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0001      *      NAM  JOBENT      DECK-ID M64  MSOS 5.0      SUMMARY-116*****
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 3.0      M6400002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      M6400003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976      M6400004

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0006      *      PROGRAM BASE- MSOS 3.0 JOBENT      **MSOS 4.0M6400006

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0009      *      JOB PROCESSOR CONTROL MODULE      M6400009

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0011      *****      M6400011

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0013      ENT  JBENT      M6400013
0014      ENT  JBPRO      M6400014
0015      ENT  MIPBUF      M6400015

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0017      EXT  FILE1,FILE2      M6400017
0018      EXT  JBCNFG      JOB CANCEL FLAG      M6400018
0019      EXT  MIB      M6400019
0020      EXT  JOBIND      M6400020
0021      EXT  SWITCH      M6400021
0022      EXT  LIBEDT,RCOVER      M6400022
0023      EXT  JPSWT      TEMP. LOC. FOR MIINP BUFFER ADR. OR      M6400023

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0024      *      AN INDEX TO THE TRANTA TABLE OR      M6400024
0025      *      A NEG. VALUE SET BY JOBENT OR JBKILL      M6400025
0026      *      EXT  JOBPRO,JPLOAD,JPCHGE,JPT13      M6400026

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0027      *      EXT  JLG0V+,JCRDV+,JPFLV+,NAMEV4      **MSOS 4.0M6400027
0028      *      EXT  JPSTV+,AFILV4      **MSOS 4.0M6400028
0029      *      EXT  IUP      **MSOS 4.0M6400029

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0030      *      EXT  INPTV4      **MSOS 4.0M6400030
0031      *      EXT  BATCLU      (TRVEC)      116*4366*****
0032      *      EXT  NUMLU      116*4366*****

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0033      *      EXT  RESTOR      M6400031
0034      *      EXT  TRANV      M6400032
0035      *      EXT  JKIN      M6400033

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0036      *      EXT* T3      M6400034
0037      *      EXT* T5      M6400035
0038      *      EXT* T7      M6400036
0039      *      EXT* T11      M6400037

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0041      EQU  DISP($EA)      M6400039
0042      EQU  ZERO($22)      M6400040
0043      EQU  AMONI($F4),ADISP($EA)      116*4366*****

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0044      EQU  TEN($46)      116*4366*****
0045      EQU  H00FF($A)      116*4366*****
0046      EQU  H7FFF($11)      **MSOS 4.0M6400041
0047      EQU  L(36)      INPUT BUFFER LENGTH      **MSOS 4.0M6400042

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0049 P0000 C8FE  JBENT  NUM  $C8FE  ENTRY POINT      M6400044

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0050      ****
0051      ****
0052      ****
0053      ****
0054      PC001 6C75      STA* (F1)
0055      PC002 683B      STA* ENTIBL
                                NOTICE - THE INSTRUCTION LDA*
                                *-1 CAN NOT BE ASSEMBLED
                                BECAUSE IT REFERENCES A LOC.
                                OUTSIDE THE PROGRAM
                                STORE LOCATION OF JOBENT FILE
                                STORE FWA OF JOBENT IN ENTRY POINT TABLE
                                M5400045
                                M5400046
                                M5400047
                                M6400048
                                M6400049
                                M6400050

0057      P0003 4878      STQ* SAVBUF      **MSOS 4.0M5400052
0058      P0004 1804      JMP* BUFF1      M6400053
0059      P0005 4A50      ERRM ALF 1,JP      **MSOS 4.0M5400054
0060      P0006 2020      ALF 1;          **MSOS 4.0M5400055
0061      P0007 2C20      ALF 1,,        **MSOS 4.0M5400056

0063      ***** M6400058

0065      * AFTER THE INITIAL PASS THROUGH JOBENT THIS AREA WILL BE
0066      * OVERLAID BY THE MIPBUF BUFFER.      M6400060
                                                M6400061

0068      P0008 0C08      BUFF1 ENQ LENGTH      LOAD Q WITH THE LENGTH OF ENTRY POINT TABLE
0069      P0009 CA34      LOOP LDA* ENTIBL,Q      PICK UP RELATIVE ENTRY POINT ADDRESS
0070      P000A 8833      ADD* ENTIBL      ADD FWA OF JOBENT
0071      P000B 6600      STA TRANV,Q      STORE IN TRVEC      M6400063
                                                M6400064
                                                M6400065
                                                M6400066
                                                M6400067
0072      P000C 0DFE      INQ -1
0073      P000E 0141      SQZ OUT      M6400068
0074      P000F 18F9      JMP* LOOP      M6400069
0075      P0010 E0E9      OUT LDQ- $E9      ADDR OF EXTENDED CORE TABLE
0076      P0011 E209      LDQ- 9,Q      ADDR OF RCTV IN MONI
0077      P0012 C865      LDA* JB1      IF THERE IS NO
0078      P0013 A011      AND- H7FFF      T7 MODULE DON'T TRY
0079      P0014 B011      EOR- H7FFF
0080      P0015 0111      SAN 1
0081      P0016 1819      JMP* BUFF2+2      AND LINK
0082      P0017 CC5F      LDA* (F1)
0083      P0018 0977      INA JB1-JBENT
0084      P0019 1814      JMP* BUFF2      **MSOS 4.0M6400071
                                                **MSOS 4.0M6400072
                                                **MSOS 4.0M6400073
                                                **MSOS 4.0M6400074
                                                **MSOS 4.0M6400075
                                                **MSOS 4.0M6400076
                                                M6400077
                                                M6400078
                                                **MSOS 4.0M6400079

0086      EQU ENJB(*-BUFF1)      **MSOS 4.0M5400081
0087      P001A 0012      BZS FILL(L-ENDB)      **MSOS 4.0M6400082
0088      P002C 0001      BZS DRV(1)      WORD FOR DRIVERS ON SHORT READ      **MSOS 4.0M6400083
0089      ***** M5400084

0091      * THIS AREA WILL BE OVERLAID BY THE TRNTBL BUFFER.      M6400086

0093      P002D 884A      BUFF2 ADD* JB1      M6400088
0094      P002E 6207      STA- 7,Q      LOADER REQUEST      M6400089
0095      P002F CC47      LDA* (F1)      M6400090
0096      P0030 C978      INA JB2-JBENT      M6400091
0097      P0031 8847      ADD* JB2      M6400092
0098      P0032 620B      STA- 11,Q      CORE REQUEST      M6400093
0099      P0033 CC43      LDA* (F1)      M6400094
0100      P0034 G979      BPS INA JB3-JBENT      M6400095
0101      P0035 8844      RI ADD* JB3      M6400096

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0102 P0036 6203 LOADEP STA- 3,Q STATUS REQUEST M6400097
0103 P0037 CC3F LDA* (F1) M6400098
0104 P0038 097A INA JB+-JBENT M6400099
0105 P0039 8841 JFLG ADD* JB4 **MSOS 4.0M6400100
0106 P003A 6205 STA- 5,2 EXIT REQUEST M6400101

0108 P003B 0A00 ENA 0 THIS IS THE LAST LOCATION OF TRANTA **MSOS 4.0M6400103
0109 * TABLE BUFFER.. NEXT 22 LOCATIONS **MSOS 4.0M6400104
0110 * ARE 3 WORDS--JOB NAME. 3 WORDS-- **MSOS 4.0M6400105
0111 * ACCOUNT NUMBER.. 16 WORDS PARAMETER **MSOS 4.0M6400106
0112 * BUFFER FOR FILES **MSOS 4.0M6400107
0113 P003C 180A JNAME JMP* BRL **MSOS 4.0M6400108

0115 * TABLE OF ENTRY POINTS TO JOBENT **MSOS 4.0M6400110
0116 P003D 0000 ENTTBL NUM 0 FWA OF JOBENT **MSOS 4.0M6400111
0117 P003E 00A7 ADC JBPRO-JBENT SCHEDULE J P MODULES (JBPTROE) **MSOS 4.0M6400112
0118 P003F 0005 ADC ERRM-JBENT JO3 JO4 ERRORS (ERRMSG) **MSOS 4.0M6400113
0119 P0040 0006 ADC MIPBJF-JBENT LOCAL INPUT BUFFER (MIBUF) **MSOS 4.0M6400114
0120 P0041 002D ADC TRNTBL-JBENT TRANSFER TABLE ADDRESS (TRNVEC) **MSOS 4.0M6400115
0121 P0042 00C3 FILTAB ADC LIB-JBENT SCHEDULE LIBEDT **MSOS 4.0M6400116
0122 P0043 00DF ADC RECQVR-JBENT SCHEDULE RCOVER (RECOV) **MSOS 4.0M6400117
0123 P0044 00C2 ADC SAV31-JBENT INDEX PASSED TO J.P. POUTINES M6400118
0124 P0045 0042 ADC FILTAB-JBENT FILE PARAMETER TABLE (PARBV4) **MSOS 4.0M6400119
0125 EQU LENGTH(*-ENTTBL-1) **MSOS 4.0M6400120

0128 ***** Mo400123

0130 BRL STA* BPS CLEAR THESE THREE LOCATIONS IN WHAT **MSOS 4.0M6400125
0131 P0047 68ED STA* RI BE THE TRNTBL BUFFER BEFORE SCHEDULING M6400126
0132 P0048 68ED STA* LOADEP JOBPRO M6400127
0133 P0049 68EF STA* JFLG **MSOS 4.0M6400128
0134 P004A 0804 SET A SET FIRST WORD TO INDICATE NO **MSOS 4.0M6400129
0135 P004B 68F0 STA* JNAME JOB NAME YET **MSOS 4.0M6400130
0136 P004C E82F LDQ* SAVBUF PICK UP MIINP BUFFER ADDRESS M6400131
0137 P004D 4C73 STQ* (JBST) SAVE INPUT BUFFER ADDRESS IN TRVEC 61*1295 M6400132
0138 P004E 40FF STQ- I SAVE BUFFER ADDRESS IN I REG. M6400133
0139 P004F 0C23 ENQ L-1 **MSOS 4.0M6400134
0140 P0050 C6FF MVBUF LDA- (I),Q TRANSFER MIINP BUFFER TO BUFFER IN JOBENT M6400135
0141 P0051 6AB6 STA* MIPBUF,Q STORE IN MIPBUF LOCAL M6400136
0142 P0052 0DFE INQ -1 M6400137
0143 P0053 0171 SQM 1 M6400138
0144 P0054 18FB JMP* MVBJF M6400139
0145 * LOAD AND GO SECTOR NUMBER M6400140
0146 P0055 0A01 ENA 1 M6400141
0147 P0056 60E4 STA- $E4 M6400142

0149 P0057 C400 X LDA INPTV4 RESET CONTROL INPUT DEVICE **MSOS 4.0M6400144
0150 P0058 7FFF X STA IUP **MSOS 4.0M6400145
0151 P005A 7FFF X ABATCL STA+ BATCLU SET BATCH CONTROL STATEMENT LU = SYS. 116*4366*****
0151 P005B 6400 X
0151 P005C 7FFF X

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0152		*			CONTROL LU	116*4366*****
0153	P005D		LD A-	3,I		116*4366*****
0154	P005E		INA	0		116*4366*****
0155	P005F		SAN	JOB070	SENSE LU SPECIFIED	116*4366*****
0156	P0060		JMP*	JOB130	GO PROCESS *BATCH	116*4366*****
0157	P0061	JOB070	LD A-	5,I		116*4366*****
0158	P0062		LD Q-	4,I		116*4366*****
0159	P0063		LRS	8		116*4366*****
0160	P0064		INA	0		116*4366*****
0161	P0065		SAZ	JOB080	SENSE 2 DIGITS OR LESS	116*4366*****
0162	P0066		JMP*	JPO5ER		116*4366*****
0163	P0067	JOB080	TRQ	A		116*4366*****
0164	P0068		INA	0	(PREVIOUS SIGN EXTENSION WILL RESULT	116*4366*****
0165		*			IN \$FFFF	116*4366*****
0166	P0069		SAN	JOB082	SENSE 2 DIGITS	116*4366*****
0167	P006A		LD Q-	3,I		116*4366*****
0168	P006B		LRS	8		116*4366*****
0169	P006C		ARS	8	(ADJUST FOR 1 DIGITS)	116*4366*****
0170	P006D		EOR	=N\$3000		116*4366*****
0171	P006E		JMP*	JOB084		116*4366*****
0172	P0070	JOB082	LRS	8		116*4366*****
0173	P0071		LD Q-	3,I		116*4366*****
0174	P0072		LRS	8		116*4366*****
0175	P0073	JOB084	INQ	-320		116*4366*****
0176	P0074		SQZ	JOB090	SENSE DELIMITER A COMMA	116*4366*****
0177	P0075		JMP*	JPO5ER		116*4366*****
0178	P0076	X	ADC	FILE1		116*4366*****
0179	P0077	X	ADC	T7		116*4366*****
0180	P0078	X	ADC	T11		116*4366*****
0181	P0079	X	ADC	T3		116*4366*****
0182	P007A	X	ADC	T5		116*4366*****
0183	P007B		SAVBJF	NUM	0	116*4366*****
0184	P007C	JOB090	SUB	=N\$3030		116*4366*****
0185	P007D					116*4366*****
0186	P007E		ENQ	0		116*4366*****
0187	P007F		DVI	=N\$100		116*4366*****
0188	P0080					116*4366*****
0189	P0081		STQ*	TEMP1		116*4366*****
0190	P0082		MUI-	TEN		116*4366*****
0191	P0083		ADD*	TEMP1		116*4366*****
0192	P0084		STA*	TEMP1		116*4366*****
0193	P0085		INA	-2		116*4366*****
0194	P0086		SAP	JOB110	SENSE LU NOT=1(ALLOVATOR)	116*4366*****
0195	P0087	JOB100	JMP*	JPO5ER		116*4366*****
0196	P0088	X	SUB	=XNUMLU		116*4366*****
0197	P0089	X				116*4366*****
0198	P008A		SAP	JPO5ER	SENSE LU .GT. MAX.	116*4366*****
0199	P008B		LD A*	TEMP1		116*4366*****
0200	P008C	X	STA+	IUP	UPDATE CONTROL STATEMENT LU	116*4366*****
0201	P008D	X				116*4366*****
0202	P008E		STA*	(ABATCL+1)	SET BATCH CONTROL STATEMENT LU	116*4366*****
0203	P008F		JMP*	JOB130		116*4366*****

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0200          *          ERROR STATEMENT AFTER MI
0201 P0090 54F+ JP05ER RTJ- (AMONI)          OUTPUT JP05 ERROR
0202 P0091 0D00 PARMER NUM $0300
0203 P0092 0007 ADC JOB125-PARMER
0204 P0093 0000 ADC 0,$18FC,2
          P0094 18FC
          P0095 0002
0205 P0096 0000 ADC JP05-PARMER
0206 P0097 14EA JMP- (ADISP)
0207 P0098 0844 JOB125 CLR A          CLEAR MIB TO ALLOW MI
0208 P0099 6400 STA+ MIB
          P009A 7FFF X
0209 P009B 54F4 X
0210 P009C 1901 RTJ- (AMONI)          RELEASE JOBENT
0211 P009D FF63 NUM $1901
0212 P009E 4A50 JP05 ADC (JOBENT-#+1)
          P009F 3035 ALF 2,JP05
0213 P00A0 0000 TEMP1 NUM 0
0214 P00A1 E8D9 JOB130 LDQ* SAV3UF
0215 P00A2 40FF STQ- I
0216 P00A3 0CC3 ENQ 3
0217 P00A4 481E SJBPRO STQ* SAVQ1
0218 P00A5 C80E LDA* JBPADR          SCHEDULE JOBPRO
0219 P00A6 1804 JMP* JBPRO0
0220 P00A7 481B JBPRO STQ* SAVQ1
          *          SAVE INDEX TO PROPER ROUTINE WITHIN THE
0221          *          SCHEDULED MODULE OR AN EXECUTION ADDRESS
0222 P00A8 0822 TRA Q          MOVE INDEX FOR PROPER MODULE TO Q REG.
0223 P00A9 CA09 LDA* TBL,Q          Q REG. 0=JPT13, 1=JOBPRO, 2=JLOAD,
          *          3=JPCHGE, 4=RESTOR, 5=JLGOV+
0224          *          **MSOS 4.0M6400154
0225          *          **MSOS 4.0M6400155
0226          *          **MSOS 4.0M6400156
0227 P00AA 6806 JBPRO0 STA* SCHADR
0228          *          RELEASE FILES TWO AND THREE
0229 P00AB 5800 RTJ MREL          RELEASE SPECIFIED FILE
          P00AC 0054
          P00AD E815
0230          *          LDQ* SAVQ1          INDEX TO LOC IN SCHEDULED MODULE TO BEGIN
0231          *          EXECUTION OR AN EXECUTION ADDRESS.
0232 P00AE 54F4 SCHED RTJ- ($F+)
0233 P00AF 1200 NUM $1200
0234 P00B0 0030 SCHADR ADC 0
0235 P00B1 14EA JMP- (DISP)
0236          *          5 CARDS DELETED
          116*4366*****

0240 P00B2 FFFF X TBL ADC (JPT13)
0241 P00B3 FFFF X JBPADR ADC (JOBPRO)
0242 P00B4 FFFF X ADC (JPLOAD)
0243 P00B5 FFFF X ADC (JPCHGE)
0244 P00B6 FFFF X ADC (RESTOR)
0245 P00B7 FFFF X ADC (JLGOV+)
          **MSOS 4.0M6400179

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0246 P00B3 FFFF X      ADC (JCRDV4)
0247 P00B9 FFFF X      ADC (JPFLV4)
0248 P00BA FFFF X      ADC (NAMEV4)
0249 P00BB FFFF X      ADC (JPSTV4)
0250 P00BC FFFF X      ADC (AFILV4)
                                **MSOS 4.0M6400180
                                **MSOS 4.0M6400181
                                **MSOS 4.0M6400182
                                **MSOS 4.0M6400183
                                **MSOS 4.0M6400184

0252 P00BD 7FFF X F2   ADC FILE2
0253 P00BE 7FFF X SWT   ADC SWTCH
0254 P00BF 7FFF X JB    ADC JOBINJ
0255 P00C0 7FFF X JBST  ADC JPSWT
                                61*1295 M6400186
                                M6400187
                                M6400188
                                M6400189

0257 P00C1 0000 SAVI  NUM 0
0258 P00C2 0000 SAVQ1 NUM 0
0259          *
0260          0008 P     EQU MIPBUF(BUFF1)
0261          002D P     EQU TRNTBL(BUFF2)
                                1 CARD DELETED
                                116*4366 *****
                                M6400191
                                M6400192
                                M6400194
                                M6400195

0253 *****
                                M6400197

0255 * THIS ROUTINE RELEASES FILE3 (PROTEC) IF PRESENTLY
0256 * INCORE, RELEASES FILE2 (JOB PROC. MODS.) AND SCHEDULES
0257 * LIBEDIT WITH THE RETURN LOCATION STORED IN Q.
                                M6400199
                                M6400200
                                M6400201

0259 *****
                                M6400203

0271 P00C3 582E LIB    RTJ* REL      RELEASE OUTSTANDING FILES
0272 P00C4 ECB1      LDQ* (F1)
0273 P00C5 F000      ADQ  =XLB2-JBENT
                                M6400205
                                M6400206
                                M6400207

0274 P00C6 00CC      TWLVE RTJ- ($F4)  SCHDLE LIBEDT
0275 P00C7 54F4      NUM  $1200
0276 P00C8 1200      ADC  (LIBEDT)
0277 P00CA 14EA      JMP- (DISP)
                                M6400208
                                M6400209
                                M6400210
                                M6400211

0280 *****
                                RETURN FROM LIBEDT *****
                                M6400214

0282 P00C8 D813      RAO* SAVQ      THIS MUST REMAIN BEFORE TAG LB2
0283 P00CC 0A01      ENA  1
0284 P00CD 60E4      STA- $E4
0285 P00CE D400 X LB4  RAO  MIB      RESET LOAD AND GO ON RETURN FROM LIBEDT
                                SET MIB FLAG TO LOCK OUT OTHER ENTRIES
                                **MSOS 4.0M6400216
                                M6400217
                                M6400218
                                M6400219

0286 P00CF 009A X
0287 P00D0 0A00      ENA  0
0288 P00D1 6CEC      STA* (SWT)
0289 P00D2 6800      STA  LOADJEP CLEAR SWITCH FOR JP LOCK-OUT.
                                CLEAR LOADER IN CORE FLAG
                                116*4366 *****
                                M6400220
                                M6400221

0293 P00D4 0802      SET  Q
0294 P00D5 4CEA      STQ* (JBST)
0295 P00D6 4CE8      STQ* (J3)
0296 P00D7 C807      LDA* SAVQ      RESET J.P. IN CORE FLAG
                                **MSOS 4.0M6400223
                                **MSOS 4.0M6400224
                                **MSOS 4.0M6400225
                                **MSOS 4.0M6400226

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0293 P00D8 0111 SAN 1
0294 P00D9 18C9 JMP* SJBPRO-1
0295 P00DA 0A00 ENA 0 LIBEDT IS TERMINATING
0296 P00DB 6803 STA* SAVQ ABNORMALLY
0297 P00DC 0C06 ENQ 6 TELL JOBPRO TO
0298 P00DD 18C6 JMP* SJBPRO APORT JOB
**MSOS 4.0M6400227
**MSOS 4.0M6400228
**MSOS 4.0M6400229
**MSOS 4.0M6400230
**MSOS 4.0M6400231
**MSOS 4.0M6400232

0300 P00DE 0030 SAVQ NUM $0000 M6400234

0302 * THIS ROUTINE RELEASES FILE3 (PROTEC) IF PRESENTLY M6400236
0303 * INCORE, RELEASES FILE2 (JOB PROC. MODS.) AND SCHEDULES RECOVERY M6400237
0304 * WITH THE RETURN LOCATION STORED IN LOCATION $EE. M6400238

0306 P00DF 5812 RECOVR RTJ* REL RELEASE ANY UNUSED FILES **MSOS 4.0M6400240
0307 P00E0 EC95 LDQ* (F1) M6400241
0308 P00E1 F000 ADQ =XRC2-JBENT SET RETURN IN $EE TO RC2 M6400242
0309 P00E2 00E8
0310 P00E3 40EE STQ- $EE M6400243
0311 P00E4 54F4 RTJ- ($F4) M6400244
0312 P00E5 1200 NUM $1200 M6400245
0313 P00E6 FFFF X ADC (RCOVER) M6400246
0313 P00E7 14EA JMP- (DISP) M6400247

0315 P00E8 0500 RC2 IIN 0 RETURN FROM RECOVERY PROGRAM **MSOS 4.0M6400249
0316 P00E9 0A00 ENA 0 M6400250
0317 P00EA 6800 STA RI CLEAR RECOVERY SWITCH 116*4366*****
0318 P00EB FF49 STA BPS BREAKPOINT SWITCH 116*4366*****
0319 P00EC 6800 STA LOA DEP LOADER FLAG 116*4366*****
0319 P00ED FF46
0320 P00EE FF46 JMP* LB4 **MSOS 4.0M6400254
0320 P00EF 1800

0322 P00F1 0000 REL ADC 0 RELEASE FILE2, FILE3 ROUTINE IF THEY'RE IN M6400256
0323 P00F2 0500 IIN 0 M6400257
0324 P00F3 C400 X LDA JBCNFG IF CANCEL FLAG SET - GO AWAY AND LET IT M6400258
0325 P00F4 7FFF X
0326 P00F5 C101 SAZ GO1 TAKE OVER. IF NOT SET, CONTINUE ON M6400259
0326 P00F6 14EA JMP- ($EA) M6400260
0327 P00F7 6CC7 GO1 STA* (JB) SET JOB PROCESSOR NOT ACTIVE M6400261
0328 P00F8 6400 X STA JKIN M6400262
0328 P00F9 7FFF X
0329 P00FA 0804 SET A SET LIBEDT IN FLAG M6400263
0330 P00FB 60C2 STA* (SNT) M6400264
0331 P00FC 0400 EIN 0 M6400265
0332 P00FD 0802 SET Q RELEASE AREA 3 M6400266
0333 P00FE 5802 RTJ* MRELF M6400267
0334 P00FF 10F1 JMP* (REL) M6400268
0335 P0100 0B00 MRELF NOP 0 M6400269
0336 P0101 0143 SQZ LOPER M6400270
0337 P0102 0DFA INQ -5 ARE BEING CALLED M6400271

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0338 PG103 0141 SQZ LOPER
0339 PG104 0C01 ENQ 1
0340 PG105 0CEB7 LOPER LDA* (F2),Q
0341 PG106 0106 SAZ CK
0342 PG107 6805 STA* REL1
0343 PG108 0844 CLR A
0344 PG109 6EB3 STA* (F2),Q
0345 PG10A 54F4 RTJ- ($F4)
0346 PG10B 1800 ADC $1800
0347 PG10C 0000 REL1 ADC 0
0348 PG10D 0142 CK SQZ CONT
0349 PG10E 0DFE INQ -1
0350 PG10F 18F5 JMP* LOPER
0351 PG110 1CEF CONT JMP* (MRELF)

0353 PG111 0000 SAVA NUM 0
0354 END

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PROTEC IS THERE
SET TO RELEASE FILE3 AND FILE2
IF ALREADY RELEASED - TO NEXT ONE
NOT RELEASED - RELEASE IT
ZERO FLAG
RELEASE
ALL COMPLETED - LEAVE
NO - TRY AGAIN

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M6400272
M5400273
M6400274
M6400275
M6400276
M6400277
M6400278
M5400279
M6400280
M6400281
M6400282
M5400283
M6400284
M6400285
M6400287
M6400288

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PGM= 0112 (274) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0040	I	00FF	(000255) 0138, 0140, 0215
0041	DISP	00EA	(000234) 0235, 0277, 0313
0042	ZERO	0022	(000034)
0043	AMONI	00F4	(000244) 0201, 0209
0043	ADISP	00EA	(000234) 0206
0044	TEN	0046	(000070) 0188
0045	H00FF	0J0A	(000010)
0046	H7FFF	0011	(000017) 0078, 0079
0047	L	0024	(000036) 0087, 0139
0086	ENDB	0012	(000018) 0087
0125	LENGTH	0008	(000008) 0068

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0013	JBENT	0000	0013, 0083, 0096, 0100, 0104, 0117, 0118, 0119, 0120, 0121, 0122, 0123, 0124, 0211, 0273, 0308
0014	JBPRO	00A7	0014, 0117
0015	MIPBUF	0008	0015, 0119, 0141
0059	ERRM	0005	0118
0068	BUFF1	0008	0058, 0080, 0260
0069	LOOP	0009	0074
0075	OUT	0010	0073
0087	FILL	001A	
0088	DRV	002C	
0093	BUFF2	002D	0081, 0084, 0261
0100	BPS	0034	0130, 0318
0101	RI	0035	0131, 0317
0102	LOADEP	0036	0132, 0288, 0319
0105	JFLG	0039	0133
0113	JNAME	003C	0135
0116	ENTTBL	003D	0055, 0069, 0070, 0125
0121	FILTAB	0042	0124
0130	BRL	0046	0113
0140	MVBUF	0050	0144
0151	ABATCL	0056	0198
0157	JOB070	0061	0155
0163	JOB080	0067	0161
0172	JOB082	0070	0166
0175	JOB084	0073	0171
0178	T1	0076	0054, 0082, 0095, 0099, 0103, 0272, 0307
0179	JB1	0077	0077, 0083, 0093
0180	JB2	0078	0096, 0097
0181	JB3	0079	0100, 0101
0182	JB4	007A	0104, 0105
0183	SAVBUF	007B	0057, 0136, 0214
0184	JOB090	007C	0176
0193	JOB100	0087	
0194	JOB110	0088	0192
0201	JPO5ERR	0090	0162, 0177, 0193, 0195
0202	PARMER	0091	0203, 0205
0207	JOB125	0098	0203
0212	JPO5	009E	0205
0213	TEMP1	00A0	0187, 0189, 0190, 0196
0214	JOB130	00A1	0156, 0199
0217	SJBPRO	00A4	0294, 0298
0227	JBPRO5	00AA	0219

0232	SCHED	00AE	
0234	SCHADR	0000	0227
0240	TBL	0002	0223
0241	JBPADR	0003	J218
0252	F2	000D	0340, 0344
0253	SWT	000E	0287, 0330
0254	JB	000F	J291, 0327
0255	JBST	00C0	J137, 0290
0257	SAVI	00C1	
0258	SAVG1	00C2	J123, 0217, 0220, 0230
0261	TRNTBL	002D	0120
0271	LIB	00C3	0121
0275	TWLV	00C8	
0283	LB2	00CC	0273
0285	LB4	00CE	J320
0300	SAVQ	00DE	J282, 0292, 0296
0306	RECOVR	00DF	0122
0315	RC2	00E8	0308
0322	REL	00F1	0271, 0306, 0334
0327	GO1	00F7	J325
0335	4RELF	0100	0229, 0333, 0351
0340	LOPER	0105	J336, 0338, 0350
0347	REL1	J100	J342
0348	CK	010D	0341
0351	CONT	J110	0348
0353	SAVA	0111	

