T5		MSM	4401	
3454	6243		CWD	RD	RESTORE RECOVERY TABLE VALUES	MSM	4402	
3455	0100	3313	LJM	CMTX		MSM	4403	



	**				IES - INITIALIZE EQUIPMENT STATUS.		MSM	4405
	*						MSM	4406
	*				ENTRY (T5) = EQUIPMENT.		MSM	4407
1	*				(EC) = ERROR CODE FOR PRIMARY EQUIPMENT.		MSM	4408
2	*				(EQ) = PRIMARY EST ORDINAL.		MSM	4409
3	*						MSM	4410
4	*				EXIT ALL EQUIPMENT IN CHAIN RESTORED TO ORIGINAL CONFIGUR-		MSM	4411
5	*				ATION AND SET AS UNAVAILABLE.		MSM	4412
6	*				(A) .LT. 0 IF RECOVERY INFORMATION NOT TO		MSM	4413
7	*				BE REWRITTEN TO CM RETURN TO *MRL*.		MSM	4414
8	*						MSM	4415
9	*				USES T4, T5, T7, UC, CN - CN+4, FN - FN+4, FS - FS+4.		272L774	25
10	*						MSM	4417
11	*				CALLS CDI, CMT, SSL.		272L774	26
12	*						MSM	4419
13	*				MACROS SFA, SMSTF.		MSM	4420
14							MSM	4421
15							MSM	4422
16		3457	0100 3457		IES SUBR ENTRY/EXIT		MSM	4423
17		3461	1464		SMSTF LPTU PROHIBIT TRT UPDATE BY *1RU*		NS2576	1
18		3464	3005		SFA EST,T5 READ EST ENTRY		MSM	4424
19					ADK EQDE		MSM	4425
20		3467	6040		CRD FN		MSM	4426
21		3470	3044		LDD FN+4		MSM	4427
22		3471	1003		SHN 3		MSM	4428
23		3472	1616		ADN DDLL READ DEVICE DESCRIPTION		MSM	4429
24		3473	6030		CRD CN		MSM	4430
25		3474	3030		LDD CN SET TOTAL UNIT COUNT		MSM	4431
26		3475	1207		LPN 7		MSM	4432
27		3476	3462		STD UC		MSM	4433
28		3477	3330		LMD CN SET UNIT COUNT = ORIGINAL UNIT COUNT		NS2768	13
29		3500	3430		STD CN		MSM	4436
30		3501	1074		SHN -3		MSM	4437
31		3502	1207		LPN 7		272L774	28
32		3503	3530		RAD CN		MSM	4438
33		3504	1207		LPN 7 CHECK UNIT COUNTS		MSM	4439
34		3505	3362		LMD UC		MSM	4440
35		3506	0407		ZJN IES1 IF NO CHANGE IN UNIT COUNT		MSM	4441
36							MSM	4442
37	*				RESTORE EQUIPMENT TO ORIGINAL STATUS.		MSM	4443
38							MSM	4444
39		3507	3044		LDD FN+4 RESET ORIGINAL UNIT COUNT		MSM	4445
40		3510	1003		SHN 3		MSM	4446
41		3511	1616		ADN DDLL		MSM	4447
42		3512	6230		CWD CN		MSM	4448
43		3513	0200 3574		RJM SSL SET SECTOR LIMITS		MSM	4449
44		3515	0200 3045	IES1	RJM CDI CLEAR ISD INTERLOCKS		MSM	4450
45		3517	3044		LDD FN+4 GET *DDLL* WORD FROM MST		MSM	4451
46		3520	1003		SHN 3		MSM	4452
47		3521	1616		ADN DDLL		MSM	4453
48		3522	6030		CRD CN		MSM	4454
49		3523	1701		SBN DDLL-STLL		MSM	4455
50		3524	6020		CRD FS		MSM	4456
51		3525	3024		LDD FS+4 SAVE CHAINED EST ORDINAL		MSM	4457
52		3526	1074		SHN -3		MSM	4458
53		3527	3407		STD T7		MSM	4459
54		3530	3030		LDD CN SET ORIGINAL UNIT COUNT		MSM	4460

3531	1074			SHN	-3		MSM	4461
3532	1207			LPN	7		MSM	4462
3533	3404			STD	T4		MSM	4463
3534	0200	3314	IES2	RJM	CMT	CLEAR MST PARAMETERS	MSM	4464
3536	3007			LDD	T7		MSM	4465
3537	0504			NJN	IES4	IF NOT END OF CHAIN	MSM	4466
3540	1500			LCN	0	DISABLE *MRL* REWRITE OF RECOVERY TABLE	MSM	4467
3541	0100	3457	IES3	LJM	IESX	RETURN	MSM	4468
							MSM	4469
			*			CHECK NEXT EQUIPMENT IN CHAIN.	MSM	4470
							MSM	4471
3543	3405		IES4	STD	T5		MSM	4472
3544	3062			LDD	UC		MSM	4473
3545	3204			SBD	T4		MSM	4474
3546	1701			SBN	1		MSM	4475
3547	0771			MJN	IES3	IF NO MORE UNITS IN CHAIN	MSM	4476
3550	3462			STD	UC		MSM	4477
3551	3005			SFA	EST,T5	READ NEXT EST ENTRY	MSM	4478
				ADK	EQDE		MSM	4479
3554	6040			CRD	FN		MSM	4480
3555	1463			SMSTF	LUNL	SET LOCAL UNLOAD	MSM	4481
3560	3006			LDD	T6		MSM	4482
3561	0404			ZJN	IES5	IF LAST EQUIPMENT NOT GLOBALLY UNLOADED	MSM	4483
3562	1405			SMSTF	GUNL	SET GLOBAL UNLOAD	MSM	4484
3565	0100	3515	IES5	LJM	IES1	CHECK NEXT EQUIPMENT	MSM	4485
			**			SSL - SET SECTOR LIMITS.	MSM	4487
			*				MSM	4488
			*			ENTRY (FN - FN+4) = EST ENTRY.	MSM	4489
			*				MSM	4490
			*			EXIT SECTOR LIMITS SET IN MST WORD (MDGL).	MSM	4491
			*				MSM	4492
			*			USES T2, T3, CN - CN+4, CM - CM+4.	MSM	4493
							MSM	4494
							MSM	4495
3567	3044		SSL2	LDD	FN+4	STORE DRIVER WORD	MSM	4496
3570	1003			SHN	3		MSM	4497
3571	1606			ADN	MDGL		MSM	4498
3572	6230			CWD	CN		MSM	4499
							MSM	4500
3573	0100	3573	SSL	SUBR		ENTRY/EXIT	MSM	4501
3575	3044			LDD	FN+4	READ DRIVER WORD FROM MST	MSM	4502
3576	1003			SHN	3		MSM	4503
3577	1606			ADN	MDGL		MSM	4504
3600	6030			CRD	CN		MSM	4505
3601	1610			ADN	DDLL-MDGL		MSM	4506
3602	6010			CRD	CM		MSM	4507
3603	3010			LDD	CM		MSM	4508
3604	1207			LPN	7		MSM	4509
3605	3402			STD	T2		MSM	4510
3606	3031			LDD	CN+1	SET SINGLE UNIT SECTOR LIMIT	MSM	4511
3607	2200	3777		LPC	3777		MSM	4512
3611	3403			STD	T3		MSM	4513
3612	3434			STD	CN+4		MSM	4514

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\* SET SECTOR LIMITS FOR MULTI UNIT DEVICE.

MSM 4515  
MSM 4516  
MSM 4517  
MSM 4518  
MSM 4519  
MSM 4520  
MSM 4521  
MSM 4522

1	3613	3702	SSL1	SOD	T2	DECREMENT UNIT COUNT		
2	3614	0752		MJN	SSL2	IF NO MORE UNITS		
3	3615	3003		LDD	T3			
4	3616	3534		RAD	CN+4			
5	3617	0373		UJN	SSL1			

	3620	MBUF	EQU	*	MST BUFFER		283L840	153
	3745	OVLA	EQU		MBUF+5*MSTL+5 OVERLAY LOAD ADDRESS		283L840	154
	3745	ORDC	EQU	OVLA	LOAD ADDRESS FOR *4DC*		283L840	155
	3745	ORDD	EQU	OVLA	LOAD ADDRESS FOR *4DD*		283L840	156
	3745	ORDF	EQU	OVLA	LOAD ADDRESS FOR *4DF*		283L840	157

\* THE FOLLOWING CODE IS OVERLAID AFTER READING THE DEVICE  
\* LABELS.

MSM 5015  
MSM 5016

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1412THE

	**				CAM - CHANGE ACCESS MODE.		MSM	5019
	*						MSM	5020
	*				ENTRY (A) = BIAS FOR ALGORITHM INDEX.		MSM	5021
1	*				(AM) = 0 IF CHANGING TO HALF TRACK MODE.		MSM	5022
2	*				= *AIHT* IF CHANGING TO FULL TRACK MODE.		MSM	5023
3	*				(EQ) = EST ORDINAL.		MSM	5024
4	*				(CM+2) = CHANNEL FOR ACCESS PATH CHANGE.		MSM	5025
5	*				(CN - CN+4) = DILL WORD OF MST.		MSM	5026
6	*				(FN - FN+4) = EST ENTRY.		MSM	5027
7	*						MSM	5028
8	*				USES T0, T2, CM - CM+4.		MSM	5029
9	*						MSM	5030
10	*				CALLS SSL.		MSM	5031
11	*						MSM	5032
12	*				MACROS MONITOR.		MSM	5033
13							MSM	5034
14							MSM	5035
15		3620	0100 3620		CAM SUBR ENTRY/EXIT		MSM	5036
16		3622	3534		RAD CN+4 ADJUST ALGORITHM INDEX		MSM	5037
17		3623	1277		LPN 77		MSM	5038
18		3624	3402		STD T2 EXTRACT ALGORITHM INDEX		MSM	5039
19		3625	3012		LDD CM+2		MSM	5040
20		3626	0413		ZJN CAM2 IF NO ACCESS CHANGE		MSM	5041
21		3627	3057		LDD AM		MSM	5042
22		3630	0402		ZJN CAM1 IF SWITCHING TO HALF TRACK MODE		MSM	5043
23		3631	1401		LDN EAPS&DAPS		MSM	5044
24		3632	1106		CAM1 LMN DAPS SET *SCSM* SUBFUNCTION		MSM	5045
25		3633	3413		STD CM+3		MSM	5046
26		3634	3053		LDD EQ SET EST ORDINAL		MSM	5047
27		3635	3411		STD CM+1		MSM	5048
28		3636	1423		MONITOR SCAM ENABLE / DISABLE HALF TRACK ACCESS		MSM	5049
29		3641	5002 3674		CAM2 LDM TEQM-1,T2		MSM	5050
30		3643	3413		STD CM+3 SET NEW MNEMONIC		MSM	5051
31		3644	3443		STD FN+3		MSM	5052
32		3645	1420		LDN SMNS SET MNEMONIC SUBFUNCTION		MSM	5053
33		3646	3412		STD CM+2		MSM	5054
34		3647	3053		LDD EQ CHANGE EQUIPMENT MNEMONIC		MSM	5055
35		3650	3411		STD CM+1		MSM	5056
36		3651	1420		MONITOR SEQM		MSM	5057
37		3654	3044		LDD FN+4 READ MDGL WORD OF MST		MSM	5058
38		3655	1003		SHN 3		MSM	5059
39		3656	1606		ADN MDGL		MSM	5060
40		3657	6010		CRD CM		MSM	5061
41		3660	5002 3702		LDM TSLM-1,T2 SET SINGLE UNIT SECTOR LIMIT		MSM	5062
42		3662	3411		STD CM+1		MSM	5063
43		3663	3044		LDD FN+4 UPDATE MST		MSM	5064
44		3664	1003		SHN 3		MSM	5065
45		3665	1606		ADN MDGL		MSM	5066
46		3666	6210		CWD CM		MSM	5067
47		3667	1605		ADN DILL-MDGL		MSM	5068
48		3670	6230		CWD CN		MSM	5069
49		3671	0200 3574		RJM SSL SET SECTOR LIMITS		MSM	5070
50		3673	0100 3620		CAM5 LJM CAMX RETURN		MSM	5071
51							MSM	5072
52							MSM	5073
53		3675			TEQM BSS 0 TABLE OF EQUIPMENT MNEMONICS		MSM	5074
54		3675	0411		CON 2RDI HALF TRACK SINGLE DENSITY		MSM	5075

3676	0412		CON	2RDJ	HALF TRACK DOUBLE DENSITY	MSM	5076
3677	0415		CON	2RDM	HALF TRACK DOUBLE DENSITY (885)	MSM	5077
3700	0413		CON	2RDK	FULL TRACK SINGLE DENSITY	MSM	5078
3701	0414		CON	2RDL	FULL TRACK DOUBLE DENSITY	MSM	5079
3702	0421		CON	2RDQ	FULL TRACK DOUBLE DENSITY (885)	MSM	5080
						MSM	5081
						MSM	5082
3703		TSLM	BSS	0	TABLE OF SECTOR LIMITS	MSM	5083
3703	4153		CON	SLDI+4000	HALF TRACK SINGLE DENSITY	MSM	5084
3704	4343		CON	SLDJ+4000	HALF TRACK DOUBLE DENSITY	MSM	5085
3705	5200		CON	SLDM+4000	HALF TRACK DOUBLE DENSITY (885)	MSM	5086
3706	0160		CON	SLDK	FULL TRACK SINGLE DENSITY	MSM	5087
3707	0343		CON	SLDL	FULL TRACK DOUBLE DENSITY	MSM	5088
3710	1200		CON	SLDQ	FULL TRACK DOUBLE DENSITY (885)	MSM	5089
			**		CCS - CHECK CHANNEL STATUS.	MSM	5091
			*			MSM	5092
			*	ENTRY	(A) = REQUESTED STATUS.	MSM	5093
			*		(FN - FN+4) = EST ENTRY.	MSM	5094
			*			MSM	5095
			*	EXIT	(A) = (CM+2).	MSM	5096
			*		= 0 IF REQUESTED STATUS NOT PRESENT.	MSM	5097
			*		= CHANNEL DESCRIPTOR IF STATUS FOUND.	MSM	5098
			*			MSM	5099
			*	USES	T2.	MSM	5100
						MSM	5101
						MSM	5102
3711	4013		CCS2	LDI	CM+3	MSM	5103
3712	3412		CCS3	STD	CM+2	MSM	5104
						MSM	5105
3713	0100	3713	CCS	SUBR		MSM	5106
3715	3402			STD	T2	MSM	5107
3716	1441			LDN	FN+1	MSM	5108
3717	3413			STD	CM+3	MSM	5109
3720	4013		CCS1	LDI	CM+3	MSM	5110
3721	1067			SHN	0-10	MSM	5111
3722	1306			SCN	6	MSM	5112
3723	3302			LMD	T2	MSM	5113
3724	0464			ZJN	CCS2	MSM	5114
3725	3613			AOD	CM+3	MSM	5115
3726	1143			LMN	FN+3	MSM	5116
3727	0570			NJN	CCS1	MSM	5117
			*	LDN	0	MSM	5118
3730	0361			UJN	CCS3	MSM	5119

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			**	CLE - CHECK LABEL ERROR.			MSM	5121
			*				MSM	5122
			*	ENTRY (A) .LT. 0 IF MASS STORAGE ERROR.			MSM	5123
			*	= 1 IF ERROR IN *DIT*.			MSM	5124
			*				MSM	5126
			*	EXIT (A) = ERROR CODE FOR MST.			MSM	5127
			*	.LT. 0 IF FULL TRACK RETRY IN ORDER.			MSM	5128
			*				MSM	5129
			*	CALLS CME.			MSM	5130
							MSM	5131
							MSM	5132
	3731	1701		CLE1	SBN	1	MSM	5133
	3732	0402			ZJN	CLE2		IF ERROR IN *DIT*
	3733	1500			LCN	0	MSM	5137
	3734	1102		CLE2	LMN	STCE	MSM	5138
							MSM	5139
	3735	0100	3735	CLE	SUBR		MSM	5140
	3737	0671			PJN	CLE1	MSM	5141
								IF NOT MASS STORAGE ERROR
	3740	0200	3757		RJM	CME	MSM	5142
	3742	0372			UJN	CLEX	MSM	5143
								RETURN
			**	CME - CHECK MASS STORAGE ERROR.			MSM	5145
			*				MSM	5146
			*	ENTRY (T3) = (RDCT).			MSM	5147
			*	(SN) = LABEL SECTOR NUMBER.			MSM	5148
			*	(FN - FN+4) = EST ENTRY.			MSM	5149
			*				MSM	5150
			*	EXIT (A) = 0 IF RETRY IN ORDER.			MSM	5151
			*	= ERROR CODE FOR MST.			MSM	5152
			*	.LT. 0, IF PARITY ERROR ENCOUNTERED.			MSM36	1
			*	TO *CUD2* IF DRIVER DETECTED *DOWN* CONDITION.			MSM	5153
			*	TO *RDL1* IF NON-REMOVABLE DEVICE NOT READY.			MSM	5154
			*				MSM	5155
			*	USES CM - CM+4.			MSM	5156
			*				MSM	5157
			*	CALLS SDU.			NS2547	10
			*				NS2547	11
			*	MACROS SMSTF.			MSM	5158
							MSM	5159
							MSM	5160
	3743	3040		CME5	LDD	FN	MSM	5161
					EQU	*-1	MSM45	1
				3743	CMEB			
			*		UJN	CME8	MSM45	2
								(*CMS* CALL)
	3744	1011			SHN	21-10	MSM	5162
	3745	0703			PJP	RDL1	MSM	5163
								IF NON-REMOVABLE DEVICE
	3750	3017			LDD	SN	MSM	5164
	3751	0502			NJN	CME7	MSM	5165
								IF NOT FIRST UNIT OF EQUIPMENT
	3752	3446			STD	RE	MSM	5166
	3753	0200	4415		RJM	SDU	NS2547	12
								SET DEVICE UNLOADED
					3753	CMEA	MSM	5168
					EQU	CME7		
			*		UJN	CME8	MSM	5169
								(*CMS* CALL)
	3755	1404		CME8	LDN	STNR	MSM	5176
								RETURN *NOT READY*
							MSM	5177
	3756	0100	3756	CME	SUBR		MSM	5178
								ENTRY/EXIT

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3760	3003		LDD	T3		MSM	5179
3761	0474		ZJN	CMEX	IF FLAWED TRACK	MSM	5180
3762	1277		LPN	77		MSM	5181
3763	1116		LMN	NRDE		MSM	5182
3764	0456		ZJN	CME5	IF NOT READY	MSM	5183
3765	1103		LMN	LNRE&NRDE		MSM	5184
3766	0503		ZJP	CUD2	IF DEVICE DOWN	MSM	5185
3771	1105		LMN	PARE&LNRE		MSM36	2
3772	0503		NJN	CME2	IF NOT A PARITY ERROR	MSM36	3
3773	1510		LCN	PARE		MSM36	4
3774	0361		UJN	CMEX	EXIT WITH ERROR STATUS	MSM36	5
						MSM36	6
3775	1421	CME2	LDN	STDE		MSM36	7
3776	0357		UJN	CMEX	RETURN *DEVICE ERROR*	MSM	5187
** CUC - COMPARE UPDATE COUNTS.							
* MSM 5189							
* ENTRY (T5) = EST ORDINAL. NS2547 13							
* (T7) = SECTOR NUMBER OF LABEL READ. NS2547 14							
* (FN - FN+4) = *EQDE* WORD OF EST ENTRY. MSM 5192							
* (BFMS) = LABEL SECTOR. MSM 5193							
* (RUCA) = UPDATE COUNT FROM LAST TRT SECTOR. MSM 5194							
* MSM 5195							
* EXIT (A) = 0 IF COUNTS MATCH. MSM 5196							
* (RG) = 0 IF OPERATOR ENTERED *GO*. NS2547 15							
* MSM 5197							
* CALLS CLC, GAS, SOM, WOC. NS2547 16							
* COMPARE UPDATE COUNT FROM MST WITH THAT AT END OF TRT. MSM 5199							
* MSM 5200							
* MSM 5201							
3777	5000 7064	CUC3	LDM	N4SS+5*SDGL+2	COMPARE UPDATE COUNTS	MSM	5202
4001	5300 4411		LMM	RUCA+2		MSM	5203
4003	0534		NJN	CUC2	IF NO MATCH	MSM	5205
4004	5000 7065		LDM	N4SS+5*SDGL+3		MSM	5206
4006	5300 4412		LMM	RUCA+3		MSM	5207
4010	0527		NJN	CUC2	IF NON-MATCHING COUNTS	MSM	5208
4011	5000 7066		LDM	N4SS+5*SDGL+4		MSM	5209
4013	5300 4413		LMM	RUCA+4		MSM	5210
4015	1377		SCN	77		MSM	5211
4016	0521		NJN	CUC2	IF NON-MATCHING COUNTS	MSM	5212
4017	0200 2535		RJM	CLC		MSM	5213
4021	5300 7477		LMM	CKSS		MSM	5214
4023	0514		NJN	CUC2	IF INCORRECT LABEL CHECKSUM	MSM	5215
4024	0100 4024	CUC	SUBR		ENTRY/EXIT	MSM	5216
4026	3040		LDD	FN		MSM	5217
4027	1013		SHN	21-6		MSM	5218
4030	0605		PJN	CUC1	IF DEVICE AVAILABLE	MSM	5219
4031	5000 7017		LDM	LLSS		MSM	5220
4033	1702		SBN	2		MSM	5221
4034	0642		PJN	CUC3	IF NEW LABEL	MSM	5222
4035	1400	CUC1	LDN	0		MSM	5223
4036	0365		UJN	CUCX	RETURN	MSM	5224

	4037	3007		CUC2	LDD	T7		MSM	5226
	4040	0563			NJN	CUCX	IF ALTERNATE LABEL	MSM	5227
	4041	2000	4056		LDC	CUCA	SET EST ORDINAL IN MESSAGE	NS2547	17
	4043	0200	4542		RJM	SOM		NS2547	18
				*	LDC	CUCA	WAIT ON OPERATOR INPUT	NS2547	19
	4045	0200	6206		RJM	WOC		NS2547	20
	4047	0554			NJN	CUCX	IF OPERATOR ENTERED *PAUSE*	NS2547	21
	4050	3415			STD	RG		NS2547	22
	4051	0200	4137		RJM	GAS	GET ALTERNATE LABEL SECTOR	MSM	5229
	4053	3407			STD	T7		MSM	5230
	4054	0100	5122		LJM	RLS2	READ ALTERNATE LABEL	MSM	5231
								NS2547	23
	4056	0521		CUCA	DATA	C*EQXXX, TABLES INCONSISTENT.*		NS2547	24
								NS2547	25
				**		CUD - CHECK UNAVAILABLE DEVICE.		MSM	5233
				*				MSM	5234
				*	ENTRY	(T5) = EST ORDINAL.		MSM	5235
				*		(FN - FN+4) = EST ENTRY.		MSM	5236
				*		(FS - FS+4) = *STLL* WORD OF MST.		MSM	5237
				*				MSM	5238
				*	EXIT	TO *RDLX* IF UNLOAD REQUESTED.		MSM	5239
				*		IF DEVICE OFF.		MSM	5240
				*		IF DEADSTART INITIALIZE.		MSM	5241
				*				MSM	5242
				*	CALLS	WMT.		MSM	5243
								MSM	5244
	4075	3020		CUD4	LDD	FS	CHECK DEVICE STATUS	MSM	5245
	4076	1210			LPN	MLUNL		MSM	5246
	4077	0406			ZJN	CUDX	IF NO UNLOAD REQUEST	MSM	5247
	4100	3040			LDD	FN		MSM	5248
	4101	1016			SHN	21-3		MSM	5249
	4102	0703			MJN	CUDX	IF DEVICE ACTIVE	MSM	5250
	4103	1017			SHN	4+21-6		MSM	5251
	4104	0713			MJN	CUD3	IF DEVICE UNAVAILABLE	MSM	5252
								MSM	5253
	4105	0100	4105	CUD	SUBR		ENTRY/EXIT	MSM	5254
	4107	3020			LDD	FS		MSM	5255
	4110	1007			SHN	21-LIAL+LIAL/12D*12D		MSM	5256
	4111	0704			MJN	CUD2	IF DEADSTART INITIALIZE	MSM	5257
	4112	3040			LDD	FN		MSM	5258
	4113	1202			LPN	2		MSM	5259
	4114	0460			ZJN	CUD4	IF DEVICE ON	MSM	5260
	4115	1400		CUD2	LDN	0		MSM	5261
	4116	3446			STD	RE	INHIBIT FURTHER PROCESSING OF DEVICE	MSM	5262
	4117	2001	0000	CUD3	LDC	1S12		MSM	5263
	4121	0200	6023		RJM	WMT	SET LABEL NOT READ INDICATOR	MSM	5264
	4123	1400			LDN	0		283L840	158
	4124	0100	4571		LJM	RDLX	EXIT	MSM	5265

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	**	GAS - GET ALTERNATE LABEL SECTOR.				MSM	5269
	*					MSM	5270
	*	ENTRY (FN - FN+4) = *EQDE* WORD OF EST ENTRY.				MSM	5271
	*					MSM	5272
	*	EXIT (A) = ALTERNATE LABEL SECTOR.				MSM	5273
	*					MSM	5274
	*	USES T1.				MSM	5275
						MSM	5276
						MSM	5277
4126	1402	GAS1	LDN	2	ADVANCE TABLE ADDRESS	MSM	5278
4127	3501		RAD	T1		MSM	5279
4130	4001	GAS2	LDI	T1		MSM	5280
4131	0405		ZJN	GASX	IF END OF TABLE	MSM	5281
4132	3343		LMD	FN+3		MSM	5282
4133	0572		NJN	GAS1	IF NOT MATCHING DEVICE MNEMONIC	MSM	5283
4134	5001 0001		LDM	1,T1		MSM	5284
						MSM	5285
4136	0100 4136	GAS	SUBR		ENTRY/EXIT	MSM	5286
4140	2000 4144		LDC	TALS		MSM	5287
4142	3401		STD	T1		MSM	5288
4143	0364		UJN	GAS2	ENTER SEARCH LOOP	MSM	5289
						MSM	5290
						MSM	5291
4144		TALS	BSS	0		MSM	5292
			LIST	G		MSM	5293
4144			TBL	"MSEQ"		MSM	5294
4144	0405 0000		CON	2RDE,LCDE		TBLM	.2
4146	0420 0000		CON	2RDP,LCDP		TBLM	.2
4150	0411 0047		CON	2RDI,LCDI		TBLM	.2
4152	0412 0047		CON	2RDJ,LCDJ		TBLM	.2
4154	0415 0047		CON	2RDM,LCDM		TBLM	.2
4156	0413 0077		CON	2RDK,LCDK		TBLM	.2
4160	0414 0077		CON	2RDL,LCDL		TBLM	.2
4162	0421 0067		CON	2RDQ,LCDQ		TBLM	.2
4164	0422 0067		CON	2RDR,LCDR		TBLM	.2
4166	0404 0043		CON	2RDD,LCDL		TBLM	.2
4170	0407 0057		CON	2RDG,LCDG		TBLM	.2
4172	0430 0035		CON	2RDX,LCDX		TBLM	.2
4174	0431 0035		CON	2RDY,LCDY		TBLM	.2
4176	0432 0035		CON	2RDZ,LCDZ		TBLM	.2
4200	0401 0035		CON	2RDA,LCD A		TBLM	.2
4202	0402 0015		CON	2RDB,LCD B		TBLM	.2
4204	0403 0015		CON	2RDC,LCD C		TBLM	.2
4206	0426 0015		CON	2RDV,LCD V		TBLM	.2
4210	0427 0015		CON	2RDW,LCD W		TBLM	.2
4212	0406 0015		CON	2RDF,LCD F		TBLM	.2
4214	0410 0015		CON	2RDH,LCD H		TBLM	.2
4216	0416 0015		CON	2RDN,LCD N		TBLM	.2
4220	0501 0015		CON	2REA,LCE A		TBLM	.2
4222	0502 0015		CON	2REB,LCE B		TBLM	.2
4224	0503 0015		CON	2REC,LCE C		TBLM	.2
4226	0504 0015		CON	2RED,LCE D		TBLM	.2
4230	0505 0015		CON	2REE,LCE E		TBLM	.2
4232	0506 0015		CON	2REF,LCE F		TBLM	.2
4234	0515 0015		CON	2REM,LCE M		TBLM	.2
4236	0516 0015		CON	2REN,LCE N		TBLM	.2
4240	0507 0015		CON	2REG,LCE G		TBLM	.2

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4242	0510	0015	CON	2REH,LCEH	TBLM	.2		
4244	0511	0015	CON	2REI,LCEI	TBLM	.2		
4246	0512	0015	CON	2REJ,LCEJ	TBLM	.2		
4250	0513	0015	CON	2REK,LCEK	TBLM	.2		
4252	0514	0015	CON	2REL,LCEL	TBLM	.2		
4254	0517	0015	CON	2REO,LCEO	TBLM	.2		
4256	0520	0015	CON	2REP,LCEP	TBLM	.2		
4260	0523	0015	CON	2RES,LCES	TBLM	.2		
4262	0525	0015	CON	2REU,LCEU	TBLM	.2		
4264	0526	0015	CON	2REV,LCEV	TBLM	.2		
4266	0527	0015	CON	2REW,LCEW	TBLM	.2		
			LIST	*	MSM	5295		
			PURGMAC	TBLM	MSM	5296		
4270	0000		CON	0	MSM	5297		
				END OF TABLE				
			**	PUE - PROCESS UNSECURED SYSTEM SECURITY ERROR.	MSM	5299		
			*		MSM	5300		
			*	ENTRY (T5) = EST ORDINAL.	NS2547	26		
			*		MSM	5302		
			*	EXIT (A) = 0 IF OPERATOR ENTERED *GO*.	MSM	5303		
			*	.NE. 0 IF OPERATOR ENTERED *PAUSE*.	MSM	5304		
			*		MSM	5305		
			*	CALLS DFM, SOM, WOC.	NS2547	27		
					MSM	5311		
					MSM	5312		
4271	0100	4271	PUE	SUBR	ENTRY/EXIT	MSM	5313	
4273	2000	0557		LDC	2RE.	MSM	5318	
4275	5400	4345		STM	PUEB	MSM	5319	
4277	1400			LDN	0	MSM	5320	
4300	5400	4346		STM	PUEB+1	MSM	5321	
4302	2000	4333		LDC	PUEA	SET EST ORDINAL IN MESSAGE	NS2547	28
4304	0200	4542		RJM	SOM		NS2547	29
4306	2004	4333		LDC	PUEA+ERLN	ISSUE MESSAGE TO ERRLOG	MSM	5327
4310	0200	0423		RJM	DFM		MSM	5328
4312	3016			LDD	T8	WAIT ON OPERATOR INPUT	NS2547	30
4313	0200	6206		RJM	WOC		NS2547	31
4315	0514			NJN	PUE2	IF OPERATOR ENTERED *PAUSE*	MSM	5351
4316	1502			LCN	1R.-1R		MSM	5352
4317	5500	4345		RAM	PUEB		MSM	5353
4321	2000	2205		LDC	2RRE		MSM	5354
4323	5400	4346		STM	PUEB+1		MSM	5355
4325	2004	4333		LDC	PUEA+ERLN	ISSUE MESSAGE TO ERRLOG	MSM	5356
4327	0200	0423		RJM	DFM		MSM	5357
			*	LDN	0		MSM	5358
4331	0100	4271	PUE2	UJP	PUEX	RETURN	NS2547	32
							NS2547	33
							MSM	5360
4333	0521		PUEA	DATA	20HEQXXX, SECURED DEVIC		MSM	5361
4345	0555		PUEB	DATA	C*E RECOVERED.*		MSM	5362

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	**			RUC - RETRIEVE UPDATE COUNT FROM TRT.			MSM	5364
	*						MSM	5365
	*			ENTRY (T5) = EST ORDINAL.			MSM	5366
1	*			(T6) = LABEL TRACK.			MSM	5367
2	*			(T7) = LABEL SECTOR.			MSM	5368
3	*			(SN) = FIRST UNIT OF EQUIPMENT INDICATOR.			MSM	5369
4	*			(FN - FN+4) = *EQDE* WORD OF EST ENTRY.			MSM	5370
5	*						MSM	5371
6	*			EXIT (QS) = (T7) ON ENTRY IF TRT UPDATE COUNT READ.			MSM	5372
7	*						MSM	5373
8	*			USES CM - CM+4.			MSM	5374
9	*						MSM	5375
10	*			CALLS RLP.			MSM	5376
11							MSM	5377
12							MSM	5378
13		4354	0100 4354	RUC	SUBR	ENTRY/EXIT	MSM	5379
14		4356	3040		LDD FN		MSM	5380
15		4357	1013		SHN 21-6		MSM	5381
16		4360	0673		PJN RUCX	IF DEVICE AVAILABLE	MSM	5382
17		4361	3017		LDD SN		MSM	5383
18		4362	0571		NJN RUCX	IF NOT FIRST UNIT OF EQUIPMENT	MSM	5384
19		4363	3044		LDD FN+4		MSM	5385
20		4364	1003		SHN 3		MSM	5386
21					ADK TDGL	FETCH TRT LENGTH FROM MST	MSM	5387
22		4365	6010		CRD CM		MSM	5388
23		4366	3007		LDD T7	SAVE LABEL SECTOR	MSM	5389
24		4367	3435		STD QS		MSM	5390
25		4370	3012		LDD CM+2	CALCULATE LAST SECTOR OF TRT	MSM	5391
26		4371	1071		SHN -6		MSM	5392
27		4372	1601		ADN 1	ADVANCE OVER LABEL SECTOR	MSM	5393
28		4373	3507		RAD T7		MSM	5394
29		4374	0200 5066		RJM RLP	READ END OF TRT SECTOR	MSM	5395
30		4376	3077		LDD MA		MSM	5396
31		4377	6370 7473		CWM BFMS+2+5*77,ON		MSM	5397
32		4401	1701		SBN 1	SAVE MST/TRT UPDATE COUNTER	MSM	5398
33		4402	6170 4407		CRM RUCA,ON		MSM	5399
34		4404	3035		LDD QS	RESTORE LABEL SECTOR	MSM	5400
35		4405	3407		STD T7		MSM	5401
36		4406	0345		UJP RUCX	RETURN	MSM	5402
37							MSM	5403
38							MSM	5404
39		4407	5	RUCA	BSSZ 5	MST/TRT UPDATE COUNT	MSM	5405
40								
41								
42								
43								
44	**			SDU - SET DEVICE UNLOADED.			NS2547	35
45	*						NS2547	36
46	*			ENTRY (T5) = EST ORDINAL.			NS2547	37
47	*			(FN - FN+4) = *EQDE* WORD OF EST ENTRY.			NS2547	38
48	*						NS2547	39
49	*			MACROS CMSTF, SMSTF.			NS2547	40
50							NS2547	41
51							NS2547	42
52		4414	0100 4414	SDU	SUBR	ENTRY/EXIT	NS2547	43
53		4416	3040		LDD FN		NS2547	44
54		4417	1011		SHN 21-10		NS2547	45

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4420	0673		PJN	SDUX	IF NON-REMOVABLE DEVICE	NS2547	46
4421	1463		SMSTF	LUNL		NS2547	47
4424	1461		SMSTF	LDUL	SET DEVICE UNLOADED	NS2547	48
4427	3040		LDD	FN		NS2547	49
4430	1220		LPN	20		NS2547	50
4431	0462		ZJN	SDUX	IF NOT INDEPENDENT SHARED DEVICE	NS2547	51
4432	1464		SMSTF	LPTU		NS2547	52
4435	1507		CMSTF	GPRS	CLEAR PRESET STATUS	NS2547	53
		*	LDN	0		NS2547	54
4440	0353		UJN	SDUX	RETURN	NS2547	55
		**			SFT - SET FULL TRACK MODE.	MSM	5407
		*				MSM	5408
		*	ENTRY	(AM) = 0	IF UNAVAILABLE *LDAM* DEVICE.	MSM	5409
		*		(T4 - T7) =	MASS STORAGE PARAMETERS.	MSM	5410
		*		(FN - FN+4) =	EST ENTRY.	MSM	5411
		*				MSM	5412
		*	EXIT	TO *RDL3*	IF MODE CHANGED TO FULL TRACK.	MSM	5413
		*		(AM) .NE. 0	TO DISABLE REENTRY TO SUBROUTINE.	MSM	5414
		*				MSM	5415
		*	USES	RE, CN -	CN+4.	MSM	5416
		*				MSM	5417
		*	CALLS	CAM, CCS.		MSM	5418
						MSM	5419
						MSM	5420
4441	0100	4441	SFT	SUBR	ENTRY/EXIT	MSM	5421
4443	3057		LDD	AM		MSM	5422
4444	3117		ADD	SN		MSM36	8
4445	0573		NJN	SFTX	IF CHANGE ALREADY MADE	MSM	5424
4446	3044		LDD	FN+4		MSM	5425
4447	1003		SHN	3		MSM	5426
4450	1613		ADN	DILL	FETCH ALGORITHM INDEX WORD FROM MST	MSM	5427
4451	6030		CRD	CN		MSM	5428
4452	1400		SFTA	LDN	0	MSM	5429
		*	LDN	10	(2X PP STATUS)	MSM	5430
		*	LDN	4	(4X PP STATUS)	MSM	5431
4453	0405		ZJN	SFT1	IF 1X PP SPEED	MSM	5432
		*			CHECK CONTROLLER CONFIGURATION.	MSM	5433
						MSM	5434
						MSM	5435
4454	1410		LDN	10	LOOK FOR FULL TRACK ACCESS	MSM	5436
4455	0200	3714	RJM	CCS		MSM	5437
4457	0505		NJN	SFT2	IF FULL TRACK PATH PRESENT	MSM	5438
4460	3412		SFT1	STD	CM+2	MSM	5439
4461	1440		LDN	40	FLAG INVALID FULL TRACK ACCESS SET	MSM	5440
4462	3546		RAD	RE		MSM	5441
4463	0304		UJN	SFT3	CHANGE ACCESS MODE	MSM	5442
						MSM	5443
4464	1411		SFT2	LDN	11	MSM	5444
4465	0200	3714	RJM	CCS	CHECK FOR HALF TRACK ACCESS	MSM	5445
4467	1403		SFT3	LDN	AIHT	MSM	5446
4470	3457		STD	AM	DISABLE REENTRY TO *SFT*	MSM	5447
4471	0200	3621	RJM	CAM	CHANGE ACCESS MODE	MSM	5448
4473	1400		LDN	0		MSM36	9



4474	3407		STD	T7			MSM36	10
4475	0100 4640		LJM	RDL3	SEARCH FOR LABEL IN FULL TRACK MODE		MSM	5449

1									1
2									2
3									3
4			**	SHT	- SET HALF TRACK MODE.		MSM	5451	4
5			*				MSM	5452	5
6			*	ENTRY	(FN - FN+4) = EST ENTRY.		MSM	5453	6
7			*				MSM	5454	7
8			*	EXIT	(AM) = 0 IF UNAVAILABLE *LDAM* DEVICE.		MSM	5455	8
9			*				MSM	5456	9
10			*	USES	CM - CM+4, CN - CN+4.		MSM	5457	10
11			*				MSM	5458	11
12			*	CALLS	CAM, CCS.		MSM	5459	12
13							MSM	5460	13
14							MSM	5461	14
15	4477	3657	SHT1	AOD	AM	SET FULL TRACK STATUS	MSM	5462	15
16							MSM	5463	16
17	4500	0100 4500	SHT	SUBR		ENTRY/EXIT	MSM	5464	17
18	4502	3044		LDD	FN+4	GET MST PARAMETERS	MSM	5465	18
19	4503	1003		SHN	3		MSM	5466	19
20	4504	1606		ADN	MDGL		MSM	5467	20
21	4505	6010		CRD	CM		MSM	5468	21
22	4506	1605		ADN	DILL-MDGL		MSM	5469	22
23	4507	6030		CRD	CN		MSM	5470	23
24	4510	3013		LDD	CM+3	SET ACCESS MODE FLAG	MSM	5471	24
25	4511	1101		LMN	LA6DI		MSM	5472	25
26	4512	1277		LPN	77		MSM	5473	26
27	4513	3457		STD	AM		MSM	5474	27
28	4514	3040		LDD	FN	ADD AVAILABLE STATUS	MSM	5475	28
29	4515	2200 0100		LPC	100		MSM	5476	29
30	4517	3371		LMD	HN		MSM	5477	30
31	4520	3557		RAD	AM		MSM	5478	31
32	4521	0556		NJN	SHTX	IF AVAILABLE OR NOT *6DI* DRIVER	MSM	5479	32
33	4522	3011		LDD	CM+1		MSM	5480	33
34	4523	1006		SHN	21-13		MSM	5481	34
35	4524	0753		MJN	SHTX	IF DEVICE IN HALF TRACK MODE	MSM	5482	35
36	4525	3034		LDD	CN+4		MSM	5483	36
37	4526	1277		LPN	77	CHECK ALGORITHM INDEX	MSM	5484	37
38	4527	1707		SBN	2*AIHT+1		MSM	5485	38
39	4530	0646		PJN	SHT1	IF FULL TRACK ONLY DEVICE	MSM	5486	39
40	4531	1401		LDN	1	CHECK INACTIVE HALF TRACK PATH	MSM	5487	40
41	4532	0200 3714		RJM	CCS		MSM	5488	41
42	4534	1503		LCN	AIHT	CHANGE ACCESS MODE	MSM	5489	42
43	4535	0200 3621		RJM	CAM		MSM	5490	43
44	4537	0340		UJN	SHTX	RETURN	MSM	5491	44
45									45
46									46
47									47
48									48
49									49
50									50
51									51
52									52
53									53
54									54
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57									57
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60									60

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	**				SOM - SET EST ORDINAL IN MESSAGE.	NS2547	57	
	*					NS2547	58	
	*				ENTRY (A) = MESSAGE ADDRESS.	NS2547	59	
	*				(T5) = EST ORDINAL.	NS2547	60	
	*					NS2547	61	
	*				EXIT (A) = (T8) = MESSAGE ADDRESS.	NS2547	62	
	*					NS2547	63	
	*				CALLS C2D.	NS2547	64	
						NS2547	65	
						NS2547	66	
4540		3016		SOM1	LDD T8	RETURN WITH (A) = MESSAGE ADDRESS	NS2547	67
							NS2547	68
4541		0100 4541		SOM	SUBR	ENTRY/EXIT	NS2547	69
4543		3416			STD T8		NS2547	70
4544		4016			LDI T8	CHECK MESSAGE FORMAT	NS2547	71
4545		2300 0521			LMC 2REQ		NS2547	72
4547		0570			NJN SOM1	IF NOT *EQXXX* MESSAGE	NS2547	73
4550		3005			LDD T5		NS2547	74
4551		1074			SHN -3	CONVERT UPPER TWO DIGITS	NS2547	75
4552		0200 1122			RJM C2D		NS2547	76
4554		5416 0001			STM 1,T8	STORE IN MESSAGE	NS2547	77
4556		3005			LDD T5		NS2547	78
4557		1207			LPN 7	EXTRACT LOW ORDER DIGIT	NS2547	79
4560		1006			SHN 6		NS2547	80
4561		2100 3356			ADC 2R0,	COMPLETE ORDINAL CONVERSION	NS2547	81
4563		5416 0002			STM 2,T8		NS2547	82
4565		0352			UJN SOM1	RETURN	NS2547	83
	**				RDL - READ DEVICE LABEL.	MSM	5493	
	*					MSM	5494	
	*				ENTRY (EQ) = (T5) = EST ORDINAL.	MSM	5495	
	*				(RS) = RECOVERY STATUS.	MSM	5496	
	*				(FN - FN+4) = EST ENTRY.	MSM	5497	
	*				(AL) = CM ADDRESSES FOR MSTs OF EACH UNIT.	MSM	5498	
	*					MSM	5499	
	*				EXIT LABEL READ AND MST PLACED IN CM.	MSM	5500	
	*					MSM	5501	
	*				USES T6, T7, CA, RE, SL, UC, CM - CM+4, CN - CN+4,	272L774	30	
	*				FS - FS+4.	272L774	31	
	*					MSM	5503	
	*				CALLS CLE, CUD, PTA, RLM, RLS, SFT, SHT, SLT, SSL, WMT.	283L840	159	
						MSM	5507	
						MSM	5508	
4566		3660		RDL16	AOD RC	ADVANCE REDEFINITION REQUESTED COUNT	MSM	5509
4567		1400		RDL17	LDN 0	INHIBIT FURTHER PROCESSING OF DEVICE	MSM	5510
4570		3446			STD RE		MSM	5511
							MSM	5512
4571		0100 4571		RDL	SUBR	ENTRY/EXIT	MSM	5513
4573		0200 3574		RDLA	RJM SSL	SET SECTOR LIMITS	MSM	5514
	*				UJN **2	IF CM RECOVERY OR *CMS* CALL	MSM	5515
4575		3046			LDD RE		MSM	5516
4576		1015			SHN 21-4		MSM	5517
4577		0771			MJN RDLX	IF DEADSTART INITIALIZE SPECIFIED	MSM	5518
4600		0200 1206			RJM PTA	PRESET FWA OF TRT	MSM	5519

4602	3044		RDL1	LDD	FN+4		MSM	5520
4603	1003			SHN	3		MSM	5521
4604	1615			ADN	STLL		MSM	5522
4605	6020			CRD	FS		MSM	5523
4606	1601			ADN	DDLL-STLL		MSM	5524
4607	6030			CRD	CN		MSM	5525
4610	1715			SBN	DDLL-ACGL		MSM	5526
4611	6010			CRD	CM		MSM	5527
4612	3014			LDD	CM+4	CHECK REDEFINITION REQUESTED	MSM	5528
4613	1006			SHN	21-13		MSM	5529
4614	0751			MJN	RDL16	IF REDEFINITION REQUESTED	MSM	5530
4615	3030			LDD	CN	SET CURRENT UNIT COUNT	MSM	5531
4616	1207			LPN	7		MSM	5532
4617	3462			STD	UC		MSM	5533
4620	3030			LDD	CN		272L774	32
4621	1066			SHN	-11		272L774	33
4622	0544			NJN	RDL17	IF NO UNITS OR REDEFINITION IN PROGRESS	MSM	5536
4623	3407			STD	T7	SET LABEL SECTOR	MSM	5537
4624	3030			LDD	CN		MSM	5538
4625	1074			SHN	-3		MSM	5539
4626	1207			LPN	7		272L774	34
4627	3262			SBD	UC		MSM	5540
4630	0602			PJN	RDL2	IF CURRENT .LE. ORIGINAL UNIT COUNT	MSM	5541
4631	3562			RAD	UC		MSM	5542
4632	3047		RDL2	LDD	AL	SET ADDRESS FOR LABEL MST	MSM	5543
4633	3464			STD	CA		MSM	5544
4634	0200 4106			RJM	CUD	CHECK UNAVAILABLE DEVICE	MSM	5545
4636	0200 4501			RJM	SHT	SET HALF TRACK MODE	MSM	5547
							MSM	5548
			*		READ LABEL FOR UNITS ON THIS EQUIPMENT.		MSM	5549
							MSM	5550
4640	3044		RDL3	LDD	FN+4	FETCH LABEL TRACK FROM MST	MSM	5551
4641	1003			SHN	3		MSM	5552
4642	1603			ADN	ALGL		MSM	5553
4643	6010			CRD	CM		MSM	5554
4644	1603			ADN	MDGL-ALGL		MSM	5555
4645	6030			CRD	CN		MSM	5556
4646	3031			LDD	CN+1	SET SINGLE UNIT SECTOR LIMIT	MSM	5557
4647	2200 3777			LPC	3777		MSM	5558
4651	3463			STD	SL		MSM	5559
4652	3011			LDD	CM+1	SET LABEL TRACK	MSM	5560
4653	3406			STD	T6		MSM	5561
4654	0414			ZJN	RDL8	IF LABEL TRACK UNKNOWN	MSM	5562
4655	1601			ADN	1		MSM	5563
4656	5400 5712			STM	SLTA		MSM	5564
4660	0200 5103		RDL7	RJM	RLS	READ LABEL SECTOR	MSM	5565
4662	0421			ZJN	RDL14	IF VALID LABEL	MSM	5566
4663	0200 3736			RJM	CLE	CHECK LABEL ERROR	MSM	5567
4665	0706			MJN	RDL9	IF POSSIBLE WRONG MODE	MSM	5568
4666	0515			NJN	RDL14	IF ERROR STATUS FOR MST	MSM	5569
							MSM	5570
			*		ERROR IN LABEL READ - TRY ANOTHER TRACK.		MSM	5571
							MSM	5572
4667	3606			AOD	T6	ADVANCE TO NEXT TRACK	MSM	5573
4670	0200 5715		RDL8	RJM	SLT		MSM	5574
4672	0565			NJN	RDL7	IF NOT AT BAD TRACK LIMIT	MSM	5575
4673	0200 4442		RDL9	RJM	SFT		MSM	5576

4675	3046		LDD	RE	CHECK INCORRECT MODE CHANGE	MSM	5577	
4676	1240		LPN	40		MSM	5578	
4677	0403		ZJN	RDL10	IF MODE CHANGE LEGAL OR NONE	MSM	5579	
4700	0200	4501	RJM	SHT	RESTORE HALF TRACK ACCESS	MSM	5580	
4702	1401		LDN	STLE	SET LABEL ERROR STATUS	MSM	5581	
						MSM	5582	
			*		ENTER MST FROM LABEL INTO CM TABLE FOR FURTHER PROCESSING.	MSM	5583	
						MSM	5584	
4703	0200	6023	RDL14	RJM	WMT	COPY MST TO CM TABLE	MSM	5585
4705	3017		LDD	SN		283L840	160	
4706	0503		NJN	RDL15	IF NOT FIRST UNIT OF EQUIPMENT	MSM	5586	
4707	0200	4732	RDLC	RJM	RLM	GET LOCAL MST DATA	MSM	5587
			*	UJN	RDL15	(LEVEL 3 D/S OR *CMS* W/O D/S SEQUENCING)	272L774	35
4711	3063		RDL15	LDD	SL	ADVANCE TO LABEL ON NEXT UNIT	MSM	5588
4712	3117		ADD	SN		MSM	5589	
4713	3407		STD	T7		MSM	5590	
4714	3762		SOD	UC		MSM	5591	
4715	0642		PJP	RDL7	IF MORE UNITS TO CHECK	283L840	161	
4716	1400		LDN	0		MSM	5593	
4717	0100	4571	LJM	RDLX	RETURN	MSM	5594	
			**		RLM - READ LOCAL MST BLOCK.	MSM	5596	
			*			MSM	5597	
			*		ENTRY (T6) = LABEL TRACK.	MSM	5598	
			*		(T7) = 0.	MSM	5599	
			*		(FN - FN+4) = EST ENTRY.	MSM	5600	
			*		(FS - FS+4) = MST STATUS WORD (STLL).	MSM	5601	
			*		BFMS LOADED WITH LABEL MST.	MSM	5602	
			*			MSM	5603	
			*		EREXIT TO */RMS/HNG* IF ERROR READING SECTOR OF LOCAL AREAS.	MSM	5604	
			*			MSM	5605	
			*		USES P1, CN - CN+4.	MSM	5606	
			*			MSM	5607	
			*		CALLS GAS, LRA, RLA, SES.	MSM	5608	
						MSM	5609	
						MSM	5610	
4721	5000	6776	RLM6	LDM	BFMS	MSM	5611	
4723	0402		ZJN	RLM7	IF SECTOR NOT REFORMATTED	MSM	5612	
4724	1420		LDN	STDE&STLE		MSM	5613	
4725	1101		RLM7	LMN	STLE	SET ERROR STATUS IN MST	MSM	5614
4726	0200	2631	RJM	SES		MSM	5615	
4730	3646		AOD	RE	FLAG BAD LABEL	MSM	5616	
						MSM	5617	
4731	0100	4731	RLM	SUBR		ENTRY/EXIT	MSM	5618
4733	3046		LDD	RE		MSM	5619	
4734	1013		SHN	21-6		MSM	5620	
4735	0673		PJN	RLMX	IF EQUIPMENT AVAILABLE	MSM	5621	
4736	1006		SHN	6-0		MSM	5622	
4737	0771		MJN	RLMX	IF LABEL NOT READ	MSM	5623	
4740	5000	7061	LDM	N4SS+5*ACGL+4		MSM	5624	
4742	2200	0100	LPC	MGLAP		MSM	5625	
4744	0464		ZJN	RLMX	IF NO SECTOR OF LOCAL AREAS	MSM	5626	
4745	5000	7146	LDM	N4SS+5*DULL+2	SAVE MACHINE INDEX	MSM	5627	
4747	3466		STD	P1		MSM	5628	

4750	0200	2556		RJM	RLA	READ LOCAL AREA SECTOR	MSM	5629	
4752	0613			PJN	RLM3	IF NO ERROR	MSM	5630	
4753	1601			ADN	1		MSM	5631	
4754	0504			NJN	RLM1	IF SECTOR REFORMATTED	MSM	5632	
4755	3040			LDD	FN		MSM	5633	
4756	1011			SHN	21-10		MSM	5634	
4757	0705			MJN	RLM2	IF REMOVABLE DEVICE	MSM	5635	
4760	2000	5035	RLM1	LDC	RLMC	*LOCAL AREA SECTOR ERROR.*	283L840	162	
4762	0100	1474		LJM	/RMS/HNG	DISPLAY MESSAGE AND HANG	MSM	5637	
		4763	RLMA	EQU	*-1		MSM	5638	
			*	LJM	RLM6	(*CMS* CALL)	MSM	5639	
							MSM	5640	
4764	1400		RLM2	LDN	0		MSM	5641	
4765	3402		RLM3	STD	T2	SET ADDRESS OF *SLA* DAYFILE DATA	MSM	5642	
4766	1466			LDN	ZERL		MSM	5643	
4767	6030			CRD	CN		MSM	5644	
4770	6010			CRD	CM		MSM	5645	
4771	3002			LDD	T2		MSM	5646	
4772	0414			ZJN	RLM4	IF NO ENTRY OR REMOVABLE DEVICE	MSM	5647	
4773	5003	0004		LDM	4,T3	EXTRACT ACTIVE USER COUNT	MSM	5648	
4775	3423			STD	FS+3		MSM	5649	
4776	5003	0001		LDM	1,T3	MOVE SYSTEM TABLE TRACK	MSM	5650	
5000	3413			STD	CM+3		MSM	5651	
5001	5003	0003		LDM	3,T3	MOVE FAMILY COUNT	MSM	5652	
5003	3414			STD	CM+4		MSM	5653	
5004	3003			LDD	T3	SET ADDRESS OF ENTRY	MSM	5654	
5005	1723			SBN	CN-5		MSM	5655	
5006	1630		RLM4	ADN	CN		MSM	5656	
5007	5400	5026		STM	RLMB		MSM	5657	
5011	3021			LDD	FS+1	CLEAR ERROR STATUS	MSM	5658	
5012	1377			SCN	77		MSM	5659	
5013	3421			STD	FS+1		MSM	5660	
5014	3066			LDD	P1		MSM	5661	
5015	3412			STD	CM+2		MSM	5662	
5016	0200	4137		RJM	GAS	SET ALTERNATE LABEL SECTOR	MSM	5663	
5020	3410			STD	CM		MSM	5664	
5021	0200	1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	5665	
5023	3147			ADD	AL		MSM	5666	
5024	1612			ADN	DALL		MSM	5667	
5025	6370	5025		CWM	*,ON		MSM	5668	
		5026	RLMB	EQU	*-1		MSM	5669	
5027	1601			ADN	DULL-DALL-1		MSM	5670	
5030	6210			CWD	CM		MSM	5671	
5031	1601			ADN	STLL-DULL		MSM	5672	
5032	6220			CWD	FS		MSM	5673	
5033	0100	4731		LJM	RLMX	RETURN	MSM	5674	
							283L840	163	
							283L840	164	
5035	1417		RLMC	DATA	C*LOCAL AREA SECTOR ERROR.*		283L840	165	
			**	RLS - READ LABEL SECTOR.				MSM	5676
			*					MSM	5677
			*	ENTRY	(T6) = TRACK.			MSM	5678
			*		(T7) = SECTOR.			MSM	5679

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				*	(FN - FN+4) = EST ENTRY.		MSM	5680
				*	(FS - FS+4) = *STLL* WORD OF MST.		MSM	5681
				*			MSM	5682
1				*	EXIT (A) = 0 IF VALID LABEL.		MSM	5683
2				*	(A) .LT. 0 IF MS ERROR.		MSM	5684
3				*	(A) .GT. 0 IF INCORRECT LABEL.		MSM	5685
4				*	(A) = 1 IF ERROR IN *DIT*.		MSM	5686
5				*	(T3) = ERROR CODE IF (A) .LT. 0.		MSM	5687
6				*	(SN) = LABEL SECTOR NUMBER.		MSM	5688
7				*	TO *CUD2* IF DEVICE INACCESSIBLE.		MSM	5689
8				*			MSM	5690
9				*	USES EC, P1, P2, RG, T1, T2, T3, CM - CM+4, CN - CN+4.		NS2547	84
10				*			MSM	5692
11				*	CALLS CDA, CDC, CMI, RDS, SDT, SDU, SOM, WDS.		NS2547	85
12				*			MSM	5694
13				*	MACROS DELAY, ENDMS, MONITOR, SETMS.		MSM43	1
14							MSM	5696
15							MSM	5697
16	5052	3007		RLP2	LDD T7	CHECK SECTOR NUMBER	NS2547	86
17					LMK LSLT		NS2547	87
18	5053	0506			NJN RLP3	IF NOT PRIMARY LABEL SECTOR	NS2547	88
19	5054	5000 7066			LDM N4SS+5*SDGL+4		NS2547	89
20	5056	1277			LPN 77		NS2547	90
21	5057	1076			SHN -1	EXTRACT SOFTWARE RESERVE	NS2547	91
22	5060	3467			STD P2		NS2547	92
23	5061	5000 7000		RLP3	LDM FNSS	CHECK FILE NAME FIELD	NS2547	93
24	5063	2300 3777			LMC 3777		MSM	5699
25							MSM	5700
26	5065	0100 5065		RLP	SUBR	ENTRY/EXIT	MSM	5701
27	5067	2000 6776			LDC BFMS		MSM	5702
28	5071	0200 0530			RJM RDS	READ LABEL SECTOR	MSM	5703
29	5073	3403			STD T3		MSM	5704
30	5074	0655			PJN RLP2	IF NO MASS STORAGE ERROR	MSM	5705
31	5075	0200 0535		RLP1	ENDMS		MSM	5706
32	5077	2040 0000			LDC 1S17	SET ERROR FLAG	MSM	5707
33	5101	3303			LMD T3		MSM	5708
34				*	UJN RLSX	EXIT	MSM	5709
35							MSM	5710
36	5102	0100 5102		RLS	SUBR	ENTRY/EXIT	MSM	5711
37	5104	3007			LDD T7		MSM	5712
38	5105	3417			STD SN	SAVE LABEL SECTOR NUMBER	MSM	5713
39							MSM	5714
40				*	READ SECTOR.		MSM	5715
41							MSM	5716
42	5106	2003 0110		RLS1	SETMS IO, (DF, ND, NR, RR)		NS2632	1
43	5112	5000 0110			LDM MSD	RETURN STATUS TO CALLER	NS2776	4
44	5114	1013			SHN 21-6		NS2776	5
45	5115	0603			MJP CUD2	IF DEVICE INACCESSIBLE	NS2776	6
46	5120	1401			LDN 1		NS2547	94
47	5121	3415			STD RG		NS2547	95
48	5122	0200 4355		RLS2	RJM RUC	RETRIEVE UPDATE COUNT	MSM	5719
49	5124	0200 5066			RJM RLP	READ LABEL	MSM	5720
50	5126	0446			ZJN RLP1	IF FLAWED TRACK	MSM	5721
51							MSM	5722
52				*	CHECK CONTENTS OF LABEL.		MSM	5723
53							MSM	5724
54	5127	5000 6776			LDM BFMS	CHECK CONTROL BYTES	MSM	5725



5131	2300	3777		LMC	3777		MSM	5726
5133	0505			NJN	RLS5	IF INCORRECT SYSTEM SECTOR LINKAGE	MSM	5727
5134	5000	6777		LDM	BFMS+1		MSM	5728
5136	1177			LMN	77		MSM	5729
5137	0406			ZJN	RLS7	IF PROPER WORD COUNT	NS2547	96
5140	0200	0535	RLS5	ENDMS			MSM	5734
5142	1402			LDN	2	INDICATE INCORRECT LABEL	MSM	5735
5143	0100	5102		UJP	RLSX	RETURN	MSM	5736
							MSM	5737
5145	5000	7006	RLS7	LDM	FTSS	CHECK LABEL TRACK	NS2547	97
5147	3306			LMD	T6		NS2547	98
5150	0567			NJN	RLS5	IF INCORRECT TRACK	NS2547	99
5151	3043			LDD	FN+3		NS2547	100
5152	2300	0405		LMC	2RDE		MSM	5739
5154	0425			ZJN	RLS10	IF ECS	MSM	5740
5155	1125			LMN	1RP&1RE		MSM	5741
5156	0423			ZJN	RLS10	IF DDP	MSM	5742
5157	5000	7020		LDM	E4SS		MSM	5743
5161	3343			LMD	FN+3		MSM	5744
5162	0555			NJN	RLS5	IF NO MATCH ON DEVICE MNEMONIC	MSM	5745
5163	3017			LDD	SN		MSM	5746
5164	0515			NJN	RLS10	IF NOT FIRST UNIT OF EQUIPMENT	MSM	5747
5165	0200	4025		RJM	CUC		MSM	5748
5167	0550			NJN	RLS5	IF MST AND TRT OUT OF SYNC	MSM	5749
5170	3040			LDD	FN		MSM	5750
5171	1015			SHN	21-4		MSM	5751
5172	0607			PJN	RLS10	IF NOT INDEPENDENT SHARED DEVICE	MSM	5752
5173	1020		RLSA	SHN	5+21-6		MSM	5753
5174	0605			PJN	RLS10	IF EQUIPMENT AVAILABLE	MSM	5754
5175	1003			SHN	6-3		MSM	5755
5176	0607			PJN	RLS11	IF NOT PREVIOUSLY RECOVERED	MSM	5756
5177	1015			SHN	4+21-10		MSM	5757
5200	0705			MJN	RLS11	IF REMOVABLE DEVICE	MSM	5758
5201	0200	0535	RLS10	ENDMS			MSM	5759
			*	LDN	0	INDICATE VALID LABEL	MSM	5760
5203	0100	5102		LJM	RLSX	RETURN	MSM	5761
							MSM	5762
			*			PROCESS *DIT* ON INDEPENDENT SHARED DEVICE.	MSM	5763
							MSM	5764
5205			RLS11	BSS	0		MSM	5765
				QUAL	ISD		MSM	5766
							MSM	5767
5205	3054			LDD	RS	CHECK RECOVERY STATUS	MSM	5768
5206	1270			LPN	FLMK		MSM	5769
5207	1110			LMN	FLCM		MSM	5770
5210	3466			STD	P1		MSM	5771
5211	0404			ZJN	RLS12	IF FILES RECOVERED FROM CM	MSM	5772
5212	0200	3016		RJM	CDA		MSM	5773
5214	0564			NJN	RLS10	IF RECOVERY INHIBITED	MSM	5774
5215	3046		RLS12	LDD	RE		MSM	5775
5216	1240			LPN	40		MSM	5776
5217	0561			NJN	RLS10	IF INCORRECT ACCESS MODE	MSM	5777
5220	2000	0420		LDK	EPDE		MSM	5778
5222	5500	0106		RAM	UERR	REREAD LABEL WITH *ENDMS* DISABLED	MSM	5779
5224	0200	5066		RJM	RLP		MSM	5780
5226	3044			LDD	FN+4	FETCH MST PARAMETERS	MSM	5781
5227	1003			SHN	3		MSM	5782

5230	1601			ADN	ACGL			MSM	5783
5231	6010			CRD	CM			MSM	5784
5232	1613			ADN	DULL-ACGL			MSM	5785
5233	6030			CRD	CN			MSM	5786
5234	3014			LDD	CM+4			MSM	5787
5235	2200	0200		LPC	MGPRS			MSM	5788
5237	0422			ZJN	RLS14	IF *PRESET* OPTION NOT SET		MSM	5789
5240	3314			LMD	CM+4			MSM	5790
5241	3414			STD	CM+4			MSM	5791
5242	3044			LDD	FN+4	INDICATE PRESET NOTED		MSM	5792
5243	1003			SHN	3			MSM	5793
5244	1601			ADN	ACGL			MSM	5794
5245	6210			CWD	CM			MSM	5795
5246	2000	0120		LDC	5*MISD	CLEAR DIT		MSM	5796
5250	3401			STD	T1			MSM	5797
5251	1400			RLS13	LDN	0		MSM	5798
5252	5401	7167		STM	DISS-1,T1			MSM	5799
5254	3701			SOD	T1			MSM	5800
5255	0573			NJN	RLS13	IF MORE WORDS TO CLEAR		MSM	5801
5256	5400	7151		STM	N4SS+5*STLL			MSM	5802
5260	3467			STD	P2	CLEAR POSSIBLE SOFTWARE RESERVE		NS2547	101
5261	0200	5642		RLS14	RJM	SDT		NS2547	102
5263	0707			MJN	RLS16	IF ANY DIT ENTRY INTERLOCKED		NS2547	103
5264	0423			RLSB	ZJN	RLS18	IF THIS MACHINE NOT IN DIT	NS2547	104
				*	NJN	RLS17	(RECOVERY DEADSTART)	NS2547	105
5265	1411			LDN	RLSF-RLSE			NS2547	106
5266	2100	5476		RLS15	ADC	RLSE		NS2547	107
5270	0100	5431		LJM	RLS22	DISPLAY ERROR MESSAGE		NS2547	108
								NS2547	109
5272	0200	0535		RLS16	ENDMS	RELEASE CHANNEL		NS2547	110
5274	2000	0236		LDC	DSCP*CPAS+MS2W			NS2547	111
			5275	RLSC	EQU	*-1		NS2547	112
				*	LDC	CP+MS2W (*CMS* CALL)		NS2547	113
5276	6373	5524		CWM	RLSG,TR			NS2547	114
5300	5000	0255		DELAY				NS2547	115
5304	0100	5106		LJM	RLS1	LOOP		NS2547	116
								NS2547	117
5306	3401			RLS17	STD	T1	SET DIT ORDINAL	NS2547	118
5307	3001			RLS18	LDD	T1		NS2547	119
5310	0455			ZJN	RLS15	IF DIT FULL		NS2547	120
5311	3403			STD	T3			NS2547	121
5312	1002			SHN	2	SET INDEX OF DIT ENTRY		NS2547	122
5313	3503			RAD	T3			NS2547	123
5314	0200	5557		RJM	CMI			NS2547	124
5316	0553			NJN	RLS16	IF MST INTERLOCKED / INITIALIZE PENDING		NS2547	125
				*	LDN	0		NS2547	126
5317	3407			STD	T7	ENSURE PRIMARY LABEL SECTOR		NS2547	127
5320	3066			LDD	P1			NS2547	128
5321	0403			NJP	RLS20	IF FILES NOT RECOVERED FROM CM		MSM43	2
								MSM43	3
				*		CLEAR LOCAL DEVICE INTERLOCKS AND PF ACTIVITY.		MSM43	4
								MSM43	5
5324	5003	7163		LDM	DISS-5,T3	GET LOCAL PF ACTIVITY COUNT		MSM43	6
5326	1277			LPN	77			MSM43	7
5327	3400			STD	T0			MSM43	8
5330	1577			LCN	77			MSM43	9
5331	5300	7051		LMM	N4SS+TDGL*5+1			MSM43	10

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5333	5400	5347		STM	RLSH		MSM43	11
5335	1277			LPN	77		MSM43	12
5336	3200			SBD	T0		MSM43	13
5337	0605			PJN	RLS19.1	IF LOCAL PF ACTIVITY .LE. GLOBAL ACTIVITY	MSM43	14
5340	1422		RLS19	MONITOR	HNGM	HANG PP	MSM43	15
5343	0374			UJN	RLS19	HANG PP	MSM43	16
							MSM43	17
5344	5003	7163	RLS19.1	LDM	DISS-5,T3		MSM43	18
5346	2200	0000		LPC	0		MSM43	19
		5347	RLSH	EQU	*-1	(COMPLEMENT OF GLOBAL INTERLOCKS)	MSM43	20
5350	1071			SHN	-6		MSM43	21
5351	0566			NJN	RLS19	IF LOCAL INTERLOCK SET WITHOUT GLOBAL	MSM43	22
5352	5000	7051		LDM	N4SS+TDGL*5+1	CLEAR LOCAL INTERLOCKS AND PF ACTIVITY	MSM43	23
5354	5203	7163		SBM	DISS-5,T3		MSM43	24
5356	5400	7051		STM	N4SS+TDGL*5+1		NS2547	132
5360	1400			LDN	0		NS2547	133
5361	5400	7145		STM	N4SS+DULL*5+1		NS2547	134
5363	3431			STD	CN+1		NS2547	135
5364	5403	7163		STM	DISS-5,T3		NS2547	136
5366	3067			LDD	P2		NS2547	137
5367	3301			LMD	T1		NS2547	138
5370	0526			NJN	RLS21	IF MST NOT INTERLOCKED BY THIS MACHINE	NS2547	139
5371	1410			LDN	10		NS2547	140
5372	3546			RAD	RE		NS2547	141
							MSM43	25
			*			SET MACHINE ACTIVE ON DEVICE.	MSM43	26
							MSM43	27
5373	3022		RLS20	LDD	FS+2	SET MACHINE ID IN DIT ENTRY	NS2547	142
5374	5403	7167		STM	DISS-5+4,T3		NS2547	143
5376	5603	7166		AOM	DISS-5+3,T3	SET DIT ENTRY INTERLOCK	NS2547	144
5400	5000	7066		LDM	N4SS+5*SDGL+4		NS2547	145
5402	1076			SHN	-1		NS2547	146
5403	1337			SCN	37		NS2547	147
5404	3301			LMD	T1	SET SOFTWARE RESERVE	NS2547	148
5405	1001			SHN	1		NS2547	149
5406	5400	7066		STM	N4SS+5*SDGL+4		MSM	5805
5410	3701			SOD	T1	SET MACHINE INDEX IN LOCAL AREA	NS2547	150
5411	5400	7146		STM	N4SS+5*DULL+2		NS2547	151
5413	3432			STD	CN+2		NS2547	152
5414	5600	2401		AOM	SDIF	ADVANCE INTERLOCK COUNT	NS2547	153
5416	3037		RLS21	LDD	EC		NS2547	154
5417	3154			ADD	RS		NS2547	155
5420	0436			ZJN	RLS25	IF INITIAL RECOVERY	NS2547	156
5421	3040			LDD	FN		NS2547	157
5422	1003			SHN	13-10		NS2547	158
5423	5300	7106		LMM	N4SS+5*MDGL	CHECK MATCHING REMOVABLE STATUS	NS2547	159
5425	1006			SHN	21-13		NS2547	160
5426	0626			PJN	RLS24	IF MODES MATCH	NS2547	161
5427	2000	5540		LDC	RLSI	*REMOVABLE DEVICE CONFLICT*	283L840	166
5431	3403		RLS22	STD	T3	SAVE MESSAGE ADDRESS	NS2547	163
5432	0200	4542		RJM	SOM		NS2547	164
5434	0200	0535		ENDMS			MSM	5817
5436	3040			LDD	FN	CHECK DEVICE TYPE	NS2547	165
5437	1011			SHN	21-10		MSM	5819
5440	0704			MJN	RLS23	IF REMOVABLE DEVICE	NS2547	166
5441	3003			LDD	T3		MSM	5821
5442	0100	1474	RLSD	LJM	/RMS/HNG	DISPLAY THE ERROR MESSAGE	NS2547	167

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Line	Address	Label	Code	Op	Op2	Description	MSM	Count
		*	UJN	**2		(*CMS* CALL)	MSM	5823
1	5444	3003	RLS23	LDD	T3	ISSUE MESSAGE	NS2547	168
2	5445	0200 0423		RJM	DFM		MSM	5826
3	5447	0200 4415		RJM	SDU	SET DEVICE UNLOADED	NS2547	169
4	5451	1401		LDN	1		MSM	5827
5	5452	0100 5102		LJM	RLSX	RETURN	MSM	5828
6	5454	1402	RLS24	LDN	2	SET DEVICE ACCESSED	MSM	5829
7	5455	3546		RAD	RE		MSM	5883
8	5456	3044	RLS25	LDD	FN+4	STORE DEVICE USAGE INFORMATION	MSM	5884
9	5457	1003		SHN	3		MSM	5885
10	5460	1614		ADN	DULL		MSM	5886
11	5461	6230		CWD	CN		MSM	5887
12	5462	0200 2525		RJM	CDC	COMPUTE LABEL CHECKSUM	NS2547	5888
13	5464	5400 7477		STM	CKSS		MSM	170
14	5466	2000 6776		LDC	BFMS+WLSF		MSM	5890
15	5470	0200 0532		RJM	WDS		MSM	5891
16	5472	3035		LDD	QS	RESTORE ACTUAL LABEL SECTOR	MSM	5892
17	5473	3407		STD	T7		MSM	5893
18	5474	0100 5201		LJM	RLS10	RETURN	MSM	5894
19							MSM	5895
20							MSM	5896
21	5476	1617	RLSE	DATA	C*NO SPACE IN DIT.*		NS2547	5897
22	5507	0521	RLSF	DATA	C*EQXXX, ID NN NOW IN DIT.*		NS2547	171
23	5524	2701	RLSG	DATA	C*WAITING FOR INTERLOCK.*		MSM	172
24	5540	2205	RLSI	DATA	C*REMOVABLE DEVICE CONFLICT.*		283L840	5900
25								167
26								
27								
28								
29			**		CMI - CHECK MST INTERLOCKS.		MSM	5902
30			*				MSM	5903
31			*	ENTRY	(T1) = MACHINE INDEX.		MSM	5904
32			*		(P2) = SOFTWARE RESERVE FROM *SDGL*.		NS2547	173
33			*		(RG) = OPERATOR OVERRIDE STATUS.		NS2547	174
34			*		(BFMS) = LABEL SECTOR.		MSM	5905
35			*				MSM	5906
36			*	EXIT	(A) = 0 IF NO INTERLOCKS PROHIBITING RECOVERY.		MSM	5907
37			*				NS2547	175
38			*	USES	T2.		NS2547	176
39							MSM	5909
40							MSM	5910
41	5556	0100 5556	CMI	SUBR		ENTRY/EXIT	MSM	5911
42	5560	3015		LDD	RG		NS2547	177
43	5561	0474		ZJN	CMIX	IF OPERATOR OVERRIDE	NS2547	178
44	5562	3067		LDD	P2		NS2547	179
45	5563	0512		NJN	CMI1	IF DEVICE INTERLOCK SET	MSM	5916
46	5564	5000 7151		LDM	N4SS+5*STLL		MSM	5917
47	5566	2200 3600		LPC	MLIAL+MLIHD+MLIFD+MLIPF		MSM	5918
48	5570	0465		ZJN	CMIX	IF NO FULL / PF INITIALIZE PENDING	MSM	5919
49	5571	5000 7146		LDM	N4SS+5*DULL+2		MSM	5920
50	5573	1217		LPN	17		MSM	5921
51	5574	1601		ADN	1	CHECK OWNER OF INITIALIZE REQUEST	MSM	5922
52	5575	3402	CMI1	STD	T2		NS2547	180
53	5576	3301		LMD	T1		NS2547	181
54	5577	0456		ZJN	CMIX	IF DEVICE OPEN FOR RECOVERY	NS2547	182

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5600	3002		LDD	T2		NS2547	183	
5601	1002		SHN	2	CONVERT DIT INDEX TO BYTE INDEX	NS2547	184	
5602	3502		RAD	T2		NS2547	185	
5603	5002	7167	LDM	DISS-5+4,T2	SET MACHINE ID IN MESSAGE	NS2547	186	
5605	5400	5627	STM	CMIA+11		NS2547	187	
5607	2000	5616	LDC	CMIA	SET EST ORDINAL IN MESSAGE	NS2547	188	
5611	0200	4542	RJM	SOM		NS2547	189	
			*	LDC	CMIA	WAIT ON OPERATOR COMMAND	NS2547	190
5613	0200	6206	RJM	WOC		NS2547	191	
5615	0340		UJP	CMIX	RETURN	NS2547	192	
						NS2547	193	
						NS2547	194	
5616	0521		CMIA	DATA	C*EQXXX, BUSY ON ID NN.*	NS2547	195	
			**		SDT - SEARCH DEVICE INFORMATION TABLE.	MSM	5926	
			*			MSM	5927	
			*	ENTRY	(FS - FS+4) = *STLL* WORD OF MST.	MSM	5928	
			*		(BFMS) = LABEL SECTOR.	MSM	5929	
			*			MSM	5930	
			*	EXIT	(A) = 0 IF THIS MACHINE NOT IDENTIFIED IN DIT.	MSM	5931	
			*		= MACHINE INDEX FOR THIS DEVICE.	MSM	5932	
			*		.LT. 0 IF ANY DIT ENTRY INTERLOCKED.	MSM	5933	
			*		(EC) = COUNT OF MACHINES ACCESSING DEVICE.	MSM	5934	
			*		(T1) = INDEX OF NEXT FREE DIT SLOT.	MSM	5935	
			*			MSM	5936	
			*	USES	T2, T3.	MSM	5937	
						MSM	5938	
						MSM	5939	
5632	3002		SDT2	LDD	T2	SET MACHINE INDEX	MSM	5940
5633	3400			STD	T0		MSM	5941
5634	3002		SDT3	LDD	T2	SET INDEX OF EMPTY SLOT	MSM	5942
5635	3401			STD	T1		MSM	5943
5636	3702		SDT4	SOD	T2		MSM	5944
5637	0515		NJN	SDT1		IF MORE DIT ENTRIES TO CHECK	MSM	5945
5640	3000		LDD	T0			MSM	5946
							MSM	5947
5641	0100	5641	SDT	SUBR		ENTRY/EXIT	MSM	5948
5643	1400			LDN	0		MSM	5949
5644	3437			STD	EC		MSM	5950
5645	3400			STD	T0		MSM	5951
5646	3401			STD	T1		MSM	5952
5647	2000	7314	LDC	DISS+5*MISD+4		PRESET SEARCH ADDRESS	MSM	5953
5651	3403			STD	T3		MSM	5954
5652	1420			LDN	MISD	INITIALIZE DIT INDEX	MSM	5955
5653	3402			STD	T2		MSM	5956
5654	1505		SDT1	LCN	5	DECREMENT ADDRESS	MSM	5957
5655	3503			RAD	T3		MSM	5958
5656	4003			LDI	T3		MSM	5959
5657	0454			ZJN	SDT3	IF EMPTY SLOT	MSM	5960
5660	3322			LMD	FS+2		MSM	5961
5661	0450			ZJN	SDT2	IF SLOT ASSIGNED TO THIS MACHINE	MSM	5962
5662	3637			AOD	EC		MSM	5963
5663	5003	7776		LDM	-1,T3		MSM	5964
5665	1201			LPN	1		MSM	5965

5666	0447		ZJN	SDT4	IF ENTRY NOT INTERLOCKED	MSM	5966	
5667	1501		LCN	1		MSM	5967	
5670	0350		UJN	SDTX	RETURN	MSM	5968	
QUAL *								
			**	SLT - SEARCH FOR LABEL TRACK.			MSM	5972
			*				MSM	5973
			*	ENTRY (A) = 0 IF STARTING SCAN FOR LABEL TRACK.			MSM	5974
			*				MSM	5975
			*	EXIT (A) = 0 IF END OF LABEL TRACK SCAN.			MSM	5976
			*	(T6) = NEXT LABEL TRACK CANDIDATE.			MSM	5977
			*				MSM	5978
			*	USES T1, T2, CM - CM+4.			MSM	5979
			*				MSM	5980
			*	CALLS STA.			MSM	5981
						MSM	5982	
						MSM	5983	
5671	3006		SLT1	LDD	T6	SET TRT WORD INDEX	MSM	5984
5672	1020		SLT2	SHN	21-1		MSM	5985
5673	3372			LMD	TH	REMOVE TRACK BIT	MSM	5986
5674	3401			STD	T1		MSM	5987
5675	1057			SHN	1-21	SET BYTE INDEX	MSM	5988
5676	3402			STD	T2		MSM	5989
5677	0200	1226		RJM	STA	SET FWA OF TRT	MSM	5990
5701	3101			ADD	T1		MSM	5991
5702	6010			CRD	CM		MSM	5992
5703	5002	0010		LDM	CM,T2	CHECK TRACK	MSM	5993
5705	2300	3777		LMC	3777		MSM	5994
5707	0505			NJN	SLTX	IF NOT FLAWED	MSM	5995
5710	3606			AOD	T6	ADVANCE TRACK	MSM	5996
5711	2300	4020		SLT3	LTKL		MSM	5997
		5712		SLTA	EQU	*-1	MSM	5998
5713	0555			NJN	SLT1	IF NOT AT LABEL TRACK LIMIT	MSM	5999
							MSM	6000
5714	0100	5714		SLT	SUBR	ENTRY/EXIT	MSM	6001
5716	0572			NJN	SLT3	IF NOT FIRST TRACK	MSM	6002
5717	2000	4020		LDC	LTKL	SET LIMIT FOR VALID LABEL TRACK	MSM	6003
5721	5400	5712		STM	SLTA		MSM	6004
5723	1720			SBN	LTKL-FLTK	SET FIRST TRACK	MSM	6005
5724	3406			STD	T6		MSM	6006
5725	0344			UJN	SLT2		MSM	6007

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	**			VAL - VERIFY ACCESS LEVEL LIMITS.		MSM	6009
	*					MSM	6010
	*			ENTRY (T5) = EST ORDINAL.		MSM	6011
1	*					MSM	6013
2	*			EXIT (A) = 0 IF ACCESS LEVELS WITHIN LIMITS, OR OPERATOR		MSM	6014
3	*			ENTERED *GO,CMS*.		MSM	6015
4	*			(EC) = *STSV* WHEN ACCESS LEVELS NOT WITHIN LIMITS ON		MSM	6016
5	*			*RMS* CALL PROCESSING REMOVABLE DEVICE, *CMS*		MSM	6017
6	*			CALL PROCESSING SECURED SYSTEM, OR *CMS* CALL		MSM	6018
7	*			PROCESSING UNSECURED SYSTEM IN WHICH OPERATOR		MSM	6019
8	*			ENTERED *PAUSE*.		MSM	6020
9	*			TO *HNG* ON *RMS* CALL PROCESSING NON-REMOVABLE		MSM	6021
10	*			DEVICE WHEN ACCESS LEVELS NOT WITHIN LIMITS.		272L774	38
11	*					MSM	6023
12	*			USES CM, EC, CN - CN+4.		272L774	39
13	*					MSM	6025
14	*			CALLS PUE, SOM.		NS2547	196
15	*					MSM	6027
16	*			MACROS SFA.		MSM	6028
17						MSM	6029
18						MSM	6030
19		5726	1400	VAL7 LDN 0	CLEAR ERROR RETURN STATUS	MSM	6031
20						MSM	6032
21		5727	0100 5727	VAL SUBR	ENTRY/EXIT	MSM	6033
22		5731	3005	SFA EST,T5	GET ACCESS LEVELS FROM EST	MSM	6034
23		5734	1601	ADK EQAE		MSM	6035
24		5735	6030	CRD CN		MSM	6036
25		5736	5000 7100	LDM N4SS+5*PFGL+4	GET ACCESS LEVELS CONTAINED IN MST	MSM	6037
26		5740	1071	SHN -6		MSM	6038
27		5741	3410	STD CM		MSM	6039
28		5742	3033	LDD CN+3	COMPARE LOWER LEVELS	MSM	6040
29		5743	1270	LPN 70		MSM	6041
30		5744	3430	STD CN		MSM	6042
31		5745	3010	LDD CM		MSM	6043
32		5746	1307	SCN 7		MSM	6044
33		5747	3230	SBD CN		MSM	6045
34		5750	0710	MJN VAL2	IF LOWER LEVEL NOT WITHIN LIMITS	MSM	6046
35		5751	3010	LDD CM	COMPARE UPPER LEVELS	MSM	6047
36		5752	1207	LPN 7		MSM	6048
37		5753	3410	STD CM		MSM	6049
38		5754	3033	LDD CN+3		MSM	6050
39		5755	1207	LPN 7		MSM	6051
40		5756	3210	SBD CM		MSM	6052
41		5757	0646	VAL1 PJN VAL7	IF ACCESS LEVELS WITHIN LIMITS	MSM	6053
42		5760	3046	VAL2 LDD RE	PROCESS *RMS* ERROR	MSM	6054
43				* UJN VAL5	(PROCESS *CMS* ERROR)	MSM	6055
44		5761	1011	SHN 21-10		MSM	6056
45		5762	0613	PJN VAL6	IF NON-RECOVERABLE DEVICE	MSM	6057
46		5763	1413	VAL3 LDN STSV	SET ERROR STATUS	MSM	6058
47		5764	3437	STD EC		MSM	6059
48		5765	0341	VAL4 UJN VALX	RETURN	MSM	6060
49						MSM	6061
50		5766	3040	VAL5 LDD FN	PROCESS *CMS* ERROR	MSM	6062
51		5767	1013	SHN 21-6		MSM	6063
52		5770	0666	PJN VAL1	IF DEVICE ALREADY AVAILABLE	MSM	6064
53		5771	0200 4272	VALB RJM PUE	PROCESS UNSECURED ERROR	272L774	40
54				* UJN VAL3	(SECURED SYSTEM)	272L774	41

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5773	0567		NJN	VAL3	IF OPERATOR ENTERED *PAUSE*	MSM	6071
5774	0370		UJN	VAL4	RETURN	MSM	6072
						MSM	6073
5775	2000 6003		LDC	VAL6	SET EST ORDINAL IN MESSAGE	NS2547	197
5777	0200 4542		RJM	SOM		NS2547	198
6001	0100 1474		LJM	/RMS/HNG	HANG PP	MSM	6084
						NS2547	199
6003	0521		VALA	DATA	C*EQXXX, DEVICE ACCESS ERROR.*	MSM	6085
						MSM	6086
			**	WMT	- ENTER MST TO CM TABLE.	MSM	6088
			*			MSM	6089
			*	ENTRY	(A) = STATUS OF LABEL READ ATTEMPT.	MSM	6090
			*		(CA) = ADDRESS FOR MST.	MSM	6091
			*		(T5) = EST ORDINAL.	MSM	6092
			*		(FN - FN+4) = EST ENTRY.	MSM	6093
			*		(FS - FS+4) = STLL WORD FROM MST.	MSM	6094
			*		(T7) = SECTOR READ.	MSM	6095
			*		(T6) = LABEL TRACK READ.	MSM	6096
			*		(SN) = LABEL SECTOR NUMBER.	MSM	6097
			*			MSM	6098
			*	EXIT	(CA) = ADDRESS FOR MST OF NEXT UNIT.	283L840	168
			*		TO */RMS/HNG* IF LINK DEVICE SIZE ERROR.	MSM49	29
			*			MSM	6103
			*	USES	T1, CA, EC, CM - CM+4, FS - FS+4.	MSM	6104
			*			MSM	6105
			*	CALLS	GAS, LRA, SES, VAL.	MSM	6106
						MSM	6107
						MSM	6108
6022	0100 6022		WMT	SUBR	ENTRY/EXIT	MSM	6109
6024	3437		STD	EC	SAVE STATUS	MSM	6110
6025	0433		ZJN	WMT3	IF NO ERROR	MSM	6111
						MSM49	30
			*		ERROR ENCOUNTERED ON LABEL READ.	MSM49	31
						MSM49	32
6026	1104		WMTA	LMN	STNR	MSM	6112
			*	PSN	(CMS CALL)	MSM	6113
6027	0502		NJN	WMT1	IF NOT *NOT READY*	MSM	6114
6030	3437		STD	EC	CLEAR ERROR CODE (RMS ONLY)	MSM	6115
6031	2000 0120		WMT1	LDC	MSTL*5	MSM	6116
6033	3401		STD	T1		MSM	6117
6034	1400		WMT2	LDN	0 CLEAR MST AREA	MSM	6118
6035	5401 7047		STM	N4SS-1,T1		MSM	6119
6037	3701		SOD	T1		MSM	6120
6040	0573		NJN	WMT2		MSM	6121
6041	3646		AOD	RE	SET NO LABEL PRESENT	MSM	6122
6042	3044		LDD	FN+4		NS2547	200
6043	1003		SHN	3		NS2547	201
6044	1604		ADN	PFGL	RETAIN PF DESCRIPTION	NS2547	202
6045	6126 7074		CRM	N4SS+5*PFGL,TW		NS2547	203
6047	3037		LDD	EC	SET ERROR STATUS IN MST IMAGE	MSM	6123
6050	5400 7152		STM	N4SS+5*STLL+1		MSM	6124
6052	0504		NJN	WMT2.1	IF ERROR STATUS PRESENT	MSM49	33
6053	3021		LDD	FS+1		NS2547	205

6054	1277		LPN	77	PRESERVE EXISTING ERROR STATUS	NS2547	206
6055	3437		STD	EC		NS2547	207
6056	0100 6124	WMT2.1	LJM	WMT4	CONTINUE	MSM49	34
		*			LABEL READ SUCCESSFUL.	MSM49	35
						MSM49	36
6060	0200 5730	WMT3	RJM	VAL	VERIFY ACCESS LEVELS	MSM	6130
6062	0546		NJN	WMT1	IF LEVELS NOT WITHIN LIMITS	MSM	6131
6063	3006		LDD	T6	SET LABEL TRACK	MSM	6132
6064	5400 7070		STM	N4SS+5*ALGL+1		MSM	6133
6066	3007		LDD	T7	SET SECTOR READ	MSM	6134
6067	5400 7137		STM	N4SS+5*DILL		MSM	6135
6071	5000 7061		LDM	N4SS+5*ACGL+4	CLEAR PF UTILITY INTERLOCK	MSM	6136
6073	2200 0100		LPC	MGLAP		MSM	6137
6075	5400 7061		STM	N4SS+5*ACGL+4		MSM	6138
6077	5000 7152		LDM	N4SS+STLL*5+1	CLEAR ERROR STATUS	MSM	6139
6101	1377		SCN	77		MSM	6140
6102	5400 7152		STM	N4SS+STLL*5+1		MSM	6141
6104	0200 4137		RJM	GAS	SET ALTERNATE LABEL SECTOR	MSM	6142
6106	5400 7144		STM	N4SS+5*DULL		MSM	6143
6110	0314	WMTC	UJN	WMT4	WRITE LABEL DATA TO CM	MSM49	6144
		*	PSN		(IF LINK DEVICE RECOVERY)	MSM49	37
		*			VERIFY TRT LENGTH FOR LINK DEVICE.	MSM49	38
						MSM49	39
						MSM49	40
6111	3044		LDD	FN+4	GET TRT LENGTH DEFINED AT DEADSTART	MSM49	41
6112	1003		SHN	3		MSM49	42
			ADK	TDGL		MSM49	43
6113	6010		CRD	CM		MSM49	44
6114	3012		LDD	CM+2		MSM49	45
6115	5300 7052		LMM	N4SS+TDGL*5+2	TRT LENGTH RECOVERED FROM DEVICE	MSM49	46
6117	0405		ZJN	WMT4	IF CORRECT TRT LENGTH	MSM49	47
6120	2000 6170		LDC	WMTD	*LINK DEVICE SIZE ERROR.*	MSM49	48
6122	0100 1474		LJM	/RMS/HNG	HANG PP	MSM49	49
						MSM49	50
		*			ENTER LABEL DATA INTO CM TABLE.	MSM49	51
						MSM49	52
6124	1420	WMT4	LDN	MSTL	SET MST LENGTH	MSM	53
6125	3401		STD	T1		MSM	6145
6126	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	6146
6130	3164		ADD	CA		MSM	6150
6131	6301 7050		CWM	N4SS,T1		MSM	6151
6133	1420		LDN	MSTL	ADVANCE TABLE ADDRESS	MSM	6152
6134	3564		RAD	CA		MSM	6153
						MSM	6154
		*			ENTER APPROPRIATE STATUS TO MST.	MSM	6155
						MSM	6156
6135	3017		LDD	SN		MSM	6157
6136	0530		NJN	WMT6	IF NOT FIRST UNIT OF EQUIPMENT	283L840	6158
6137	3040		LDD	FN		MSM	169
6140	1013		SHN	21-6		MSM	6160
6141	0616		PJN	WMT5	IF DEVICE AVAILABLE	MSM	6161
6142	3044		LDD	FN+4	STORE PF DESCRIPTION	MSM	6162
6143	1003		SHN	3		MSM	6163
6144	1604		ADN	PFGL		MSM	6164
6145	6326 7074		CWM	N4SS+5*PFGL,TW		MSM	6165
		0	ERRNZ	PUGL-PFGL-1	ADJUST IF *PFGL* POSITION CHANGES	MSM	6166
						MSM	6167

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6147	0310		WMTB	UJN	WMT5	CHECK PREVIOUS ERROR STATUS	MSM	6168
			*	PSN		(RECOVERING MMF LINK DEVICE)	MSM	6169
6150	1703			SBN	PFGL+2-ALGL	STORE LINK DEVICE ALLOCATION WORD	MSM	6170
6151	6370	7067		CWM	N4SS+5*ALGL,ON		MSM	6171
6153	5000	7073		LDM	N4SS+5*ALGL+4	SET DAT TRACK	MSM	6172
6155	5400	2706		STM	ADEA		283L840	170
6157	3021		WMT5	LDD	FS+1		MSM	6175
6160	1277			LPN	77	CHECK CURRENT ERROR STATUS	MSM	6176
6161	1714			SBN	MNEC		MSM	6177
6162	0604			PJN	WMT6	IF STATUS NOT TO BE CLEARED	MSM	6178
6163	3037			LDD	EC		MSM	6179
6164	0200	2631		RJM	SES	SET/CLEAR ERROR STATUS	MSM	6180
6166	0100	6022	WMT6	LJM	WMTX	RETURN	283L840	171
							MSM49	54
							MSM49	55
6170	1411		WMTD	DATA	C*LINK DEVICE SIZE ERROR.*		MSM49	56
			**		WOC - WAIT ON OPERATOR COMMAND.		NS2547	209
			*				NS2547	210
			*		ENTRY (A) = ADDRESS OF PROMPT MESSAGE.		NS2547	211
			*				NS2547	212
			*		EXIT (A) = 0 IF OPERATOR ENTERED *GO*.		NS2547	213
			*		= 1 IF OPERATOR ENTERED *PAUSE*.		NS2547	214
			*				NS2547	215
			*		USES T8, CM - CM+4.		NS2547	216
			*				NS2547	217
			*		MACROS PAUSE.		NS2547	218
							NS2547	219
							NS2547	220
6205	0100	6205	WOC	SUBR		ENTRY/EXIT	NS2547	221
6207	5400	6223		STM	WOCC		NS2547	222
6211	2000	0030	WOCA	LDC	***SNSW	ADDRESS OF *SNSW* IN CP (*RMS* - SYSTEM CP)	272L774	43
6213	6010			CRD	CM	GET SENSE SWITCH WORD	NS2547	228
6214	3416			STD	T8		NS2547	229
6215	1403			LDN	3	SET PAUSE FLAGS	NS2547	230
6216	3413			STD	CM+3		NS2547	231
6217	3016			LDD	T8	STORE PAUSE FLAGS	NS2547	232
6220	6210			CWD	CM		NS2547	233
6221	1606			ADN	MS2W-SNSW	STORE CONTROL POINT MESSAGE	NS2547	234
6222	6373	6222		CWM	*,TR		NS2547	235
		6223	WOCC	EQU	*-1		NS2547	236
6224	1500		WOC1	LCN	0	PAUSE FOR OPERATOR ACTION	NS2547	237
6225	1701			SBN	1		NS2547	238
6226	0576			NJN	*-1	IF DELAY NOT COMPLETE	NS2547	239
6227	1400			PAUSE	NE		NS2547	240
6232	3016			LDD	T8	READ SENSE SWITCH WORD	NS2547	241
6233	6010			CRD	CM		NS2547	242
6234	3013			LDD	CM+3	CHECK FOR OPERATOR INPUT	NS2547	243
6235	1202			LPN	2		NS2547	244
6236	0565			NJN	WOC1	IF OPERATOR HAS NOT RESPONDED	NS2547	245
6237	3313			LMD	CM+3		NS2547	246
6240	0344			UJP	WOCX	RETURN	NS2547	247
							MSM	6183
							MSM	6184

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ERRNG BFMS-\*

OVERFLOW INTO BUFFER

272L774

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\*\* PRS - PRESET.

Line	Address	Offset	Label	Operation	Description	MSM	Value
						6188	
						6189	
						6190	
1	6241		PRS	BSS 0	ENTRY	272L774	45
2	6241	3054		LDD RS	CHECK RECOVERY STATUS	272L774	46
3	6242	1270		LPN FLMK		MSM	6192
4	6243	1110		LMN FLCM		MSM	6193
5	6244	0505		NJN PRS1	IF NOT LEVEL 3 RECOVERY	MSM	6194
6	6245	2000 0000		ISTORE RDLC, (UJN RDL15)	BYPASS *RLM* CALL	272L774	47
7	6251	5000 0256	PRS1	LDM DLYA	CHECK PP SPEED	MSM	6198
8	6253	1214		LPN 14		MSM	6199
9	6254	5500 4452		RAM SFTA		MSM	6200
10	6256	2000 0122		LDC MMFL	READ MMF STATUS WORD	MSM	6201
11	6260	6010		CRD CM		MSM	6202
12	6261	3010		LDD CM	SAVE MACHINE ID	MSM	6203
13	6262	5400 3116		STM CDIA		MSM	6204
14	6264	5400 5514		STM /ISD/RLSF+5		NS2547	248
15	6266	3014		LDD CM+4		MSM	6205
16	6267	0503		ZJP PRS4	IF STAND ALONE SYSTEM	283L840	172
17	6272	2000 3401		LDK STDI+T1	ACTIVATE *EMF* SUBROUTINE	NS2768	14
18	6274	5400 6437		STM EMFA		NS2768	15
19	6276	5000 1120		LDM LDMP	READ LINK DEVICE ALLOCATION WORD	MSM	6218
20	6300	1003		SHN 3		MSM	6219
21	6301	1603		ADN ALGL		MSM	6220
22	6302	6010		CRD CM		MSM	6221
23	6303	3014		LDD CM+4	SET DAT TRACK	MSM	6222
24	6304	5400 2706		STM ADEA		283L840	173
25	6306	0200 6444		RJM CEI	INITIALIZE *CEA* SUBROUTINE	MSM	6225
26	6310	3054	PRS4	LDD RS		NS2547	249
27	6311	0410		ZJN PRS5	IF NOT RECOVERY DEADSTART	NS2547	250
28	6312	1503		LCN 1RW-1RT		NS2547	251
29	6313	5500 5516		RAM /ISD/RLSF+7	MODIFY ERROR MESSAGE	NS2547	252
30	6315	2000 0000		ISTORE /ISD/RLSB, (NJN /ISD/RLS17)	MODIFY DIT CHECK	272L774	48
31	6321	3050	PRS5	LDD IR		NS2547	259
32	6322	2300 0315		LMC 2RCM		MSM	6227
33	6324	0413		ZJN PRS6	IF *CMS* CALL	NS2547	260
34	6325	2000 0000		ISTORE RLSA, (UJN RLS11)	SET RECOVERY LEVEL CHECK	272L774	49
35	6331	1470		LDN NCPL		MSM	6229
36	6332	6010		CRD CM		MSM	6230
37	6333	3611		AOD CM+1	GET SYSTEM CPA ADDRESS	272L774	50
38	6334	1007		SHN 7		272L774	51
39	6335	0100 6410		LJM PRS8	SET *SNSW* ADDRESS	272L774	52
40						MSM	6242
41	6337	2000 0302	PRS6	LDC UJNI+2	DISABLE CALLS TO DEADSTART ROUTINES	NS2547	263
42	6341	5400 2416		STM MRLB		MSM	6244
43	6343	5400 4573		STM RDLA		MSM	6245
44	6345	5400 5442		STM /ISD/RLSD		NS2547	264
45	6347	2000 0000		ISTORE VAL2, (UJN VAL5)		MSM45	3
46	6353	2000 0000		ISTORE CMEA, (UJN CME8)		MSM45	4
47	6357	2000 0000		ISTORE CMEB, (UJN CME8)		MSM45	5
48	6363	2000 4721		LDC RLM6	SET ERROR RETURN FROM *RLM*	MSM	6259
49	6365	5400 4763		STM RLMA		MSM	6260
50	6367	1477		LDN PSNI		MSM	6261
51	6370	5400 6026		STM WMTA		MSM	6262
52	6372	3074		LDD CP		MSM	6263
53	6373	1636		ADN MS2W		MSM	6264
54	6374	5400 5275		STM /ISD/RLSC		MSM	6265

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6376	5000	1344		LDM	/CMS/DPPB		NS2768	16
6400	1071			SHN	-6		NS2768	17
6401	1103			LMN	UJNI/100		NS2768	18
6402	0505			NJN	PRS7	IF DEADSTART SEQUENCING	NS2547	265
6403	2000	0000		ISTORE	RDLC, (UJN RDL15)	BYPASS *RLM* CALL	272L774	53
6407	3074		PRS7	LDD	CP	GET CPA ADDRESS	272L774	54
6410	1630		PRS8	ADN	SNSW	SET *SNSW* ADDRESS	272L774	55
6411	5400	6212		STM	WOCA+1		272L774	56
6413	1442			LDN	SSML	DETERMINE IF SECURED SYSTEM	272L774	57
6414	6010			CRD	CM		272L774	58
6415	3010			LDD	CM		272L774	59
6416	1277			LPN	77		272L774	60
6417	0405			ZJN	PRS9	IF UNSECURED SYSTEM	272L774	61
6420	2000	0000		ISTORE	VALB, (UJN VAL3)	DISABLE CALL TO *PUE*	272L774	62
6424	0100	2374	PRS9	LJM	RDBX	EXIT	272L774	63
** EMF - ENABLE MMF RECOVERY.							MSM	6273
* ENTRY (A) = ADDRESS OF INSTRUCTION LIST.							MSM	6274
* EXIT (A) = 0.							MSM	6275
* USES T1, T2.							MSM	6276
							283L840	174
							283L840	175
							MSM	6277
							MSM	6278
							MSM	6279
6426	3402		EMF1	STD	T2	SET INSTRUCTION ADDRESS	MSM	6280
6427	1477			LDN	PSNI	REPLACE INSTRUCTION WITH *PSN*	MSM	6281
6430	4402			STI	T2		MSM	6282
6431	3601			AOD	T1	ADVANCE LIST ADDRESS	MSM	6283
6432	4001		EMF2	LDI	T1		MSM	6284
6433	0572			NJN	EMF1	LOOP TO END OF LIST	MSM	6285
6434	1400		EMF3	LDN	0		283L840	176
							MSM	6286
6435	0100	6435	EMF	SUBR		ENTRY/EXIT	MSM	6287
6437	0374		EMFA	UJN	EMF3	EXIT (STAND-ALONE SYSTEM)	283L840	177
* SET LIST ADDRESS (MULTI-MAINFRAME SYSTEM)							NS2768	20
6440	5400	2400		STM	MMFP	SET MMF PRESENT	MSM	6289
6442	0367			UJN	EMF2	ENTER LOOP	MSM	6290
							MSM	6292
CEI HERE							MSM	6293

\* LIST OF \*CMS\* INSTRUCTIONS MODIFIED FOR MMF SYSTEM.

QUAL CMS

MSM 6302  
MSM 6303  
MSM 6304

6473

LCMS  
LCMS

BSS 0

MSM 6305

HERE

MSM 6306

-5

ERRZR LCMS-\*

TABLE EMPTY - REMOVE PRESET CODE

283L840 178

6500

0000

CON 0

TERMINATE LIST

MSM 6307

\* LIST OF \*RMS\* INSTRUCTIONS MODIFIED FOR MMF RECOVERY.

QUAL RMS

MSM 6308

MSM 6309

6501

LRMS  
LRMS

BSS 0

MSM 6310

MSM 6311

MSM 6312

HERE

MSM 6313

-5

ERRZR LRMS-\*

TABLE EMPTY - REMOVE PRESET CODE

283L840 179

6506

0000

CON 0

TERMINATE LIST

MSM 6314

QUAL

MSM 6315

MSM 6316

OVERFLOW ORDB,EPFW CHECK FOR OVERFLOW

283L840 180

OVERFLOW.1

611

ERRNG .2-.1+5-.3/500B\*500B

BYTES LEFT AFTER LAST SECTOR

OVERFLOW.1

160

ERRNG .3/500B\*500B-\*.1-5

BYTES LEFT IN LAST SECTOR

OVERFLOW.1

660

ERRNG .4/500B\*500B-\*.1-5

BYTES CAN BE ADDED TO OVERLAY

OVERFLOW.1

7

ERRNG .3/500B

SECTORS NEEDED FOR OVERLAY

OVERFLOW.1

OVERFLOW.1

LIST \*

OVERFLOW.1

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IDENT 4DC,/RDC/RDCX  
 COMMENT 87/07/09. 96/06/05. MSM - VALIDATE PF SYSTEM.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

NS2552 21  
 MSM 6322  
 281L803 6

1									1
2									2
3									3
4									4
5		***	*VPF*	VALIDATES THAT THE PERMANENT FILE SYSTEM		MSM		6325	5
6		*		CONTAINS NO DUPLICATE PACKNAMES, DEVICE NUMBERS OR USER		MSM		6326	6
7		*		MASKS WITHIN A FAMILY. THE MST TABLES FOR ALL ACTIVE		MSM		6327	7
8		*		DEVICES ARE VERIFIED TO BE UNIQUE.		MSM		6328	8
9									9
10									10
11									11
12									12
13		***		DAYFILE MESSAGES.		MSM		6330	13
14		*				MSM		6331	14
15		*	*EQXX	EQYYY CONFLICTING DN.* = TWO EST ORDINALS HAVE THE		MSM		6332	15
16		*		SAME FAMILY NAME AND DEVICE NUMBER, AND ONE DEVICE IS A		MSM		6333	16
17		*		SYSTEM DEVICE. ACTION - REMOVE ONE OF THE DEVICES.		MSM		6334	17
18		*				MSM		6335	18
19		*	*EQXX	EQYYY CONFLICTING PN.* = TWO AUXILIARY DEVICES HAVE		MSM		6336	19
20		*		THE SAME PACKNAME. ACTION - REMOVE ONE OF THE DEVICES.		MSM		6337	20
21		*				MSM		6338	21
22		*	*EQXX	EQYYY CONFLICTING UM.* = TWO EST ORDINALS IN THE SAME		MSM		6339	22
23		*		FAMILY HAVE ONE OR MORE DUPLICATED BITS IN THE *DM* MASK, AND		MSM		6340	23
24		*		ONE DEVICE IS A SYSTEM DEVICE. ACTION - REMOVE ONE OF THE		MSM		6341	24
25		*		DEVICES.		MSM		6342	25
26									26
27									27
28									28
29									29
30		**		ENTRY CONDITIONS.		MSM		6344	30
31		*				MSM		6345	31
32		*		(RS) = RECOVERY STATUS.		MSM		6346	32
33									33
34									34
35									35
36									36
37									37
38									38
39									39
40									40
41									41
42									42
43									43
44									44
45									45
46									46
47									47
48									48
49									49
50									50
51									51
52									52
53									53
54									54
55									55
56									56
57									57
58									58
59									59
60									60

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1

	3745			QUAL ORG	RDC ORDC			NS2552 283L840 MSM	24 181 6356
1	3745	0100	3745		RDC	SUBR	ENTRY/EXIT	MSM	6357
2	3747	3050		LDD	IR			NS2552	25
3	3750	2300	2215	LMC	2RRM			NS2552	26
4	3752	0421		ZJN	RDC3		IF *RMS* CALL	NS2552	27
5								NS2552	28
6				*			VERIFY RUNNING SYSTEM.	NS2552	29
7								NS2552	30
8	3753	0200	4044		RDC1	RJM	VPF	NS2552	31
9	3755	0467		ZJN	RDCX		VERIFY PF SYSTEM	NS2552	32
10							IF NO ERRORS	NS2552	33
11	3756	3063		LDD	EF			NS2552	34
12	3757	0573		NJN	RDC1		IF EITHER DEVICE SET UNAVAILABLE	NS2552	35
13	3760	3066		LDD	P1			NS2552	36
14	3761	3405		STD	T5			NS2552	37
15	3762	3037		LDD	EC		SET ERROR STATUS ON FIRST DEVICE	NS2552	38
16	3763	0200	2631	RJM	SES			NS2552	39
17	3765	3067		LDD	P2			NS2552	40
18	3766	3405		STD	T5			NS2552	41
19	3767	3037		LDD	EC		SET ERROR STATUS FOR SECOND DEVICE	NS2552	42
20	3770	0200	2631	RJM	SES			NS2552	43
21	3772	0352			RDC2	UJP	RDCX	NS2552	44
22							RETURN	NS2552	45
23				*			VERIFY DEADSTART SYSTEM.	NS2552	46
24								NS2552	47
25	3773	3054			RDC3	LDD	RS	NS2552	48
26	3774	0506		NJN	RDC4		IF RECOVERY DEADSTART	NS2552	49
27	3775	0200	4026	RJM	SDF		SET DEFAULT FAMILY NAME	NS2552	50
28	3777	1400		LDN	0			NS2552	51
29	4000	0200	4632	RJM	GFO		ENTER DEFAULT FAMILY IN FOT	NS2552	52
30	4002	3060			RDC4	LDD	RC	NS2552	53
31	4003	0407		ZJN	RDC6		IF NO EQUIPMENT RECOVERED	NS2552	54
32	4004	0200	4044		RDC5	RJM	VPF	NS2552	55
33	4006	0404		ZJN	RDC6		VERIFY PF SYSTEM FOR CONFLICTS	NS2552	56
34	4007	0774		MJN	RDC5		IF NO CONFLICTS	NS2552	57
35	4010	0100	1474	LJM	/RMS/HNG		IF ERROR ON NON-SYSTEM DEVICE	NS2552	58
36							DISPLAY ERROR AND HANG	NS2552	59
37				*			RESET DEFAULT FAMILY EQUIPMENT TO FAMILY MASTER EQUIPMENT.	NS2552	60
38	4012	0200	4026		RDC6	RJM	SDF	NS2552	61
39	4014	0200	4473	RJM	SFE		SET DEFAULT FAMILY NAME	NS2552	62
40	4016	0553		NJN	RDC2		SET FAMILY EQUIPMENT	NS2552	63
41	4017	3002		LDD	T2		IF MASTER EQUIPMENT NOT FOUND	NS2552	64
42	4020	3433		STD	CN+3			NS2552	65
43	4021	2000	0107	LDC	PFNL		SET FAMILY EST ORDINAL IN *PFNL*	NS2552	66
44	4023	6230		CWD	CN			NS2552	67
45	4024	0345		UJN	RDC2		RETURN	NS2552	68

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	**			SDF - SET DEFAULT FAMILY NAME.			MSM	6366
	*						MSM	6367
	*			EXIT (CN - CN+4) = *PFNL* WORD.			MSM	6368
1	*			(FN - FN+4) = *PFGL* WORD FROM DEFAULT FAMILY MST.			MSM	6369
2	*						MSM	6370
3	*			USES CN - CN+4, FN - FN+4.			MSM	6371
4	*						MSM	6372
5	*			MACROS SFA.			MSM	6373
6							MSM	6374
7							MSM	6375
8		4025	0100 4025	SDF	SUBR	ENTRY/EXIT	MSM	6376
9		4027	2000 0107		LDC	PFNL	MSM	6377
10		4031	6030		CRD	CN	MSM	6378
11		4032	3033		SFA	EST,CN+3	MSM	6379
12					ADK	EQDE	MSM	6380
13		4035	6040		CRD	FN	MSM	6381
14		4036	3044		LDD	FN+4	MSM	6382
15		4037	1003		SHN	3	MSM	6383
16		4040	1604		ADN	PFGL	MSM	6384
17		4041	6040		CRD	FN	MSM	6385
18		4042	0362		UJN	SDFX	MSM	6386
19								
20								
21								
22								
23	**			VPF - VERIFY PF SYSTEM FOR CONFLICTS IN -			NS2552	71
24	*			DEVICE NUMBERS.			NS2552	72
25	*			DEVICE MASKS.			NS2552	73
26	*			PACKNAMES.			NS2552	74
27	*						NS2552	75
28	*			USES EF, EQ, T2, T5, T7, CM - CM+4, FN - FN+7, FS - FS+4.			NS2552	76
29	*						NS2552	77
30	*			CALLS CFN, CFR, ERR, GNE, LRA.			NS2552	78
31	*						NS2552	79
32	*			MACROS SFA.			NS2552	80
33							MSM	6397
34							MSM	6398
35		4043	0100 4043	VPF	SUBR	ENTRY/EXIT	MSM	6399
36		4045	1400		LDN	0	MSM	6400
37		4046	3463		STD	EF	MSM	6401
38		4047	1404		LDN	NOPE-1	MSM	6402
39		4050	3453		STD	EQ	MSM	6403
40		4051	3653	VPF1	AOD	EQ	MSM	6404
41		4052	3405		STD	T5	MSM	6405
42		4053	3361		LMD	LO	MSM	6406
43		4054	0466		ZJN	VPFX	MSM	6407
44		4055	0200 1203		RJM	LRA	MSM	6408
45		4057	3153		ADD	EQ	MSM	6409
46		4060	6043		CRD	RD	MSM	6410
47		4061	3053		SFA	EST,EQ	MSM	6411
48					ADK	EQDE	MSM	6412
49		4064	6040		CRD	FN	MSM	6413
50		4065	3046		LDD	RE	MSM	6414
51		4066	0462		ZJN	VPF1	MSM	6415
52		4067	2200 0300		LPC	300	MSM	6416
53		4071	3371		LMD	HN	MSM	6417
54		4072	0456		ZJN	VPF1	MSM	6418
55								
56								
57								
58								
59								
60								

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4073	3044		LDD	FN+4		MSM	6419
4074	1003		SHN	3		MSM	6420
4075	1604		ADN	PFGL	READ FAMILY/PACK NAME	MSM	6421
4076	6040		CRD	FN		MSM	6422
4077	1611		ADN	STLL-PFGL	GET DEVICE STATUS	MSM	6423
4100	6007		CRD	T7		MSM	6424
4101	1710		SBN	STLL-PUGL	READ DEVICE MASK	MSM	6425
4102	6010		CRD	CM		MSM	6426
4103	1601		ADN	MDGL-PUGL	CHECK AUXILIARY STATUS	MSM	6427
4104	6020		CRD	FS		MSM	6428
4105	3007		LDD	T7	CHECK DEVICE STATUS	MSM	6429
4106	2200 3410		LPC	MLIAL+MLIHD+MLIFD+MLUNL		MSM	6430
4110	0540		NJN	VPF1	IF UNLOAD/INITIALIZE PENDING	MSM	6431
4111	3020		LDD	FS		MSM	6432
4112	1065		SHN	-12		MSM	6433
4113	1201		LPN	1		MSM	6434
4114	3402		STD	T2		MSM	6435
4115	0200 4420		RJM	GNE	GET NEXT ENTRY	MSM	6436
4117	0433		ZJN	VPF7	IF NOT FOUND	MSM	6437
4120	0200 4161		RJM	CFN	COMPARE DEVICE NAMES	MSM	6438
4122	0572		NJN	VPF2	IF NOT SAME FAMILY	MSM	6439
4123	3002		LDD	T2		MSM	6440
4124	1101		LMN	1		MSM	6441
4125	0421		ZJN	VPF3	IF AUXILIARY DEVICE	MSM	6442
4126	3007		LDD	T7		MSM	6443
4127	1101		LMN	1		MSM	6444
4130	0416		ZJN	VPF3	IF NEW DEVICE IS AN AUXILIARY DEVICE	MSM	6445
						MSM	6446
		*			CHECK DEVICE NUMBERS.	MSM	6447
						MSM	6448
4131	3023		LDD	FS+3		MSM	6449
4132	3343		LMD	FN+3		MSM	6450
4133	0414		ZJN	VPF4	IF SAME DEVICE NUMBERS	MSM	6451
						MSM	6452
		*			CHECK USER MASKS.	MSM	6453
						MSM	6454
4134	3034		LDD	CN+4		MSM	6455
4135	5400 4141		STM	VPFA		MSM	6456
4137	3014		LDD	CM+4		MSM	6457
4140	2200 4140		LPC	*		MSM	6458
		4141	EQU	*-1		MSM	6459
4142	2200 0377		LPC	377		MSM	6460
4144	0450		ZJN	VPF2	IF NOT DUPLICATE MASKS	MSM	6461
4145	1401		LDN	STUM-STPN	SET USER MASK ERROR	MSM	6462
4146	1601		ADN	STPN-STDN	SET PACKNAME ERROR	MSM	6463
4147	1607		ADN	STDN	SET DEVICE NUMBER ERROR	MSM	6464
4150	0100 4221		LJM	ERR		MSM	6465
						MSM	6466
4152	3002		LDD	T2		MSM	6467
4153	0503		NJN	VPF8	IF AUXILIARY DEVICE	MSM	6468
4154	0200 4200		RJM	CFR	CHECK FAMILY DEVICE RECOVERED	MSM	6469
4156	0100 4051		LJM	VPF1	LOOP FOR NEXT EQUIPMENT	MSM	6470

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\*\* CFN - COMPARE FAMILY/PACK NAMES. MSM 6473  
\* MSM 6474  
\* ENTRY (FN - FN+4) = FAMILY/PACK NAME1. MSM 6475  
\* (FS - FS+4) = FAMILY/PACK NAME2. MSM 6476  
\* MSM 6477  
\* EXIT (A) = 0 IF NAMES EQUAL. MSM 6478

CFN	SUBR	ENTRY/EXIT	MSM	6479
4160	0100 4160	CFN SUBR ENTRY/EXIT	MSM	6481
4162	3040	LDD FN	MSM	6482
4163	3320	LMD FS	MSM	6483
4164	0573	NJN CFNX IF NOT EQUAL	MSM	6484
4165	3041	LDD FN+1	MSM	6485
4166	3321	LMD FS+1	MSM	6486
4167	0570	NJN CFNX IF NOT EQUAL	MSM	6487
4170	3042	LDD FN+2	MSM	6488
4171	3322	LMD FS+2	MSM	6489
4172	0565	NJN CFNX IF NOT EQUAL	MSM	6490
4173	3043	LDD FN+3	MSM	6491
4174	3323	LMD FS+3	MSM	6492
4175	1377	SCN 77	MSM	6493
4176	0361	UJN CFNX EXIT	MSM	6494

\*\* CFR - CHECK FAMILY DEVICE RECOVERED. MSM 6496  
\* MSM 6497  
\* ENTRY (EQ) = EST ORDINAL. MSM 6498  
\* MSM 6499  
\* ERROR TO \*ERR\* IF FOT FULL. MSM 6500  
\* TO \*RDCX\* IF ERROR FLAG SET. NS2552 81

CFR	SUBR	ENTRY/EXIT	MSM	6502
4177	0100 4177	CFR SUBR ENTRY/EXIT	MSM	6503
4201	3054	LDD RS	MSM	6504
4202	0574	NJN CFRX IF RECOVERY DEADSTART	MSM	6505
4203	3046	LDD RE	MSM	6506
4204	1012	SHN 21-7	MSM	6507
4205	0671	PJN CFRX IF DEVICE NOT RECOVERED	MSM	6508
4206	1400	LDN 0 SEARCH FOR/CREATE FOT ENTRY	MSM	6509
4207	0200 4632	RJM GFO	MSM	6510
4211	1301	SCN 1	MSM	6511
4212	0464	ZJN CFRX IF ENTRY FOUND/CREATED	MSM	6512
4213	2240 0000	LPC 400000	MSM	6513
4215	1120	LMN STFF	MSM	6514
4216	0603	PJN ERR IF FOT FULL	MSM	6515
4217	0100 3745	LJM RDCX EXIT	NS2552	82

\*\* ERR - PROCESS ERROR CONDITIONS. MSM 6519  
\* MSM 6520  
\* ENTRY (A) = ERROR STATUS. MSM 6521  
\* (EQ) = EST ORDINAL OF FIRST DEVICE. MSM 6522  
\* (T5) = EST ORDINAL OF SECOND DEVICE. MSM 6523

			*				MSM	6524	
			*	USES	FN - FN+4, P1, P2, T1, T5, EC, EQ.		MSM	6525	
			*				MSM	6526	
			*	CALLS	C2D, IES, LRA.		MSM	6527	
			*				MSM	6528	
			*	MACROS	SFA.		MSM	6529	
							MSM	6530	
							MSM	6531	
	4221	3437	ERR	STD	EC	SAVE ERROR CODE	MSM	6532	
	4222	3005		LDD	T5	SAVE EST ORDINAL OF SECOND DEVICE	MSM	6533	
	4223	3467		STD	P2		MSM	6534	
	4224	3053		LDD	EQ	SAVE EST ORDINAL OF FIRST DEVICE	MSM	6535	
	4225	3466		STD	P1		MSM	6536	
	4226	3405		STD	T5	PROCESS FIRST EST ORDINAL	MSM	6537	
	4227	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	6538	
	4231	3153		ADD	EQ		MSM	6539	
	4232	6043		CRD	RD		MSM	6540	
	4233	3005		SFA	EST, T5		MSM	6541	
				ADK	EQDE		MSM	6542	
	4236	6040		CRD	FN		MSM	6543	
	4237	3046		LDD	RE		MSM	6544	
	4240	1071		SHN	-6		MSM	6545	
	4241	1262		LPN	62		MSM	6546	
	4242	1162		LMN	62		MSM	6547	
	4243	0436		ZJN	ERR3	IF RECOVERED SYSTEM DEVICE	MSM	6548	
	4244	1320		SCN	20		MSM	6549	
	4245	0504		NJN	ERR1	IF EQUIPMENT NOT RECOVERED	MSM	6550	
	4246	3663		AOD	EF	FLAG *IES* CALL	MSM	6551	
	4247	0200 3460		RJM	IES	INITIALIZE EQUIPMENT STATUS	MSM	6552	
	4251	3067	ERR1	LDD	P2	PROCESS SECOND EQUIPMENT	MSM	6553	
	4252	3453		STD	EQ		MSM	6554	
	4253	3405		STD	T5		MSM	6555	
	4254	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	6556	
	4256	3153		ADD	EQ		MSM	6557	
	4257	6043		CRD	RD		MSM	6558	
	4260	3005		SFA	EST, T5	READ EST ENTRY	MSM	6559	
				ADK	EQDE		MSM	6560	
	4263	6040		CRD	FN		MSM	6561	
	4264	3046		LDD	RE		MSM	6562	
	4265	1071		SHN	-6		MSM	6563	
	4266	1262		LPN	62		MSM	6564	
	4267	1162		LMN	62		MSM	6565	
	4270	0411		ZJN	ERR3	IF RECOVERED SYSTEM DEVICE	MSM	6566	
	4271	1320		SCN	20		MSM	6567	
	4272	0504		NJN	ERR2	IF EQUIPMENT NOT RECOVERED	MSM	6568	
	4273	3663		AOD	EF	FLAG *IES* CALL	MSM	6569	
	4274	0200 3460		RJM	IES	INITIALIZE EQUIPMENT STATUS	MSM	6570	
	4276	1500	ERR2	LCN	0	SET NON SYSTEM DEVICE ERROR	MSM	6571	
	4277	0100 4043		LJM	VPFX		MSM	6572	
							MSM	6573	
			*			PROCESS ERROR ON SYSTEM DEVICE.	MSM	6574	
							MSM	6575	
	4301	3066	ERR3	SFA	EST, P1		MSM	6576	
				ADK	EQDE		MSM	6577	
	4304	6040		CRD	FN		MSM	6578	
	4305	3043		LDD	FN+3	SET DEVICE TYPE	MSM	6579	
	4306	5400 4367		STM	ERRA		MSM	6580	

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4310	3066		LDD	P1	CONVERT UPPER TWO DIGITS OF FIRST DEVICE	MSM	6581
4311	1074		SHN	-3		MSM	6582
4312	0200 1122		RJM	C2D		MSM	6583
4314	5400 4370		STM	ERRA+1		MSM	6584
4316	3066		LDD	P1	CONVERT LOWER DIGIT OF FIRST DEVICE	MSM	6585
4317	1207		LPN	7		MSM	6586
4320	1006		SHN	6		MSM	6587
4321	2100 3355		ADC	2R0		MSM	6588
4323	5400 4371		STM	ERRA+2		MSM	6589
4325	3067		SFA	EST,P2		MSM	6590
			ADK	EQDE		MSM	6591
4330	6040		CRD	FN		MSM	6592
4331	3043		LDD	FN+3	SET DEVICE TYPE	MSM	6593
4332	5400 4372		STM	ERRA+3		MSM	6594
4334	3067		LDD	P2	CONVERT UPPER TWO DIGITS OF SECOND DEVICE	MSM	6595
4335	1074		SHN	-3		MSM	6596
4336	0200 1122		RJM	C2D		MSM	6597
4340	5400 4373		STM	ERRA+4		MSM	6598
4342	3067		LDD	P2	CONVERT LOWER DIGIT OF SECOND DEVICE	MSM	6599
4343	1207		LPN	7		MSM	6600
4344	1006		SHN	6		MSM	6601
4345	2100 3355		ADC	2R0		MSM	6602
4347	5400 4374		STM	ERRA+5		MSM	6603
4351	3037		LDD	EC	SET PROPER ERROR	MSM	6604
4352	1720		SBN	STFF		MSM	6605
4353	0410		ZJN	ERR4	IF FOT FULL	MSM	6606
4354	1611		ADN	STFF-STDN		MSM	6607
4355	3401		STD	T1		MSM	6608
4356	5001 4406		LDM	ERRC,T1		MSM	6609
4360	5400 4403		STM	ERRB		MSM	6610
4362	1522		LCN	ERRD-ERRA		MSM	6611
4363	2100 4411	ERR4	ADC	ERRD		MSM	6612
4365	0100 4043		LJM	VPFX		MSM	6613
						MSM	6614
						MSM	6615
4367	0521	ERRA	DATA	H*EQXXX EQYYY CONFLICTING *		MSM	6616
4403	0524	ERRB	DATA	C*ET. *		MSM	6617
4406	0416	ERRC	VFD	12/0LDN		MSM	6618
4407	2016		VFD	12/0LPN		MSM	6619
4410	2515		VFD	12/0LUM		MSM	6620
4411	0617	ERRD	DATA	C*FOT FULL.*		MSM	6621
						MSM	6622
		**	GNE	- GET NEXT ENTRY.		MSM	6623
		*				MSM	6624
		*	ENTRY	(T5) = ADDRESS OF LAST ENTRY CHECKED.		MSM	6625
		*				MSM	6626
		*	EXIT	(FS - FS+4) = PF DESCRIPTION WORD.		MSM	6627
		*		(CN+4) = DEVICE MASK.		MSM	6628
		*		(A) = 0 IF ENTRY NOT FOUND.		MSM	6629
		*		(T7) = 1, IF AUXILIARY DEVICE.		MSM	6630
		*				MSM	6631
		*	USES	T1, T5, T7, CM - CM+3, FS - FS+4.		MSM	6632
		*				MSM	6633
		*	CALLS	LRA.		MSM	6634

Line	Code	Address	Subr	Op	Op2	Description	MSM	Page
1	4417	0100 4417	GNE	SUBR		ENTRY/EXIT	6635	
2	4421	3605	GNE1	AOD	T5		6636	
3	4422	3361		LMD	L0		6637	
4	4423	0473		ZJN	GNEX	IF END OF MASS STORAGE DEVICES	6638	
5	4424	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	6639	
6	4426	3105		ADD	T5		6640	
7	4427	6007		CRD	T7		6641	
8	4430	3005		SFA	EST,T5	READ NEXT EST ENTRY	6642	
9				ADK	EQDE		6643	
10	4433	6020		CRD	FS	READ NEXT ENTRY	6644	
11			*	LDD	RE	CHECK DEVICE CHARACTERISTICS	6645	
12	4434	3012		LDD	CM+2		6646	
13	4435	1006		SHN	21-13		6647	
14	4436	0662		PJN	GNE1	IF NOT MASS STORAGE	6648	
15	4437	1005		SHN	21-6-21+13		6649	
16	4440	0603		PJN	GNE2	IF AVAILABLE	6650	
17	4441	1021		SHN	21-7-21+6+22		6651	
18	4442	0656		PJN	GNE1	IF DEVICE NOT BEING RECOVERED	6652	
19	4443	3024	GNE2	LDD	FS+4	READ MST	6653	
20	4444	3401		STD	T1	SAVE MST ADDRESS	6654	
21	4445	1003		SHN	3		6655	
22	4446	1606		ADN	MDGL		6656	
23	4447	6020		CRD	FS		6657	
24	4450	1607		ADN	STLL-MDGL	GET DEVICE STATUS	6658	
25	4451	6007		CRD	T7		6659	
26	4452	3007		LDD	T7	CHECK INITIALIZE REQUESTED	6660	
27	4453	2200 3400		LPC	MLIAL+MLIHD+MLIFD		6661	
28	4455	0543		NJN	GNE1	IF FULL INITIALIZE PENDING	6662	
29	4456	3020		LDD	FS		6663	
30	4457	1065		SHN	-12		6664	
31	4460	1201		LPN	1		6665	
32	4461	3407		STD	T7		6666	
33	4462	3001		LDD	T1	GET FAMILY NAME	6667	
34	4463	1003		SHN	3		6668	
35	4464	1604		ADN	PFGL		6669	
36	4465	6020		CRD	FS		6670	
37	4466	1601		ADN	PUGL-PFGL	READ DEVICE MASK	6671	
38	4467	6030		CRD	CN		6672	
39	4470	0100 4417		LJM	GNEX	RETURN	6673	

\*\* COMMON DECKS.