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0017	FILE1	0076	J178
0017	FILE2	0080	0252
0018	JBCNFG	00F4	0324
0019	MIR	00CF	0208, 0285
0020	JORIND	00BF	0254
0021	SWTCH	00BE	0253
0022	LIBEDT	00C9	0276
0022	RCOVER	00E6	J312
0023	JPSWT	00CC	0255
0026	JOBPRO	00B3	0241
0026	JPLOAD	00B4	0242
0026	JPCHGE	00B5	0243
0026	JPT13	00B2	0240
0027	JLGOV+	00B7	0245
0027	JCRDV+	00B8	0246
0027	JPFLV+	00B9	0247
0027	NAMEV+	00BA	J248
0028	JPSTV+	00BB	0249
0028	AFILV+	00BC	0250
0029	IUP	00BD	J150, 0197
0030	INPTV+	0058	0149
0031	BATCLU	005C	J151
0032	NUMLU	0089	0194
0033	RESTOR	0086	0244
0034	TRANV	000C	0071
0035	JKIN	00F9	0328
0036	T3	0079	0181
0037	T5	007A	0182
0038	T7	0077	0179
0039	T11	0078	J180

*** ALPHABETICAL SORT OF SYMBOLS ***

ABATCL	0151	ADISP	0043	AFILV4	0028	AMONI	0043	BATCLU	0031	BPS	0100	BRL	0133	BUFF1	0068	BUFF2	0093
CK	0348	CONT	0351	DISP	0041	DRV	0088	ENDB	0086	ENTTBL	0116	ERRM	0059	F1	0178	F2	0252
FILE1	0017	FILE2	0017	FILL	0087	FILTAB	0121	GO1	0327	H00FF	0045	H7FFF	0040	I	0000	INPTV4	0030
IJP	0029	JB	0254	JB1	0179	JB2	0180	JB3	0181	JB4	0182	JBCNFG	0018	JBENT	0013	JBPADR	0241
JBPRO	0014	JBPROJ	0227	JBST	0255	JCRDV4	0027	JFLG	0105	JKIN	0035	JLGOV4	0027	JNAME	0113	JOB070	0157
JCB080	0163	JOB082	0172	JOB084	0175	JOB090	0184	JOB100	0193	JOB110	0194	JOB125	0207	JOB130	0214	JOBIND	0020
JOBPRO	0026	JP05	0212	JP05ER	0201	JPCHGE	0026	JPFLV4	0027	Jpload	0026	JPSTV4	0028	JPSWT	0023	JPT13	0026
L	0047	LB2	0283	LB4	0285	LENGTH	0125	LIB	0271	LIBEDT	0022	LOADEP	0102	LOOP	0069	LOPER	0340
MIB	0019	MIPBUF	0015	MRELF	0335	MVBUF	0140	NAMEV4	0027	NUMLU	0032	OUT	0075	PARMER	0202	RC2	0315
RCOVER	0022	RECOVR	0306	REL	0322	REL1	0347	RESTOR	0033	RI	0101	SAVA	0053	SAVBUF	0183	SAVI	0257
SAVQ	0300	SAVQ1	0258	SCHADR	0234	SCHED	0232	SJBPRO	0217	SWT	0253	SWTCH	0021	T11	0039	T3	0036
T3	0037	T7	0038	TBL	0240	TEMP1	0213	TEN	0044	TRANV	0034	TRNTBL	0251	TWLV	0275	ZERO	0042

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0001      *      NAM T11          DECK-ID M65  MSOS 5.0      SUMMARY-110M6500001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0  M6500002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA M6500003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976    M6500004

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0006      *      T11 CORE REQUEST PROCESSOR                  M6500006
0008      *****                                           M5500008

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0010      * THIS IS THE CORE REQUEST MODULE                  M6500010
0011      * THIS REQUEST IS USED TO SET OR DETERMINE THE     M5500011
0012      * BOUNDS OF AVAILABLE UNPROTECTED CORE.           M6500012
0013      * UPON ENTRANCE, THE I REGISTER CONTAINS THE LOCATION M5500013
0014      * OF VOLATILE STORAGE.                             M5500014
0015      *** $EC - TEMPORARY HIGHEST UNPROTECTED          M6500015
0016      *** LOCATION + 1                                  M5500016
0017      *** $ED - TEMPORARY LOWEST UNPROTECTED            M6500017
0018      *** LOCATION - 1                                  M6500018
0019      *** $F6 - HIGHEST UNPROTECTED LOCATION + 1       M6500019
0020      *** $F7 - LOWEST UNPROTECTED LOCATION - 1         M5500020

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0022      *****                                           M6500022

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0024      ENT T11                                           M6500024
0025      EXT JBCNFG                                         M6500025

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0027      EXT* REQERR                                       M6500027
0028      EXT LOADIN                                        M6500028
0029      EXT COMPV4          16 BIT ADDRESS COMPARE ROUTINE (TRVE**MSOS 4.0)M6500029

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0031      EQU A(1),Q($22),RL(3),PR(5)                      M6500031

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0032      EQU REQXT($B9)                                    M6500032

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0034 P0000 C108 T11 LDA- 8,I          VOL WD. 8 IS INDIR INDICATOR      **MSOS 4.0M6500034
0035 P0001 0131 SAM 1          ENTRY CHECK IF REQUEST INDIRECT      **MSOS 4.0M6500035
0036 P0002 0103 RAO- RL,I       INCREMENT RETURN LOC. BY ONE      M6500036
0037 P0003 C103 LDA- RL,I       INSURE THE RETURN ADDRESS IS      **MSOS 4.0M6500037
0038 P0004 E0F6 LDQ- $F6        LEGAL                                **MSOS 4.0M6500038
0039 P0005 5C12 RTJ* (EQUAL)    N                                    **MSOS 4.0M6500039
0040 P0006 0107 SAZ ERR        NO                                    **MSOS 4.0M6500040
0041 P0007 0900 INA 0          NO                                    **MSOS 4.0M6500041
0042 P0008 0115 SAN ERR        NO                                    M6500042
0043 P0009 C101 LDA- A,I       CHECK FOR A AND Q ZERO.           M6500043
0044 P000A 0101 SAZ 1          M6500044
0045 P000B 180A JMP* CORE1     M6500045
0046 P000C C522 LDA- (Q),I     M6500046
0047 P000D 0102 SAZ CORE--1   M6500047

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0048 P000E 1800 X ERR JMP REQERR ERROR MESSAGE JO2 M6500048
P000F 7FFF X

0050 P0010 C0EC CORE LDA- $EC A = Q = ZERO M6500050
0051 P0011 6101 STA- A,I HIGHEST UNPROTECTED IN A M6500051
0052 P0012 C0ED LDA- $ED M6500052
0053 P0013 6522 STA- (Q),I LOWEST UNPROTECTED IN Q M6500053
0054 P0014 1822 JMP* CORE2 M6500054

0056 P0015 E522 CORE1 LDQ- (Q),I A AND Q NOT EQUAL TO ZERO M6500056
0057 P0016 5400 X RTJ COMPV4 UPPER MUST BE GREATER THAN LOWER **MSOS 4.0M6500057
P0017 7FFF X P EQU EQJAL(*-1) **MSOS 4.0M6500058
0058 P0018 0017 SAZ C1 IT IS **MSOS 4.0M6500059
0059 P0019 0900 INA 0 **MSOS 4.0M6500060
0060 P001A 0111 SAN C1 IT IS **MSOS 4.0M6500061
0061 P001B 18F2 JMP* ERR NO - REQUEST ERROR M6500062
0062 P001C E0F6 C1 LDQ- $F6 CHECK IF A IN UNPROTECTED **MSOS 4.0M6500063
0063 P001D C101 LDA- A,I CORE **MSOS 4.0M6500064
0064 P001E 5CF8 RTJ* (EQUAL) **MSOS 4.0M6500065
0065 P001F 0106 SAZ ARND M6500066
0066 P0020 0900 INA 0 **MSOS 4.0M6500067
0067 P0021 0104 SAZ ARND **MSOS 4.0M6500068
0068 P0022 C400 X LDA LOADIN YES CHECK IF LOADER IS IN *** M6500069
P0023 7FFF X

0070 P0024 0111 SAN 1 **** M6500070
0071 P0025 18E8 JMP* ERR NO - REQUEST ERROR M6500071
0072 P0026 C0F7 ARND LDA- $F7 IS LOWER BOUNDS BELOW TOP **MSOS 4.0M6500072
0073 P0027 E522 LDQ- (Q),I OF MONITOR **MSOS 4.0M6500073
0074 P0028 5CEE RTJ* (EQUAL) **MSOS 4.0M6500074
0075 P0029 0103 SAZ AR1 **MSOS 4.0M6500075
0076 P002A 0900 INA 0 **MSOS 4.0M6500076
0077 P002B 0101 SAZ AR1 YES **MSOS 4.0M6500077
0078 P002C 18E1 JMP* ERR NO - REQUEST ERROR **MSOS 4.0M6500078
0079 P002D C522 AR1 LDA- (Q),I **MSOS 4.0M6500079
0080 P002E 60ED STA- $ED M6500080
0081 P002F C101 LDA- A,I M6500081
0082 P0030 60EC STA- $EC M6500082
0083 P0031 C400 X LDA JBCNFG IF JOB CANCEL FLAG IS SET, DO NOT RETURN M6500083
P0032 7FFF X

0084 P0033 0102 SAZ CORE2 TO USER M6500084
0085 P0034 C0EA LDA- $EA M6500085
0086 P0035 61J3 STA- 3,I M6500086
0087 P0036 14B9 CORE2 JMP- (REQXT) M6500087
0088 END M6500088

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E Q U I V A L E N C E S

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)
0031	A	0001	(000001) 0043, 0051, 0064, 0081
0031	Q	0022	(000034) 0046, 0053, 0056, 0073, 0079
0031	RL	0003	(000003) 0036, 0037
0031	PR	0005	(000005)
0032	REQXT	00B9	(000185) 0087

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0024	T11	0000	0024
0048	ERR	000E	0040, 0042, 0062, 0071, 0078
0050	CORE	0010	0047
0056	CORE1	0015	0045
0058	EQUAL	0017	0039, 0065, 0074
0063	C1	001C	0059, 0061
0072	ARND	0026	0063, 0068
0079	AR1	002D	0075, 0077
0087	CORE2	0036	0054, 0084

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0025	JBCNFG	0032	0083
0027	REQERR	000F	0048
0028	LOADIN	0023	0069
0029	COMPV+	0017	0057


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0001      *      NAM T7          DECK-ID M66  MSOS 5.0          SUMMARY-110M6600001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M66000002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    M66000003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976        M66000004

0006      *      T7 LOADER REQUEST PROCESSOR                      M66000006
0008      *      *****                                          M66000008

0010      *      THIS IS THE LOADER REQUEST MODULE              M66000010
0011      *      ITS PURPOSE IS TO PLACE THE LOADER IN THE UPPER M66000011
0012      *      MOST PART OF UNPROTECTED CORE.                 M66000012
0013      *      THE RELOCATING LOADER WILL THEN BE OPERATED.   M66000013
0014      *      THE PARAMETERS SUPPLIED TO THE LOADER MUST BE   M66000014
0015      *      IN A AND Q WHEN THE REQUEST IS MADE.            M66000015
0016      *      UPON ENTRANCE, THE I REGISTER CONTAINS THE LOCATION M66000016
0017      *      OF VOLATILE STORAGE.                             M66000017
0018      *      THE A REGISTER CONTAINS POINTER TO PARAMETER LIST M66000018
0019      *      AND IF NEGATIVE, CALL IS INDIRECT                M66000019
0020      *      *
0021      *      VOLATILE STORAGE ASSIGNMENT                      M66000021
0022      *      0 - Q REGISTER                                    M66000022
0023      *      1 - A REGISTER                                    M66000023
0024      *      2 - I REGISTER                                    M66000024
0025      *      3 - RETURN LOCATION.                             M66000025
0026      *      4 - NOT USED.                                    M66000026
0027      *      5 - LOC. OF REQUEST PARAMETER LIST.            M66000027
0028      *      6 - NOT USED.                                    M66000028
0029      *      7 - NOT USED.                                    M66000029
0030      *      8 - INDICATOR FOR INDIRECT                       **MSOS4.0*M66000030

0032      *** LIC - LOADER IN CORE FLAG, SET TO LOCATION        M66000032
0033      *** OF LOADER.                                         M66000033
0034      *** LOADSD - MASS STORAGE SYSTEM DIRECTORY TABLE     M66000034

0036      *      *****                                          M66000036

0038      ENT T7                                                M66000038
0039      EXT* REQERR                                           M66000039

0041      EXT LOADSD, JPRET1, JPRETN, JPRET  JOB PROCESSOR RETURNS M66000041
0042      EXT  LOADIN                                           M66000042
0043      EXT UNPIO, SWAPCK                                       M66000043
0044      EXT JBCNFG                                             M66000044
0045      EXT JOBINJ                                           **MSOS4.0*M66000045
0046      EXT MIBJF                                             **MSOS4.0*M66000046
0047      EXT COMPV4                                           M66000047
0048      EXT LOCF                                             M66000048
0049      EXT LPTRS                                             M66000049

0051      EQU ONEBIT($23)                                       M66000051

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0052      3022      EQU  ZERO($22)
0053      00EA      EQU  DISP($EA)
0054      0016      EQU  MFFF0($16)      $FFFF0 MASK
M6600052
M6600053
M6600054

0056 PG000 C108 T7 LDA- 8,I      GET INDIRECT WORD
0057 P0001 0131 SAM 1      ENTRY-CHECK FOR INDIRECT REQ.
0058 PL002 D103 RAO- 3,I      INCREASE RETURN LOC. BY ONE
0059 P0003 E864 LDQ* LOF      CHECK LOCK OUT FLAG.
0060 PG004 0142 SQZ LOAD--1
0061 P0005 1800 JMP REQERR
X
X
0062 P0007 C103 LOAD LDA- 3,I
0063 P0008 685F STA* RL      SAVE RETURN LOCATION
0064 P0009 0105 LDA- 5,I      SAVE PARAMETER LIST ADDRESS IN CASE
0065 PG00A 6865 STA* SAVPTR      OF LATER ERROR
0066 P000B 0804 LOADA SET A
0067 P000C 685B STA* LOF      SET LOCK-OUT FLAG.
0068 P000D 0500 IIN 0
0069 P000E 54BA RTJ- ($BA)      RELEASE VOLATILE
0070 P000F 0400 EIN 0
0071 P0010 4853 STQ* TNA      SAVE Q
0072 P0011 4853 STQ* TEMP
0073 P0012 684F STA* FUNC      SAVE A
0074 P0013 684F STA* TEMP1
0075 P0014 A006 AND- $6
0076 P0015 6800 STA T
M6600062
M6600063
M6600064
M6600065
M6600066
M6600067
**MSOS4.0 *M6600068
**MSOS4.0 *M6600069
**MSOS4.0 *M6600070
**MSOS4.0 *M6600071
**MSOS4.0 *M6600072
**MSOS4.0 *M6600073
**MSOS4.0 *M6600074
M6600075
M6600076

0077 PG017 0822 TRA Q
0078 P0018 C849 LDA* FUNC
0079 P0019 A016 AND- MFFF0      REPLACE T7 LOADER REQUEST
0080 P001A 0A56 EOR* FNCODE,Q      MASK OUT REQUEST TYPE CODE
0081 PG01B 6846 STA* FUNC      REQUESTED OPERATION
0082 P001C 6846 STA* TEMP1
0083 PG01D C223 LDA- ONERIT,Q
0084 P001E A000 AND =N$3A      IS IT A 1,3,4,OR 5
M6600077
**MSOS4.0 *M6600078
M6600079
**MSOS4.0 *M6600080
**MSOS4.0 *M6600081
**MSOS4.0 *M6600082
**MSOS4.0 *M6600083
**MSOS4.0 *M6600084

0085 P0020 0112 SAN LOAD1      YES - ASSUME LOADER IS ALREADY IN CORE
0086 *
0087 *
M6600085
M6600086
M6600087
0088 P0021 C848 LDA* LIC
0089 P0022 0101 SAZ 1      CHECK FOR LOADER IN CORE.
0090 P0023 1867 LOAD1 JMP* LOAD4      LOADER IN CORE
M6600088
M6600089
M6600090

0092 P0024 C0ED LDA- $EJ      SET TEMPORARY HIGHEST AND
0093 P0025 3901 INA 1
0094 P0026 6846 STA* FWALOD
0095 P0027 C0EC LDA- $EC      FUNCTION
0096 P0028 6845 STA* LWALOD
0097 P0029 C076 LDA- $F5
0098 P002A 0822 TRA Q      SHALL WE USE
0099 P002B 90FC SUB- $EC      F6 OR EC
0100 PG02C 1131 SAM 1      USE THE SMALLER
0101 P002D E0EC LDQ- $EC      (LOWEST ADDRESS)
M6600092
**MSOS4.0 *M6600093
**MSOS4.0 *M6600094
**MSOS4.0 *M6600095
**MSOS4.0 *M6600096
**** *M6600097
**** *M6600098
**** *M6600099
**** *M6600100
**** *M6600101

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0102	P002E	483A	STQ*	ALDR		****	M6600102
0103	P002F	483C	LDQ*	LSD	LOAD LOADER INTO HIGH CORE		M6600103
0104	P0030	F0EB	ADQ-	\$EB			M5600104
0105	P0031	C204	LDA-	4,Q			M5600105
0106	P0032	684E	STA*	LOAD3+5	LOADER SIZE		M5600106
0107	P0033	9835	SUB*	ALDR		****	M5600107
0108	P0034	0864	TCA	A			M6600108
0109	P0035	6835	STA*	LL	SAVE START ADDRESS FOR LATER USE		M6600109
0110	P0036	4838	STQ*	QREGR	SAVE Q FOR LATER USE		M6600110
0111	P0037	E0ED	LDQ-	\$ED	CHECK IF LOADER SIZE		M5600111
0112	P0038	0D01	INQ	1	EXCEEDS TEMPORARY UNPROTECTED CORE		M5600112
0113	P0039	5400	RTJ	COMPV4	IS START.LT.(\$ED)+1		M5600113
	P003A	7FFF					
0114	P003B	012C	SAP	OK	NO, OK		M6600114
0115	P003C	0900	INA	0			M5600115
0116	P003D	011A	SAN	OK	NO, OK		M6600116
0117	P003E	682C	STA*	LL	YES, CLEAR ADDRESS HOLD		M5600117
0118	P003F	C830	LDA*	SAVPTR			M6600118
0119	P0040	E400	LDQ	LPTRS			M6600119
	P0041	7FFF					
0120	P0042	6622	STA-	(ZERO),Q	STORE ERROR ADDRESS		M6600120
0121	P0043	0C02	ENQ	2			M6600121
0122	P0044	C4C0	LDA	LOCF	RETURN TO PROTEC		M5600122
	P0045	7FFF					
0123	P0046	60FF	STA-	I	TO SET UP ERROR MESSAGE		M6600123
0124	P0047	14FF	JMP-	(I)			M5600124
0125	P0048	E826	LDQ*	QREGR	RESTORE Q		M5600125
0126	P0049	C821	LDA*	LL	RELOAD ADDRESS		M5600126
0127	P004A	681F	STA*	LIC	SET LOADER IN CORE FLAG		M6600127
0128	P004B	6836	STA*	LOAD3+6			M5600128
	P004C	C205					
0130	P004D	6835	LDA-	5,Q	MOST SIGNIFICANT BITS OF		M6600130
0131	P004E	C206	STA*	LOAD3+7	SECTOR NO. WHERE PROGRAM		M6600131
0132					BEGINS.		M5600132
0133	P004F	6834	LDA-	6,Q	LEAST SIGNIFICANT BITS OF		M5600133
0134	P0050	C0C2	STA*	LOAD3+8	SECTOR NO.		M5600134
0135	P0051	682E	LDA-	\$C2	USE LIBRARY DISK TO READ	**MSOS4.0*	M5600135
0136	P0052	5826	STA*	THREAD+1	IN THE LOADER	**MSOS4.0*	M5600136
0137	P0053	5801	RTJ*	DKREAD	READ IN THE LOADER	**MSOS4.0*	M6600137
0138	P0054	0000	RTJ*	LOAD5		**MSOS4.0*	M5600138
0139	P0055	C000		0		**MSOS4.0*	M5600139
0140	P0056	0018	LDA	=XFWALOD-LOAD5		**MSOS4.0*	M6600140
	P0057	83FC					
0141	P0058	680B	ADD*	LOAD5	SET UP FWA-LWA ADDRESS	**MSOS4.0*	M6600141
0142	P0059	0A01	STA*	TNA	POINTER FOR SETBASES FUNCTION	**MSOS4.0*	M5600142
0143	P005A	6807	ENA	1		**MSOS4.0*	M6600143
0144	P005B	587E	STA*	FUNC		**MSOS4.0*	M5600144
0145	P005C	C808	RTJ*	LOAD8	DO SET BASES FUNCTION	**MSOS4.0*	M6600145
0146	P005D	0806	LDA*	TEMP		**MSOS4.0*	M5600146
0147	P005E	6804	STA*	TNA		**MSOS4.0*	M6600147
0148	P005F	6802	LDA*	TEMP1		**MSOS4.0*	M5600148
0149	P0060	182A	STA*	FUNC		**MSOS4.0*	M5600149
0150			JMP*	LOAD4		**MSOS4.0*	M6600150

X

X

X

X

OK

*

LOAD5

0151	PG061	0000	FUNC	NUM	0	STORAGE FOR A FOR LOADER	**MSOS4.0	M6600151
0152	PG062	0000	TEMP1	NUM	0	TEMPORARY A FOR LOADER	**MSOS4.0	M6600152
0153	PG063	0000	TNA	NUM	0	STORAGE FOR Q FOR LOADER	**MSOS4.0	M6600153
0154	PG064	0000	TEMP	NUM	0	TEMPORARY Q FOR LOADER	**MSOS4.0	M6600154
0155	PG065	7FFF	X LOADI	ADC	LOADIN		**MSOS4.0	M6600155
0156	PG066	0000	RL	NUM	0	RETURN LOCATION	**MSOS4.0	M6600156
0157	PG067	0000	LOF	NUM	0	LOCK-OUT FLAG SET WHEN LOADER	**MSOS4.0	M6600157
0158	PG068	0000	ALDR	NUM	0		**MSOS4.0	M6600158
0159			*			REQUEST IN OPERATION	**MSOS4.0	M6600159
0160	PG069	0000	LIC	NUM	0	LOADER IN CORE FLAG	**MSOS4.0	M6600160
0161	PG06A	0000	LL	NUM	0	1ST WORD LOCATION OF THE LOADER	**MSOS4.0	M6600161
0162	PG06B	7FFF	X LSD	ADC	LOADSD		**MSOS4.0	M6600162
0163	PG06C	0000	FWALDD	NUM	0	BASES FOR SETBASES	**MSOS4.0	M6600163
0164	PG06D	0000	LWALOD	NUM	0	FUNCTION	**MSOS4.0	M6600164
0165	PG06E	0000	QREGR	NUM	0		M6600165	
0166	PG06F	0000	SAVPTR	NUM	0	PARAMETER LIST ADDRESS	M6600166	
0167			*			ACTUAL LOADER FUNCTIONS USED FOR EXECUTION OF%	**MSOS4.0	M6600167
0168	PG070	0000	FNC03E	NUM	0	REFLOCATABLE LOAD	**MSOS4.0	M6600168
0169	PG071	000A		NUM	10	LOAD FROM PROGRAM LIBRARY	**MSOS4.0	M6600169
0170	PG072	00C8		NUM	8	LOAD PROGRAM FROM LIB. AND EXECUTE	**MSOS4.0	M6600170
0171	PG073	00C6		NUM	6	PRODUCE MEMORY MAP	**MSOS4.0	M6600171
0172	PG074	0009		NUM	9	LOOK UP ENTRY-POINT NAME	**MSOS4.0	M6600172
0173	PG075	0001		NUM	1	SAME AS T=1 BUT NO MEMORY MAP	**MSOS4.0	M6600173
0174	PG076	0005		NUM	5	SEARCH CREP DIRECTORIES	**MSOS4.0	M6600174
0175	PG077	0004		NUM	4	INITIALIZE DATA BASE	**MSOS4.0	M6600175
0177	PG078	0000	DKREAD	0	0		**MSOS4.0	M6600177
0178	PG079	0400	X RAO	UNPIO		SET UNPIO TO INHIBIT SWAPPING	M6600178	
0179	PG07A	7FFF	X LOAD3	RTJ-	(\$F4)	SYSTEM REQUEST TO LOAD	M6600179	
0180	PG07C	4800		NUM	\$4800	LOADER FROM MASS STORAGE	**MSOS4.0	M6600180
0181	PG07D	0000		NUM	\$0000		M6600181	
0182	PG07E	0000	THREAD	NUM	\$0000	LIBRARY UNIT	M6600182	
0183	PG07F	08C2		NUM	\$08C2	NUMBER OF WORDS	M6600183	
0184	PG080	0000		NUM	\$0000	STARTING ADDRESS	M6600184	
0185	PG081	0000		NUM	\$0000	MOST SIGNIFICANT BITS	M6600185	
0186	PG082	0000		NUM	\$0000	LEAST SIGNIFICANT BITS	M6600186	
0187	PG083	0000		NUM	\$0000	CHECK FOR COMPLETION	M6600187	
0188	PG084	C8F9	LDA*	THREAD			M6600188	
0189	PG085	0101	SAZ	1			M6600189	
0190	PG086	18FD	JMP*	*-2			M6600190	
0191	PG087	5400	X RTJ	SWAPCK		RELEASE UNPIO FLAG	M6600191	
0192	PG088	7FFF	X					
0192	PG089	1CEE	JMP*	(DKREAD)			**MSOS4.0	M6600192
0194	PG08A	C820	LOAD4	LDA*	T	CHECK FOR SUBROUTINE LOAD FUNCTIONS	**MSOS4.0	M6600194
0195	PG08B	09FE		INA	-1	ONE FUNCTION	MSOS4.0	M6600195
0196	PG08C	0112		SAN	2	NO	MSOS4.0	M6600196
0197	PG08D	585D	LOAD4A	RTJ*	LINK	LINK ENTRY POINTS	MSOS4.0	M6600197
0198	PG08E	182C		JMP*	T/CHECK		MSOS4.0	M6600198
0199	PG08F	09FB		INA	-4	FIVE FUNCTION	MSOS4.0	M6600199
0200	PG090	0111		SAN	1		MSOS4.0	M6600200