46	4472			CTEXT	COMPSFE	SET FAMILY EST ORDINAL.	1	
47		0	GFO\$	EQU	0	DEFINE FOT ACCESS ROUTINE	83	
48	4630			CTEXT	COMPUFT	UPDATE FAMILY ORDINAL TABLE.	1	

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OVERFLOW ORDC,EPFW CHECK FOR OVERFLOW

283L840 182

1	2340	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR	OVERFLOW.1	1
2	124	ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR	OVERFLOW.1	2
3	2024	ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY	OVERFLOW.1	3
4	2	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY	OVERFLOW.1	4
5					OVERFLOW.1	5
6		LIST	*		OVERFLOW.1	6
7						7
8						8
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IDENT 4DD,/RDD/RDDX  
 COMMENT 87/07/09. 96/06/05. MSM - DEVICE VERIFICATION ROUTINES.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

MSM 6689  
 MSM 6690  
 281L803 7

1									MSM	6692	1
2									MSM	6693	2
3									MSM	6694	3
4									MSM	6695	4
5									MSM	6696	5
6									MSM	6697	6
7	3745				QUAL	RDD			283L840	183	7
8					ORG	ORDD					8
9	3745	0100	3745		RDD	SUBR		ENTRY/EXIT	MSM	6699	9
10	3747	0100	6677		LJM	POV		PROCESS OVERLAY PRESET	MSM	6701	10
11											11
12											12
13											13
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	**			ABD - ALLOCATE BAT FOR DEVICE.			283L840	186	
	*						283L840	187	
	*			ENTRY (FN - FN+4) = EST ENTRY.			283L840	188	
	*			(BAEI+4) = NEXT AVAILABLE BAT TRACK.			283L840	189	
	*						283L840	190	
	*			EXIT (A) = 0 IF BAT ALLOCATED, OR IF BAT NOT REQUIRED.			283L840	191	
	*			(A) = MESSAGE ADDRESS, IF NO BAT TRACK AVAILABLE.			283L840	192	
	*						283L840	193	
	*			USES T6, T7, CM - CM+4, CN - CN+4.			283L840	194	
	*						283L840	195	
	*			CALLS CEA, SNT.			283L840	196	
	*						283L840	197	
	*			MACROS MONITOR.			283L840	198	
							283L840	199	
							283L840	200	
13		3751	2000 4017	ABD1	LDC	ABDA	EXIT WITH (A) = MESSAGE ADDRESS	283L840	201
14								283L840	202
15								283L840	203
16		3753	0100 3753	ABD	SUBR		ENTRY/EXIT	283L840	204
17		3755	3040		LDD	FN		283L840	205
18		3756	1240		LPN	40		283L840	206
19		3757	0473		ZJN	ABDX	IF NOT SHARED BUFFERED DEVICE	283L840	207
20		3760	5000 1104		LDM	BAEI+4	NEXT AVAILABLE BAT TRACK	283L840	208
21		3762	0466		ZJN	ABD1	IF NO TRACK AVAILABLE	283L840	209
22		3763	3406		STD	T6		283L840	210
23		3764	0200 4630		RJM	SNT	SET NEXT TRACK	283L840	211
24		3766	5400 1104		STM	BAEI+4		283L840	212
25								283L840	213
26				*			SET EXTENDED MEMORY ADDRESS OF BAT INTO DAT.	283L840	214
27								283L840	215
28		3770	1400		LDN	0		283L840	216
29		3771	3407		STD	T7		283L840	217
30		3772	0200 2504		RJM	CEA	GET ADDRESS OF BAT TRACK	283L840	218
31		3774	3013		LDD	CM+3	SET EXTENDED MEMORY ADDRESS OF BAT	283L840	219
32		3775	5400 2373		STM	DATB+5		283L840	220
33		3777	3014		LDD	CM+4		283L840	221
34		4000	5400 2374		STM	DATB+6		283L840	222
35								283L840	223
36				*			CLEAR BAT.	283L840	224
37								283L840	225
38		4002	1466		LDN	ZERL		283L840	226
39		4003	6010		CRD	CM		283L840	227
40		4004	3006		LDD	T6	SET TRACK TO CLEAR	283L840	228
41		4005	3414		STD	CM+4		283L840	229
42		4006	1410		LDN	BATL/100	SET NUMBER OF SECTORS TO CLEAR	283L840	230
43		4007	3413		STD	CM+3		283L840	231
44		4010	1402		LDN	CEMS	CLEAR EXTENDED MEMORY TRACK	283L840	232
45		4011	3411		STD	CM+1		283L840	233
46		4012	1436		MONITOR	MTEM		283L840	234
47		4015	0100 3753		UJP	ABDX	RETURN	283L840	235
48								283L840	236
49								283L840	237
50		4017	5505	ABDA	DATA	C* END OF BAT TRACK CHAIN.*		283L840	238
51									
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	**				CDE - CHECK DAT ENTRY.		283L840	240
	*						283L840	241
	*				ENTRY (DI) = DAT INDEX FROM MST.		283L840	242
1	*				(QS) = INDEX INTO DEVICE ACCESS TABLE.		283L840	243
2	*				(T2) = ADDRESS OF DATB+11.		283L840	244
3	*				(FN - FN+4) = EST ENTRY.		283L840	245
4	*				(DATB) = DAT ENTRY.		283L840	246
5	*						283L840	247
6	*				EXIT (A) = 0 IF NO DAT CONFLICTS.		283L840	248
7	*				(A) = ADDRESS OF ERROR MESSAGE, IF DAT CONFLICT.		283L840	249
8	*				(T6) = 0, IF DAT ENTRY FOR NON-SHARED DEVICE.		283L840	250
9	*				(T6) = EXTENDED MEMORY TRACK, IF SHARED DEVICE ENTRY.		283L840	251
10	*						283L840	252
11	*				USES T6.		283L840	253
12							283L840	254
13							283L840	255
14		4034	4002		CDE2 LDI T2 CHECK MACHINE ACCESS BYTE		283L840	256
15		4035	1006		SHN 21-13		283L840	257
16		4036	0706		MJN CDE3 IF RECOVERY IN PROGRESS		283L840	258
17		4037	3062		LDD DI CHECK DAT INDEX		283L840	259
18		4040	3335		LMD QS		283L840	260
19		4041	0405		ZJN CDEX IF VALID INDEX		283L840	261
20		4042	3335		LMD QS		283L840	262
21		4043	0403		ZJN CDEX IF NO DAT INDEX IN MST		283L840	263
22		4044	2000 4213		CDE3 LDC CSDC+3		283L840	264
23							283L840	265
24		4046	0100 4046		CDE SUBR ENTRY/EXIT		283L840	266
25		4050	5000 2372		LDM DATB+4 SET ECS POINTER FOR SHARED DEVICE		283L840	267
26		4052	3406		STD T6		283L840	268
27		4053	1075		SHN 11-13		283L840	269
28		4054	3340		LMD FN MAP TRACK BIT WITH SHARE FLAG		283L840	270
29		4055	1010		SHN 21-11		283L840	271
30		4056	0655		PJN CDE2 IF COMPARE		283L840	272
31		4057	3006		LDD T6		283L840	273
32		4060	0402		ZJN CDE1 IF DAT ENTRY FOR NON-SHARED DEVICE		283L840	274
33		4061	1402		LDN CSDC-CSDB		283L840	275
34		4062	2100 4206		CDE1 ADC CSDB SET ADDRESS OF ERROR MESSAGE		283L840	276
35		4064	0361		UJN CDEX RETURN		283L840	277
36								
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	**				CSD - CHECK SHARED DEVICE STATUS.		283L840	279
	*						283L840	280
	*				ENTRY (EQ) = DEVICE EST ORDINAL.		283L840	281
1	*				(RS) = RECOVERY STATUS.		283L840	282
2	*				(CN - CN+4) = PF DESCRIPTOR WORD (PFGL).		283L840	283
3	*				(FN - FN+4) = EST ENTRY.		283L840	284
4	*						283L840	285
5	*				EXIT (A) = 0 IF NO DAT CONFLICT.		283L840	286
6	*				(A) = ADDRESS OF ERROR MESSAGE, IF DAT CONFLICT.		283L840	287
7	*				(T2) = 0 IF DEVICE NOT DESCRIBED IN DAT.		283L840	288
8	*						283L840	289
9	*				USES QS, RE, T7, CM - CM+4.		283L840	290
10	*						283L840	291
11	*				CALLS SDT, CDE, CEA.		283L840	292
12	*						283L840	293
13	*				MACROS MONITOR.		283L840	294
14							283L840	295
15							283L840	296
16		4065	3077		CSD6 LDD MA MOVE ENTRY TO DAT BUFFER		283L840	297
17		4066	6230		CWD CN		283L840	298
18		4067	6170 2366		CRM DATB,ON		283L840	299
19		4071	3062		LDD DI CHECK DAT INDEX		283L840	300
20		4072	0403		ZJN CSD7 IF NO DAT ENTRY FOR DEVICE		283L840	301
21		4073	3435		STD QS		283L840	302
22		4074	0305		UJN CSD8 DAT SLOT ASSIGNED		283L840	303
23							283L840	304
24		4075	3040		CSD7 LDD FN		283L840	305
25		4076	1070		SHN 2-11		283L840	306
26		4077	1204		LPN 4 MAP SHARE FLAG AS ECS TRACK REQUIRED		283L840	307
27		4100	3546		RAD RE		283L840	308
28		4101	1400		CSD8 LDN 0 CLEAR MACHINE ACCESS BYTE		283L840	309
29		4102	5400 2377		CSD9 STM DATB+11		283L840	310
30							283L840	311
31		4104	0100 4104		CSD SUBR ENTRY/EXIT		283L840	312
32		4106	0200 4607		RJM SDT SEARCH DEVICE ACCESS TABLE		283L840	313
33		4110	3402		STD T2		283L840	314
34		4111	0453		ZJN CSD6 IF NO ENTRY FOR NAMED DEVICE		283L840	315
35		4112	0200 4047		RJM CDE CHECK DAT ENTRY		283L840	316
36		4114	0567		NJN CSDX IF DAT CONFLICT/ERROR		283L840	317
37		4115	3407		STD T7		283L840	318
38		4116	3006		LDD T6		283L840	319
39		4117	0510		NJN CSD1 IF SHARED DEVICE		283L840	320
40		4120	4002		LDI T2		283L840	321
41		4121	2277 7777		LPC -0		283L840	322
42					MMTE *-1		283L840	323
43		4123	0460		ZJN CSDX IF ACCESS BY THIS MACHINE ONLY		283L840	324
44		4124	2000 4206		LDC CSDB		283L840	325
45		4126	0355		UJN CSDX RETURN		283L840	326
46							283L840	327
47		4127	4002		CSD1 LDI T2 CHECK MACHINES ACCESSING DEVICE		283L840	328
48		4130	0451		ZJN CSD9 IF NO MACHINE ACCESS		283L840	329
49		4131	2277 7777		LPC -0		283L840	330
50					MMTE *-1		283L840	331
51		4133	3154		ADD RS		283L840	332
52		4134	0445		ZJN CSD9 IF ACCESS BY THIS MACHINE ONLY		283L840	333
53		4135	3254		SBD RS		283L840	334
54		4136	4302		LMI T2		283L840	335

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4137	0402		ZJN	CSD2	IF NOT ACCESSED BY THIS MACHINE	283L840	336		
4140	1410		LDN	10		283L840	337		
4141	1602		CSD2	ADN	2	FLAG TRT RECOVERY FROM EXTENDED MEMORY	283L840	338	
4142	3546		RAD	RE			283L840	339	
4143	0200	2504	RJM	CEA	CONVERT EXTENDED MEMORY ADDRESS		283L840	340	
4145	3047		LDD	AL	SET CM TABLE ADDRESS		283L840	341	
			ADK	TDGL			283L840	342	
4146	3412		STD	CM+2			283L840	343	
4147	2000	1140	LDC	GLGL*100-100+40	SET WORD COUNT		283L840	344	
4151	3411		STD	CM+1			283L840	345	
4152	2000	2000	LDC	RECS*1000	SUBFUNCTION = READ ECS		283L840	346	
4154	3513		RAD	CM+3			283L840	347	
4155	1434		MONITOR	ECSM	ISSUE MONITOR REQUEST		283L840	348	
4160	3055		LDD	RA	READ DRIVER WORD FROM GLOBAL MST		283L840	349	
4161	1006		SHN	6			283L840	350	
4162	3147		ADD	AL			283L840	351	
4163	1606		ADN	MDGL			283L840	352	
4164	6010		CRD	CM			283L840	353	
4165	3062		LDD	DI			283L840	354	
4166	0403		ZJN	CSD3	IF DNAP BY THIS MACHINE		283L840	355	
4167	3335		LMD	QS			283L840	356	
4170	0512		CSD3	NJN	CSD4	IF DAT CONFLICT		283L840	357
4171	3040		LDD	FN			283L840	358	
4172	1377		SCN	77			283L840	359	
4173	1004		SHN	14-10			283L840	360	
4174	3335		LMD	QS			283L840	361	
4175	1076		SHN	-1	COMPARE REMOVABLE STATUS + DAT INDEX		283L840	362	
4176	3310		LMD	CM			283L840	363	
4177	2200	4377	LPC	4377			283L840	364	
4201	0403		ZJN	CSD5	IF NO CONFLICT		283L840	365	
4202	2000	4227	CSD4	LDC	CSDD		283L840	366	
4204	0100	4104	CSD5	LJM	CSDX	RETURN		283L840	367
							283L840	368	
4206	1617		CSDB	DATA	4HNON-		283L840	369	
4210	2310		CSDC	DATA	C*SHARED DEVICE ACTIVE IN DAT.*		283L840	370	
							283L840	371	
4227	2205		CSDD	DATA	C*REMOVABLE DEVICE CONFLICT.*		283L840	372	
			**	EBP	- ENABLE BST/BAT PROCESSING FOR SHARED BUFFERED DEVICE.		283L840	374	
			*				283L840	375	
			*	ENTRY	(EQ) = EST ORDINAL.		283L840	376	
			*		(FN - FN+4) = EST ENTRY.		283L840	377	
			*				283L840	378	
			*	USES	T5, T6, T7, CM - CM+4.		283L840	379	
			*				283L840	380	
			*	MACROS	MONITOR.		283L840	381	
							283L840	382	
							283L840	383	
4245	0100	4245	EBP	SUBR	ENTRY/EXIT		283L840	384	
4247	3040		LDD	FN			283L840	385	
4250	1010		SHN	21-11			283L840	386	
4251	0673		PJN	EBPX	IF NOT SHARED DEVICE		283L840	387	
4252	1004		SHN	21-5-21+11			283L840	388	
4253	0671		PJN	EBPX	IF NOT BUFFERED DEVICE		283L840	389	

								283L840	390
			*			FLUSH WRITE BUFFERS / DROP ALL BUFFERS.		283L840	391
								283L840	392
1	4254	1466	EBP1	LDN	ZERL	CLEAR ASSEMBLY AREA		283L840	393
2	4255	6010		CRD	CM			283L840	394
3	4256	3053		LDD	EQ	SET EST ORDINAL		283L840	395
4	4257	3413		STD	CM+3			283L840	396
5	4260	2000 1000		LDC	BMFW*100	FLUSH ALL WRITE BUFFERS		283L840	397
6	4262	3414		STD	CM+4			283L840	398
7	4263	1427		MONITOR	BFMM			283L840	399
8	4266	1466		LDN	ZERL	CLEAR ASSEMBLY AREA		283L840	400
9	4267	6010		CRD	CM			283L840	401
10	4270	3053		LDD	EQ	SET EST ORDINAL		283L840	402
11	4271	3413		STD	CM+3			283L840	403
12	4272	2000 1400		LDC	BMDD*100	DROP ALL BUFFERS ON DEVICE		283L840	404
13	4274	3414		STD	CM+4			283L840	405
14	4275	1427		MONITOR	BFMM			283L840	406
15	4300	3014		LDD	CM+4			283L840	407
16	4301	0416		ZJN	EBP2	IF COMPLETE		283L840	408
17	4302	5000 0255		DELAY	20B	DELAY TWO MILLISECONDS		283L840	409
18	4307	1400		PAUSE				283L840	410
19	4315	0100 4254		UJP	EBP1	REISSUE REQUEST		283L840	411
20								283L840	412
21			*			CLEAR ACCESS PERMISSIONS IN *BAT*.		283L840	413
22								283L840	414
23	4317	1466	EBP2	LDN	ZERL			283L840	415
24			*	UJN	EBP3	(*CMS* CALL)		283L840	416
25				EBPA	EQU	*-1		283L840	417
26	4320	6010	4317	CRD	CM			283L840	418
27	4321	1401		EBPB	LDN	CBWS	CLEAR READ/WRITE PERMISSIONS IN *BAT*	283L840	419
28			*	LDN	CBRS	(LVL3 - CLEAR READ PERMISSIONS IN *BAT*)		283L840	420
29	4322	3411		STD	CM+1			283L840	421
30	4323	1400	EBPC	LDN	**	SET MACHINE INDEX		283L840	422
31	4324	3412		STD	CM+2			283L840	423
32	4325	3053		LDD	EQ			283L840	424
33	4326	3414		STD	CM+4			283L840	425
34	4327	1436		MONITOR	MTEM			283L840	426
35								283L840	427
36			*			ENABLE BST/BAT PROCESSING.		283L840	428
37								283L840	429
38	4332	3077	EBP3	LDD	MA	WRITE REQUEST		283L840	430
39	4333	6370 4352		CWM	EBPD,ON			283L840	431
40	4335	3044		LDD	FN+4			283L840	432
41	4336	1003		SHN	3			283L840	433
42	4337	3414		STD	CM+4	SET MST ADDRESS		283L840	434
43	4340	1063		SHN	-14			283L840	435
44	4341	3413		STD	CM+3			283L840	436
45	4342	1401		LDN	1	SET WORD COUNT		283L840	437
46	4343	3411		STD	CM+1			283L840	438
47	4344	2000 0115		MONITOR	UTEM			283L840	439
48	4350	0100 4245		UJP	EBPX	RETURN		283L840	440
49								283L840	441
50								283L840	442
51	4352	2501	EBPD	VFD	6/BDLL,6/1,6/27,42/0			283L840	443
52	4353	2700							
53	4354	0000							
54	4355	0000							











4545	0406		ZJN	SDT3	IF DNAP BY THIS MACHINE	283L840	593	
4546	3302		LMD	T2		283L840	594	
4547	0504		NJN	SDT3	IF NOT AT DAT SLOT FOR DEVICE	283L840	595	
4550	5000	2372	LDM	DATB+4	SET MST POINTER	283L840	596	
4552	3434		STD	CN+4		283L840	597	
4553	1402		SDT3	LDN	2	ADVANCE INDEX	283L840	598
4554	3502		RAD	T2		283L840	599	
4555	3336		LMD	QI		283L840	600	
4556	0430		ZJN	SDTX	IF END OF DAT ENTRIES	283L840	601	
4557	3055		SDT4	LDD	RA	READ NEXT ENTRY	283L840	602
4560	1710		SBN	10		283L840	603	
4561	1006		SHN	6		283L840	604	
4562	3165		ADD	CA+1		283L840	605	
4563	3102		ADD	T2		283L840	606	
4564	6126	2366	CRM	DATB,TW		283L840	607	
4566	5000	2366	LDM	DATB		283L840	608	
4570	0446		ZJN	SDT1	IF POSSIBLE HOLE	283L840	609	
4571	1430		LDN	CN		283L840	610	
4572	3401		STD	T1		283L840	611	
						283L840	612	
			*		COMPARE ENTRY FOR MATCHING FAMILY/PACK NAME + DEVICE NUMBER.	283L840	613	
						283L840	614	
4573	5001	2336	SDT5	LDM	DATB-CN,T1	283L840	615	
4575	4301		LMI	T1		283L840	616	
4576	0545		NJN	SDT2	IF NO MATCH	283L840	617	
4577	3601		AOD	T1		283L840	618	
4600	1134		LMN	CN+4		283L840	619	
4601	0571		NJN	SDT5	IF NOT 4 BYTES	283L840	620	
4602	3002		LDD	T2	SET INDEX TO MATCHING ENTRY	283L840	621	
4603	3435		STD	QS		283L840	622	
4604	2000	2377	LDC	DATB+11		283L840	623	
						283L840	624	
4606	0100	4606	SDT	SUBR	ENTRY/EXIT	283L840	625	
4610	3044		LDD	FN+4	READ MST FOR DAT INDEX	283L840	626	
4611	1003		SHN	3		283L840	627	
4612	1606		ADN	MDGL		283L840	628	
4613	6010		CRD	CM		283L840	629	
4614	3010		LDD	CM		283L840	630	
4615	2200	0377	LPC	377	EXPAND DAT INDEX	283L840	631	
4617	1001		SHN	1		283L840	632	
4620	3462		STD	DI		283L840	633	
4621	1400		LDN	0	CLEAR SEARCH INDEX	283L840	634	
4622	3402		STD	T2		283L840	635	
4623	3434		STD	CN+4		283L840	636	
4624	3435		STD	QS		283L840	637	
4625	0100	4557	LJM	SDT4	ENTER LOOP	283L840	638	

	**			SNT - SET NEXT TRACK IN EXTENDED MEMORY TRACK CHAIN.			283L840	640
	*						283L840	641
	*			ENTRY (A) = CURRENT TRACK.			283L840	642
	*			(LDMP) = EXTENDED MEMORY MST POINTER.			283L840	643
	*						283L840	644
	*			EXIT (A) = NEXT TRACK.			283L840	645
	*						283L840	646
	*			USES T0, T1, CM - CM+4.			283L840	647
							283L840	648
							283L840	649
1		4627	0100 4627	SNT	SUBR		ENTRY/EXIT	283L840 650
2		4631	1020		SHN	21-1	REMOVE TRACK BIT	283L840 651
3		4632	3372		LMD	TH		283L840 652
4		4633	3400		STD	T0	SET WORD INDEX	283L840 653
5		4634	1057		SHN	1-21		283L840 654
6		4635	3401		STD	T1	SET BYTE INDEX	283L840 655
7		4636	5000 1120		LDM	LDMP	GET FWA OF TRT	283L840 656
8		4640	1003		SHN	3		283L840 657
9		4641	1620		ADN	TRLL		283L840 658
10		4642	6010		CRD	CM		283L840 659
11		4643	3013		LDD	CM+3	READ TRT WORD	283L840 660
12		4644	1277		LPN	77		283L840 661
13		4645	1014		SHN	14		283L840 662
14		4646	3314		LMD	CM+4		283L840 663
15		4647	3100		ADD	T0		283L840 664
16		4650	6010		CRD	CM		283L840 665
17		4651	5001 0010		LDM	CM, T1	EXTRACT NEXT TRACK	283L840 666
18		4653	0353		UJN	SNTX	RETURN	283L840 667
19								
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30				**			UDT - UPDATE DEVICE ACCESS TABLE.	283L840 669
31				*				283L840 670
32				*			ENTRY (RS) = RECOVERY STATUS.	283L840 671
33				*			(EQ) = EST ORDINAL.	283L840 672
34				*			(FN - FN+4) = EST ENTRY.	283L840 673
35				*			DAT ENTRY IN (DATB).	283L840 674
36				*				283L840 675
37				*			EXIT (A) = 0 IF MST/TRT TRACK AVAILABLE.	283L840 676
38				*			(A) = MESSAGE ADDRESS, IF ERROR.	283L840 677
39				*				283L840 678
40				*			USES QI, QS, QT, TS, T6, T7, CM+3 - CM+7, CN - CN+4.	283L840 679
41				*				283L840 680
42				*			CALLS ABD, CEA, EBP, SNT, WDE.	283L840 681
43								283L840 682
44								283L840 683
45		4654	2000 5016	UDT5	LDC	UDTA	EXIT WITH (A) = MESSAGE ADDRESS	283L840 684
46								283L840 685
47		4656	0100 4656	UDT	SUBR		ENTRY/EXIT	283L840 686
48		4660	3054		LDD	RS		283L840 687
49		4661	0411		ZJN	UDT1	IF LEVEL 0 DS/ON LINE RECOVERY	283L840 688
50		4662	5000 2377		LDM	DATB+11	SET MACHINE ACCESS	283L840 689
51		4664	2277 7777		LPC	-0		283L840 690
52					MMTE	*-1		283L840 691
53		4666	2300 0000		LMC	0		283L840 692
54					MMTE	*-1		283L840 693
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4670	5400	2377		STM	DATB+11		283L840	694
4672	3046		UDT1	LDD	RE		283L840	695
4673	1202			LPN	2		283L840	696
4674	0526			NJN	UDT3	IF DEVICE ACCESSED PREVIOUSLY	283L840	697
4675	3035			LDD	QS		283L840	698
4676	0505			NJN	UDT2	IF EMPTY SLOT IN *DAT*	283L840	699
4677	3036			LDD	QI	SET INDEX OF ENTRY	283L840	700
4700	3435			STD	QS		283L840	701
4701	1602			ADN	2	ADVANCE INDEX	283L840	702
4702	3436			STD	QI		283L840	703
4703	3046		UDT2	LDD	RE	CHECK MST/TRT TRACK REQUIRED	283L840	704
4704	1204			LPN	4		283L840	705
4705	0415			ZJN	UDT3	IF NOT REQUIRED	283L840	706
4706	3027			LDD	QT	ASSIGN MST/TRT TRACK	283L840	707
4707	0200	4630		RJM	SNT	ADVANCE CURRENT TRACK	283L840	708
4711	0442			ZJN	UDT5	IF END OF TRACK CHAIN	283L840	709
4712	5400	2372		STM	DATB+4	SET TRACK IN *DAT* ENTRY	283L840	710
4714	3427			STD	QT		283L840	711
4715	0200	3754		RJM	ABD	ALLOCATE BAT FOR DEVICE, IF REQUIRED	283L840	712
4717	0403			NJP	UDTX	IF BAT TRACK NOT AVAILABLE	283L840	713
4722	0200	5034	UDT3	RJM	WDE	WRITE DAT ENTRY TO ECS	283L840	714
4724	2000	4000		LDC	4000	FLAG RECOVERY IN PROGRESS	283L840	715
4726	5500	2377		RAM	DATB+11		283L840	716
4730	3055			LDD	RA	UPDATE CM COPY OF DAT	283L840	717
4731	1710			SBN	10		283L840	718
4732	1006			SHN	6		283L840	719
4733	3165			ADD	CA+1		283L840	720
4734	3135			ADD	QS		283L840	721
4735	6326	2366		CWM	DATB,TW		283L840	722
							283L840	723
			*		UPDATE MST.		283L840	724
							283L840	725
4737	3044			LDD	FN+4	READ DRIVER WORD	283L840	726
4740	1003			SHN	3		283L840	727
4741	1606			ADN	MDGL		283L840	728
4742	6030			CRD	CN		283L840	729
4743	1466			LDN	ZERL		283L840	730
4744	6013			CRD	CM+3		283L840	731
4745	5000	2372		LDM	DATB+4		283L840	732
4747	3445			STD	TS		283L840	733
4750	3406			STD	T6		283L840	734
4751	3046			LDD	RE		283L840	735
4752	1202			LPN	2		283L840	736
4753	0405			ZJN	UDT4	IF DEVICE NOT ACCESSED PREVIOUSLY	283L840	737
4754	1400			LDN	0		283L840	738
4755	3407			STD	T7		283L840	739
4756	0200	2504		RJM	CEA	CONVERT EXTENDED MEMORY ADDRESS	283L840	740
4760	3030		UDT4	LDD	CN	SET *DAT* INDEX IN DRIVER WORD	283L840	741
4761	2200	6000		LPC	6000		283L840	742
4763	1001			SHN	1		283L840	743
4764	3335			LMD	QS		283L840	744
4765	1076			SHN	-1		283L840	745
4766	3430			STD	CN		283L840	746
4767	3044			LDD	FN+4	STORE MST INFORMATION	283L840	747
4770	1003			SHN	3		283L840	748
4771	1606			ADN	MDGL		283L840	749
4772	6230			CWD	CN		283L840	750



4773	1704		SBN	MDGL-SDGL		283L840	751
4774	6213		CWD	CM+3		283L840	752
4775	1605		ADN	NVGL-SDGL	READ *NVGL*	283L840	753
4776	6030		CRD	CN		283L840	754
4777	5000	2373	LDM	DATB+5	SET BAT EM ADDRESS	283L840	755
5001	3431		STD	CN+1		283L840	756
5002	5000	2374	LDM	DATB+6		283L840	757
5004	3432		STD	CN+2		283L840	758
5005	3044		LDD	FN+4	REWRITE *NVGL*	283L840	759
5006	1003		SHN	3		283L840	760
5007	1607		ADN	NVGL		283L840	761
5010	6230		CWD	CN		283L840	762
5011	0200	4246	RJM	EBP	ENABLE BST/BAT PROCESSING IF REQUIRED	283L840	763
5013	1400		LDN	0		283L840	764
5014	0100	4656	LJM	UDTX	RETURN	283L840	765
5016	5505		UDTA	DATA	C* END OF DAT TRACK CHAIN.*	283L840	766
						283L840	767
			**	WDE	- WRITE DAT ENTRY TO EXTENDED MEMORY.	283L840	769
			*			283L840	770
			*	ENTRY	(QS) = DAT INDEX.	283L840	771
			*		DAT ENTRY IN (DATB).	283L840	772
			*			283L840	773
			*	EXIT	(A) = 0.	283L840	774
			*		(T6) = DAT TRACK.	283L840	775
			*			283L840	776
			*	USES	T6, T7, CM - CM+4.	283L840	777
			*			283L840	778
			*	CALLS	ADE.	283L840	779
						283L840	780
5033	0100	5033	WDE	SUBR	ENTRY/EXIT	283L840	781
5035	3077		LDD	MA	MOVE DAT ENTRY TO MESSAGE BUFFER	283L840	782
5036	6326	2366	CWM	DATB,TW		283L840	784
5040	1403		LDN	WECS	SET WRITE SUBFUNCTION	283L840	785
5041	0200	2701	RJM	ADE	ACCESS *DAT* ENTRY	283L840	786
5043	0367		UJN	WDEX	RETURN	283L840	787
5051	ORDH		EQU	**+5	LOAD ADDRESS FOR *4DH*	283L840	789



	**				CCE - CHECK CHAINED EQUIPMENT.		MSM	6876
	*						MSM	6877
	*				ENTRY (T5) = EST ORDINAL.		MSM	6878
	*				(FN - FN+4) = EST ENTRY.		MSM	6879
	*						MSM	6880
	*				EXIT (A) .LT. 0 IF FIRST EQUIPMENT IN CHAIN FOUND.		MSM	6881
	*				(EC) = *STCE* IF FIRST EQUIPMENT NOT FOUND.		MSM	6882
	*						MSM	6883
	*				USES T3, T6, CM - CM+6, CN - CN+4.		MSM	6884
	*						MSM	6885
	*				CALLS CEP, CLP, LRA.		MSM	6886
	*						MSM	6887
	*				MACROS SFA.		MSM	6888
							MSM	6889
							MSM	6890
13		5044	0200 1203	CCE1	RJM LRA	LOAD REFERENCE ADDRESS	MSM	6891
14		5046	3106		ADD T6		MSM	6892
15		5047	6043		CRD RD		MSM	6893
16		5050	3046		LDD RE	CHECK EQUIPMENT STATUS	MSM	6894
17		5051	1011		SHN 21-10		MSM	6895
18		5052	0625		PJN CCE2	IF NOT REMOVABLE DEVICE	MSM	6896
19		5053	3006		LDD T6		MSM	6897
20		5054	3353		LMD EQ		MSM	6898
21		5055	0422		ZJN CCE2	IF INITIAL EQUIPMENT	MSM	6899
22		5056	3006		SFA EST,T6	READ EST ENTRY	MSM	6900
23					ADK EQDE		MSM	6901
24		5061	6010		CRD CM		MSM	6902
25		5062	0200 5122		RJM CEP	COMPARE EQUIPMENT PARAMETERS	MSM	6903
26		5064	0513		NJN CCE2	IF NO MATCH	MSM	6904
27		5065	0200 1203		RJM LRA	LOAD REFERENCE ADDRESS	MSM	6905
28		5067	3147		ADD AL		MSM	6906
29		5070	1604		ADN PFGL		MSM	6907
30		5071	6012		CRD CM+2		MSM	6908
31		5072	1601		ADN PUGL-PFGL	GET USER NAME	MSM	6909
32		5073	6030		CRD CN		MSM	6910
33		5074	0200 5144		RJM CLP	CHECK LABEL PARAMETERS	MSM	6911
34		5076	0405		ZJN CCE3	IF CORRECT UNIT FOUND	MSM	6912
35		5077	3606	CCE2	AOD T6	READ EST ENTRY	MSM	6913
36		5100	3361		LMD LO		MSM	6914
37		5101	0542		NJN CCE1	IF NOT END OF MASS STORAGE EST	MSM	6915
38		5102	1402		LDN STCE	SET CONFIGURATION ERROR	MSM	6916
39		5103	3437	CCE3	STD EC		MSM	6917
40		5104	1701		SBN 1		MSM	6918
41							MSM	6919
42		5105	0100 5105	CCE	SUBR	ENTRY/EXIT	MSM	6920
43		5107	1404		LDN NOPE-1	INITIALIZE EST ORDINAL FOR SEARCH	MSM	6921
44		5110	3406		STD T6	SET START OF EST SCAN	MSM	6922
45		5111	3043		LDD FN+3		MSM	6923
46		5112	5400 5124		STM CEFA		MSM	6924
47		5114	0362		UJN CCE2	ENTER LOOP	MSM	6925
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5163	5001 1106	CLP2	LDM	DLPB+1,T1	VERIFY OWNER	MSM	6981
5165	5301 0024		LMM	CN-4,T1		MSM	6982
5167	0511		NJN	CLP3	IF NO MATCH	MSM	6983
5170	3601		AOD	T1	ADVANCE INDEX	MSM	6984
5171	1107		LMN	7		MSM	6985
5172	0570		NJN	CLP2	LOOP FOR THREE BYTES	MSM	6986
5173	5000 1115		LDM	DLPB+10	CHECK SEVENTH CHARACTER	MSM	6987
5175	3333		LMD	CN+3		MSM	6988
5176	1377		SCN	77		MSM	6989
5177	0443		ZJN	CLPX	IF VALID LABEL	MSM	6990
5200	1403	CLP3	LDN	STIL	SET ERROR STATUS	MSM	6991
5201	0341		UJN	CLPX	RETURN	MSM	6992
** VDP - VERIFY DEVICE PARAMETERS.						MSM	6994
* ENTRY (CA) = CM ADDRESS OF MST.						MSM	6995
* (FN - FN+4) = EST ENTRY.						MSM	6996
* EXIT (A) = 0 IF MST PARAMETERS MATCH LABEL.						MSM	6997
* = *STLE* IF ERROR IN FAMILY NAME.						MSM	6998
* USES CM+2 - CM+6, CN - CN+4.						MSM	6999
* CALLS CLP, LRA, VFN.						MSM	7000
						MSM	7001
						MSM	7002
						MSM	7003
						MSM	7004
						MSM	7005
						MSM	7006
5202	1401	VDP2	LDN	STLE	SET LABEL ERROR STATUS	MSM	7007
5203	0100 5203	VDP	SUBR		ENTRY/EXIT	MSM	7008
5205	3044		LDD	FN+4	GET FAMILY NAME FROM MST	MSM	7009
5206	1003		SHN	3		MSM	7010
5207	1604		ADN	PFGL		MSM	7011
5210	6012		CRD	CM+2		MSM	7012
5211	0200 5470		RJM	VFN		MSM	7013
5213	0507		NJN	VDP1	IF VALID NAME	MSM	7014
5214	3015		LDD	CM+5	CHECK FOR NULL FAMILY	MSM	7015
5215	1377		SCN	77		MSM	7016
5216	3114		ADD	CM+4		MSM	7017
5217	3113		ADD	CM+3		MSM	7018
5220	3112		ADD	CM+2		MSM	7019
5221	0560		NJN	VDP2	IF NOT NULL FAMILY	MSM	7020
5222	0200 1203	VDP1	RJM	LRA	LOAD REFERENCE ADDRESS	MSM	7021
5224	3164		ADD	CA		MSM	7022
5225	1604		ADN	PFGL		MSM	7023
5226	6012		CRD	CM+2		MSM	7024
5227	1601		ADN	PUGL-PFGL	READ USER NAME	MSM	7025
5230	6030		CRD	CN		MSM	7026
5231	0200 5144		RJM	CLP	CHECK LABEL PARAMETERS	MSM	7027
5233	0347		UJN	VDPX	RETURN	MSM	7028

	**			VLP - VERIFY LABEL PARAMETERS.			MSM	7031	
	*						MSM	7032	
	*			ENTRY (DLPB) LOADED WITH LABEL PARAMETERS.			MSM	7033	
1	*			(T5) = EST ORDINAL.			MSM	7034	
2	*			(EQ) = PRIMARY EST ORDINAL.			MSM	7035	
3	*			(FN - FN+4) = EST ENTRY.			MSM	7036	
4	*			(FS - FS+4) = STLL WORD OF EQUIPMENT.			MSM	7037	
5	*						MSM	7038	
6	*			EXIT (A) = (EC) = 0 IF VALID LABEL.			MSM	7039	
7	*			.LT. 0 IF EQUIPMENT NOT FIRST IN CHAIN.			MSM	7040	
8	*			(EC) = *STIL* IF ANY UNIT HAS INCORRECT LABEL.			MSM	7041	
9	*			(EC) = *STCE* IF ANY UNIT CAUSES CONFIGURATION ERROR.			MSM	7042	
10	*			(EC) = *STNR* IF ANY UNIT NOT READY.			MSM	7043	
11	*			(EC) = *STLE* IF ANY UNIT HAS INCORRECT LABEL.			MSM	7044	
12	*			(FN - FN+4) = EST ENTRY OF PRIMARY EQUIPMENT.			MSM	7045	
13	*			(FS - FS+4) = STLL WORD OF PRIMARY EQUIPMENT.			MSM	7046	
14	*			(T5) = PRIMARY EST ORDINAL.			MSM	7047	
15	*						MSM	7048	
16	*			USES T0 - T7, EC, UC, CA, CA+1, FN - FN+4, FS - FS+4.			MSM	7049	
17	*						MSM	7050	
18	*			CALLS CCE, LRA, VDP.			MSM	7051	
19	*						MSM	7052	
20	*			MACROS SFA, SMSTF.			MSM	7053	
21							MSM	7054	
22							MSM	7055	
23		5234	0200 5106	VLP12	RJM	CCE	CHECK CHAINED EQUIPMENT	MSM	7056
24		5236	0720		MJN	VLPX	IF FIRST EQUIPMENT FOUND	MSM	7057
25		5237	3053	VLP13	LDD	EQ	RESTORE PRIMARY EQUIPMENT PARAMETERS	MSM	7058
26		5240	3405		STD	T5		MSM	7059
27		5241	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	7060
28		5243	3105		ADD	T5		MSM	7061
29		5244	6043		CRD	RD		MSM	7062
30		5245	3005		SFA	EST,T5		MSM	7063
31					ADK	EQDE		MSM	7064
32		5250	6040		CRD	FN		MSM	7065
33		5251	3044		LDD	FN+4	RESTORE STATUS WORD	MSM	7066
34		5252	1003		SHN	3		MSM	7067
35		5253	1615		ADN	STLL		MSM	7068
36		5254	6020		CRD	FS		MSM	7069
37		5255	3037		LDD	EC	EXIT WITH (A) = ERROR CODE	MSM	7070
38								MSM	7071
39		5256	0100 5256	VLP	SUBR		ENTRY/EXIT	MSM	7072
40		5260	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	7073
41		5262	3153		ADD	EQ		MSM	7074
42		5263	6243		CWD	RD	REWRITE RECOVERY TABLE	MSM	7075
43		5264	1400		LDN	0	CLEAR CURRENT UNIT COUNT	MSM	7076
44		5265	3407		STD	T7		MSM	7077
45		5266	3437		STD	EC		MSM	7078
46		5267	5000 1111		LDM	DLPB+4	SET TOTAL UNIT COUNT	MSM	7079
47		5271	1277		LPN	77		MSM	7080
48		5272	3403		STD	T3		MSM	7081
49		5273	1207		LPN	7		MSM	7082
50		5274	3402		STD	T2		MSM	7083
51		5275	3462		STD	UC	SET CURRENT UNIT POSITION	MSM	7084
52		5276	3303		LMD	T3		MSM	7085
53		5277	0403		ZJN	VLP1	IF FIRST EQUIPMENT IN CHAIN	MSM	7086
54		5300	0100 5234		LJM	VLP12	CHECK CHAINED EQUIPMENT	MSM	7087

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Line	Address	Label	Unit	Code	Param	Description	MSM	Address
				*		SET PARAMETERS FOR THIS EQUIPMENT.		7088
							MSM	7089
							MSM	7090
1	5302	3047	VLP1	LDD	AL	SET ADDRESS OF CURRENT UNITS MST	MSM	7091
2	5303	3464		STD	CA		MSM	7092
3	5304	1400		LDN	0	CLEAR CURRENT UNIT COUNT FOR THIS EQUIP.	MSM	7093
4	5305	3406		STD	T6		MSM	7094
5	5306	3044		LDD	FN+4		MSM	7095
6	5307	1003		SHN	3		MSM	7096
7	5310	1616		ADN	DDLL		MSM	7097
8	5311	6010		CRD	CM		MSM	7098
9	5312	3010		LDD	CM	SET UNIT COUNT FOR THIS EQUIPMENT	MSM	7099
10	5313	1074		SHN	-3		MSM	7100
11	5314	1207		LPN	7		MSM	7101
12	5315	3403		STD	T3		MSM	7102
13	5316	0200 1203	VLP2	RJM	LRA	LOAD REFERENCE ADDRESS	MSM	7103
14	5320	3164		ADD	CA		MSM	7104
15	5321	1615		ADN	STLL	READ STATUS WORD	MSM	7105
16	5322	6010		CRD	CM		MSM	7106
17							MSM	7107
18				*		VERIFY ALL UNITS FOR THIS EQUIPMENT.	MSM	7108
19							MSM	7109
20	5323	3011		LDD	CM+1		MSM	7110
21	5324	1277		LPN	77		MSM	7111
22	5325	0410		ZJN	VLP5	IF NO ERROR THIS UNIT	MSM	7112
23	5326	3437		STD	EC	SET ERROR CODE	MSM	7113
24	5327	3007		LDD	T7		MSM	7114
25	5330	0403		ZJN	VLP4	IF FIRST UNIT OF EQUIPMENT	MSM	7115
26	5331	1402		LDN	STCE	*CONFIGURATION ERROR*	MSM	7116
27	5332	3437	VLP3	STD	EC		MSM	7117
28	5333	0100 5237	VLP4	LJM	VLP13		MSM	7118
29							MSM	7119
30	5335	0200 5204	VLP5	RJM	VDP	VERIFY DEVICE PARAMETERS	MSM	7120
31	5337	0572		NJN	VLP3	IF LABEL CONFLICT	MSM	7121
32							MSM	7122
33				*		LABEL FOR THIS UNIT VALID - PROCEED TO NEXT UNIT.	MSM	7123
34							MSM	7124
35	5340	3053		LDD	EQ		MSM	7125
36	5341	3305		LMD	T5		MSM	7126
37	5342	0411		ZJN	VLP6	IF FIRST EQUIPMENT IN CHAIN	MSM	7127
38	5343	1402		SMSTF	LDIU	SET DEVICE IN USE	MSM	7128
39				*		INHIBIT FURTHER PROCESSING OF DEVICE	MSM	7129
40	5346	3446		STD	RE		MSM	7130
41	5347	0200 1203		RJM	LRA	LOAD REFERENCE ADDRESS	MSM	7131
42	5351	3105		ADD	T5		MSM	7132
43	5352	6243		CWD	RD		MSM	7133
44	5353	3007	VLP6	LDD	T7		MSM	7134
45	5354	3302		LMD	T2		MSM	7135
46	5355	0415		ZJN	VLP7	IF NO MORE UNITS	MSM	7136
47	5356	3607		AOD	T7	SET N/M FOR NEXT UNIT	MSM	7137
48	5357	1003		SHN	3		MSM	7138
49	5360	3102		ADD	T2		MSM	7139
50	5361	3462		STD	UC		MSM	7140
51	5362	3006		LDD	T6		MSM	7141
52	5363	3303		LMD	T3		MSM	7142
53	5364	0427		ZJN	VLP10	IF NO MORE UNITS THIS EQUIPMENT	MSM	7143
54	5365	3606		AOD	T6	ADVANCE UNIT NUMBER	MSM	7144

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Address	Label	Unit	Code	Parameter	Code	Code	Code	Code	Code	Code
5366	1420		LDN	MSTL	ADVANCE	TABLE	ADDRESS	MSM	7145	
5367	3564		RAD	CA				MSM	7146	
5370	0100 5316		LJM	VLP2				MSM	7147	
* ALL UNITS CHECKED.										MSM 7148
5372	3040		VLP7	LDD	FN			MSM	7151	
5373	1067		SHN	0-10				MSM	7152	
5374	1201		LPN	1				MSM	7153	
5375	1101		LMN	1				MSM	7154	
5376	0412		ZJN	VLP9	IF DEVICE	REMOVABLE		MSM	7155	
5377	3044		LDD	FN+4	GET UNIT	COUNT FROM	MST	MSM	7156	
5400	1003		SHN	3				MSM	7157	
5401	1616		ADN	DDLL				MSM	7158	
5402	6030		CRD	CN				MSM	7159	
5403	3030		LDD	CN				MSM	7160	
5404	1207		LPN	7				MSM	7161	
5405	3307		LMD	T7				MSM	7162	
5406	0402		ZJN	VLP9	IF CORRECT	NUMBER OF	UNITS	MSM	7163	
5407	1402		VLP8	LDN	STCE	SET	CONFIGURATION	MSM	7164	
5410	3437		VLP9	STD	EC	ERROR		MSM	7165	
5411	0100 5237		LJM	VLP13				MSM	7166	
* PROCEED TO NEXT EQUIPMENT IN CHAIN.										MSM 7167
5413	3024		VLP10	LDD	FS+4			MSM	7168	
5414	1074		SHN	-3				MSM	7169	
5415	0520		NJN	VLP11	IF EQUIPMENT	LINKED		MSM	7170	
5416	0200 5106		RJM	CCE	CHECK	CHAINED	EQUIPMENT	MSM	7171	
5420	0666		PJN	VLP8	IF NO	EQUIPMENT	TO CHAIN	MSM	7172	
5421	3006		LDD	T6	SET	EQUIPMENT	LINK	MSM	7173	
5422	1003		SHN	3				MSM	7174	
5423	3524		RAD	FS+4				MSM	7175	
* REREAD EST ENTRY, SINCE (FN+4) WAS DESTROYED BY *CCE*.										MSM 7176
5424	3005		SFA	EST,T5	REREAD	EST	ENTRY	MSM	7177	
			ADK	EQDE				MSM	7178	
5427	6040		CRD	FN				MSM	7179	
5430	3044		LDD	FN+4	UPDATE	MST		MSM	7180	
5431	1003		SHN	3				MSM	7181	
5432	1615		ADN	STLL				MSM	7182	
5433	6220		CWD	FS				MSM	7183	
5434	3006		LDD	T6	SET	NEXT	EQUIPMENT	MSM	7184	
5435	3405		VLP11	STD	T5			MSM	7185	
5436	0200 1203		RJM	LRA	LOAD	REFERENCE	ADDRESS	MSM	7186	
5440	3105		ADD	T5				MSM	7187	
5441	6043		CRD	RD				MSM	7188	
5442	3005		SFA	EST,T5	READ	EST	ENTRY	MSM	7189	
			ADK	EQDE				MSM	7190	
5445	6040		CRD	FN				MSM	7191	
5446	3044		LDD	FN+4	READ	MST	STATUS	MSM	7192	
5447	1003		SHN	3	WORD			MSM	7193	
5450	1615		ADN	STLL				MSM	7194	
5451	6020		CRD	FS				MSM	7195	
5452	0100 5302		LJM	VLP1	LOOP	FOR	NEXT	MSM	7196	
					EQUIPMENT	IN	CHAIN	MSM	7197	

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\*\* COMMON DECKS.

MSM 7202  
MSM 7203  
MSM 7204  
MSM 7205  
MSM 7206  
COMPVFN 1  
MSM 7208  
MSM 7209

1			QUAL	VFN					
2		12	FN	EQU	CM+2				
3	5454			CTEXT	COMPVFN - VERIFY FILE NAME.				
4				QUAL	*				
5		5470	VFN	EQU	/VFN/VFN				
6									
7									
8									
9									
10		5522	ORDG	EQU	**5	LOAD ADDRESS FOR *4DG*	283L840	792	
11		5522	ORDJ	EQU	**5	LOAD ADDRESS FOR *4DJ*	283L840	793	
12									
13									
14									
15									
16									
17									
18									
19									
20									
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1				**	CUS - CHECK UNLOAD STATUS.			283L840	796	
2				*				283L840	797	
3				*	ENTRY	(A) = 0 IF CHECKING DEVICE ACTIVITY.		283L840	798	
4				*		= MID IF PROCESSING UNLOAD.		283L840	799	
5				*				283L840	800	
6				*	EXIT	(A) .LT. 0 IF DEVICE INACCESSIBLE.		283L840	801	
7				*		= (DATB) = 0 IF DEVICE INACTIVE.		283L840	802	
8				*		.GT. 0 IF DEVICE ACTIVE.		283L840	803	
9				*	USES	T3, T7.		283L840	804	
10				*				283L840	805	
11				*	CALLS	RIL.		283L840	806	
12				*				283L840	807	
13				*	MACROS	ENDMS.		283L840	808	
14				*				283L840	809	
15				*				283L840	810	
16				*				283L840	811	
17				*				283L840	812	
18	5515	0100	5515		CUS	SUBR	ENTRY/EXIT	283L840	812	
19	5517	3403				STD	T3	283L840	813	
20	5520	0200	5564			RJM	RIL	283L840	814	
21	5522	0772				MJN	CUSX	283L840	815	
22	5523	0200	0535			ENDMS	IF DEVICE NOT ACCESSIBLE	283L840	816	
23				*		LDN	0	283L840	817	
24				*		STD	T7	283L840	818	
25	5525	1405			CUS1	LDN	5	283L840	819	
26	5526	3507				ADVANCE	DIT INDEX	283L840	820	
27	5527	2300	0125			RAD	T7	283L840	821	
28	5531	0406				LMC	5*MISD+5	283L840	822	
29	5532	5007	7167			ZJN	CUS2	283L840	823	
30	5534	0470				IF	END OF DIT	283L840	824	
31	5535	3303				LDM	DISS-5+4,T7	283L840	825	
32	5536	0466				ZJN	CUS1	283L840	826	
33	5537	5400	2366		CUS2	IF	DIT SLOT EMPTY	283L840	827	
34	5541	0353				LMD	T3	283L840	828	
35						ZJN	CUS1	283L840	829	
36						IF	ASSIGNED TO THIS MACHINE	283L840	830	
37						STM	DATB	283L840	831	
38						UJN	CUSX	283L840	832	
39						RETURN		283L840	833	
40								283L840	834	
41								283L840	835	
42								283L840	836	
43								283L840	837	
44								283L840	838	
45								283L840	839	
46								283L840	840	
47								283L840	841	
48								283L840	842	
49								283L840	843	
50								283L840	844	
51								283L840	845	
52	5542	2002	4210		RIL2	SETMS	IO,(DE,DF,NR)	283L840	846	
53	5546	0200	3274			RJM	CLT	283L840	847	
54	5550	0504				NJN	RIL3	283L840	848	
55	5551	3017				IF	LABEL TRACK KNOWN	283L840	849	
56	5552	0423				LDD	CM+7	283L840	850	
57						ZJN	RIL1	283L840	851	
58						IF	NO PREVIOUS LABEL TRACK	283L840	852	
59								283L840	853	
60								283L840	854	
61								283L840	855	
62								283L840	856	
63								283L840	857	
64								283L840	858	
65								283L840	859	
66								283L840	860	
67								283L840	861	
68								283L840	862	
69								283L840	863	
70								283L840	864	
71								283L840	865	
72								283L840	866	
73								283L840	867	
74								283L840	868	
75								283L840	869	
76								283L840	870	
77								283L840	871	
78								283L840	872	
79								283L840	873	
80								283L840	874	

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5553	3406			STD	T6			283L840	850
5554	1400			LDN	0	SET LABEL SECTOR		283L840	851
5555	3407			STD	T7			283L840	852
5556	2000	6776		LDC	BFMS	READ LABEL SECTOR		283L840	853
5560	0200	0530		RJM	RDS			283L840	854
5562	0713			MJN	RIL1	IF READ ERROR		283L840	855
								283L840	856
5563	0100	5563		RIL	SUBR	ENTRY/EXIT		283L840	857
5565	0654			PJN	RIL2	IF RETURN ON NOT READY		283L840	858
5566	2002	4200		SETMS	IO, (DE, DF)			283L840	859
5572	0200	3274		RJM	CLT			283L840	860
5574	0557			NJN	RIL3	IF LABEL TRACK FOUND		283L840	861
5575	0200	0535		RIL1	ENDMS			283L840	862
5577	1501			LCN	1			283L840	863
5600	0362			UJN	RILX	RETURN		283L840	864

5606 ORDE EQU \*\*5 LOAD ADDRESS FOR \*4DE\* 283L840 866

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	**								MSM	7213
	*								MSM	7214
	*								MSM	7215
	*								MSM	7216
	*								MSM	7217
	*								MSM	7218
	*								MSM	7219
	*								MSM	7220
	*								MSM	7221
	*								MSM	7222
	*								MSM	7223
	*								MSM	7224
	*								MSM	7225
	*								MSM	7226
	*								MSM	7227
									MSM	7228
		5601	5600 1333	CAD8	AOM	/CMS/CMSD	ADVANCE DEVICE IN ERROR COUNT		MSM	7229
									MSM	7230
		5603	0100 5603	CAD	SUBR		ENTRY/EXIT		MSM	7231
		5605	1013		SHN	21-6			MSM	7232
		5606	0774		MJN	CADX	IF DEVICE UNAVAILABLE		MSM	7233
		5607	0200 6550		RJM	UMS	UPDATE MST		MSM	7234
		5611	0571		NJN	CADX	IF DEVICE INTERLOCKED		MSM	7235
		5612	3044		LDD	FN+4	READ MST WORDS		MSM	7236
		5613	1003		SHN	3			MSM	7237
		5614	1614		ADN	DULL			MSM	7238
		5615	6010		CRD	CM			MSM	7239
		5616	1601		ADN	STLL-DULL			MSM	7240
		5617	6020		CRD	FS			MSM	7241
		5620	1711		SBN	STLL-PFGL	READ PF DESCRIPTION		MSM	7242
		5621	6126 1105		CRM	DLPB,TW			MSM	7243
		5623	3021		LDD	FS+1			MSM	7244
		5624	1277		LPN	77			MSM	7245
		5625	0553		NJN	CAD8	IF ERROR STATUS PRESENT		MSM	7246
		5626	3034	CAD1	LDD	CN+4	CHECK ERROR IDLE FLAG		MSM	7247
		5627	1220		LPN	MGDEI			MSM	7248
		5630	0404		ZJN	CAD2	IF NOT SET		MSM	7249
		5631	1416		LDN	STEI	SET ERROR STATUS IN MST		MSM	7250
		5632	0200 2631		RJM	SES			MSM	7251
		5634	3040	CAD2	LDD	FN			MSM	7252
		5635	1011		SHN	21-10			MSM	7253
		5636	0613		PJN	CAD3	IF NOT REMOVABLE DEVICE		MSM	7254
		5637	3014		LDD	CM+4	CHECK ACTIVITY		MSM	7255
		5640	2200 3777		LPC	3777			MSM	7256
		5642	3123		ADD	FS+3			MSM	7257
		5643	0506		NJN	CAD3	IF ACTIVE FILES		MSM	7258
		5644	3020		LDD	FS			MSM	7259
		5645	1017		SHN	21-2			MSM	7260
		5646	0703		MJN	CAD3	IF CHECKPOINT PENDING		MSM	7261
		5647	1021		SHN	3+21-3			MSM	7262
		5650	0714		MJN	CAD4	IF LOCAL UNLOAD SET		MSM	7263
		5651	0200 5257	CAD3	RJM	VLP	VERIFY LABEL PARAMETERS		MSM	7264
		5653	0711		MJN	CAD4	IF NOT FIRST EQUIPMENT IN CHAIN		MSM	7265
		5654	0530		NJN	CAD5	IF VERIFICATION ERRORS		MSM	7266
		5655	5000 2401		LDM	SDIF			MSM	7267
		5657	0532		NJN	CAD6	IF INTERLOCKS ON ISD		MSM	7268
		5660	1445		LDN	SSTL	CHECK SYSTEM STATUS		MSM	7269

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5661	6010			CRD	CM		MSM	7270
5662	3010			LDD	CM		MSM	7271
5663	1214			LPN	14		MSM	7272
5664	0525		CAD4	NJN	CAD6	IF MS VALIDATION DISABLED / NOT PRESENT	MSM	7273
5665	3053			LDD	EQ		MSM	7274
5666	3411			STD	CM+1		MSM	7275
5667	1400			LDN	VEIS	REQUEST MS VALIDATION	MSM	7276
5670	3413			STD	CM+3		MSM	7277
5671	1444			MONITOR	VMSM		MSM	7278
5674	3011			LDD	CM+1		MSM	7279
5675	0414			ZJN	CAD6	IF NO ERRORS	MSM	7280
5676	3452			STD	IR+2		MSM	7281
5677	2040	1505		EXECUTE	5ME	PROCESS ERRLOG MESSAGES	MSM	7282
5703	1415			LDN	STVE	SET ERROR STATUS IN MST	MSM	7283
5704	0200	2631		RJM	SES		MSM	7284
				LDN	0	INHIBIT FURTHER PROCESSING OF DEVICE	MSM	7285
5706	3446			STD	RE		MSM	7286
5707	5600	1333		AOM	/CMS/CMSD	ADVANCE DEVICE IN ERROR COUNT	MSM	7287
5711	0100	5603		LJM	CADX	RETURN	MSM	7288
				**		CID - CHECK INACTIVE DEVICES.	MSM	7290
				*			MSM	7291
				*	ENTRY	(EQ) = (T5) = EST ORDINAL.	MSM	7292
				*		(FN - FN+4) = EST ENTRY.	MSM	7293
				*			MSM	7294
				*	EXIT	INACTIVE EQUIPMENTS WITH UNLOAD REQUESTED	MSM	7295
				*		RESTORED TO ORIGINAL AND UNAVAILABLE STATE.	MSM	7296
				*		TO *GDT2* IF RECOVERY INTERLOCK UNAVAILABLE.	MSM	7297
				*		(A) .LT. 0 IF RECOVERY INFORMATION NOT TO	MSM	7298
				*		BE REWRITTEN TO CM UPON RETURN TO *MRL*.	MSM	7299
				*			MSM	7300
				*	USES	CM - CM+4, FN - FN+4, FS - FS+4.	MSM	7301
				*			MSM	7302
				*	CALLS	CDB, CDD, CDS, CUS, IAM, IES, IFR, ILK, RDE, RGM, UIS,	MSM40	32
				*		WDE.	MSM40	33
				*			MSM	7304
				*	MACROS	MMTE, SFA, SMSTF.	MSM	7305
							MSM	7306
							MSM	7307
5713	0200	6512		RJM	UIS	SET UNLOAD STATUS IN DIT ENTRY	MSM	7308
5715	3040			LDD	FN		MSM	7309
5716	2277	7677		LPC	-100		MSM	7310
5720	3371			LMD	HN	SET DEVICE UNAVAILABLE	MSM	7311
5721	3440			STD	FN		MSM	7312
5722	3053			SFA	EST,EQ		MSM	7313
				ADK	EQDE		MSM	7314
5725	6240			CWD	FN		MSM	7315
5726	1461			SMSTF	LDUL		MSM	7316
							MSM	7317
5731	0100	5731		SUBR		ENTRY/EXIT	MSM	7318
5733	0200	6255		RJM	CDS	CHECK DEVICE STATUS	MSM	7319
5735	0573			NJN	CIDX	IF DEVICE ACTIVITY	MSM	7320
5736	0200	6317		RJM	ILK	ENSURE PFM-S NOT ACTIVE ON DEVICE	MSM	7321
5740	0200	6255		RJM	CDS	RECHECK DEVICE	MSM	7322

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5742	0566		NJN	CIDX	IF NEW DEVICE ACTIVITY	MSM	7323
5743	3040		LDD	FN		MSM	7324
5744	1011		SHN	21-10		MSM	7325
5745	0645		PJN	CID9	IF NON-REMOVABLE DEVICE	MSM	7326
5746	0200	6463	RJM	RGM	READ GLOBAL MST WORDS	MSM	7327
5750	0560		NJN	CIDX	IF INTERLOCK SET	MSM	7328
5751	3034		LDD	CN+4	CHECK GLOBAL UNLOAD	MSM	7329
5752	1240		LPN	MGUNL		MSM	7330
5753	0555		NJN	CIDX	IF GLOBAL UNLOAD SET	MSM	7331
5754	5400	2366	STM	DATB		MSM	7332
5756	0200	6053	RJM	CBF	CHECK FOR BUFFERS TO FLUSH	NS2780	1
5760	0550		NJN	CIDX	IF UNABLE TO FLUSH ALL BUFFERS	NS2780	2
5761	0331		UJMF	CID5		MSM	7333
5762	1405		LDN	DATI	GET DAT INTERLOCK	MSM	7334
5763	0200	1134	RJM	IFR		MSM	7335
5765	0403		ZJN	CID2	IF FLAG REGISTER INTERLOCKED	MSM	7336
5766	0100	1665	LJM	/CMS/GDT1	RECALL *CMS*	MSM	7337
						MSM	7338
5770	0200	4507	RJM	RDE	READ DAT ENTRY	MSM	7339
5772	3035		LDD	QS		MSM	7340
5773	0414		ZJN	CID4	IF NO DAT ENTRY	MSM	7341
5774	5000	2377	LDM	DATB+11	CLEAR ACCESS BY THIS MACHINE	MSM	7342
5776	2277	7777	LPC	-0		MSM	7343
			MMTE	*-1		MSM	7344
6000	5400	2377	STM	DATB+11		MSM	7345
6002	0503		NJN	CID3	IF ALL ACCESSES NOT CLEARED	MSM	7346
6003	5400	2366	STM	DATB	CLEAR DAT ENTRY	MSM	7347
6005	0200	5034	RJM	WDE	STORE DAT ENTRY	MSM	7348
6007	1505		LCN	DATI	DROP FLAG REGISTER INTERLOCK	MSM	7349
6010	0200	1134	RJM	IFR		MSM	7350
6012	3040		LDD	FN		MSM	7351
6013	1220		LPN	20		MSM	7352
6014	0406		ZJN	CID6	IF NOT ISD	MSM	7353
6015	5400	2366	STM	DATB		MSM	7354
6017	3022		LDD	FS+2	CHECK UNLOAD STATUS	MSM	7355
6020	0200	5516	RJM	CUS		MSM	7356
6022	5000	2366	LDM	DATB		MSM	7357
6024	0507		NJN	CID7	IF DEVICE NOT UNLOADED IN ALL MACHINES	MSM	7358
6025	1440		LDN	MGUNL	SET GLOBAL UNLOAD	MSM	7359
6026	3534		RAD	CN+4		MSM	7360
6027	3044		LDD	FN+4	STORE DEVICE ACTIVITY WORD	MSM	7361
6030	1003		SHN	3		MSM	7362
6031	1601		ADN	ACGL		MSM	7363
6032	6230		CWD	CN		MSM	7364
6033	0200	1736	RJM	/CMS/IAM	ISSUE ACCOUNTING MESSAGE	MSM	7365
6035	0200	3460	RJM	IES	INITIALIZE EQUIPMENT STATUS	MSM	7366
6037	1461		SMSTF	LDUL	SET DEVICE UNLOADED	MSM	7367
6042	5000	2366	LDM	DATB		MSM	7368
6044	0503		NJN	CID8	IF DEVICE NOT UNLOADED ON ALL MACHINES	MSM	7369
6045	0200	6176	RJM	CDD	CLEAR DEVICE DESCRIPTION	MSM	7370
6047	1500		LCN	0	DISABLE *MRL* REWRITE OF RECOVERY TABLES	MSM	7371
6050	0100	5731	LJM	CIDX	RETURN	MSM	7372

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	**			CBF - CHECK FOR BUFFERS TO FLUSH.		NS2780	4
	*					283L840	871
	*			ENTRY (T5) = EST ORDINAL.		283L840	872
	*			(FN - FN+4) = EST ENTRY.		283L840	873
	*					283L840	874
	*			EXIT (A) .NE. 0, IF UNFLUSHED BUFFERS ARE STILL PRESENT.		NS2780	5
	*			IF BUFFERED DEVICE, I/O BUFFERS FLUSHED AND RELEASED.		NS2780	6
	*			IF SHARED BUFFERED DEVICE, *BAT* AND *BST* PERMISSIONS		NS2780	7
	*			ARE RELEASED AND *BST* PROCESSING IS DISABLED.		NS2780	8
	*					283L840	878
	*			USES T6, CM - CM+4.		NS2780	9
	*					283L840	880
	*			MACROS DELAY, PAUSE, MONITOR.		283L840	881
						283L840	882
						283L840	883
13	6052	0100 6052	CBF	SUBR	ENTRY/EXIT	NS2780	10
14	6054	3040		LDD FN	CHECK IF BUFFERED DEVICE	283L840	885
15	6055	1240		LPN 40		283L840	886
16	6056	0473		ZJN CBFX	IF NOT A BUFFERED DEVICE	NS2780	11
17	6057	3072		LDD TH	SET MAXIMUM RETRY COUNT	NS2780	12
18	6060	3406		STD T6		NS2780	13
						283L840	888
	*			FLUSH AND RELEASE BUFFERS - RELEASE *BAT*/*BST* PERMISSIONS.		NS2780	14
						283L840	890
22	6061	1466	CBF1	LDN ZERL	CLEAR ASSEMBLY AREA	NS2780	15
23	6062	6010		CRD CM		283L840	892
24	6063	3040		LDD FN		NS2780	16
25	6064	1010		SHN 21-11		NS2780	17
26	6065	0724		MJN CBF2	IF SHARED BUFFERED DEVICE	NS2780	18
27	6066	3005		LDD T5	SET EST ORDINAL	283L840	893
28	6067	3413		STD CM+3		283L840	894
29	6070	2000 1000		LDC BMFW*100	FLUSH ALL WRITE BUFFERS	283L840	895
30	6072	3414		STD CM+4		283L840	896
31	6073	1427		MONITOR BFMM		283L840	897
32	6076	1466		LDN ZERL	CLEAR ASSEMBLY AREA	283L840	898
33	6077	6010		CRD CM		283L840	899
34	6100	3005		LDD T5	SET EST ORDINAL	283L840	900
35	6101	3413		STD CM+3		283L840	901
36	6102	2000 1400		LDC BMDD*100	DROP ALL BUFFERS ON DEVICE	283L840	902
37	6104	3414		STD CM+4		283L840	903
38	6105	1427		MONITOR BFMM		283L840	904
39	6110	0310		UJN CBF3	CHECK STATUS	NS2780	19
						NS2780	20
41	6111	3005	CBF2	LDD T5	SET EST ORDINAL	NS2780	21
42	6112	3414		STD CM+4		NS2780	22
43	6113	1410		LDN RBPS	RELEASE *BAT*/*BST* ACCESS PERMISSIONS	NS2780	23
44	6114	3411		STD CM+1		NS2780	24
45	6115	1436		MONITOR MTEM		NS2780	25
46	6120	3014	CBF3	LDD CM+4	CHECK STATUS	NS2780	26
47	6121	0423		ZJN CBF4	IF SUCCESSFUL	NS2780	27
48	6122	5000 0255		DELAY 200B	DELAY 16 MILLISECONDS	NS2780	28
49	6127	1400		PAUSE		283L840	908
50	6135	3706		SOD T6		NS2780	29
51	6136	0403		NJP CBF1	IF RETRY COUNT NOT EXHAUSTED	NS2780	30
52	6141	1401		LDN 1	RETURN ERROR RESPONSE	NS2780	31
53	6142	0100 6052		LJM CBFX	EXIT	NS2780	32
						283L840	910

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\* DISABLE \*BST\* PROCESSING.

							283L840	911
							283L840	912
	6144	3040	CBF4	LDD	FN		NS2780	33
1	6145	1010		SHN	21-11		283L840	914
2	6146	0617		PJN	CBF5	IF NOT SHARED BUFFERED DEVICE	NS2780A	1
3	6147	3077		LDD	MA	WRITE REQUEST	283L840	916
4	6150	6370 6170		CWM	CBFB,ON		NS2780	35
5	6152	3044		LDD	FN+4		283L840	918
6	6153	1003		SHN	3		283L840	919
7	6154	3414		STD	CM+4	SET MST ADDRESS	283L840	920
8	6155	1063		SHN	-14		283L840	921
9	6156	3413		STD	CM+3		283L840	922
10	6157	1401		LDN	1	SET WORD COUNT	283L840	923
11	6160	3411		STD	CM+1		283L840	924
12	6161	2000 0115		MONITOR	UTEM		283L840	925
13	6165	1400	CBF5	LDN	0	RETURN SUCCESSFUL RESPONSE	NS2780A	2
14	6166	0100 6052		UJP	CBFX	RETURN	NS2780	36
15							283L840	926
16							283L840	928
17	6170	2501	CBFB	VFD	6/BDLL,6/1,6/27,42/1		NS2780	37
18	6171	2700						
19	6172	0000						
20	6173	0000						
21	6174	0001						
22								
23								
24								
25								
26			**		CDD - CLEAR DEVICE DESCRIPTION.		MSM	7447
27			*				MSM	7448
28			*		ENTRY (EQ) = EST ORDINAL.		MSM	7449
29			*				MSM	7450
30			*		EXIT DEVICE DESCRIPTION CLEARED.		MSM	7451
31			*		EXTENDED MEMORY COPY OF MST/TRT CLEARED.		MSM	7452
32			*				MSM	7453
33			*		USES CM - CM+7, CN - CN+4, FN - FN+4.		MSM	7454
34			*				MSM	7455
35			*		MACROS MONITOR, SFA, UJMF.		MSM	7456
36							MSM	7457
37							MSM	7458
38	6175	0100 6175	CDD	SUBR		ENTRY/EXIT	MSM	7459
39	6177	3053		SFA	EST,EQ	READ EST ENTRY	MSM	7460
40				ADK	EQDE		MSM	7461
41	6202	6040		CRD	FN		MSM	7462
42	6203	1466		LDN	ZERL		MSM	7463
43	6204	6030		CRD	CN		MSM	7464
44	6205	3044		LDD	FN+4		MSM	7465
45	6206	1003		SHN	3		MSM	7466
46	6207	1602		ADN	SDGL		MSM	7467
47	6210	6013		CRD	CM+3		MSM	7468
48	6211	1603		ADN	PUGL-SDGL	CLEAR USER DESCRIPTION	MSM	7469
49	6212	6230		CWD	CN		MSM	7470
50	6213	1701		SBN	PUGL-PFGL	CLEAR DEVICE DESCRIPTION	MSM	7471
51	6214	6230		CWD	CN		MSM	7472
52	6215	0357		UJMF	CDDX		MSM	7473
53	6216	1704		SBN	PFGL		MSM	7474
54	6217	3412		STD	CM+2		MSM	7475
55								
56								
57								
58								
59								
60								

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6220	1063		SHN	-14		MSM	7476
6221	2300	1100	LMC	GLGL*100-100	SET WORD COUNT FOR ECS TRANSFER	MSM	7477
6223	3411		STD	CM+1		MSM	7478
6224	3013		LDD	CM+3		MSM	7479
6225	3114		ADD	CM+4		MSM	7480
6226	0446		ZJN	CDDX	IF NOT SHARED DEVICE	MSM	7481
6227	1401		LDN	1	MACHINE INDEX*2 + 1	MSM	7482
6230	3517		RAD	CM+7		MSM	7483
6231	3044		LDD	FN+4	STORE DEVICE INTERLOCK STATUS	MSM	7484
6232	1003		SHN	3		MSM	7485
6233	1602		ADN	SDGL		MSM	7486
6234	6213		CWD	CM+3		MSM	7487
6235	2000	3000	LDC	WECS*1000	UPDATE GLOBAL MST IN ECS	MSM	7488
6237	3513		RAD	CM+3		MSM	7489
6240	1434		MONITOR	ECSM		MSM	7490
6243	3053		LDD	EQ	SET EST ORDINAL	MSM	7491
6244	3411		STD	CM+1		MSM	7492
6245	1423		LDN	CDIS	INSERT MONITOR SUBFUNCTION	MSM	7493
6246	3413		STD	CM+3		MSM	7494
6247	1443		MONITOR	STBM	CLEAR TRT IN ECS	MSM	7495
6252	0100	6175	LJM	CDDX	RETURN	MSM	7496
** CDS - CHECK DEVICE STATUS.							
* MSM 7498							
* ENTRY (FN - FN+4) = EST ENTRY. MSM 7499							
* MSM 7500							
* EXIT (A) = 0 IF NO ACTIVITY AND UNLOAD SET. MSM 7501							
* (FS - FS+4) = *STLL* WORD OF MST. MSM 7502							
* MSM 7503							
* MSM 7504							
* USES CM - CM+4. MSM 7505							
MSM 7506							
MSM 7507							
6254	0100	6254	CDS	SUBR		MSM	7508
6256	3044		LDD	FN+4		MSM	7509
6257	1003		SHN	3		MSM	7510
6260	1614		ADN	DULL		MSM	7511
6261	6010		CRD	CM		MSM	7512
6262	1601		ADN	STLL-DULL		MSM	7513
6263	6020		CRD	FS		MSM	7514
6264	3020		LDD	FS		MSM	7515
6265	1216		LPN	MLUNL+MLCKP+MLDUL		MSM	7516
6266	1110		LMN	MLUNL		MSM	7517
6267	0564		NJN	CDSX	IF CHECKPOINT SET / NO LOCAL UNLOAD	MSM	7518
6270	3014		LDD	CM+4	CHECK ACTIVITY	MSM	7519
6271	2200	3777	LPC	3777		MSM	7520
6273	3123		ADD	FS+3		MSM	7521
6274	0557		NJN	CDSX	IF ACTIVE FILES ON DEVICE	MSM	7522
6275	2000	0124	LDK	INWL	PROHIBIT UNLOAD IF *MREC* ACTIVE	MSM	7523
6277	6010		CRD	CM		MSM	7524
6300	3013		LDD	CM+3		MSM	7525
6301	1071		SHN	-6		MSM	7526
6302	0551		NJN	CDSX	IF *MREC* ACTIVE	MSM	7527
6303	3024		LDD	FS+4		MSM	7528
6304	1202		LPN	MLUAI		MSM	7529

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6353	0670		PJN	ILK2	IF NOT MASS STORAGE	NS2547	272
6354	1005		SHN	13-6		NS2547	273
6355	0766		MJN	ILK2	IF DEVICE UNAVAILABLE	NS2547	274
6356	3005		LDD	T5		MSM	7724
6357	3253		SBD	EQ		MSM	7725
6360	0430		ZJN	ILK4	IF EQUIPMENT TO UNLOAD	MSM	7726
6361	3014		LDD	CM+4		MSM	7730
6362	1003		SHN	3		MSM	7731
6363	1605		ADN	PUGL		MSM	7732
6364	6010		CRD	CM		MSM	7733
6365	1701		SBN	PUGL-PFGL		MSM	7734
6366	6007		CRD	T7		MSM	7735
6367	3014		LDD	CM+4		MSM	7736
6370	2200	0000	LPC	**		MSM	7737
		6371	EQU	*-1		MSM	7738
6372	0451		ZJN	ILK2	IF NOT A MASTER FOR DEVICE TO UNLOAD	MSM	7739
6373	3040		LDD	FN	CHECK FOR PROPER FAMILY	MSM	7740
6374	3307		LMD	T7		MSM	7741
6375	0546		NJN	ILK2	IF NO MATCH ON FAMILY	MSM	7742
6376	3041		LDD	FN+1		MSM	7743
6377	3310		LMD	T7+1		MSM	7744
6400	0543		NJN	ILK2	IF NO MATCH ON FAMILY	MSM	7745
6401	3042		LDD	FN+2		MSM	7746
6402	3311		LMD	T7+2		MSM	7747
6403	0540		NJN	ILK2	IF NO MATCH ON FAMILY	MSM	7748
6404	3043		LDD	FN+3		MSM	7749
6405	3312		LMD	T7+3		MSM	7750
6406	1377		SCN	77		MSM	7751
6407	0565		NJN	ILK3	IF NO MATCH ON FAMILY	MSM	7752
6410	0200	6612	RJM	SUT	SET UTILITY INTERLOCK FOR DEVICE	MSM	7753
6412	0505		NJN	ILK5	IF INTERLOCK NOT SET	MSM	7754
						MSM	7755
			*		INTERLOCK MAY BE IMMEDIATELY CLEARED SINCE IT IS ONLY	MSM	7756
			*		SET TO INSURE *PFM* HAS NOTICED THE UNLOAD REQUEST FOR THE	MSM	7757
			*		DEVICE.	MSM	7758
						MSM	7759
6413	0200	6571	RJM	CUT		MSM	7760
6415	0100	6344	LJM	ILK2	PROCESS NEXT EQUIPMENT	MSM	7761
						MSM	7762
6417	3005		LDD	T5	SAVE EQUIPMENT FOR NEXT INTERLOCK TRY	MSM	7763
6420	5400	1732	STM	/CMS/RCLA+2		MSM	7764
6422	1415		LDN	PIRR	SET WAITING FOR PF INTERLOCK CONDITION	MSM	7765
6423	0100	1714	LJM	/CMS/RCL	RECALL	MSM	7766

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			**	RGM - READ GLOBAL MST WORDS.		MSM	7768
			*			MSM	7769
			*	ENTRY (T5) = EST ORDINAL.		MSM	7770
			*	(FN - FN+4) = EST ENTRY.		MSM	7771
			*			MSM	7772
			*	EXIT (A) = DEVICE INTERLOCK STATUS.		MSM	7773
			*	(CN - CN+4) = ACGL WORD OF MST.		MSM	7774
			*	(CM - CM+4) = SDGL WORD OF MST.		MSM	7775
			*			MSM	7776
			*	USES CM - CM+7, CN - CN+4.		MSM	7777
			*			MSM	7778
			*	CALLS RIL.		MSM	7779
			*			MSM	7780
			*	MACROS ENDMS, MONITOR, UJMF.		MSM	7781
						MSM	7782
						MSM	7783
14	6425	1400		RGM0 LDN 0 READ INDEPENDENT SHARED DEVICE LABEL		MSM	7784
15	6426	0200 5564		RJM RIL		MSM	7785
16	6430	0714		MJN RGM1 IF DEVICE NOT READY		MSM	7786
17	6431	0200 0535		ENDMS		MSM	7787
18	6433	5000 7066		LDM N4SS+SDGL*5+4 CHECK FOR SOFTWARE RESERVE/INTERLOCK		MSM	7788
19	6435	1277		LPN 77		MSM	7789
20	6436	0524		NJN RGMX IF SOFTWARE RESERVE OR INTERLOCK		MSM	7790
21	6437	3077		LDD MA		MSM	7791
22	6440	6373 7050		CWM N4SS,TR		MSM	7792
23	6442	3077		LDD MA		MSM	7793
24	6443	0311		UJN RGM4 READ MST WORDS		MSM	7794
25						MSM	7795
26	6444	3006		RGM1 LDD T6		MSM	7796
27	6445	0405		ZJN RGM3 IF NO LABEL TRACK FOUND		MSM	7797
28	6446	0314		UJN RGMX RETURN		MSM	7798
29						MSM	7799
30	6447	3040		RGM2 LDD FN		MSM	7800
31	6450	1015		SHN 21-4		MSM	7801
32	6451	0753		MJN RGM0 IF ISHARED DEVICE		MSM	7802
33	6452	3044		RGM3 LDD FN+4 READ DEVICE ACTIVITY WORD		MSM	7803
34	6453	1003		SHN 3		MSM	7804
35	6454	1601		RGM4 ADN ACGL		MSM	7805
36	6455	6030		CRD CN		MSM	7806
37	6456	1601		ADN SDGL-ACGL READ DEVICE INTERLOCK WORD		MSM	7807
38	6457	6010		CRD CM		MSM	7808
39	6460	3014		LDD CM+4 EXTRACT INTERLOCK STATUS		MSM	7809
40	6461	1201		LPN 1		MSM	7810
41						MSM	7811
42	6462	0100 6462		RGM SUBR ENTRY/EXIT		MSM	7812
43	6464	0362		UJMF RGM2 NON MMF SYSTEM		MSM	7813
44	6465	3044		LDD FN+4 READ DEVICE INTERLOCK WORD		MSM	7814
45	6466	1003		SHN 3		MSM	7815
46	6467	1602		ADN SDGL		MSM	7816
47	6470	6013		CRD CM+3		MSM	7817
48	6471	3013		LDD CM+3 CHECK EXTENDED MEMORY POINTER		MSM	7818
49	6472	3114		ADD CM+4		MSM	7819
50	6473	0456		ZJN RGM3 IF NOT SHARED DEVICE		MSM	7820
51	6474	3077		LDD MA SET CM ADDRESS FOR TRANSFER		MSM	7821
52	6475	3412		STD CM+2		MSM	7822
53	6476	2000 2000		LDC RECS*1000 SELECT READ SUBFUNCTION		MSM	7823
54	6500	3513		RAD CM+3		MSM	7824

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6501	2000 0200	LDC	SDGL*100	SET WORD COUNT	MSM	7825	
6503	3411	STD	CM+1		MSM	7826	
6504	1434	MONITOR	ECSM	GET MST WORDS FROM ECS	MSM	7827	
6507	3077	LDD	MA		MSM	7828	
6510	0343	UJN	RGM4	READ MST WORDS	MSM	7829	
		**	UIS - UPDATE INDEPENDENT SHARED DEVICE TABLES.			MSM	7867
		*			MSM	7868	
		*	ENTRY	(T5) = EST ORDINAL.	NS2552	87	
		*		(FN - FN+4) = *EQDE* WORD OF EST ENTRY.	NS2552	88	
		*			MSM	7871	
		*	USES	T1.	MSM	7872	
		*			MSM	7873	
		*	CALLS	CDC, RIL, SMI, WDS.	NS2552	89	
		*			MSM	7875	
		*	MACROS	ENDMS.	MSM	7876	
					MSM	7877	
					MSM	7878	
6511	0100 6511	UIS	SUBR		MSM	7879	
6513	3040	LDD	FN		MSM	7880	
6514	1015	SHN	21-4		MSM	7881	
6515	0673	PJN	UISX	IF NOT INDEPENDENT SHARED DEVICE	MSM	7882	
6516	0200 5564	RJM	RIL	READ LABEL	MSM	7883	
6520	0770	MJN	UISX	IF LABEL NOT READ	MSM	7884	
6521	0200 2644	RJM	SMI		MSM	7885	
6523	3401	STD	T1	SET DIT INDEX	MSM	7886	
6524	1002	SHN	2		MSM	7887	
6525	3501	RAD	T1		MSM	7888	
6526	5001 7166	LDM	DISS-5+3,T1		MSM	7889	
6530	1302	SCN	2		MSM	7890	
6531	1102	LMN	2	SET UNLOAD STATUS	MSM	7891	
6532	5401 7166	STM	DISS-5+3,T1		MSM	7892	
6534	0200 2525	RJM	CDC	COMPUTE LABEL CHECKSUM	NS2552	90	
6536	5400 7477	STM	CKSS		NS2552	91	
6540	2000 6776	LDC	BFMS+WLSF	REWRITE LABEL	MSM	7893	
6542	0200 0532	RJM	WDS		MSM	7894	
6544	0200 0535	ENDMS			MSM	7895	
6546	0342	UJN	UISX	RETURN	MSM	7896	

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	**			UMS - UPDATE MASS STORAGE TABLES.			MSM	7898		
	*						MSM	7899		
	*			ENTRY (T5) = EST ORDINAL.			MSM	7900		
	*			(FN - FN+4) = EST ENTRY.			MSM	7901		
	*						MSM	7902		
	*			EXIT (A) = 0 IF UPDATE COMPLETE / UNNECESSARY.			MSM	7903		
	*						MSM	7904		
	*			USES CM - CM+4.			MSM	7905		
	*						MSM	7906		
	*			CALLS RGM.			MSM	7907		
	*						MSM	7908		
	*			MACROS MONITOR, UJMF.			MSM	7909		
							MSM	7910		
							MSM	7911		
12		6547	0100	6547	UMS	SUBR		ENTRY/EXIT	MSM	7912
13		6551	0200	6463		RJM RGM		READ GLOBAL MST WORDS	MSM	7913
14		6553	0573			NJN UMSX		IF DEVICE INTERLOCKED	MSM	7914
15		6554	3040			LDD FN			MSM	7915
16		6555	2200	1000		LPC 1S9			MSM	7916
17		6557	0467			ZJN UMSX		IF NOT SHARED EQUIPMENT	MSM	7917
18		6560	3005			LDD T5		REQUEST MST/TRT UPDATE	MSM	7918
19		6561	3411			STD CM+1			MSM	7919
20		6562	1406			LDN UTRS			MSM	7920
21		6563	3413			STD CM+3			MSM	7921
22		6564	1443			MONITOR STBM		ISSUE REQUEST	MSM	7922
23					*	LDN 0			MSM	7923
24		6567	0357			UJN UMSX		RETURN	MSM	7924
					**			COMMON DECKS.	MSM	7926
									MSM	7927
									MSM	7928
32		6570				CTEXT COMPCUT		- CLEAR PERMANENT FILE DEVICE INTERLOCK.	COMPCUT	1
33		6611				CTEXT COMPSUT		- SET PERMANENT FILE DEVICE INTERLOCK.	COMPSUT	1
						QUAL CMS			MSM	7932
39			5604	CAD		EQU /RDD/CAD			MSM	7933
40			5732	CID		EQU /RDD/CID			MSM	7934
41						QUAL *			MSM	7936
42						USE LITERALS			MSM	7937
									MSM	7938
									MSM	7939
45		77				ERRNG BFMS-*		OVERLAY OVERFLOW INTO BUFFER	272L774	69

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\*\* POV - MODIFY INSTRUCTIONS AS REQUIRED FOR CM/MMF RECOVERY.

								MSM	7942
								MSM	7943
								MSM	7944
1	6677	3052		POV	LDD	IR+2	SET PREVIOUS EQUIPMENT OF INTERLOCK	MSM	7945
2	6700	5400 6336			STM	ILKA		MSM	7946
3	6702	5000 2400			LDM	MMFP		MSM	7947
4	6704	0503			ZJP	POV5	IF DO NOT PRESET FOR MMF	283L840	943
5	6707	2000 0122			LDC	MMFL		MSM	7949
6	6711	6010			CRD	CM		MSM	7950
7	6712	3014			LDD	CM+4	SET MACHINE INDEX	MSM	7951
8	6713	5500 4323			RAM	EBPC		NS2780	38
9	6715	1277			LPN	77		283L840	946
10	6716	1001			SHN	1		MSM	7952
11	6717	5500 6227			RAM	CDDA		MSM	7953
12	6721	3011			LDD	CM+1		283L840	947
13	6722	1010			SHN	21-11		283L840	948
14	6723	0705			MJN	POV0	IF SHARED BUFFERED DEVICES ARE CONFIGURED	283L840	949
15	6724	2000 0000			ISTORE	LDTA, (UJN LDT0)	DISABLE *BAET* READ	283L840	950
16	6730	2000 7000		POV0	LDC	L"QUAL"	SET LIST ADDRESS	283L840	951
17	6732	3401			STD	T1		MSM	7955
18	6733	0305			UJN	POV2	MODIFY INSTRUCTIONS	MSM	7956
19								MSM	7957
20	6734	3400		POV1	STD	T0		MSM	7958
21	6735	1477			LDN	PSNI	REPLACE INSTRUCTION WITH *PSN*	MSM	7959
22	6736	4400			STI	T0		MSM	7960
23	6737	3601			AOD	T1	ADVANCE LIST ADDRESS	MSM	7961
24	6740	4001		POV2	LDI	T1		MSM	7962
25	6741	0572			NJN	POV1	LOOP TO END OF TABLE	MSM	7963
26	6742	2000 7004			LDC	T"QUAL"	SET LIST ADDRESS	MSM	7964
27	6744	3401			STD	T1		MSM	7965
28	6745	0306			UJN	POV4	ENTER LOOP	MSM	7966
29								MSM	7967
30	6746	3400		POV3	STD	T0		MSM	7968
31	6747	3013			LDD	CM+3	ADD MACHINE MASK TO INSTRUCTION	MSM	7969
32	6750	4300			LMI	T0		MSM	7970
33	6751	4400			STI	T0		MSM	7971
34	6752	3601			AOD	T1		MSM	7972
35	6753	4001		POV4	LDI	T1		MSM	7973
36	6754	0571			NJN	POV3	IF MORE INSTRUCTIONS	MSM	7974
37	6755	3050		POV5	LDD	IR		283L840	952
38	6756	2300 0315			LMC	2RCM		283L840	953
39	6760	0412			ZJN	POV6	IF *CMS* CALL	283L840	954
40	6761	3054			LDD	RS	CHECK RECOVERY STATUS	283L840	955
41	6762	1270			LPN	FLMK		283L840	956
42	6763	1110			LMN	FLCM		283L840	957
43	6764	0512			NJN	POV7	IF NOT LEVEL 3 RECOVERY	283L840	958
44	6765	2000 0000			ISTORE	EBPB, (LDN CBRS)	CLEAR ONLY READ PERMISSIONS IN *BAT*	283L840	959
45	6771	0305			UJN	POV7		283L840	960
46								283L840	961
47	6772	2000 0000		POV6	ISTORE	EBPA, (UJN EBP3)		283L840	962
48	6776	0100 3745		POV7	LJM	RDDX	RETURN	283L840	963
49								MSM	7976
50				*			LIST OF INSTRUCTIONS TO BE PRESET.	MSM	7977
51								MSM	7978
52	7000			L"QUAL"	BSS	0		MSM	7979
53				L"QUAL"	HERE			MSM	7980
54			-3		ERRZR	L"QUAL" -*	TABLE EMPTY - REMOVE PRESET CODE	283L840	964

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7003	0000		CON	0	TERMINATE TABLE		MSM	7981
7004			T"QUAL"	BSS	0		MSM	7982
			T"QUAL"	HERE			MSM	7983
		-5	ERRZR	T"QUAL"-*	TABLE EMPTY - REMOVE PRESET CODE		283L840	965
7011	0000		CON	0	TERMINATE LIST		MSM	7985
			QUAL				MSM	7986
							MSM	7987
							MSM	7988
	4105	CSD	EQU	/RDD/CSD			283L840	966
	4206	CSDB	EQU	/RDD/CSDB			283L840	967
	4210	CSDC	EQU	/RDD/CSDC			283L840	968
	5516	CUS	EQU	/RDD/CUS			283L840	969
	4246	EBP	EQU	/RDD/EBP			283L840	970
	4400	LDT	EQU	/RDD/LDT			283L840	971
	4507	RDE	EQU	/RDD/RDE			283L840	972
	4657	UDT	EQU	/RDD/UDT			283L840	973
	5470	VFN	EQU	/RDD/VFN			283L840	974
	5257	VLP	EQU	/RDD/VLP			MSM	7991
	5034	WDE	EQU	/RDD/WDE			283L840	975
							283L840	976
	5606	ORDE	EQU	/RDD/ORDE			283L840	977
	5522	ORDG	EQU	/RDD/ORDG			MSM	7992
	5051	ORDH	EQU	/RDD/ORDH			283L840	978
	5522	ORDJ	EQU	/RDD/ORDJ			283L840	979

OVERFLOW ORDD,EPFW CHECK FOR OVERFLOW 283L840 980

440	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR	OVERFLOW.1
26	ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR	OVERFLOW.1
26	ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY	OVERFLOW.1
5	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY	OVERFLOW.1

LIST \* OVERFLOW.1

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IDENT 4DE,/RDE/RDEX  
 COMMENT 87/07/09. 96/06/05. MSM - \*CMS\* UNAVAILABLE DEVICE ROUTINES.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1994.

283L840 983  
 283L840 984  
 283L840 985  
 283L840 986  
 283L840 987  
 283L840 988  
 283L840 989  
 283L840 990  
 283L840 991  
 283L840 992  
 283L840 993  
 283L840 994  
 283L840 995

\*\*\* \*4DE\* CONTAINS CODE FOR \*CMS\* UNAVAILABLE DEVICE PROCESSING.

	5606			QUAL	RDE		
				ORG	ORDE		
	5606	0100	5606			RDE	SUBR ENTRY/EXIT
	5610	0375				UJN	RDEX RETURN

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	**			CUD - CHECK UNAVAILABLE DEVICES.			283L840	998	
	*						283L840	999	
	*			ENTRY (EQ) = (T5) = EST ORDINAL.			283L840	1000	
	*			(FN - FN+4) = EST ENTRY.			283L840	1001	
	*						283L840	1002	
	*			EXIT (RC) = NUMBER OF EQUIPMENTS TO RECOVER.			283L840	1003	
	*			(RE) SET WITH EQUIPMENTS TO RECOVER.			283L840	1004	
	*			(A) .LT. 0 IF RECOVERY INFORMATION NOT TO			283L840	1005	
	*			BE REWRITTEN TO CM UPON RETURN TO *MRL*.			283L840	1006	
	*						283L840	1007	
	*			USES FN, RC, CM+1 - CM+7, FS - FS+4.			283L840	1008	
	*						283L840	1009	
	*			CALLS CDA, CDI, CGU, SES, VLP.			283L840	1010	
	*						283L840	1011	
	*			MACROS MONITOR, SFA.			283L840	1012	
							283L840	1013	
							283L840	1014	
15		5611	0200 5715	CUD6	RJM	CGU	CHECK GLOBAL UNLOAD	283L840	1015
								283L840	1016
17		5613	0100 5613	CUD	SUBR		ENTRY/EXIT	283L840	1017
18		5615	0200 3016		RJM	CDA		283L840	1018
19		5617	0773		MJN	CUDX	IF RECOVERY INHIBITED	283L840	1019
20		5620	0570		NJN	CUD6	IF DEVICE UNLOADED	283L840	1020
21		5621	3040		LDD	FN		283L840	1021
22		5622	1011		SHN	21-10		283L840	1022
23		5623	0724		MJN	CUD1	IF REMOVABLE DEVICE	283L840	1023
24		5624	1021		SHN	11+21-11		283L840	1024
25		5625	0622		PJN	CUD1	IF NON-SHARED DEVICE	283L840	1025
26		5626	3044		LDD	FN+4	GET EXTENDED MEMORY ADDRESS OF MST/TRT	283L840	1026
27		5627	1003		SHN	3		283L840	1027
28		5630	1602		ADN	SDGL		283L840	1028
29		5631	6013		CRD	CM+3		283L840	1029
30		5632	1601		ADN	ALGL-SDGL	SET CM ADDRESS FOR MST UPDATE	283L840	1030
31		5633	3412		STD	CM+2		283L840	1031
32		5634	1063		SHN	-14		283L840	1032
33		5635	2300 0700		LMC	GLGL*100-ALGL*100		283L840	1033
34		5637	3411		STD	CM+1		283L840	1034
35		5640	3013		LDD	CM+3		283L840	1035
36		5641	3114		ADD	CM+4		283L840	1036
37		5642	0405		ZJN	CUD1	IF DEVICE NOT PREVIOUSLY RECOVERED	283L840	1037
38		5643	3017		LDD	CM+7		283L840	1038
39		5644	3116		ADD	CM+6		283L840	1039
40		5645	3115		ADD	CM+5		283L840	1040
41		5646	0521		NJN	CUD4	IF DEVICE ACCESSED PREVIOUSLY	283L840	1041
42		5647	0200 5257	CUD1	RJM	VLP	VERIFY LABEL PARAMETERS	283L840	1042
43		5651	0706		MJN	CUD2	IF NOT FIRST EQUIPMENT IN CHAIN	283L840	1043
44		5652	0507		NJN	CUD3	IF VERIFY ERRORS	283L840	1044
45		5653	2000 0200		LDC	200	SET EQUIPMENT RECOVERY	283L840	1045
46		5655	3546		RAD	RE		283L840	1046
47		5656	3660		AOD	RC	ADVANCE RECOVERY COUNT	283L840	1047
48		5657	0100 5613	CUD2	LJM	CUDX	RETURN	283L840	1048
49								283L840	1049
50		5661	0200 2631	CUD3	RJM	SES	SET ERROR STATUS	283L840	1050
51		5663	0200 3045		RJM	CDI	CLEAR ISD INTERLOCKS	283L840	1051
52		5665	1500		LCN	0		283L840	1052
53		5666	0370		UJN	CUD2	RETURN	283L840	1053
54								283L840	1054

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5667	3040	CUD4	LDD	FN		283L840	1055
5670	1015		SHN	21-4		283L840	1056
5671	0711		MJN	CUD5	IF INDEPENDENT SHARED DEVICE	283L840	1057
5672	1403		LDN	ALGL		283L840	1058
5673	3514		RAD	CM+4		283L840	1059
5674	2000 2000		LDC	RECS*1000	SET MONITOR SUBFUNCTION	283L840	1060
5676	3513		RAD	CM+3		283L840	1061
5677	1434		MONITOR	ECSM	UPDATE GLOBAL MST FROM ECS	283L840	1062
5702	1400	CUD5	LDN	0	CLEAR UNAVAILABLE STATUS	283L840	1063
5703	3271		SBD	HN		283L840	1064
5704	3540		RAD	FN		283L840	1065
5705	3053		SFA	EST,EQ	REWRITE EST ENTRY	283L840	1066
			ADK	EQDE		283L840	1067
5710	6240		CWD	FN		283L840	1068
5711	0345		UJN	CUD2	RETURN	283L840	1069

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	**				CGU - CHECK GLOBAL UNLOAD.		283L840	1072	
	*						283L840	1073	
	*				ENTRY (FN - FN+4) = EST ENTRY.		283L840	1074	
	*						283L840	1075	
	*				EXIT (CN - CN+4) = *ACGL* WORD OF MST.		283L840	1076	
	*						283L840	1077	
	*				USES CM - CM+7.		283L840	1078	
	*						283L840	1079	
	*				CALLS CIU.		283L840	1080	
	*						283L840	1081	
	*				MACROS MONITOR.		283L840	1082	
							283L840	1083	
							283L840	1084	
11		5712	0200 6001	CGU1	RJM	CIU	CHECK ISD GLOBALLY UNLOADED	283L840	1085
12								283L840	1086
13		5714	0100 5714	CGU	SUBR		ENTRY/EXIT	283L840	1087
14		5716	3044		LDD	FN+4		283L840	1088
15		5717	1003		SHN	3		283L840	1089
16		5720	1606		ADN	MDGL	READ DRIVER WORD FOR DAT INDEX	283L840	1090
17		5721	6010		CRD	CM		283L840	1091
18		5722	1704		SBN	MDGL-SDGL	GET EXTENDED MEMORY POINTER	283L840	1092
19		5723	6013		CRD	CM+3		283L840	1093
20		5724	1701		SBN	SDGL-ACGL		283L840	1094
21		5725	6030		CRD	CN		283L840	1095
22		5726	3040		LDD	FN		283L840	1096
23		5727	1220		LPN	20		283L840	1097
24		5730	0561		NJN	CGU1	IF ISD	283L840	1098
25		5731	3010		LDD	CM		283L840	1099
26		5732	2200 0377		LPC	377		283L840	1100
27		5734	0457		ZJN	CGUX	IF LINK TO DAT SLOT CLEARED	283L840	1101
28		5735	3013		LDD	CM+3		283L840	1102
29		5736	3114		ADD	CM+4		283L840	1103
30		5737	0454		ZJN	CGUX	IF NON-SHARED DEVICE	283L840	1104
31		5740	1401		LDN	ACGL		283L840	1105
32		5741	3514		RAD	CM+4		283L840	1106
33		5742	1063		SHN	-14		283L840	1107
34		5743	2300 2000		LMC	RECS*1000	UPDATE ACTIVITY WORD FROM ECS	283L840	1108
35		5745	3513		RAD	CM+3		283L840	1109
36		5746	1403		LDN	PFGL-ACGL	SET WORD COUNT FOR ECS TRANSFER	283L840	1110
37		5747	1006		SHN	6		283L840	1111
38		5750	3411		STD	CM+1		283L840	1112
39		5751	3077		LDD	MA	READ MST DATA TO MESSAGE BUFFER	283L840	1113
40		5752	3412		STD	CM+2		283L840	1114
41		5753	1434		MONITOR	ECSM		283L840	1115
42		5756	3077		LDD	MA		283L840	1116
43		5757	6013		CRD	CM+3		283L840	1117
44		5760	3013		LDD	CM+3	SAVE DEVICE UP/DOWN STATUS	283L840	1118
45		5761	3430		STD	CN		283L840	1119
46		5762	3017		LDD	CM+7	SET GLOBAL UNLOAD STATUS	283L840	1120
47		5763	1240		LPN	MGUNL		283L840	1121
48		5764	3434		STD	CN+4		283L840	1122
49		5765	3077		LDD	MA		283L840	1123
50		5766	1603		ADN	PFGL-ACGL		283L840	1124
51		5767	6010		CRD	CM		283L840	1125
52		5770	3044		LDD	FN+4		283L840	1126
53		5771	1003		SHN	3		283L840	1127
54		5772	1601		ADN	ACGL	STORE UNLOAD STATUS IN CMR	283L840	1128

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5773	6230		CWD	CN			283L840	1129
5774	1603		ADN	PFGL-ACGL	STORE DEVICE DESCRIPTION		283L840	1130
5775	6210		CWD	CM			283L840	1131
5776	0100	5714	LJM	CGUX	RETURN		283L840	1132
			**	CIU - CHECK INDEPENDENT SHARED DEVICE UNLOADED.			283L840	1134
			*				283L840	1135
			*	ENTRY	(FN - FN+4) = EST ENTRY.		283L840	1136
			*		(CN - CN+4) = *ACGL* WORD OF MST.		283L840	1137
			*				283L840	1138
			*	USES	CM - CM+6.		283L840	1139
			*				283L840	1140
			*	CALLS	CUS, VFN.		283L840	1141
							283L840	1142
							283L840	1143
6000	0100	6000	CIU	SUBR	ENTRY/EXIT		283L840	1144
6002	3040			LDD	FN		283L840	1145
6003	1011			SHN	21-10		283L840	1146
6004	0673			PJN	CIUX	IF NOT REMOVABLE	283L840	1147
6005	3041			LDD	FN+1		283L840	1148
6006	1066			SHN	0-11	CHECK CHANNEL STATUS	283L840	1149
6007	1104			LMN	4		283L840	1150
6010	0405			ZJN	CIU1	IF PRIMARY CHANNEL ALIVE AND WELL	283L840	1151
6011	3042			LDD	FN+2		283L840	1152
6012	1066			SHN	0-11	TEST SECONDARY CHANNEL	283L840	1153
6013	1104			LMN	4		283L840	1154
6014	0563			NJN	CIUX	IF CHANNEL UNAVAILABLE	283L840	1155
			*CIU1	LDN	0		283L840	1156
6015	0200	5516	CIU1	RJM	CUS		283L840	1157
6017	0716			MJN	CIU4	IF DEVICE INACCESSIBLE	283L840	1158
6020	0402			ZJN	CIU2	IF NO ONE ACCESSING DEVICE	283L840	1159
6021	1440			LDN	MGUNL		283L840	1160
6022	1140		CIU2	LMN	MGUNL	SET/CLEAR GLOBAL UNLOAD	283L840	1161
6023	3434			STD	CN+4		283L840	1162
6024	0511			NJN	CIU4	IF SETTING UNLOAD	283L840	1163
6025	3077		CIU3	LDD	MA		283L840	1164
6026	6370	7074		CWM	N4SS+5*PFGL,ON		283L840	1165
6030	1701			SBN	1	VERIFY FAMILY/PACK NAME	283L840	1166
6031	6012			CRD	CM+2		283L840	1167
6032	0200	5470		RJM	VFN		283L840	1168
6034	0503			NJN	CIU5	IF VALID NAME IN LABEL	283L840	1169
6035	1466		CIU4	LDN	ZERL		283L840	1170
6036	6012			CRD	CM+2		283L840	1171
6037	3044		CIU5	LDD	FN+4	STORE/CLEAR DEVICE NAME	283L840	1172
6040	1003			SHN	3		283L840	1173
6041	1604			ADN	PFGL		283L840	1174
6042	6212			CWD	CM+2		283L840	1175
6043	1703			SBN	PFGL-ACGL	STORE GLOBAL UNLOAD STATUS	283L840	1176
6044	6230			CWD	CN		283L840	1177
6045	0100	6000		LJM	CIUX	RETURN	283L840	1178

1412THE

USE LITERALS

283L840 1180

1									1
2									2
3	727		ERRNG	BFMS-*	OVERLAY OVERFLOW INTO BUFFER			283L840	1182
4									3
5									4
6									5
7									6
8			QUAL	CMS				283L840	1184
9	5614	CUD	EQU	/RDE/CUD				283L840	1185
10			QUAL					283L840	1186
11									11
12									12
13									13
14									14
15			OVERFLOW	ORDE,EPFW	CHECK FOR OVERFLOW			283L840	1188
16									16
17								OVERFLOW.1	17
18	1177		ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR			OVERFLOW.1	18
19	232		ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR			OVERFLOW.1	19
20	732		ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY			OVERFLOW.1	20
21	1		ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY			OVERFLOW.1	21
22								OVERFLOW.1	22
23			LIST	*				OVERFLOW.1	23
24									24
25									25
26									26
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1412THE

IDENT 4DF,EDTX MSM 7997  
 COMMENT 87/07/09. 96/06/05. MSM - UPDATE MMF TABLES IN EXTENDED MEMORYMSM 7998  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992. 281L803 8

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\*\*\* \*4DF\* UPDATES THE DAT POINTER WORD IN ECS MSM 8001  
 \* AND CONTAINS ROUTINES FOR PROCESSING OF MACHINE MSM 8002  
 \* RECOVERY TABLES (MRTS). MSM 8003

\*\*\* ENTRY CONDITIONS. MSM 8005  
 \* MSM 8006  
 \* DEVICE ACCESS TABLE IMAGE IN CM. MSM 8007  
 \* DATI INTERLOCK SET. MSM 8008

1412THE

\*\* EDT - EDIT DAT POINTER WORD.  
 \*  
 \* CALLS CEA.

MSM 8011  
 MSM 8012  
 MSM 8013

1								MSM	8014	
2								MSM	8015	
3	3745			ORG	ORDF			283L840	1189	
4								MSM	8017	
5	3745	0100	3745	EDT	SUBR		ENTRY/EXIT	MSM	8018	
6	3747	2000	0122		LDK	MMFL		MSM	8019	
7	3751	6010			CRD	CM		MSM	8020	
8	3752	3054			LDD	RS	CHECK RECOVERY LEVEL	MSM	8021	
9	3753	1270			LPN	FLMK		MSM	8022	
10	3754	1110			LMN	FLCM		MSM	8023	
11	3755	0467			ZJN	EDTX	IF CM RECOVERY	MSM	8024	
12	3756	3014			LDD	CM+4		MSM	8025	
13	3757	0465			ZJN	EDTX	IF NOT MMF ENVIRONMENT	MSM	8026	
14	3760	5000	1117		LDM	ECLT	SET LABEL TRACK FOR ECS	283L840	1190	
15	3762	3406			STD	T6		283L840	1191	
16	3763	1416			LDN	ETLT	SET ENVIRONMENT TABLE SECTOR	283L840	1192	
17	3764	3407			STD	T7		283L840	1193	
18								283L840	1194	
19				*			UPDATE *BAET* IN ENVIRONMENT TABLE SECTOR, IF REQUIRED.	283L840	1195	
20								283L840	1196	
21	3765	3011			LDD	CM+1		283L840	1197	
22	3766	1010			SHN	21-11		283L840	1198	
23	3767	0622			PJN	EDT1	IF NO SHARED BUFFERED DEVICES CONFIGURED	283L840	1199	
24	3770	0200	2504		RJM	CEA	GET ADDRESS OF ENVIRONMENT TABLE SECTOR	283L840	1200	
25	3772	1434			LDN	BAET	ADJUST ADDRESS TO BAT POINTER	283L840	1201	
26	3773	3514			RAD	CM+4		283L840	1202	
27	3774	1063			SHN	-14		283L840	1203	
28	3775	2300	3000		LMC	WECS*1000	SUBFUNCTION = WRITE XM	283L840	1204	
29	3777	3513			RAD	CM+3		283L840	1205	
30	4000	1400			LDN	0		283L840	1206	
31	4001	3411			STD	CM+1	SET WORD COUNT - 1 FOR TRANSFER	283L840	1207	
32	4002	3077			LDD	MA	SET BUFFER ADDRESS IN MONITOR REQUEST	283L840	1208	
33	4003	3412			STD	CM+2		283L840	1209	
34	4004	6370	1100		CWM	BAEI,ON	STORE *BAET* IMAGE IN CM BUFFER	283L840	1210	
35	4006	1434			MONITOR	ECSM		283L840	1211	
36								283L840	1212	
37				*			UPDATE *DAET* IN ENVIRONMENT TABLE SECTOR.	283L840	1213	
38								283L840	1214	
39	4011	1466			EDT1	LDN	ZERL	CLEAR *DAET* ASSEMBLY	283L840	1215
40	4012	6030			CRD	CN		MSM	8028	
41	4013	6010			CRD	CM		MSM	8029	
42				*	LDN	0		283L840	1216	
43				*	STD	CM+1	SET WORD COUNT - 1 FOR TRANSFER	283L840	1217	
44	4014	0200	2504		RJM	CEA	GET ADDRESS OF ENVIRONMENT TABLE SECTOR	283L840	1218	
45	4016	1410			LDN	DAET	ADJUST ADDRESS TO DAT POINTER	283L840	1219	
46	4017	3514			RAD	CM+4		283L840	1220	
47	4020	1063			SHN	-14		283L840	1221	
48	4021	2300	3000		LMC	WECS*1000	SUBFUNCTION = WRITE XM	283L840	1222	
49	4023	3513			RAD	CM+3		283L840	1223	
50	4024	3027			LDD	QT	SET CURRENT DAT TRACK	MSM	8030	
51	4025	3430			STD	CN		MSM	8031	
52	4026	3036			LDD	QI	SET DAT INDEX	MSM	8032	
53	4027	3434			STD	CN+4		MSM	8033	
54	4030	3077			LDD	MA	STORE *DAET* IMAGE IN CM BUFFER	MSM	8046	

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4031	6230		CWD	CN		MSM	8047
4032	3412		STD	CM+2	SET BUFFER ADDRESS IN MONITOR REQUEST	MSM	8048
4033	1434		MONITOR	ECSM		MSM	8049
4036	0100	3745	LJM	EDTX	RETURN	MSM	8050
			**		UER - UPDATE EXTENDED MEMORY RESIDENT.	MSM	8052
			*			MSM	8053
			*	ENTRY	(EQ) = EST ORDINAL.	MSM	8054
			*		(FN - FN+4) = EST ENTRY.	MSM	8055
			*	EXIT	(A) .LT. 0 IF RECOVERY INFORMATION NOT TO	MSM	8056
			*		BE REWRITTEN TO CM UPON RETURN TO *MRL*.	MSM	8057
			*			MSM	8058
			*	CALLS	ERT, SMT, SRT, CRT.	MSM	8059
						MSM	8060
						MSM	8061
4040	1020		UER1	SHN	21-3+22-21+1	MSM	8062
4041	0614			PJN	UER2 IF DNAP BY THIS MACHINE	MSM	8063
4042	1443			LDN	STBM CLEAN UP TRACK INTERLOCKS	MSM	8064
4043	0200	4257		RJM	ERT	MSM	8065
4045	3054			LDD	RS	MSM	8066
4046	0507			NJN	UER2 IF RECOVERY SELECTED	MSM	8067
4047	3040			LDD	FN	MSM	8068
4050	1011			SHN	21-10	MSM	8069
4051	0704			MJN	UER2 IF REMOVABLE DEVICE	MSM	8070
4052	1433			LDN	DTKM CLEAN UP LOCAL FILE SPACE	MSM	8071
4053	0200	4257		RJM	ERT	MSM	8072
4055	3053		UER2	LDD	EQ RESET EST ORDINAL	MSM	8073
4056	3405			STD	T5	MSM	8074
4057	1563			CMSTF	LUNL FORCE EXTENDED MEMORY UPDATE OF LOCAL MST	MSM	8075
						MSM	8076
4062	0100	4062	UER	SUBR	ENTRY/EXIT	MSM	8077
4064	1010			SHN	21-11	MSM	8078
4065	0674			PJN	UERX IF NOT SHARED DEVICE	MSM	8079
4066	1003			SHN	11-6	MSM	8080
4067	0772			MJN	UERX IF DEVICE UNAVAILABLE	MSM	8081
4070	1005			SHN	6-1	MSM	8082
4071	0746			MJN	UER1 IF DEVICE ACCESSED PREVIOUSLY (DAP)	MSM	8083
4072	0200	4342		RJM	SMT STORE MST/TRT IN ECS	MSM	8084
4074	0200	4115		RJM	CRT CLEAR MRTS IN ECS	MSM	8085
4076	0356			UJN	UER2	MSM	8086
			**		UIS - UPDATE ISD MRT TABLES.	MSM	8088
			*			MSM	8089
			*	ENTRY	(A) = MS FLAG (RE) SHIFTED TO SIGN POSITION.	MSM	8090
			*		(EQ) = EST ORDINAL.	MSM	8091
			*		(FN - FN+4) = EST ENTRY.	MSM	8092
			*		(RS) = RECOVERY STATUS.	MSM	8093
			*			MSM	8094
			*	EXIT	(A) .LT. 0 IF RECOVERY INFORMATION NOT TO	MSM	8095
			*		BE REWRITTEN TO CM UPON RETURN TO *MRL*.	MSM	8096
			*			MSM	8097

1412THE

\* CALLS ERT.

MSM 8098  
MSM 8099  
MSM 8100  
MSM 8101  
MSM 8102  
MSM 8103  
MSM 8104  
MSM 8105  
MSM 8106  
MSM 8107  
MSM 8108  
MSM 8109  
MSM 8110  
MSM 8111

1	4077	0100	4077	UIS	SUBR		ENTRY/EXIT	MSM	8101
2	4101	1013			SHN	21-6		MSM	8102
3	4102	0774			MJN	UISX	IF DEVICE NOT AVAILABLE	MSM	8103
4	4103	3054			LDD	RS		MSM	8104
5	4104	0472			ZJN	UISX	IF LEVEL ZERO DEADSTART	MSM	8105
6	4105	3040			LDD	FN		MSM	8106
7	4106	1015			SHN	21-4		MSM	8107
8	4107	0667			PJN	UISX	IF NOT AN ISD DEVICE	MSM	8108
9	4110	1443			LDN	STBM	CLEAN UP TRACK INTERLOCKS	MSM	8109
10	4111	0200	4257		RJM	ERT		MSM	8110
11	4113	0363			UJN	UISX	RETURN	MSM	8111

1412THE

\*\* CRT - CLEAR MRTS.  
 \*  
 \* CALLS STA, WDS.  
 \*  
 \* MACROS ENDMS, SETMS.