0201	PG091	18FB		JMP*	LOAD4A				MSOS4.0	M5600	201
0202	PG092	09FE		INA	-1	PATCH TO CREP TABLES FUNCTION			**MSOS4.0	*M5600	202
0203	PG093	0111		SAN	1				**MSOS4.0	*M5600	203
0204	PG094	18F8		JMP*	LOAD4A	YES			**MSOS4.0	*M5600	204
0205	PG095	5844		RTJ*	LOAD3	NO,EXECUTE THE REQUESTED FUNCTION			MSOS4.0	M5600	205
0206	PG096	0125		SAP	NOERR				**MSOS4.0	*M5600	206
0207	PG097	5900		INA	0	-0 ERROR INDICATOR FROM LOADER			**MSOS4.0	*M5600	207
0208	PG098	0133		SAM	NOERR				**MSOS4.0	*M5600	208
0209	PG099	0804		SET	A	IRRECOVERABLE ERROR FROM			**MSOS4.0	*M5600	209
0210	PG09A	6811		STA*	SAVA	LOADER - REPORT BACK TO			**MSOS4.0	*M5600	210
0211	PG09B	182E		JMP*	LOAD6-2	USER			**MSOS4.0	*M5600	211
0212	PG09C	0115	NOERR	SAN	CRD				**MSOS4.0	*M5600	212
0213	PG09D	E800		LDD	T	CHECK FOR RB LOAD				M5600	213
	PG09E	000C								M5600	213
0214	PG09F	9151		SQN	GONCCR					M6600	214
0215	PG0A0	1819		JMP*	NOCCR	GO TO SAVE XFR ADDRESS				M5600	215
0216	PG0A1	1317	GONCCR	JMP*	NOCCRD					M5600	216
0217	PG0A2	68C1	CRD	STA*	TEMP	SAVE POINTER TO ADDRESS OF STATEMENT				M6600	217
0218	PJ0A3	E807		LDQ*	T	LOOK-UP ENTRY-POINT FUNCTION			**MSOS4.0	*M5600	218
0219	PG0A4	C151		SQN	NTZRO	SKIP IF NOT LOADER FUNCTION 0				M5600	219
0220	PG0A5	1803		JMP*	ARGSAV	GO TO SAVE TRANSFER ADDRESS				M5600	220
0221	PG0A6	0DFB	NTZRO	INQ	-4				**MSOS4.0	*M5600	221
0222	PG0A7	0154		SQN	MOVE1				**MSOS4.0	*M5600	222
0223	PG0A8	6803	ARGSAV	STA*	SAVA	SAVE ADDRESS FOR RETURN TO USER			**MSOS4.0	*M5600	223
0224	PG0A9	1811		JMP*	TCHECK				**MSOS4.0	*M5600	224
0225	PJ0AA	0000	T	NUM	0	TYPE OF LOADING OPERATION			**MSOS4.0	*M5600	225
0226	PG0AB	0000	SAVA	NUM	0				**MSOS4.0	*M5600	226
0227	PG0AC	C400	MOVE1	LDA	MIBUF				**MSOS4.0	*M5600	227
	PG0AD	7FFF	X								
0228	PG0AE	68B3		STA*	TEMP1				**MSOS4.0	*M5600	228
0229	PG0AF	0C24		ENQ	36				**MSOS4.0	*M5600	229
0230	PG0B0	C8B3	MOVE	LDA*	{TEMP},Q	MOVE THE STATEMENT			**MSOS4.0	*M5600	230
0231	PG0B1	6EB0		STA*	{TEMP1},Q				**MSOS4.0	*M5600	231
0232	PG0B2	0DFE		INQ	-1	MOVE COMPLETED			**MSOS4.0	*M5600	232
0233	PG0B3	5171		SQN	1				**MSOS4.0	*M5600	233
0234	PG0B4	18FB		JMP*	MOVE				**MSOS4.0	*M5600	234
0235	PG0B5	C8AC		LDA*	TEMP1	YES,STORE ADDR. OF JOBENT			**MSOS4.0	*M5600	235
0236	PG0B6	6400	X	STA	JOBIND	BUFFER FOR JOBPRO			**MSOS4.0	*M5600	236
	PG0B7	7FFF	X								
0237	PG0B8	C102	NOCCRD	LDA-	2,I				**MSOS4.0	*M5600	237
0239	PG0B9	68F1	NOCCR	STA*	SAVA	SAVE A-REGISTER			**MSOS4.0	*M5600	239
0240	PG0BA	C8EF	TCHECK	LDA*	T	TYPE OF LOADING OPERATION			**MSOS4.0	*M5600	240
0241	PG0BB	010F		SAZ	LOAD6-*-1					M5600	241
0242	PG0BC	09FD		INA	-2				46*773	M5600	242
0243	PG0BD	0115		SAN	IST3				46*773	M5600	243
0244	PG0BE	582C		RTJ*	LINK	SUBROUTINE LOAD FUNCTION			**MSOS4.0	*M5600	244
0245	PG0BF	C8EB		LDA*	SAVA				46*773	M5600	245
0246	PG0C0	0101		SAZ	ERT2				46*773	M5600	246
0247	PG0C1	68A4		STA*	RL				46*773	M5600	247
0248	PG0C2	1807	ERT2	JMP*	LOAD6-2				46*773	M5600	248
0249	PG0C3	C9FE	IST3	INA	-1				46*773	M5600	249
0250	PJ0C4	C106		SAZ	LOAD6-*-1				46*773	M5600	250


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0251 P00C5 09FC INA -3 CHECK FOR T=6 53*1062 M6600251
0252 P00C6 0102 SAZ 2 T=6 SET LOADER NOT IN CORE **MSOS4.0*M6600252
0253 P00C7 09FE INA -1 **MSOS4.0*M6600253
0254 P00C8 0102 SAZ LOAD6--*-1 T=7 NOT NECESSARY TO CLEAR LIC **MSOS4.0*M6600254
0255 P00C9 0A10 ENA 0 SET LOADER NOT IN CORE M6600255
0256 P00CA 689E STA* LIC M66J0256
0257 P00CB 689B LOAD5 STA* LOF SET LOCK-OUT FLAG ZERO M66J0257
0258 P00CC 6C98 STA* (LOADI) M6600258
0259 P00CD E0EE LDQ- SEE PICK UP LOADER RETURN M6600259
0260 P00CE 0600 SPB 0 RESET PROTECT BIT M6600260
0261 P00CF E400 LDQ JBCNFG M66J0261
X
0262 P00D1 0141 SQZ 1 M66J0262
X
0263 P00D2 14EA JMP- (DISP) EXIT, JOB CANCEL FLAG HAS BEEN SET M6600263
0264 P00D3 C892 LDA* RL M6600264
0265 P00D4 6804 STA* RET+1 RETURN LOCATION M6600265
0266 P00D5 C805 LOAD9 LDA* SAVA RETURN A REGISTER. M6600266
0267 P00D6 0400 EIN 0 ENABLE INTERRUPTS BEFORE RETURNING TO USER M66J0267
0268 P00D7 1400 RET JMP+ 0 RETURN TO CALLING PROGRAM M66J0268
P00D8 0000

0270 P00D9 0000 LOAD8 0 0 M6600270
0271 P00DA E8FE LDQ* LOAD8 LOADER RETURN LOCATION. M66J0271
0272 P00DB 4400 STQ JPRET1 PATCH RETURN FROM TRVEC M6600272
X
0273 P00DD E000 LDQ =XJPRETN M6600273
X
0274 P00DE 7FFF STQ JPRET PATCH THE PRESET TABLE M6600274
X
0275 P00E1 40EE STQ- SEE PATCH THE LO CORE INDIRECT ADDR TO JPRETN M6600275
0276 P00E2 0700 CPB 0 CLEAR PROTECT BIT ON JPRETN M6600276
0277 P00E3 DC81 LOAD7 RAO* (LOADI) SET FLAG IN PROTECT PROCESSOR M6600277
*
0278 LDA FUNC TO LET LOADER READ AND WRITE. M6600278
0279 P00E4 C800 P00E5 FF7B P00E6 E800 LDQ TNA M6600280
P00E7 FF7B

0281 P00E8 0400 EIN 0 ENABLE INTERRUPTS **MSOS4.0*M6600281
0282 P00E9 1C80 JMP* (LL) JUMP TO LOADER **MSOS4.0*M6600282

0284 P00EA 0000 LINK 0 0 **MSOS4.0*M6600284
0285 P00EB 0A02 ENA 2 LINK ENTRIES **MSOS4.0*M6600285
0286 P00EC 580A RTJ* CMLOAD **MSOS4.0*M6600286
0287 P00ED C8BC LDA* T CREP TABLE PATCH **MSOS4.0*M6600287
0288 P00EE 09F9 INA -6 **MSOS4.0*M6600288
0289 P00EF 0111 SAN LINK2 **MSOS4.0*M6600289
0290 P00F0 1803 JMP* LINK1 **MSOS4.0*M6600290
0291 P00F1 0A0A LINK2 ENA 10 LINK TO PROGRAM LIBRARY **MSOS4.0*M6600291
0292 P00F2 5804 RTJ* CMLOAD **MSOS4.0*M6600292
0293 P00F3 0A07 LINK1 ENA 7 PRINT UNPATCHED EXTERNALS **MSOS4.0*M6600293
0294 P00F4 5802 RTJ* CMLOAD **MSOS4.0*M6600294
0295 P00F5 18FD JMP* LINK1 **MSOS4.0*M6600295
0296 P00F6 0000 CMLOAD 0 0 **MSOS4.0*M6600296

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0297 P00F7 6800
 P00F8 FF68
 0298 P00F9 58DF
 P00FA 0123
 0299 P00FB 0804
 P00FC 68AE
 0300 P00FD 18CB
 0301 P00FE 0161
 0302 P00FF 10F6
 0303 P0100 C8A9
 0304 P0101 09FE
 0305 P0102 0116
 0306 P0103 0AC6
 0307 P0104 6800
 0308 P0105 FF5B
 0309 P0106 58D2
 0310 P0107 0121
 0311 P0108 18F2
 0312 P0109 C8A0
 0313 P010A 09F9
 0314 P010B 0113
 0315 P010C 0A01
 0316 P010D 689C
 0317 P010E 18E2
 0318 P010F C102
 0319 P0110 689A
 0320 P0111 C522
 0321 P0112 010E
 0322 P0113 6800
 0323 P0114 FF6E
 P0115 C101
 0324 P0116 6800
 0325 P0117 FF68
 P0118 C800
 0326 P0119 FF52
 P011A 6800
 0327 P011B FF65
 P011C C0B3
 0328 P011D 6800
 P011E FF60
 0329 P011F 5800
 P0120 FF57
 0330 P0121 1CC8
 0331
 0332

STA FJNC
 RTJ* LOAD8
 SAP NERROR
 EREXIT SET A
 STA* SAVA
 JMP* LOAD6-2
 NERROR SOP PATCH
 JMP* (CMLOAD)
 PATCH LDA* T
 INA -1
 SAN NOMAP
 ENA 6
 STA FUNC
 RTJ* LOAD8
 SAP NOMAP
 JMP* EREXIT
 NOMAP LDA* T
 INA -6
 SAN NOCREP
 ENA 1
 STA* T
 JMP* LINK2
 NOCREP LDA- 2,I
 STA* SAVA
 LDA- (ZERO),I
 SAZ INCORE
 STA THREAD+5
 LDA- 1,I
 STA THREAD+2
 LDA FWALOD
 STA THREAD+3
 LDA- \$B3
 STA THREAD+1
 RTJ DKREAD
 INCORE JMP* (LINK)
 END

STORE FUNCTION CODE
 RETURN TO LOADER
 IRRECOVERABLE ERROR
 RETURN TO USER WITH A SET
 TO INDICATE AN ERROR
 UNPATCHED EXTERNAL REMAIN
 ONE(1) FUNCTION REQUIRING
 MEMORY MAP
 YES,GIVE PRINT MEMORY MAP
 STORE FUNCTION COL
 ERROR FROM LOADER RETURN TO USER
 CURRENT FUNCTION =6
 YES,FAKE A ONE FUNCTION
 TO PATCH TO PROG, LIBRARY
 AFTER ALL CREP TABLE LINKS
 SAVE THE TRANSFER ADDRESS
 LOAD IN CORE
 NO,STORE SECTOR ADDRESS FOR READ
 STORE NUMBER OF WORDS TO
 READ IN
 STARTING ADDRESS TO READ INTO
 IF THE LOADER HAS PAGED THE
 INFORMATION IS ON THE SCRATCH UNIT
 READ FROM DISK TO CORE

**MSOS4.0 M6600297
 **MSOS4.0 *M6600298
 **MSOS4.0 *M6600299
 **MSOS4.0 *M6600300
 **MSOS4.0 *M6600301
 **MSOS4.0 *M6600302
 **MSOS4.0 *M6600303
 **MSOS4.0 *M6600304
 **MSOS4.0 *M6600305
 **MSOS4.0 *M6600306
 **MSOS4.0 *M6600307
 **MSOS4.0 *M6600308
 **MSOS4.0 M6600309
 **MSOS4.0 *M6600310
 **MSOS4.0 *M6600311
 **MSOS4.0 *M6600312
 **MSOS4.0 *M6600313
 **MSOS4.0 *M6600314
 **MSOS4.0 *M6600315
 **MSOS4.0 *M6600316
 **MSOS4.0 *M6600317
 **MSOS4.0 *M6600318
 **MSOS4.0 *M6600319
 **MSOS4.0 M6600320
 **MSOS4.0 M6600321
 **MSOS4.0 *M6600322
 **MSOS4.0 M6600323
 **MSOS4.0 *M6600324
 **MSOS4.0 M6600325
 **MSOS4.0 *M6600326
 **MSOS4.0 M6600327
 **MSOS4.0 *M6600328
 **MSOS4.0 *M6600329
 **MSOS4.0 M6600330
 **MSOS4.0 *M6600331
 M6600332

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	03FF	(000255) 0123, 0124
0051	ONEBIT	0023	(000035) 0083
0052	ZERO	0022	(000034) 0120, 0321
0053	DISP	00EA	(000234) 0263
0054	MFFF0	0016	(000022) 0079

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0038	T7	0000	0038
0062	LOAD	0007	0060
0066	LOADA	000B	
0090	LOAD1	0023	0085
J125	JK	0048	0114, 0116
0139	LOAD5	0054	0138, 0140, 0141
0151	FUNC	0061	0073, 0078, 0081, 0144, 0149, 0279, 0297, 0309
0152	TEMP1	0062	0074, 0082, 0148, 0228, 0231, 0235
0153	TNA	0063	J071, 0142, 0147, 0280
0154	TEMP	0064	0072, 0146, 0217, 0230
0155	LOADI	0065	J258, 0277
0156	RL	0066	0063, 0247, 0264
0157	LOF	0067	0059, 0067, 0257
0158	ALDR	0068	J102, 0107
0160	LIC	0069	0088, 0127, 0256
0161	LL	006A	0109, 0117, 0126, 0282
0162	LSD	006B	0103
0163	FWALOD	006C	0094, 0140, 0326
0164	LWALOD	006D	0096
0165	JREGR	006E	J110, 0125
0166	SAVPTR	006F	0063, 0118
0168	FNCODE	0070	0080
0177	DKREAD	0078	0137, 0192, 0330
0179	LOAD3	007B	0106, 0128, 0131, 0134
J182	THREAD	007E	0136, 0188, 0323, 0325, 0327, 0329
0194	LOAD4	008A	0090, 0150
0197	LOAD4A	008D	0201, 0204
0212	NCERR	009C	J206, 0208
0216	GUNCCR	00A1	0214
J217	CRD	00A2	0212
0221	NTZRO	00A6	J219
J223	ARGSAV	00A8	0220
0225	T	00AA	0076, 0194, 0213, 0218, 0240, 0287, 0305, 0313, 0317
0226	SAVA	00AB	J210, 0223, 0239, 0245, 0266, 0301, 0320
0227	MOVE1	00AC	0222
J230	MOVE	00B0	J234
0237	NOCCRD	00B8	J216
0239	VOCCR	00B9	0215
0240	TCHECK	00BA	0198, 0224
0248	ERT2	00C2	0246
0249	IST3	00C3	0243

0257 LOAD6 00CE
 0266 LOAD9 00D5
 0268 RET 00D7
 0270 LOAD8 00D9
 0277 LOAD7 00E3
 0284 LINK 00EA
 0291 LINK2 00F1
 0293 LINK1 00F3
 0296 CML OAD 00F6
 0300 EREXIT 00FB
 0303 NERROR 00FE
 0305 PATCH 0100
 0313 NOMAP 0109
 0319 NOCREP 010F
 0331 INCORE 0121

0211, 0241, 0248, 0250, 0254, 0302
 0265
 0145, 0205, 0271, 0298, 0310
 0197, 0244, 0331
 0289, 0318
 0290, 0295
 0286, 0292, 0294, 0304
 0312
 0299
 0303
 0307, 0311
 0315
 0322

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0039	REQERR	0006	0061
0041	LOADSD	0068	0162
0041	JPRET1	00DC	0272
0041	JPRETN	00DE	0273
0041	JPRET	00E0	0274
0042	LOADIN	0065	0155
0043	UNPIO	007A	J178
0043	SWAPCK	0088	0191
0044	JBCNFG	0000	0261
0045	JOBIND	00B7	0236
0046	MIBUF	00AD	0227
0047	COMPV+	003A	J113
0048	LOCF	0045	0122
0049	LPTRS	0041	J119


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0001      *      NAM T5          DECK-ID M67  MSOS 5.0      SUMMARY-11 CM6700001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0  M6700002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA M6700003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976   M6700004

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0006      *      EXIT REQUEST MODULE                      M6700006

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0008      *      *****
                                M6700008

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0010      *      THIS IS THE EXIT REQUEST MODULE          M6700010
0011      *      ITS PURPOSE IS TO SIGNAL COMPLETION OF A JOB. M6700011
0012      *      THE INTERRUPT STACK IS CHECKED FOR EXITS TO M6700012
0013      *      UNPROTECTED CORE. IF ANY EXIST, THE DISPATCHER M6700013
0014      *      IS ENTERED. IF NONE EXIST, THE REQUEST STACKS ARE M6700014
0015      *      INTERROGATED FOR REQUESTS ORIGINATING IN UNPRO- M6700015
0016      *      TECTED CORE. IF NONE EXIST, THE JOB PROCESSOR IS M6700016
0017      *      ENTERED FOR COMPLETION. IF ONE OR MORE EXIST, M6700017
0018      *      THE JOB PROCESSOR WAITS FOR COMPLETION.      M6700018

```

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0020      *** $B8 - TOP OF INTERRUPT STACK                M6700020

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0022      *      *****
                                M6700022

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0024      ENT      T5                                     M6700024

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0026      ENT      REQERR                                **MSOS 4.0M6700026
0027      EXT      LPTRS                                **MSOS 4.0M6700027
0028      EXT      LQCF                                  **MSOS 4.0M6700028
0029      EXT      JBCNCL          JOB CANCEL ROUTINE    M6700029
0030      EXT      UNPTI4                                M6700030
0031      EXT      INTSTK                                M6700031
0032      EXT      UNPIO                                  M6700032
0033      EXT      UNPIOF                                **MSOS 4.0M6700033
0034      EXT      COMPV4                                **MSOS 4.0M6700034
0035      EQU      LPMSK(2)                             **MSOS 4.0M6700035
0036      EQU      ZERO($22)                            **MSOS 4.0M6700036

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0038      P0000 0161      T5      SQP      1          CALLED FROM MONI
0039      P0001 1816      JMP*    T5JX          CALLED FROM PROTECT
0040      P0002 6105      STA-    5,I          LIST
0041      P0003 C105      LDA-    5,I          IS PARAMETER LIST IN UNPROTECTED CORE
0042      P0004 E0F7      LDQ-   $F7
0043      P0005 5400      RTJ    COMPV4
0044      P0006 7FFF      X

```

```

0045      P0007 0900      P EQUAL EQU  EQJAL(*-1)
0046      P0008 0108      INA    0
0047      P0009 C0F6      SAZ    EXIT          NO
0048      P000A E105      LDA-   $F5
0049      P000B 5400      LDQ-   5,I
0050      P000C C006      RTJ    COMPV4

```


0050 P0000 0103
 0051 P0001 0900
 0052 P0002 0101
 0053 P0003 0804
 0054 P0004 6101
 0055 P0005 0500
 0056 P0006 54BA
 0057 P0007 0400
 0058 P0008 0131
 0059 P0009 14EA

EXIT

SAZ EXIT NO
 INA 0
 SAZ EXIT NO
 SET A YES
 STA- 1,I
 IIN 0 RELEASE VOLATILE
 RTJ- (\$BA) STORAGE
 EIN 0
 SAN 1
 JMP- (\$EA)

M6700050
 M6700051
 M6700052
 M6700053
 M6700054
 M6700055
 M6700056
 M6700057
 M6700058
 M6700059

0061 P0017 C000 X T5DX
 P0018 7FFF X
 0062 P0019 60FF
 0063 P001A 0C00
 0064 P001B C4E9
 0065 P001C 0104
 0066 P001D C000
 P001E 0B00
 0067 P001F 6804
 0068 P0020 680C

T5DX

LDA =XINTSTK FIRST LOCATION OF INTERRUPT
 STA- I STACK
 ENQ 0
 LDA- (\$E3) CHECK 65K MODE SWITCH 65K=1
 SAZ EXIT1
 LDA =X\$0B00 -
 STA* EX11 DON'T CLEAR BIT 15 OF P
 STA* EX1 IF 65K MACHINE

M6700061
 M6700062
 M6700063
 **MSOS 4.0M6700064
 **MSOS 4.0M6700065
 **MSOS 4.0M6700066
 M6700067
 **MSOS 4.0M6700068

0070 P0021 0500
 0071 P0022 C303
 0072 P0023 A011
 0073 P0024 4828
 0074 P0025 E0F7
 0075 P0026 09FE
 0076 P0027 5CDE
 0077 P0028 E824
 0078 P0029 0900
 0079 P002A 0107
 0080 P002B C303
 0081 P002C A011
 0082 P002D E0F6
 0083 P002E 5CD7
 0084 P002F C900
 0085 P0030 0111
 0086 P0031 14EA

EXIT1

EX11

EX1

EXIT2

IIN 0
 LDA- 3,B
 AND- \$11 CHECK IF A RETURN LOCATION IS
 STQ* QSAV A UNPROTECTED CORE LOCATION
 DQ- \$F7
 INA -1
 RTJ* (EQUAL)
 LDQ* QSAV
 INA 0
 SAZ EXIT3 PROTECTED CORE RETURN
 LDA- 3,B
 AND- \$11
 LDQ- \$F6
 RTJ* (EQUAL)
 INA 0
 SAN EXIT3 PROTECTED CORE RETURN
 JMP- (\$EA) UNPROTECTED CORE RETURN DISP.

M6700070
 M6700071
 M6700072
 **MSOS 4.0M6700073
 **MSOS 4.0M6700074
 M6700075
 **MSOS 4.0M6700076
 **MSOS 4.0M6700077
 **MSOS 4.0M6700078
 **MSOS 4.0M6700079
 M6700080
 **MSOS 4.0M6700081
 **MSOS 4.0M6700082
 **MSOS 4.0M6700083
 **MSOS 4.0M6700084
 **MSOS 4.0M6700085
 M6700086

0088 P0032 E81A
 0089 P0033 0D05
 0090 P0034 0814
 0091 P0035 80FF
 0092 P0036 90B8
 0093 P0037 0121
 0094 P0038 18E8
 0095 P0039 0400
 0096 P003A C0EF
 0097 P003B 0101
 0098 P003C 14EA
 0099 P003D 0500
 0100 P003E C400
 P003F 7FFF

EXIT3

EXIT4

EX4

LDQ* QSAV A PROTECTED CORE RETURN
 INQ 5
 TRQ A HAS COMPLETE STACK BEEN
 ADD- I CHECKED.
 SUB- \$B8
 SAP EXIT4
 JMP* EXIT1 NO
 EIN 0
 LDA- \$E= CURRENT PRIORITY LEVEL
 SAZ 1 IF NOT ZERO JUMP TO
 JMP- (\$EA) DISPATCHER.
 IIN 0
 LDA UNPTIM UNPROTECTED TIMER

**MSOS 4.0M6700088
 **MSOS 4.0M6700089
 M6700090
 M6700091
 M6700092
 **MSOS 4.0M6700093
 M6700094
 M6700095
 M6700096
 M6700097
 M6700098
 M6700099
 M6700100

X
X

```

0101 P0040 8400 X ADD UNPIO UNPROTECTED I/O M6700101
      P0041 7FFF X
0102 P0042 8400 X ADD UNPIO I/O COMPLETING IN FOREGROUND **MSOS 4.0M6700102
      P0043 7FFF X
0103 P0044 0400 EIN 0 M6700103
0104 P0045 C101 SAZ EX5--*-1 M6700104
0105 P0046 18F6 JMP* EX4 M6700105
0106 P0047 0CFA EX5 ENQ -5 TELL JBKILL IT WAS CALLED FROM HERE **MSOS +.0M6700106
0107 P0048 54F4 RTJ- ($F4) M6700107
0108 P0049 5202 NUM $5202 M6700108
0109 P004A 7FFF X ADC JBCNCL M6700109
0110 P004B 14EA JMP- ($EA) M6700110
0111 P004C 0000 QSAV NUM 0 **MSOS 4.0M6700111
0112 P004D C103 REQERR LDA- 5,I REQUEST ERROR JP02 **MSOS 4.0M6700112
0113 P004E E400 X LDQ LPTRS LOCATION OF REQUEST PARAMETER **MSOS 4.0M6700113
      P004F 7FFF X
0114 P0050 6622 STA- (ZERO),Q STORE ERROR ADDRESS **MSOS 4.0M6700114
0115 P0051 0500 IIN 0 **MSOS 4.0M6700115
0116 P0052 54BA RTJ- ($BA) RELEASE VOLATILE **MSOS 4.0M6700116
0117 P0053 0400 EIN 0 **MSOS 4.0M6700117
0118 P0054 0C02 ENQ 2 **MSOS 4.0M6700118
0119 P0055 C400 X LDA LOC= RETURN TO PROTEC **MSOS 4.0M6700119
      P0056 7FFF X
0120 P0057 60FF TO SET UP ERROR **MSOS 4.0M6700120
0121 P0058 14FF JMP- (I) MESSAGE **MSOS 4.0M6700121
0122 END M6700122

```

PGM= 0059 (89) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0062, 0091, 0120, 0121
0035	LPMSK	0002	(000002)
0036	ZERO	0022	(000034) 0114

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0024	T5	0000	0024
0026	REQERR	0040	0026
0044	EQUAL	000E	0076, 0083
0054	EXIT	0011	0046, 0050, 0052
0061	TDX	0017	0039
0070	EXIT1	0021	0065, 0094
0072	EXIT1	0023	0067
0081	EXIT1	0020	0068
0086	EXIT2	0031	
0088	EXIT3	0032	0079, 0085
0095	EXIT4	0039	0093
0099	EX4	0030	0103
0106	EX5	0047	0104
0111	QSAV	0040	0073, 0077, 0088

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0027	LPTPS	004F	0113
0028	LOCF	0056	0119
0029	JBCNCL	004A	0109
0030	UNPTIM	003F	0100
0031	INTSTK	0018	0061
0032	UNPIO	0041	0101
0033	UNPIOF	0043	0102
0034	COMPV4	000C	0043, 0049

*** ALPHABETICAL SORT OF SYMBOLS ***

COMPV4	0034	EQUAL	0044	EX1	0081	EX11	0072	EX4	0099	EX5	0106	EXIT	0054	EXIT1	0070	EXIT2	0086
EXIT3	0088	EXIT4	0095	I	0000	INTSTK	0031	JBCNCL	0029	LOCF	0028	LPMSK	0035	LPTRS	0027	QSAV	0111
REQERR	0026	T5	0024	T5DX	0061	UNPIO	0032	UNPIOF	0033	UNPTIM	0030	ZERO	0036				

0001	NAM T3	DECK-ID M68 MSOS 5.0	SUMMARY-110M6800001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0	M6800002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA	M6800003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976	M6800004

0006	*	T3 STATUS REQUEST PROCESSOR	M6800006
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0009	*****		M6800009
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0011	* THIS IS THE STATUS REQUEST PROCESSOR	M6800011
0012	* IT GIVES THE REQUESTER IN THE A, Q, AND I REGISTERS,	M6800012
0013	* INFORMATION ABOUT AN I/O DEVICE.	M6800013
0014	* THE FIVE INPUT PARAMETERS ARE	M6800014
0015	** L LOGICAL UNIT	M6800015
0016	** A RELATIVE/INDIRECT INDICATOR	M6800016
0017	** T THIS PARAMETER IS ALWAYS ZERO	M6800017
0018	** X INDIRECT/RELATIVE INDICATOR.	M6800018
0019	** D PART 0 / PART 1 REQUEST TYPE INDICATOR	M6800019
0020	*** UPON ENTRANCE, EIGHT VOLATILE STORAGE LOCATIONS	M6800020
0021	*** HAVE BEEN SAVED. THE EIGHT LOCATIONS ARE AS	M6800021
0022	*** FOLLOWS	M6800022
0023	* 0 - S VALUE AND Q REGISTER UPON RETURN	M6800023
0024	* 1 - PHYSTB TABLE LOCATION AND A REGISTER UPON	M6800024
0025	* RETURN	M6800025
0026	* 2 - TEMPORARY STORAGE AND I REGISTER UPON RETURN	M6800026
0027	* 3 - RETURN LOCATION	M6800027
0028	* 4 - LOC. OF REQUEST PARAMETER LIST - PHYSTB	M6800028
0029	* 5 - LOC. OF REQUEST PARAMETER LIST	M6800029
0030	* 6 - EQUIPMENT TYPE AND STATUS	M6800030
0031	* 7 - LOGICAL UNIT NO.	M6800031
0032	* 8 - INDIRECT INDICATOR	M6800032

**MSOS +.0M6800032

0034	*****		M6800034
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0036	ENT T3	M6800036
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0038	EXT LOG1A	**MSOS 4.1**M6800038
0039	EXT* REQERR	M6800039
0040	EXT JBCNFG	M6800040

0042	0003	EQU RL(3)	M6800042
0043	00B9	EQU REQXT(\$B9)	M6800043
0044	0023	EQU ONEBIT(\$23)	M6800044
0045	0022	EQU ZERO(\$22)	M6800045
0046	0002	EQU LPMSK(2)	M6800046

0048	PG000 C108	T3	LDA- 8,I	CHECK FOR INDIRECT	**MSOS 4.0M6800048
0049	PG001 0133		SAM STAT--1	SKIP IF INDIRECT	**MSOS 4.0M6800049
0050	PG002 C108		LDA- 3,I	REQUEST	M6800050

00051 P0003 0903
00052 P0004 6103
00053 P0005 EE10
00054 P0006 C206
00055 P0007 6104
00056 P0008 09FE
00057 P0009 6102
00058 P000A C208
00059 P000B 6222
00060 P000C C20C
00061 P000D 6101
00062 P000E 0400
00063 P000F 7FFF
00064 P0010 6102
00065 P0011 0F46
00066 P0012 1A01
00067 P0013 1809
00068 P0014 1802
00069 P0015 1804
00070 P0016 E105
00071 P0017 0832
00072 P0018 1803
00073 P0019 A00C
00074 P001B C622
00075 P001C A011
00076 P001D 6107
00077 P001E 0104
00078 P001F 0133
00079 P0020 CC16
00080 P0021 9107
00081 P0022 0122
00082 P0023 1800
00083 P0024 7FFF
00085 P0025 E107
00086 P0026 EE10
00087 P0027 C206
00088 P0028 6104
00089 P0029 C20B
00090 P002A 09FE
00091 P002B 6102
00092 P002C C208
00093 P002D 6522
00094 P002E C20C
00095 P002F 6101
00096 P0030 0400
00097 P0031 7FFF
00098 P0032 6102
00099 P0033 C0EA
0100 P0034 6103
0100 P0035 14B9

INA 3
STAT STA- 3,I
LDQ- 3,I
LDA- (ZERO),Q
ALS 1
SAP STAT1
LDA- 1,Q
AND- ONEBIT+10
SAZ STAT1
JMP* ERR
STAT1 LDA- 1,Q
AND- LPMSK+12
CLR Q
LLS 6
ARS 6
LUTB JMP* LUTB,Q
JMP* LUA0
LUA1 JMP* LUA1
JMP* LUA2
LDQ- 5,I
AAQ Q
LUA2 JMP* LUA1A
AND- LPMSK+10
TRA Q
LUA1 LDA- (ZERO),Q
LUA0 AND- LPMSK+15
STAT+ STA- 7,I
SAZ ERR*-1
SAM ERR*-1
LDA* (LOG1)
SUB- 7,I
SAP STAT5*-1
JMP REQERR
X ERR
X
STAT5 LDQ- 7,I
LDQ* (LOG1),Q
LDA- 6,Q
STA- 4,I
LDA- 11,Q
INA -1
STAT+ STA- 2,I
LDA- 8,Q
STAT+ (22),I
LDA- 12,Q
STA- 1,I
LDA JBCNFG
X
X
STAT17 SAZ STAT17
LDA- \$EA
STA- 3,I
JMP- (REQXT)

INCREASE RETURN BY 3
LOC. OF REQUEST
IS D BIT SET
NO, PROCESS ALL CASES
YES, DO NOT ALLOW RELATIVE INDICATOR
FOR LU TO BE SET (A = 1)
NOT SET OK
SET OUTPUT JP02
CHECK SETTING OF A PARAMETER BY
PUTTING A PARAMETER IN Q
AND LU PARAMETER IN A
PROCESS ACCORDING TO CONTENTS OF Q
LU IS ACTUAL LU NUMBER
LU IS SIGNED INCREMENT TO LU NUMBER
LU IS INDIRECT THRU 0 - \$3FF
GET PARAMETER LIST ADDRESS
ADD SIGNED INCREMENT TO GET LU ADDRESS
MASK FOR ONLY \$3FF BITS
PICK UP ACTUAL LU NUMBER FROM CORE
REMOVE POSSIBLE BIT 15
L.U. NO.
CHECKING FOR L.U. NO. ERROR

ERROR MESSAGE J02

L.U. NO
PHYSTB LOC. OF REQUEST
PARAMETER LIST
INTO
VOLATILE - I REGISTER
SET WORD 8 OF PHYSTB IN
VOLATILE - Q REGISTER
VOLATILE - A REGISTER

M6800051
M6800052
M6800053
M6800054
M6800055
M6800056
M6800057
M6800058
M6800059
M6800060
M6800061
M6800062
M6800063
M6800064
M6800065
M6800066
M6800067
M6800068
M6800069
M6800070
M6800071
M6800072
M6800073
M6800074
M6800075
M6800076
M6800077
M6800078
M6800079
M6800080
M6800081
M6800082
M6800083
M6800085
M6800086
M6800087
M6800088
M6800089
M6800090
M6800091
M6800092
M6800093
M6800094
M6800095
M6800096
M6800097
M6800098
M6800099
M6800100

T3

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DATE: 01/27/99

0132 P0036 7FFF X LOG1 ADC LOG1A
0103 END

M5800102
M5800103

PGM= 0037 (55) COM = 0000 (0) DAT = 0000 (6)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)
0042	RL	0003	(000003)
0043	REQXT	00B9	(000185) 0100
0044	ONEBIT	0023	(000035) 0058
0045	ZERO	0022	(000034) 0054, 0075
0046	LPMSK	0002	(000002) 0062, 0073, 0076

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0036	T3	0000	0036
0053	STAT	0005	0049
0061	STAT1	0000	0055, 0059
0067	LUTB	0013	0066
0070	LUA1	0016	0068
0073	LUA2	0019	0069
0075	LU1A	0018	0072
0076	LUAJ	001C	0067
0077	STAT4	0010	
0083	ERR	0023	0060, 0078, 0079
0085	STAT5	0025	0082
0100	STAT17	0035	0097
0102	LOG1	0036	0080, 0086

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0038	LOG1A	0036	0102
0039	REQERR	0024	0083
0040	JBCNFG	0031	0096


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0001      *      NAM      JOBPRO      DECK-ID M09  MSOS 5.0      SUMMARY-132*****
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M6900002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      M6900003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976      M6900004

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0006      *****
0008      *      JOB PROCESSOR SECONDARY CONTROL MODULE      **MSOS 4.0M6900008
0010      *****      M6900010

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0012      ENT      JOBTWO      M6900012
0013      ENT      RF3      M6900013
0014      ENT      JO3T      ERROR RETURN FROM DUMMY 1,2,3      **MSOS 4.1**M6900014
0015      ENT      RI      M6900015

```

```

0017      EXT      TRNVEC      ABS. ADDRESS OF TRANTA BUFFER IN JOBENT      M6900017
0018      EXT      JBPROE      ENTRY POINT TO JOBENT (TRVEC)      M6900018
0019      EXT      MIBUF      ADDR. OF JOBENT MIBUF (TRVEC)      M6900019
0020      EXT      JPSWT      SWITCH IN TRVEC SET BY JOBENT      M6900020
0021      EXT      JBCNFG      JOB CANCEL FLAG      M6900021
0022      EXT      RECOV      M6900022
0023      EXT      ERRMSG      M6900023
0024      EXT      FILE2      M6900024
0025      EXT      NSTACK      M6900025
0026      EXT      TRANV      M6900026
0027      EXT      IUP      M6900027
0028      EXT      MIR      M6900028
0029      EXT      FILE3      M6900029
0030      EXT      JOBIND      **MSOS 4.0M6900030
0031      EXT      INPTV4      **MSOS 4.0M6900031
0032      EXT      LOG1A      **MSOS 4.0M6900032
0033      EXT      BATCLU      (TRVEC)      116*4366*****
0034      EXT      VINPV4      M6900033
0035      EXT*      ONE,TWO,THREE      M6900034
0036      EXT      JBCFGZ      M6900035
0037      EQU      HFF($A)      M6900036
0038      EQU      H7FFF($11),HFFFF($12)      M6900037

```

```

0039      EXT      BATLST      132*5184*****
0040      EQU      LPMASK(2)      132*5184*****
0041      EQU      REQXT($B9)      M6900038

```

```

0043      00EA      EQU      DISP($EA)      M6900040
0044      0022      EQU      ZERO($22)      **MSOS 4.0M6900041

```

```

0046      P0000  C8FE      JOBTWO NUM      $C3FE      ENTRY POINT      M6900043
0047      P0001  2C4D      STA*      (F2)      M6900044
0048      P0002  481F      JP1      STQ*      SAVQ2      SAVE Q REG.      M6900045
0049      P0003  6800      STA      TRANTA      **MSOS 4.0M6900046
0004      P0004  00AB

```