MSM 8113  
 MSM 8114  
 MSM 8115  
 MSM 8116  
 MSM 8117  
 MSM 8118  
 MSM 8119  
 MSM 8120  
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 MSM 8161  
 MSM 8162  
 MSM 8163

4114	0100	4114	CRT	SUBR		ENTRY/EXIT
4116	2000	0122		LDC	MMFL	READ MMF STATUS WORD
4120	6010			CRD	CM	
4121	3011			LDD	CM+1	SET LINK DEVICE EST ORDINAL
4122	2200	0777		LPC	777	
4124	3405			STD	T5	
4125	2002	0000		SETMS	IO,DF	
4131	3044			LDD	FN+4	GET TRT LENGTH FROM MST
4132	1003			SHN	3	
				ADK	TDGL	
4133	6030			CRD	CN	
4134	3045			LDD	TS	SET MST/TRT TRACK
4135	3406			STD	T6	
4136	1410			LDN	MRST-1	INITIALIZE MRT SECTOR
4137	3407			STD	T7	
4140	3032			LDD	CN+2	SET MRT LENGTH
4141	1607			ADN	7	
4142	1074			SHN	-3	
4143	3431			STD	CN+1	SAVE MRT LENGTH
4144	5400	6777		STM	BFMS+1	
4146	3401			STD	T1	SET BUFFER LENGTH
4147	1002			SHN	2	
4150	3501			RAD	T1	
4151	1400		CRT1	LDN	0	CLEAR BUFFER
4152	5401	6777		STM	BFMS+1,T1	
4154	3701			SOD	T1	
4155	0573			NJN	CRT1	
4156	1404			LDN	MXMF	SET LOOP COUNT
4157	3430			STD	CN	
			*			CLEAR MRT SECTORS FOR *MXMF* MAINFRAMES.
4160	3607		CRT2	AOD	T7	ADVANCE MRT SECTOR
4161	1601			ADN	1	SET NEXT SECTOR IN LINKAGE
4162	5400	6776		STM	BFMS	
4164	2000	6776		LDC	BFMS	CLEAR MRT
4166	0200	0532		RJM	WDS	
4170	3730			SOD	CN	
4171	0566			NJN	CRT2	IF MORE MRT-S TO CLEAR
4172	0200	0535		ENDMS		RELEASE CHANNEL
4174	0200	1226		RJM	STA	SET FWA OF TRT
4176	3132			ADD	CN+2	SET FWA OF MRT
4177	6331	7000		CWM	BFMS+2,CN+1	
4201	0100	4114		LJM	CRTX	RETURN

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	**				ERT - EDIT MRT.		MSM	8165
	*						MSM	8166
	*				ENTRY (A) = *STBM* TO CLEAN UP TRACK INTERLOCKS.		MSM	8167
	*				= *DTKM* TO CLEAN UP LOCAL FILE SPACE.		MSM	8168
	*				(EQ) = EST ORDINAL.		MSM	8169
	*				(FN - FN+4) = EST ENTRY.		MSM	8170
	*						MSM	8171
	*				EXIT ALL LOCAL TRACK CHAINS DROPPED.		MSM	8172
	*						MSM	8173
	*				USES T0 - T7, CM - CM+4.		MSM	8174
	*						MSM	8175
	*				CALLS PTA, RDS, STA.		MSM	8176
	*						MSM	8177
	*				MACROS MONITOR.		MSM	8178
							MSM	8179
							MSM	8180
14		4203	1021		ERT2 SHN 21-0	CHECK NEXT BIT	MSM	8181
15		4204	4401		STI T1		MSM	8182
16		4205	0627		PJN ERT3	IF NO RESERVATION	MSM	8183
17		4206	3002		LDD T2	SET TRT WORD INDEX	MSM	8184
18		4207	1020		SHN 21-1		MSM	8185
19		4210	3400		STD T0		MSM	8186
20		4211	1057		SHN 1-21	FORM *SHN* WITH BYTE INDEX	MSM	8187
21		4212	2100 1012		ADC SHNI+21-7		MSM	8188
22		4214	5400 4223		STM ERTA		MSM	8189
23		4216	0200 1226		RJM STA	SET FWA OF TRT	MSM	8190
24		4220	3100		ADD T0		MSM	8191
25		4221	6010		CRD CM		MSM	8192
26		4222	3014		LDD CM+4	CHECK WRITE INTERLOCK	MSM	8193
27		4223	1000		ERTA SHN **		MSM	8194
28		4224	0610		ERTB PJN ERT3	IF TRACK NOT INTERLOCKED	MSM	8195
29				*	MJN ERT3	IF NOT LOCAL FILE	MSM	8196
30		4225	3077		LDD MA	LOAD MONITOR REQUEST	MSM	8197
31		4226	6010		CRD CM		MSM	8198
32		4227	3002		LDD T2	SET TRACK IN REQUEST	MSM	8199
33		4230	3512		RAD CM+2		MSM	8200
34		4231	1443		ERTC MONITOR STBM		MSM	8201
35				*	MONITOR DTKM		MSM	8202
36		4234	3602		ERT3 AOD T2	ADVANCE TRACK NUMBER	MSM	8203
37		4235	4001		ERT4 LDI T1		MSM	8204
38		4236	0544		NJN ERT2	IF NOT END OF RESERVATIONS IN MRT BYTE	MSM	8205
39		4237	1414		LDN 4*3	ALIGN TRACK NUMBER FOR NEXT MRT BYTE	MSM	8206
40		4240	3506		RAD T6		MSM	8207
41		4241	3402		STD T2		MSM	8208
42		4242	3701		SOD T1	MOVE TO NEXT BYTE IN MRT WORD	MSM	8209
43		4243	3305		LMD T5		MSM	8210
44		4244	0570		NJN ERT4	IF NOT END OF DATA IN WORD	MSM	8211
45		4245	1504		LCN 4	ALIGN TRACK FOR NEXT MRT WORD	MSM	8212
46		4246	3506		RAD T6		MSM	8213
47		4247	3402		STD T2		MSM	8214
48		4250	1410		ERT5 LDN 3+5	ADVANCE TO NEXT MRT WORD	MSM	8215
49		4251	3501		RAD T1		MSM	8216
50		4252	1703		SBN 3	SET END OF DATA CHECK	MSM	8217
51		4253	3405		STD T5		MSM	8218
52		4254	3307		LMD T7		MSM	8219
53		4255	0557		NJN ERT4	IF NOT END OF TRT EDIT	MSM	8220
54							MSM	8221

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Address	Subr	Function	MSM	Address
4256	ERT	ENTRY/EXIT	MSM	8222
4260	LMC	LDNI	MSM	8223
4262	STM	ERTC	MSM	8224
4264	LPN	77	MSM	8225
4265	LMN	STBM	MSM	8226
4266	ZJN	ERT1	MSM	8227
4267	LDD	HN	MSM	8228
4270	ADC	PJNI+ERT3-ERTB	MSM	8229
4272	STM	ERTB	MSM	8230
4274	RJM	PTA	MSM	8231
4276	LDD	FN+4	MSM	8232
4277	SHN	3	MSM	8233
	ADK	TDGL	MSM	8234
4300	CRD	T3	MSM	8235
4301	LDC	BFMS+1	MSM	8236
4303	STD	T7	MSM	8237
4304	SBN	3	MSM	8238
4305	STD	T1	MSM	8239
4306	LDD	T3+2	MSM	8240
4307	STD	T0	MSM	8241
4310	ADN	7	MSM	8242
4311	SHN	-3	MSM	8243
4312	STD	T5	MSM	8244
4313	SHN	2	MSM	8245
4314	ADD	T5	MSM	8246
4315	ADN	5-3	MSM	8247
4316	RAD	T7	MSM	8248
4317	RJM	STA	MSM	8249
4321	ADD	T0	MSM	8250
4322	CRM	BFMS+2,T5	MSM	8251
4324	LDN	ZERL	MSM	8252
4325	CRD	T6-4	MSM	8253
4326	LDD	EQ	MSM	8254
4327	STD	CM+1	MSM	8255
4330	LDC	4000	MSM	8256
4332	STD	CM+2	MSM	8257
4333	LDN	CTIS	MSM	8258
4334	STD	CM+3	MSM	8259
4335	LDD	MA	MSM	8260
4336	CWD	CM	MSM	8261
4337	LJM	ERT5	MSM	8262

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	**			SMT - STORE MST + TRT IN EXTENDED MEMORY.		MSM	8264	
	*					MSM	8265	
	*			ENTRY (EQ) = EST ORDINAL.		MSM	8266	
	*			(FN - FN+4) = EST ENTRY.		MSM	8267	
	*					MSM	8268	
	*			USES P1, T1, CM+3 - CM+7, CN - CN+4, T5 - T7.		MSM	8269	
	*					MSM	8270	
	*			CALLS CEA, PTA, STA, WDS.		MSM	8271	
	*					MSM	8272	
	*			MACROS ENDMS, SETMS.		MSM	8273	
						MSM	8274	
						MSM	8275	
						MSM	8276	
11		4341	0100 4341	SMT	SUBR	ENTRY/EXIT	MSM	8277
12		4343	0200 1206		RJM	PTA	MSM	8278
13		4345	2000 0416		LDC	500-5*GLGL	MSM	8279
14		4347	3407		STD	T7	MSM	8280
15		4350	1400	SMT1	LDN	0	MSM	8281
16		4351	5407 7061		STM	BFMS+1+5*GLGL,T7	MSM	8282
17		4353	3707		SOD	T7	MSM	8283
18		4354	0573		NJN	SMT1	MSM	8284
19		4355	3466		STD	P1	MSM	8285
20		4356	2000 0122		LDC	MMFL	MSM	8286
21		4360	6030		CRD	CN	MSM	8287
22		4361	3031		LDD	CN+1	MSM	8288
23		4362	2200 0777		LPC	777	MSM	8289
24		4364	3405		STD	T5	MSM	8290
25		4365	2002 0000		SETMS	IO,DF	MSM	8291
26							MSM	8292
27				*		SET UNLOAD STATUS IN EACH LOCAL MST BLOCK.	MSM	8293
28							MSM	8294
29		4371	1412	SMT2	LDN	MLUNL+MLDUL	MSM	8295
30		4372	5466 7101		STM	BFMS+2+5*STLL,P1	MSM	8296
31		4374	1436		LDN	5*LLLL	MSM	8297
32		4375	3566		RAD	P1	MSM	8298
33		4376	2300 0170		LMC	MXMF*5*LLLL	MSM	8299
34		4400	0570		NJN	SMT2	MSM	8300
35		4401	3045		LDD	TS	MSM	8301
36		4402	3406		STD	T6	MSM	8302
37		4403	3071		LDD	HN	MSM	8303
38		4404	5400 6777		STM	BFMS+1	MSM	8304
39		4406	1466		LDN	ZERL	MSM	8305
40		4407	6013		CRD	CM+3	MSM	8306
41		4410	0200 2504		RJM	CEA	MSM	8307
42		4412	1412		LDN	GLGL	MSM	8308
43		4413	3401		STD	T1	MSM	8309
44		4414	1401		LDN	1	MSM	8310
45		4415	3416		STD	CM+6	MSM	8311
46		4416	3044		LDD	FN+4	MSM	8312
47		4417	1003		SHN	3	MSM	8313
48		4420	1602		ADN	SDGL	MSM	8314
49		4421	6213		CWD	CM+3	MSM	8315
50		4422	1702		SBN	SDGL-TDGL	MSM	8316
51		4423	6030		CRD	CN	MSM	8317
52		4424	6101 7000		CRM	BFMS+2,T1	MSM	8318
53		4426	1577		LCN	100-1	MSM	8319
54		4427	3434		STD	CN+4	MSM	8320

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4430	1400		LDN	0			MSM	8321
4431	0320		UJN	SMT5	ENTER LOOP WITH (A) = 0		MSM	8322
							MSM	8323
4432	3271	SMT3	SBD	HN	DECREMENT BLOCK COUNT		MSM	8324
4433	0605		PJN	SMT4	IF ANOTHER FULL SECTOR		MSM	8325
4434	3171		ADD	HN			MSM	8326
4435	5400	6777	STM	BFMS+1	SET SHORT SECTOR		MSM	8327
4437	1400		LDN	0			MSM	8328
4440	3432	SMT4	STD	CN+2			MSM	8329
4441	3071		LDD	HN	ADVANCE TRT ADDRESS		MSM	8330
4442	3534		RAD	CN+4			MSM	8331
4443	0200	1226	RJM	STA	SET FWA OF TRT		MSM	8332
4445	3134		ADD	CN+4			MSM	8333
4446	6171	7000	CRM	BFMS+2, HN			MSM	8334
4450	3607		AOD	T7	ADVANCE SECTOR		MSM	8335
4451	1601	SMT5	ADN	1			MSM	8336
4452	5400	6776	STM	BFMS			MSM	8337
4454	2000	6776	LDC	BFMS	WRITE NEXT SECTOR		MSM	8338
4456	0200	0532	RJM	WDS			MSM	8339
4460	3032		LDD	CN+2			MSM	8340
4461	0550		NJN	SMT3	LOOP TO END OF TRT		MSM	8341
4462	0200	0535	ENDMS				MSM	8342
4464	0100	4341	LJM	SMTX	EXIT		MSM	8343

2310 ERRNG BFMS-\* OVERFLOW INTO BUFFER 272L774 72

OVERFLOW ORDF,EPFW CHECK FOR OVERFLOW 283L840 1224

2340 ERRNG .2-.1+5-.3/500B\*500B BYTES LEFT AFTER LAST SECTOR OVERFLOW.1  
 452 ERRNG .3/500B\*500B-\*.1-5 BYTES LEFT IN LAST SECTOR OVERFLOW.1  
 2352 ERRNG .4/500B\*500B-\*.1-5 BYTES CAN BE ADDED TO OVERLAY OVERFLOW.1  
 2 ERRNG .3/500B SECTORS NEEDED FOR OVERLAY OVERFLOW.1

LIST \*

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IDENT 4DG,/RDG/RDGX  
 COMMENT 87/07/09. 96/06/05. MSM - DEVICE RECOVERY ROUTINES.  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992.

MSM 8348  
 MSM 8349  
 281L803 9

\*\*\* \*4DG\* CONTAINS ADDITIONAL DEVICE RECOVERY ROUTINES. 283L840 1225

	5522			RDG	QUAL ORG	RJN	RDG ORDG	PRG ORDG	ENTRY/EXIT PRESET OVERLAY RETURN	MSM	
										8354	
										8355	
										8356	
	5522	0100	5522							8357	
	5524	0200	6776							283L840	1226
	5526	0373								283L840	1227

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			**	CTD - COPY TABLES TO DISK.		283L840	1230	
			*			283L840	1231	
			*	ENTRY (FN - FN+4) = EST ENTRY.		283L840	1232	
			*			283L840	1233	
			*	EXIT (A) .GE. 0.		283L840	1234	
			*			283L840	1235	
			*	USES P1, T3, T6, T7, CM - CM+4, CN - CN+4.		283L840	1236	
			*			283L840	1237	
			*	CALLS CLC, PTA, RDS, STA, WDS.		283L840	1238	
			*			283L840	1239	
			*	MACROS CMSTF, ENDMS, MONITOR, SETMS.		283L840	1240	
						283L840	1241	
						283L840	1242	
	5527	3046		CTD5	LDD RE	CHECK ACCESS STATUS	283L840	1243
	5530	2200 1002			LPC 1002		283L840	1244
	5532	2300 1002			LMC 1002		283L840	1245
	5534	0510		CTD6	NJN CTDX	IF NOT SHARED DEVICE ACCESSED PREVIOUSLY	283L840	1246
	5535	3005			LDD T5		283L840	1247
	5536	3411			STD CM+1		283L840	1248
	5537	1407			LDN UITS	GET CURRENT COPY OF TRT / UPDATE MRT	283L840	1249
	5540	3413			STD CM+3		283L840	1250
	5541	1443			MONITOR STBM		283L840	1251
							283L840	1252
	5544	0100 5544		CTD	SUBR	ENTRY/EXIT	283L840	1253
	5546	0200 1206			RJM PTA	PRESET FWA OF TRT	283L840	1254
	5550	1564			CMSTF LPTU	ENABLE TRT UPDATE BY *1RU*	283L840	1255
			*		LDN 0		283L840	1256
	5553	3407			STD T7		283L840	1257
	5554	3040			LDD FN		283L840	1258
	5555	1015			SHN 21-4		283L840	1259
	5556	0650			PJN CTD5	IF NOT INDEPENDENT SHARED DEVICE	283L840	1260
	5557	3044			LDD FN+4		283L840	1261
	5560	1003			SHN 3		283L840	1262
	5561	1603			ADN ALGL	FETCH ALLOCATION WORD FROM MST	283L840	1263
	5562	6010			CRD CM		283L840	1264
	5563	3011			LDD CM+1	SET LABEL TRACK	283L840	1265
	5564	3406			STD T6		283L840	1266
	5565	2002 4200			SETMS IO, (DE, DF)		283L840	1267
	5571	2000 6776			LDC BFMS	REREAD LABEL SECTOR	283L840	1268
	5573	0200 0530			RJM RDS		283L840	1269
	5575	3046			LDD RE		283L840	1270
	5576	1020			SHN 21-1		283L840	1271
	5577	0725			MJN CTD1	IF ACCESSED PREVIOUSLY BY OTHER MF	283L840	1272
	5600	5000 7066			LDM N4SS+5*SDGL+4		283L840	1273
	5602	1277			LPN 77	SAVE DIT INDEX	283L840	1274
	5603	3466			STD P1		283L840	1275
	5604	1420			LDN MSTL	SET CHECKPOINTED MST LENGTH	283L840	1276
	5605	3403			STD T3		283L840	1277
	5606	3044			LDD FN+4	SET MST ADDRESS	283L840	1278
	5607	1003			SHN 3		283L840	1279
					ADK TDGL	GET TRT LENGTH	283L840	1280
	5610	6030			CRD CN		283L840	1281
					SBK TDGL	UPDATE MST IN LABEL SECTOR	283L840	1282
	5611	6103 7050			CRM N4SS, T3		283L840	1283
	5613	3066			LDD P1	SET SOFTWARE RESERVE IN LABEL	283L840	1284
	5614	3371			LMD HN		283L840	1285
	5615	5400 7066			STM N4SS+5*SDGL+4		283L840	1286

5617	3032		LDD	CN+2	SET MRT LENGTH	283L840	1287
5620	1607		ADN	7		283L840	1288
5621	1074		SHN	-3	CALCULATE DIT OFFSET	283L840	1289
5622	3532		RAD	CN+2		283L840	1290
5623	0311		UJN	CTD2	GENERATE CHECKSUM	283L840	1291
						283L840	1292
5624	1400		LDN	0	CLEAR MACHINE ID TO FORCE TRT UPDATE IN CM	283L840	1293
5625	5400	7153	STM	N4SS+5*STLL+2		283L840	1294
5627	5000	7066	LDM	N4SS+5*SDGL+4	CLEAR MST INTERLOCK	283L840	1295
5631	1377		SCN	77		283L840	1296
5632	5400	7066	STM	N4SS+5*SDGL+4		283L840	1297
5634	0200	2535	RJM	CLC	CTD2 COMPUTE LABEL CHECKSUM	283L840	1298
5636	5400	7477	STM	CKSS		283L840	1299
5640	2000	6776	LDC	BFMS+WLSF		283L840	1300
5642	0200	0532	RJM	WDS		283L840	1301
5644	0200	0535	ENDMS		RELEASE HARDWARE RESERVE	283L840	1302
5646	3046		LDD	RE		283L840	1303
5647	1202		LPN	2		283L840	1304
5650	0524		NJN	CTD3	IF DEVICE ACCESSED PREVIOUSLY	283L840	1305
5651	5600	7066	AOM	N4SS+5*SDGL+4		283L840	1306
5653	3044		LDD	FN+4	SET MST ADDRESS	283L840	1307
5654	1003		SHN	3		283L840	1308
5655	1602		ADN	SDGL	STORE DEVICE INTERLOCK IN CM	283L840	1309
5656	6370	7062	CWM	N4SS+5*SDGL,ON		283L840	1310
5660	0200	1226	RJM	STA	STORE DIT IN CM	283L840	1311
5662	3132		ADD	CN+2		283L840	1312
		0	ERRNZ	MISD-MSTL	CODE DEPENDS ON VALUE	283L840	1313
5663	6303	7170	CWM	DISS,T3		283L840	1314
5665	3005		LDD	T5		283L840	1315
5666	3411		STD	CM+1	SET EST ORDINAL	283L840	1316
5667	1423		LDN	CDIS		283L840	1317
5670	3413		STD	CM+3	UPDATE TABLES ON DISK	283L840	1318
5671	1443		MONITOR	STBM		283L840	1319
			LDN	0	SET IMMEDIATE RETURN	283L840	1320
5674	1102		LMN	2	CTD3	283L840	1321
5675	0100	5534	LJM	CTD6	RETURN	283L840	1322
			**		RMR - READ MRT.	283L840	1324
			*			283L840	1325
			*		ENTRY (T5) = (EQ) = EST ORDINAL.	283L840	1326
			*		(FN - FN+4) = EST ENTRY.	283L840	1327
			*			283L840	1328
			*		USES T5 - T7, CM - CM+4, CN - CN+4.	283L840	1329
			*			283L840	1330
			*		CALLS PTA, RDS, STA.	283L840	1331
			*			283L840	1332
			*		MACROS ENDMS, SETMS.	283L840	1333
						283L840	1334
						283L840	1335
5677	0100	5677	RMR	SUBR	ENTRY/EXIT	283L840	1336
5701	3040		LDD	FN		283L840	1337
5702	1010		SHN	21-11		283L840	1338
5703	0673		PJN	RMRX	IF DEVICE NOT SHARED	283L840	1339
5704	1005		SHN	21-4-21+11		283L840	1340

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5705	0627		PJN	RMR1	IF NOT ISD	283L840	1341	
5706	3054		LDD	RS		283L840	1342	
5707	1270		LPN	FLMK		283L840	1343	
5710	1120		LMN	FLTB		283L840	1344	
5711	0565		NJN	RMRX	IF FILES NOT RECOVERED FROM MS TABLES	283L840	1345	
5712	3055		LDD	RA		283L840	1346	
5713	1006		SHN	6		283L840	1347	
5714	3147		ADD	AL	FETCH LABEL SECTOR	283L840	1348	
5715	1613		ADN	DILL		283L840	1349	
5716	6007		CRD	T7		283L840	1350	
5717	3044		LDD	FN+4	GET LABEL TRACK	283L840	1351	
5720	1003		SHN	3		283L840	1352	
5721	1603		ADN	ALGL		283L840	1353	
5722	6010		CRD	CM		283L840	1354	
5723	1611		ADN	DULL-ALGL	GET MACHINE INDEX	283L840	1355	
5724	6030		CRD	CN		283L840	1356	
5725	3011		LDD	CM+1	SET LABEL TRACK	283L840	1357	
5726	3406		STD	T6		283L840	1358	
5727	3032		LDD	CN+2	SET MRT SECTOR	283L840	1359	
5730	1217		LPN	17		283L840	1360	
5731	1617		ADN	MRTL		283L840	1361	
5732	3507		RAD	T7		283L840	1362	
5733	0315		UJN	RMR2	READ MRT	283L840	1363	
5734	2000 0122		RMR1	LDK	MMFL	GET LINK DEVICE EST ORDINAL	283L840	1365
5736	6030		CRD	CN		283L840	1366	
5737	3031		LDD	CN+1		283L840	1367	
5740	2200 0777		LPC	777		283L840	1368	
5742	3405		STD	T5		283L840	1369	
5743	3045		LDD	TS	SET MST/TRT TRACK FOR DEVICE	283L840	1370	
5744	3406		STD	T6		283L840	1371	
5745	3034		LDD	CN+4	SET MRT SECTOR FOR THIS MACHINE	283L840	1372	
5746	1610		ADN	MRST-1		283L840	1373	
5747	3407		STD	T7		283L840	1374	
5750	2002 0000		RMR2	SETMS	IO,DF	283L840	1375	
5754	2000 6776		LDC	BFMS		283L840	1376	
5756	0200 0530		RJM	RDS		283L840	1377	
5760	0200 0535		ENDMS			283L840	1378	
5762	3053		LDD	EQ	RESTORE (T5)	283L840	1379	
5763	3405		STD	T5		283L840	1380	
						283L840	1381	
			*		COPY MRT TO CM AT THE END OF THE TRT.	283L840	1382	
						283L840	1383	
5764	0200 1206		RJM	PTA	PRESET TRT ADDRESS	283L840	1384	
5766	3044		LDD	FN+4	GET TRT LENGTH	283L840	1385	
5767	1003		SHN	3		283L840	1386	
			ADK	TDGL		283L840	1387	
5770	6010		CRD	CM		283L840	1388	
5771	3012		LDD	CM+2	SET MRT LENGTH	283L840	1389	
5772	3400		STD	T0	SAVE TRT LENGTH	283L840	1390	
5773	1607		ADN	7		283L840	1391	
5774	1074		SHN	-3		283L840	1392	
5775	3412		STD	CM+2		283L840	1393	
5776	0200 1226		RJM	STA	SET TRT FWA	283L840	1394	
6000	3100		ADD	T0		283L840	1395	
6001	6312 7000		CWM	BFMS+2,CM+2	COPY MRT TO CM	283L840	1396	
6003	0100 5677		LJM	RMRX	RETURN	283L840	1397	

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Line	Address	Label	Code	Subroutine	Description	MSM	Address
		**	EMT		ENTER MST PARAMETERS FROM LABEL.	MSM	8399
		*				MSM	8400
		*	ENTRY	(FN - FN+4)	= EST ENTRY.	MSM	8401
		*		(FS - FS+4)	= STLL WORD.	MSM	8402
		*		(T5)	= EST ORDINAL.	MSM	8403
		*		(RS)	= RECOVERY STATUS.	MSM	8404
		*		(MBUF)	= LABEL MST.	MSM	8405
		*				MSM	8406
		*	EXIT		MST UPDATED TO REFLECT DEVICE LOADED.	MSM	8407
		*			EST UPDATED TO REFLECT DEVICE LOADED.	MSM	8408
		*			DEVICE SET AVAILABLE.	MSM	8409
		*				MSM	8410
		*	USES	T1, T2, CM - CM+4, CN - CN+4.		MSM	8411
		*				MSM	8412
		*			MACROS MONITOR, SFA.	MSM	8413
						MSM	8414
						MSM	8415
15	6033	0100 6033	EMT	SUBR	ENTRY/EXIT	MSM	8416
16	6035	3040		LDD	FN	MSM	8417
17	6036	2200 7667		LPC	7667	MSM	8418
18		6037	EMTB	EQU	*-1	MSM	8419
19			*	LPC	7767 (*CMS* CALL)	MSM	8420
20	6040	3440		STD	FN	MSM	8421
21	6041	3044		LDD	FN+4	MSM	8422
					FETCH MST DRIVER WORD		
22	6042	1003		SHN	3	MSM	8423
23	6043	1606		ADN	MDGL	MSM	8424
24	6044	6010		CRD	CM	MSM	8425
25	6045	3010		LDD	CM	MSM	8426
					RETAIN *R* STATUS AND DAT INDEX		
26	6046	2200 4377		LPC	4377	MSM	8427
27	6050	3410		STD	CM	MSM	8428
28	6051	1400		LDN	0	MSM	8429
29	6052	3402		STD	T2	MSM	8430
30	6053	5400 3667		STM	MBUF+5*NVGL+4	MSM	8431
					CLEAR UNITS RESERVED TO *NVE*		
31	6055	3054		LDD	RS	MSM	8432
32	6056	0511		NJN	EMT1	MSM	8433
					IF RECOVERY SELECTED		
33	6057	5400 3724		STM	MBUF+5*STLL+3	MSM	8434
					CLEAR ACTIVE USER COUNT		
34	6061	5400 3715		STM	MBUF+5*DULL+1	MSM	8435
					CLEAR PF INTERLOCK AND COUNT		
35	6063	5400 3717		STM	MBUF+5*DULL+3	MSM	8436
					CLEAR SYSTEM TABLE TRACK		
36	6065	5400 3720		STM	MBUF+5*DULL+4	MSM	8437
					CLEAR ACTIVE USER COUNT		
37	6067	3046	EMT1	LDD	RE	MSM	8438
					CLEAR UNAVAILABLE STATUS		
38	6070	2200 7677		LPC	7677	MSM	8439
39	6072	3446		STD	RE	MSM	8440
40	6073	1202		LPN	2	MSM	8441
41	6074	0534		NJN	EMT3	MSM	8442
					IF DEVICE ACCESSED PREVIOUSLY		
42	6075	3054		LDD	RS	MSM	8443
43	6076	0525		NJN	EMT2	MSM	8444
					IF RECOVERY DEADSTART		
44	6077	5000 3630		LDM	MBUF+5*ACGL+3	MSM	8445
					SAVE *IQFT* TRACK		
45	6101	3402		STD	T2	MSM	8446
46	6102	1400		LDN	0	MSM	8447
					CLEAR *IQFT* POINTER		
47	6103	5400 3630		STM	MBUF+5*ACGL+3	MSM	8448
48	6105	5000 3625		LDM	MBUF+5*ACGL+0	NS2783	1
					CLEAR *DAS* PARITY DEVICE ACCESS FLAGS		
49	6107	1317		SCN	17	NS2783	2
50	6110	5400 3625		STM	MBUF+5*ACGL+0	NS2783	3
51	6112	3043		LDD	FN+3	NS2783	4
					CHECK DEVICE TYPE		
52	6113	2300 0405		LMC	2RDE	NS2783	5
53	6115	0406		ZJN	EMT2	NS2783	6
					IF *DE* DEVICE		
54	6116	1125		LMN	2RDP&2RDE	NS2783	7

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6117	0404		ZJN	EMT2	IF *DP* DEVICE	NS2783	8	
6120	1400		LDN	0	CLEAR *DAS* PARITY DEVICE FIELDS	NS2783	9	
6121	5400	3626	STM	MBUF+5*ACGL+1		NS2783	10	
6123	3044		EMT2	LDD	FN+4	STORE DEVICE ACTIVITY WORD	MSM	8449
6124	1003		SHN	3		MSM	8450	
6125	1601		ADN	ACGL		MSM	8451	
6126	6370	3625	CWM	MBUF+5*ACGL,ON		MSM	8452	
6130	5000	3724	EMT3	LDM	MBUF+5*STLL+3	RETAIN ACTIVE USER COUNT	MSM	8453
6132	3423		STD	FS+3		MSM	8454	
6133	5000	3656	LDM	MBUF+5*MDGL	SET *X* AND 16-WORD PFC STATUS FROM LABEL	MSM	8455	
6135	2200	3000	LPC	3000		MSM	8456	
6137	3510		RAD	CM		MSM	8457	
6140	3040		LDD	FN	SET MACHINE INDEX FOR DEVICE	MSM	8458	
6141	1015		SHN	21-4		MSM	8459	
6142	0704		MJN	EMT4	IF ISD	MSM	8460	
6143	1400		EMTA	LDN	0 (MACHINE INDEX - 1)	MSM	8461	
6144	5400	3716	STM	MBUF+5*DULL+2		MSM	8462	
6146	3044		EMT4	LDD	FN+4	STORE ALLOCATION AND DEVICE DESCRIPTION	MSM	8463
6147	1003		SHN	3		MSM	8464	
6150	1603		ADN	ALGL		MSM	8465	
		0	ERRNZ	PFGL-ALGL-1	ADJUST IF *PFGL* POSITION CHANGES	MSM	8466	
		0	ERRNZ	PUGL-ALGL-2	ADJUST IF *PUGL* POSITION CHANGES	MSM	8467	
6151	6373	3637	CWM	MBUF+5*ALGL,TR		MSM	8468	
			ADK	MDGL-ALGL-3	STORE DRIVER WORD	MSM	8469	
6153	6210		CWD	CM		MSM	8470	
6154	3044		LDD	FN+4	PRESERVE BAT ADDRESS	283L840	1399	
6155	1003		SHN	3		283L840	1400	
6156	1607		ADN	NVGL		283L840	1401	
6157	6010		CRD	CM		283L840	1402	
6160	3011		LDD	CM+1		283L840	1403	
6161	5400	3664	STM	MBUF+5*NVGL+1		283L840	1404	
6163	3012		LDD	CM+2		283L840	1405	
6164	5400	3665	STM	MBUF+5*NVGL+2		283L840	1406	
6166	3044		LDD	FN+4	STORE BAT PARAMETERS	283L840	1407	
6167	1003		SHN	3		283L840	1408	
6170	1607		ADN	NVGL		283L840	1409	
		0	ERRNZ	NVGL+1-ISGL	CODE DEPENDS ON VALUE	MSM	8472	
		0	ERRNZ	ISGL+1-I2GL	CODE DEPENDS ON VALUE	MSM	8473	
6171	6373	3663	CWM	MBUF+5*NVGL,TR		MSM	8474	
6173	1602		ADN	DULL-NVGL-3	STORE DEVICE USAGE INFORMATION	MSM	8475	
6174	6370	3714	CWM	MBUF+5*DULL,ON		MSM	8476	
6176	6220		CWD	FS	STORE DEVICE STATUS	MSM	8477	
6177	3005		SFA	EST,T5	SET EQUIPMENT AVAILABLE IN EST	MSM	8478	
			ADK	EQDE		MSM	8479	
6202	6240		CWD	FN		MSM	8480	
6203	3002		LDD	T2		MSM	8481	
6204	0407		ZJN	EMT5	IF NO *IQFT*	MSM	8482	
6205	3412		STD	CM+2		MSM	8483	
6206	3005		LDD	T5	RELEASE *IQFT* TRACK CHAIN	MSM	8484	
6207	3411		STD	CM+1		MSM	8485	
6210	1433		MONITOR	DTKM		MSM	8486	
6213	0100	6033	EMT5	LJM	EMTX	RETURN	MSM	8487

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**      ETT - EDIT TRACK TABLE.                      MSM      8489
*
*      ENTRY  (CA) = ADDRESS OF CM BUFFER CONTAINING TRT.  MSM      8490
*      (FN - FN+4) = EST ENTRY.                          MSM      8491
*      (MBUF) = LABEL MST.                               MSM      8492
*
*      EXIT   (A) = 0 IF COPY SUCCESSFUL.                 MSM      8493
*      (A) .LT. 0 IF ERROR IN EDITING.                   MSM      8494
*      ALL NON-PRESERVED FILE CHAINS RELEASED.           MSM      8495
*
*      USES   T1, T2, T6, T7, P1, CM - CM+4.             MSM      8496
*
*      CALLS  PTA, RTC, STF.                              MSM      8497

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Line	Address	Subr	Code	Comments	MSM
13	6215	0100 6215	ETT	SUBR ENTRY/EXIT	8504
14	6217	3044	LDD	FN+4 GET TRT LENGTH	8509
15	6220	1003	SHN	3	8510
16			ADK	TDGL	8511
17	6221	6010	CRD	CM	8512
18	6222	3012	LDD	CM+2 SET TRT LENGTH	8513
19	6223	3466	STD	P1	8514
20	6224	0200 1206	RJM	PTA PRESET FWA OF TRT	8515
21	6226	1400	LDN	0 CLEAR WORD AND BYTE INDEX	8516
22	6227	3406	STD	T6	8517
23	6230	3407	STD	T7	8518
24	6231	5400 3627	STM	MBUF+5*ACGL+2 CLEAR PRESERVED FILE COUNT	8519
25	6233	3055	ETT1	LDD RA READ BUFFER WORD	8520
26	6234	1006	SHN	6	8521
27	6235	3164	ADD	CA	8522
28	6236	3106	ADD	T6	8523
29	6237	6010	CRD	CM	8524
30	6240	3014	LDD	CM+4 SET PRESERVED FILE IDENTIFIERS	8525
31	6241	2200 7400	LPC	7400	8526
32	6243	5400 6260	STM	ETTB SET BIT MASK	8527
33	6245	5007 0010	LDM	CM,T7 CHECK FOR RESERVED TRACK	8528
34	6247	2300 3777	LMC	3777	8529
35	6251	0504	NJN	ETT2 IF NOT FLAWED TRACK	8530
36	6252	0200 6544	RJM	STF SET TRACK FLAW	8531
37	6254	0312	UJN	ETT3 ADVANCE BYTE INDEX	8532
38					8533
39	6255	5007 6317	ETT2	LDM ETTC,T7 CHECK PRESERVED FILE BIT	8534
40	6257	2200 6257	LPC	*	8535
41		6260	ETT3	EQU *-1	8536
42	6261	0405	ZJN	ETT3 IF NOT PRESERVED FILE	8537
43	6262	0200 6324	RJM	RTC RESERVE TRACK CHAIN	8538
44	6264	5600 3627	AOM	MBUF+5*ACGL+2 ADVANCE PRESERVED FILE COUNT	8539
45	6266	3607	ETT3	AOD T7 ADVANCE BYTE INDEX	8540
46	6267	1104	LMN	4	8541
47	6270	0505	NJN	ETT4 IF NOT END OF TRT WORD	8542
48	6271	3407	STD	T7	8543
49	6272	3606	AOD	T6 ADVANCE WORD INDEX	8544
50	6273	3366	LMD	P1	8545
51	6274	0403	ZJN	ETT5 IF END OF BUFFER	8546
52	6275	0100 6233	ETT4	LJM ETT1 LOOP	8547
53					8548
54	6277	5000 3663	ETT5	LDM MBUF+5*NVGL	8549

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6301	0414		ZJN	ETT7	IF NO MEDIA ERRORS RECORDED	MSM	8550
6302	1020		SHN	21-1		MSM	8551
6303	3372		LMD	TH	EXTRACT TRT WORD INDEX	MSM	8552
6304	3406		STD	T6		MSM	8553
6305	1057		SHN	1-21	FORM BYTE INDEX FROM TRACK NUMBER	MSM	8554
6306	3407		STD	T7		MSM	8555
6307	0200	6544	RJM	STF	SET TRACK FLAW	MSM	8556
6311	0503		NJN	ETT6	IF TRACK RESERVED	MSM	8557
6312	5400	3663	STM	MBUF+5*NVGL		MSM	8558
6314	1400		LDN	0		MSM	8559
6315	0100	6215	LJM	ETTX	RETURN	MSM	8560
						MSM	8561
						MSM	8562
			*		TRACK RESERVATION BITS.	MSM	8563
						MSM	8564
6317			ETTC	BSS	0	MSM	8565
6317	4010		CON	4010		MSM	8566
6320	2004		CON	2004		MSM	8567
6321	1002		CON	1002		MSM	8568
6322	0401		CON	0401		MSM	8569

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6407	1057	SHN	-20	SET BYTE INDEX	MSM	8628
6410	3402	STD	T2		MSM	8629
6411	3055	LDD	RA	READ BUFFER WORD	MSM	8630
6412	1006	SHN	6		MSM	8631
6413	3164	ADD	CA		MSM	8632
6414	3101	ADD	T1		MSM	8633
6415	6010	CRD	CM		MSM	8634
6416	0100 6331	LJM	RTC1	LOOP TO END OF CHAIN	MSM	8635

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Line	Code	Address	Label	Description	MSM	RDG
	**		RTT - RECOVER TRACK RESERVATION TABLE.		NS2552	102
	*		ENTRY (T5) = EST ORDINAL.		MSM	8638
	*		(CA+1) = CM BUFFER ADDRESS FOR TRT.		MSM	8639
	*		(FN - FN+4) = EST ENTRY.		MSM	8640
	*		EXIT (A) = 0 IF SUCCESSFUL RECOVERY.		NS2552	103
	*		= *STTL* IF TRT LENGTH ERROR.		NS2552	104
	*		= *STLK* IF TRT LINKAGE ERROR.		NS2552	105
	*		(CA) = FWA OF TRT IN CM.		MSM	8644
	*		(MBUF) = LABEL MST.		MSM	8645
	*		USES P1, T1, T3, T6, T7, CN - CN+4.		MSM	8646
	*		CALLS ATC, CTD, CTT, EMT, ETT, RMR, RDS.		MSM	8647
	*		MACROS ENDMS, MONITOR, SETMS.		NS2552	106
	*				MSM	8650
	*				MSM	8651
	*				MSM	8652
17	6420	0515	RTT4	NJN RTTX IF LENGTH ERROR	NS2552	107
18	6421	0200 6216	RJM	ETT EDIT TRACK TABLE	NS2552	108
19		6422	RTTA	EQU *-1	NS2552	109
20			*	RJM CTT (RECOVERY DEADSTART)	NS2552	110
21	6423	0512	NJN	RTTX IF LINKAGE ERROR	NS2552	111
22	6424	0200 6034	RTT5	RJM EMT ENTER MST PARAMETERS	NS2552	112
23	6426	0200 2734	RJM	ATC ADJUST TRACK COUNT	NS2552	113
24	6430	0302	RTTB	UJN **2 SKIP MRT UPDATE	NS2552	114
25	6431	5700	CON	RMR	NS2552	115
26			*	RJM RMR (RECOVERY DEADSTART)	NS2552	116
27	6432	0200 5545	RJM	CTD COPY SHARED TABLES	NS2552	117
28	6434	1400	LDN	0	NS2552	118
29					NS2552	119
30	6435	0100 6435	RTT	SUBR ENTRY/EXIT	MSM	8654
31	6437	1420	LDN	MSTL	MSM	8655
32	6440	3401	STD	T1	MSM	8656
33	6441	3055	LDD	RA READ LABEL INTO MST BUFFER	MSM	8657
34	6442	1006	SHN	6	MSM	8658
35	6443	3147	ADD	AL	MSM	8659
36	6444	6101 3620	CRM	MBUF, T1	MSM	8660
37	6446	3046	LDD	RE CHECK ESM RESIDENT TRT	MSM	8661
38	6447	2200 1002	LPC	1002	MSM	8662
39	6451	2300 1002	LMC	1002	MSM	8663
40	6453	0450	ZJN	RTT5 IF DEVICE ACCESSED PREVIOUSLY	NS2552	120
41	6454	2002 0000	SETMS	IO, DF	MSM	8665
42	6460	3065	LDD	CA+1 SET FWA FOR TRT IN CM	MSM	8666
43	6461	3464	STD	CA	MSM	8667
44	6462	5000 3640	LDM	MBUF+5*ALGL+1 SET LABEL TRACK	MSM	8668
45	6464	3406	STD	T6	MSM	8669
46	6465	5000 3707	LDM	MBUF+5*DILL SET SECTOR NUMBER	MSM	8670
47	6467	1601	ADN	FSMS	MSM	8671
48	6470	3407	STD	T7	MSM	8672
49	6471	3044	LDD	FN+4 SET LENGTH OF TRT	MSM	8673
50	6472	1003	SHN	3	MSM	8674
51			ADK	TDGL	MSM	8675
52	6473	6030	CRD	CN	MSM	8676
53	6474	3032	LDD	CN+2	MSM	8677
54	6475	3466	STD	P1	MSM	8678

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6476	2000	6776	RTT1	LDC	BFMS	READ SECTOR	MSM	8679
6500	0200	0530		RJM	RDS		MSM	8680
6502	0727			MJN	RTT2	IF MS ERROR	MSM	8681
6503	5000	6776		LDM	BFMS		MSM	8682
6505	0424			ZJN	RTT2	IF EOF/EOI	MSM	8683
6506	3407			STD	T7		MSM	8684
6507	5000	6777		LDM	BFMS+1		MSM	8685
6511	0420			ZJN	RTT2	IF END OF TRT	MSM	8686
6512	3401			STD	T1		MSM	8687
6513	3066			LDD	P1		MSM	8688
6514	3201			SBD	T1		MSM	8689
6515	0714			MJN	RTT2	IF WORD COUNT > TRT SIZE	MSM	8690
6516	3466			STD	P1		MSM	8691
6517	3055			LDD	RA	WRITE SECTOR TO CM	MSM	8692
6520	1006			SHN	6		MSM	8693
6521	3164			ADD	CA		MSM	8694
6522	6301	7000		CWM	BFMS+2,T1		MSM	8695
6524	3001			LDD	T1		MSM	8696
6525	3564			RAD	CA		MSM	8697
6526	3001			LDD	T1		MSM	8698
6527	1071			SHN	-6		MSM	8699
6530	0545			NJN	RTT1	IF NOT EOR	MSM	8700
6531	0200	0535	RTT2	ENDMS		RELEASE CHANNEL	MSM	8701
6533	3065			LDD	CA+1		MSM	8702
6534	3464			STD	CA	SET FWA OF TRT IN CM	MSM	8703
6535	3066			LDD	P1		MSM	8704
6536	0402			ZJN	RTT3	IF CORRECT TRT LENGTH	NS2552	121
6537	1406			LDN	STTL		NS2552	122
6540	0100	6420	RTT3	LJM	RTT4	COMPLETE RECOVERY	NS2552	123

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	**				STF - SET TRACK FLAW IN TRT.		MSM	8707
	*						MSM	8708
	*				ENTRY (T6) = TRT WORD INDEX.		MSM	8709
	*				(T7) = BYTE INDEX.		MSM	8710
	*				(P1) = TRT LENGTH.		MSM	8711
	*						MSM	8712
	*				EXIT (A) = 0 IF INVALID TRACK.		MSM	8713
	*						MSM	8714
	*				USES CM - CM+4.		MSM	8715
	*						MSM	8716
	*				CALLS STA.		MSM	8717
							MSM	8718
							MSM	8719
11		6542	1400	STF1	LDN 0	INDICATE INVALID TRACK	MSM	8720
12							MSM	8721
13		6543	0100 6543	STF	SUBR	ENTRY/EXIT	MSM	8722
14		6545	3006		LDD T6		MSM	8723
15		6546	3266		SBD P1		MSM	8724
16		6547	0672		PJN STF1	IF TRACK OUT OF TRT	MSM	8725
17		6550	0200 1226		RJM STA		MSM	8726
18		6552	3106		ADD T6	READ TRT WORD	MSM	8727
19		6553	6010		CRD CM		MSM	8728
20		6554	5007 6317		LDM ETTT,T7	SET TRACK RESERVATION MASK	MSM	8729
21		6556	1217		LPN 17		MSM	8730
22		6557	3400		STD T0		MSM	8731
23		6560	3314		LMD CM+4	CHECK TRACK ASSIGNMENT	MSM	8732
24		6561	3200		SBD T0		MSM	8733
25		6562	3314		LMD CM+4		MSM	8734
26		6563	0557		NJN STFX	IF RESERVED	MSM	8735
27		6564	3000		LDD T0		MSM	8736
28		6565	3514		RAD CM+4	SET TRACK RESERVED	MSM	8737
29		6566	2000 3777		LDC 3777		MSM	8738
30		6570	5407 0010		STM CM,T7	SET TRACK FLAWED	MSM	8739
31		6572	0200 1226		RJM STA		MSM	8740
32		6574	3106		ADD T6	STORE TRT WORD	MSM	8741
33		6575	6210		CWD CM		MSM	8742
34		6576	0344		UJN STFX	RETURN	MSM	8743

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Line	Address	Count	Label	Code	Value	Description	MSM	Address
			**		AUL - ASSEMBLE UNIT LIST.		MSM	8746
			*				MSM	8747
			*	ENTRY	(UC) = REQUIRED UNIT COUNT.		MSM	8748
			*		(FN - FN+4) = EST ENTRY.		MSM	8749
			*		(CN - CN+4) = UNIT DESCRIPTOR WORD (DDLL).		MSM	8750
			*				MSM	8751
			*	EXIT	(A) = 0 IF REQUIRED UNIT COUNT SATISFIED.		MSM	8752
			*		(CN - CN+4) = NEW UNIT LIST.		MSM	8753
			*		(FS - FS+4) = DEVICE STATUS WORD (STLL).		MSM	8754
			*				MSM	8755
			*	USES	T0 - T3, CM - CM+4, FS - FS+4.		MSM	8756
							MSM	8757
11	6577	3601		AUL2	AOD T1	ADVANCE UNITS TRANSFERED COUNT	MSM	8759
12	6600	1021			SHN 21-0		MSM	8760
13	6601	0702			MJN AUL3	IF NOT CROSSING BYTE BOUNDARY	MSM	8761
14	6602	3702			SOD T2	DECREMENT SOURCE ADDRESS	MSM	8762
15	6603	3630		AUL3	AOD CN	ADVANCE TOTAL UNIT COUNT	MSM	8763
16	6604	1207			LPN 7		MSM	8764
17	6605	1076			SHN -1		MSM	8765
18	6606	3400			STD T0		MSM	8766
19	6607	1434			LDN CN+4	FORM DESTINATION BYTE ADDRESS	MSM	8767
20	6610	3200			SBD T0		MSM	8768
21	6611	3403			STD T3		MSM	8769
22	6612	4002			LDI T2	EXTRACT NEXT UNIT	MSM	8770
23	6613	1014			SHN 14		MSM	8771
24	6614	4402			STI T2		MSM	8772
25	6615	1063			SHN -14		MSM	8773
26	6616	0605		AULA	PJN AUL4	IF PACKING UNIT LOW	MSM	8774
27			*		MJN AUL4	FALL THRU IF PACKING UNIT HIGH	MSM	8775
28	6617	1006			SHN 6		MSM	8776
29	6620	4303			LMI T3	ASSEMBLE UNIT DESCRIPTOR WORD	MSM	8777
30	6621	1377			SCN 77		MSM	8778
31	6622	4303			LMI T3		MSM	8779
32	6623	4403		AUL4	STI T3		MSM	8780
33	6624	3062			LDD UC		MSM	8781
34	6625	3330			LMD CN		MSM	8782
35	6626	1207			LPN 7		MSM	8783
36	6627	0410			ZJN AULX	IF REQUIRED UNIT COUNT SATISFIED	MSM	8784
37	6630	5000 6616			LDM AULA	TOGGLE UNIT PACKING TRANSFER	MSM	8785
38	6632	3371			LMD HN		MSM	8786
39	6633	5400 6616			STM AULA		MSM	8787
40	6635	3710			SOD CM		MSM	8788
41	6636	0640			PJN AUL2	IF MORE UNITS THIS EQUIPMENT	MSM	8789
42							MSM	8790
43	6637	0100 6637		AUL	SUBR	ENTRY/EXIT	MSM	8791
44	6641	3044			LDD FN+4		MSM	8792
45	6642	1003			SHN 3		MSM	8793
46	6643	1615			ADN STLL		MSM	8794
47	6644	6020			CRD FS		MSM	8795
48	6645	1601			ADN DDLL-STLL	GET UNIT DESCRIPTOR WORD	MSM	8796
49	6646	6010			CRD CM		MSM	8797
50	6647	3010			LDD CM		MSM	8798
51	6650	1207			LPN 7		MSM	8799
52	6651	3410			STD CM		MSM	8800
53	6652	3030			LDD CN	CHECK CURRENT UNIT COUNT	MSM	8801
54	6653	1201			LPN 1		MSM	8802

1412THE

6654	0402		ZJN	AUL1	IF NEXT UNIT PACKS LOW	MSM	8803
6655	3071		LDD	HN	PJNI .NOT. MJNI	MSM	8804
6656	2300 0705		LMC	MJNI+AUL4-AULA		MSM	8805
6660	5400 6616	AUL1	STM	AULA	SET INITIAL PACKING TRANSFER	MSM	8806
6662	1400		LDN	0	CLEAR UNITS UNPACKED	MSM	8807
6663	3401		STD	T1		MSM	8808
6664	1414		LDN	CM+4	SET INITIAL SOURCE ADDRESS	MSM	8809
6665	3402		STD	T2		MSM	8810
6666	0100 6603		LJM	AUL3	ENTER LOOP	MSM	8811
			**	SEC	SET EQUIPMENT CONFIGURATION.	MSM	8813
			*			MSM	8814
			*	ENTRY	(T5) = EST ORDINAL.	MSM	8815
			*		(EQ) = EST ORDINAL.	MSM	8816
			*		(FN - FN+4) = EST ENTRY.	MSM	8817
			*			MSM	8818
			*	EXIT	EST/MST SET TO ACCOMMODATE NEW CONFIGURATION.	MSM	8819
			*		ALL EXCEPT FIRST EQUIPMENT IN CHAIN SET IN USE.	MSM	8820
			*		(FS - FS+4) = STLL WORD FOR EQUIPMENT.	MSM	8821
			*		(FN - FN+4) = EST ENTRY.	MSM	8822
			*			MSM	8823
			*	USES	EC, UC, CM - CM+7, CN - CN+4.	MSM	8824
			*			MSM	8825
			*	CALLS	AUL, SES, SSL.	MSM	8826
			*			MSM	8827
			*	MACROS	SFA, SMSTF.	MSM	8828
						MSM	8829
6670	0200 3574	SEC5	RJM	SSL	SET SECTOR LIMITS	MSM	8830
6672	0100 6672	SEC	SUBR		ENTRY/EXIT	MSM	8833
6674	1400		LDN	0	CLEAR MST ERROR STATUS	MSM	8834
6675	3437		STD	EC		MSM	8835
6676	0200 2631		RJM	SES		MSM	8836
6700	3044		LDD	FN+4	READ CONFIGURATION PARAMETERS	MSM	8837
6701	1003		SHN	3		MSM	8838
6702	1606		ADN	MDGL		MSM	8839
6703	6013		CRD	CM+3		MSM	8840
6704	1702		SBN	MDGL-PFGL		MSM	8841
6705	6010		CRD	CM		MSM	8842
6706	1611		ADN	STLL-PFGL		MSM	8843
6707	6020		CRD	FS		MSM	8844
6710	1601		ADN	DDLL-STLL		MSM	8845
6711	6030		CRD	CN		MSM	8846
6712	3030		LDD	CN	SAVE CURRENT UNIT COUNT	MSM	8847
6713	1207		LPN	7		MSM	8848
6714	3400		STD	T0		MSM	8849
6715	3040		LDD	FN	CHECK EQUIPMENT STATUS	MSM	8850
6716	1011		SHN	21-10		MSM	8851
6717	0650		PJN	SEC5	IF NOT REMOVABLE DEVICE	MSM	8852
6720	3015		LDD	CM+5		MSM	8853
6721	2300 0411		LMC	2RDI		MSM	8854
6723	0412		ZJN	SEC1	IF *6DI* DRIVER	MSM	8855
6724	1103		LMN	2RDJ&2RDI		MSM	8856

1412THE

6725	0410		ZJN	SEC1	IF *6DJ* DRIVER	MSM	8857
6726	3014		LDD	CM+4	SET REQUIRED = CURRENT UNIT COUNT	MSM	8858
6727	1207		LPN	7		MSM	8859
6730	3414		STD	CM+4		MSM	8860
6731	3030		LDD	CN		MSM	8861
6732	1307		SCN	7		MSM	8862
6733	3314		LMD	CM+4		MSM	8863
6734	3430		STD	CN		MSM	8864
6735	3014		LDD	CM+4	SET REQUIRED UNIT COUNT	MSM	8865
6736	1207		LPN	7		MSM	8866
6737	3462		STD	UC		MSM	8867
6740	3200		SBD	T0		MSM	8868
6741	0424		ZJN	SEC4	IF REQUIRED = CURRENT UNIT COUNT	MSM	8869
6742	0715		MJN	SEC3	IF REQUIRED COUNT .LT. CURRENT	MSM	8870
6743	3024		LDD	FS+4	SET NEXT EQUIPMENT IN CHAIN	MSM	8871
6744	1074		SHN	-3		MSM	8872
6745	3405		STD	T5		MSM	8873
6746	0200 0245		SFA	EST	READ NEXT EQUIPMENT EST	MSM	8874
			ADK	EQDE		MSM	8875
6750	6040		CRD	FN		MSM	8876
6751	1402		SMSTF	LDIU	SET DEVICE IN USE	MSM	8877
6754	0200 6640		RJM	AUL	ASSEMBLE UNIT LIST	MSM	8878
6756	0564		NJN	SEC2	IF REQUIRED UNITS NOT ASSEMBLED	MSM	8879
6757	3530		RAD	CN		MSM	8880
6760	3053		LDD	EQ	RESTORE FIRST EQUIPMENT PARAMETERS	MSM	8881
6761	3405		STD	T5		MSM	8882
6762	0200 0245		SFA	EST		MSM	8883
			ADK	EQDE		MSM	8884
6764	6040		CRD	FN		MSM	8885
6765	3044		LDD	FN+4		MSM	8886
6766	1003		SHN	3		MSM	8887
6767	1615		ADN	STLL		MSM	8888
6770	6020		CRD	FS		MSM	8889
6771	1601		ADN	DDLL-STLL	UPDATE UNIT DESCRIPTOR WORD	MSM	8890
6772	6230		CWD	CN		MSM	8891
6773	0100 6670		LJM	SEC5	COMPLETE PROCESSING AND EXIT	MSM	8892

1 ERRNG BFMS-\* OVERFLOW INTO BUFFER 283L840 1411



\*\* PRS - PRESET OVERLAY.