```

0050 PC005 8000 ADD =XTRANTA-JOBTWO **MSOS 4.0M6900047
      PC006 30AF
0051 PC007 5400 X STA TRANV ADD. OF JOBPRO TRANTA TABLE STORED M6900048
      PC008 7FFF X IN TRVEC. M6900049
0052 *
0053 PC009 0A07 ENA 7 **MSOS 4.0M6900050
0054 PC00A 8400 X ADD TRNVEC **MSOS 4.0M6900051
      PC00B 7FFF X
0055 PC00C 60FF STA- I M6900052
0056 PC00D 0CF9 ENQ -6 **MSOS 4.0M6900053
0057 PC00E C4FF LOOP LDA- (I) MOVE CONTENTS OF DPI, RI, AND LOADER **MSOS 4.0M6900054
0058 PC00F 6A00 STA TRANTA+13,Q AND ERROR NUMBER, STACK ADDR. JOB FLA **MSOS 4.0M6900055
      PC010 00AC
0059 PC011 00FF RAO- I M6900056
0060 PC012 0D01 INQ 1 **MSOS 4.0M6900057
0061 PC013 0141 SQZ OUT2 M6900058
0062 PC014 18F9 JMP* LOOP M6900059
0063 PC015 E80C OUT2 LDQ* SAVQ2 M6900060
0064 PC016 017B SQM JB-* -1 SKIP IF Q IS SET NEG. M6900061
0065 PC017 C400 LDA JOBIN0 **MSOS 4.0M6900062
      PC018 7FFF X
0066 0018 P EQU JOBI(*-1) **MSOS 4.0M6900063
0067 PC019 0115 SAN OUT3A **MSOS 4.0M6900064
0068 PC01A 0804 OUT2A SET A **MSOS 4.0M6900065
0069 * EITHER INITIAL CALL OR BACK FROM **MSOS 4.0M6900066
0070 PC01B 6CFC OUT3 STA* (JOBI) **MSOS 4.0M6900067
0071 PC01C EA00 LDQ TRANTA,Q **MSOS 4.0M6900068
      PC01D 0092
0072 PC01E 1AE1 JMP* JOBTWO,Q JUMP THROUGH THE ADDRESS IN THE TRANTA M6900069
0073 * TABLE TO THE PROPER ROUTINE. M6900070
0074 PC01F 012C OUT3A SAP JBP **MSOS 4.0M6900071
0075 PC020 18FB JMP* OUT3 **MSOS 4.0M6900072
0076 PC021 0000 SAVQ2 NUM 0 M6900073
0077 PC022 E400 X JB LDQ JPSWT JPSWT IS SET NEG. AFTER RETURN FROM M6900074
      PC023 7FFF X
0078 *
0079 * LIBEDT AND RECOVERY. JOBENT STORES THE M6900075
0080 * MIINP BUFFER ADDRESS IN HERE. IF A NEW M6900076
0081 * J P STMT. IS READ IN BY JOBPRO, THE ADDRESS M6900077
0082 * OF MIBUF IN JOBENT IS STORED IN INPBUF M6900078
0083 * AT TAG RD3. M6900079
0084 PC024 4800 STQ INPBUF STORE MIINP BUFFER ADDR IN TRANTA TA **MSOS 4.0M6900080
      PC025 008C
0085 PC026 0168 SQP JBPRO-* -1 M6900081
0086 PC027 0844 CLR A M6900082
      PC028 6C00 STA (MIB1) CLEAR MIB SWITCH **MSOS 4.0M6900083
      PC029 00A3
0087 PC02A 1800 JMP JOBP TYPE 'J' AND INPUT CONTROL STATEMENT M6900084
      PC02B C0AC
0088 PC02C 0822 JBP TRA Q T? OR JLOAD TERMINATED ON A CONTROL **MSOS 4.0M6900085
0089 * STATEMENT. JOBIN0 IS BUFFER ADDRESS **MSOS 4.0M6900086
0090 * OF CONTROL STATEMENT. **MSOS 4.0M6900087
0091 PC02D 0804 SET A **MSOS 4.0M6900088
0092 PC02E 6CE9 STA* (JOBI) RESET FOR NORMAL CONTROL CARD PROC. **MSOS 4.0M6900089

```

0093 P002F 1800 JBPR3 JMP SSI STATEMENT ALREADY INPUT, MOVE TO SM BUF M6900090
P0030 0132

0095 P0031 432C JPTAB ALF 1,K, K BR JP RREQ. NO. 0
0096 P0032 42FFF NUM \$42222 RREQ. NO. 1
0097 P0033 55FFF NUM \$55555 RREQ. NO. 1
0098 P0034 56FFF NUM \$56666 RREQ. NO. 2
0099 P0035 57FFF NUM \$57777 RREQ. NO. 3
0100 P0036 58FFF ALF \$58888 RREQ. NO. 4
0101 P0037 77FFF NUM \$77777 RREQ. NO. 5
0102 P0038 5454F ALF 1,EJ RREQ. NO. 6
0103 P0039 5622C ALF 1,V, RREQ. NO. 7
0104 P003A 43533 ALF 1,CS RREQ. NO. 8
0105 P003B 41444 ALF 1,AD RREQ. NO. 9
0106 P003C 42533 ALF 1,BS RREQ. NO. A
0107 P003D 5222C ALF 1,R, RREQ. NO. B
0108 P003E 4A44F ALF 1,JO RREQ. NO. C
0109 P003F 43544 ALF 1,CT RREQ. NO. D
0110 P0040 50441 ALF 1,PA RREQ. NO. E
0111 P0041 5544E ALF 1,JN RREQ. NO. F
0112 P0042 46449 ALF 1,FI RREQ. NO. 10
0113 P0043 50555 ALF 1,PU RREQ. NO. 11
0114 P0044 4044F ALF 1,MO RREQ. NO. 12
0115 P0045 52445 ALF 1,RE RREQ. NO. 13
0116 P0046 44445 ALF 1,DE RREQ. NO. 14
0117 P0047 4344C ALF 1,CL RREQ. NO. 15
0118 P0048 47550 ALF 1,JP RREQ. NO. 16
0119 P0049 31FFF NUM \$31FFF RREQ. NO. 17
0120 P004A 32FFF NUM \$32FFF RREQ. NO. 18
0121 P004B 33FFF NUM \$33FFF RREQ. NO. 19
0122 P004C 00000 JPTABL BSS JPTABL(0) RREQ. NO. 1A
0123 P004D 00000 SAVG NUM \$0000
0124 P004E 00000 TEMP NUM 0
0125 P004E 77FFF X F2 ADC FILE2 **MSOS 4.0M6900120
**MSOS 4.0M6900121
**MSOS 4.0M6900122

0127 P004F E5222 JOBP4 LDQ- (\$22),I GET FIRST TWO WORDS. M6900124
0128 P0050 C101 LDA- 1,I M6900125
0129 P0051 0FE8 LLS 8 M6900126
0130 P0052 48FA STQ* TEMP SAVE SECOND AND THIRD CHAR. M6900127
0131 P0053 AJ00A AND- SA CHECK FOR ASTERICK M6900128
0132 P0054 0905 INA -\$2A M6900129
0133 P0055 0101 SAZ 1 M6900130
0134 P0056 1849 JMP* JO3T M6900131
0135 P0057 2864 LDA* TRANTA+12 IS A JOB IN PROGRESS **MSOS 4.0M6900132
0136 P0058 011E SAN JOLK YES **MSOS 4.0M6900133
0137 P0059 080DB LDA* JPTAB+4 LET AN *Z THRU **MSOS 4.0M6900134
0138 P005A B8F2 EOR* TEMP **MSOS 4.0M6900135
0139 P005B 0107 SAZ JOLKA1 M6900136
0140 P005C B810 FOR* HEXDF TEST FOR BLANK M6900137
0141 P005D 0105 SAZ JOLKA1 M6900138
0142 P005E C8DF JCHK LDA* JPTAB+13 NO-BUT MAY BE A JOB CARD M6900139
0143 P005F B8ED EOR* TEMP **MSOS 4.0M6900140
0144 P0060 010D SAZ JOLKA LET JCRDV4 DO THE REST OF THE CHECK **MSOS 4.0M6900141


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0145 P0001 C8D7 LDA* JPTAB+3 V, ALLOWED TO START INPUT
0146 P0062 B8FA EOR* TEMP FROM OTHER THAN STANDARD
0147 P0063 010A JOLKA1 SAZ JOLKA
0148 P0064 C000 LDA =N$3135
0149 P0066 183B JMP* JO3T1 ABORT THE JOB
0150 P0067 C806 JOLK LDA* TTYEOF *G - EOF FOR TTY
0151 P0068 0874 EAQ A
0152 P0069 0114 SAN JOLKA
0153 P006A 1800 JMP TERMA TERMINATE JOB
0154 P006B 0182
0155 P006C 00DF HEXDF NUM $DF
0156 P006D 47FF TTYEOF NUM $47FF
0157 P006E 0C1A JOLKA ENQ JPTABL-JPTAB-1 SEARCH THE TABLE
0158 P0070 B8DC JOLKA LDA* JPTAB,Q CHECK FOR REQUEST WORD.
0159 P0071 0105 SAZ JOBP6--1
0160 P0072 B8F9 EOR* HEXDF
0161 P0073 0103 SAZ JOBP6--1
0162 P0074 0DFE INQ -1
0163 P0075 0171 SQM 1
0164 P0076 18F8 JOLKA JMP* RETRY LOOP AROUND FOR NEXT STATEMENT
0165 P0077 4842 JOBP6 STQ* QREG REQUEST NUMBER
0166 P0078 5800 RTJ JBKMIB CHECK FOR JOB CANCEL
0167 P0079 00DE
0168 P007A 382A RTJ* MVTBL MOVE TRANTA TABLE TO JOBENT
0169 P007B E83E LDQ* QREG
0170 P007C 0A00 ENA 0
0171 P007D 017E SQM IDXTBL JPLOAD CONTROL STATEMENT
0172 P007E 0151 SQM 1
0173 P0080 0DF7 JMP* IDXTBL+6 K
0174 P0081 C161 INQ -8
0175 P0082 017B SQM IDXTBL+2 *,B,SR,U,V,Z,EOF
0176 P0083 0DFB INQ -4
0177 P0084 0161 SQP 1
0178 P0085 017C SQM IDXTBL+6 CSY,V,ADR,ADF,BSR,BSF
0179 P0086 014A SQZ IDXTBL+5 R
0180 P0087 0DFB INQ -4
0181 P0088 0177 SQM IDXTBL+4 JOB,CTO,PAUS
0182 P0089 0DF7 INQ -8
0183 P008A 0174 SQM IDXTBL+3 REWIND,FILES
0184 P008B 1833 JMP* JOBP9 1,2,3
0185 P008C 09F7 IDXTBL INA -8 JPLOAD
0186 P008D 0901 INA 1 AFILV4
0187 P008E 0902 INA 2 JPSTV4
0188 P008F 0901 INA 1 JPFLV4
0189 P0090 0902 INA 2 JCRDB4
0190 P0091 0901 INA 1 RESTOR
0191 P0092 0903 INA 3 JPCHGE
0192 P0093 0C00 JBPEX ENC 0
0193 P0094 6806 STA* INDEX
0194 P0095 C400 LDA JBPROE
0194 P0096 7FFF X

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**MSOS +.0M6900142
**MSOS +.0M6900143
**MSOS +.0M6900144
**MSOS +.0M6900145
**MSOS +.0M6900146
**MSOS +.0M6900147
**MSOS +.0M6900148
**MSOS +.0M6900149
**MSOS +.0M6900150
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**MSOS +.0M6900176
**MSOS +.0M6900177
**MSOS +.0M6900178
**MSOS +.0M6900179
**MSOS +.0M6900180
**MSOS +.1*M6900181
**MSOS +.0M6900182
**MSOS +.0M6900183
**MSOS +.0M6900184
**MSOS +.0M6900185
**MSOS +.0M6900186
**MSOS +.0M6900187
**MSOS +.0M6900188
**MSOS +.0M6900189
**MSOS +.0M6900190
**MSOS +.0M6900191

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0195	P0097	60FF		STA-	I		**MSOS	4.0M6900192
0196	P0098	C802		LDA*	INJEX		**MSOS	4.0M6900193
0197	P0099	14FF		JMP-	(I)		**MSOS	4.0M6900194
0198	P009A	0000	INDEX	NUM	0		**MSOS	4.0M6900195
0199	P009B	5832	TERM	RTJ*	RELFIL		**MSOS	4.0M6900196
0200	P009C	0A07		ENA	7	A JOB IS ABNORMALLY TERMINATING	**MSOS	4.0M6900197
0201	P009D	0802		SET	Q	SCHEDULE FILE MOD TO CLOSE OPEN	**MSOS	4.0M6900198
0202	P009E	18F5		JMP*	JBPEX+1	FILES- RETURN WILL BE AT CLSDON	**MSOS	4.0M6900199
0205	P009F	C000	J03T	LDA	=N\$3033	SET UP 03 ERROR CODE	**MSOS	4.0M6900202
	P00A0	3033						
0206	P00A1	EC05	J03T1	LDQ*	(TRNTB)	JOBENT TRANTA TABLE	**MSOS	4.0M6900203
0207	P00A2	620A		STA-	10,Q	STORE ERROR IN TRANTA ERROR WORD	**MSOS	4.0M6900204
0208	P00A3	18F7		JMP*	TERM		**MSOS	4.0M6900205
0209			*****		THIS ROUTINE MOVES THE TRANTA TABLE TO JOBENT	*****		M6900206
0211	P00A4	0000	MVTBL	NUM	0			M6900208
0212	P00A5	C400	X X P	LDA	TRNVEC	GET TRN TBL ADDR IN JOBENT	**MSOS	4.0M6900209
	P00A6	000B						
0213		J0A5			EQU	TRNTB(*-1)		**MSOS	4.0M6900210
0214	P00A7	60FF		STA-	I	FROM TRVEC AND SAVE	**MSOS	4.0M6900211
0215	P00A8	0C0E		ENQ	LENGTH			M6900212
0216	P00A9	CAG6	MOVE	LDA*	TRANTA,Q	TRANSFER TRANTA TABLE TO JOBENT		M6900213
0217	P00AA	66FF		STA-	(I),Q		**MSOS	4.0M6900214
0218	P00AB	G142		SQZ	2			M6900215
0219	P00AC	0DFE		INQ	-1			M6900216
0220	P00AD	18FB		JMP*	MOVE			M6900217
0221	P00AE	1CF5		JMP*	(MVTBL)			M6900218

0223 * VECTOR TABLE FOR JOB PROCESSOR M6900220

0225	P00AF	7FFF	TRANTA	NUM	\$7FFF	0 - ABSOLUTE LOCATION OF JOBTWO	M6900222
0226	P00BJ	002F		ADC	JBPRO-JOBTWO	1 - RETURN WHEN STATEMENT ALREADY INPUT	M6900223
0227	P00B1	0030	INPBIF	NUM	0	2 - ABS. ADDR. OF INPUT BUFFER IN JOBENT	M6900224
0228	P00B2	00D7		ADC	JOBP-JOBTWO	3 - RETURN WHEN NO STATEMENT - 'J' PRINTED	M6900225
0229	P00B3	0197		ADC	CLSDON-JOBTWO	4-RETURN AFTER FILES CLOSED **MSOS 4.0M	M6900226
0230	P00B4	00D3		ADC	FILHD-JOBTWO	5-ROUTINE FOR FILE MODS **MSOS 4.0M	M6900227
0231	P00B5	0098		ADC	TERM-JOBTWO	6-START ABNORMAL JOB TERMINATION **MSOS 4.0M	M6900228
0232	P00B6	0000	BPS	NUM	J	7 - BREAKPOINT SWITCH	M6900229
0233	P00B7	0000	RI	NUM	0	8 - RECOVERY ON/OFF SWITCH	M6900230
0234	P00B8	0000	LOADEP	NUM	0	9 - LOADER ENTRY POINT	M6900231
0235	P00B9	0000	QREG	NUM	0	10 - REQUEST NUMBER	M6900232
0236	P00BA	0000	STCK	NUM	0	11 - LOCATION OF PROTECT PROCESSOR REQ STACK	M6900233
0237	P00BB	0000	JFLG	NUM	0	12-INDICATES IF A JOB IS IN PROGRESS**MSOS 4.0M	M6900234
0238	P00BC	7FFF	X NN	ADC	NSTACK	13 - NO. OF ENTRIES IN PROTEC STACK	M6900235
0239	P00BD	00D6		ADC	RF3-JOBTWO	14 - RETURN TO RELEASE FILE 3 'OUTPUT J'	M6900236
0240		000E		EQU	LENGTH(*-TRANTA-1)	**MSOS 4.0M	M6900237

0242	P00BE	CA0A	JOBP9	LDA*	TABLE,Q	GET ADDRESS OF PROGRAM	M6900239
0243	P00BF	0834		AAQ	A		M6900240
0244	P00C0	0902		INA	TABLE-JOBP10		M6900241
0245	P00C1	6805		STA*	JOBP10		M6900242
0246	P00C2	C800		LDA	SSI1	RESTORE INPUT BUFFER POINTER	M6900243

0247	P00C3	00C5		STA-	I		M6900244
0248	P00C4	60FF		RTJ*	*		M6900245
0249	P00C5	5800	JOBP10	NUM	\$0000		M6900246
0250	P00C6	00C0		JMP*	JOBP	GET NEXT STATEMENT	M6900247

0252	P00C8	7FFF	X	TABLE	ADC	ONE	RELATIVE TRANSFER TABLE	M6900249
0253	P00C9	7FFF	X		ADC	TWO	USERS PROGRAMS.	M6900250
0254	P00CA	7FFF	X		ADC	THREE		M6900251
0255				* USER	CAN	ADD PROGRAM NAMES HERE.		M6900252

0257	P00CB	7FFF	X	F3	ADC	FILE3	**MSOS 4.0M	M6900254
0258	P00CC	7FFF	X	MIB1	ADC	MIB		M6900255
0250	P00CD	0B00		RELFIL	NOP	0		M6900257
0251	P00CE	5800			RTJ	JBKMIB		M6900258
0252	P00CF	0088						
0252	P00D0	0842		CLR	Q			M6900259
0253	P00D1	4CFA		STQ*	(MIB1)	CLEAR MIB FLAG		M6900260
0254	P00D2	1CFA		JMP*	(RELFIL)	RTS		M6900261

0256	P00D3	58F9		FILHD	RTJ*	RELFIL		M6900263
0257	P00D4	0A00			ENA	0	**MSOS 4.0M	M6900264
0258	P00D5	18B7			JMP*	IDXTBL+1	**MSOS 4.0M	M6900265
0259			*			SCHEDULE THE SECOND PORTION OF THE FILE HANDLER	**MSOS 4.0M	M6900266

0270	P00D6	58F6	RF3	RTJ*	RELFIL				M6900267
0271	P00D7	CC60	JOBP	LDA	(IUPP)	CHECK FOR TYPE PF INPUT	**MSOS	4.0M6900268	
	P00D8	0155							M6900269
0272	P00D9	682B		STA*	READLU				M6900270
0273	P00DA	A00A		AND-	\$A	MEDIUM			M6900271
0274	P00DB	90FD		SUB-	\$FJ	INPUT COMMENT DEVICE	**MSOS	4.0M6900272	
0275	P00DC	0103		SAZ	JOBP1	YES	**MSOS	4.0M6900273	
0276	P00DD	80FD		ADD-	\$FD		**MSOS	4.0M6900274	
0277	P00DE	9060		SUB	=N\$FD		**MSOS	4.0M6900275	
	P00DF	00FD							M6900276
0278	P00E0	6873	JOBP1	STA*	COMSW		**MSOS	4.0M6900277	
0279	P00E1	011B		SAN	JOBP61	DON'T PRINT A -J- ON THE LIST DEVICE	**MSOS	4.0M6900278	
0280	P00E2	587A	WRIT	RTJ*	JBKILL	CHECK FOR JOB CANCEL FLAG SET			M6900279
0281	P00E3	54F4		RTJ-	(\$F4)	OUTPUT J			M6900280
0282	P00E4	0000		ADC	\$D00,WRIT1-WRIT-2		**MSOS	4.0M6900281	
	P00E5	0007							M6900282
0283	P00E6	0000	WRITHD	ADC	0				M6900283
0284	P00E7	18FC	WRITLU	ADC	\$18FC,\$2				M6900284
	P00E8	0002							M6900285
0285	P00E9	0070		ADC	WRIT0-**5		**MSOS	4.0M6900286	
0286	P00EA	14EA		JMP-	(DISP)		**MSOS	4.0M6900287	
0287	P00EB	0161	WRIT1	SQP	JOBP61		**MSOS	4.0M6900288	
0288	P00EC	18F5		JMP*	WRIT				M6900289
0289	P00ED	CC00	JOBP61	LDA	(F2)	FIND ABS. LOC. OF SM	**MSOS	4.0M6900290	
	P00EE	FF5F							M6900291
0290	P00EF	8000		ADD	=XSM1-JOBTWO				M6900292
	P00F0	0163							M6900293
0291	P00F1	60FF		STA-	I				M6900294
0292	P00F2	CC29		LDA*	(STABUF)	GET ADDRESS INPUT BUF IN JOBENT	**MSOS	4.0M6900295	
0293	P00F3	6804		STA*	SET+1		**MSOS	4.0M6900296	
0294	P00F4	0AFF		ENA	-0	SET BUFFER TO \$FFFF			M6900297
0295	P00F5	0C23		ENQ	L-1				M6900298
0296	P00F6	6600	SET	STA+	0,Q	STORE IN MIBUF IN JOBENT	**MSOS	4.0M6900299	
	P00F7	0000							M6900300
0297	P00F8	6A6B		STA*	SM1,Q	STORE IN LOCAL BUFFER			M6900301
0298	P00F9	0DFE		INQ	-1				M6900302
0299	P00FA	0171		SQM	READR				M6900303
0300	P00FB	18FA		JMP*	SET				M6900304
0301	P00FC	5860	READR	RTJ*	JBKILL	CHECK FOR JOB CANCEL FLAG SET			M6900305
0302	P00FD	C400		LDA	MIBJF	SET BUFFER ADDRESS IN CASE			M6900306
	P00FE	7FFF	X						M6900307
0303	P00FF	6807		STA*	READLU+2	MONITOR IS IN UPPER BANK			M6900308
0304	P0100	54F4		RTJ-	(\$F4)	READ JP STATEMENT			M6900309
0305	P0101	0800	REOPAR	NUM	\$800,0				M6900310
	P0102	0000							M6900311
0306	P0103	0000	RDTHD	ADC	0				M6900312
0307	P0104	0000	READLU	ADC	0,L+1,(MIBUF)				M6900313
	P0105	0025							M6900314
	P0106	80FE	X						M6900315
0308	P0107	C8FB	RD2	LDA*	RDTHD	CHECK FOR COMPLETION OF I/O			M6900316
0309	P0108	0101		SAZ	RD1				M6900317
0310	P0109	18FD		JMP*	RD2				M6900318
0311	P010A	C8F9	RD1	LDA*	READLU	CHECK FOR I/O ERROR			M6900319

0312	PG10B	012E		SAP	RD3	IF A READ ERROR,		M69J0309
0313	PG10C	0FC4		ALS	4		**MSOS	4.0M6900310
0314	PG10D	0139		SAM	RJ1A	TTY ERROR	**MSOS	4.0M6900311
0315	PG10E	0C00		ENQ	0		**MSOS	4.0M6900312
0316	PG10F	0FEC		LLS	12		**MSOS	4.0M6900313
0317	PG110	E600	X	LDQ	LOG1A,Q	PSYTAB OF INPUT DEVICE	**MSOS	4.0M6900314
	PG111	7FFF	X					
0318	PG112	C20C		LDA-	12,Q	LOOK FOR EOF	**MSOS	4.0M6900315
0319	PG113	0FC4		ALS	4		**MSOS	4.0M6900316
0320	PG114	0122		SAP	RD1A		**MSOS	4.0M6900317
0321	PG115	1800		JMP	TERMA	EOF--TERMINATE JOB	**MSOS	4.0M6900318
	PG116	0007						
0322	PG117	1800	RD1A	JMP	RESTR	RESTORE INPUT ON FAILURE	**MSOS	4.0M6900319
	PG118	0116						
0324	PG119	8106	X	SM1A	ADC (MIBUF)	ABS ADDR. OF INPUT BUFFER IN JOBENT		M6900321
	PG11A	E400	X	RD3	LDQ	MIBUF	**MSOS	4.0M6900323
	PG11B	0119	X				**MSOS	4.0M6900324
0327		011B	P	EQU	STABUF(*-1)			M6900325
0328	PG11C	1846		JMP*	SSI	TRANSFER MIINP BUFFER		M6900326
0329	PG11D	0C23		ENQ	L-1		**MSOS	4.0M6900327
0330	PG11E	0CFC		LDA*	(STABUF)	ADDR. OF INPUT BUFFER IN JOBENT	**MSOS	4.0M6900328
0331	PG11F	6810		STA*	SMCKS2+1		**MSOS	4.0M6900329
0332	PG120	681E		STA*	SMCKS3+1		**MSOS	4.0M6900330
0333	PG121	CA42		LDA*	SM1,Q	GET WORD FROM STATEMENT BUFFER		M6900331
0334	PG122	BC12	SMCKS1	EOR-	HFFF	IS WORD \$FFFF		M6900332
0335	PG123	0108		SAZ	BCKGND	YES, STORE INTO BUFFERS		M6900333
0336	PG124	CA3F		LDA*	SM1,Q	NO		M6900334
0337	PG125	BC00		EOR	=N\$20FF	IS WORD \$20FF		M6900335
	PG126	20FF						M6900336
0338	PG127	0104		SAZ	BCKGND	YES, FILL ENTIRE WORD WITH \$FFFF		M6900337
0339	PG128	CA3B		LDA*	SM1,Q	NO		M6900338
0340	PG129	BC00		EOR	=N\$2020	IS WORD \$2020		M6900339
	PG12A	2020						M6900340
0341	PG12B	0117		SAN	SMX	NO, MUST HAVE A VALID CHARACTER		M6900341
0342	PG12C	0012	BCKGND	LDA-	HFFF	YES, FILL ENTIRE WORD WITH \$FFFF		M6900342
0343	PG12D	6A36		STA*	SM1,Q	IN LOCAL BUFFER		M6900343
0344	PG12E	6600	SMCKS2	STA+	0,Q	AND IN JOBENT BUFFER		M6900344
	PG12F	0000						M6900345
0345	PG130	0DFE		INQ	-1			M6900346
0346	PG131	0141		SQZ	SMX			M6900347
0347	PG132	18EE		JMP*	SMCKS1	LOOP		M6900348
0348	PG133	CA30	SMX	LDA*	SM1,Q	IS LOWER CHARACTER A SPACE (\$20)		M6900349
0349	PG134	A00A		AND-	HFF			M6900350
0350	PG135	B028		EOR-	\$28	(\$0020)		M6900351
0351	PG136	0102		SAZ	SMX1	YES, BACKGROUND LOWER CHARACTER		M6900352
0352	PG137	CA2C		LDA*	SM1,Q	NO, ENTIRE WORD IS VALID TO PROCESS		M6900353
0353	PG138	1805		JMP*	SMCKS3			M6900354
0354	PG139	CA2A	SMX1	LDA*	SM1,Q	PUT \$FF INTO LOWER CHARACTER		M6900355
0355	PG13A	A01A		AND-	\$1A	(\$FFF0)		M6900356
0356	PG13B	B00A		EOR-	HFF			M6900357

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0357 P013C 6A27 SMX1A STA* SM1,Q
0358 P013D 6600 SMCKS3 STA+ 0,Q
      P013E 0000
0359 P013F C814 SMY LDA* COMSW
0360 P0140 010F SAZ JJOBP4- *-1
0361 P0141 E823 LDQ* SM1+1
0362 P0142 C823 LDA* SM1+2
0363 P0143 0F68 LRS 8
0364 P0144 9812 SUB* B
0365 P0145 010A SAZ JJOBP4
0366 P0146 5+F4 RTJ- ($F4)
0367 P0147 0000 SMWRIT ADC $D00,C,0,$18FB,L COPY SM BUFFER TO LIST OUTPUT
      P0148 0000
      P0149 0000
      P014A 18FB
      P014B 0024
0358 P014C 001C SMW1 ADC SM1-SMWRIT
0359 P014D C8FB SMW1 LDA* SMWRIT+2
0370 P014E 0101 SAZ JJOBP4
0371 P014F 18FD JMP* SMW1
0372 P0150 58CC JJOBP4 RTJ* JBKILL CHECK FOR JOB CANCEL FLAG SET
0373 P0151 1800 JMP JJOBP4
      P0152 FEFC
0374 P0153 0J00 COMSW NUM 0
0375 P0154 4A20 WRITD ALF 1,J
0376 P0155 0DFF NUM $0DFF
0378 P0156 422C B ALF 1,B,

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M6900354
M6900355
M6900356
M6900357
**MSOS 4.0M6900358
**MSOS 4.0M6900359
**MSOS 4.0M6900360
**MSOS 4.0M6900361
**MSOS 4.0M6900362
M6900363
M6900364
M6900365
M6900366
M6900367
M6900368
M6900369
M6900370
M6900371
M6900372
M6900373
**MSOS 4.0M6900375

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0380 * THIS SUBROUTINE CHECKS FOR JOB CANCEL FLAG SET AND, IF CLEAR, SETS M5900377
0381 * MIB FLAG FOR JOB LOCKOUT. M5900378

0383 P0157 0000 JBKMIB ADC 0 M5900380
0384 P0158 5804 RTJ* JBKILL CHECK FOR JOB CANCEL FLAG SET M5900381
0385 P0159 0400 X RAO MIB NOT SET SET MIB SWITCH **MSOS +.0M5900382
PJ15A 00CC X
0386 EQU MIBFLG(*-1) **MSOS 4.0M5900383
0387 P015B 1CFB JMP* (JBKMIB) RETURN TO SENDER M5900384
0388 * THIS SUBROUTINE CHECKS THE JOB CANCEL FLAG. IF SET, IT EXITS TO M5900385
0389 * THE DISP. TO WAIT FOR JOBKILL M5900386

0391 P015C 0000 JBKILL ADC 0 M5900388
0392 P015D 3400 X LDA JBCNFG CHECK FOR JOB KILL MODULE ACTIVE M5900389
P015E 7FFF X
0393 P015F C101 SAZ RETURN M6900390
0394 P0160 14EA JMP- ($EA) M6900391
0395 P0161 1CFA RETURN JMP* (JBKILL) NOT ACTIVE- RETURN WITH INHIBITED INTERRUPTS M5900392

0398 * THIS ROUTINE SAVES THE JOB PROCESSOR STATEMENT M6900395
0399 * DEFINE BY LOCATION SPECIFIED IN Q REGISTER. M6900396

0401 EQU L(36) **MSOS +.0M6900398
0402 P0162 5826 SSI RTJ* SSI1 MOVE STATEMENT TO INTERNAL BUFFER M6900399
0403 P0163 0024 BSS SM1(L) STATEMENT BUFFER M5900400
0404 P0187 FFFF NUM $FFFF M5900401
0405 P0188 0000 SSI1 0 ABS LOCATION OF SM1 BUFFER M6900402
0406 P0189 C8FE LDA* SSI1 M6900403
0407 P018A 60FF STA- I I POINTS TO BEGINNING OF INPUT BUFFER M6900404
0408 P018B 480B STQ* BUFPTR SET BUFPTR TO POINT TO SOURCE BUFFER M5900405
0409 P018C 480B STQ INPBUF M5900406
P018D FF23
0410 P018E 0023 ENQ L-1 M5900407
0411 P018F CE07 LOP1 LDA* (BUFPTR),Q PICK-UP FROM USERS M5900408
0412 P0190 66FF STA- (I),Q INTO LOCAL M6900409
0413 P0191 0142 SQZ OUT1 IF Q ZERO - DONE M6900410
0414 P0192 00FE INQ -1 M5900411
0415 P0193 18FB JMP* LOP1 NEXT WORD M6900412
0416 P0194 4CC5 OUT1 STQ* (MIBFLG) CLEAR MIB SWITCH **MSOS 4.0M6900413
0417 P0195 1887 JMP* SMCKS GET LOCAL BUFFER AND BUFFER IN JOBENT M6900414
0418 * BACKGROUNDED M5900415
0419 P0196 0000 BUFPTR ADC 0 POINTER TO USERS BUFFER M5900416

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0421 *****
0422 * THIS AREA IS ENTERED AFTER TERM LOGIC HAS CALLED FILE **MSOS 4.0M6900418
0423 * MODULE TO CLOSE JOB FILES FOR ABNORMAL TERM. **MSOS 4.0M6900419
0424 ***** **MSOS 4.0M6900420
0425 P0197 C800 CLSDON LDA TRANTA+10 ERROR CODE **MSOS 4.0M6900421
P0198 FF20 **MSOS 4.0M6900422
0426 P0199 C122 SAP J MINUS FOR *T RESPONSE TO M6900423
0427 P019A C800 LDA NAME+2 LOADER ERROR M6900424
P019B 009B
0428 P019C E400 X J LDQ ERRMSG PICK UP ADDRESS OF ERRM IN JOBENT M6900425
P019D 7FFF X
0429 P019E 4815 STQ* JSTART STORE IN WRITE REQ. M6900426
0430 P019F 0623 STA- ($23),2 STORE CORRECT ERROR NO. IN SM IN JOBENT M6900427
0431 P01A0 0D27 INQ L+3 Q POINTS TO MIPBUF+1 IN JOBENT **MSOS 4.0M6900428
0432 * MIPBUF IN JOBENT **MSOS 4.0M6900429
0433 P01A1 40FF STQ- I M6900430
0434 P01A2 0CD8 ENQ -L-3 **MSOS 4.0M6900431
0435 P01A3 C722 J1 LDA- (ZERO),B CHECK FOR A NULL CHARACTER **MSOS 4.0M6900432
0436 P01A4 0864 TCA A M6900433
0437 P01A5 J104 SAZ J2A **MSOS 4.0M6900434
0438 P01A6 D80C RAO* JN **MSOS 4.0M6900435
0439 P01A7 0D01 INQ 1 **MSOS 4.0M6900436
0440 P01A8 0141 SQZ J2A **MSOS 4.0M6900437
0441 P01A9 18F9 JMP* J1 M6900438

0443 P01AA 5802 J2A RTJ* WRERR WRITE ERROR MESSAGE M6900440
0444 P01AB 180E JMP* ERRAG M6900441
0445 P01AC JB00 WRERR NOP 0 M6900442
0446 P01AD 54F4 RTJ- ($F4) M6900443
0447 P01AE 0C00 NUM $C00,$0,$0,$18FC M6900444
P01AF 0000
P01B0 0000
P01B1 18FC
0448 P01B2 0000 JN NUM $0000 M6900445
0449 P01B3 0000 JSTART ADC 0 STARTING ADDRESS OF MIPBUF IN JOBENT M6900446
0450 P01B4 C8FB LDA* JN-2 WAIT FOR COMPLETION M6900447
0451 P01B5 0101 SAZ 1 M6900448
0452 P01B6 18FD JMP* *-2 M6900449
0453 P01B7 E8F9 LDQ* JN-1 CHECK FOR ERROR ON WRITTING M6900450
* 2 CARDS DELETED M6900451
0454 P01B8 1CF3 JMP* (WRERR) M6900452
0455 P01B9 C000 ERRAG LDA =N$18FB M6900453
P01BA 18FB
0457 P01B3 68F5 STA* JN-1 M6900454
0458 P01BC C0FC LDA- $FC LU OF COMMENT DEVICE M6900455
0459 P01BD 90FB SUB- $FB LU OF STD.PRINT DEVICE M6900456
0460 P01BE 0101 SAZ GONXT1 IF.EQ.PRINT MESSAGE ONLY ONCE M6900457
0461 P01BF 58EC RTJ* WRERR M6900458
0462 P01C0 08FD GONXT1 RAO* JN-1 M6900459
0463 P01C1 0A0C ENA 0 **MSOS 4.0M6900460
0464 P01C2 68EF STA* JN CLEAR WORD COUNT **MSOS 4.0M6900461
0465 P01C3 CC6A LDA* (IJPP) INPUT DEVICE **MSOS 4.0M6900462
0466 P01C4 6805 STA* MLU **MSOS 4.0M6900463

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0467 P01C5 54F4
 0468 P01C6 1C00
 P01C7 0000
 0469 P01C8 0000 TH
 0470 P01C9 0000 MLU
 0471 P01CA 5000
 0472 P01CB C8FC
 0473 P01CC 0101
 0474 P01CD 18FD
 0475 P01CE E400 X
 P01CF 00A6 P
 0476 01CF
 0477 P01D0 C20F
 0478 P01D1 0135
 0479 P01D2 6862
 0480 P01D3 C210
 0481 P01D4 6861
 0482 P01D5 C211
 0483 P01D6 6860
 0484 P01D7 0AFF ABOR
 0485 P01D8 620F
 0486 P01D9 5802
 0487 P01DA 180B
 0488 P01DB 0000 ABERR
 0489 P01DC 54F4 ABORT
 0490 P01DD 0000
 P01DE 0007
 P01DF 0000
 P01E0 18FC
 P01E1 0008
 0491 P01E2 C057
 0492 P01E3 14EA TERM1
 0493 P01E4 1CF6
 0494 P01E5 C000
 P01E6 18FB
 0495 P01E7 68F8
 0496 P01E8 C0FC
 0497 P01E9 90FB
 0498 P01EA 0101
 0499 P01EB 58EF
 0500 P01EC D8F3 GONXT2
 0501 P01ED 0A01 TERMA
 0502 P01EE 60E4
 0503 P01EF C0C1
 0504 P01F0 6809
 0505 P01F1 54F4 STRTM
 0506 P01F2 0D00
 P01F3 0300
 0507 P01F4 0000 THR
 P01F5 08C2
 P01F6 0000
 0508 P01F7 004A
 0509 P01F8 0000 SECT
 P01F9 0000

TH
MLU

ABOR

ABERR
ABORT

TERM1

GONXT2
TERMA

STRTM

THR

SECT

RTJ- (\$F4) GET THE NEXT JOB
 NUM \$1C00,0 SKIP TO EOF ON INPUT UNIT
 NUM 0
 NUM 0
 NUM \$5000
 LDA* TH
 SAZ 1
 JMP* *-2
 LDQ TRNVEC ADDRESS OF TRANTA TABLE IN JOBENT
 EQU TRATBL(*-1)
 LDA- 15,Q
 SAM ABOR NO JOB NAME
 STA* NAME
 LDA- 16,Q
 STA* NAME+1
 LDA- 17,Q
 STA* NAME+2
 ENA -0 CLEAR JOB NAME
 STA- 15,Q CLEAR JOB NAME
 RTJ* ABERR
 JMP* TERM1+1
 NOP 0
 RTJ- (\$F4)
 ADC \$D00,TERM1-ABORT-1,0,\$18FC,8

ADC NAME-ABORT-1
 JMP- (DISP)
 JMP* (ABERR)
 LDA =N\$18FB

STA* ABORT+4
 LDA- \$FC LU OF COMMENT DEVICE
 SUB- \$FB LU OF STD.PRINT DEVICE
 SAZ GONXT2 IF.EQ.PRINT LESSAGE ONLY ONCE
 RTJ* ABERR
 RA0* ABORT+4

ENA 1
 STA- \$E4
 LDA- \$C1

STA* SECT+1
 RTJ- (\$F4) WRITE *T ON SCRATCH UNIT
 NUM \$D00,0

NUM 0,\$8C2,0

ADC STRTEE-STRTM-1
 NUM 0,0

**MSOS +.0M6900464
 **MSOS +.0M6900465
 **MSOS +.0M5900466
 **MSOS +.0M6900467
 **MSOS +.0M6900468
 **MSOS +.0M6900469
 **MSOS +.0M6900470
 **MSOS +.0M6900471
 **MSOS +.0M6900472
 **MSOS +.0M5900473
 **MSOS +.0M6900474
 **MSOS +.0M5900475
 **MSOS +.0M6900476
 **MSOS +.0M5900477
 **MSOS +.0M6900478
 **MSOS +.0M5900479
 **MSOS +.0M6900480
 **MSOS +.0M5900481
 **MSOS +.0M5900482
 M6900483
 M6900484
 M6900485
 **MSOS +.0M6900486
 M6900487
 **MSOS +.0M6900488
 **MSOS +.0M5900489
 M6900490
 M5900491
 M5900492
 M6900493
 M6900494
 M5900495
 M5900496
 M5900497
 **MSOS +.0M5900498
 **MSOS +.0M6900499
 M6900500
 M6900501
 M5900502
 M5900503
 M5900504
 M5900505
 M5900506

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0510 P01FA C8F9 LDA* THR M5900507
0511 P01FB 0101 SAZ 1 M5900508
0512 P01FC 18FD JMP* #-2 M5900509
0513 P01FD E0FB LDQ- $FB 132*5184*****
0514 P01FE 480D STQ* WEOFB+4 132*5184*****
0515 P01FF E600 LDQ LOG1A,Q GET PHYSTAB ADDRESS 132*5184*****
         P0200 0111 X
0516 P0201 C208 LDA- 8,Q GET EQUIPMENT CLAS, TYPE 132*5184*****
0517 P0202 A010 AND- LPMSK+14 132*5184*****
0518 P0203 0F44 ARS 4 132*5184*****
0519 P0204 9000 SUB =N$28A IS LIST = BATCH OUTPUT DEVICE 132*5184*****
0520 P0205 028A SAN NOEOF 132*5184*****
0521 P0207 54F4 WEOFB RTJ- ($F4) WRITE EOF TO LIST DEVICE 132*5184*****
0522 P0208 1D00 ADC $1000 132*5184*****
0523 P0209 0000 ADC 0 132*5184*****
0524 P020A 0000 TR3 ADC 0 132*5184*****
0525 P020B 0000 ADC 0 132*5184*****
0526 P020C 2000 NUM $2000 132*5184*****
0527 P020D C8FC TRL LDA* TR3 132*5184*****
0528 P020E 0101 SAZ NOEOF 132*5184*****
0529 P020F 18FD JMP* TRL 132*5184*****
0530 P0210 0210 P NOEOF EQU NOEOF(*) 132*5184*****
0531 P021C 0A00 ENA 0 **MSOS +.0M5900510
0532 P0211 ECBD LDQ* (TRATBL) **MSOS +.0M5900511
0533 P0212 620C STA- 12,Q **MSOS +.0M5900512
0534 P0213 6800 STA TRANTA+12 **MSOS +.0M5900513
0535 P0215 6400 X STA JBCFGZ CLEAR JOB ABORT FLAG M5900514
         P0216 7FFF X
0536 P0217 6800 STA TRANTA+9 CLEAR LOADER IN CORE FLAG M6900515
0537 P0218 FE9F STA TRANTA+7 CLEAR BREAKPOINT SWITCH M5900516
0538 P021A FE9B X STA VINPV4 CLEAR *V,LU WHEN THE JOB ABORTS M5900517
         P021C 7FFF X
0539 P021D C400 X LDA+ BATCLU BATCH CONTROL STATEMENT LU 116*4366*****
         P021E 7FFF X
0540 P021F 6C0E RSET STA* (IUPP) **MSOS 4.0M5900519
0541 P0220 C800 LDA RI **MSOS 4.0M5900520
0542 P0221 FE95 SAZ GETMOR **MSOS 4.0M6900521
0543 P0223 0802 SET Q **MSOS 4.0M5900522
0544 P0224 0A00 ENA 0 **MSOS 4.0M6900523
0545 P0225 6800 STA RI **MSOS 4.0M5900524
0546 P0227 C400 X LDA RECOV SCHEDULE RCOVER **MSOS 4.0M6900525
         P0228 7FFF X
0547 P0229 60FF STA- I THRU JOBENT **MSOS 4.0M5900526
0548 P022A 14FF JMP- (I) **MSOS 4.0M6900527
0549 P022B 1800 GETMOR JMP RF3 GET ANOTHER JOB **MSOS 4.0M6900528
0550 P022C FE99 X IUPP ADC IUP **MSOS 4.0M5900529
         P022D 7FFF

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0551 P022E C000 RESTR LDA =N$18FJ
      P022F 18FD
0552 P022F 022F P EQU COMDEV(*-1)
0553 P0230 6CFC STA* (IJPP)
0554 P0231 1800 JMP JOBP
      P0232 FEA4
0555 P0233 0000 SAVIT ADC 0
0556 P0234 204A NAME ALF 3, JOB
      P0235 4F42
      P0236 2020
0557 P0237 2041 ALF 5, ABORTED
      P0238 424F
      P0239 5254
      P023A 4544
      P023B 2020
0558 P023C 2A54 STRTEE ALF 1,*T
0559 END

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*390 M6900530
**MSOS 4.0M6900531
      M6900532
      M6900533
      M6900534
**MSOS 4.0M6900535
      M6900536
**MSOS 4.0M6900536
      M6900537
      M6900538

```

PGM= 023D (573) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0055, 0057, 0059, 0195, 0197, 0214, 0217, 0247, 0291, 0407, 0412, 0433, 0547, 0548
0037	HFF	000A (000010)	0349, 0356
0038	H7FFF	0011 (000017)	
0038	HFFFF	0012 (000018)	0334, 0342
0040	LPMSK	0002 (000002)	0517
0041	RFQXT	00B9 (000185)	
0043	JISP	00EA (000234)	0286, 0492
0044	ZERO	0022 (000034)	0435
0240	LENGTH	000E (000014)	0215
0401	L	0024 (000036)	0295, 0307, 0329, 0367, 0403, 0410, 0431, 0434

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0012	JOBTWO	0000	0012, 0050, 0072, 0226, 0228, 0229, 0230, 0231, 0239, 0290
0013	RF3	0006	0013, 0239, 0549
0014	JO3T	0009	0014, 0134
0015	RI	0007	0015, 0541, 0545
0048	JP1	0002	
0057	LOOP	000E	0062
0063	OUT2	0015	0061
0066	JOB1	0018	0070, 0092
0068	OUT2A	001A	
0071	OUT3	001C	0075
0074	OUT3A	001F	0067
0076	SAVQ2	0021	0048, 0063
0077	JB	0022	0064
0088	JBP	002C	0074
0093	JBPRO	002F	0084, 0226
0095	JPTAB	0031	0137, 0142, 0145, 0156, 0157
0122	JPTABL	004C	0156
0123	SAVQ	004C	
0124	TEMP	004D	0130, 0138, 0143, 0146, 0158
0125	F2	004E	0047, 0289
0127	JOBP4	004F	0373
0142	JCHK	005E	
0147	JOLKA1	0063	0139, 0141
0150	JOLK	0067	0136
0154	HEXDF	006C	0140, 0160
0155	TTYEOF	006D	0150
0156	JOLKA	006E	0144, 0147, 0152
0157	RETRY	006F	0154
0165	JOBP6	0077	0159, 0161
0185	IDXTBL	008C	0170, 0172, 0175, 0178, 0179, 0181, 0183, 0268
0192	JBPEX	0093	0202
0198	INDEX	009A	0193, 0196
0199	TERM	009B	0208, 0231
0206	JO3T1	00A1	0149
0211	MVTBL	00A4	0167, 0221
0213	TRNTB	00A6	0206
0216	MOVE	00A9	0220
0225	TRANA	00AF	0049, 0050, 0058, 0071, 0135, 0216, 0240, 0425, 0534, 0535, 0537
0227	INPBUF	00B1	0083, 0409
0232	BPS	00B6	
0234	LOADEP	00B8	

0235	QREG	00B9	0165, 0168
0236	STCK	00BA	
0237	JFLG	00BB	
0238	NN	00BC	
0242	JOBP9	00BE	0184
0249	JOBP10	00C6	J244, 0245
0252	TABLE	00C8	J242, 0244
0257	FT3	00CB	
0258	MIB1	00CC	0086, 0263
0260	RELFIL	00CD	J199, 0264, 0266, 0270
0266	TILHD	00D3	J230
0271	JOBP	00D7	0087, 0228, 0250, 0554
0278	JOBP1	00E0	0275
0280	WRIT	00E2	J282, 0288
0283	WRITHD	00E6	
0288	WRITLU	00E7	
0287	WRIT1	00E8	0282
0289	JOBP61	00ED	J279, 0287
0296	SET	00F6	J293, 0300
0301	READR	00FC	0299
0305	READPAR	0101	
0306	RDTHD	0103	0308
0307	READLU	0104	J272, 0303, 0311
0308	RD2	0107	0310
0311	RD1	010A	0309
0322	RD1A	0117	0314, 0320
0324	SM1A	0119	
0326	RD3	011A	0312
0327	STABUF	011B	J292, 0330
0329	SMCKS	011D	J417
0333	SMCKS1	0121	0347
0342	BCKKGN	012C	0335, 0338
0344	SMCKS2	012E	0331
0348	SMX	0133	J341, 0346
0354	SMX1	0139	J351
0357	SMX1A	013C	
0358	SMCKS3	013D	J332, 0353
0359	SMY	013F	
0367	SMWRIT	0147	J368, 0369
0369	SMW1	014D	J371
0372	JJOBP4	0150	0360, 0365, 0370
0374	COMSW	0153	J278, 0359
0375	WRITO	0154	0285
0378	B	0156	0364
0383	JBKMIB	0157	0165, 0261, 0387
0386	MIBFLG	015A	J416
0391	JBKILL	015C	0280, 0301, 0372, 0384, 0395
0395	RETURN	0161	0393
0402	SSI	0162	0093, 0328
0403	SM1	0163	J290, 0297, 0333, 0336, 0339, 0343, 0348, 0352, 0354, 0357, 0361, 0362, 0368
0405	SSI1	0188	0246, 0402, 0406
0411	LOP1	018F	J415
0416	OUT1	0194	J413

00413	BUF PTR	0196	0408, 0411
00425	CLSDON	0197	0229
00428	J	019C	0420
00435	J1	01AA	0441
00443	J2A	01AA	J437, 0440
00445	WRERR	01AC	0443, 0455, 0461
00448	JN	01B2	J438, 0450, 0453, 0457, 0462, 0464
00449	JSTART	01B3	0429
00456	ERRAG	01B9	0444
00462	GONXT1	01C0	0460
00469	TH	01C8	0472
00470	MLU	01C9	0466
00476	TRATBL	01CF	0532
00484	ABOR	01D7	0478
00488	ABERR	01DB	0485, 0493, 0499
00489	ABORT	01DC	0490, 0491, 0495, 0500
00493	TERM1	01E4	0487, 0490
00500	GONXT2	01EC	0498
00501	TERMA	01ED	0153, 0521
00505	STRTM	01F1	0508
00507	THR	01F4	0510
00509	SECT	01F8	0504
00521	WEOF B	0207	051+
00524	TR3	020A	0527
00527	TRL	020D	0529
00530	NOEOF	0210	0520, 0528
00541	RSET	0220	0542
00549	GETMOR	0220	0271, 0465, 0540, 0553
00550	IUPP	0220	0322
00551	RESTR	022E	
00552	COMDEV	022F	
00555	SAVIT	0233	
00556	NAME	0234	J427, 0479, 0481, 0483, 0491
00558	STRTEE	023C	0508

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0017	TRNVEC	01CF	0054, 0212, 0475
0018	JBPROE	0096	0194
0019	MIBUF	011B	0302, 0307, 0324, 0326
0020	JPSWT	0023	0077
0021	JBCNFG	015E	0392
0022	RECOV	0228	0546
0023	ERRMSG	019D	0428
0024	FILE2	004E	0125
0025	VSTACK	008C	0238
0026	TRANV	0008	0051
0027	IUP	022D	0550
0028	MIB	015A	0258, 0385
0029	FILE3	00CB	0257
0030	JOBIND	0018	0065
0031	INPTV4	7FFF	
0032	LOG1A	0200	J317, 0515
0033	BATCLU	021E	0539
0034	VINPV4	021C	0538
0035	ONE	00C8	0252
0035	TWO	00C9	J253
0035	THREE	00CA	0254
0036	JBCFGZ	0216	0535
0039	BATLST	7FFF	

*** ALPHABETICAL SORT OF SYMBOLS ***

ABERR	0488	ABOR	0484	ABORT	0489	B	0378	BATCLU	0033	BATLST	0039	BCKGND	0342	BPS	0232	BUFPTR	0419
CLSDON	0425	COMDEV	0552	COMSW	0374	DISP	0043	ERRAG	0456	ERRMSG	0023	F2	0125	F3	0257	FILE2	0024
FILE3	0029	FILHD	0266	GETMOR	0549	GONXT1	0462	GONXT2	0500	H7FFF	0038	HEXDF	0154	HFF	0037	HEXDF	0038
I	0000	IDXTBL	0185	INDEX	0198	INPBUF	0227	INPTV4	0031	IUP	0027	IUPP	0553	J	0428	J1	0435
J2A	0443	JB	0077	JBCFGZ	0036	JECNFG	0021	JBKILL	0391	JBKMIB	0383	JBP	0088	JBPEX	0192	JBPRO	0093
JBPROE	0018	JCHK	0142	JFLG	0237	JJOBP4	0372	JN	0448	JO3T	0014	JO3T1	0206	JOBI	0066	JOBIND	0130
JOBP	0271	JOBP1	0278	JOBP10	0249	JOBP4	0127	JOBP6	0165	JOBP61	0289	JOBP9	0242	JOBTWO	0012	JOLK	0150
JOLKA	0156	JOLKA1	0147	JP1	0048	JPSWT	0020	JPTAB	0095	JPTABL	0122	JSTART	0449	L	0401	LENGTH	0240
LOADEP	0234	LOG1A	0032	LOOP	0057	LOP1	0411	LPMSK	0040	MIB	0028	MIB1	0258	MIBFLG	0386	MIBUF	0019
MLU	0470	MOVE	0216	MVTBL	0211	NAME	0550	NN	0238	NOEOF	0530	NSTACK	0325	ONE	0035	OUT1	0416
OJT2	0653	OUT2A	0068	OUT3	0071	OUT3A	0074	QREG	0235	RD1	0311	RD1A	0322	RD2	0308	RD3	0326
RDTHD	0306	READLU	0307	READR	0301	RECOV	0022	REDPAR	0305	RELFIL	0260	REQXT	0041	RESTR	0551	RETRY	0157
RETURN	0395	RF3	0013	RI	0015	RSET	0541	SAVIT	0555	SAVQ	0123	SAVQ2	0076	SECT	0509	SET	0296
SM1	0403	SM1A	0324	SMCKS	0329	SMCKS1	0333	SMCKS2	0344	SMCKS3	0358	SMW1	0369	SMWRIT	0367	SMX	0348
SMX1	0354	SMX1A	0357	SMY	0359	SSI	0402	SSI1	0405	STABUF	0327	STCK	0236	STRTEE	0558	STRTM	0505
TABLE	0252	TEMP	0124	TERM	0199	TERM1	0493	TERMA	0501	TH	0469	THR	0507	THREE	0035	TR3	0524
TRANTA	0225	TRANV	0026	TRATBL	0476	TRL	0527	TRNTB	0213	TRNVEC	0017	TTYEOF	0155	TWO	0535	VINPV4	0034
WEJFB	0521	WRERR	0445	WRIT	0283	WRIT1	0287	WRITHD	0283	WRITLU	0284	WRITO	0375	ZERO	0044		

0001		NAM ONE	DECK-ID M70	MSOS 5.0	SUMMARY-110	M7000001
0002	*	LOCATION FILLER FOR OPTIONAL USER PROGRAM				M7000002
0003	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0				M7000003
0004	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA				M7000004
0005	*	COPYRIGHT CONTROL DATA CORPORATION 1976				M7000005

0007	*	THIS MODULE IS TO BE REPLACED IF THE OPTIONAL USER SUPPLIED				M7000007
0008	*	PROGRAM -ONE- IS IN THE SYSTEM				M7000008

0010		ENT ONE	ENTRY FROM JOBPRO			M7000010
0011		EXT* JO3T	JOBPRO ERROR EXIT			M7000011

0013	PC000 0000	ONE	NUM 0	ENTRY		M7000013
0014	PC001 1800 X		JMP JO3T	RETURN TO JOBPRO FOR ERROR PRINT		M7000014
0015	PC002 7FFF X		END			M7000015

PSM= 0003 (3) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	ONE	0000	0010

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0011	J03T	0002	0014

ONE

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DATE: 01/27/99

*** ALPHABETICAL SORT OF SYMBOLS ***

I 0000 J03T J011 ONE 0010

0001		NAM TWO	DECK-ID M71	MSQS 5.0	SUMMARY-110M7100001
0002	*	LOCATION FILLER FOR OPTIONAL USER PROGRAM			M7100002
0003	*	MASS STORAGE OPERATING SYSTEM VERSION 2.0			M7100003
0004	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA			M7100004
0005	*	COPYRIGHT CONTROL DATA CORPORATION 1976			M7100005

0007	*	THIS MODULE IS TO BE REPLACED IF THE OPTIONAL USER SUPPLIED			M7100007
0008	*	PROGRAM -TWO- IS IN THE SYSTEM			M7100008

0010		ENT TWO	ENTRY FROM JOBPRO		M7100010
0011		EXT* JO3T	JOBPRO ERROR EXIT		M7100011

0013	P0000 0000	TWO	NUM 0	ENTRY	M7100013
0014	P0001 1800 X		JMP JO3T	RETURN TO JOBPRO FOR ERROR PRINT	M7100014
0015	P0002 7FFF X		END		M7100015

PSM= 0003 (3) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
J000	I	00FF	(000255)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	TWO	0000	0010

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
5011	JO3T	0002	0014

TWO

PAGE 5

DATE: 01/27/99

*** ALPHABETICAL SORT OF SYMBOLS ***

I 0000 J03T 0011 TWO 0010

0001		NAM THREE	DECK-ID M72	MSQS 5.0	SUMMARY-110	M7200001
0002	*	LOCATION FILLER FOR OPTIONAL USER PROGRAM				M7200002
0003	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0				M7200003
0004	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA				M7200004
0005	*	COPYRIGHT CONTROL DATA CORPORATION 1976				M7200005

0007	*	THIS MODULE IS TO BE REPLACED IF THE OPTIONAL USER SUPPLIED				M7200007
0008	*	PROGRAM -THREE- IS IN THE SYSTEM				M7200008

0010		ENT THREE	ENTRY FROM JOBPRO			M7200010
0011		EXT* JO3T	JOBPRO ERROR EXIT			M7200011

0013	P0000	0000	THREE	NUM 0	ENTRY	M7200013
0014	P0001	1800	X	JMP JO3T	RETURN TO JOBPRO FOR ERROR PRINT	M7200014
0015	P0002	7FFF	X	END		M7200015

PSM= 0003 (3) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	THREE	0000	0010

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0011	J03T	0002	0014

*** ALPHABETICAL SORT OF SYMBOLS ***

I 0000 JO3T 0011 THREE 0010

0001
0002
0003
0004
0005

*
*
*
*

NAM UPROTK DECK-IU M73 MSOS 5.0
UNBUFFERED PROTECT PROCESSOR
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-115*****
M7300002
M7300003
M7300004
M7300005

0008
0009
0010
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029
0030
0031
0032

0013
0005
0040
00EF
0022
002B
00B7
0012
00BE
00BD
00BF
00F7
00F6
00BC
00F2
00F1
00EA
0023
0033
00C2
00C0
00F5
0011

EXT LOG1A,HA
EXT COMPV4
EXT MIBUF
EXT MAXSEC
EXT LOADIN
EXT UNPIO
EXT UNPTIM
EXT TMRTYP
EXT SWAPCK
EXT JKIN
EXT JBCNFG
EXT TRNVEC
EXT PRORET
EXT COMPV4
EXT FILE3
EXT IP1
EXT LOCF,LPTRS
EXT PROTEC
EXT* JKILL
EXT SWAPON
PART 1 REQ. ALLOWED FROM UNPROTECTED CORE
EQU CODE(19)
EQU N(5) MAX NUMBER OF STACKED REQ.
EQU SIZE(13*N-1)
EQU PRLVL(\$EF),ZERO(\$22),CNOTE(\$2B),MASKT(\$B7)

TIMER TYPE IN SYSTEM

JOB CANCEL WAIT FLAG
ABS. ADDR. OF TRANTA BUFFER IN JOBERT (TRVEC)
RETURN LOC. FOR PROTEC (TRVEC)
LIMIT CHECK, IN TRVEC

MSOS 4.1M7300008
**MSOS 4.0M7300009
**MSOS 4.0M7300010
M7300011
M7300012
M7300013
M7300014
M7300015
M7300016
M7300017
M7300018
M7300019
M7300020
MSOS 4.1M7300021
M7300022
M7300023
M7300024
M7300025
M7300026
M7300027
**MSOS 4.0M7300028
**MSOS 4.0M7300029
M7300030
**MSOS 4.0M7300031
M7300032

EQU NZERO(\$12),CABS(\$BE),SABS(\$BD),NABS(\$BF) M7300033
EQU TOPMON(\$F7),BOTOP(\$F6),LUABS(\$BC) M7300034
EQU PRESET(\$F2),LPREST(\$F1),DISP(\$EA) M7300035
EQU ONEBIT(\$23),ZROBIT(\$33),LIBLU(\$C2) M7300036
EQU MMATOP(\$C0),SIZECR(\$F5) M7300037
EQU H7FFF(\$11) M7300038

```

0039      00B8      EQU COJNT($B8)
0040      0002      EQU LPMSK(2)
0041      *      *
0042      0000      * EQU BUFF($J0)
0043      *      *      SIZE OF JBKILL OVERLAY
0044      08C2      EQU MASLU($8C2)
0045      0001      EQU J01(1)
0046      0002      EQU J02(2)
0047      0006      EQU J06(6)
0048      0008      EQU J08(8)

```

```

M7300039
M7300040
**MSOS 4.0M7300041
**MSOS 4.0M7300042
**MSOS 4.0M7300043
M7300044
M7300045
M7300046
M7300047
M7300048

```

```

0050      *      THIS VERSION WILL NOT DO CORE SWAPS
0051      *      WHILE UNPROTECTED I/O IS IN PROGRESS

```

```

M7300050
M7300051

```

```

0000014 *
0000015 *
0000016 P00000 C8FE PRT NUM $C8FE PICK UP PRECEEDING WORD
0000017 P00001 6C00 STA (F3)
0000018 P00002 01CA
0000019 P00003 0162 SQP PRTER--1 CHECK Q TO SEE IF JBKILL IS REQUESTED
0000020 P00004 1800 JMP GET GO BRING IN JBKILL
0000021 P00005 00B4
0000022 P00006 1800 PRTER JMP PRTA
0000023 P00007 01C6

```

M7300054
M7300055
M7300056
M7300057

M7300058
M7300059

M7300060

```

0000024 *
0000025 *
0000026 *
0000027 *
0000028 *
0000029 *
0000030 *
0000031 *
0000032 *
0000033 *
0000034 *
0000035 *
0000036 *
0000037 *
0000038 *
0000039 *

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M7300061
M7300062
M7300063
M7300064
M7300065
M7300066
M7300067
M7300068
M7300069

```

*****
*****
*****
THIS PROGRAM OPERATES AT LEVEL ONE AND IS NOT
RE-ENTRANT AS NO PROTECT VIOLATIONS OCCUR ABOVE
LEVEL 1. IT PROCESSES ALL PROTECT VIOLATIONS
INCLUDING ILLEGAL VIOLATIONS, UNPROTECTED
PROTECTED COMMUNICATION AN UNPROTECTED MONITOR
CALLS. IT DOES VALIDITY CHECKING FOR MONITOR
CALLS WHICH NEED IT.
*****
*****
*****

```

```

0000071 P00008 6877 IPROC1 STA* SAVA SAVE A
0000072 P00009 487E STQ* SAVQ Q
0000073 P0000A C0FF LDA- I
0000074 P0000B 6875 STA* SAVI I
0000075 P0000C C0EF LDA- PRLVL
0000076 P0000D E4E9 LDQ- ($E9) 65K MODE SWITCH 65K=1
0000077 P0000E 0144 SQZ K32--1
0000078 P0000F A011 AND- LPMASK+15
0000079 P00010 01B1 SNO 1
0000080 P00011 B032 FOR- ONEBIT+15
0000081 P00012 01A0 SOV 0
0000082 P00013 686E K32 STA* SAVPR
0000083 P00014 C800 BELOW2 LDA GETTEM IF NONZERO JOB IS BEING TERNIMATED
0000084 P00015 00C0
0000085 P00016 0101 SAZ 1 IF JOB CANCEL FLAG NOT SET - GO ON
0000086 P00017 14EA JMP- ($EA) SET - GO AWAY
0000087 P00018 C42B LDA- (CNJTE)
0000088 P00019 E4E9 LDQ- ($E9) 65K MODE SWITCH 65K=1
0000089 P0001A 0151 SQN 1
0000090 P0001B AC11 AND- NZERO-1 CLEAR OVERFLOW INDICATOR
0000091 * IF IT WAS A CALL TO A SYSTEM
0000092 P0001C 09FD INA -2 MODULE, PCELL CONTAINS THE
0000093 P0001D 6866 STA* PCELL LOCATION OF THE MARK.
0000094 P0001E CC65 LDA* (PCELL)
0000095 P0001F 6863 STA* PTR SAVE MARK TWICE
0000096 P00020 6864 STA* PTRS
0000097 P00021 0C01 ENQ 1 SET UP LEVEL 1
0000098 P00022 40EF STQ- PRLVL
0000099 P00023 C6B7 LDA- (MASKT),Q
0000100 P00024 0400 EIN
0000101 P00025 0821 TRA M
0000102 P00026 C85D LDA* PCELL

```

```

**MSOS 4.0M7300075
**MSOS 4.0M7300076
**MSOS 4.0M7300077
**MSOS 4.0M7300078
**MSOS 4.0M7300079
**MSOS 4.0M7300080
**MSOS 4.0M7300081
**MSOS 4.0M7300082
**MSOS 4.0M7300083
M7300084
M7300085
M7300086
**MSOS 4.0M7300087
**MSOS 4.0M7300088
M7300089
M7300090
M7300091
M7300092
M7300093
M7300094
M7300095
M7300096
M7300097
M7300098
M7300099
M7300100
**MSOS 4.0M7300101

```

0102 P0027 90F4
0103 P0028 0102
01J4 P0029 1800
P002A 028E

SUB- \$F4
SAZ A-*--1
JMP C

CONTAIN AN RTJ- (\$F4).
GO CHECK FOR ENTRY TO A PRESET

**MSOS --.CM7300102
M7300103
M7300104

```

0107 * THE INTERRUPT WAS PROBABLY A MONITOR CALL. M7300107
0108 * THEREFORE M7300108
0109 * 1. PTR MUST POINT TO A PARAMETER LIST M7300109
0110 * 2. PCELL CONTENTS MUST BE THE ADDRESS OF M7300110
0111 * MONI. M7300111

```