283L840 1414  
MSM 8893  
MSM 8898

1	6775	0100	6775	PRS	SUBR	ENTRY/EXIT	283L840	1415	
2				*		PRESET FOR MMF PROCESSING.	MSM	8899	
3							283L840	1416	
4							283L840	1417	
5	6777	5000	2400		LDM	MMFP	283L840	1418	
6	7001	0407			ZJN	PRS1	283L840	1419	
7	7002	2000	0122		LDC	MMFL	IF DO NOT PRESET FOR MMF	MSM	8902
8	7004	6010			CRD	CM	GET MMF STATUS	MSM	8903
9	7005	3714			SOD	CM+4		MSM	8904
10	7006	5500	6143		RAM	EMTA		MSM	8905
11							283L840	1420	
12				*		PRESET FOR RECOVERY PROCESSING.	283L840	1421	
13							283L840	1422	
14	7010	3054		PRS1	LDD	RS	283L840	1423	
15	7011	0463			ZJN	PRSX	IF NOT RECOVERY DEADSTART	283L840	1424
16	7012	2000	6006		LDC	CTT		NS2552	126
17	7014	5400	6422		STM	RTTA	ENABLE RECOVERY PROCESSING	NS2552	127
18	7016	2000	0200		LDC	RJMI		NS2552	128
19	7020	5400	6430		STM	RTTB		NS2552	129
20	7022	0352			UJP	PRSX	EXIT	283L840	1425
21									
22									
23									
24									
25						QUAL	283L840	1427	
26							NS2552	131	
27		5545		CTD	EQU	/RDG/CTD	283L840	1428	
28		5700		RMR	EQU	/RDG/RMR	283L840	1429	
29		6436		RTT	EQU	/RDG/RTT	MSM	8913	
30		6673		SEC	EQU	/RDG/SEC	MSM	8914	
31									
32									
33									
34									
35						OVERFLOW ORDG,EPFW CHECK FOR OVERFLOW	272L774	75	
36									
37							OVERFLOW.1		
38		63			ERRNG	.2-.1+5-.3/500B*500B	OVERFLOW.1		
39		372			ERRNG	.3/500B*500B-*.1-5	OVERFLOW.1		
40		372			ERRNG	.4/500B*500B-*.1-5	OVERFLOW.1		
41		3			ERRNG	.3/500B	OVERFLOW.1		
42							OVERFLOW.1		
43						LIST *	OVERFLOW.1		
44									
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1412THE

QUAL RDH 283L840 1431  
 IDENT 4DH,/RDH/RDHX 283L840 1432  
 COMMENT 87/07/09. 96/06/05. MSM - DEVICE INITIALIZATION ROUTINES. MSM 8922  
 COMMENT COPYRIGHT CONTROL DATA SYSTEMS INC. 1992. 281L803 10

\*\*\* \*4DH\* CONTAINS ROUTINES UTILIZED BY \*RMS\* 283L840 1433  
 \* IN INITIALIZING MASS STORAGE EQUIPMENTS. MSM 8926

\*\* ROUTINES CALLED. MSM 8928  
 \* MSM 8929  
 \* 0PI - PRESET DRIVER TO READ/WRITE DEADSTART SECTOR. MSM 8930  
 \* 0TI - SET TRACK FLAWS IN TRT. MSM 8931

\*\*\*\* DIRECT LOCATION ASSIGNMENTS. MSM 8935  
 MSM 8936  
 MSM 8937  
 15 PB EQU RG - RI+1 FORMAT PARAMETER BLOCK (3 LOCATIONS) MSM 8938  
 62 CS EQU ET CHANNEL STATUS MSM 8939  
 66 FR EQU P1 FORMAT REQUIRED FLAG MSM 8940  
 67 LC EQU P2 LAST CYLINDER + 1 MSM 8941  
 MSM 8942  
 \*\*\*\* MSM 8943

\*\* ASSEMBLY CONSTANTS. MSM 8945  
 MSM 8946  
 MSM 8947  
 11 DC EQU 11 DISK CHANNEL MSM 8948  
 MSM 8949  
 12 FCGS EQU 12 GENERAL STATUS FUNCTION CODE MSM 8950  
 16 FCFP EQU 16 FORMAT PACK FUNCTION CODE MSM 8951  
 MSM 8952  
 22 FPBL EQU 22 FORMAT PACK PARAMETER BLOCK LENGTH MSM 8953

1412THE

5051

ORG    ORDH

283L840    1434

MSM        8956

5051

0100 5051

RDH

SUBR

ENTRY/EXIT

283L840    1435

5053

0100 6050

LJM

POV

PRESET OVERLAY

MSM        8958

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1412THE

	**					IMS - INITIALIZE MASS STORAGE.		MSM	8961
	*							MSM	8962
	*					ENTRY (EQ) = EST ORDINAL.		MSM	8963
1	*					(FN - FN+4) = EST ENTRY.		MSM	8964
2	*							MSM	8965
3	*					EXIT (A) .LT. 0 IF RECOVERY INFORMATION NOT TO		MSM	8966
4	*					BE REWRITTEN TO CM UPON RETURN TO *MRL*.		MSM	8967
5	*							MSM	8968
6	*					ERROR TO *HNG* IF SHARED DEVICE CONFLICT.		MSM	8969
7	*							MSM	8970
8	*					USES CM+3 - CM+7, CN - CN+4, FS - FS+4.		MSM	8971
9	*							MSM	8972
10	*					CALLS CSD, /RMS/CSE, IDS, UDT.		MSM	8973
11	*							MSM	8974
12	*					MACROS UJMF.		MSM	8975
13								MSM	8976
14								MSM	8977
15		5055	0200 5217		IMS5	RJM IDS INITIALIZE DEVICE STATUS		MSM	8978
16		5057	0505			NJN IMSX IF DEVICE NOT READY		MSM	8979
17		5060	0304			UJMF IMSX NON MMF TRANSFER		MSM	8980
18		5061	0200 4657			RJM UDT UPDATE DAT		MSM	8981
19		5063	0522			NJN IMS1 IF EXTENDED MEMORY TRACK UNAVAILABLE		MSM	8982
20								MSM	8983
21		5064	0100 5064		IMS	SUBR ENTRY/EXIT		MSM	8984
22		5066	1015			SHN 21-4		MSM	8985
23		5067	0674			PJN IMSX IF INITIALIZE NOT SELECTED		MSM	8986
24		5070	3044			LDD FN+4 GET FAMILY NAME/DEVICE NUMBER		MSM	8987
25		5071	1003			SHN 3		MSM	8988
26		5072	1604			ADN PFGL		MSM	8989
27		5073	6030			CRD CN		MSM	8990
28		5074	1602			ADN MDGL-PFGL GET SECTOR LIMITS		MSM	8991
29		5075	6013			CRD CM+3		MSM	8992
30		5076	1607			ADN STLL-MDGL FETCH DEVICE STATUS		MSM	8993
31		5077	6020			CRD FS		MSM	8994
32		5100	0200 1673			RJM /RMS/CSE CHECK SYSTEM EQUIPMENT		MSM	8995
33		5102	0352			UJMF IMS5 NON MMF TRANSFER		MSM	8996
34		5103	0200 4105			RJM CSD CHECK SHARED DEVICE STATUS		MSM	8997
35		5105	0516		IMS1	NJN IMS4 IF DAT CONFLICT		MSM	8998
36		5106	3002			LDD T2		MSM	8999
37		5107	0445		IMS2	ZJN IMS5 IF DEVICE NOT DESCRIBED IN DAT		MSM	9000
38		5110	4002			LDI T2		MSM	9001
39		5111	2277 7777			LPC -0		MSM	9002
40								MSM	9003
41		5113	4402		IMSA	EQU *-1		MSM	9004
42		5114	0440			ZJN IMS5 IF DEVICE NOT ACTIVE IN DAT		MSM	9005
43		5115	5000 2372			LDM DATB+4		MSM	9006
44		5117	0402			ZJN IMS3 IF NON-SHARED DEVICE		MSM	9007
45		5120	1402			LDN CSDC-CSDB		MSM	9008
46		5121	2100 4206		IMS3	ADC CSDB		MSM	9009
47		5123	0100 1474		IMS4	LJM /RMS/HNG DISPLAY ERROR AND HANG PP		MSM	9010

1412THE

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**      CFR - CHECK FOR FORMAT REQUEST.                283L840  1437
*
*      ENTRY  (A) = 0 IF DEADSTART SECTOR READ BY *RCS*. 283L840  1438
*      (AM) = ALGORITHM INDEX.                          283L840  1439
*      (CS) = CHANNEL STATUS.                            283L840  1440
*      (FR) = FORMAT REQUIRED FLAG.                       283L840  1441
*      (LC) = FIRST CYLINDER OF *CTI* SPACE.             283L840  1442
*      (T5) = EST ORDINAL.                               283L840  1443
*      (T6) = TRACK CONTAINING DEADSTART SECTOR.        283L840  1444
*      (T7) = DEADSTART SECTOR.                         283L840  1445
*      (FN - FN+4) = EST ENTRY.                         283L840  1446
*      (FS - FS+4) = *STLL* WORD OF MST.                283L840  1447

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*      USES  T3.                                         283L840  1449
*
*      CALLS  *4DI*.                                     283L840  1450
*
*      MACROS EXECUTE.                                   283L840  1451

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Address	Code	Label	Subroutine	Description	Address	Code	Label	Subroutine	Description
5125	0100	5125	CFR	ENTRY/EXIT	283L840				1455
5127	3403		STD	T3	283L840				1456
5130	3066		LDD	FR	283L840				1457
5131	0504		NJN	CFR1	283L840			IF FORMAT REQUIRED	1458
5132	3020		LDD	FS	283L840				1459
5133	1006		SHN	21-LFPR+LFPR/12D*12D	283L840				1460
5134	0670		PJN	CFRX	283L840			IF DEVICE NOT BEING FORMATTED	1461
5135	3057		CFR1	LDD	283L840			AM	1462
5136	1117		LMN	AIDC	283L840				1463
5137	0565		NJN	CFRX	283L840			IF NOT 895 DEVICE	1464
5140	3062		LDD	CS	283L840				1465
5141	0463		ZJN	CFRX	283L840			IF ALL CONCURRENT CHANNELS	1466
5142	2037	0411	EXECUTE	4DI	283L840			FORMAT 895 DEVICE	1467
5146	0356		UJN	CFRX	283L840			RETURN	1468

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**      CTF - CHECK TRACK FLAWED IN TRT.                MSM      9013
*
*      ENTRY  (A) = TRACK NUMBER.                       MSM      9014
*
*      EXIT  (A) = 0 IF TRACK FLAWED.                   MSM      9015
*
*      USES  T0, T1, CM - CM+4.                         MSM      9017
*
*      CALLS  STA.                                       MSM      9018

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Address	Code	Label	Subroutine	Description	Address	Code	Label	Subroutine	Description
5147	0100	5147	CTF	ENTRY/EXIT	MSM				9019
5151	2200	3777	LPC	3777	MSM			UNPACK TRACK	9020
5153	1020		SHN	21-1	MSM			SET TRT WORD INDEX	9021
5154	3400		STD	T0	MSM				9022
5155	1057		SHN	1-21	MSM			SET BYTE INDEX	9023
5156	3401		STD	T1	MSM				9024
5157	0200	1226	RJM	STA	MSM			SET FWA OF TRT	9025
5161	3100		ADD	T0	MSM				9026

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5162	6010		CRD	CM			MSM	9033
5163	5001 0010		LDM	CM,T1	CHECK TRACK		MSM	9034
5165	2300 3777		LMC	3777			MSM	9035
5167	0357		UJN	CTFX	RETURN		MSM	9036

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**      FBT - FLAW BLOCK OF TRACKS IN TRT.                NS2776      8
*
*      ENTRY  (T3) = FIRST TRACK NUMBER.                  NS2776      9
*              (CN) = LAST TRACK NUMBER + 1.              NS2776     10
*              (T5) = EST ORDINAL.                        NS2776     11
*
*      EXIT  ALL TRACKS FLAWED IN SPECIFIED BLOCK.        NS2776     12
*
*      USES  T3, CM - CM+4.                                NS2776     13
*
*      CALLS CTF.                                          NS2776     14
*
*      MACROS MONITOR.                                     NS2776     15

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5170	0100 5170		FBT	SUBR	ENTRY/EXIT		NS2776	23
5172	3003		FBT1	LDD T3	CHECK TRACK FLAWED		NS2776	24
5173	0200 5150		RJM	CTF			NS2776	25
5175	0412		ZJN	FBT2	IF TRACK ALREADY FLAWED		NS2776	26
5176	3005		LDD	T5			NS2776	27
5177	3411		STD	CM+1			NS2776	28
5200	3003		LDD	T3			NS2776	29
5201	3412		STD	CM+2			NS2776	30
5202	1400		LDN	STFS	FLAW TRACK IN TRT		NS2776	31
5203	3413		STD	CM+3			NS2776	32
5204	1443			MONITOR STBM			NS2776	33
5207	3603		FBT2	AOD T3	ADVANCE TRACK NUMBER		NS2776	34
5210	3330		LMD	CN			NS2776	35
5211	0560		NJN	FBT1	IF NOT END OF TRACKS TO FLAW		NS2776	36
5212	0355		UJN	FBTX	RETURN		NS2776	37

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**      IDS - INITIALIZE DEVICE.                            MSM          9092
*
*      ENTRY  (EQ) = (T5) = EST ORDINAL.                  MSM          9093
*              (FN - FN+4) = EST ENTRY.                   MSM          9094
*              (FS - FS+4) = STLL WORD.                   MSM          9095
*
*      EXIT  (A) = 0 IF DEVICE SET TO INITIALIZE.         MSM          9096
*              LABEL TRACK ASSIGNED.                      MSM          9097
*
*      USES  CS, T1, T3, T6, CM - CM+4, CN - CN+4.        MSM          9098
*
*      CALLS CFR, CTF, IFM, PTA, PTF, RCS, SNC.           MSM          9099
*
*      MACROS ENDMS, MONITOR, SETMS, SFA, SMSTF.          MSM          9100

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	5213	1400		IDS7	LDN	0		INHIBIT FURTHER PROCESSING OF DEVICE	MSM	9107
	5214	3446			STD	RE			MSM	9108
	5215	1401			LDN	1		INDICATE DEVICE NOT INITIALIZED	MSM	9109
1									MSM	9110
2									MSM	9111
3	5216	0100	5216	IDS	SUBR			ENTRY/EXIT	MSM	9112
4	5220	3040			LDD	FN			MSM	9113
5	5221	1202			LPN	2			MSM	9114
6	5222	0570			NJN	IDS7		IF DEVICE OFF OR DOWN	MSM	9115
7	5223	1464			SMSTF	LPTU		PROHIBIT TRT UPDATE BY *1RU*	MSM	9116
8	5226	0200	1206		RJM	PTA		PRESET FWA OF TRT	MSM	9117
9	5230	3040			LDD	FN		CHECK EQUIPMENT TYPE	MSM	9118
10	5231	2200	0200		LPC	200			MSM	9119
11	5233	5400	5515		STM	PFTA		SET LDAM FLAG FOR *PFT* ROUTINE	MSM	9120
12	5235	0412			ZJN	IDS1		IF NOT *LDAM* DEVICE	MSM	9121
13	5236	0200	5710		RJM	SNC		SELECT NIO CHANNEL	MSM	9122
14	5240	3462			STD	CS			MSM	9123
15	5241	0200	5430		RJM	IFM		INTERPRET FLAW MAP	MSM	9124
16	5243	0200	5531		RJM	RCS		RESERVE *CTI* SPACE	MSM	9125
17	5245	0200	5126		RJM	CFR		CHECK FOR FORMAT REQUEST	283L840	1472
18	5247	1466		IDS1	LDN	ZERL		REQUEST LABEL TRACK	MSM	9127
19	5250	6010			CRD	CM			MSM	9128
20	5251	3005			LDD	T5			MSM	9129
21	5252	3411			STD	CM+1			MSM	9130
22	5253	1441			MONITOR	RTCM			MSM	9131
23				*	LDN	0		SET SECTOR	MSM	9132
24	5256	3407			STD	T7			MSM	9133
25	5257	3014			LDD	CM+4		SET LABEL TRACK	MSM	9134
26	5260	3406			STD	T6			MSM	9135
27	5261	0503			ZJP	IDS2		IF NO TRACK ASSIGNED	MSM	9136
28	5264	3412			STD	CM+2			MSM	9137
29	5265	1404			LDN	SPFS		SET PRESERVED FILE STATUS	MSM	9138
30	5266	3413			STD	CM+3			MSM	9139
31	5267	1443			MONITOR	STBM			MSM	9140
32	5272	3044			LDD	FN+4		READ *ALGL*	MSM	9141
33	5273	1003			SHN	3			MSM	9142
34					ADK	TDGL			MSM	9143
35	5274	6010			CRD	CM			MSM	9144
36	5275	1603			ADN	ALGL-TDGL			MSM	9145
37	5276	6030			CRD	CN			MSM	9146
38	5277	3010			LDD	CM		SET TRACK COUNT	MSM	9147
39	5300	3403			STD	T3			MSM	9148
40	5301	3006			LDD	T6		SET LABEL TRACK	MSM	9149
41	5302	3431			STD	CN+1			MSM	9150
42	5303	3044			LDD	FN+4		STORE *ALGL*	MSM	9151
43	5304	1003			SHN	3			MSM	9152
44	5305	1603			ADN	ALGL			MSM	9153
45	5306	6230			CWD	CN			MSM	9154
46	5307	3040			LDD	FN		SET DEVICE AS AVAILABLE	MSM	9155
47	5310	2200	7667		LPC	7667			MSM	9156
48	5312	1110			LMN	10		SET DEVICE ACTIVE	MSM	9157
49	5313	3440			STD	FN			MSM	9158
50	5314	3046			LDD	RE			MSM	9159
51	5315	2200	7677		LPC	7677			MSM	9160
52	5317	3446			STD	RE			MSM	9161
53	5320	3005			SFA	EST,T5		WRITE EST ENTRY	MSM	9162
54					ADK	EQDE			MSM	9163

5323	6240		CWD	FN		MSM	9164
5324	2000 0501		LDC	501	BUFFER INDEX	MSM	9165
5326	3401		STD	T1		MSM	9166
5327	2000 4017		LDC	LTKL-1		MSM	9167
5331	3206		SBD	T6		MSM	9168
5332	0605		PJN	IDS3	IF LABEL TRACK WITHIN RANGE	MSM	9169
5333	2000 5401	IDS2	LDC	IDSA		MSM	9170
5335	0100 1474		LJM	/RMS/HNG	ISSUE ERROR MESSAGE AND HANG	MSM	9171
						MSM	9172
		*			PREWRITE ALL POTENTIAL LABEL TRACKS THAT ARE FLAWED.	MSM	9173
						MSM	9174
5337	1400	IDS3	LDN	0	CLEAR SECTOR BUFFER	MSM	9175
5340	5401 6776		STM	BFMS,T1		MSM	9176
5342	3701		SOD	T1		MSM	9177
5343	0673		PJN	IDS3	IF MORE TO CLEAR	MSM	9178
5344	1070		SHN	-7		MSM	9179
5345	5400 7000		STM	FNSS	SET FLAW INDICATOR	MSM	9180
5347	2002 0710		SETMS	IO,(SM,AR,DF)		MSM	9181
5353	0200 5507		RJM	PFT	PREWRITE LABEL TRACK	MSM	9182
5355	2000 4000		LDC	FLTK		MSM	9183
5357	3406		STD	T6		MSM	9184
5360	3006	IDS4	LDD	T6	CHECK TRACK FLAWED	MSM	9185
5361	0200 5150		RJM	CTF		MSM	9186
5363	0504		NJN	IDS5	IF NOT FLAWED	MSM	9187
5364	3407		STD	T7		MSM	9188
5365	0200 5507		RJM	PFT	PREWRITE FLAWED TRACK	MSM	9189
5367	3703	IDS5	SOD	T3		MSM	9190
5370	0405		ZJN	IDS6	IF END OF TRACKS ON DEVICE	MSM	9191
5371	3606		AOD	T6		MSM	9192
5372	2300 4020		LMC	LTKL		MSM	9193
5374	0563		NJN	IDS4	IF NOT ALL POSSIBLE LABEL TRACKS	MSM	9194
5375	0200 0535	IDS6	ENDMS			MSM	9195
		*	LDN	0		MSM	9196
5377	0100 5216		LJM	IDSX	RETURN	MSM	9197
						MSM	9198
						MSM	9199
5401	1401	IDSA	DATA	C*LABEL TRACK CONFLICT.*		MSM	9200
		**			IFM - INTERPRET FLAW MAP.	MSM	9202
		*				MSM	9203
		*	ENTRY	(EQ) = (T5) = EST ORDINAL.		MSM	9204
		*		(FS - FS+4) = MST STATUS WORD (STLL).		MSM	9205
		*		(FN - FN+4) = EST ENTRY FOR EQUIPMENT.		MSM	9206
		*		(CS) = CHANNEL STATUS.		MSM	9207
		*				MSM	9208
		*	EXIT	(T5) = EQUIPMENT.		MSM	9209
		*		(AM) = ALGORITHM INDEX.		MSM	9210
		*		FLAWS SET IN TRT FOR *LDAM* TYPE EQUIPMENT.		MSM	9211
		*				MSM	9212
		*	EREXIT	(A) .NE. 0 IF REMOVABLE *LDAM* DEVICE NOT READY.		MSM	9213
		*		TO *IDSX* IF REMOVABLE *LDAM* DEVICE NOT READY.		MSM	9214
		*				MSM	9215
		*	USES	T3, CM - CM+4, FS - FS+1.		MSM	9216
		*				MSM	9217



				**				PFT - PREWRITE FLAWED TRACK.	MSM	9380
				*					MSM	9381
				*				ENTRY (T4 - T7) = MASS STORAGE PARAMETERS.	MSM	9382
				*				(PFTA) .NE. 0 IF *LDAM* DEVICE.	MSM	9383
				*				DRIVER PRESET.	MSM	9384
				*					MSM	9385
				*				CALLS WDS.	MSM	9386
									MSM	9387
									MSM	9388
	5506	0100	5506		PFT	SUBR		ENTRY/EXIT	MSM	9389
	5510	2030	6776		PFT2	LDC	BFMS+WCSF	WRITE SECTOR	MSM	9390
	5512	0200	0532			RJM	WDS		MSM	9391
	5514	2000	0000			LDC	0		MSM	9392
			5515		PFTA	EQU	*-1		MSM	9393
	5516	0467				ZJN	PFTX	IF NOT *LDAM* DEVICE	MSM	9394
	5517	3607				AOD	T7		MSM	9395
	5520	5300	0107			LMM	SLM		MSM	9396
	5522	0565				NJN	PFT2	IF NOT END OF TRACK	MSM	9397
	5523	0362				UJN	PFTX	RETURN	MSM	9398
				**				RCS - RESERVE *CTI* SPACE.	MSM	9400
				*					MSM	9401
				*				ENTRY (EQ) = EST ORDINAL.	MSM	9402
				*				(AM) = ALGORITHM INDEX.	MSM	9403
				*				(FN+4) = MST POINTER.	MSM	9404
				*				(CS) = CHANNELS STATUS.	MSM	9405
				*					MSM	9406
				*				EXIT (A) = 0 IF DEADSTART SECTOR READ WITHOUT ERROR.	MSM	9407
				*				(FR) = 0 IF FORMAT UNREQUIRED (*CIP* SPACE INTACT).	MSM	9408
				*				(LC) = FIRST CYLINDER OF *CTI* SPACE.	MSM	9409
				*				(T5) = EST ORDINAL.	MSM	9410
				*				(T6) = TRACK CONTAINING DEADSTART SECTOR.	MSM	9411
				*				(T7) = DEADSTART SECTOR.	MSM	9412
				*				*CTI* SPACE FLAWED IN TRT.	MSM	9413
				*					MSM	9414
				*				USES T3, T9, CM - CM+4, CN - CN+4.	NS2776	38
				*					MSM	9416
				*				CALLS FBT, RDS, WDS, *0PI*.	NS2776	39
				*					MSM	9418
				*				MACROS ENDMS, EXECUTE, SMSTF.	NS2776	40
									MSM	9420
									MSM	9421
	5524	2000	0000		RCS8	LDC	**	CHECK DEADSTART SECTOR	NS2776	41
			5525		RCSA	EQU	*-1		NS2776	42
	5526	0502				NJN	RCSX	IF NO VALID DEADSTART SECTOR	NS2776	43
	5527	3066				LDD	FR	FORMAT REQUIRED STATUS	NS2776	44
									MSM	9423
	5530	0100	5530		RCS	SUBR		ENTRY/EXIT	MSM	9424
	5532	1400				LDN	0		MSM	9425
	5533	3466				STD	FR	CLEAR FORMAT REQUIRED	MSM	9426
	5534	3467				STD	LC		MSM	9427
	5535	3062				LDD	CS		MSM	9428
	5536	0471				ZJN	RCSX	IF ALL CONCURRENT CHANNELS	MSM	9429
	5537	3053				LDD	EQ	SET PARAMETER WORD	MSM	9430

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5540	2300	4000	LMC	4000		MSM	9431	
5542	5400	6050	STM	MIPA		MSM	9432	
5544	2000	6051	EXECUTE	0PI,MILA	READ DEADSTART SECTOR	MSM	9433	
5553	5400	5525	STM	RCSA		NS2776	45	
5555	0525		NJN	RCS1.1	IF NOT A VALID DEADSTART SECTOR	NS2776	46	
5556	0200	0535	ENDMS			MSM	9435	
5560	5000	7430	LDM	BFMS+CFBP	EXTRACT FORMAT REQUIRED FLAG	MSM	9436	
5562	1240		LPN	40		MSM	9437	
5563	3466		STD	FR		MSM	9438	
5564	5300	7430	LMM	BFMS+CFBP	CLEAR FORMAT REQUIRED FLAG	MSM	9439	
5566	5400	7430	STM	BFMS+CFBP		MSM	9440	
5570	5000	7444	LDM	BFMS+MSLP		MSM	9441	
5572	0506		NJN	RCS1	IF *MSL* INSTALLED	MSM	9442	
5573	5000	7435	LDM	BFMS+CDAP		MSM	9443	
5575	0503		NJN	RCS1	IF COMMON DISK AREA INSTALLED	MSM	9444	
5576	5000	7432	LDM	BFMS+CTIP		MSM	9445	
5600	3467		RCS1	STD	LC	MSM	9446	
5601	0510		NJN	RCS1.2	IF *CTI* INSTALLED	NS2776	47	
5602	3057		RCS1.1	LDD	AM	NS2776	48	
5603	1107		LMN	AIDR		NS2776	49	
5604	0403		NJP	RCS8	IF NOT CDSS II	NS2776	50	
5607	2000	1510	LDC	840D	FIRST CYLINDER OF AREA TO BE FLAWED	NS2776	51	
5611	1001		RCS1.2	SHN	1	NS2776	52	
5612	3403		STD	T3		MSM	9449	
5613	3044		LDD	FN+4	GET DEVICE LENGTH FROM MST	MSM	9450	
5614	1003		SHN	3		MSM	9451	
			ADK	TDGL		MSM	9452	
5615	6030		CRD	CN		MSM	9453	
5616	3057		LDD	AM		MSM	9454	
5617	1115		LMN	AIDA		MSM	9455	
5620	0507		NJN	RCS2	IF NOT 33502	MSM	9456	
5621	3003		LDD	T3		MSM	9457	
5622	1076		SHN	-1		MSM	9458	
5623	2100	1060	ADC	NTDA/2	COMPLETE CYLINDER TO TRACK CONVERSION	MSM	9459	
5625	3403		STD	T3		MSM	9460	
5626	0327		UJN	RCS4	FLAW TRACKS	MSM	9461	
						MSM	9462	
5627	1114		RCS2	LMN	AIDI&AIDA	MSM	9463	
5630	0423		ZJN	RCS3	IF 7X54/844-21	MSM	9464	
5631	1105		LMN	AIDK&AIDI		MSM	9465	
5632	0421		ZJN	RCS3	IF 7154/844-21	MSM	9466	
5633	1116		LMN	AIDX&AIDK		MSM	9467	
5634	0417		ZJN	RCS3	IF FSC 3330-1	NS2776	53	
5635	1115		LMN	AIDR&AIDX		NS2776	54	
5636	0517		NJN	RCS4	IF NOT CDSS II	NS2776	55	
5637	3003		LDD	T3	INITIALIZE TRACK CALCULATION	NS2776	56	
5640	3417		STD	T9		NS2776	57	
5641	1400		LDN	0		NS2776	58	
5642	3403		STD	T3		NS2776	59	
5643	2000	1062	LDC	1062	SET FLAW LIMIT FOR CDSS II	NS2776	60	
5645	3430		STD	CN		NS2776	61	
5646	1503		RCS2.1	LCN	3	FOR THIS PURPOSE, TRACK = CYLINDER*2/3	NS2776	62
5647	3517		RAD	T9		NS2776	63	
5650	0710		MJN	RCS5	IF CONVERSION COMPLETE	NS2776	64	
5651	3603		AOD	T3	INCREMENT TRACK NUMBER	NS2776	65	
5652	0373		UJN	RCS2.1	CONTINUE DIVISION	NS2776	66	
						NS2776	67	



5653	3003		RCS3	LDD	T3		MSM	9469
5654	3503			RAD	T3	COMPLETE CYLINDER CONVERSION	MSM	9470
5655	3003		RCS4	LDD	T3		MSM	9471
5656	3230			SBD	CN		MSM	9472
5657	0607			PJN	RCS7	IF *CTI* BEYOND LOGICAL END OF DEVICE	MSM	9473
5660	0200	5171	RCS5	RJM	FBT	FLAW BLOCK OF TRACKS	NS2776	68
5662	3067			LDD	LC		NS2776	69
5663	0503			ZJP	RCS8	IF *CTI* NOT PRESENT (CDSS II ONLY)	NS2776	70
5666	1473		RCS7	SMSTF	GCTI	SET *CTI* PRESENT FLAG	MSM	9487
5671	1466			LDN	ZERL	CLEAR DEADSTART FILE INDICATOR	MSM	9488
5672	6170	7463		CRM	BFMS+OSBP,ON		MSM	9489
5674	2000	6776		LDC	BFMS+WLSF	REWRITE DEADSTART SECTOR	MSM	9490
5676	0200	0532		RJM	WDS		MSM	9491
5700	0200	0535		ENDMS		RELEASE CHANNEL	MSM	9492
			*	LDN	0		MSM	9493
5702	0100	5530		LJM	RCSX	RETURN	MSM	9494
			**		SNC - SELECT AVAILABLE NIO CHANNEL.		MSM	9496
			*				MSM	9497
			*		ENTRY (FN - FN+4) = EST ENTRY.		MSM	9498
			*				MSM	9499
			*		EXIT (A) = 0, IF NO NIO CHANNEL AVAILABLE		MSM	9500
			*		= NON-CONCURRENT CHANNEL BYTE.		MSM	9501
							MSM	9502
							MSM	9503
5704	3600		SNC2	AOD	T0	ADVANCE ADDRESS	MSM	9504
5705	1143			LMN	FN+3		MSM	9505
5706	0505			NJN	SNC1	IF POSSIBLE SECOND CHANNEL	MSM	9506
							MSM	9507
5707	0100	5707	SNC	SUBR		ENTRY/EXIT	MSM	9508
5711	1441			LDN	FN+1		MSM	9509
5712	3400			STD	T0	INITIALIZE CHANNEL BYTE ADDRESS	MSM	9510
5713	4000		SNC1	LDI	T0		MSM	9511
5714	2200	7040		LPC	7040	CHECK CHANNEL STATUS	MSM	9512
5716	2300	4000		LMC	4000		MSM	9513
5720	0563			NJN	SNC2	IF NOT AN AVAILABLE CHANNEL	MSM	9514
5721	4000			LDI	T0		MSM	9515
5722	0364			UJN	SNCX	RETURN	MSM	9516
			**		COMMON DECKS.		MSM	9554
							MSM	9555
							MSM	9556
5723				CTEXT	COMPSTR	SET BUFFERED DISK REQUESTS.	COMPSTR	1



	6055	ORDI	EQU	**5	LOAD ADDRESS FOR *4DI*	283L840	1474
						MSM	9560
	6050	MIPA	EQU	*	*0TI* PARAMETER ADDRESS	MSM	9564
1	6051	MILA	EQU	MIPA+1	*0TI* LOAD ADDRESS	MSM	9565
2							
3							
4							
5							
6	225		ERRNG	BFMS-MILA-ZPXL	OVERFLOW INTO BUFFER	MSM	9567
7	225		ERRNG	BFMS-MILA-ZTXL	OVERFLOW INTO BUFFER	MSM	9568
8							
9							
10							
11							
12		**		POV - PRESET OVERLAY.		MSM	9570
13						MSM	9571
14						MSM	9572
15	6050	5000 2400	POV	LDM	MMFP	MSM	9573
16	6052	0423		ZJN	POV3	MSM	9574
17	6053	2000 0122		LDC	MMFL	MSM	9575
18	6055	6010		CRD	CM	MSM	9576
19	6056	3013		LDD	CM+3	MSM	9577
20	6057	5300 5112		LMM	IMSA	MSM	9578
21	6061	5400 5112		STM	IMSA	MSM	9579
22	6063	2000 6077		LDC	L"QUAL"	MSM	9580
23	6065	3401		STD	T1	MSM	9581
24	6066	0305		UJN	POV2	MSM	9582
25						MSM	9583
26	6067	3400	POV1	STD	T0	MSM	9584
27	6070	1477		LDN	PSNI	MSM	9585
28	6071	4400		STI	T0	MSM	9586
29	6072	3601		AOD	T1	MSM	9587
30	6073	4001	POV2	LDI	T1	MSM	9588
31	6074	0572		NJN	POV1	MSM	9589
32	6075	0100 5051	POV3	LJM	RDHX	283L840	1475
33						MSM	9591
34			*		LIST OF INSTRUCTIONS TO BE PRESET.	MSM	9592
35						MSM	9593
36	6077		L"QUAL"	BSS	0	MSM	9594
37			L"QUAL"	HERE		MSM	9595
38		-2		ERRZR	L"QUAL" -*	283L840	1476
39	6101	0000		CON	0	MSM	9596
40						MSM	9597
41				QUAL		MSM	9598
42						MSM	9599
43	5065	IMS	EQU	/RDH/IMS		283L840	1477
44	6055	ORDI	EQU	/RDH/ORDI		283L840	1478
45							
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OVERFLOW ORDH,EPFW CHECK FOR OVERFLOW

283L840 1479

1	1234	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR	OVERFLOW.1	1
2	142	ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR	OVERFLOW.1	2
3	1342	ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY	OVERFLOW.1	3
4	2	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY	OVERFLOW.1	4
5					OVERFLOW.1	5
6		LIST	*		OVERFLOW.1	6
7						7
8						8
9						9
10						10
11						11
12						12
13						13
14						14
15						15
16						16
17						17
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59						59
60						60

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QUAL	RDI	283L840	1482
IDENT	4DI,/RDI/PFRX	283L840	1483
COMMENT	87/07/09. 96/06/05. MSM - PROCESS FORMAT REQUEST.	283L840	1484
COMMENT	COPYRIGHT CONTROL DATA SYSTEMS INC. 1994.	283L840	1485

***	*4DI* CONTAINS ROUTINES UTILIZED BY *RMS* IN	283L840	1487
*	FORMATTING 895 DEVICES.	283L840	1488

0	CTEXT	COMPCHM - REDEFINE I/O INSTRUCTIONS.	COMPCHM	1
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****	DIRECT LOCATION ASSIGNMENTS.	283L840	1492			
		283L840	1493			
		283L840	1494			
15	PB	EQU	RG - RI+1	FORMAT PARAMETER BLOCK (3 LOCATIONS)	283L840	1495
62	CS	EQU	ET	CHANNEL STATUS	283L840	1496
66	FR	EQU	P1	FORMAT REQUIRED FLAG	283L840	1497
67	LC	EQU	P2	LAST CYLINDER + 1	283L840	1498
					283L840	1499

****		283L840	1500
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**	ASSEMBLY CONSTANTS.	283L840	1502			
		283L840	1503			
		283L840	1504			
11	DC	EQU	11	DISK CHANNEL	283L840	1505
					283L840	1506
12	FCGS	EQU	12	GENERAL STATUS FUNCTION CODE	283L840	1507
16	FCFP	EQU	16	FORMAT PACK FUNCTION CODE	283L840	1508
					283L840	1509
22	FPBL	EQU	22	FORMAT PACK PARAMETER BLOCK LENGTH	283L840	1510

5051	ORG	ORDH	283L840	1512
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Line	Code	Address	Subroutine	Description	Start	End
	**		PFR - PROCESS FORMAT REQUEST.		283L840	1515
	*				283L840	1516
	*		ENTRY (T3) = 0 IF DEADSTART SECTOR READ BY *RCS*.		283L840	1517
	*		(AM) = ALGORITHM INDEX.		283L840	1518
	*		(CS) = CHANNEL STATUS.		283L840	1519
	*		(FR) = FORMAT REQUIRED FLAG.		283L840	1520
	*		(LC) = FIRST CYLINDER OF *CTI* SPACE.		283L840	1521
	*		(T5) = EST ORDINAL.		283L840	1522
	*		(T6) = TRACK CONTAINING DEADSTART SECTOR.		283L840	1523
	*		(T7) = DEADSTART SECTOR.		283L840	1524
	*		(FN - FN+4) = EST ENTRY.		283L840	1525
	*		(FS - FS+4) = *STLL* WORD OF MST.		283L840	1526
	*				283L840	1527
	*		USES T1, T2, T3, T4, CM - CM+4, CN - CN+4.		283L840	1528
	*				283L840	1529
	*		CALLS F8D.		283L840	1530
	*				283L840	1531
	*		MACROS CMSTF, ENDMS, RCHAN.		283L840	1532
					283L840	1533
					283L840	1534
18	5051	0100 5051	PFR SUBR	ENTRY/EXIT	283L840	1535
19	5053	1400	LDN 0		283L840	1536
20	5054	3412	STD CM+2		283L840	1537
21	5055	3062	LDD CS		283L840	1538
22	5056	1277	LPN 77	CLEAR IMMEDIATE RETURN AND RESERVE CHANNEL	283L840	1539
23	5057	3411	RCHAN		283L840	1540
24	5064	3011	LDD CM+1	SAVE CHANNEL FOR *ENDMS*	283L840	1541
25	5065	3404	STD T4		283L840	1542
26	5066	5600 0111	AOM CHRV		283L840	1543
27	5070	2000 5376	LDC CTDC	SET ADDRESS OF INSTRUCTION LIST	283L840	1544
28	5072	3401	STD T1		283L840	1545
29	5073	0307	UJN PFR3	MODIFY CHANNEL INSTRUCTIONS	283L840	1546
					283L840	1547
31	5074	3402	PFR2 STD T2	SET INSTRUCTION ADDRESS	283L840	1548
32	5075	4002	LDI T2		283L840	1549
33	5076	1337	SCN 37		283L840	1550
34	5077	3304	LMD T4	MODIFY INSTRUCTION	283L840	1551
35	5100	4402	STI T2		283L840	1552
36	5101	3601	AOD T1	ADVANCE LIST ADDRESS	283L840	1553
37	5102	4001	PFR3 LDI T1		283L840	1554
38	5103	0570	NJN PFR2	IF NOT END OF LIST	283L840	1555
39	5104	3044	LDD FN+4		283L840	1556
40	5105	1003	SHN 3		283L840	1557
41	5106	1616	ADN DDLL	FETCH UNIT LIST FROM MST	283L840	1558
42	5107	6030	CRD CN		283L840	1559
43	5110	2000 0231	LDC DSCP*200+MS1W	STORE FORMATTING MESSAGE	283L840	1560
44	5112	6370 5211	CWM PFRA,ON		283L840	1561
					283L840	1562
46	*		GENERATE PARAMETER BLOCK TO FORMAT DEVICE.		283L840	1563
					283L840	1564
48	5114	1400	PFR4 LDN 0	SET FIRST CYLINDER	283L840	1565
49	5115	3415	STD PB		283L840	1566
50	5116	3072	LDD TH	SET LARGE RECORD SIZE	283L840	1567
51	5117	3417	STD PB+2		283L840	1568
52	5120	3034	LDD CN+4	EXTRACT NEXT UNIT	283L840	1569
53	5121	1014	SHN 14		283L840	1570
54	5122	3434	STD CN+4		283L840	1571

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Line	Address	Count	Code	Description	Start	End
	5123	1063	ERRPL	4000-3*SLDC CODE DEPENDS ON VALUE	283L840	1572
	5124	2300 2300	SHN	-14	283L840	1573
	5126	3416	LMC	1S10+3S6 APPEND MODE / OPERATION DECODE	283L840	1574
	5127	0200 5256	STD	PB+1	283L840	1575
	5131	3003	RJM	F8D FORMAT DEVICE	283L840	1576
	5132	0435	LDD	T3	283L840	1577
	5133	2000 1565	ZJN	PFR7 IF DEADSTART SECTOR READ WITHOUT ERROR	283L840	1578
	5135	3415	LDC	885D	283L840	1579
	5136	1601	STD	PB SET CYLINDER FOR DEADSTART SECTOR	283L840	1580
	5137	3467	ADN	1	283L840	1581
	5140	2000 0502	STD	LC	283L840	1582
	5142	3417	LDC	502 SECTOR BUFFER INDEX	283L840	1583
	5143	1400	STD	PB+2	283L840	1584
	5144	5417 6775	LDN	0 CLEAR SECTOR BUFFER	283L840	1585
	5146	3717	STM	BFMS-1, PB+2	283L840	1586
	5147	0573	SOD	PB+2	283L840	1587
			NJN	PFR5 IF BUFFER NOT CLEARED	283L840	1588
			LDN	0	283L840	1589
			STD	PB+2	283L840	1590
	5150	0200 5256	RJM	F8D FORMAT DEADSTART CYLINDER	283L840	1591
	5152	2077 5777	LDC	-1S10	283L840	1592
	5154	3516	RAD	PB+1	283L840	1593
	5155	3715	SOD	PB FORMAT PROTECTED AREA	283L840	1594
	5156	0200 5256	RJM	F8D	283L840	1595
	5160	3617	AOD	PB+2 ADVANCE TRACK NUMBER	283L840	1596
	5161	1102	LMN	2	283L840	1597
	5162	0572	NJN	PFR6 IF MORE TRACKS TO FORMAT	283L840	1598
	5163	2000 6776	LDC	BFMS+WLSF	283L840	1599
	5165	0200 0532	RJM	WDS CLEAR DEADSTART SECTOR	283L840	1600
	5167	3030	LDD	CN	283L840	1601
	5170	1207	LPN	7	283L840	1602
	5171	1701	SBN	1 DECREMENT UNIT COUNT	283L840	1603
	5172	3430	STD	CN	283L840	1604
	5173	0703	PJP	PFR4 IF MULTI-UNIT DEVICE	283L840	1605
	5176	0200 0535	ENDMS		283L840	1606
	5200	2000 0231	LDC	DSCP*200+MS1W RESTORE RECOVERY MESSAGE	283L840	1607
	5202	6370 5216	CWM	PFRB, ON	283L840	1608
	5204	1573	CMSTF	LFPR CLEAR FORMAT REQUEST	283L840	1609
	5207	0100 5051	LJM	PFRX RETURN	283L840	1610
					283L840	1611
					283L840	1612
	5211	0617	PFRA	DATA 10HFORMATTING	283L840	1613
	5216	2205	PFRB	DATA 10HRECOVERING	283L840	1614

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				**	F8D - FORMAT 895 DEVICE.		283L840	1617
				*			283L840	1618
				*	ENTRY (LC) = LAST CYLINDER + 1 TO FORMAT.		283L840	1619
1				*	(PB - PB+2) = FORMAT PARAMETER BLOCK.		283L840	1620
2				*			283L840	1621
3				*	USES PB, CM - CM+4.		283L840	1622
4				*			283L840	1623
5				*	CALLS C2D, /RMS/SEM, WNB.		283L840	1624
6							283L840	1625
7							283L840	1626
8	5223	2000 0233		F8D2	LDC DSCP*200+MS1W+2 UPDATE CYLINDER NUMBER IN MESSAGE		283L840	1627
9	5225	6210			CWD CM		283L840	1628
10	5226	7711 0016			FNC FCFP,DC ISSUE FORMAT FUNCTION		283L840	1629
11	5230	7411			ACN DC		283L840	1630
12	5231	1422			LDN FPBL OUTPUT PARAMETER BLOCK		283L840	1631
13	5232	7311 0015			OAM PB,DC		283L840	1632
14	5234	6611 5234			FJM *,DC WAIT TRANSMISSION COMPLETE		283L840	1633
15	5236	7551			DCN DC		283L840	1634
16	5237	3615			AOD PB ADVANCE CYLINDER NUMBER		283L840	1635
17	5240	0200 1122		F8D3	RJM C2D		283L840	1636
18	5242	3413			STD CM+3		283L840	1637
19	5243	3015			LDD PB CONVERT VALUE FOR MESSAGE		283L840	1638
20	5244	1071			SHN -6		283L840	1639
21	5245	0200 1122			RJM C2D		283L840	1640
22	5247	3412			STD CM+2		283L840	1641
23	5250	0200 5317			RJM WNB WAIT NOT BUSY		283L840	1642
24	5252	3015			LDD PB		283L840	1643
25	5253	3367			LMD LC		283L840	1644
26	5254	0546			NJN F8D2 IF MORE CYLINDERS TO FORMAT		283L840	1645
27							283L840	1646
28	5255	0100 5255		F8D	SUBR ENTRY/EXIT		283L840	1647
29	5257	3016			LDD PB+1		283L840	1648
30	5260	0200 1122			RJM C2D CONVERT UNIT NUMBER		283L840	1649
31	5262	5400 5310			STM F8DA		283L840	1650
32	5264	0200 1512			RJM /RMS/SEM SET EQUIPMENT MESSAGE		283L840	1651
33	5266	1425			LDN 1RU		283L840	1652
34	5267	3414			STD CM+4 INSERT UNIT DESIGNATOR		283L840	1653
35	5270	2000 0232			LDC DSCP*200+MS1W+1		283L840	1654
36	5272	6210			CWD CM		283L840	1655
37	5273	1601			ADN 1		283L840	1656
38	5274	6326 5310			CWM F8DA,TW CHANGE MESSAGE		283L840	1657
39	5276	1702			SBN 2		283L840	1658
40	5277	6010			CRD CM		283L840	1659
41	5300	3067			LDD LC		283L840	1660
42	5301	0504			NJN F8D1 IF *CTI* COMPONENT FOUND		283L840	1661
43	5302	2000 1563			LDC NTDC/2		283L840	1662
44			0		ERRNZ TTDC CODE DEPENDS ON VALUE		283L840	1663
45	5304	3467			STD LC		283L840	1664
46	5305	3015		F8D1	LDD PB		283L840	1665
47	5306	0100 5240			LJM F8D3 FORMAT DEVICE		283L840	1666
48							283L840	1667
49							283L840	1668
50	5310	3030		F8DA	DATA C*XX C0000.*		283L840	1669
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	**			WNB - WAIT NOT BUSY.				283L840	1671
	*							283L840	1672
	*			ERROR TO */RMS/HNG* IF CONTROLLER HUNG BUSY.				283L840	1673
1	*							283L840	1674
2	*			USES T1, T2.				283L840	1675
3	*							283L840	1676
4	*			CALLS C2D.				283L840	1677
5								283L840	1678
6								283L840	1679
7		5316	0100 5316	WNB	SUBR		ENTRY/EXIT	283L840	1680
8		5320	2000 0620		LDC	400D		283L840	1681
9		5322	3402		STD	T2	SET 400 MILLISECOND DELAY	283L840	1682
10		5323	5000 0255	WNB1	DELAY	10		283L840	1683
11		5330	7711 0012		FNC	FCGS,DC	REQUEST GENERAL STATUS	283L840	1684
12		5332	7411		ACN	DC		283L840	1685
13		5333	7011		IAN	DC	INPUT STATUS	283L840	1686
14		5334	7551		DCN	DC		283L840	1687
15		5335	3401		STD	T1	SAVE GENERAL STATUS	283L840	1688
16		5336	1202		LPN	2		283L840	1689
17		5337	0456		ZJN	WNBX	IF NOT BUSY	283L840	1690
18		5340	3702		SOD	T2		283L840	1691
19		5341	0561		NJN	WNB1	IF NOT TIMEOUT	283L840	1692
20		5342	3001		LDD	T1		283L840	1693
21		5343	1071		SHN	-6		283L840	1694
22		5344	0200 1122		RJM	C2D	CONVERT GENERAL STATUS	283L840	1695
23		5346	5400 5372		STM	WNBA+11		283L840	1696
24		5350	3001		LDD	T1		283L840	1697
25		5351	0200 1122		RJM	C2D		283L840	1698
26		5353	5400 5373		STM	WNBA+12	STORE IN MESSAGE	283L840	1699
27		5355	2000 5361		LDC	WNBA		283L840	1700
28		5357	0100 1474		LJM	/RMS/HNG	DISPLAY MESSAGE AND HANG PP	283L840	1701
29								283L840	1702
30								283L840	1703
31		5361	5510	WNBA	DATA	C* HUNG BUSY - GS = XXXX.*		283L840	1704
32									
33									
34									
35									
36	**			CHANNEL TABLE.				283L840	1706
37								283L840	1707
38								283L840	1708
39		5376			CHTB	DC		283L840	1709
40									
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42									
43									
44			1366		ERRNG	BFMS-*	OVERFLOW INTO BUFFER	283L840	1711
45									
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283L840 1713

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4			OVERFLOW	ORDI,EPFW	CHECK FOR OVERFLOW			283L840 1715	4
5									5
6		1430	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR			OVERFLOW.1	6
7		440	ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR			OVERFLOW.1	7
8		1640	ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY			OVERFLOW.1	8
9		0	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY			OVERFLOW.1	9
10								OVERFLOW.1	10
11			LIST	*				OVERFLOW.1	11
12									12
13									13
14									14
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5543	0471		ZJN	CDCX	IF NO SECTOR OF LOCAL AREAS	MSM	9652
5544	2002 1004		SETMS	READSTR, (DF, RW)		NS2669	40
5550	1404		LDN	EXDF	SET NUMBER OF EXCESS DAYFILES	MSM	9654
5551	3466		STD	P1		MSM	9655
5552	3766		SOD	P1		MSM	9656
5553	0751		MJN	CDC5	IF END OF DAYFILES	MSM	9657
5554	5066 3702		LDM	MBUF+5*DALL, P1		MSM	9658
5556	0473		ZJN	CDC1	IF NO TRACK ASSIGNED	MSM	9659
5557	3406		STD	T6		MSM	9660
5560	0200 5610		RJM	CDR	CHECK DAYFILE RECOVERY SELECTION	MSM	9661
5562	0567		NJN	CDC1	IF FILE INITIALIZED	MSM	9662
						MSM	9663
		*			VERIFY DAYFILE RECOVERY.	MSM	9664
						MSM	9665
5563	0200 5766		RJM	CFL	CHECK FILE LENGTH	MSM	9666
5565	0464		ZJN	CDC1	IF EMPTY DAYFILE	MSM	9667
5566	0200 6132		RJM	VEI	VERIFY EOI SECTOR	MSM	9668
5570	0461		ZJN	CDC1	IF EOI ON DISK MATCHES TRT EOI	MSM	9669
5571	0200 0535			ENDMS		MSM	9670
5573	3006		LDD	T6		MSM	9671
5574	2200 3777		LPC	3777	SET NEW EOI SECTOR	MSM	9672
5576	3412		STD	CM+2		MSM	9673
5577	3007		LDD	T7	SECTOR	MSM	9674
5600	3413		STD	CM+3		MSM	9675
5601	3005		LDD	T5	EQUIPMENT	MSM	9676
5602	3411		STD	CM+1		MSM	9677
5603	1433		MONITOR	DTKM	UPDATE EOI SECTOR	MSM	9678
		*	LDN	0		MSM	9679
5606	0343		UJP	CDC1	LOOP FOR NEXT DAYFILE	MSM	9680
		**			CDR - CHECK DAYFILE RECOVERY.	MSM	9682
		*				MSM	9683
		*			ENTRY (T6) = DAYFILE TRACK.	MSM	9684
		*			(P1) = DAYFILE INDEX.	MSM	9685
		*			(FS - FS+4) = STLL WORD OF THE MST.	MSM	9686
		*				MSM	9687
		*			EXIT (A) = 0 IF DAYFILE NOT INITIALIZED.	MSM	9688
		*			SPACE RELEASED IF FILE INITIALIZED.	MSM	9689
		*				MSM	9690
		*			USES FS, FS+1, CM+1 - CM+3.	MSM	9691
		*				MSM	9692
		*			CALLS TLB.	MSM	9693
		*				MSM	9694
		*			MACROS CMSTF, ENDMS, MONITOR.	MSM	9695
						MSM	9696
5607	0100 5607		CDR	SUBR	ENTRY/EXIT	MSM	9697
		*			CHECK FOR INITIALIZE REQUEST.	MSM	9698
						MSM	9699
5611	5066 5657		LDM	CDRB, P1		MSM	9700
5613	5400 5617		STM	CDRA		MSM	9701
5615	3021		LDD	FS+1	CHECK INITIALIZE REQUEST	MSM	9702
5616	2200 5616		LPC	*		MSM	9703
						MSM	9704
						MSM	9705

Line	Address	Code	Label	Operation	MSM	Address
	5620	0466	5617	CDRA EQU *-1 ZJN CDRX		9706
				IF INITIALIZE NOT REQUESTED	MSM	9707
					MSM	9708
1			*	INITIALIZE DAYFILE.	MSM	9709
2					MSM	9710
3	5621	3321		LMD FS+1 CLEAR INITIALIZE REQUEST	MSM	9711
4	5622	3421		STD FS+1	MSM	9712
5	5623	1006		SHN 6	MSM	9713
6	5624	3320		LMD FS	MSM	9714
7	5625	1365		SCN MLIRP+MLPTU+MLCKP+MRASD	MSM	9715
8	5626	0504		NJN CDR1 IF MORE INITIALIZE FLAGS	MSM	9716
9	5627	1565		CMSTF LIRP CLEAR INITIALIZE PENDING	MSM	9717
10	5632	0200 0535		CDR1 ENDMS	MSM	9718
11			*	LDN 0	MSM	9719
12	5634	3413		STD CM+3	MSM	9720
13	5635	3006		LDD T6 SET FIRST TRACK	MSM	9721
14	5636	3412		STD CM+2	MSM	9722
15	5637	3053		LDD EQ	MSM	9723
16	5640	3411		STD CM+1	MSM	9724
17	5641	1433		MONITOR DTKM RELEASE DAYFILE SPACE	MSM	9725
18	5644	5466 3702		STM MBUF+5*DALL,P1 CLEAR DAYFILE POINTER	MSM	9726
19	5646	5600 6037		AOM ULAA SET LOCAL AREA SECTOR UPDATE	MSM	9727
20	5650	1500		LCN 0 CLEAR INITIALIZE REQUEST IN THE MST	MSM	9728
21	5651	5366 5663		LMM CDRC,P1	MSM	9729
22	5653	0200 2662		RJM TLB	MSM	9730
23	5655	0100 5607		LJM CDRX RETURN	MSM	9731
24					MSM	9732
25			*	INITIALIZE REQUEST MASKS FOR EXCESS DAYFILES.	MSM	9733
26					MSM	9734
27	5657	4000		CDRB CON MLIDF DAYFILE	MSM	9735
28	5660	2000		CON MLIAF ACCOUNT FILE	MSM	9736
29	5661	1000		CON MLIEF ERROR LOG	MSM	9737
30	5662	0400		CON MLIMF MAINTENANCE LOG	MSM	9738
31					MSM	9739
32			*	INITIALIZE REQUEST BIT MAPPING.	MSM	9740
33					MSM	9741
34	5663	0057		CDRC CON LIDF DAYFILE	MSM	9742
35	5664	0056		CON LIAF ACCOUNT FILE	MSM	9743
36	5665	0055		CON LIEF ERROR LOG	MSM	9744
37	5666	0054		CON LIMF MAINTENANCE LOG	MSM	9745
38						
39						
40						
41						
42			**	CDT - CHECK LAST UPDATE DATE AND TIME.	MSM	9747
43			*		MSM	9748
44			*	ENTRY (P1) = DAYFILE INDEX.	MSM	9749
45			*	(WEIA) = DAYFILE EOI SECTOR.	MSM	9750
46			*	(TPDT) = TIME AND DATE FOR LATEST RECOVERED DAYFILE.	MSM	9751
47			*		MSM	9752
48			*	EXIT RECOVERY POINTERS UPDATED IF THIS IS A LATER DAYFILE.	MSM	9753
49			*	(TPDT) UPDATED TO LATEST DATE.	MSM	9754
50			*		MSM	9755
51			*	USES P2, CM - CM+4.	MSM	9756
52					MSM	9757
53					MSM	9758
54	5667	0100 5667		CDT SUBR ENTRY/EXIT	MSM	9759

5671	3040	LDD	FN		MSM	9760		
5672	1011	SHN	21-10		MSM	9761		
5673	0773	MJN	CDTX	IF REMOVABLE DEVICE	MSM	9762		
5674	3066	LDD	P1		MSM	9763		
5675	1001	SHN	1		MSM	9764		
5676	3166	ADD	P1		MSM	9765		
5677	3467	STD	P2		MSM	9766		
5700	3077	LDD	MA	COPY LAST UPDATE DATE AND TIME OF NEW FILE	MSM	9767		
5701	6370 7012	CWM	BFMS+DTEI,ON		MSM	9768		
5703	1701	SBN	1		MSM	9769		
5704	6010	CRD	CM		MSM	9770		
5705	5067 5742	LDM	TPDT,P2	CHECK YEAR AND MONTH	MSM	9771		
5707	3212	SBD	CM+2		MSM	9772		
5710	0714	MJN	CDT1	IF LATER YEAR OR MONTH	MSM	9773		
5711	0555	NJN	CDTX	IF NOT LATER YEAR OR MONTH	MSM	9774		
5712	5067 5743	LDM	TPDT+1,P2	CHECK DAY AND HOUR	MSM	9775		
5714	3213	SBD	CM+3		MSM	9776		
5715	0707	MJN	CDT1	IF A LATER DAY OR HOUR	MSM	9777		
5716	0550	NJN	CDTX	IF NOT A LATER DAY OR HOUR	MSM	9778		
5717	5067 5744	LDM	TPDT+2,P2		MSM	9779		
5721	3214	SBD	CM+4		MSM	9780		
5722	0702	MJN	CDT1	IF A LATER MINUTE	MSM	9781		
5723	0543	NJN	CDTX	IF NOT A LATER MINUTE	MSM	9782		
					MSM	9783		
		*		SET THIS DAYFILE AS THE NEW ONE TO RECOVER.	MSM	9784		
					MSM	9785		
5724	3005	CDT1	LDD	T5	SET LATEST DAYFILES EQUIPMENT	MSM	9786	
5725	5466 1362	STM	RMSF,P1		MSM	9787		
5727	3012	LDD	CM+2	SET LATEST DAYFILES DATE	MSM	9788		
5730	5467 5742	STM	TPDT,P2		MSM	9789		
5732	3013	LDD	CM+3		MSM	9790		
5733	5467 5743	STM	TPDT+1,P2		MSM	9791		
5735	3014	LDD	CM+4		MSM	9792		
5736	5467 5744	STM	TPDT+2,P2		MSM	9793		
5740	0100 5667	LJM	CDTX	RETURN	MSM	9794		
					MSM	9795		
5742		3	TPDT	BSS	3	LATEST DATE/TIME SYSTEM DAYFILE	MSM	9796
5745		3		BSS	3	LATEST DATE/TIME ACCOUNT DAYFILE	MSM	9797
5750		3		BSS	3	LATEST DATE/TIME ERRLOG DAYFILE	MSM	9798
5753		3		BSS	3	LATEST DATE/TIME MAINTENANCE LOG	MSM	9799
		**		CFL - CHECK FILE LENGTH.		MSM	9801	
		*				MSM	9802	
		*	ENTRY	(T6) = DAYFILE TRACK FROM SECTOR OF LOCAL AREAS.		MSM	9803	
		*		(P1) = DAYFILE INDEX.		MSM	9804	
		*				MSM	9805	
		*	EXIT	(A) = 0 IF DAYFILE EMPTY.		MSM	9806	
		*		(ET) = DAYFILE EOI TRACK.		MSM	9807	
		*		(ES) = DAYFILE EOI SECTOR.		MSM	9808	
		*				MSM	9809	
		*	CALLS	SEI.		MSM	9810	
						MSM	9811	
						MSM	9812	
5756	3006	CFL1	LDD	T6	SAVE EOI TRACK	MSM	9813	





	**			ULA - UPDATE SECTOR OF LOCAL AREAS.			MSM	9858
	*						MSM	9859
	*			ENTRY (T5) = EST ORDINAL.			MSM	9860
1	*						MSM	9861
2	*			ERROR TO *HNG* IF ERROR READING SECTOR OF LOCAL AREAS.			MSM	9862
3	*						MSM	9863
4	*			USES T6.			MSM	9864
5	*						MSM	9865
6	*			CALLS CTI, RLA, STI, WDS.			MSM	9866
7	*						MSM	9867
8	*			MACROS ENDMS, SETMS.			MSM	9868
9							MSM	9869
10							MSM	9870
11		6034	0100 6034	ULA	SUBR	ENTRY/EXIT	MSM	9871
12		6036	2000 0000		LDC	0	MSM	9872
13			6037	ULAA	EQU	*-1	MSM	9873
14		6040	0473		ZJN	ULAX	MSM	9874
15		6041	1400		SETMS	POSITION	MSM	9875
16				*	LDN	0	MSM	9876
17		6043	5400 6037		STM	ULAA	MSM	9877
18		6045	5000 3640		LDM	MBUF+5*ALGL+1	MSM	9878
19		6047	3406		STD	T6	MSM	9879
20		6050	0200 6277		RJM	STI	MSM	9880
21		6052	0200 2556		RJM	RLA	MSM	9881
22		6054	0610		PJN	ULA2	MSM	9882
23		6055	3006	ULA1	LDD	T6	MSM	9883
24		6056	0200 6167		RJM	CTI	MSM	9884
25		6060	2000 6110		LDC	ULAC	283L840	1717
26		6062	0100 1474		LJM	HNG	MSM	9886
27							MSM	9887
28		6064	5400 6074	ULA2	STM	ULAB	MSM	9888
29		6066	0466		ZJN	ULA1	MSM	9889
30		6067	3077		LDD	MA	MSM	9890
31		6070	6370 3702		CWM	MBUF+5*DALL,ON	MSM	9891
32		6072	1701		SBN	1	MSM	9892
33		6073	6170 6073		CRM	*,ON	MSM	9893
34			6074	ULAB	EQU	*-1	MSM	9894
35		6075	2000 6776		LDC	BFMS+WLSF	MSM	9895
36		6077	0200 0532		RJM	WDS	MSM	9896
37		6101	0200 0535		ENDMS		MSM	9897
38		6103	3006		LDD	T6	MSM	9898
39		6104	0200 6167		RJM	CTI	MSM	9899
40		6106	0100 6034		LJM	ULAX	MSM	9900
41							283L840	1718
42							283L840	1719
43		6110	1417	ULAC	DATA	C*LOCAL AREA SECTOR ERROR.*	283L840	1720
44								
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1412THE

	**						VEI - VERIFY END OF INFORMATION SECTOR.	MSM	9902
	*							MSM	9903
	*						ENTRY (ET) = TRT EOI TRACK.	MSM	9904
1	*						(ES) = TRT EOI SECTOR.	MSM	9905
2	*						(P1) = DAYFILE INDEX.	MSM	9906
3	*							MSM	9907
4	*						EXIT (A) = 0 IF EOI ON DISK MATCHES TRT EOI.	MSM	9908
5	*						(T7) = DISK EOI SECTOR.	MSM	9909
6	*							MSM	9910
7	*						USES T6, T7.	MSM	9911
8	*							MSM	9912
9	*						CALLS CDT, RDS, TDF.	MSM	9913
10	*							MSM	9914
11	*						MACROS SETMS.	MSM	9915
12								MSM	9916
13								MSM	9917
14		6125	0200 6003	VEI4	RJM	TDF	TRUNCATE DAYFILE	MSM	9918
15		6127	3007	VEI5	LDD	T7	COMPARE EOI ON DISK WITH TRT EOI	MSM	9919
16		6130	3363		LMD	ES		MSM	9920
17								MSM	9921
18		6131	0100 6131	VEI	SUBR		ENTRY/EXIT	MSM	9922
19		6133	3062		LDD	ET	SET EOI TRACK	MSM	9923
20		6134	3406		STD	T6		MSM	9924
21		6135	3063		LDD	ES	SET EOI SECTOR	MSM	9925
22		6136	3407		STD	T7		MSM	9926
23		6137	1400		SETMS	POSITION		MSM	9927
24		6141	2000 6776	VEI1	LDC	BFMS	SEARCH FOR EOI ON DISK	MSM	9928
25		6143	0200 0530		RJM	RDS		MSM	9929
26		6145	0757		MJN	VEI4	IF READ ERROR	MSM	9930
27		6146	5000 6776		LDM	BFMS		MSM	9931
28		6150	5100 6777		ADM	BFMS+1		MSM	9932
29		6152	0411		ZJN	VEI2	IF EOI FOUND	MSM	9933
30		6153	3607		AOD	T7	ADVANCE SECTOR NUMBER	MSM	9934
31		6154	5000 6776		LDM	BFMS	CHECK LINKAGE	MSM	9935
32		6156	1006		SHN	6		MSM	9936
33		6157	0661		PJN	VEI1	IF NOT CROSSING TRACK BOUNDARY	MSM	9937
34		6160	3707		SOD	T7	SET EOI SECTOR AT END OF TRACK	MSM	9938
35		6161	0200 6003		RJM	TDF	TRUNCATE DAYFILE	MSM	9939
36		6163	0200 5670	VEI2	RJM	CDT	CHECK DATE AND TIME	MSM	9940
37		6165	0341		UJP	VEI5	SET EXIT CONDITIONS AND RETURN	MSM	9941
38									
39									
40									
41									
42	**						COMMON DECKS.	MSM	9943
43								MSM	9944
44								MSM	9945
45		6166			CTEXT	COMPCTI	- CLEAR TRACK INTERLOCK.	COMPCTI	1
46		6201			CTEXT	COMPSEI	- SEARCH FOR END OF INFORMATION.	COMPSEI	1
47		6275			CTEXT	COMPSTI	- SET TRACK INTERLOCK.	COMPSTI	1
48									
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1412THE

437

ERRNG BFMS-\*

CODE OVERFLOWS INTO BUFFER

MSM

9950

1										1
2										2
3										3
4			OVERFLOW	ORDJ,EPFW	CHECK FOR OVERFLOW			283L840	1721	4
5										5
6		563	ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR			OVERFLOW.1		6
7		356	ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR			OVERFLOW.1		7
8		1056	ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY			OVERFLOW.1		8
9		2	ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY			OVERFLOW.1		9
10										10
11			LIST	*				OVERFLOW.1		11
12								OVERFLOW.1		12
13										13
14										14
15										15
16										16
17										17
18										18
19										19
20										20
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60										60