```

0113 P002B E857 A LDQ* PTR A MONITOR CA-- WHEN **MSOS 4.0M7300113
0114 P002C 0DFF INQ -1 LOCATION BEFORE **MSOS 4.0M7300114
0115 P002D C622 LDA- (ZERO),Q THE MARK MUST **MSOS 4.0M7300115
0116 P002E 9800 SUB REQST LOC. BEFORE THE MARK MUST **MSOS 4.0M7300116
P002F 0095
0117 P0030 0102 SAZ AU2--1 ENTRY, WE HAVE A PROTECT M7300117
0118 P0031 1800 JMP E VIOLATION **MSOS 4.0M7300118
P0032 0082
0119 P0033 E84F A02 LDQ* PTR M7300119
0120 P0034 4851 STQ* RETURN SET RETURN LOCATION M7300120
0121 P0035 C622 LDA- (ZERO),Q LIST WORD **MSOS 4.0M7300121
0122 P0036 0C00 ENQ 0 SET INDIRECT FLAG M7300122
0123 P0037 484F STQ* INDIR **MSOS 4.0M7300123
0124 P0038 0131 SAM A03A BIT 15 SET IF INDIRECT M7300124
0125 P0039 1813 JMP* A1 BIT 15 NOT SET IF DIRECT M7300125
0126 P003A 0C01 A03A ENQ 1 SET INDIRECT FLAG TO 1 M7300126
0127 P003B 8021 EOR- NZERO+15 CLEAR INDIRECT BIT M7300127
0128 P003C 484A A03 STQ* INDIR **MSOS 4.0M7300128
0129 P003D 6845 STA* PTR SET PTR TO PAR. LIST LOCATION **MSOS 4.0M7300129
0130 P003E E0F7 LDQ- TOPMON **MSOS 4.0M7300130
0131 P003F 0108 SAZ A1A ERROR IF PARAMETER STRING AT ADDR,0 M7300131
0132 P0040 09FE INA -1 MAKE SURE THAT THE INDIRECT M7300132
0133 P0041 5400 RTJ COMPV4 ADDRESS IS IN UNPROTECTED CORE **MSOS 4.0M7300133
P0042 7FFF X
0134 EQU COMP(*-1) **MSOS 4.0M7300134
0135 P0043 0900 INA 0 **MSOS 4.0M7300135
0136 P0044 0106 SAZ A1A IT ISN'T **MSOS 4.0M7300136
0137 P0045 E0F6 A05 LDQ- BOTOP SEE IF IT IS BELOW TOP OF UNPROTECTE **MSOS 4.0M7300137
0138 P0046 C83C LDA* PTR **MSOS 4.0M7300138
0139 P0047 5CFA RTJ* (COMP) COMPARE ADDRESSES **MSOS 4.0M7300139
0140 P0048 0102 SAZ A1A AT TOP+1 OF UNPROTECTED M7300140
0141 P0049 0900 INA 0 CHECK FOR -0 M7300141
0142 P004A 0101 SAZ A1 BELOW TOP OF UNPROTECTED M7300142
0143 P004B 186B A1A JMP* F ABORT THE JOB **MSOS 4.0M7300143
0144 P004C E836 A1 LDQ* PTR **MSOS 4.0M7300144
0145 P004D E622 LDQ- (ZERO),Q D AND X BITS MAY NOT BOTH BE SET **MSOS 4.0M7300145
0146 P004E 0F69 LRS 9 **MSOS 4.0M7300146
0147 P004F 0122 SAP A15 **MSOS 4.0M7300147
0148 P0050 0F66 LRS 6 **MSOS 4.0M7300148
0149 P0051 013B SAM A1F **MSOS 4.0M7300149
0150 P0052 E836 A15 LDQ* PTR **MSOS 4.0M7300150
0151 P0053 C622 LDA- (ZERO),Q **MSOS 4.0M7300151
0152 P0054 A01B AND- NZERO+9 UNPACK REQUEST CODE M7300152
0153 P0055 0F49 A2 ARS 9 M7300153
0154 P0056 0136 SAM A1F--1 REQUEST CODE GREATER THAN MAX M7300154
0155 P0057 A007 AND- NZERO-11 MASK OFF D FIELD **MSOS 4.0M7300155

```

0156	P0058	68C0	STA	RC0JE	SAVE REQUEST CODE	M7300156
	P0059	02E0				
0157	P005A	0822	TRA	Q		M7300157
0158	P005B	09EC	INA	-COJE		M7300158
0159	P005C	0131	SAN	A4--*-1	ILLEGAL REQUEST SIGN = 1	M7300159
0160	P005D	1859	JMP*	F	GO GIVE J02 MESSAGE	M7300160
0161	P005E	E0E9	A1F		ADDR OF FX. CORE TABLE	M7300161
0162	P005F	E209	A4	LDQ-	ADDR OF RCTV TABLE IN MONI	**MSOS 4.0M7300162
0163	P0060	F800		LDQ-	ADD INDEX TO PROCESSOR	**MSOS 4.0M7300163
	P0061	02D8		ADQ		
0164	P0062	C622	LDA-	(ZERO),Q	GET ADDR OF REQUEST RPROCESSOR	**MSOS 4.0M7300164
0165	P0063	9011	SUB-	NZERO-1		M7300165
0166	P0064	0111	SAN	A5--*-1		M7300166
0167	P0065	1851	JMP*	F	NO PROCESSOR - ILLEGAL	M7300167
0168	P0066	E800	A5	LDQ	GET INDEX TO REQTB	**MSOS 4.0M7300168
	P0067	02D2				
0169	P0068	CA04	LDA*	REQTB,Q	PICK UP DISTANCE TO ROUTINE	**MSOS 4.0M7300169
0170	P0069	A000	AND-	NZERO-5	MASK OFF REQUEST LENGTH AND THRD IND	M7300170
0171	PG06A	0822	TRA	Q	MOVE DISTANCE TO ROUTINE TO Q	M7300171
0172	P006B	1A01	JMP*	REQTB,Q	GO CHECK LEGALITY OF PARAMETERS	M7300172
0173			*		FOR THIS MONITOR CALL	M7300173

0177 * THIS TABLE IS INDEXED BY REQUEST CODE. IT M7300177
 0178 * CONTAINS THE LENGTH OF THE PARAMETER LIST IN THE M7300178
 0179 * * UPPER 4 BITS AND THE DISTANCE TO M7300179
 0180 * PROCESSORS IN BITS 0-10. M7300180
 0181 * BIT 11=1 FOR REQUESTS WHICH ARE STACKED BUT M7300181
 0182 * NOT THREADED. M7300182

0184	P006C	004A	REQTB	ADC	F-REQTB				M7300184
0185	P006D	606B		ADC	Y-REQTB+\$6000	READ	1		M7300185
0186	P006E	606B		ADC	Y-REQTB+\$6000	WRITE	2		M7300186
0187	P006F	2020		ADC	BB-REQTB+\$2000	STATUS	3	**MSOS 4.0M	M7300187
0188	P0070	606B		ADC	Y-REQTB+\$6000	FREAD	4		M7300188
0189	P0071	1020		ADC	BB-REQTB+\$1000	EXIT	5	**MSOS 4.0M	M7300189
0190	P0072	606B		ADC	Y-REQTB+\$6000	FWRITE	6		M7300190
0191	P0073	1020		ADC	BB-REQTB+\$1000	LOADER	7	**MSOS 4.0M	M7300191
0192	P0074	387A		ADC	X-REQTB+\$3800	TIMER	8	**MSOS 4.0M	M7300192
0193	P0075	287A		ADC	X-REQTB+\$2800	SCHDLE	9		M7300193
0194	P0076	004A		ADC	F-REQTB	SPACE	10		M7300194
0195	P0077	1020		ADC	BB-REQTB+\$1000	CORE	11	**MSOS 4.0M	M7300195
0196	P0078	004A		ADC	F-REQTB	RELEASE	12		M7300196
0197	P0079	A005		ADC	(Z-REQTB+\$2000)	GTFILE	13	**MSOS 4.0M	M7300197
0198	P007A	5005		ADC	W-REQTB+\$5000	TAPE	14		M7300198
0199	P007B	004A		ADC	F-REQTB		15	**MSOS 4.0M	M7300199
0200	P007C	101C		ADC	IND-REQTB+\$1000	PART1 INDIR	16	**MSOS 4.0M	M7300200
0201	P007D	004A		ADC	F-REQTB	PARTITIONED CORE	17	**MSOS 4.0M	M7300201
0202	P007E	004A		ADC	F-REQTB	DIR. SCHDLE	18	**MSOS 4.0M	M7300202

0204				*	THE FOLLOWING LOCATIONS ARE USED FOR STORING				M7300204
0205				*	APPLICABLE PARAMETERS UPON ENTRY TO PROTECT				M7300205
0206	P007F	0000		SAVA	NUM	0			M7300206
0207	P0080	0000		SAVI	NUM	0			M7300207
0208	P0081	0000		SAVPR	NUM	0			M7300208
0209	P0082	0000		PTR	NUM	0			M7300209
0210	P0083	0000		PCELL	NUM	0			M7300210
0211	P0084	0000		PTRS	NUM	0			M7300211
0212	P0085	0000		RETURN	NUM	0			M7300212
0213	P0086	0000		INDIR	NUM	0			M7300213
0214	P0087	0000		SAVQ	NUM	0			M7300214

0216	P0088	E8F9	IND	LDQ* PTR	PART 1 INDIR REQ.	**MSOS	4.	0M7300216
0217	P0089	C201		LDA- 1,Q	PICK UP LIST POINTER	**MSOS	4.	0M7300217
0218	P008A	0C02		ENO 2		**MSOS	4.	0M7300218
0219	P008B	18B0		JMP* A03	RESET PTR	**MSOS	4.	0M7300219
0220	P008C	C8F8	BB	LDA* RETURN				M7300220
0221	P008D	68F4		STA* PTR				M7300221

0223 * THIS IS THE EXIT TO A PRESET ENTRY POINT. M7300223

0225	P008E	C8F2	B	LDA* SAVPR				M7300225
0226	P008F	A011		AND- LPMSK+15		**MSOS	4.	0M7300226
0227	P0090	0101		SAZ B1-* -1				M7300227
0228	P0091	180D		JMP* B4				M7300228
0229	P0092	C8FG	B1	LDA* PCELL	SAVE THE MARK	**MSOS	4.	0M7300229
0230	P0093	6820		STA* APCELL		**MSOS	4.	0M7300230
0231	P0094	C8ED		LDA* PTR		**MSOS	4.	0M7300231
0232	P0095	681D		STA* APTR		**MSOS	4.	0M7300232
0233	P0096	5817		RTJ* DOWN0	GO TO LEVEL 0	**MSOS	4.	0M7300233
0234	P0097	681A		STA* ASAVA	ALL REGISTERS ARE RESTORED	**MSOS	4.	0M7300234
0235	P0098	C81A		LDA* APTR		**MSOS	4.	0M7300235
0236	P0099	0500		IIN 0		**MSOS	4.	0M7300236
0237	P009A	6C19		STA* (APCELL)	RESTORE THE MARK	**MSOS	4.	0M7300237
0238	P009B	D818		RAO* APCELL		**MSOS	4.	0M7300238
0239	P009C	C815		LDA* ASAVA	RESTORE A REG.	**MSOS	4.	0M7300239
0240	P009D	1C16		JMP* (APCELL)	JUMP TO PRESET	**MSOS	4.	0M7300240
0241	P009E	C8E1	B4	LDA* SAVI	RESTORE I	**MSOS	4.	0M7300241
0242	P009F	60FF		STA- I		**MSOS	4.	0M7300242
0243	P00A0	01A0		SOV 0	CLEAR OVERFLOW	**MSOS	4.	0M7300243
0244	P00A1	C8DF		LDA* SAVPR		**MSOS	4.	0M7300244
0245	P00A2	E4E9		LDQ- (\$E9)	65K	**MSOS	4.	8M7300245
0246	P00A3	0151		SQN 1				M7300246
0247	P00A4	C42B		LDA- (CNOTE)				M7300247
0248	P00A5	8032		ADD- ONEBIT+15	RESTORE OVERFLOW	**MSOS	4.	0M7300248
0249	P00A6	E8E0		LDQ* SAVQ	RESTORE Q	**MSOS	4.	0M7300249
0250	P00A7	C8DA		LDA* PTR		**MSOS	4.	0M7300250
0251	P00A8	0500		IIN 0		**MSOS	4.	0M7300251
0252	P00A9	6CD9		STA* (PCELL)	RESTORE THE MARK	**MSOS	4.	0M7300252
0253	P00AA	D8D8		RAO* PCELL		**MSOS	4.	0M7300253
0254	P00AB	C803		LDA* SAVA		**MSOS	4.	0M7300254
0255	P00AC	1CD6		JMP* (PCELL)	JUMP TO PRESET	**MSOS	4.	0M7300255
0256	P00AD	0000	DOWNJ	NUM 0		**MSOS	4.	0M7300256
0257	P00AE	E8FE		LDQ* DOWN0	RETURN ADDRES	**MSOS	4.	0M7300257
0258	P00AF	1800		JMP H1B		**MSOS	4.	0M7300258
0259	P00B0	01EB						
0259	P00B1	0000	ASAVA	NUM 0		**MSOS	4.	0M7300259
0260	P00B2	0000	APTR	NUM 0		**MSOS	4.	0M7300260
0261	P00B3	0000	APCELL	NUM 0		**MSOS	4.	0M7300261


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02254 * THIS ROUTINE HANDLES THE BRINGING IN M7300264
02255 * OF THE ERROR PROCESSOR AND JBKILL M7300265
02256 * IF Q IS POSITIVE THE CONTENTS OF Q EQUALS M7300266
02257 * THE ERROR CODE M7300267
02258 * IF Q IS NEGATIVE JBKILL HAS BEEN REQUESTED M7300268
02259 P00B4 0C01 E ENQ J01 ENTER HERE TO GET J01 MESSAGE M7300269
02270 P00B5 1802 F JMP* F1 M7300270
02271 P00B6 5C02 F ENQ J02 ENTER HERE TO GET J02 MESSAGE M7300271
02272 EQU F1(*) EQU F1(*) M7300272
02273 P00B7 0400 P X RAO JBCNFG KILL THE JOB M7300273
02274 P00B8 7FFF X
02274 * ENTER THE ROUTINE HERE TO PROCESS OTHER M7300274
02275 * ERRORS WITH FORMAT JOX OR TO BRING IN JBKILL M7300275
02276 P00B9 481C GET STQ* GETTEM SAVE ERROR CODE OR JBKILL FLAG M7300276
02277 P00BA C000 LDA =XPRTEND-PRT FIND THE LENGTH OF PROTEC WHICH M7300277
02278 P00BB 0420 ENQ 0 IS READ INTO CORE INITIALLY M7300278
02279 P00BC 0C00 DVI =N95 CONVERT THE LENGTH TO SECTORS M7300279
02280 P00BD 3000 LDQ- $EB GET THE SECTOR WHERE PROTEC IS M7300280
02281 P00BE 0060 ADQ* PROTEN LOCATED FROM THE SYSTEM DIRECTORY M7300281
02282 P00BF 0000 INQ 6 AND ADD THE LENGTH OF PROTEC TO IT M7300282
02283 P00C0 F816 ADD- (ZERO),Q THIS VALUE IS THE ADDRESS TO READ M7300283
02284 P00C1 0006 STA* GETLSB THE ERROR PROCESSOR AND JBKILL FROM M7300284
02285 P00C2 8622 * GO AND READ THE ERROR PROCESSOR AND JBKILL M7300285
02286 P00C3 6809 * INTO CORE. THEY WILL OVERLAY PROTEC STARTING M7300286
02287 * AT 'AREA'. M7300287
02288 P00C4 54F4 REQST RTJ- ($F4) M7300288
02289 P00C5 0912 GETR NUM $0912 M7300289
02290 P00C6 0000 * COMPLETION 115*4324*****
02291 P00C7 0000 THREAD NUM 0 115*4324*****
02292 P00C8 08C2 ADC MASLU M7300292
02293 P00C9 0000 ADC BUFF M7300293
02294 P00CA 01F3 ADC AREA-GETR M7300294
02295 P00CB 0000 GETMSB NUM 0 M7300295
02296 P00CC 0000 GETLSB NUM 0 M7300296
02297 P00CD C8F9 CHKTHR LDA* THREAD IF THREAD IS BUSY, HANG 115*4324*****
02298 P00CE 0101 SAZ GETC 115*4324*****
02299 P00CF 18FD JMP* CHKTHR 115*4324*****
0300 P00D0 0173 GETC SQM GETERR-*--1 IF DISK ERROR RETRY THE READ M7300298
0301 P00D1 E804 LDQ* GETTEM NO ERROR ON READ. RESTORE Q M7300299
0302 P00D2 1800 JMP AREA AND JUMP TO OVERLAY M7300300
0303 P00D3 01E5 GETERR JMP* GETR-1 M7300301
0304 P00D4 18FF GETTEM NUM 0 M7300302
0305 P00D5 0000 X PROTEN ADC PROTEN M7300303
0306 P00D6 7FFF

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0307			*	THIS IS A CONTROL ROUTINE USED FOR READ TYPE		M7300305	
0308			*	REQUESTS. IT CAUSES UNPACKING AND LEGALITY		M7300306	
0309			*	CHECKING OF ALL PARAMETERS.		M7300307	
0311	P00D7	587C	Y	RTJ*	G	GO MOVE REQUEST TO PROTECT STACK	M7300309
0312	P00D8	5860		RTJ	J	CHECK LU, S	M7300310
0313	P00DA	5800		RTJ	L	CHECK N,S+N, READ/WRITE, ETC	M7300311
0314	P00DC	5800	Y2	RTJ	H	CHECK RETURN ADDRESS	M7300312
0315	P00DE	C0FF		LDA-	I		M7300313
0316	P00DF	0901		INA	1		M7300314
0317	P00E0	0C02		ENQ	2		M7300315
0318	P00E1	6EAO		STA*	(PTR),3	SET CALLER THREAD NON ZERO	M7300316
0319	P00E2	D400	X	RAO	UNPIO	SET UNPROTECTED I/O SWITCH	M7300317
	P00E3	7FFF	X				
0320	P00E4	1800	Y1	JMP	HH	GO MAKE THE REQUEST AGAIN	M7300318
	P00E5	01A4					

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0323 * THIS IS ENTERED FOR SCHDLE REQUESTS AND OTHERS M7300321
0324 * WHICH ARE STACKED BUT NOT CHECKED PAST PRIORITY M7300322
0325 * AND COMPLETION ADDRESS. M7300323

0327 P00E6 586D X RTJ* G M7300325
0328 P00E7 5800 RTJ H CHECK RETURN ADDRESS M7300326
P00E8 0186
0329 P00E9 C800 LDA RCODE M7300327
P00EA 024F
0330 P00EB 09F7 INA -8 IF IT IS A TIMER REQUEST M7300328
0331 P00EC 0101 SAZ X1--1 MOVE TIMER UNITS TO STACK M7300329
0332 P00ED 1822 JMP* X2 AND GO TO EXIT ROUTINE. M7300330
0333 P00EE E893 X1 LDQ* PTR M7300331
0334 P00EF C400 X LDA+ TMRTYP 0 SAYS NO TIMER IN SYSTEM M7300332
P00F0 7FFF X
0335 P00F1 0106 SAZ TOF DO NOT ALLOW REQUEST M7300333
0336 P00F2 C622 LDA- (ZERO),Q JUST GO TO EXIT **MSOS 4.0 M7300334
0337 P00F3 A00A AND- NZERO-3 ROUTINE. M7300335
0338 P00F4 A016 AND- NZERO++ M7300336
0339 P00F5 C822 TRA Q **MSOS 4.0 M7300337
0340 P00F6 0DCE INQ -$31 IS UNITS PARAMETER=0,1,2,3 *+.0/77*1867 M7300338
0341 P00F7 1171 SQM 1 SKIP IF LEGAL REQUEST **MSOS 4.0 M7300339
0342 P00F8 18BD TOF JMP* F M7300340
0343 P00F9 8101 ADD- 1,I M7300341
0344 P00FA 61C1 STA- 1,I M7300342
0345 P00FB 1823 JMP* TEXP GET ADDRESS OF TIMER EXPIRATION M7300343
0346 P00FC 0000 ATEXP ADC 0 ADDRESS OF TIMER EXP RTN M7300344
0347 P00FD C8FE LDA* ATEXP ADDRESS OF TIMER EXP RTN M7300345
0348 P00FE 6109 STA- 9,I PLACE IN TIMER STACK ENTRY M7300346
0349 P00FF 0C03 ENQ 3 MOVE 4 INSTRUCTIONS ONTO STACK M7300347
0350 P0100 CA1A X14 LDA* TIME,Q M7300348
0351 P0101 6305 STA- 5,B M7300349
0352 P0102 0142 SQZ X15--1 M7300350
0353 P0103 0DFF INQ -1 M7300351
0354 P0104 18FB JMP* X14 M7300352
0355 P0105 C0FF X15 LDA- I SAVE SLOT LOC. IN SLOT M7300353
0356 P0106 0901 INA 1 BUMP I FOR COMPLETION M7300354
0357 P0107 6104 STA- 4,I M7300355
0358 P0108 0904 INA 4 SET TIMER COMPLETION M7300356
0359 P0109 6102 STA- 2,I M7300357
0360 P010A E800 LDQ SAVQ **MSOS 4.0 M7300358
P010B FF7B
0361 P010C D400 X X16 RAO+ UNPTIM INCREMENT TIMER REQ COUNTER M7300359
P010D 7FFF
0362 P010E 18D5 JMP* Y1 GO TO MAKE REQUEST AGAIN M7300360
0363 P010F C844 X2 LDA* G CALCULATE ABS ADDR FOR SCHDLE **MSOS 4.0 M7300361
0364 P0110 8000 X3 ADD =XSCHCMP-X-1 **MSOS 4.0 M7300362
P0111 003B
0365 P0112 6102 STA- 2,I SAVE IN PROTECT STACK M7300363
0366 P0113 C800 LDA SAVQ **MSOS 4.0 M7300364
P0114 FF72
0367 P0115 6103 STA- 3,I USERS PARAMETER TO SLOT M7300365

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0358	P0116	A011	AND-	NZERO-1		M7300366
0359	P0117	6800	STA	SAVQ		M7300367
	P0118	FF6E				
0370			*		1 CARD DELETED	*4.0/77*1868 M7300368
0371			*		1 CARD DELETED	*4.0/77*1868 M7300369
0372	P0119	18CA	JMP*	Y1	GO MAKE THE REQUEST AGAIN	M7300370

0374	P011A	C8FE	TIME	LDA*	*-1	ADDRESS OF TIMER STACK ENTRY	M7300372
0375	P011B	48FC		STQ*	*-3	VALUE OF CLOCK	M7300373
0376	P011C	0822		TRA	Q		M7300374
0377	P011D	1400		NUM	\$1400	JUMP ABSOLUTE INSTR	M7300375
0378	P011E	58DD	TEXP	RTJ*	AATEXP		M7300376
0379			*	TIMER	EXPIRATION ENTERS HERE		M7300377
0380	P011F	CCED	TIMEXP	LDA*	(X16+1)		M7300378
0381	P0120	09FE		INA	-1		M7300379
0382	P0121	60EB		STA*	(X16+1)		M7300380

0384			*	THIS IS ENTERED TO EXECUTE SCHDLE AND TIMER			M7300382
0385			*	TYPE REQUESTS.			M7300383

0387	P0122	0DFD	SCHCMP	INQ	-2		61*1298 M7300385
0388	P0123	0844		CLR	A		**MSOS 4.0M7300386
0389	P0124	620D		STA-	13,Q	CLEAR STACK ENTRY	**MSOS 4.0M7300387
0390	P0125	C201		LDA-	1,Q		**MSOS 4.0M7300388
0391	P0126	680A		STA*	SCHJMP	SET UP TO JUMP TO USER	M7300389
0392	P0127	0111		SAN	SCH-* -1		M7300390
0393	P0128	14EA		JMP-	(DISP)	THE JOB IS DEAD	M7300391
0394	P0129	C400	X SCH	LDA	JBCNFG		M7300392
	P012A	00B8	X				
0395	P012B	0101		SAZ	SCH1		M7300393
0396	P012C	14EA		JMP-	(DISP)	EXIT IF JOB IS CANCELLED	M7300394
0397	P012D	C201	SCH1	LDA-	1,Q		M7300395
0398	P012E	E204		LDQ-	4,Q		M7300396
0399	P012F	1C01		JMP*	(SCHJMP)		M7300397
0400	P0130	0000	SCHJMP	NUM	0		M7300398

0402

* THIS IS THE PROCESSOR FOR GTFIELD REQUESTS.

M7300400

0404	P0131	5822	Z	RTJ* G	GO MOVE REQUEST TO PROTECT STACK	M7300402
0405	P0132	C622		LDA- (ZERO),Q	D BIT SET	**MSOS 4.0M7300403
0406	P0133	0FC1		ALS 1		**MSOS 4.0M7300404
0407	P0134	0126		SAP Z3		M7300405
0408	P0135	C101		LDA- 1,I	YES GET STACKED REQUEST	**MSOS 4.0M7300406
0409	P0136	B031		EOR- \$31	D BIT	**MSOS 4.0M7300407
0410	P0137	6101		STA- 1,I	RESET FOR GTFIELD	**MSOS 4.0M7300408
0411	P0138	5800	Z4	RTJ J	CHECK LU'S , S	**MSOS 4.0M7300409
	P0139	01D9				
0412	P013A	18A1		JMP* Y2	CONTINUE PROCESSING	M7300410
0413	P013B	E0E9	Z3	LDQ- \$E9		M7300411
0414	P013C	E2CA		LDQ- 10,Q	UNPROTECTED CORE FLAG	M7300412
0415	P013D	0151		SQN Z0	ERROR IF UNPROTECTED IN PART 1 AND D=0	M7300413
0416	P013E	18F9		JMP* Z4		M7300414
0417	P013F	1800	Z0	JMP F	REQUEST ERROR	M7300415
	P0140	FF75				

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0420          *      THE FOLLOWING PROCESSES TAPE MOTION CONTROL REQUESTS.          M7300418
0422 P0141 5812   W      RTJ* G          GO MOVE REQUEST TO PROTECT STACK          M7300420
0423 P0142 5800   RTJ  CHKLU          CHECK LU          M7300421
      P0143 D0FD
0424 P0144 JA01   ENA  1          SEE IF          **MSOS 4.0M7300422
0425 P0145 A203   AND- 8,Q          UNPROTECTED I/O IS ALLOWED          M7300423
0426 P0146 G102   SAZ  NEWTAP          A=0 IF IT IS ALLOWED          M7300424
0427 P0147 0C58   W3A  ENQ  J08          NO UNPROTECTED I/O ALLOWED          M7300425
0428 P0148 1818   JMP* G24          GO OUTPUT J08 MESSAGE          M7300426
0429 P0149 E105   NEWTAP LDQ- 5,I          CHECK IF MOTION          M7300427
0430 P014A 0177   SQM  W7          NO          M7300428
0431 P014B C000   W6  LDA  =N$7774          CHECK TAPE MOTION FUNCTION TO          M7300429
      P014C 7774
0432 P014D 9105   SUB- 5,I          SEE IF THEY ARE ALL LEGAL          M7300430
0433 P014E A000   AND  =N$8888
      P014F 8888
0434 P0150 0101   SAZ  W7--*-1          A=0 THEY ARE ALL LEGAL          M7300432
0435 P0151 18ED   JMP* Z0          GO OUTPUT J02 MESSAGE          M7300433
0436 P0152 1889   W7  JMP* Y2          CONTINUE AS A READ TYPE          **MSOS 4.0M7300434

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0+40 *      THS FOLLOWING ROUTINE IS ENTERED ONLY FOR          M7300438
0+41 *      REQUESTS WHOSE PARAMETER LISTS ARE MOVED TO      M7300439
0+42 *      PROTECTED CORE FOR EXECUTION.                    M7300440

0444 P0153 0000 G      Q      Q
0445 P0154 0C40   ENQ  SIZE
0446 P0155 CA72   LDA*  STACK,Q      DETERMINE IF MAXIMUM NO OF
0447 P0156 0123   SAP  G15--*-1    REQUESTS ARE STACKED
0448 P0157 0DF2   INQ  -13        A=- IF NO ROOM AVAILABLE
0449 P0158 0172   SQM  G2--*-1    Q=- IF NO STACK SPACE AVAILABLE
0450 P0159 18FB   JMP*  G1      GO CONTINUE CHECKING SLOTS
0451 P015A 1814   JMP*  G3      OPEN SLOT MOVE REQUEST          M7300442
                                           M7300443
                                           M7300444
                                           M7300445
**MSOS 4.0 M7300446
                                           M7300447
                                           M7300448
                                           M7300449

0456 *      NO SPACE - REQUEST MUST WAIT IF CALLER WAS      M7300451
0457 *      AT LEVEL ZERO - IF HE WAS AT LEVEL ONE, THE     M7300452
0458 *      JOB MUST BE BOMBED BECAUSE THERE IS NO         M7300453
0459 *      WAY FOR AN EMPTY TO OCCUR IN THE STACK WHILE  M7300454
0460 *      OPERATING AT LEVEL ONE.                          M7300455

0461 P0158 C800 G2     LDA  SAVPR      CHECK PRIORITY TO SEE IF 1 OR 0      M7300457
0462 P015C FF24
0463 P015D AD11   AND-  LPMSK+15
0464 P015E 0103   SAZ  G25--*-1    A=0 IF PRIORITY IS ZERO
0465 P015F 0C06   ENQ  J06      PRIORITY IS NOT ZERO GIVE J06
0466 P0160 1800   JMP  F1      MESSAGE
0467 P0161 FF55   G24
0468 P0162 C4E9   LDA- ($E9)    IF MODE IS 65K
0469 P0163 0102   SAZ  G25
0470 P0164 0844   CLR  A
0471 P0165 0102   SAZ  2
0472 P0166 C42B   LDA- (CNOTE)  DO NOT TRY TO SAVE OVERFLOW FROM
0473 P0167 AD21   AND- NZERO+15  INT. TRAP
0474 P0168 8800   ADD  PTRS     FOR 32K SAVE OV AND UNPRO. RETURN
0475 P0169 FF1A   M7300467
0476 P016A 09FE   M7300468
0477 P016B 642B   M7300469
0478 P016C 1830   M7300470
0479 P016D 0136   M7300471

0475 *      AN OPEN SLOT FOR STACKING IS AVAILABLE.        M7300474
0477 *      INDEX TO IT IS IN Q.                            M7300475

0479 P016E 5801 G3     RTJ* G8      FIND WHERE WE ARE
0480 P016F 0000 G8     NUM  0
0481 P0170 0DF3   INQ  -12     ADJUST Q TO GET TOP OF SLOT
0482 P0171 F8FD   ADQ* G8     PUT SLOT ADDRESS IN I
0483 P0172 0D58   INQ  STACK-G8
                                           M7300477
                                           M7300478
**MSOS 4.0 M7300479
                                           M7300480
                                           M7300481

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0484	P0173	40FF		STQ- I			M7300482
0485	P0174	E800		LDQ PTR			M7300483
	P0175	FF0C					
0486	P0176	C202		LDA- 2,Q	GET THREAD		M7300484
0487	P0177	6103		STA- 3,I	CLEAR THREAD IN STACKED REQ.		M7300485
0488	P0178	0109		SAZ G4-*-1			M7300486
0489	P0179	E800		LDQ RCODE	THREAD CHECK NOT VALID FOR		M7300487
	P017A	01BF					
0490	P017B	CA00		LDA REQTb,Q	SOME REQUESTS		M7300488
	P017C	FEFF					
0491	P017D	A02E		AND- ONEBIT+11			M7300489
0492	P017E	E800		LDQ PTR			M7300490
	P017F	FF02					
0493	P0180	0111		SAN G4-*-1			M7300491
0494	P0181	18D9		JMP* G2	ALREADY THREADED		M7300492
0495	P0182	C201	G4	LDA- 1,Q	CHECK THE COMPLETION ADDRESS		M7300493
0496	P0183	0102		SAZ G51-*-1	TO SEE IF IT IS ZERO OR		M7300494
0497	P0184	54BE	G5	RTJ- (CABS)	ABSOLUTIZE COMPLETION ADDR.		M7300495
0498	P0185	0814		TRQ A			M7300496
0499	P0186	6522	G51	STA- (ZERO),I	PUT C IN STACK		M7300497
0500	P0187	010F		SAZ G7-*-1	NO COMPLETION ADDRESS		M7300498
0501	P0188	E0F7		LDQ- TOPMON	CHECK THE COMPLETION ADDRESS TO	**MSOS 4.0M	M7300499
0502	P0189	09FE		INA -1	SEE IF IT IS IN PROTECTED CORE	**MSOS 4.0M	M7300500
0503	P018A	5400		RTJ COMPV4		**MSOS 4.0M	M7300501
	P018B	0042	X				
	P018C	018B	X	EQU EQC(*-1)		**MSOS 4.0M	M7300502
0505	P018C	1102	P	SAZ G6		**MSOS 4.0M	M7300503
0506	P018D	0900		INA 0	IF IT IS REQUEST IS ILLEGAL	**MSOS 4.0M	M7300504
0507	P018E	0107		SAZ G65		**MSOS 4.0M	M7300505
0508	P018F	C522	G6	LDA- (ZERO),I		**MSOS 4.0M	M7300506
0509	P0190	E0F6		LDQ- BOTOP		**MSOS 4.0M	M7300507
0510	P0191	0901		INA 1			M7300508
0511	P0192	5CF8		RTJ* (EQC)		**MSOS 4.0M	M7300509
0512	P0193	0103		SAZ G7			M7300510
0513	P0194	0900		INA 0		**MSOS 4.0M	M7300511
0514	P0195	0101		SAZ G7		**MSOS 4.0M	M7300512
0515	P0196	18A8	G65	JMP* ZC	GO OUTPUT J02 MESSAGE	**MSOS 4.0M	M7300513
0516	P0197	C800	G7	LDA RCODE		**MSOS 4.0M	M7300514
	P0198	01A1					
0517	P0199	0826		TRA A,Q	SAVE REQUEST CODE IN Q		M7300515
0518	P019A	0FC9		ALS 9	UNPACK REQUEST CODE AND		M7300516
0519	P019B	0902		INA 2	SET X=0, RP=0,CP=2		M7300517
0520	P019C	EA00		LDQ REQTb,Q	CHECK FOR TIMER OR SCHEDULE CALL		M7300518
	P019D	FECE					
0521	P019E	0FF0		LLS 16			M7300519
0522	P019F	A02E		AND- ONEBIT+11	IF NO THREAD CHECK, IT'S TIMER OR SCH		M7300520
0523	P01A0	0101		SAZ 1	NOT - COMPLETION AT LEVEL 2		M7300521
0524	P01A1	0DFE		INQ -1	YES - COMPLETION AT LEVEL 1		M7300522
0525	P01A2	4101		STQ- 1,I	PUT WORD 1 IN STACK		M7300523
0526	P01A3	C8CB		LDA* G8	PUT COMPLETION PROCESSOR		M7300524
0527	P01A4	8000		ADD =XCOP-58		**MSOS 4.0M	M7300525
	P01A5	0099					
0528	P01A6	6102		STA- 2,I	COMPLETION ADDRESS		M7300526

0529	P01A7	E800		LDQ	PTR			M7300527
	P01A8	FED9						
0530	P01A9	410B		STQ-	11,I			M7300528
0531	P01AA	G003		ENQ	3			M7300529
0532	P01AB	CCEJ0	G9	LDA	(PTR),Q	MOVE WORDS 4 THROUGH 10 OF		M7300530
	P01AC	FED5						
0533	P01AD	6301		STA-	1,B	THE REQUEST TO THE PROTECT		M7300531
0534	P01AE	0D01		INQ	1	STACK.		M7300532
0535	P01AF	081+		TRQ	A			M7300533
0536	P01B0	09F5		INA	-10			M7300534
0537	P01B1	0101		SAZ	G10-* -1			M7300535
0538	P01B2	18F8		JMP*	G9			M7300536
0539	P01B3	0804	G10	SET	A	SET THE STACK ENRRY BUSY	**MSOS +.0	M7300537
0540	P01B4	610C		STA-	12,I		**MSOS +.0	M7300538
0541	P01B5	C522		LDA-	(ZERO),I	USERS COMPLETION ADDRESS	*+.0/77*1865	M7300539
0542	P01B6	010E		SAZ	TAG2		*+.0/77*1865	M7300540
0543	P01B7	E0F7		LDQ-	\$F7	BOTTOM-1 OF UNPROTECTED		M7300541
0544	P01B8	09FE		INA	-1			M7300542
0545	P01E9	5CD1		RTJ*	(EQC)	COMPARE ADDRESSES		M7300543
0546	P01BA	5102		SAZ	TAG1	WITHIN BOUNDS		M7300544
0547	P01BB	0900		INA	0	CHECK FOR -0		M7300545
0548	P01BC	0106		SAZ	TAG3	BELOW LOWER LIMIT		M7300546
0549	P01BD	C522	TAG1	LDA-	(ZERO),I			M7300547
0550	P01BE	E0F6		LDQ-	\$F6	TOP+1 OF UNPROTECTED		M7300548
0551	P01BF	5CCB		RTJ*	(EQC)	COMPARE ADDRESSES		M7300549
0552	P01C0	0102		SAZ	TAG3	AT TOP+1 OF UNPROTECTED		M7300550
0553	P01C1	0900		INA	0	CHECK FOR -0		M7300551
0554	P01C2	0102		SAZ	TAG2	WITHIN BOUNDS		M7300552
0555	P01C3	1800	TAG3	JMP	E	JP01 ERROR		M7300553
0556	P01C4	FEFF						
0557	P01C5	E10B	TAG2	LDQ-	11,I	REQUEST ADDRESS	*4.0/77*1865	M7300554
	P01C6	1C8C		JMP*	(G)			M7300555

0559	*					THE FOLLOWING AREA IS THE PROTECT STACK		M7300557
0560	*					UPON INITIAL EXECUTION OF PROTECT THIS AREA		M7300558
0561	*					IS USED TO PLACE PARAMETERS INTO OTHER		M7300559
0562	*					AREAS WHICH REQUIRE THEM. AFTER IT IS USED		M7300560
0563	*					TO FIX PARAMETERS THE AREA IS CLEARED AND		M7300561
0564	*					THEN BECOMES THE PROTECT STACK(TABLE)		M7300562
0565	*					THIS TABLE IS USED TO STACK UNPROTECTED		M7300563
0566	*					PARAMETER LISTS FOR EXECUTION.		M7300564

0568	P01C7	00B6	02	ADC	F-PRT			M7300566
0569	P01C8	0084	03	ADC	PTRS-PRT			M7300567
0570	P01C9	0008	04	ADC	IPROC1-PRT			M7300568
0571	P01CA	0107	05	ADC	STACK-PRT			M7300569
0572	P01CB	00B9	06	ADC	GET-PRT			M7300570
0573	P01CC	7FFF	F3	ADC	FILE3			M7300571
0574		0107		EQU	STACK(02)			M7300572
0575	P01CD	0822	PRTA	TRA	Q			M7300573

0576	P01CE	88F8		ADD*	02			M7300574
0577	P01CF	6400	X	STA	LOCF	POINTER TO PROTECT PROCESSOR ERROR ENTRY		M7300575
	P01DC	7FFF	X					
0578	P01D1	0814		TRQ	A			M7300576
0579	P01D2	88F5		ADD*	03			M7300577
0580	P01D3	6400	X	STA	LPTRS	POINTER TO PROTECT PROCESSOR'S PARAMETER		M7300578
	P01D4	7FFF	X					
0581	P01D5	0814		TRQ	A			M7300579
0582	P01D6	88F2		ADD*	04			M7300580
0583	P01D7	6400	X	STA	IP1	LOCATION TO HANDLE INTERNAL INTERRUPTS		M7300581
	P01D8	7FFF	X					
0584	P01D9	0814		TRQ	A			M7300582
0585	P01DA	88F0		ADD*	06			M7300583
0586	P01DB	6400	X	STA	JKIN	FLAG TO INDICATE THAT JBKILL IS IN		M7300584
	P01DC	7FFF	X					
0587	P01DD	0814		TRQ	A			M7300585
0588	P01DE	88EB		ADD*	05			M7300586
0589	P01DF	E400	X	LDQ	TRNVEC	LOCATION OF PROTECT STACK		M7300587
	P01E0	7FFF	X					
0590	P01E1	620B		STA-	11,0			M7300588
0591	P01E2	0C1C		ENQ	*-02+1			M7300589
0592	P01E3	0A00		ENA	0			M7300590
0593	P01E4	6AE2	PRTZRO	STA*	02,0	ZERO OUT WHAT HAS JUST EXECUTED		M7300591
0594	P01E5	0DFE		INQ	-1			M7300592
0595	P01E6	0141		SQZ	PRTZ*-1			M7300593
0596	P01E7	18FC		JMP*	PRTZRO			M7300594
0597	P01E8	E400	X PRTZ	LDQ	PRORET	GET ADDRESS TO RETURN TO AFTER		M7300595
	P01E9	7FFF	X					
0598	P01EA	68FD		STA*	*-2	INITIAL FLAGS ARE SET AND		M7300596
0599	P01EB	68FD		STA*	*-2	ZERO MORE LOCATIONS		M7300597
0500	P01EC	1622		JMP-	(\$22),0	RETURN		M7300598
0501		0026		EQU	PRTLEN(*-02)			M7300599
0502		0041		EQU	STLEN(13*V)		**MSOS 4.0	M7300600
0603	P01ED	001B		BZS	STX(STLEN-PRTLEN)			M7300601

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0506 * THIS IS THE COMPLETION PROCESSOR FOR ALL M7300604
0507 * STACKED REQUESTS. IT IS ENTERED WITH THE ADDRESS M7300605
0508 * OF THE PARAMETER LIST IN A AND THE ERROR CODE M7300606
0509 * IN Q. M7300607

0511 CCP TRA Q POINTER TO STACK IN Q M7300609
0512 P0209 00FD INQ -2 M7300610
0513 P020A 5400 X RTJ SWAPCK CHECK IF A SWAP IS WAITING M7300611
0514 P020B 7FFF X
0514 CCPJJ IIN 0 M7300612
0615 P020C 0500 X LDA SWAPON CHECK SWAPON FLAG M7300613
0615 P020D C400 X
0615 P020E 7FFF X
0516 P020F 0104 SAZ CCP0 NOT SWAPPED M7300614
0517 P0210 54F4 RTJ- ($F4) WAIT UNTIL SWAP DONE M7300615
0518 P0211 1302 CCP000 ADC $1302 M7300616
0519 P0212 7FFA ADC CCP00-CCP000 M7300617
0620 P0213 14EA JMP- (DISP) M7300618
0621 P0214 C20C CCP0 LDA- 12,Q **MSOS 4.0M7300619
0622 P0215 60FF STA- I M7300620
0623 * POINTER TO USERS REQUEST NOW IN I M7300621
0624 P0216 C205 LDA- 5,Q M7300622
0625 P0217 A01F AND- NZERO+13 M7300623
0626 P0218 6827 STA* CCTEMP M7300624
0627 P0219 C103 LDA- 3,I M7300625
0628 P021A A00F AND- NZERO-3 M7300626
0629 P021B 8824 ADD* CCTEMP M7300627
0630 P021C 6103 STA- 3,I MOVE V FIELD FROM STACK TO USERS REQUEST M7300628
0631 * M7300629
0632 P021D C202 LDA- 2,Q M7300630
0633 P021E 0F49 ARS 9 M7300631
0634 P021F A007 AND- NZERO-11 IF IT IS A GTFIELD REQUEST M7300632
0635 P0220 09F2 INA -13 M7300633
0636 P0221 0116 SAN CCP1 M7300634
0637 * M7300635
0638 P0222 C208 LDA- 8,Q **MSOS 4.1**M7300636
0639 P0223 6106 STA- 6,I **MSOS 4.1**M7300637
0640 P0224 C20A LDA- 10,Q MOVE MASS STORAGE ADDRESS INTO M7300638
0641 * USERS REQUEST M7300639
0642 P0225 6108 STA- 8,I M7300640
0643 P0226 C20B LDA- 11,Q M7300641
0644 P0227 6109 STA- 9,I M7300642
0645 CCP1 CLR A CLEAR THREAD IN USERS REQUEST M7300643
0646 P0228 0844 STA- 2,I M7300644
0647 * M7300645
0648 P022A C201 LDA- 1,Q CHECK FOR COMPLETION IN PROTECT STK4.0*79*1947M7300646
0649 P022B 0113 SAN CAJRS IF NO COMPLETION ADDRESS M7300647
0650 P022C 0844 CLR A **MSOS 4.0M7300648
0651 P022D 620D STA- 13,Q **MSOS 4.0M7300649
0652 P022E 14EA JMP- (DISP) M7300650

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0653			*						M7300651
0654	P022F	54F4	CADRS	RTJ-	(\$F4)	SCHEDULE DOWN TO LEVEL 1			M7300652
0655	P0230	1301	CAREF	ADC	\$1301,CADRS1-CAREF				M7300653
	P0231	0003							
0556	P0232	14EA		JMP-	(DISP)				M7300654
0557	P0233	0844	CADRS1	CLR	A	NOW AT LEVEL 1	**MSOS 4.0M	M7300655	
0558	P0234	6200		STA-	13,Q	RELEASE STACK ENTRY	**MSOS 4.0M	M7300656	
0559	P0235	C201		LDA-	1,Q	COMPLETION ADDRESS	**MSOS 4.0M	M7300657	
0560	P0236	6808		STA*	JMP			M7300658	
0561			*					M7300659	
0562	P0237	C400	X	LDA	JBCNFG			M7300660	
	P0238	012A	X						
0663	P0239	0101		SAZ	1			M7300661	
0664	P023A	14EA		JMP-	(DISP)	EXIT, IF JOB WAS CANCELED.		M7300662	
0665	P023B	C20C		LDA-	12,Q	ADDRESS OF USER IN A		M7300663	
0666	P023C	E205		LDQ-	5,Q	V FIELD OF USER IN Q		M7300664	
0667	P023D	1C01		JMP*	(JMP)	RETURN TO USER IN UNPROTECTED CORE AT LEVEL 1		M7300665	
0668			*					M7300666	
0669	P023E	0000		JMP	NUM 0			M7300667	
0670	P023F	0000		CCTEMP	NUM 0			M7300668	

0673	P0240	0B00	CHKLJ	NOP	0	REQUEST ADDRESS	**MSOS 4.0	M7300671
0674	P0241	E10B		LDQ-	11,I	ABSOLUTIZE LU		M7300672
0675	P0242	54BC		RTJ-	(LUABS)	LU. ZERO		M7300673
0676	P0243	0147		SQZ	LUER			M7300674
0677	P0244	0854		TCQ	A	CHECK TO SEE IF LU LARGER THAN MAX		M7300675
0678	P0245	8400	X	LOGTAB	ADD LOG1A			M7300676
	P0246	7FFF	X					M7300677
0679	P0247	0133		SAM	LUER	YES		M7300678
0680	P0248	0854		TCQ	A	NO		M7300679
0681	P0249	0901		INA	1	IS THE LU=1		M7300680
0682	P024A	0131		SAM	1			M7300681
0683	P024B	1821	LUER	JMP*	LUERR	NO PUT THE LU IN THE PROTECT STACK		M7300682
0684	P024C	C104		LDA-	4,I			M7300683
0685	P024D	A02F		AND-	ONEBIT+12			M7300684
0686	P024E	0834		AAQ	A			M7300685
0687	P024F	0104		STA-	4,I	GET THE PDT ADDRESS IN Q		M7300686
0688	P0250	FFFF		LDQ*	(LOGTAB+1),Q			M7300687
0689	P0251	C208		LDA-	8,Q	SAVE WORD 8 OF PDT		M7300688
0690	P0252	6800		STA	HOLD			M7300689
	P0253	C19C					**MSOS +.0	M7300690
0691	P0254	0F44		ARS	4	EQUIPMENT TYPE BITS	**MSOS 4.0	M7300691
0692	P0255	A009		AND-	LPMSK+7	COSY DRIVER	**MSOS +.0	M7300692
0693	P0256	09F4		INA	-11			M7300693
0694	P0257	010F		SAZ	CKCSY	CHECK FOR OCR DEVICE		M7300694
0695	P0258	0980		INA	-90+11	CODES 90 - 99		M7300695
0696	P0259	013E		SAM	NTCSY			M7300696
0697	P025A	09F5		INA	-10	YES, OCR DEVICE		M7300697
0698	P025B	012F		SAP	NOTCSY	BUMP RETURN ADDRESS		M7300698
0699	P025C	C208		LDA-	8,Q	ONLY IF EQUIPMENT CLASS = 2		M7300699
0700	P025D	0FC5		ALS	5			M7300700
0701	P025E	A005		AND-	LPMSK+3			M7300701
0702	P025F	09FD		INA	-2			M7300702
0703	P0260	0114		SAN	NOTMS			M7300703
0704	P0261	D800		RAO	RETURN			M7300704
	P0262	FE22				INCREASE RETURN ADDRESS BY 2		M7300705
0705	P0263	D800		RAO	RETURN			M7300706
	P0264	FE20						M7300707
0706	P0265	1800	NOTMS	JMP	Y2			M7300708
	P0266	FE75						M7300709
						COSY FLAG ACTIVE = NOT ZERO	**MSOS 4.0	M7300710
0708	P0267	C204	P	CKCSY	LDA- +,Q	SO JOBKILL WILL RESET IT'S	**MSUS 4.0	M7300711
0709		0268		NTCSY	EQU NTCSY(*)		**MSOS 4.1**	M7300712
0710	P0268	0112		SAN	NOTCSY		**MSOS 4.0	M7300713
0711	P0209	0804		SET	A			M7300714
0712	P026A	6204		STA-	4,Q	RETURN		M7300715
0713	P026B	1CD4	NOTCSY	JMP*	(CHKLU)	GO OUTPUT J02 ERROR		M7300716
0714	P026C	1800	LUERR	JMP	F			M7300717
	P026D	FE48						M7300718

0717	PG26E	0B00	H	NOP	0				M7300715
0718	PG26F	E800		LDQ	RCODE				M7300716
	PG270	C0C9							
0719	PG271	CA00		LDA	REQTB,Q				M7300717
	PG272	FD9F							
0720	PG273	A01E		AND-	NZERO+12	UNPACK	REQUEST LENGTH		M7300718
0721	PG274	0FC4		ALS	4				M7300719
0722	PG275	E800		LDQ	INDIR	IF	REQUEST WAS INDIRECT, USE		M7300720
	PG276	FE0F							
0723	PG277	0141		SQZ	H2--1	1	INSTEAD OF REQ. LENGTH TO	**MSOS	M7300721
0724	PG278	0814		TRQ	A	FIND	RETURN ADDRESS	4.0M	M7300722
0725	PG279	8800	H2	ADD	RETURN				M7300723
	PG27A	FE0A							
0726	PG27B	683C		STA*	SQV	MAKE	SURE RETURN IS	**MSOS	4.0M7300724
0727	PG27C	E0F6		LDQ-	BOTOP			**MSOS	4.0M7300725
0728	PG27D	5400	X	RTJ	COMPV4			**MSOS	4.0M7300726
	PG27E	018B	X						
0729	PG27F	0102		SAZ	H25			**MSOS	4.0M7300727
0730	PG280	0900		INA	0	UNPROTECTED		**MSOS	4.0M7300728
0731	PG281	0106		SAZ	H3			**MSOS	4.0M7300729
0732	PG282	C0F6	H25	LDA-	BOTOP			**MSOS	4.0M7300730
0733	PG283	09FD		INA	-2	RETURN	IS PROTECTED THEREFORE		M7300731
0734	PG284	6800		STA	PCELL	A	PROTECT VIOLATION HAS OCCURED	**MSOS	4.0M7300733
0735	PG285	FD9D		JMP	NOEIN				
	PG286	1800							
	PG287	0088							
0736	PG288	1CE5	H3	JMP*	(H)				M7300734
0737	PG289	C0FF	HH	LDA-	I			**MSOS	4.0M7300735
0738	PG28A	0901		INA	1			**MSOS	4.0M7300736
0739	PG28E	0822		TRA	Q			**MSOS	4.0M7300737
0740	PG28C	B021		EOR-	NZERO+15			**MSOS	4.0M7300738
0741	PG28D	68CC		STA*	H1	IF	THIS IS A GTFILE REQUEST	**MSOS	4.0M7300739
0742	PG28E	C800		LDA	RCODE				M7300740
	PG28F	00AA							
0743	PG290	09F2		INA	-13	SUBR.	Z HAS		M7300741
0744	PG291	0106		SAZ	H1-1	SET	CORRECT D BIT		M7300742
0745	PG292	C622		LDA-	(ZERO),Q				M7300743
0746	PG293	A031		AND-	ONEBIT+14				M7300744
0747	PG294	0113		SAN	H1-1	SET	D BIT IF NOT SET		M7300745
0748	PG295	B031		EOR-	ONEBIT+14				M7300746
0749	PG296	8622		ADD-	(ZERO),Q				M7300747
0750	PG297	6622		STA-	(ZERO),Q				M7300748
0751	PG298	54F4		RTJ-	(\$F4)	INDIRECT	REQUEST USING	**MSOS	4.0M7300749
0752	PG299	0000	H1	NUM	0	STACKED	ENTRY	**MSOS	4.0M7300750
0753	PG29A	E81D		LDQ*	SQV			**MSOS	4.0M7300751
0754	PG29B	C4E9	H1B	LDA-	(\$E9)			**MSOS	4.0M7300752
0755	PG29C	0102		SAZ	H4	65K	MODE--DO NOT SAVE	**MSOS	4.0M7300753
0756	PG29D	0844		CLR	A	OVERFLOW		**MSOS	4.0M7300754
0757	PG29E	0102		SAZ	2			**MSOS	4.0M7300755
0758	PG29F	C428	H4	LDA-	(CNOTE)	SAVE	OVERFLOW BIT	**MSOS	4.0M7300756
0759	PG2A0	A021		AND-	NZERO+15				M7300757
0760	PG2A1	0834		AAQ	A				M7300758
0761	PG2A2	6428		STA-	(CNOTE)				M7300759

0753		*	THIS EXITS VIA WHATEVER IS IN 100 ON ENTRY		M7300761
0755	P02A3	E800	K	LDQ SAVQ	M7300763
	P02A4	FDE2			
0766	P02A5	0500		IIN 0	M7300764
0757	P02A6	44B8		STQ- (COUNT) SAVE Q IN INTERRUPT STACK	M7300765
0768	P02A7	E0B8		LDQ- COJNT	M7300766
0769	P02A8	C800		LDA SAVA	M7300767
	P02A9	FDD5			
0770	P02AA	6201		STA- 1,3 SAVE A IN INTERRUPT STACK	M7300768
0771	P02AB	C800		LDA SAVI	M7300769
	P02AC	FDD3			
0772	P02AD	6202		STA- 2,3 SAVE I IN INTERRUPT STACK	M7300770
0773	P02AE	C800		LDA SAVPR	M7300771
	P02AF	FDD1			
0774	P02B0	6204		STA- 4,0 SAVE PRIORITY IN INTERRUPT STACK	M7300772
0775	P02B1	C42B		LDA- (COUNT)	M7300773
0776	P02B2	6203		STA- 3,0 SAVE RETURN IN INTERRUPT STACK	M7300774
0777	P02B3	0D05		INQ 5	M7300775
0778	P02B4	40B8		STQ- COUNT RESTORE TOP OF INTERRUPT STACK	M7300776
0779	P02B5	C400		EIN 0	M7300777
0780	P02B6	14EA		JMP- (DISP)	M7300778
0781	P02B7	C000	SQV	NUM 0	M7300779

**MSOS 4.0

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0784 * THIS IS WHERE THE OVERLAY OF THE ERROR M7300782
0785 * ROUTINE AND JBKILL BEGINS. ROUTINES M7300783
0786 * WHICH ARE IN THIS AREA INITIALLY ARE M7300784
0787 * NOT REQUIRED AFTER AN ERROR HAS OCCURRED M7300785
0788 * OR JBKILL IS SCHEDULED. M7300786
0789 02B8 P EQU AREA(*) M7300787
    
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0791 * WE NOW INVESTIGATE THE POSSIBILITY OF M7300789
0792 * AN ATTEMPTED ENTRY INTO A PROTECTED PROGRAM M7300790
0793 * WHOSE ENTRY IS A PRESET. M7300791
    
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0795 P02B8 C800 C LDA PTR M7300793
    
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0796 P02B9 FDC8 LDQ- BOTOP IS IT BELOW MONITOR COMMON **MSOS 4.0M7300794
0797 P02BA E0F6 RTJ* (COMV) **MSOS 4.0M7300795
0798 P02BC 0102 SAZ C1 **MSOS 4.0M7300796
0799 P02BD 0900 INA 0 **MSOS 4.0M7300797
0800 P02BE 0101 SAZ D **MSOS 4.0M7300798
0801 P02BF 1812 C1 JMP* TSTDIS NO - CHECK JMP TO DISPATCHER **MSOS 4.0M7300799
0802 P02C0 E0F1 D LDQ- LPREST LENGTH OF PRESET TO Q M7300800
0803 P02C1 0DFE INQ -1 M7300801
0804 P02C2 C6F2 D1 LDA- (PRESET),Q IS THE COMPUTED ADDRESS M7300802
0805 P02C3 9800 SUB PCELL A PRESET ENTRY POINT M7300803
    
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0806 P02C4 FD8E SAN D2-*-1 M7300804
0807 P02C5 0117 LDQ PCELL YES M7300805
    
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0808 P02C6 FDBB LDA- 1,Q IS IT FOLLOWED BY AN IIN M7300806
0809 P02C7 FDBB SUB* AT1 M7300807
0810 P02C8 C201 SAN D3-*-1 SKIP IF NO M7300808
0811 P02C9 9818 JMP 3 YES, GO EXIT IT PRESET M7300809
    
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0812 P02CA 0115 P02CC FDC1 D2 INQ -4 M7300810
0813 P02CB 1800 SQM TSTDIS-*-1 ARE WE DONE CHECKING PRESETS M7300811
0814 P02CC FDC1 JMP* D1 NO CONTINUE CHECKING M7300812
0815 P02CD 0DF8 D3 JMP* NDEIN GO OUTPUT J01 ERROR M7300813
    
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0818	P02D1	C800	TSTDIS	LDA	PCELL				M7300816
	P02D2	FDB0							
0819	P02D3	0822		TRA	Q				M7300817
0820	P02D4	0901		INA	1	ADDR AT WHICH VIOLATION OCCURRED			M7300818
0321	P02D5	90EA		SUB-	DISP	ADDRESS OF DISPATCHER			M7300819
0822	P02D6	0101		SAZ	1		**MSOS	4.0M	M7300820
0823	P02D7	180E		JMP*	NOTDIS	NOT A JUMP TO DISP	**MSOS	4.0M	M7300821
0824	P02D8	C800	ISDISP	LDA	SAVPR	YES, WAS IT FROM LEVEL ZERO			M7300822
	P02D9	FDA7							
0825	P02DA	A011		AND-	LPMSK+15		**MSOS	4.0M	M7300823
0826	P02DB	G112		SAN	ATONE		**MSOS	4.0M	M7300824
0827	P02DC	5800		RTJ	DOWN0		**MSOS	4.0M	M7300825
	P02DD	FDCP							
0828	P02DE	E0E9	ATONE	LDQ-	\$E9	ADDR OF EXTENDED CORE TABLE	**MSOS	4.0M	M7300826
0829	P02DF	E209		LDQ-	9,Q	ADDR OF RCTV IN MONI	**MSOS	4.0M	M7300827
0830	P02E0	C205		LDA-	5,Q	ADDR OF EXIT REQUEST (T5)			M7300828
0831	P02E1	0500	AT1	IIN	0				M7300829
0832	P02E2	60FF		STA-	I				M7300830
0833	P02E3	0802		SET	Q	-0 TO Q TO INDICATE ENTRY FROM PP			M7300831
0834	P02E4	1522		JMP-	(ZERO),I	JUMP TO T5			M7300832
0835	P02E5	0D02	NOTDIS	INQ	2	Q=LOC OF INTERRUPT +1			M7300833
0836	P02E6	482B		STQ*	VIOL				M7300834
0837	P02E7	4850		STQ*	SAVQ1		**MSOS	4.0M	M7300835
0838	P02E8	C42B		LDA-	(CNOTE)				M7300836
0839	P02E9	E4E9		LDQ-	(\$E9)	CHECK TO SEE IF	**MSOS	4.0M	M7300837
0840	P02EA	G151		SQN	TBCK	LOC. IS FROM PART1	**MSOS	4.0M	M7300838
0841	P02EB	A011		AND-	H7FFF				M7300839
0842	P02EC	6808	TBCK	STA*	ADR+1		**MSOS	4.0M	M7300840
0843	P02ED	E0F7		LDQ-	TOPMON	CONTENTS OF \$100 MUST	**MSOS	4.0M	M7300841
0844	P02EE	5400		RTJ	COMPV4		**MSOS	4.0M	M7300842
	P02EF	027E							
0845	P02F0	02EF		EQU	COMV(*-1)		**MSOS	4.0M	M7300843
0846	P02F1	0900		SAZ	ADR		**MSOS	4.0M	M7300844
0847	P02F2	0107		INA	0		**MSOS	4.0M	M7300845
0848	P02F3	C00J		SAZ	PROT	BE IN UNPROTECTED	**MSOS	4.0M	M7300846
0849	P02F4	0000	ADR	LDA	=N\$0000		**MSOS	4.0M	M7300847
	P02F5	E0F6							
0850	P02F6	5CF8		LDQ-	BOTOP	CORE OR ABORT	**MSOS	4.0M	M7300848
0851	P02F7	G102		RTJ*	(COMV)		**MSOS	4.0M	M7300849
0852	P02F8	0900		SAZ	PROT		**MSOS	4.0M	M7300850
0853	P02F9	0101		INA	0		**MSOS	4.0M	M7300851
0854	P02FA	1815	PROT	SAZ	TSOK		**MSOS	4.0M	M7300852
0855	P02FB	E83C	TSOK	JMP*	NOEIN		**MSOS	4.0M	M7300853
0856	P02FC	0DFC		LDQ*	SAVQ1		**MSOS	4.0M	M7300854
0857	P02FD	C622		INQ	-3	Q=ADDR OF CELL 3 LOCATIONS BACK			M7300855
0858	P02FE	0F48	TRYEIN	LDA-	(ZERO),Q	FETCH CONTENTS OF CELL TO BE TESTED			M7300856
0859	P02FF	09FB		ARS	8				M7300857
0860	P0300	0138		INA	-4	EIN=400, IIN=500, ..., INTERREG=800, EXI=E00			M7300858
0861	P0301	09FA		SAM	NOTEIN-*-1				M7300859
0862	P0302	0132		INA	-5				M7300860
0863	P0303	09FA		SAM	ISINT-*-1				M7300861
0864	P0304	0114		INA	-5				M7300862
0865	P0304	0114		SAN	NOTEIN-*-1				M7300863

X
X
P