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2430	1067	CUAA	SHN	-10		MSM	9995
		*	SHN	-10+EMSC		MSM	9996
2431	3422		STD	FS+2	* 2020 HIGH BITS	MSM	9997
2432	3023		LDD	FS+3		MSM	9998
2433	1004	CUAB	SHN	4		MSM	9999
		*	SHN	4+EMSC		MSM	10000
2434	2200	7777	LPC	7777		MSM	10001
2436	3121		ADD	FS+1	ADD UEM BASE ADDRESS	MSM	10002
2437	3424		STD	FS+4	LOW LOW BITS FOR *A* REGISTER	MSM	10003
2440	1063		SHN	-14		MSM	10004
2441	3120		ADD	FS		MSM	10005
2442	3522		RAD	FS+2	HIGH BYTE ABSOLUTE UEM ADDRESS	MSM	10006
2443	1006		SHN	6	SHIFT RESULT FOR *R* REGISTER	MSM	10007
2444	3423		STD	FS+3		MSM	10008
2445	1006		SHN	6		MSM	10009
2446	3422		STD	FS+2		MSM	10010
2447	3024		LDD	FS+4		MSM	10011
2450	1014		SHN	14		MSM	10012
2451	3523		RAD	FS+3		MSM	10013
2452	1063		SHN	-14		MSM	10014
2453	3424		STD	FS+4	SET LOW 6 BITS FOR *A* REGISTER	MSM	10015
2454	0345		UJN	CUAX	RETURN	MSM	10016
		**		GCD - GET CHECKPOINT DEVICE.		MSM	10018
		*				MSM	10019
		*	ENTRY	(CD) = CURRENT EST ORDINAL.		MSM	10020
		*		(LO) = LAST MASS STORAGE ORDINAL + 1.		MSM	10021
		*				MSM	10022
		*	EXIT	(A) = 0 IF END OF MASS STORAGE DEVICES.		MSM	10023
		*		(T5) = (CD) = CHECKPOINT DEVICE ORDINAL.		MSM	10024
		*		(T6) = TRACK POINTER TO UEM PORTION OF CHECKPOINT		MSM	10025
		*		FILE.		MSM	10026
		*		(FN - FN+4) = EST ENTRY.		MSM	10027
		*				MSM	10028
		*	USES	CD, RI, RI+1, T5, T6, FN - FN+4.		MSM	10029
		*				MSM	10030
		*	CALLS	CRA, GSP.		MSM	10031
		*				MSM	10032
		*	MACROS	SETMS, SFA.		MSM	10033
						MSM	10034
						MSM	10035
2455	0100	2455	GCD	SUBR	ENTRY/EXIT	MSM	10036
2457	3625		GCD1	AOD	CD	MSM	10037
2460	3405		STD	T5	ADVANCE EST ORDINAL	MSM	10038
2461	3361		LMD	LO		MSM	10039
2462	0472		ZJN	GCDX	IF END OF DEVICES	MSM	10040
2463	3005		SFA	EST, T5	READ EST ENTRY	MSM	10041
			ADK	EQDE		MSM	10042
2466	6040		CRD	FN		MSM	10043
2467	3040		LDD	FN		MSM	10044
2470	1006		SHN	21-13		MSM	10045
2471	0665		PJN	GCD1	IF NOT MASS STORAGE DEVICE	MSM	10046
2472	1011		SHN	13-2		MSM	10047
2473	0663		PJN	GCD1	IF NOT CHECKPOINT DEVICE	MSM	10048





RUE

RMS

	**			RUE - RECOVER UEM.			MSM	10095
	*						MSM	10096
	*			USES T8, T9, FS+4, CM - CM+4.			MSM	10097
	*						MSM	10098
	*			CALLS CUA, C2D, GCD, RNS.			MSM47	6
	*						MSM	10100
	*			MACROS ENDMS.			MSM	10101
							MSM	10102
							MSM	10103
2541		0200	0535	RUE5	ENDMS		MSM	10104
2543		2000	2667		LDC RUEA	*CHECKPOINT DEVICE NOT FOUND.*	MSM	10105
2545		0100	1474		LJM /RMS/HNG	ISSUE ERROR MESSAGE AND HANG	MSM	10106
							MSM	10107
2547		0200	0535	RUE6	ENDMS		MSM	10108
2551		2000	0100		LDK NJNI-ZJNI	SET TO PROCESS ONLY UEM	MSM	10109
2553		5400	1245		STM RMSH		MSM	10110
							MSM	10111
2555		0100	2555	RUE	SUBR	ENTRY/EXIT	MSM	10112
2557		1404			LDK NOPE-1	SET EST ORDINAL	MSM	10113
2560		3425			STD CD		MSM	10114
2561		2000	0120		LDK UEML	PRESET UEM BASE ADDRESS	MSM	10115
2563		6010			CRD CM		MSM	10116
2564		3010			LDD CM		MSM	10117
2565		1017			SHN 21-2		MSM	10118
2566		3420			STD FS		MSM	10119
2567		1071			SHN -6		MSM	10120
2570		1307			SCN 7		MSM	10121
2571		3421			STD FS+1		MSM	10122
2572		0077		MSR	CON PSNI	*RNS* ERROR RETURN	MSM	10123
2573		0200	2456	RUE1	RJM GCD	GET CHECKPOINT DEVICE	MSM	10124
2575		0443			ZJN RUE5	IF END OF CHECKPOINT DEVICES	MSM	10125
2576		2000	6776	RUE2	LDC BFMS	READ LINKAGE SECTOR	MSM	10126
2600		0200	3026		RJM /4DK/RNS		MSM	10127
2602		4103			ADI T3		MSM47	7
2603		0443			ZJN RUE6	IF EOI REACHED	MSM	10128
2604		5000	7000		LDM BFMS+2	SET TRACK NUMBER	MSM	10129
2606		3416			STD T8		MSM	10130
2607		5000	7001		LDM BFMS+3	SET SECTOR COUNT	MSM	10131
2611		3417			STD T9		MSM	10132
2612		3016			LDD T8		MSM47	8
2613		1071			SHN -6		MSM47	9
2614		0200	1122		RJM C2D	CONVERT UPPER 2 DIGITS OF TRACK TO DISPLAY	MSM47	10
2616		5400	2720		STM RUEB+12		MSM47	11
2620		3016			LDD T8		MSM47	12
2621		0200	1122		RJM C2D	CONVERT LOWER 2 DIGITS OF TRACK TO DISPLAY	MSM47	13
2623		5400	2721		STM RUEB+13		MSM47	14
2625		2000	0236		LDC CPAS+MS2W	ISSUE *RESTORING UEM TRACK XXXX* MESSAGE	MSM47	15
2627		6373	2706		CWM RUEB,TR		MSM47	16
2631		0200	2423		RJM CUA	CALCULATE UEM ADDRESS	MSM	10133
2633		5000	6777		LDM BFMS+1		MSM	10134
2635		0411			ZJN RUE3	IF LINKAGE WORDS NOT IN THIS SECTOR	MSM	10135
2636		3403			STD T3		MSM	10136
2637		3524			RAD FS+4	ADVANCE UEM ADDRESS FOR LATER	MSM	10137
2640		3203			SBD T3		MSM	10138
2641		2140	0000		ADC 400000		MSM	10139
2643		2422			LRD FS+2		MSM	10140
2644		6303	7002		CWM BFMS+4,T3	WRITE LINKAGE WORDS TO UEM	MSM	10141

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2646	2000 6776	RUE3	LDC	BFMS		MSM	10142
2650	0200 3026		RJM	/4DK/RNS		MSM	10143
2652	3024		LDD	FS+4		MSM	10144
2653	2140 0000		ADC	400000		MSM	10145
2655	2422		LRD	FS+2	WRITE SECTOR TO UEM	MSM	10146
2656	6371 7000		CWM	BFMS+2,HN		MSM	10147
2660	3623		AOD	FS+3	ADVANCE UEM ADDRESS	MSM	10148
2661	1063		SHN	-14		MSM	10149
2662	3522		RAD	FS+2		MSM	10150
2663	3717		SOD	T9	DECREMENT SECTOR COUNT	MSM	10151
2664	0561		NJN	RUE3	IF NOT FINISHED WITH TRACK	MSM	10152
2665	0100 2576		LJM	RUE2	IF FINISHED WITH TRACK	MSM	10153

2667	0310	RUEA	DATA	C*CHECKPOINT DEVICE NOT FOUND.*		MSM	10156
2706	2205	RUEB	DATA	C*RESTORING UEM TRACK XXXX.*		MSM47	17

\*\* COMMON DECKS. MSM 10158

2724			CTEXT	COMPCRA - CONVERT RANDOM ADDRESS.		MSM	10159
						COMPCRA	1

MSM 10161

QUAL 4DK MSM 10162

2572	MSR	EQU	/RMS/MSR			MSM	10163
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3024	1	MSR\$	SET	1	SELECT ERROR PROCESSING IN *COMPRNS*	MSM	10165
			CTEXT	COMPRNS - READ NEXT SECTOR.		COMPRNS	1

MSM 10167

QUAL \* MSM 10168

3720		ERRNG	BFMS-*	DATA BUFFER OVERLAYS CODE		272L774	80
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OVERFLOW ORDK,EPFW CHECK FOR OVERFLOW 283L840 1724

4411		ERRNG	.2-.1+5-.3/500B*500B	BYTES LEFT AFTER LAST SECTOR		OVERFLOW.1	
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11		ERRNG	.3/500B*500B-*.1-5	BYTES LEFT IN LAST SECTOR		OVERFLOW.1	
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4311		ERRNG	.4/500B*500B-*.1-5	BYTES CAN BE ADDED TO OVERLAY		OVERFLOW.1	
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1		ERRNG	.3/500B	SECTORS NEEDED FOR OVERLAY		OVERFLOW.1	
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OVERFLOW.1

LIST \* OVERFLOW.1

3056			END			MSM	10173
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110200B	CM	STORAGE USED	30510	STATEMENTS	6033	SYMBOLS	000048	INVENTED SYMBOLS
		PARALLEL CPU ASSEMBLY	11.716	SECONDS	8233	REFERENCES		

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ABTM	47	NOSTEXT	28/52									
ACFN	50000	NOSTEXT	25/35	82/11								
ACGL	1	NOSTEXT	43/53	124/07	129/12	181/38	189/39	190/51	206/53 S	208/27 S		
			108/45	125/53	136/13	181/40	189/53	206/47	207/03 S	208/47 S		
			109/36	129/01	136/15 S	189/23	189/57	206/50 S	207/06	238/56		
			109/38	129/03	175/43	189/34	190/02	206/51	207/07			
ADCI	2100		73/22	73/34								
ADE	2701		102/16 D	159/25	163/39							
ADEA	2706		102/20 D	137/06 S	139/27 S							
ADEB	2720		102/18 S	102/31 D								
ADEX	2700		102/16 L	102/38								
AIDA	15		228/30	228/38								
AIDC	17		222/29									
AIDI	1		228/38	228/40								
AIDK	4		228/40	228/42								
AIDR	7		228/20	228/44								
AIDX	12		228/42	228/44								
AIHT	3		121/54	122/41	122/45							
AL	47		14/24 D	31/14 S	41/38	107/49	126/38	155/16	168/04	212/38		
			26/22	40/29	53/41 S	124/25	155/06	164/31	204/08	248/44		
ALGL	3	NOSTEXT	30/09	96/36	108/39	137/03	158/23	202/34	207/21	212/47		
			45/19	107/44	124/34	137/04	187/33	204/13	207/22	224/39		
			63/43	107/50	124/36	137/05	187/36	204/15	207/23	224/47		
			70/36	108/37	136/10 S	139/24	188/04	207/20	207/24	243/21		
AM	57		14/27 D	121/30	122/18 S	122/34 S	226/27 S	228/29				
			113/24	121/55 S	122/30 S	222/28	228/19					
ATC	2734		37/40	102/55 D	212/26							
ATCX	2733		102/55 L	103/02	103/42							
ATC1	2760		103/18 L	103/35								
ATC2	2766		103/23 L	103/24	103/28							
ATC3	2774		103/22	103/29 L								
ATC4	3000		103/14	103/32 L								
BAEI	1100		15/12 D	15/14	152/23	152/27 S	157/57 S	193/37				
BAET	34		157/46	193/28								
BATL	1000		152/45									
BDLL	25	NOSTEXT	156/54	177/20								
BFMM	27	NOSTEXT	51/27	156/10	156/17	176/34	176/41					
BFMS	6776	NOSTEXT	55/21	172/04	198/30 S	202/39	227/11	230/10	243/38	249/57		
			104/52	182/38	199/19 S	203/14	228/07	234/15 S	244/27	250/01		
			105/23	183/48	199/33 S	204/36	228/10	234/28	244/30	250/06		
			120/34	191/06	199/41 S	204/56	228/11 S	236/47	244/31	250/36		
			125/40	196/27 S	199/55 S	213/01	228/12	241/09	244/34			
			127/30	196/32 S	200/07 S	213/04	228/14	242/33 S	245/01			
			127/57	196/42 S	200/14 S	213/07	228/16	242/34 S	249/32			
			128/03	196/43	200/17 S	213/17	229/11 S	242/36 S	249/36			
			131/17	196/50	200/18	217/41	229/12	242/38 S	249/38			
			138/01	198/15	200/28	225/13 S	230/09	242/39	249/50			
BIOL	147	NOSTEXT	51/05									
BMDD	14		156/15	176/39								
BMFW	10		51/25	156/08	176/32							
BMLN	160000	NOSTEXT	83/34									
CA	64		14/37 D	31/13	48/26 S	136/41	162/27	205/24	213/16			
			20/43	31/26 S	53/40	136/44 S	166/46	208/30	213/19 S			
			29/30 S	47/38 S	54/04 S	158/35	168/05 S	211/05	213/24			
			30/19	47/39 S	54/55	158/38 S	168/17	212/45	213/25 S			
			30/20 S	48/25	124/26 S	160/13	169/02 S	212/46 S				
CAM	3621		113/18 D	121/56	122/46							

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CLR8	3173	106/12 L	107/08 S	107/09	107/12	107/14
CLT	3274	104/47	107/41 D	108/29	171/54	172/11
CLTX	3273	107/41 L	107/54			
CLT1	3311	107/47	107/53 L			

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CM	10	NOSTEXT	17/12 S	50/42 S	80/04	108/44 S	140/47 S	170/05	189/41 S	215/55 S
			17/13	50/43 S	80/50 S	108/46 S	140/47	171/56	189/43 S	216/07
			17/17	51/06 S	81/02	108/47	145/08 S	173/27 S	189/46 S	216/41 S
1			18/42 S	51/07	81/06 S	108/49 S	145/39	173/43	189/47	216/43 S
2			18/43 S	51/09	81/07	108/52 S	149/14	174/01 S	189/49	216/54
3			21/17 S	51/24 S	81/10	109/25	152/34	174/02	189/54 S	217/02
4			21/31	51/26 S	81/11 S	109/27	152/36	174/06 S	190/03	217/04 S
5			21/33	51/39 S	81/12	109/35	152/42 S	174/08 S	190/42 S	217/07
6			22/35 S	51/40	81/13	109/37	152/44 S	174/10	190/46 S	217/09
7			22/37 S	51/42	81/14	109/39	152/46 S	176/26 S	190/50	218/11 S
8			22/39 S	51/44 S	81/19	109/41	152/48 S	176/31 S	193/10 S	218/12 S
9			22/42	51/45	81/24 S	109/43	155/08 S	176/33 S	193/15	221/32 S
10			24/12 S	51/51 S	81/27	111/50 S	155/10 S	176/36 S	193/24	223/01 S
11			24/14 S	51/53	82/14 S	111/51	155/12 S	176/38 S	193/29 S	223/02
12			24/17	52/39 S	82/15	113/22	155/18 S	176/40 S	193/32 S	223/29 S
13			24/52 S	52/40	82/20 S	113/28 S	155/28	176/45 S	193/34 S	223/31 S
14			24/57 S	52/43	82/22 S	113/30 S	156/05 S	176/47 S	193/36 S	223/33 S
15			25/01	52/46 S	82/24 S	113/33 S	156/07 S	176/49	193/44 S	224/22 S
16			25/08 S	52/47	83/33 S	113/36 S	156/09 S	176/52 S	193/49 S	224/24 S
17			25/11	53/47 S	86/53 S	113/38 S	156/12 S	177/10 S	193/52 S	224/28
18			25/16	53/48	86/54	113/43 S	156/14 S	177/12 S	194/02 S	224/31 S
19			25/18 S	56/51 S	87/10 S	113/45 S	156/16 S	177/14 S	196/10 S	224/33 S
20			25/22	57/06 S	87/16 S	113/49	156/18	177/50 S	196/11	224/38 S
21			28/11 S	57/07	87/21 S	114/31	156/21 S	177/57 S	197/28 S	224/41
22			28/14	57/10 S	87/24 S	114/32 S	156/29 S	178/03 S	197/29	226/09 S
23			28/25 S	57/13	88/04 S	114/37 S	156/32 S	178/04	197/34 S	226/10
24			28/26	57/32 S	88/09 S	114/38	156/34 S	178/05	197/36 S	226/24 S
25			28/56 S	57/33	88/11 S	114/43 S	156/36 S	178/08 S	198/34 S	226/25
26			28/57	57/54 S	88/15 S	120/25 S	156/45 S	178/12	198/36 S	226/38 S
27			29/11 S	57/57 S	90/54 S	120/28	156/47 S	178/14 S	198/38 S	226/47
28			29/15 S	58/03	90/56 S	121/47 S	156/49 S	178/17 S	198/40	226/49
29			29/23 S	63/44 S	91/02 S	122/24 S	157/31 S	178/19 S	199/43 S	230/21 S
30			29/26	63/45	96/14 S	122/27	157/47 S	178/40 S	199/48 S	230/22
31			29/46 S	64/35 S	96/15	122/36	157/50 S	178/47	199/52	233/23 S
32			29/47	64/39	96/24 S	124/08 S	157/52 S	178/52 S	202/19 S	233/26 S
33			31/20 S	65/35 S	96/25	124/09	157/54 S	178/53	202/21 S	233/26 S
34			31/21	65/37 S	96/27	124/35 S	158/06 S	179/34 S	202/35 S	233/27
35			35/12 S	70/37 S	96/46	124/41	158/09 S	179/35	202/36	235/12
36			35/13	70/38	96/53	126/17 S	158/11 S	179/38	203/30 S	235/21 S
37			35/17	70/55 S	96/55	126/23 S	158/13 S	179/55 S	203/32 S	235/25 S
38			38/04 S	70/56	102/26 S	126/25 S	158/18 S	179/56	204/14 S	235/37 S
39			38/05	72/24 S	102/32 S	126/34 S	158/19	180/07	204/17	235/39
40			38/56 S	72/26 S	102/34 S	126/36 S	158/25	180/10 S	204/48 S	235/43 S
41			39/01 S	72/28	102/36 S	126/43	158/30	180/13	204/49	239/22 S
42			39/03 S	73/19 S	103/18	129/02 S	158/32	181/41 S	204/53 S	239/24 S
43			39/07 S	73/20	103/20 S	129/05	159/19 S	181/42	204/56	239/26 S
44			39/12 S	73/27	103/31	129/08	159/20	181/50 S	205/26 S	240/15 S
45			39/14	74/45 S	103/33 S	129/09 S	160/37 S	181/51	205/29	240/17 S
46			39/16	74/46	105/46 S	129/13	160/38	181/52	206/27 S	240/19 S
47			40/40 S	75/44 S	105/47	133/33 S	161/20 S	181/55 S	206/28	241/11 S
48			41/40 S	75/46 S	105/49	133/34	161/21	181/57 S	206/30 S	241/13
49			41/43	76/23 S	106/01 S	134/30 S	161/24	182/02 S	207/12 S	241/17
50			42/11	76/26 S	106/02	134/34	161/26 S	183/22 S	207/25	241/21
51			42/23	76/28 S	106/05	134/38	161/27	183/24 S	207/29 S	241/29
52			47/23 S	76/31 S	106/14 S	134/40 S	162/38 S	184/09 S	207/30	241/31
53			47/24	76/33 S	106/15	134/43	163/02	184/10	207/32	241/33
54			47/27 S	76/35 S	106/16 S	136/29 S	164/27 S	184/15	207/48 S	246/21 S

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			47/29	76/38 S	106/18 S	136/30	164/33 S	184/34	207/50 S	246/22
			47/33 S	76/40 S	106/20 S	137/36 S	165/09	187/32 S	208/20 S	246/31 S
			47/34	76/42 S	106/24	137/39 S	165/16	187/34 S	208/21	246/33
1			48/02 S	77/42 S	106/31 S	137/41	165/19	187/37 S	208/32 S	248/04 S
2			48/03	77/44 S	106/32	137/50 S	165/23	187/38	208/33	248/05
3			48/18 S	77/46 S	106/33 S	137/51	165/26	187/39	208/36	248/42 S
4			48/19	77/48	106/36	137/54	165/49	187/41	210/33	248/44
5			48/22 S	78/28 S	106/38 S	139/14 S	165/55	187/42	210/43	248/46 S
6			48/24	78/29 S	106/41	139/15	166/36 S	187/43	211/07 S	248/47
7			48/41 S	78/32 S	106/55	139/18	166/39	188/05 S	214/22 S	249/22 S
8			48/42	78/34 S	106/57 S	139/25 S	166/41	188/07 S	214/26	249/23
9			48/44	78/36	107/45 S	139/26	166/42	189/20 S	214/28	
10			48/45 S	79/41 S	107/46	139/39 S	166/43	189/22 S	214/31 S	
11			48/46	79/46 S	107/51 S	139/40 S	166/48 S	189/28	214/33 S	
12			48/50	79/48 S	107/52	140/10 S	168/11 S	189/31	214/36	
13			49/34 S	79/54	108/31	140/11	168/12	189/32	215/43 S	
14			49/35	80/01 S	108/34 S	140/47 S	168/19 S	189/35 S	215/52 S	
15			49/39	80/02	108/40	140/47	168/23	189/38 S	215/53	
16	CME	3757	115/19	115/57 D						
17	CMEA	3753	115/53 D	139/49	139/49 S					
18	CMEB	3743	115/45 D	139/50	139/50 S					
19	CMEX	3756	115/57 L	116/02	116/11	116/14				
20	CME2	3775	116/09	116/13 L						
21	CME5	3743	115/44 L	116/05						
22	CME7	3753	115/50	115/52 L	115/53					
23	CME8	3755	115/55 L	139/49	139/50					
24	CMT	3314	108/19 D	111/04						
25	CMTX	3313	108/19 L	109/54						
26	CMT1	3334	108/30	108/32 L						
27	CMT2	3411	109/09	109/22 L						
28	CMT3	3417	109/16	109/20	109/28 L					
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CN	30		14/15 D	41/45	80/52 S	108/32 S	126/16 S	160/44 S	194/01	210/46 S
			22/08 S	45/20 S	81/15 S	108/38	126/27	162/36 S	196/18 S	210/49
			22/09	45/21	81/16	108/42 S	126/28	162/48	196/23	210/50
			22/12 S	48/55 S	81/18 S	109/04	129/04 S	162/53 S	196/26 S	212/55 S
			22/21 S	48/56	81/50	109/06 S	130/18 S	162/57	196/36 S	212/56
			22/23	49/19	82/23	109/17	130/39 S	163/04 S	196/45 S	215/18 S
			23/34 S	49/50 S	83/11 S	109/19 S	131/14	163/06 S	196/49	215/22
			23/35	49/52	83/12	109/31	134/27 S	163/08 S	196/50	215/37
			25/10 S	54/45 S	83/14 S	110/27 S	134/31	163/12	199/24 S	215/56
			25/15 S	54/46	83/41 S	110/28	134/33 S	164/35 S	199/25	216/47 S
			25/24	54/48	84/18	110/31	134/36	166/02	199/54 S	216/48
			25/28	54/51	86/03	110/32 S	134/41	166/08	199/57 S	217/05
			25/30 S	54/53	86/05	110/35 S	143/45 S	166/50 S	200/09 S	217/08 S
			25/31	55/01	86/39	110/45	143/47	169/15 S	200/11 S	217/24 S
			26/24 S	63/40 S	86/42	110/51 S	144/13 S	169/16	200/13	217/35
			28/13 S	64/01 S	96/32 S	110/57	144/14	173/35	200/20	221/30 S
			28/43 S	65/03 S	96/33	111/42	145/37	175/07	202/52 S	223/36
			28/44	65/16	96/37 S	111/48 S	149/40 S	175/40 S	203/01	224/40 S
			28/49 S	65/46 S	96/38	111/54	154/20	175/44	203/04 S	224/44 S
			28/51	65/56 S	103/07 S	111/57 S	157/22 S	177/46 S	203/26	224/48
			29/02	66/05	103/08	112/07 S	157/24 S	177/52	204/16 S	228/28 S
			29/04 S	67/28	103/11 S	113/19 S	157/26 S	177/54	204/19	228/51 S
			29/07	67/35 S	103/26 S	113/51	157/28 S	181/39 S	204/26 S	229/04
			29/09 S	71/45	103/37 S	121/36 S	157/30	189/24 S	204/27	233/45 S
			29/10	73/56 S	103/41	122/26 S	158/31 S	189/48 S	204/32	233/55
			29/18 S	74/07 S	105/52 S	122/39	158/34 S	189/51 S	205/21 S	233/57 S
			29/21	74/08	106/01 S	124/06 S	158/36 S	190/01	205/31	234/30
			30/10 S	74/35 S	106/03 S	124/12	158/40 S	190/37 S	210/27 S	234/33 S
			30/11	74/38	106/09	124/15	160/05 S	190/52	210/28	
			40/31 S	74/52	106/46 S	124/19	160/18	193/43 S	210/34 S	
			40/46	75/10 S	106/56	124/37 S	160/23	193/54 S	210/39	
			41/42 S	77/14	108/21 S	124/38	160/27	193/56 S	210/42 S	
CP	74	NOSTEXT	22/33	23/46	28/21	29/05	64/36	70/49	139/55	156/21
CPAS	200	NOSTEXT	22/40	28/09	28/56	29/19	64/52	70/55	140/06	176/52
			38/36	48/27	49/55	51/52	129/31	249/47		
			39/13	48/33	51/21	92/01	246/32			
CR	37		14/19 D	20/44 S	56/43 S	69/34	72/42	78/46		
CRT	4115		194/42	196/08 D						
CRTX	4114		196/08 L	196/51						
CRT1	4151		196/31 L	196/34						
CRT2	4160		196/40 L	196/46						
CSBN	205	NOSTEXT	22/36	22/43						
CSD	4105		26/25	40/49	185/10 D	221/37				
CSDB	4206		185/11 D	221/48	221/49					
CSDC	4210		26/32	185/12 D	221/48					
CSPW	73	NOSTEXT	22/34	22/41						
CTD	5545		37/49	218/30 D						
CTIP	434		228/16							
CTIS	3		198/37							
CTLL	22	NOSTEXT	109/42							
CUC	4025		116/49 D	128/23						
CUCA	4056		117/04	117/15 L						
CUCX	4024		116/49 L	116/57	117/03	117/08				
CUC1	4035		116/52	116/56 L						
CUC2	4037		116/37	116/40	116/44	116/47	117/02 L			
CUC3	3777		116/35 L	116/55						
CUD	4106		117/42 D	124/27						

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CUDX	4105		117/35	117/38	117/42 L					
CUD2	4115		116/07	117/45	117/49 L	127/48				
CUD3	4117		117/40	117/51 L						
CUD4	4075		117/33 L	117/48						
CUS	5516		185/13 D	190/32						
C2D	1122		24/51	39/06	148/03	235/20	235/33	236/28	249/45	
			25/14	123/20	148/17	235/24	236/25	249/42		
DAET	10		158/05	193/48						
DALL	12	NOSTEXT	44/03	126/42	240/21 S	242/14 S	243/34			
			126/39	239/07	242/04	242/37	248/45			
DAPS	6		113/26	113/27						
DATB	2366		37/27	153/28	159/53	160/31	162/29	171/32 S	175/34 S	
			99/20 D	154/21 S	160/04	161/53	162/39	175/10 S	175/37	
			99/22	154/32 S	160/15 S	162/01 S	163/05	175/22	175/48	
			152/35 S	159/27 S	160/16	162/17 S	163/07	175/25 S	221/46	
			152/37 S	159/28	160/23	162/23 S	163/37	175/27 S		
DATI	5		20/36	23/40	38/32	50/02	175/29			
			22/15	28/47	46/36	175/14				
DDLL	16	NOSTEXT	31/19	110/26	110/52	124/07	215/51	226/08		
			53/46	110/44	111/49	168/10	216/46	233/44		
			83/10	110/50	124/05	169/14	217/34			
DFCS	7		29/14							
DFM	423	NOSTEXT	25/36	63/36	67/56	72/18	81/39	83/39	85/34	131/04
			26/33	64/27	68/01	79/03	82/12	85/30	119/37	
			28/41	64/29	71/53	80/09	83/36	85/32	119/46	
DFPP	47	NOSTEXT	48/40							
DI	62		14/32 D	153/20	154/22	155/19	159/57	160/41 S		
DILL	13	NOSTEXT	52/45	113/50	121/35	122/25	136/12 S	204/09	212/49	226/23
DISS	7170		71/13	129/17 S	130/08	130/19 S	130/30 S	132/45	182/32	203/28
			105/10	129/53	130/14	130/29 S	132/04	171/28	182/35 S	
DLPB	1105		15/14 D	37/22 S	104/16 S	166/01	167/49			
			15/16	40/34 S	165/48	166/07	173/31 S			
DLYA	256	NOSTEXT	139/10							
DPPM	61	NOSTEXT	19/03	58/04						
DSCL	7	NOSTEXT	49/33							
DSCP	1		36/45	49/03	92/01	233/46	235/11			
			36/51	56/50	129/31	234/36	235/38			
DSEO	2		57/09							
DSSI	7777		28/17							
DSSL	72	NOSTEXT	28/24							
DTEI	14		241/09	242/36 S						
DTKM	33	NOSTEXT	65/38	75/47	76/29	91/03	194/28	207/51	239/27	240/20
DULL	14	NOSTEXT	21/16	108/39	126/44	131/13	173/28	206/37 S	207/40	
			38/03	108/41	129/03	131/52	178/39	206/38 S	207/41	
			41/39	125/56	130/17 S	136/20 S	178/41	206/39 S	248/03	
			41/41	126/42	130/38 S	173/26	204/15	207/17 S		
D1	71		65/01 I	72/48 I	88/38 I	93/24 I	244/26 I			
			68/44 I	78/40 I	91/40 I	243/18 I				
EAPS	7		113/26							
EATM	62	NOSTEXT	82/25							
EBP	4246		37/36	185/14 D						
EC	37		14/18 D	43/11 S	132/55 S	135/54	143/21	167/40	169/21 S	
			26/52 S	109/12	134/50 S	136/02 S	147/09 S	167/48 S	216/36 S	
			41/09 S	130/41	135/34 S	137/11	148/24	168/26 S		
			41/29	132/42 S	135/42 S	143/17	164/42 S	168/30 S		
ECLT	1117		16/17 L	30/12 S	34/17 L	45/22	49/13 S	157/40	193/17	

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ECSM	34	NOSTEXT	87/25	102/37	157/32	158/14	182/03	189/44	194/03
			88/16	155/13	157/55	178/15	188/08	193/38	
EDT	3746		193/08 D						
EDTX	3745		192/01	193/08 L	193/14	193/16	194/04		
EDT1	4011		193/26	193/42 L					
EF	63		14/36 D	143/13	144/40 S	147/28 S	147/46 S		
EMF	6436		18/07	45/45	46/02	140/37 D			
EMFA	6437		139/21 S	140/38 L					
EMFX	6435		140/37 L						
EMF1	6426		140/29 L	140/34					
EMF2	6432		140/33 L	140/41					
EMF3	6434		140/35 L	140/38					
ENRS	4000		56/50						
ENTQ	1	NOSTEXT	69/27 S						
EPAR	51		225/18						
EPDE	420		70/31	104/51	128/53	171/53	172/10	202/38	
EPDF	2000		63/56	104/51	171/53	196/14	202/38	212/44	238/52
			70/31	127/45	172/10	199/28	204/35	225/18	239/02
EPFW	7500	NOSTEXT	97/31	150/01	191/18	218/38	237/06	250/41	
			141/22	185/30	200/33	231/01	245/06		
EPND	1000		127/45						
EPNR	1		127/45	171/53					
EPNS	4		70/31						
EPRR	10		127/45						
EPRW	100		88/42	238/52	239/02				
EPSM	20		225/18						
EQ	53		14/25 D	29/50 S	39/08	100/38	144/48	156/35	178/16
			20/29 S	29/53	45/09	100/40 S	144/50	164/23	179/20
			20/46 S	30/04	45/13	100/48 S	147/12	167/28	180/05
			21/38 S	30/52	45/41	109/08	147/16	167/44	188/12
			21/41	30/54 S	45/56 S	113/29	147/31 S	168/38	194/30
			21/54 S	31/04 S	100/19	113/37	147/34	174/05	198/33
			24/49	31/05	100/23	144/42 S	156/06	174/48	204/39
			24/53	39/04	100/30	144/43 S	156/13	177/42	217/25
EQAE	1	NOSTEXT	134/26	140/47					
EQDE	0	NOSTEXT	20/24	52/38	108/27	147/19	164/26	177/43	217/19
			21/42	53/33	110/22	147/37	167/34	179/23	217/28
			31/06	57/27	111/19	147/54	169/38	179/54	224/57
			49/10	96/31	144/15	148/11	169/50	188/13	247/51
			51/43	100/31	144/51	149/11	174/49	207/44	
ERLN	40000	NOSTEXT	64/28	67/57	71/52	83/38	85/29	85/31	119/36
ERT	4257		194/22	194/29	195/13	198/01 D			119/45
ERTA	4223		197/25 S	197/30 L					
ERTB	4224		197/31 L	198/08	198/09 S				
ERTC	4231		197/37 L	198/03 S					
ERTX	4256		198/01 L						
ERT1	4270		198/06	198/08 L					
ERT2	4203		197/17 L	197/41					
ERT3	4234		197/19	197/31	197/39 L	198/08			
ERT4	4235		197/40 L	197/47	197/56				
ERT5	4250		197/51 L	198/41					
ES	63		14/34 D	242/03 S	244/19	244/24			
ESTP	72	NOSTEXT	29/22	47/32	52/30				
ET	62		14/33 D	219/27	232/24	242/01 S	244/22		
ETLT	16		157/42	193/19					
EXDF	4		43/56	239/03					

EXR	462	NOSTEXT	18/05	18/36	36/17	36/43	44/53	45/36	83/24	228/03
			18/14	20/42	36/18	44/05	44/54	45/43	174/13	
			18/22	27/30	36/21	44/07	45/06	46/20	222/33	
			18/29	36/04	36/22	44/28	45/07	57/16	226/28	
E4SS	7020		128/18							
FAFT	13	NOSTEXT	65/23	70/02						
FIRR	14		23/49							
FL	56	NOSTEXT	29/34							
FLCM	10		47/50	70/23	128/45	139/07	184/45	193/13		
FLMK	70		47/49	54/23	128/44	184/44	204/03			
			52/27	70/22	139/06	193/12				
FLRC	1100		15/04 D	30/23						
FLTB	20		31/44	31/45	52/28	54/24	204/04			
FLTK	4000		133/46	225/20						
FN	40		14/20 D	53/34 S	108/25 S	124/01	147/56	174/44	188/14	207/45
			14/21	53/35	108/28	124/32	148/12 S	174/47 S	189/17	208/17
			14/22	53/42	108/35	126/05	148/13	174/50	189/25	212/52
			14/23	53/52	109/14	128/13	152/20	175/02	189/55	215/47
			14/24	54/19	109/22	128/19	153/31	175/31	190/20	216/38
			17/09	57/28 S	109/28	128/25	154/27	175/41	190/23	216/51
			20/25 S	57/29	110/23 S	128/56	155/23	176/17	190/27	217/20 S
			21/06	63/37	110/24	129/10	155/53	176/27	190/47	217/29 S
			21/09	70/28	110/42	130/44	156/43	177/03	194/25	217/30
			21/12	70/32	110/48	130/53	159/16	177/08	195/09	221/27
			21/43 S	70/34	111/20 S	131/11	160/34	177/44 S	196/15	224/07
			25/05	71/03	111/39	134/53	162/33	177/47	198/11	224/12
			30/06	73/16	111/45	135/50	162/54	178/09	199/49	224/35
			31/07 S	80/47	113/34 S	136/26	163/09	178/37	202/29	224/45
			31/08	82/56	113/40	136/50	164/48	179/24 S	202/32	224/49
			31/15	83/08	113/46	136/53	165/10	179/29	202/49	224/52 S
			35/09	83/16	114/36	144/16 S	165/18	179/32 S	203/21	225/01
			37/19	83/19	114/44	144/17	165/22	180/17	203/54	226/06
			37/41	87/05	115/44	144/20 S	166/33	180/20	204/11	226/21
			37/55	100/32 S	116/50	144/52 S	167/35 S	180/23	204/45	226/34
			38/01	103/04	117/36	145/01	167/36	180/26	205/18	226/44
			39/02	103/38	117/46	145/04 S	168/08	181/33	206/19	228/25
			40/24	104/11	118/14	145/32	169/07	181/36	206/23 S	229/30
			40/35	104/44	120/17	146/10	169/12	181/47	206/24	229/34
			42/09	106/21	120/22	146/13	169/39 S	182/23	206/54	233/42
			42/15	106/28	120/56	146/16	169/40	183/18	207/04	241/01
			42/20	106/47	121/04	146/19	169/51 S	187/24	207/13	247/52 S
			43/17	107/03	121/33	147/20 S	169/52	187/29	207/18	247/53
			49/11 S	107/42	122/21	147/38 S	173/24	188/01	207/26	248/01
			49/31	108/22	122/31	147/55 S	173/40	188/11 S	207/34	
FNEI	2		67/26 S	68/56 S	76/11 S					
FNSS	7000	NOSTEXT	127/26	225/17 S						

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FS	20		14/10 D	68/42	91/39 S	109/13 S	145/14	173/29 S	222/25	247/16 S
			21/15 S	69/03	91/49	109/33	145/31	173/32	226/41 S	247/17
			21/18	69/17	92/28 S	110/53 S	146/11	173/45	226/43 S	247/19 S
			21/22	74/34 S	92/33	110/54	146/14	173/47	226/51	247/21 S
			21/26	75/17 S	92/36	117/33	146/17	175/35	239/56	249/25 S
			21/34	83/25 S	93/21 S	117/43	146/20	178/42 S	240/06	249/28 S
			31/18 S	83/27 S	93/23 S	124/04 S	149/12 S	178/43	240/07 S	249/53 S
			31/29	83/28	94/46	126/21 S	149/21	178/49	240/09	249/56
			37/24 S	83/29	94/48	126/30	149/25 S	178/56	246/57 S	250/03
			38/07	83/31 S	104/14 S	126/32 S	149/31	207/09 S	247/03 S	250/05
			40/38 S	83/35	104/17	126/45	149/38 S	207/42	247/04	250/07 S
			53/45 S	83/37	104/20	130/28	167/39 S	215/50 S	247/08	250/09 S
			54/07	83/40 S	108/56	132/53	169/26	216/45 S	247/09 S	
			54/11	86/16	109/01 S	135/57	169/33 S	217/15	247/11	
			66/10	90/31	109/03 S	137/07	169/43	217/33 S	247/12 S	
			67/21	91/37 S	109/10	145/10 S	169/55 S	221/34 S	247/14 S	
			76/13 S							
FSEI	7									
FSMS	1	NOSTEXT	72/50	91/46	212/50					
FTEI	10		66/11	69/05	76/15 S	242/38 S				
FTN	165	NOSTEXT	19/03	58/04	77/47	113/31	156/21	176/41	188/08	223/34
			24/18	65/38	78/35	113/39	156/37	176/48	189/44	224/25
			28/52	70/55	79/55	130/05	156/50	176/52	193/38	224/34
			28/56	72/27	82/25	137/48	157/32	177/15	194/03	233/26
			29/16	75/47	87/25	152/49	157/55	178/15	197/37	239/27
			45/24	76/29	88/16	155/13	158/14	178/20	202/22	240/20
			51/27	76/36	91/03	156/10	174/09	182/03	203/33	
			56/52	76/43	102/37	156/17	176/34	183/25	207/51	
FTSS	7006	NOSTEXT	128/10							
GAS	4137		117/10	118/18 D	126/35	136/19				
GASX	4136		118/13	118/18 L						
GAS1	4126		118/10 L	118/15						
GAS2	4130		118/12 L	118/21						
GCTI	73		7/39 D	229/09						
GCTO	71		7/41 D							
GDEI	4		7/48 D	64/30	68/02					
GDER	1		7/51 D							
GDPL	2		7/50 D							
GDRI	3		7/49 D							
GDSF	72		7/40 D							
GDUR	0		7/52 D							
GLAP	6		7/46 D							
GLGL	12	NOSTEXT	155/09	178/02	187/36	199/16	199/19 S	199/45		
GPDA	60		7/42 D							
GPRS	7		7/45 D	121/08						
GRDR	13		7/44 D							
GUNL	5		7/47 D	111/24						
HN	71	NOSTEXT	18/30	102/33	144/56	174/46	199/40	200/10	215/41	
			72/43	108/24	157/21	188/10	200/04	200/14	216/02	
			88/41	122/33	157/25	198/07	200/06	202/56	250/06	
HNGM	22	NOSTEXT	45/24	130/05						
IA	75	NOSTEXT	36/47	50/45	57/38	57/41				
IES	3460		26/54	38/09	41/47	43/24	110/19 D	147/29	147/47	175/46
IESX	3457		110/19 L	111/08						
IES1	3515		110/38	110/47 L	111/25					
IES2	3534		111/04 L							
IES3	3541		111/08 L	111/16						
IES4	3543		111/06	111/12 L						

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IES5	3565		111/23	111/25 L						
IFR	1134		20/37	23/41	38/33	50/03	175/30			
			22/16	28/48	46/38	175/15				
IMS	5065		36/19	44/56	230/46 D					
INFT	17	NOSTEXT	69/53							
INWL	124	NOSTEXT	178/51							
IR	50	NOSTEXT	14/25	49/12	51/02	56/41	57/39	139/34	184/04	
			14/26	49/16	51/11	57/24	57/42 S	143/05	184/40	
			47/40	50/51	51/54	57/37 S	57/43	174/12 S		
ISGL	10	NOSTEXT	109/38	109/40	207/37	207/38				
I2GL	11	NOSTEXT	109/40	109/42	207/38					
JCIW	26	NOSTEXT	28/10	28/12						
JSCL	43	NOSTEXT	47/22	47/28						
LA	15	NOSTEXT	45/36 S	83/24 S	226/28 S	228/03 S				
LA6DI	1		122/28							
LCDA	35		118/26							
LCDB	15		118/26							
LCDC	15		118/26							
LCDD	43		118/26							
LCDE	0		118/26							
LCDF	15		118/26							
LCDG	57		118/26							
LCDH	15		118/26							
LCDI	47		118/26							
LCDJ	47		118/26							
LCDK	77		118/26							
LCDL	77		118/26							
LCDM	47		118/26							
LCDN	15		118/26							
LCDP	0		118/26							
LCDQ	67		118/26							
LCDR	67		118/26							
LCDV	15		118/26							
LCDW	15		118/26							
LCDX	35		118/26							
LCDY	35		118/26							
LCDZ	35		118/26							
LCEA	15		118/26							
LCEB	15		118/26							
LCEC	15		118/26							
LCED	15		118/26							
LCEE	15		118/26							
LCEF	15		118/26							
LCEG	15		118/26							
LCEH	15		118/26							
LCEI	15		118/26							
LCEJ	15		118/26							
LCEK	15		118/26							
LCEL	15		118/26							
LCEM	15		118/26							
LCEN	15		118/26							
LCEO	15		118/26							
LCEP	15		118/26							
LCES	15		118/26							
LCEU	15		118/26							
LCEV	15		118/26							
LCEW	15		118/26							

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	LCKP	62		8/12	D	64/33	68/05	76/44					
	LDCI	2000		17/15		35/15							
	LDDI	3000		57/17									
1	LDIF	17		83/04									
2	LDIU	2		8/22	D	109/48	168/41	217/21					
3	LDMI	5000		66/29									
4	LDMP	1120		16/18	L	34/18	L	49/32	S	139/22	161/17		
5				30/07	S	45/17		96/34	S	158/21			
6	LDNI	1400		198/02									
7	LDT	4400		23/28		45/08	185/15	D					
8	LDUL	61		8/13	D	121/03	174/51	175/47					
9	LFPR	73		8/03	D	222/26	234/38						
10	LIAF	56		8/17	D	240/38							
11	LIAL	72		8/04	D	117/44							
12	LIDF	57		8/16	D	240/37							
13	LIEF	55		8/18	D	240/39							
14	LIFD	70		8/06	D								
15	LIFT	10	NOSTEXT	66/06		67/29	70/03	84/24	86/06				
16	LIHD	71		8/05	D								
17	LIMF	54		8/19	D	240/40							
18	LIPF	67		8/07	D								
19	LIQF	66		8/08	D								
20	LIRP	65		8/09	D	240/12							
21	LLLL	6	NOSTEXT	199/34		199/36							
22	LLSS	7017		116/53									
23	LMTI	0		8/24	D								
24	LNRE	15		116/06		116/08							
25	LO	61		14/30	D	21/39	30/55	53/23	144/45	164/39	247/48		
26				20/31		29/27	S	47/35	S	100/42	149/05	179/44	
27	LPTU	64		8/10	D	26/17	43/01	110/20	121/07	202/26	224/10		
28	LRA	1203		16/46	D	46/31	100/22	109/51	147/15	164/30	168/16		
29				34/46	D	49/21	100/37	126/37	147/33	166/45	168/44		
30				45/40		49/28	107/48	136/40	149/07	167/30	169/46		
31				46/25		53/19	109/45	144/47	164/16	167/43			
32	LRAA	1204		16/48	L	34/48	L	48/10	48/13	S			
33	LRAB	1173		16/33	D	34/33	D	54/49	S	54/52	S		
34	LRAC	1200		16/39	D	34/39	D	47/56	S				
35	LRAX	1202		16/44	L	34/44	L						
36	LRA1	1172		16/32	L	34/32	L	48/11					
37	LRA2	1200		16/38	L	16/48	34/38	L	34/48				
38	LSLT	0		127/20									
39	LTKL	4020		133/38		133/44	133/46	225/04	225/30				
40	LUAI	1		8/23	D								
41	LUNL	63		8/11	D	111/21	121/02	194/32					
42	L1MV	53		8/20	D								
43	MA	77	NOSTEXT	24/15		79/53	87/26	156/41	158/17	181/26	189/52	198/39	
44				67/23		79/57	88/10	157/29	159/26	181/54	190/39	241/08	
45				68/53		84/35	102/35	157/51	163/36	182/04	193/35	243/33	
46				72/44		84/54	120/33	157/56	177/06	189/42	193/57		
47				76/08		87/23	154/19	158/10	181/24	189/45	197/33		
48	MABL	113	NOSTEXT	48/01									
49	MBUF	3620		43/21		206/33	S	206/47	207/07	207/31	S	208/47	S
50				43/53		206/36	S	206/50	S	207/08	207/33	S	208/57
51				44/03		206/37	S	206/51	207/10	207/39	209/09	S	239/07
52				112/13	D	206/38	S	206/53	S	207/17	S	207/41	212/39
53				112/15		206/39	S	207/03	S	207/23	208/27	S	212/47
54													
55													
56													
57													
58													
59													
60													

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MDGL	6	NOSTEXT	40/33	108/43	111/49	122/25	149/26	162/56	207/10	221/33
			40/39	109/30	113/42	124/36	155/17	163/01	207/24	
			63/41	109/32	113/48	130/46	159/18	189/19	216/40	
			63/43	111/41	113/50	145/09	160/36	189/21	216/42	
			108/41	111/47	122/23	149/24	162/35	206/26	221/31	
MEFL	77	NOSTEXT	246/20							
MGCTI	4000		7/39	D 7/39	7/39	D 7/39				
MGCTO	1000		7/41	D 7/41	7/41	D 7/41				
MGDEI	20		7/48	D 7/48	7/48	D 7/48	173/36			
MGDER	2		7/51	D 7/51	7/51	D 7/51				
MGDPL	4		7/50	D 7/50	7/50	D 7/50				
MGDRI	10		7/49	D 7/49	7/49	D 7/49				
MGDSF	2000		7/40	D 7/40	7/40	D 7/40				
MGDUR	1		7/52	D 7/52	7/52	D 7/52				
MGLAP	100		7/46	D 7/46	7/46	D 7/46	43/54	125/54	136/14	238/57
MGPDA	1		7/42	D 7/42	7/42	D 7/42				
MGPRS	200		7/45	D 7/45	7/45	D 7/45	129/06			
MGRDR	4000		7/44	D 7/44	7/44	D 7/44				
MGUNL	40		7/47	D 7/47	D 175/08	189/50	190/36			
			7/47	108/48	175/39	190/35				
MISD	20		86/47	106/52	129/14	132/45	132/47	171/26	203/27	
MJNI	700		216/03							
MLCKP	4		8/12	D 8/12	8/12	D 108/57	178/44	240/10		
MLDIU	4		8/22	D 8/22	8/22	D 104/18	109/02			
MLDUL	2		8/13	D 8/13	8/13	D 178/44	199/32			
MLFPR	4000		8/03	D 8/03	8/03	D 21/23				
MLIAF	2000		8/17	D 8/17	8/17	D 240/31				
MLIAL	2000		8/04	D 8/04	D 54/12	131/50	149/29			
			8/04	21/29	57/34	145/12				
MLIDF	4000		8/16	D 8/16	8/16	D 240/30				
MLIEF	1000		8/18	D 8/18	8/18	D 240/32				
MLIFD	400		8/06	D 8/06	8/06	D 131/50	145/12	149/29		
MLIHD	1000		8/05	D 8/05	8/05	D 131/50	145/12	149/29		
MLIMF	400		8/19	D 8/19	8/19	D 240/33				
MLIPF	200		8/07	D 8/07	8/07	D 131/50				
MLIQF	100		8/08	D 8/08	8/08	D				
MLIRP	40		8/09	D 8/09	8/09	D 21/23	21/24	240/10		
MLMTI	1		8/24	D 8/24	8/24	D 109/02				
MLPTU	20		8/10	D 8/10	8/10	D 240/10				
MLUAI	2		8/23	D 8/23	8/23	D 178/57				
MLUNL	10		8/11	D 8/11	D 104/21	145/12	178/45			
			8/11	21/23	117/34	178/44	199/32			
ML1MV	200		8/20	D 8/20	8/20	D				
MMFL	122	NOSTEXT	22/07	28/42	48/54	139/13	193/09	204/25		
			22/22	28/50	49/51	140/47	196/09	218/10		
			23/33	29/45	96/23	184/08	199/23	230/20		
MMFP	2400		99/33	L 140/40	S 184/06	218/08	230/18			
MMF\$	1		6/25	D						
MMPF	20		86/08							
MNEC	14		137/09							
MRASD	1		8/14	D 8/14	8/14	D 31/30	54/08	240/10		
MRL	2441		18/09	18/19	18/33	36/14	36/26	36/33	46/17	100/45 D
			18/16	18/24	27/32	36/20	36/28	36/37	46/35	
MRLA	2426		100/35	D 100/46	S					
MRLB	2416		100/28	L 139/45	S					
MRLC	2403		36/08	S 44/23	S 100/17	D				
MRLD	2406		36/12	S 100/20	L					

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MRLX	2440		100/45	L							
MRL1	2402		100/16	L	100/43						
MRL2	2407		100/18		100/22	L					
MRL3	2434		100/20		100/27		100/36	100/40	L		
MRL4	2435		100/41	L	100/49						
MRST	11		196/21		204/33						
MRTL	17		204/21								
MSD	110	NOSTEXT	127/46								
MSLP	446		228/12								
MSSI	7756		28/15		28/17						
MSTL	20	NOSTEXT	31/25		112/15		136/38	169/01	203/27		
			54/03		135/43		136/43	202/47	212/34		
MS1W	31	NOSTEXT	36/45		39/15		48/33	49/55	56/56	57/50	233/46 235/11
			39/13		48/27		49/03	49/57	57/05	92/01	234/36 235/38
MS2W	36	NOSTEXT	18/45		38/36		49/57	51/52	64/54	129/31	139/56 249/47
			23/47		39/15		51/21	64/38	70/51	137/42	246/32
MTEM	36	NOSTEXT	152/49		156/37		176/48				
MXMF	4		196/35		199/36						
NCPL	70	NOSTEXT	18/41		50/41		139/38				
NEEQ	2	NOSTEXT	29/12		29/17						
NJNI	500		249/15								
NMSN	10000	NOSTEXT	63/35		64/26		85/33				
NOPE	5	NOSTEXT	20/45		31/03		53/30	144/41	249/19		
			21/53		52/32		100/47	164/46			
NRDE	16		116/04		116/06		226/32				
NTDA	2140		228/34								
NTDC	3346		235/46								
NVGL	7	NOSTEXT	163/03		206/33	S	207/31	S	207/36	207/39	208/57
			163/11		207/28		207/33	S	207/37	207/40	209/09
N4SS	7050		70/45		125/53		130/15	S	131/49	136/10	S
			105/01		125/56		130/17	S	131/52	136/12	S
			105/07	S	127/22		130/31		134/28	136/13	136/42
			116/35		129/20	S	130/36	S	135/46	S	136/15
			116/38		129/57		130/38	S	135/53	S	136/16
			116/41		130/13		130/46		135/55	S	136/18
			4/26		15/16	D	16/02		32/01	34/02	
OBOV	1117		24/16		49/56		69/41		84/55	120/34	157/57
ON	70	NOSTEXT	28/23		50/46		72/45		84/57	120/36	177/07
			36/41		69/37		72/47		87/27	126/40	190/40
			36/46		69/38		76/09		88/12	137/04	193/37
			36/48		69/39		76/11		92/03	154/21	203/24
			48/52		69/40		84/36		105/19	156/42	207/07
			99/22	D	99/23		99/28		141/22		
ORDB	2374		112/17	D	143/02		150/01				
ORDC	3745		112/18	D	151/10		185/30				
ORDD	3745		185/22	D	186/10		191/18				
ORDE	5606		112/19	D	193/06		200/33				
ORDF	3745		185/23	D	201/14		218/38				
ORDG	5522		185/24	D	220/01		231/01		232/46		
ORDH	5051		230/47	D	237/06						
ORDI	6055		185/25	D	238/15		245/06				
ORDJ	5522		99/23	D	246/14		250/41				
ORDK	2374		70/57								
ORET	46	NOSTEXT	229/11	S							
OSBP	465		112/15	D	112/17		112/18		112/19		
OVLA	3745		61/33	D	62/01		62/03		97/31		
O4DA	1742		116/08		116/10						
PARE	10										

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PFCW	67	NOSTEXT	29/08	29/20									
PFGL	4	NOSTEXT	25/07	40/33	135/52	145/03	166/47	180/11	207/21				
			25/09	80/49	135/53 S	145/05	166/49	189/39	216/42				
			26/23	80/51	136/55	149/37	173/30	189/53	216/44				
			37/21	104/15	136/56	149/39	177/53	190/02	221/29				
			37/23	109/24	136/57	164/32	177/56	190/40	221/31				
			40/30	109/26	137/03	164/34	179/31	190/49	226/46				
			40/32	134/28	144/19	166/35	179/33	190/51	226/48				
PFNL	107	NOSTEXT	143/46	144/12									
PIRR	15		180/42										
PJNI	600		198/08										
PMFT	12	NOSTEXT	65/21	65/23	70/01								
PPFW	1100	NOSTEXT	15/12	56/02	56/38								
PPR	257	NOSTEXT	19/04	24/19	28/53	36/49	50/48	58/05					
PRFM	15		226/13										
PRS	6241		99/31	139/04 L									
PRS1	6251		139/08	139/10 L									
PRS4	6310		139/19	139/29 L									
PRS5	6321		139/30	139/34 L									
PRS6	6337		139/36	139/44 L									
PRS7	6407		140/04	140/06 L									
PRS8	6410		139/42	140/07 L									
PRS9	6424		140/13	140/15 L									
PSNI	77		45/03	96/05	96/21	139/53	140/30	184/24	230/30	249/29			
PTA	1206		17/07 D	103/03	123/57	199/15	204/44	208/23					
			35/07 D	106/27	198/10	202/25	205/15	224/11					
PTAX	1205		17/05 L	17/19	35/05 L	35/19							
PUE	4272		119/29 D	134/56									
PUEA	4333		119/34	119/36	119/45	119/51 L							
PUEB	4345		119/31 S	119/33 S	119/42 S	119/44 S	119/52 L						
PUEX	4271		119/29 L	119/48									
PUE2	4331		119/40	119/48 L									
PUGL	5	NOSTEXT	25/09	109/26	145/09	166/49	179/33	207/22					
			40/32	136/57	149/39	177/51	180/09	226/48					
			80/51	145/07	164/34	177/53	180/11	226/50					
PUTLS	3		51/33										
PUTP	3		51/16										
P1	66		14/38 D	47/51 S	143/15	199/35 S	213/10	239/05 S	241/28	248/14			
			43/16 S	48/35	147/13 S	202/46 S	213/13 S	239/07	242/04				
			43/31	49/41	147/53	202/55	213/26	239/54	242/14				
			43/57 S	125/57 S	148/01	208/22 S	214/18	240/21	242/37				
			44/01 S	126/33	148/05	208/53	219/28	240/24	242/41				
			44/03	128/46 S	199/22 S	210/23	232/25	241/04	242/45				
			45/32 S	129/48	199/33	212/57 S	239/04 S	241/06	248/06 S				
P2	67		14/39 D	23/29	53/29 S	130/20	147/30	219/29	241/16	241/34			
			21/37 S	23/37 S	54/02 S	131/47	148/10	232/26	241/20				
			21/46	45/35 S	127/25 S	143/19	148/15	241/07 S	241/30				
			21/52 S	48/15	129/21 S	147/11 S	148/19	241/12	241/32				
QF	17		14/08 D	72/31 S	75/43	76/14	76/32	76/39					
QFEWL	20		69/42										
QFFT	20	NOSTEXT	69/53										
QI	36		14/17 D	69/43 S	78/41	78/51 S	160/08	162/10 S					
			69/35	72/39 S	78/47	158/26 S	162/07	193/55					
QS	35		14/16 D	78/19	102/25	153/21	155/26	160/45 S	162/51				
			72/51 S	78/23 S	120/27 S	153/23	159/23 S	162/05	175/20				
			76/18	78/30 S	120/37	154/24 S	159/56 S	162/08 S					
			76/27	79/01 S	131/19	155/21	160/30 S	162/28					

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QT	27		14/14 D	75/56	76/24	78/39 S	162/14	193/53		
			72/32 S	76/16	78/17	158/20 S	162/18 S			
QUAL\$	1		4/30 D							
RA	55	NOSTEXT	16/38	26/20	30/50	41/36	72/40	160/10	205/22	212/36
			20/16	29/51	34/38	47/55	78/44	162/24	208/28	213/14
			22/43	30/02	40/27	69/32	155/14	204/06	211/03	248/39
RASD	60		8/14 D	31/31	54/09					
RBPS	10		176/46							
RC	60		14/28 D	18/25	21/51 S	26/53 S	36/34	45/26 S	143/32	
			18/10	20/40	22/05	27/28	41/05 S	53/25 S	187/50 S	
			18/21 S	21/36 S	22/20	30/57 S	43/23 S	123/47 S		
RCHM	16	NOSTEXT	233/26							
RD	43		14/21 D	30/49 S	46/33	53/21	109/53	164/18 S	169/48 S	
			20/19 S	30/53	49/23 S	100/24 S	144/49 S	167/32 S	248/44	
			29/54 S	45/42	49/30	100/39	147/17 S	167/45		
			30/05	46/27 S	53/18 S	109/47 S	147/35 S	168/46		
RDB	2375		99/30 D							
RDBX	2374		98/01	99/30 L	140/15					
RDCM	40	NOSTEXT	79/55							
RDCT	103		226/30							
RDE	4507		37/26	185/16 D						
RDL	4572		18/08	36/13	45/05	123/51 D				
RDLA	4573		123/52 L	139/46 S						
RDLC	4707		125/12 L	139/09	139/09 S	140/05	140/05 S			
RDLX	4571		117/54	123/51 L	123/56	125/20				
RDL1	4602		115/48	124/01 L						
RDL10	4702		125/03	125/05 L						
RDL14	4703		124/47	124/50	125/09 L					
RDL15	4711		125/11	125/14 L	139/09	140/05				
RDL16	4566		123/47 L	124/11						
RDL17	4567		123/48 L	124/17						
RDL2	4632		124/23	124/25 L						
RDL3	4640		122/02	124/32 L						
RDL7	4660		124/46 L	124/56	125/18					
RDL8	4670		124/43	124/55 L						
RDL9	4673		124/49	124/57 L						
RDS	530	NOSTEXT	70/43	93/26	127/31	202/40	213/02			
			92/05	104/53	172/05	204/37	244/28			
RE	46		14/23 D	37/35 S	45/15	100/25	123/54	144/53	162/42	206/42 S
			20/20	37/44	45/27	100/33	125/01	146/38	164/19	212/40
			26/12 S	37/48 S	45/39 S	102/56	125/45 S	147/21	168/43 S	224/03 S
			26/29	40/19 S	46/30 S	104/05	125/48	147/39	174/17 S	224/53
			26/39	40/57	49/24	109/50 S	128/50	154/30 S	187/49 S	224/55 S
			29/55	41/04 S	49/27 S	115/51 S	130/24 S	155/04 S	202/14	226/40 S
			30/01 S	41/13	53/37 S	117/50 S	131/10 S	159/32 S	202/41	
			31/10 S	43/28	54/10 S	121/49 S	134/45	162/02	203/17	
			31/32 S	44/50	54/15 S	123/49 S	135/49 S	162/11	206/40	
RECM	72	NOSTEXT	24/18							
RECS	2		87/19	155/11	158/08	159/24	188/06			
			88/08	157/49	158/33	181/56	189/37			
RG	15		14/04 D	16/36 S	34/34 S	34/37	127/50 S	219/26		
			16/34 S	16/37	34/36 S	117/09 S	131/45	232/23		
RI	16		14/05 D	248/11 S	248/13 S					
RJMI	200		218/21							
RLA	2556		126/01	243/24						
RLA\$	1		101/11 D							
RLM	4732		125/12	125/47 D						

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STLL	15	NOSTEXT	21/14	40/39	104/13	124/05	136/18 S	169/42	203/08 S	216/46
			21/16	41/41	104/15	126/44	145/05	169/54	206/36 S	217/32
			31/17	43/21	109/32	129/20 S	145/07	173/28	207/08	217/34
			31/19	53/44	109/34	131/49	149/26	173/30	215/49	221/33
			37/23	53/46	110/52	135/55 S	167/38	178/41	215/51	226/50
			40/37	57/31	124/03	136/16	168/18	199/33 S	216/44	
STNR	4		21/19	41/34	115/55	135/39	226/42			
STPN	10		145/44	145/45						
STSV	13		134/49							
STSW	20	NOSTEXT	28/56	70/55	156/21	176/52				
STTL	6		43/12	213/28						
STUM	11		145/44							
STVE	15		174/14							
SYFT	14	NOSTEXT	71/46	72/54						
SYTB	1		31/44							
SYUI	377777		30/29							
TA	25		14/11 D	47/55	48/07 S	54/50 S				
TALS	4144		118/19	118/24 L						
TDGL	0	NOSTEXT	63/39	106/23	130/13	155/07	202/51	208/19	228/27	
			63/41	106/30	130/15 S	196/17	202/53	212/54		
			103/06	120/24	136/28	198/13	204/47	224/37		
			103/40	129/57	136/31	199/53	205/20	224/39		
TEQM	3675		113/32	113/56 L						
TFSW	72	NOSTEXT	57/05	57/12	57/53	58/02				
TGB	1154		111/24	121/08	229/09					
TH	72	NOSTEXT	73/30	91/41	158/37	176/20	210/56			
			88/07	133/27	161/13	209/03	233/53			
TLB	2662		26/17	110/20	121/03	174/51	202/26	234/38		
			43/01	111/21	121/07	175/47	217/21	240/12		
			109/48	121/02	168/41	194/32	224/10	240/25		
TR	73	NOSTEXT	18/46	48/28	51/22	70/52	137/43	207/23	249/48	
			23/48	50/01	64/55	129/34	181/25	207/39		
TRLL	20	NOSTEXT	17/11	35/11	73/18	161/19				
TS	45		14/22 D	159/29 S	162/40 S	196/19	199/38	204/30		
TSLM	3703		113/44	114/08 L						
TTDC	0		235/47							
TW	26		14/13 D	40/34	49/04	67/26	104/16	159/27	163/37	
			29/25 S	47/31 S	57/15 S	68/54	135/53	160/15	173/31	
			37/22	48/34	67/24	68/56	136/56	162/29	235/41	
T0	0	NOSTEXT	96/45 S	105/06	132/33 S	184/25 I	198/20 S	214/30	222/57	230/31 I
			96/47	105/56 S	132/38	184/33 S	198/29	215/21 S	229/29 S	
			96/48 I	106/17	132/43 S	184/35	204/50 S	215/23	229/35 S	
			103/25 S	106/44 S	161/14 S	184/36 I	204/55	216/50 S	229/36	
			103/27	129/55 S	161/25	197/22 S	214/25 S	217/12	229/40	
			105/03 S	130/03	184/23 S	197/27	214/27	222/53 S	230/29 S	

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T1	1	NOSTEXT	22/32 S	69/36	82/55 S	105/14	133/32	165/49	197/45 S	223/02
			22/38	71/11 S	82/57	105/45	135/44 S	165/51 S	197/52 S	225/03 S
			22/44	71/14 S	83/02 S	106/08	135/46	166/01	198/18 S	225/13
			24/48 S	71/15	85/05 S	106/10 S	135/47 S	166/02	199/46 S	225/14 S
			28/28 S	71/17 I	85/24 I	106/35 S	136/39 S	166/04 S	199/55	230/26 S
			28/37	74/41 S	86/09 S	118/11 S	136/42	182/29 S	210/19 S	230/32 S
			29/33 S	74/50 S	86/11	118/12	139/20	182/31 S	210/22	230/33
			29/36	74/57 S	86/12 S	118/16	140/32 S	182/32	210/26	233/31 S
			51/17 S	75/03	86/45 S	118/20 S	140/33	182/35	210/48	233/39 S
			51/18	75/09	86/46 S	129/15 S	148/28 S	184/20 S	210/57 S	233/40
			51/20 S	76/03 S	86/49	129/17	148/29	184/26 S	211/06	236/18 S
			51/28	76/05	96/07 S	129/18 S	149/22 S	184/27	212/35 S	236/23
			51/34	76/06 S	96/08	129/38 S	149/35	184/30 S	212/39	236/27
			51/36	79/52 S	96/43 S	129/39	160/19 S	184/37 S	213/09 S	246/25 S
			56/54 S	79/56 I	96/44	130/21	160/23	184/38	213/11	246/27
			56/57	80/56 S	96/49 S	130/34	160/24	196/28 S	213/17	
			57/48 S	81/01 I	96/50	130/37 S	160/26 S	196/30 S	213/18	
			57/51	81/32	97/01 S	131/56	161/16 S	196/32	213/20	
			63/50 S	81/34	104/56 S	132/35 S	161/27	196/33 S	215/14 S	
			63/52	81/41 S	105/08	132/44 S	165/47 S	197/18 I	216/06 S	
			69/29 S	81/43 I	105/11 S	133/28 S	165/48	197/40	222/55 S	
T2	2	NOSTEXT	38/35 S	85/10	103/34 S	131/55 S	143/44	160/14	206/48 S	216/08 S
			38/37	85/14	106/11	132/01	145/17 S	160/29	207/46	221/39
			73/53	85/20 S	106/37 S	132/03 S	145/22	160/43 S	210/21 S	221/41
			74/04 S	86/43 S	111/53 S	132/04	145/49	167/53 S	210/28	221/44 I
			74/09	86/52	112/04 S	132/32	153/17	168/48	210/33	226/12 S
			74/12 S	92/37 S	113/21 S	132/34	154/36 S	168/52	210/34	233/34 S
			74/37 S	92/41	113/32	132/36 S	154/43	197/20	210/35	233/35
			74/42	96/04 S	113/44	132/48 S	154/50	197/35	210/50	233/38 I
			74/51 S	96/06 I	114/35 S	133/30 S	154/57	197/39 S	211/02 S	236/12 S
			75/07	103/09 S	114/41	133/34	159/55	197/44 S	215/17 S	236/21 S
			83/15 S	103/13	126/14 S	140/29 S	160/02	197/50 S	215/25	242/10
			85/09 S	103/30	126/18	140/31 I	160/07 S	206/32 S	215/27 I	
T3	3	NOSTEXT	52/31 S	85/13 S	94/40	112/06	130/19	168/55	223/25	229/03
			63/06 S	85/17 I	105/50 S	116/01	130/29	171/18 S	223/30	234/06
			63/33	85/19 S	105/53	126/20	130/30	171/30	223/35 S	242/09
			70/33 S	85/27 S	105/57	126/22	130/50 S	198/14 S	224/42 S	249/34
			71/02 S	87/28	106/01	126/24	130/56	198/19	225/27 S	249/52 S
			71/05	91/45 S	106/02	126/26	131/03	202/48 S	228/24 S	249/54
			72/34 S	92/04	106/04 S	127/32 S	132/46 S	202/54	228/32	249/57
			72/36	92/19	106/42 S	127/36	132/50 S	203/28	228/35 S	
			72/37 S	92/21	106/53 S	129/41 S	132/51	215/24 S	228/46	
			81/33 S	92/23 I	107/01	129/43 S	132/56	215/32	228/49 S	
			81/40	94/24	107/06 S	129/53	167/51 S	215/34	228/55 S	
			85/07 S	94/30	107/07	130/08	167/55	215/35 I	229/01	
			85/12 I	94/33	111/56 S	130/14	168/15 S	222/22 S	229/02 S	
T4	4	NOSTEXT	81/04 S	81/54	82/04	111/03 S	111/14	233/28 S	233/37	



T5	5	NOSTEXT	20/18	52/37	76/22	111/18	149/10	176/44	198/30	239/25
			20/23	52/52	76/34	123/18	157/33 S	179/21 S	199/27 S	241/27
			20/30 S	53/20	76/41	123/22	158/28 S	179/46 S	202/18	242/44
			45/10 S	53/22 S	77/41	134/25	167/29 S	179/47 S	203/29	247/47 S
			45/14 S	53/31 S	78/31	143/16 S	167/31	179/51 S	204/29 S	247/50
			45/55 S	53/32	83/22	143/20 S	167/33	180/04	204/40 S	248/41
			46/24 S	57/25 S	90/57	144/44 S	168/39	180/40	207/43	248/43
			46/26	63/09	100/41 S	147/10	168/45	183/21	207/49	
			46/32	63/20	108/26	147/14 S	169/37	194/31 S	217/17 S	
			49/07 S	65/33	109/07	147/18	169/45 S	196/13 S	217/26 S	
			49/22	69/26	109/46	147/32 S	169/47	197/46	223/28	
			49/29	72/25	109/52	147/36	169/49	197/54 S	224/23	
			52/33 S	75/45	110/21	149/04 S	176/30	198/23 S	224/56	
			52/34 S	76/12	111/12 S	149/08	176/37	198/25	226/19	
T6	6	NOSTEXT	51/30 S	78/18 S	93/20	136/09	164/47 S	197/49 S	209/04 S	239/20
			51/31 S	78/33	94/49 S	152/25 S	168/07 S	198/32 S	210/18	240/16
			52/35	81/35 S	96/39 S	152/43	168/54	199/39 S	212/48 S	241/57
			64/48	81/42	102/21 S	153/29 S	168/57 S	202/37 S	214/17	242/05 S
			65/36	85/21	107/53 S	153/34	169/31	204/18 S	214/21	243/22 S
			68/43 S	88/37 S	108/50 S	154/41	169/44	204/31 S	214/35	243/26
			69/04 S	90/52	111/22	157/41 S	172/01 S	205/17 S	224/29 S	243/41
			70/39 S	91/36	124/42 S	158/24 S	176/21 S	205/25	224/43	244/23 S
			72/30 S	91/51 S	124/54 S	162/41 S	176/53 S	205/28	225/05	248/15 S
			75/12 S	91/55	128/11	164/17	181/29	205/30 S	225/21 S	
			75/16	92/12 S	133/25	164/22	193/18 S	208/25 S	225/22	
			76/17 S	92/17	133/37 S	164/25	196/20 S	208/31	225/29 S	
			77/43	92/32	133/47 S	164/38 S	197/43 S	208/52 S	239/09 S	
T7	7	NOSTEXT	63/42 S	82/18	94/47 S	127/19	157/43 S	180/24	204/22 S	225/25 S
			63/47	85/08	96/41 S	127/40	158/16 S	180/27	204/34 S	227/16 S
			70/41 S	87/11	102/23 S	129/47 S	162/46 S	193/20 S	208/26 S	239/23
			76/19 S	90/55	104/50 S	131/20 S	167/47 S	196/22 S	208/36	242/02
			78/20 S	91/38	110/56 S	136/11	168/27	196/40 S	208/42	244/18
			78/57	91/47 S	111/05	145/06 S	168/47	197/55	208/48 S	244/25 S
			79/31 S	92/09 S	117/02	145/11	168/50 S	198/16 S	208/51 S	244/33 S
			79/35 S	92/15	117/11 S	145/25	169/18	198/27 S	209/06 S	244/37 S
			79/38	92/35	120/26	149/09 S	171/25 S	199/17 S	210/20	
			79/49 I	93/22	120/31 S	149/27 S	171/28	199/19	212/51 S	
			80/06	94/32 S	120/38 S	149/28	172/03 S	199/20 S	213/06 S	
			81/09 S	94/36 S	122/01 S	149/34 S	180/12 S	200/15 S	214/23	
			81/21	94/39	124/18 S	152/32 S	180/18	202/28 S	214/33	
			81/48	94/42 S	125/16 S	154/40 S	180/21	204/10 S	224/27 S	
T8	16		14/06 D	123/11	123/15	123/26	137/40	246/54	249/37 S	249/44
			119/38	123/14 S	123/21	137/37 S	137/49	246/56	249/40	
T9	17		14/07 D	228/47 S	228/53 S	249/39 S	250/10 S			
UC	62		14/31 D	53/51 S	110/37	124/14 S	125/17 S	168/53 S		
			31/24 S	54/05 S	111/13	124/22	165/54	215/36		
			31/27 S	110/30 S	111/17 S	124/24 S	167/54 S	217/11 S		
UDT	4657		26/37	40/55	185/17 D	221/21				
UEML	120	NOSTEXT	249/21							
UER	4063		27/31	46/34	194/34 D					
UERR	106		88/39	88/43 S	88/47 S	128/54 S				
UERX	4062		194/34 L	194/36	194/38					
UER1	4040		194/19 L	194/40						
UER2	4055		194/20	194/24	194/27	194/30 L	194/43			
UIDW	70	NOSTEXT	28/22							
UIS	4100		46/16	195/04 D						
UISX	4077		195/04 L	195/06	195/08	195/11	195/14			

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	CIR8	1504	21/30	21/36	L			
	CIR9	1505	21/28	21/37	L			
	CMS	1232	18/05	30/26	L			
1	CMSB	1262	18/17	28/19	L	28/19	S	
2	CMSD	1333	18/39	173/17	L	174/18	S	
3	CMSE	1357	18/46	19/06	L			
4	CMS1	1242	18/08		L			
5	CMS2	1246	18/10		L			
6	CMS3	1252	18/11	18/14	L			
7	CMS4	1266	18/20	28/19	L			
8	CMS5	1305	18/27	18/29	L			
9	CMS6	1323	18/34	18/36	L			
10	CMS7	1331	18/26	18/38	L			
11	CUD	5614	18/23	191/12	D			
12	DPP	1344	18/40	18/50	L			
13	DPPB	1344	18/53	28/20	D	28/20	S	28/36 S 140/01
14	DPPC	1347	18/57	28/34	D	S		
15	DPP1	1352	18/50	19/03	L	22/46		
16	GDT	1650	18/28	23/32	D			
17	GDTA	1674	23/48	23/52	L			
18	GDTX	1647	23/32		L			
19	GDT1	1665	22/18	23/46	L	175/17		
20	GDT3	1642	23/28	23/39	L	23/42		
21	IAM	1736	24/46	175/45	D			
22	IAMA	2043	25/21	25/35	S	25/41	L	
23	IAMB	2046	24/47	25/38	S	25/42	L	
24	IAMX	1735	24/46	25/39	L			
25	IAM1	2004	25/13	25/20	L			
26	IAM2	2027	25/25	25/33	L			
27	IET	2566	29/41	31/02	D			
28	IETX	2565	31/02		L			
29	IET1	2571	30/56	31/05	L			
30	IET2	2617	31/25	31/28	L			
31	IET3	2553	30/48	31/12	L			
32	IET4	2555	30/50	31/33	L			
33	LCMS	6473	18/06	141/04	L	141/06		
34	PRS	2266	16/03	28/08	L	99/19		
35	PRSA	2533	28/23	30/29	L			
36	PRSB	2540	28/40	30/34	L			
37	PRSC	2526	30/14	30/24	S	D		
38	PRS1	2343	28/29	28/37	L			
39	PRS10	2520	29/49	30/15	L			
40	PRS12	2521	30/15	30/19	L			
41	PRS2	2345	28/16	28/38	L			
42	PRS3	2346	28/18	28/40	L			
43	PRS4	2352	28/42	29/01	L			
44	PRS5	2374	28/38	28/55	L			
45	PRS6	2433	29/13	29/22	L			
46	PRS7	2454	29/35	29/41	L			
47	RCD	2067	18/32	26/14	D			
48	RCDX	2066	26/14	26/56	L			
49	RCD1	2117	26/26	26/33	L	26/38		
50	RCD2	2123	26/28	26/31		26/37	L	
51	RCD3	2126	26/19	26/39	L			
52	RCD4	2133	26/41	26/47	L			
53	RCD5	2136	26/35	26/43		26/52	L	
54	RCD6	2142	26/48	26/56	L			

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RCD9	2063	26/10	L	26/16					
RCL	1714	23/50		24/12	L	27/15	180/43		
RCLA	1730	24/16		24/21	L	180/41	S		
RPF	1430	18/37		20/39	D				
RPFB	1422	20/34	L	23/30	S				
RPFX	1427	20/33		20/35		20/39	L		
RPF1	1375	20/16	L	20/32					
RPF2	1415	20/22		20/29	L				
RPF3	1416	20/30	L	20/47					
RPF4	1421	20/33	L	20/41					
RQS	2145	27/11	D	29/37		30/25			
RQSX	2144	27/11	L	27/13					
RSI	2235	27/12							
SDVR	1735	24/29	D	61/33					
TRCO	2631	28/37		31/41	L				
UMT	2155	18/35		27/27	D				
UMTX	2154	27/27	L	27/29		27/33			
.1	1	20/23	D	21/41	D	24/13	D	24/13	31/05 D
.2	0	20/24	D	21/42	D	22/43	D	31/06	D

SYMBOL QUALIFIER = RMS

CAD	1375	36/25		37/14	D				
CADA	1417	37/29	D	49/20	S				
CADX	1374	37/14	L	37/16		37/18	37/51		
CAD1	1425	37/30		37/34	L				
CAD2	1427	37/25		37/36	L				
CAD3	1451	37/38		37/43		37/46	37/51 L	38/11	
CAD4	1453	37/39		37/55	L				
CAD5	1472	37/57		38/08		38/13	L		
CDC	5536	44/06		238/55	D				
CDCX	5535	238/55	L	239/01					
CDC1	5552	239/05	L	239/08		239/11	239/16	239/18	239/29
CDC2	5570	239/18	L						
CDC5	5525	238/51	L	239/06					
CDR	5610	239/10		239/50	D				
CDRA	5617	239/55	S	240/01	D				
CDRB	5657	239/54		240/30	L				
CDRC	5663	240/24		240/37	L				
CDRX	5607	239/50	L	240/02		240/26			
CDR1	5632	240/11		240/13	L				
CDS	1544	36/32		40/21	D	45/12			
CDSA	1627	41/17	L	47/44		47/44	S		
CDSB	1637	41/31	D	47/45		47/45	S		
CDSX	1543	40/21	L	40/23		41/06	41/49		
CDS1	1571	40/45	L						
CDS10	1637	41/15		41/29	L				
CDS11	1660	41/33		41/35		41/47	L	47/44	47/45
CDS12	1541	40/18	L	40/26					
CDS2	1600	40/45		40/48		40/51	L		
CDS3	1610	40/54		40/57	L				
CDS4	1617	40/52		41/06	L				
CDS5	1621	41/02		41/08	L				

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	CDS6	1623	40/53	41/13	L				
	CDS7	1632	40/50	40/56	L	41/20	41/25		
	CDS9	1634	41/17	41/24	L	41/46			
1	CDT	5670	240/57	D	244/39				
2	CDTX	5667	240/57	L	241/03	241/15	241/19	241/23	241/35
3	CDT1	5724	241/14		241/18	241/22	241/27	L	
4	CFL	5766	239/15		242/07	D			
5	CFLX	5765	242/07	L	242/15				
6	CFL1	5756	241/57	L	242/11				
7	CMA	3554	54/47						
8	CRA	2725	248/16						
9	CRE	3156	48/39		50/50	D			
10	CREA	3273	51/22		52/06	L			
11	CREB	3311	50/40	S	50/44	S	50/46	52/07	L
12	CREX	3155	50/50	L	51/01		51/14	52/04	
13	CRE1	3167	50/56		51/02	L			
14	CRE2	3172	50/53		51/05	L			
15	CRE2.1	3207	51/10		51/16	L			
16	CRE3	3230	51/28	L	51/49				
17	CRE4	3233	51/31	L	51/41		51/48		
18	CRE5	3256	51/32		51/51	L			
19	CRE6	3271	51/56		52/01		52/04	L	
20	CRE7	3140	50/39	L	51/04				
21	CRE8	3143	50/41	L	51/13		52/02		
22	CSE	1673	40/41		42/14	D	221/35		
23	CSEA	1714	42/10	S	42/12	S	42/18	42/22	42/28 L
24	CSEX	1672	42/14	L	42/17		42/24		
25	CSE1	1710	42/21		42/25	L			
26	CSE2	1664	42/09	L	42/19				
27	CTI	6167	243/27		243/42				
28	CUA	2423	246/53	D	249/49				
29	CUAA	2430	246/28	S	247/01	L			
30	CUAB	2433	246/26	S	247/05	L			
31	CUAX	2422	246/53	L	247/22				
32	CUR	3317	48/53		52/25	D			
33	CURX	3316	52/25	L	52/29		52/36	52/55	
34	CUR1	3330	52/34	L	52/42		52/51		
35	DPP	1344	36/30		36/45	L			
36	ERM1	2732	50/09		50/16	L			
37	ERM2	2756	50/10		50/17	L			
38	ERM3	3000	50/11		50/18	L			
39	ERM4	3014	50/12		50/19	L			
40	ERM5	3033	50/13		50/20	L			
41	ERM6	3061	50/14		50/21	L			
42	GCD	2456	247/45	D	249/30				
43	GCDX	2455	247/45	L	247/49		248/20		
44	GCD1	2457	247/46	L	247/55		247/57	248/08	248/10 248/17
45	GSP	2526	248/09		248/38	D			
46	GSPX	2525	248/38	L	248/48				
47	HNG	1474	37/32		42/26		55/05	135/06	221/50 243/29
48			38/30	L	43/32		126/09	136/34	225/08 249/12
49			41/20		49/17		130/57	143/37	236/31
50	HNGA	1507	38/30	S	38/38	D			
51	HNG1	1502	38/31		38/34	L			
52	IET	3375	48/14		53/27	D			
53	IETX	3374	53/27	L					
54	IET1	3402	53/24		53/32	L			

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	IET2	3441	53/54	53/56	54/01	54/03 L	54/06
	IET3	3461	54/17 L	54/21	54/25		
	IET4	3463	54/13	54/19 L			
1	IET5	3362	53/17 L	53/39	54/26		
2	IET6	3364	53/19 L	54/17			
3	LCM	3475	47/57	48/38	54/42 D		
4	LCMA	3527	55/04	55/08 L			
5	LCMX	3474	54/42 L	54/54	55/02	55/03	
6	LCM1	3513	54/43	54/53 L			
7	LRMS	6501	45/44	45/57	141/12 L	141/14	
8	MSR	2572	249/29 L	250/27			
9	OVL0	4027	55/20 L	55/21			
10	PRS	2366	34/03	45/36	47/21 L	99/19	
11	PRSA	2716	48/34	50/07 L			
12	PRSB	2724	49/16	50/09 L			
13	PRSC	3074	49/56	50/23 L			
14	PRSD	3101	50/01	50/24 L			
15	PRSE	3117	48/28	50/25 L			
16	PRSF	3132	49/04	50/26 L			
17	PRS0	2436	47/43	47/48 L			
18	PRS1	2465	47/52	48/05	48/14 L		
19	PRS2	2503	48/16	48/25 L			
20	PRS3	2533	48/36	48/40 L			
21	PRS4	2566	49/03 L	50/05			
22	PRS5	2574	49/02	49/07 L			
23	PRS6	2613	49/15	49/19 L			
24	PRS6.1	2651	49/37	49/39 L			
25	PRS6.2	2667	49/42	49/47 L			
26	PRS7	2677	49/48	49/53 L	49/54	50/04	
27	PRS8	2714	49/45	50/05 L			
28	RCD	1722	36/36	42/55 D	45/16		
29	RCDA	1764	43/14	43/15	43/35 L		
30	RCDB	1776	43/14	43/36 L			
31	RCDC	1744	43/17 L	47/46	47/46 S		
32	RCDX	1721	42/55 L	42/57	43/26		
33	RCD1	1741	43/13	43/15 L			
34	RCD2	1752	43/23 L	43/30			
35	RCD3	1755	43/26 L				
36	RCD4	1756	43/22	43/28 L	47/46		
37	RCD5	1761	43/20	43/31 L			
38	RCD6	1716	42/52 L	43/07			
39	RDJ	5523	238/17 D				
40	RDJX	5522	238/01	238/17 L	238/18		
41	RDY	2011	42/52	43/52 D			
42	RDYX	2010	43/52 L	43/55	44/02	44/08	
43	RDY1	2021	44/01 L	44/04			
44	REM	2044	36/38	44/25 D			
45	REMA	2054	44/26 S	44/32 L	52/54 S		
46	REMX	2043	44/25 L				
47	REM1	2041	44/23 L	44/27			
48	RLD	2206	36/05	45/47 D			
49	RLDA	2150	45/30 D	49/36 S			
50	RLDB	2207	45/48 L	45/51 S			
51	RLDC	2154	45/34 D	49/40 S			
52	RLDD	2214	45/53 D	49/01 S			
53	RLDE	2220	45/57 L	49/38	49/38 S		
54	RLDF	2224	46/03 L	49/43	49/43 S		

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.IO 0 238/52 D 238/52  
 .READSTR 4 239/02 D 239/02 248/18 D 248/18

SYMBOL QUALIFIER = RDA

ACS	4767	80/07	81/26	81/37	81/51	82/01	82/08	85/26
		81/20	81/28	81/47	81/53	82/03	82/10	85/28
BFMS	6776	61/54	70/42	71/20	72/36 S	72/43		
CASS	7170	65/43	86/14 S					
CDC	5030	71/18						
CDSS	7233	69/23 S	69/25 S	69/37				
CEA	6355	96/52						
CFL	2414	66/04	67/19 D					
CFLX	2413	67/19 L	67/30	67/36				
CFL1	2431	67/22	67/28 L					
CLF	5632	67/20	90/50 D					
CLFX	5631	90/50 L	91/04					
CPS	2447	64/40	67/50 D	87/37				
CPSA	2451	63/51 S	67/53 D					
CPSB	2475	63/16 S	63/24 S	67/55	67/57	68/08 L		
CPSX	2446	67/50 L	67/54	68/06				
CQF	2520	65/18	68/32 D					
CQFA	2522	64/05 S	68/34 D	68/40 S	75/48 S	78/56 S		
CQFC	2524	64/07 S	68/36 L	68/47 S	75/55 S			
CQFX	2517	68/32 L	69/47					
CQF2	2545	68/38	68/49 L					
CQF3	2564	68/52	69/03 L					
CQF4	2571	68/50	69/07 L					
CQF5	2602	69/01	69/06	69/13 L				
CQF6	2663	69/45	69/47 L					
CQF7	2515	68/30 L	68/35	68/41	69/11			
CTSS	7050	67/31	67/34 S	84/42	84/45	84/49	84/55	
CTU	4536	66/14	86/02 D					
CTUX	4535	86/02 L						
CTU1	4547	86/10 L	86/13					
CTU2	4533	85/57 L	86/04	86/07	86/18			
CUS	2701	64/41	70/27 D	87/38				
CUSA	2735	57/20 S	70/49 L					
CUSB	3020	70/52	71/27 L					
CUSX	2700	70/24	70/27 L					
CUS1	2723	70/42 L	71/01					
CUS2	2741	70/53 L	71/06					
CUS3	2760	70/44	71/02 L					
CUS4	2765	71/04	71/07 L	71/22				
CUS5	2771	70/48	71/10 L					
CUS6	2672	70/21 L	70/30	71/24				
C2D	5061	63/11	64/50	84/43	84/50	85/16	91/56	
		64/46	81/23	84/47	85/11	91/53		
DATB	1735	62/01 D	87/27 S	87/30	87/53	88/01 S	88/12	
DTSS	7012	68/51						
EQV\$	1	61/51 D						
FCEC	25	67/31	67/34 S					
FCFN	0	84/55						

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	OASS	7214	69/40							
	PFE	4311	66/13	69/10	77/21	84/16	D			
	PFEA	4473	84/27 S	84/53 S	85/38 L					
1	PFEB	4503	84/32 S	84/33 S	84/34 S	84/44 S	84/48 S	84/51 S	85/39 L	1
2	PFEC	4507	84/57 S	85/01	85/03 S	85/23 S	85/40 L			2
3	PFED	4514	85/06	85/41 L						3
4	PFEE	4470	63/19 S	63/32 S	85/29	85/33	85/37 L			4
5	PFEX	4310	84/16 L	85/35						5
6	PFE1	4323	84/19	84/24 L						6
7	PFE1.1	4327	84/22	84/27 L						7
8	PFE1.2	4345	84/25	84/41 L						8
9	PFE2	4401	84/37	84/56 L						9
10	PFE3	4421	85/10 L	85/22						10
11	PMEC	3702	80/16 L	84/41 S						11
12	PMFC	3700	80/14 L	85/57 S						12
13	PMPC	3701	71/48 S	80/15 L						13
14	PMQC	3704	80/18 L	84/20 S						14
15	PMRC	3703	69/13 S	80/17 L						15
16	PQIC	3705	68/30 S	80/19 L						16
17	PRS	6225	63/04	96/12 L						17
18	PRX	6223	96/10 L	96/29						18
19	PRS0	6241	96/20	96/23 L						19
20	PRS1	6274	96/45 L	96/51						20
21	PRS2	6215	96/04 L	96/09						21
22	PRS3	6221	96/08 L	97/02						22
23	PTA	3165	63/54	73/15 D						23
24	PTAX	3164	73/15 L	73/37						24
25	RDA	1745	20/28	57/35	63/04	D				25
26	RDAA	2066	64/02 L	96/22 S						26
27	RDAC	2322	64/55	66/19 L						27
28	RDAD	2327	63/12 S	63/27 S	66/20 L	71/52	85/25			28
29	RDAE	2332	64/47 S	64/51 S	66/21 L					29
30	RDAF	2334	66/22 L	71/50 S	71/55 S					30
31	RDAG	2250	63/53 S	65/45 D	66/26					31
32	RDAH	2347	63/52	66/25 L						32
33	RDAI	2351	63/17 S	63/28 S	64/26	64/28	66/31 L			33
34	RDAJ	2365	63/18 S	63/29 S	63/35	66/33 L				34
35	RDAK	2145	57/18 S	64/36 L						35
36	RDAL	2170	57/19 S	64/52 L						36
37	RDAM	2120	64/24 D	77/22 S						37
38	RDAT	2665	69/53 L	69/53	70/04	73/53	74/09			38
39	RDATBL	5	70/04 D	74/03						39
40	RDATL	2	69/53 D							40
41	RDAX	1744	63/04 L	63/05	63/08	64/42	71/08	87/40		41
42	RDA1	1751	63/07	63/09 L						42
43	RDA10	2272	65/25	65/57 L						43
44	RDA11	2275	65/50	66/02 L						44
45	RDA12	2306	66/01	66/03	66/10 L					45
46	RDA13	2312	66/08	66/13 L						46
47	RDA14	2314	66/12	66/14 L						47
48	RDA15	2316	66/07	66/15 L						48
49	RDA1.1	2031	63/34	63/37 L						49
50	RDA2	2100	64/02	64/06	64/12 L	65/28	66/16			50
51	RDA3	2111	64/18	64/20 L						51
52	RDA4	2143	64/25	64/34 L						52
53	RDA5	2156	64/13	64/46 L						53
54	RDA5.1	2215	65/12	65/16 L						54
55										55
56										56
57										57
58										58
59										59
60										60

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TQF1	3371	76/04	L	76/07			
TQF2	3341	75/43	L	75/57			
TQF3	3350	75/48	L	75/53	76/45		
TRDA	6422	96/42		97/21 L	97/23		
UCSS	7175	65/51		65/52	65/53	65/54	86/11 S
VAL\$	1	89/16	D				
VFL	6007	65/57		68/49	93/17	D	
VFLX	6006	93/17	L	93/27	93/34		
VFR	3465	65/13		77/12	D		
VFRX	3464	77/12	L	77/18	77/20	77/23	
VFR1	3476	77/15		77/19	L		
VSL	6051	92/24		94/35	D		
VSLX	6050	94/35	L	94/41	94/44	94/51	
VSL1	6061	94/26		94/31	94/42	L	
VSL2	6064	94/28		94/46	L		
VSL3	6035	94/24	L	94/38			
VTC	3507	77/19		77/38	D		
VTCA	3510	77/39	L	96/18	S		
VTCX	3506	77/38	L	77/40	77/49		
WDE	4675	64/22		87/39	87/51	D	
WDEA	4710	87/17	S	88/03	D		
WDEB	4713	87/22	S	88/06	D		
WDEX	4674	87/51	L	87/52	88/17		
WEI	5542	67/27		68/57	76/20		
WEIA	6274	89/18	D				
WQF	3526	69/46		76/01	78/16	D	
WQFX	3525	78/16	L	78/52			
WQF1	3563	78/25		78/40	L		
WQF2	3576	78/43		78/48	L		
WQF3	3604	78/52	L	79/04			
WQF4	3606	78/38		78/56	L		
WSR	4731	69/18		86/17	88/36	D	
WSRA	4746	88/40	S	88/46	L		
WSRX	4730	88/36	L	88/49			
WSS	5567	72/49		88/45			
.IO	0	63/56	D	63/56	70/31	D	70/31

SYMBOL QUALIFIER = ISD

CMI	5557	129/44		131/44	D		
CMIA	5616	132/05	S	132/06	132/13	L	
CMIX	5556	131/44	L	131/46	131/51	131/57	132/10
CMI1	5575	131/48		131/55	L		
RLSB	5264	129/24	L	139/33	139/33	S	
RLSC	5275	129/32	D	139/57	S		
RLSD	5442	130/57	L	139/47	S		
RLSE	5476	129/26		129/27	131/24	L	
RLSF	5507	129/26		131/25	L	139/17	S 139/32 S
RLSG	5524	129/34		131/26	L		
RLSH	5347	130/01	S	130/10	D		
RLSI	5540	130/49		131/27	L		
RLS12	5215	128/47		128/50	L		
RLS13	5251	129/16	L	129/19			

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RLS14	5261	129/07	129/22 L
RLS15	5266	129/27 L	129/40
RLS16	5272	129/23	129/30 L 129/45
RLS17	5306	129/38 L	139/33
RLS18	5307	129/24	129/39 L
RLS19	5340	130/05 L	130/06 130/12
RLS19.1	5344	130/04	130/08 L
RLS20	5373	129/49	130/28 L
RLS21	5416	130/22	130/41 L
RLS22	5431	129/28	130/50 L
RLS23	5444	130/55	131/03 L
RLS24	5454	130/48	131/09 L
RLS25	5456	130/43	131/11 L
SDT	5642	129/22	132/40 D
SDTX	5641	132/40 L	133/03
SDT1	5654	132/37	132/49 L
SDT2	5632	132/32 L	132/54
SDT3	5634	132/34 L	132/52
SDT4	5636	132/36 L	133/01
.1	420	128/53	D
.2	0	129/35	D 129/35
.3	1	129/35	D

SYMBOL QUALIFIER = RDC

CFN	4161	145/20	146/09 D
CFNX	4160	146/09 L	146/12 146/15 146/18 146/22
CFR	4200	145/51	146/35 D
CFRX	4177	146/35 L	146/37 146/40 146/44
ERR	4221	145/47	146/47 147/09 L
ERRA	4367	147/57 S	148/04 S 148/09 S 148/14 S 148/18 S 148/23 S 148/31 148/36 L
ERRB	4403	148/30 S	148/37 L
ERRC	4406	148/29	148/38 L
ERRD	4411	148/31	148/32 148/41 L
ERR1	4251	147/27	147/30 L
ERR2	4276	147/45	147/48 L
ERR3	4301	147/25	147/43 147/53 L
ERR4	4363	148/26	148/32 L
GFO	4632	143/31	146/42
GFO\$	0	149/50	D
GNE	4420	145/18	149/03 D
GNEX	4417	149/03 L	149/06 149/41
GNE1	4421	149/04 L	149/16 149/20 149/30
GNE2	4443	149/18	149/21 L
RDC	3746	143/04	D
RDCX	3745	142/01	143/04 L 143/12 143/23 146/48
RDC1	3753	143/11 L	143/14
RDC2	3772	143/23 L	143/43 143/48
RDC3	3773	143/07	143/27 L
RDC4	4002	143/28	143/32 L
RDC5	4004	143/34 L	143/36
RDC6	4012	143/33	143/35 143/41 L
SDF	4026	143/29	143/41 144/11 D

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SDFX	4025	144/11	L	144/21			
SFE	4473	143/42					
VPF	4044	143/11		143/34	144/38	D	
VPFA	4141	145/38	S	145/41	D		
VPFX	4043	144/38	L	144/46	147/49	148/33	
VPF1	4051	144/43	L	144/54	144/57	145/13	145/52
VPF2	4115	145/18	L	145/21	145/43		
VPF3	4146	145/24		145/27	145/45	L	
VPF4	4147	145/33		145/46	L		
VPF7	4152	145/19		145/49	L		
VPF8	4156	145/50		145/52	L		
.4	3540	150/01	D	150/06			

SYMBOL QUALIFIER = RDD

ABD	3754	152/19	D	162/19			
ABDA	4017	152/16		152/53	L		
ABDX	3753	152/19	L	152/22	152/50		
ABD1	3751	152/16	L	152/24			
CAD	5604	173/19	D	183/42			
CADX	5603	173/19	L	173/21	173/23	174/19	
CAD1	5626	173/35	L				
CAD2	5634	173/37		173/40	L		
CAD3	5651	173/42		173/46	173/49	173/52	L
CAD4	5664	173/51		173/53	174/04	L	
CAD5	5704	173/54		174/15	L		
CAD6	5711	173/56		174/04	174/11	174/19	L
CAD8	5601	173/17	L	173/34			
CBF	6053	175/11		176/16	D		
CBFB	6170	177/07		177/20	L		
CBFX	6052	176/16	L	176/19	176/56	177/17	
CBF1	6061	176/25	L	176/54			
CBF2	6111	176/29		176/44	L		
CBF3	6120	176/42		176/49	L		
CBF4	6144	176/50		177/03	L		
CBF5	6165	177/05		177/16	L		
CCE	5106	164/45	D	167/26	169/29		
CCEX	5105	164/45	L				
CCE1	5044	164/16	L	164/40			
CCE2	5077	164/21		164/24	164/29	164/38	L 164/50
CCE3	5103	164/37		164/42	L		
CDD	6176	175/50		177/41	D		
CDDA	6227	178/07	L	184/14	S		
CDDX	6175	177/41	L	177/55	178/06	178/21	
CDE	4047	153/27	D	154/38			
CDEX	4046	153/22		153/24	153/27	L 153/38	
CDE1	4062	153/35		153/37	L		
CDE2	4034	153/17	L	153/33			
CDE3	4044	153/19		153/25	L		
CDS	6255	174/54		174/57	178/36	D	
CDSX	6254	178/36	L	178/46	178/50	178/55	179/01
CEFA	5124	164/49	S	165/15	D		
CEP	5122	164/28		165/13	D		

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	CEPX	5121	165/13	L	165/17	165/25					
	CEP1	5115	165/09	L	165/21						
	CEP2	5116	165/10	L	165/27						
1	CID	5732	174/53	D	183/43						
2	CIDX	5731	174/53	L	174/55	175/01	175/06	175/09	175/12	175/52	
3	CID2	5770	175/16		175/19	L					
4	CID3	6005	175/26		175/28	L					
5	CID4	6007	175/21		175/29	L					
6	CID5	6012	175/13		175/31	L					
7	CID6	6022	175/33		175/37	L					
8	CID7	6033	175/38		175/45	L					
9	CID8	6047	175/49		175/51	L					
10	CID9	5713	174/43	L	175/04						
11	CLP	5144	164/36		165/45	D	166/51				
12	CLPX	5143	165/45	L	166/10		166/12				
13	CLP1	5147	165/48	L	165/53						
14	CLP2	5163	166/01	L	166/06						
15	CLP3	5200	165/50		165/57	166/03	166/11	L			
16	CSD	4105	154/34	D	185/10						
17	CSDB	4206	153/36		153/37	154/47	155/34	L	185/11		
18	CSDC	4210	153/25		153/36	155/35	L	185/12			
19	CSDD	4227	155/31		155/37	L					
20	CSDX	4104	154/34	L	154/39	154/46	154/48	155/32			
21	CSD1	4127	154/42		154/50	L					
22	CSD2	4141	155/01		155/03	L					
23	CSD3	4171	155/20		155/23	L					
24	CSD4	4202	155/22		155/31	L					
25	CSD5	4204	155/30		155/32	L					
26	CSD6	4065	154/19	L	154/37						
27	CSD7	4075	154/23		154/27	L					
28	CSD8	4101	154/25		154/31	L					
29	CSD9	4102	154/32	L	154/51	154/55					
30	CUS	5516	171/17	D	175/36	185/13					
31	CUSX	5515	171/17	L	171/20	171/33					
32	CUS1	5525	171/24	L	171/29	171/31					
33	CUS2	5537	171/27		171/32	L					
34	CUT	6571	180/37								
35	EBP	4246	155/52	D	163/13	185/14					
36	EBPA	4317	156/28	D	184/50	184/50	S				
37	EBPB	4321	156/30	L	184/47	184/47	S				
38	EBPC	4323	156/33	L	184/11	S					
39	EBPD	4352	156/42		156/54	L					
40	EBPX	4245	155/52	L	155/55	155/57	156/51				
41	EBP1	4254	156/04	L	156/22						
42	EBP2	4317	156/19		156/26	L					
43	EBP3	4332	156/41	L	184/50						
44	ILK	6317	174/56		179/28	D					
45	ILKA	6336	179/26	S	179/42	D	184/05	S			
46	ILKB	6371	179/40	S	180/15	D					
47	ILKX	6316	179/28	L							
48	ILK1	6342	179/43		179/46	L					
49	ILK2	6344	179/51	L	180/01	180/03	180/16	180/19	180/22	180/25	180/38
50	ILK3	6375	180/19	L	180/29						
51	ILK4	6410	180/06		180/30	L					
52	ILK5	6417	180/31		180/40	L					
53	ILK6	6306	179/20	L	179/52						
54	LDT	4400	157/36	D	185/15						

	LDTA	4406	157/44	L	184/18	184/18	S
	LDTX	4377	157/36	L			
	LDT0	4430	158/04	L	184/18		
1	LDT1	4357	157/21	L	157/34		
2	LDT2	4367	157/29	L	158/41		
3	LRDD	7000	184/19		184/55	L	184/57
4	ORDE	5606	172/20	D	185/22		
5	ORDG	5522	170/13	D	185/23		
6	ORDH	5051	163/45	D	185/24		
7	ORDJ	5522	170/14	D	185/25		
8	POV	6677	151/13		184/04	L	
9	POV0	6730	184/17		184/19	L	
10	POV1	6734	184/23	L	184/28		
11	POV2	6740	184/21		184/27	L	
12	POV3	6746	184/33	L	184/39		
13	POV4	6753	184/31		184/38	L	
14	POV5	6755	184/07		184/40	L	
15	POV6	6772	184/42		184/50	L	
16	POV7	6776	184/46		184/48		184/51 L
17	RDD	3746	151/12	D			
18	RDDX	3745	151/01		151/12	L	184/51
19	RDE	4507	159/15	D	175/19		185/16
20	RDEX	4506	159/15	L	159/33		
21	RGM	6463	175/05		181/45	D	183/16
22	RGMX	6462	181/23		181/31		181/45 L
23	RGM0	6425	181/17	L	181/35		
24	RGM1	6444	181/19		181/29	L	
25	RGM2	6447	181/33	L	181/46		
26	RGM3	6452	181/30		181/36	L	181/53
27	RGM4	6454	181/27		181/38	L	182/05
28	RIL	5564	171/19		172/08	D	181/18 182/26
29	RILX	5563	172/08	L	172/15		
30	RIL1	5575	171/57		172/06		172/13 L
31	RIL2	5542	171/53	L	172/09		
32	RIL3	5554	171/55		172/02	L	172/12
33	SDT	4607	154/35		160/33	D	
34	SDTX	4606	160/09		160/33	L	
35	SDT1	4537	159/53	L	160/17		
36	SDT2	4544	159/54		159/57	L	160/25
37	SDT3	4553	160/01		160/03		160/06 L
38	SDT4	4557	160/10	L	160/46		
39	SDT5	4573	160/23	L	160/28		
40	SNT	4630	152/26		161/11	D	162/15
41	SNTX	4627	161/11	L	161/28		
42	SUT	6612	180/30				
43	TRDD	7004	184/29		185/03	L	185/05
44	UDT	4657	161/50	D	185/17		
45	UDTA	5016	161/48		163/17	L	
46	UDTX	4656	161/50	L	162/20		163/15
47	UDT1	4672	161/52		162/02	L	
48	UDT2	4703	162/06		162/11	L	
49	UDT3	4722	162/04		162/13		162/21 L
50	UDT4	4760	162/44		162/48	L	
51	UDT5	4654	161/48	L	162/16		
52	UIS	6512	174/43		182/22	D	
53	UISX	6511	182/22	L	182/25		182/27 182/41
54	UMS	6550	173/22		183/15	D	

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UMSX	6547	183/15	L	183/17	183/20	183/27
VDP	5204	166/32	D	168/33		
VDPX	5203	166/32	L	166/52		
VDP1	5222	166/38		166/45	L	
VDP2	5202	166/30	L	166/44		
VFN	5470	166/37		170/08	D	185/18
VLP	5257	167/42	D	173/52		185/19
VLPX	5256	167/27		167/42	L	
VLP1	5302	167/56		168/04	L	169/56
VLP10	5413	168/56		169/26	L	
VLP11	5435	169/28		169/45	L	
VLP12	5234	167/26	L	167/57		
VLP13	5237	167/28	L	168/31		169/22
VLP2	5316	168/16	L	169/03		
VLP3	5332	168/30	L	168/34		
VLP4	5333	168/28		168/31	L	
VLP5	5335	168/25		168/33	L	
VLP6	5353	168/40		168/47	L	
VLP7	5372	168/49		169/07	L	
VLP8	5407	169/20	L	169/30		
VLP9	5410	169/11		169/19		169/21 L
WDE	5034	162/21		163/35	D	175/28 185/20
WDEX	5033	163/35	L	163/40		
.IO	0	171/53	D	171/53		172/10 D 172/10

SYMBOL QUALIFIER = RDG

AUL	6640	215/46	D	217/22		
AULA	6616	215/29	L	215/40	215/42 S	216/03 216/04 S
AULX	6637	215/39		215/46	L	
AUL1	6656	216/01		216/03	L	
AUL2	6577	215/14	L	215/44		
AUL3	6603	215/16		215/18	L	216/09
AUL4	6623	215/29		215/35	L	216/03
CTD	5545	202/24	D	212/30		218/30
CTDX	5544	202/17		202/24	L	
CTD1	5624	202/43		203/07	L	
CTD2	5634	203/05		203/12	L	
CTD3	5674	203/19		203/35	L	
CTD5	5527	202/14	L	202/31		
CTD6	5534	202/17	L	203/36		
CTT	6006	205/14	D	218/19		
CTTX	6005	205/14	L	205/34		
CTT1	6016	205/22	L	205/32		
EMT	6034	206/18	D	212/25		
EMTA	6143	207/16	L	218/13	S	
EMTB	6037	18/31	S	206/21	D	
EMTX	6033	206/18	L	207/52		
EMT1	6067	206/35		206/40	L	
EMT2	6123	206/46		206/56		207/01 207/04 L
EMT3	6130	206/44		207/08	L	
EMT4	6146	207/15		207/18	L	
EMT5	6213	207/47		207/52	L	

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ETT	6216	208/16	D	212/21							
ETTB	6260	208/35	S	208/44	D						
ETTC	6317	208/42		209/16	L	210/35	214/23				
ETTX	6215	208/16	L	209/11		210/31					
ETT1	6233	208/28	L	208/55							
ETT2	6255	208/38		208/42	L						
ETT3	6266	208/40		208/45		208/48	L				
ETT4	6275	208/50		208/55	L						
ETT5	6277	208/54		208/57	L						
ETT6	6314	209/08		209/10	L						
ETT7	6315	209/01		209/11	L						
PRS	6776	201/17		218/04	D						
PRSX	6775	218/04	L	218/18		218/23					
PRS1	7010	218/09		218/17	L						
RDG	5523	201/16	D								
RDGX	5522	201/01		201/16	L	201/18					
RMR	5700	203/53	D	212/28		218/31					
RMRX	5677	203/53	L	203/56		204/05	204/57				
RMR1	5734	204/01		204/25	L						
RMR2	5750	204/23		204/35	L						
RTC	6324	208/46		210/17	D						
RTCA	6364	210/38	S	210/41	D						
RTCB	6370	210/36	S	210/45	D						
RTCX	6323	210/17	L	210/53							
RTC1	6331	210/22	L	211/08							
RTC2	6343	210/24		210/30	L						
RTC3	6346	210/29		210/33	L						
RTC4	6404	210/52		210/55	L						
RTT	6436	212/33	D	218/32							
RTTA	6422	212/22	D	218/20	S						
RTTB	6430	212/27	L	218/22	S						
RTTX	6435	212/20		212/24		212/33	L				
RTT1	6476	213/01	L	213/22							
RTT2	6531	213/03		213/05		213/08	213/12	213/23	L		
RTT3	6540	213/27		213/29	L						
RTT4	6420	212/20	L	213/29							
RTT5	6424	212/25	L	212/43							
SEC	6673	216/34	D	218/33							
SECX	6672	216/34	L								
SEC1	6735	216/56		217/01		217/09	L				
SEC2	6743	217/15	L	217/23							
SEC3	6757	217/14		217/24	L						
SEC4	6765	217/13		217/30	L						
SEC5	6670	216/32	L	216/53		217/36					
STF	6544	208/39		209/07		214/16	D				
STFX	6543	214/16	L	214/29		214/37					
STF1	6542	214/14	L	214/19							
.IO	0	202/38	D	202/38		204/35	D	204/35	212/44	D	212/44

SYMBOL QUALIFIER = RDI

CS	62	232/24	D	233/24				
CTDC	5376	233/30		236/42	L			

DC	11	232/36 D	235/14	235/17	236/14	236/16				
		235/13	235/16	235/18	236/15	236/17				
FCFP	16	232/39 D	235/13							
FCGS	12	232/38 D	236/14							
FPBL	22	232/41 D	235/15							
FR	66	232/25 D								
F8D	5256	234/05	234/20	234/24	235/31 D					
F8DA	5310	235/34 S	235/41	235/53 L						
F8DX	5255	235/31 L								
F8D1	5305	235/45	235/49 L							
F8D2	5223	235/11 L	235/29							
F8D3	5240	235/20 L	235/50							
LC	67	232/26 D	234/11 S	235/28	235/44	235/48 S				
PB	15	232/23 D	234/04 S	234/15	234/23 S	235/19 S	235/32			
		233/52 S	234/09 S	234/16 S	234/25 S	235/22	235/49			
		233/54 S	234/13 S	234/22 S	235/16	235/27				
PFR	5052	233/21 D								
PFRA	5211	233/47	234/42 L							
PFRB	5216	234/37	234/43 L							
PFRX	5051	232/02	233/21 L	234/39						
PFR2	5074	233/34 L	233/41							
PFR3	5102	233/32	233/40 L							
PFR4	5114	233/51 L	234/34							
PFR5	5143	234/14 L	234/17							
PFR6	5155	234/23 L	234/27							
PFR7	5167	234/07	234/30 L							
WNB	5317	235/26	236/10 D							
WNBA	5361	236/26 S	236/29 S	236/30	236/34 L					
WNBX	5316	236/10 L	236/20							
WNB1	5323	236/13 L	236/22							
.2	3	236/13 D	236/13	236/13 D	236/13	236/13 D	236/13	236/13 D	236/13	
.3	1	236/13 D	236/13	236/13 D	236/13	236/13 D	236/13	236/13 D		

SYMBOL QUALIFIER = MACRO\$

CMSTF	5627	64/33 D	68/05 D	109/48 D	121/08 D	194/32 D	202/26 D	234/38 D	240/12 D	
DEFC	5631	90/31 D	90/32 D							
DELAY	6316	57/40 D	70/54 D	129/35 D	156/20 D	176/51 D	236/13 D			
ENDMS	2547	64/20 D	71/23 D	78/26 D	127/34 D	171/21 D	200/22 D	228/06 D	240/13 D	
		65/32 D	71/51 D	84/17 D	128/06 D	172/13 D	203/16 D	229/14 D	243/40 D	
		66/15 D	72/22 D	90/51 D	128/34 D	181/20 D	204/38 D	234/35 D	249/10 D	
		70/53 D	76/21 D	93/28 D	129/30 D	182/40 D	213/23 D	238/51 D	249/14 D	
		71/07 D	77/13 D	104/41 D	130/52 D	196/47 D	225/32 D	239/19 D		
EXECUTE	5544	18/05 D	18/36 D	36/17 D	36/43 D	44/53 D	45/36 D	57/16 D	226/28 D	
		18/14 D	20/42 D	36/18 D	44/05 D	44/54 D	45/43 D	83/24 D	228/03 D	
		18/22 D	27/30 D	36/21 D	44/07 D	45/06 D	46/20 D	174/13 D		
		18/29 D	36/04 D	36/22 D	44/28 D	45/07 D	50/47 D	222/33 D		
ISTORE	6004	28/19 D	47/45 D	49/38 D	139/09 D	139/48 D	140/05 D	184/47 D		
		28/20 D	47/46 D	49/43 D	139/33 D	139/49 D	140/14 D	184/50 D		
		47/44 D	47/47 D	49/44 D	139/37 D	139/50 D	184/18 D			
MMTE	6000	87/32 D	87/55 D	87/57 D	154/45 D	154/53 D	161/55 D	161/57 D	175/24 D	

MONITOR	6322	19/03 D	58/04 D	77/47 D	113/31 D	156/21 D	176/41 D	188/08 D	223/34 D
		24/18 D	65/38 D	78/35 D	113/39 D	156/37 D	176/48 D	189/44 D	224/25 D
		28/52 D	70/55 D	79/55 D	130/05 D	156/50 D	176/52 D	193/38 D	224/34 D
		28/56 D	72/27 D	82/25 D	137/48 D	157/32 D	177/15 D	194/03 D	233/26 D
		29/16 D	75/47 D	87/25 D	152/49 D	157/55 D	178/15 D	197/37 D	239/27 D
		45/24 D	76/29 D	88/16 D	155/13 D	158/14 D	178/20 D	202/22 D	240/20 D
		51/27 D	76/36 D	91/03 D	156/10 D	174/09 D	182/03 D	203/33 D	
		56/52 D	76/43 D	102/37 D	156/17 D	176/34 D	183/25 D	207/51 D	
NFA	1601	22/43 D							
OVERFLOW	3056	97/31 D	150/01 D	191/18 D	218/38 D	237/06 D	250/41 D		
		141/22 D	185/30 D	200/33 D	231/01 D	245/06 D			
PAUSE	6322	28/56 D	70/55 D	137/48 D	156/21 D	176/52 D			
RCHAN	5057	233/26 D							
SETMS	2517	63/56 D	72/48 D	88/48 D	93/24 D	172/10 D	204/35 D	239/02 D	
		65/01 D	78/40 D	91/40 D	104/51 D	196/14 D	212/44 D	243/18 D	
		68/44 D	88/38 D	91/43 D	127/45 D	199/28 D	225/18 D	244/26 D	
		70/31 D	88/44 D	92/40 D	171/53 D	202/38 D	238/52 D	248/18 D	
SFA	2726	20/23 D	52/37 D	108/26 D	144/14 D	148/10 D	169/49 D	188/12 D	247/50 D
		21/41 D	53/32 D	110/21 D	144/50 D	149/10 D	174/48 D	207/43 D	
		31/05 D	57/26 D	111/18 D	147/18 D	164/25 D	177/42 D	217/18 D	
		49/09 D	96/30 D	134/25 D	147/36 D	167/33 D	179/22 D	217/27 D	
		51/42 D	100/30 D	140/47 D	147/53 D	169/37 D	179/53 D	224/56 D	
SMSTF	5666	26/17 D	68/02 D	111/21 D	121/03 D	174/51 D	224/10 D		
		43/01 D	76/44 D	111/24 D	121/07 D	175/47 D	229/09 D		
		64/30 D	110/20 D	121/02 D	168/41 D	217/21 D			
UJMF	5102	18/27 D	22/04 D	38/31 D	46/21 D	87/52 D	181/46 D		
		18/34 D	26/19 D	40/45 D	63/08 D	175/13 D	221/20 D		
		20/33 D	37/25 D	40/54 D	87/08 D	177/55 D	221/36 D		

SYMBOL QUALIFIER = 1RF

RPF	1100	56/40 L							
RPFB	1224	57/08 S	57/56 D						
RPFC	1236	56/57 S	57/51	58/08 L	58/13				
RPF0	1115	56/49	56/53 L						
RPF2	1156	57/24 L	57/46						
RPF3	1200	57/40 L	57/44						
RPF4	1231	58/04 L							
SDVR	1306	58/13 D							
.1	1	57/26 D							
.3	1	57/40 D							

SYMBOL QUALIFIER = CLC

CDC	2525	101/09							
CLC	2535	101/10							

SYMBOL QUALIFIER = VFN

1	FN	12	170/05	D				
2	VFN	5470	170/08					

SYMBOL QUALIFIER = RDE

10	CGU	5715	187/18	189/16	D			
11	CGUX	5714	189/16	L	189/30	189/33	190/04	
12	CGU1	5712	189/14	L	189/27			
13	CIU	6001	189/14	190/19	D			
14	CIUX	6000	190/19	L	190/22	190/30	190/53	
15	CIU1	6015	190/26	190/32	L			
16	CIU2	6022	190/34	190/36	L			
17	CIU3	6025	190/39	L				
18	CIU4	6035	190/33	190/38	190/45	L		
19	CIU5	6037	190/44	190/47	L			
20	CUD	5614	187/20	D	191/12			
21	CUDX	5613	187/20	L	187/22	187/51		
22	CUD1	5647	187/26	187/28	187/40	187/45	L	
23	CUD2	5657	187/46	187/51	L	187/56	188/15	
24	CUD3	5661	187/47	187/53	L			
25	CUD4	5667	187/44	188/01	L			
26	CUD5	5702	188/03	188/09	L			
27	CUD6	5611	187/18	L	187/23			
28	RDE	5607	186/12	D				
29	RDEX	5606	186/01	186/12	L	186/13		
30	.1	1	188/12	D				
31	.2	0	188/13	D				

SYMBOL QUALIFIER = RDH

39	CFR	5126	222/21	D	224/20			
40	CFRX	5125	222/21	L	222/27	222/30	222/32	222/34
41	CFR1	5135	222/24	222/28	L			
42	CS	62	219/27	D	222/31	224/17	S	226/17 227/55
43	CTF	5150	222/50	D	223/26	225/23		
44	CTFX	5147	222/50	L	223/04			
45	DC	11	219/39	D				
46	FBT	5171	223/24	D	229/06			
47	FBTX	5170	223/24	L	223/38			
48	FBT1	5172	223/25	L	223/37			
49	FBT2	5207	223/27	223/35	L			
50	FCFP	16	219/42	D				
51	FCGS	12	219/41	D				
52	FPBL	22	219/44	D				
53	FR	66	219/28	D	222/23	227/49	227/53	S 228/09 S
54	IDS	5217	221/18	224/06	D			

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	IDSA	5401	225/07	225/37	L			
	IDSX	5216	224/06	L 225/34		226/52		
	IDS1	5247	224/15	224/21	L			
1	IDS2	5333	224/30	225/07	L			
2	IDS3	5337	225/06	225/12	L	225/15		
3	IDS4	5360	225/22	L 225/31				
4	IDS5	5367	225/24	225/27	L			
5	IDS6	5375	225/28	225/32	L			
6	IDS7	5213	224/02	L 224/09				
7	IFM	5430	224/18	226/16	D			
8	IFMX	5427	226/16	L 226/29		226/33		
9	IFM1	5436	226/21	L 226/36				
10	IFM2	5415	226/06	L 226/18				
11	IMS	5065	221/24	D 230/46				
12	IMSA	5112	221/43	D 230/23		230/24	S	
13	IMSX	5064	221/19	221/20		221/24	L 221/26	
14	IMS1	5105	221/22	221/38	L			
15	IMS2	5107	221/40	L				
16	IMS3	5121	221/47	221/49	L			
17	IMS4	5123	221/38	221/50	L			
18	IMS5	5055	221/18	L 221/36		221/40	221/45	
19	LC	67	219/29	D 227/54	S 228/17	S 229/07		
20	LRDH	6077	230/25	230/39	L 230/41			
21	MILA	6051	226/28	228/03	230/04	D 230/09	230/10	
22	MIPA	6050	226/20	S 228/02	S 230/03	D 230/04		
23	ORDI	6055	230/01	D 230/47				
24	PB	15	219/26	D				
25	PFT	5507	225/19	225/26		227/10	D	
26	PFTA	5515	224/14	S 227/14	D			
27	PFTX	5506	227/10	L 227/15		227/19		
28	PFT2	5510	227/11	L 227/18				
29	POV	6050	220/04	230/18	L			
30	POV1	6067	230/29	L 230/34				
31	POV2	6073	230/27	230/33	L			
32	POV3	6075	230/19	230/35	L			
33	RCS	5531	224/19	227/51	D			
34	RCSA	5525	227/47	D 228/04	S			
35	RCSX	5530	227/48	227/51	L 227/56	229/16		
36	RCS1	5600	228/13	228/15		228/17	L	
37	RCS1.1	5602	228/05	228/19	L			
38	RCS1.2	5611	228/18	228/23	L			
39	RCS2	5627	228/31	228/38	L			
40	RCS2.1	5646	228/52	L 228/56				
41	RCS3	5653	228/39	228/41		228/43	229/01	L
42	RCS4	5655	228/36	228/45		229/03	L	
43	RCS5	5660	228/54	229/06	L			
44	RCS7	5666	229/05	229/09	L			
45	RCS8	5524	227/46	L 228/21		229/08		
46	RDH	5052	220/03	D				
47	RDHX	5051	219/02	220/03	L 230/35			
48	SDR	5765	226/14					
49	SNC	5710	224/16	229/33	D			
50	SNCX	5707	229/33	L 229/41				
51	SNC1	5713	229/31	229/36	L			
52	SNC2	5704	229/29	L 229/39				
53	.IO	0	225/18	D 225/18				



SYMBOL QUALIFIER = 4DK

1	MSR	2572	250/27 D	1
2	MSR\$	1	250/28 D	2
3	RNS	3026	249/33 250/02	3
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