```

0856 PG305 E80C ISINT LDQ* VIOL
0857 PG306 4428 STQ- (CNOTE)
0858 PG307 1800 JMP K
      PG308 FF9A
0859 PG309 C808 NOTEIN LDA* VIOL
0870 PG30A 0864 TCA A
0871 PG30B 0834 AAQ A
0872 PG30C 0102 SAZ NOEIN--1
0873 PG30D 0001 INQ 1
0874 PG30E 18EE JMP* TRYEIN
0375 PG30F 1800 NOEIN JMP E
      PG310 FDA3
0876 PG311 0000 VIOL ADC 0

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RETURN TO UNPROTECTED PROGRAM
THE VIOLATION IS LEGAL

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LAST ADDRESS TO TEST

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TRY NEXT CELL

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```

ERROR EXIT, PROTECT VIOLATION

```

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M7300864
M7300865
**MSOS 4.0M7300866
M7300867
M7300868
M7300869
M7300870
M7300871
M7300872
M7300873
M7300874

```

0878 * THIS ROUTINE ABSOLUTIZES LOGICAL UNIT AND
0879 * STARTING ADDRESS WHILE DOING LEGALITY CHECKS
0880 * ON THEM.

0882 J 0 0 GO CHECK LU. RETURN WITH Q
0883 PG313 5800 RTJ CHKLU
PG314 FF2B
0884 PG315 0A01 ENA 1 SET TO ADDRESS OF PDT
0885 PG316 A208 AND- 8,Q PROTECTED
0886 PG317 0102 SAZ J2B--1 NO--OK
0887 PG318 1800 JMP P1 YES--ERROR J08

0888 J2B LDQ- 11,I NO, PREPARE TO ABS. PARAMETERS
0889 PG31B 54B0 J2C RTJ- (SABS) ABSOLUTIZE S
0890 PG31C 681C STA* LOCS
0891 PG31D 4106 STQ- 6,I PUT S IN STACKED REQUEST
0892 PG31E C818 LDA* RCODE GET REQUEST CODE
0893 PG31F 09FD INA -2 IS IT WRITE
0894 PG320 681A STA* WRIND
0895 PG321 0102 SAZ J43 YES-RETURN
0896 PG322 09F8 J4 INA -4 IS IT FWRITE
0897 PG323 6817 STA* WRIND
0898 PG324 0111 J43 SAN J44
0899 PG325 1811 JMP* J8 YES - RETURN
0900 PG326 C106 J+4 LDA- 6,I
0901 PG327 010C SAZ J7 ERROR - IF STARTING ADDR. IS ZERO
0902 PG328 09FE INA -1 STARTING ADDRESS - 1
0903 PG329 E0F7 LDQ- TOP4CN *+4.0/77*1858
0904 PG32A 50C4 RTJ* (COMV) SEE IF STARTING ADDRESS IS IN UNPROT
0905 PG32B 0102 SAZ J45
0906 PG32C 0900 INA 0
0907 PG32D 0106 SAZ J7 NO - ERROR
0908 PG32E C106 J45 LDA- 6,I
0909 PG32F E0F6 LDQ- BOTOP
0910 PG330 50BE RTJ* (COMV)
0911 PG331 C106 SAZ J7
0912 PG332 0900 INA 0
0913 PG333 0102 SAZ J8
0914 PG334 1800 J7 JMP F YES
GO OUTPUT J02 ERROR
OK - RETURN

0915 J8 JMP* (J)
0916 SAVQ1 NUM 0

M7300876
M7300877
M7300878

M7300880
M7300881

M7300882
***M7300883
***M7300884
M7300885

**MSOS 4.0M7300886
**MSOS 4.0M7300887
M7300888
M7300889
M7300890
M7300891
M7300892
**MSOS 4.0M7300893
M7300894
M7300895
M7300896
M7300897
M7300898
M7300899
M7300900
**MSOS 4.0M7300901
**MSOS 4.0M7300902
**MSOS 4.0M7300903
**MSOS 4.0M7300904
**MSOS 4.0M7300905
**MSOS 4.0M7300906
**MSOS 4.0M7300907
**MSOS 4.0M7300908
**MSOS 4.0M7300909
**MSOS 4.0M7300910
**MSOS 4.0M7300911
M7300912

M7300913
**MSOS 4.0M7300914

09219
09220
09221

* THIS ROUTINE ABSOLUTIZES N AND LEGALITY CHECKS
* S+N. IT VERIFIES THAT THE CALLED DEVICE CAN READ
* OR WRITE AS REQUESTED.

M7300917
M7300918
M7300919

09223 P0338 0000
09224 P0339 0000
09225 P033A 0000
09226
09227 P0336 0000
09228 P033C E108
09229 P033D C622
09230 P033E 0FC1
09231 P033F 0123
09232 P0340 C204
09233 P0341 0121
09234 P0342 18F1
09235 P0343 54BF
09236 P0344 4105
09237 P0345 C8F4
09238 P0346 0111
09239 P0347 1810
09240
09241 P0348 C106
09242 P0349 E0F7
09243 P034A 5CA4
09244 P034B 010A
09245 P034C 0900
09246 P034D 0108
09247 P034E C106
09248 P034F 8105
09249 P0350 09FE
09250 P0351 E0F6
09251 P0352 5C9C
09252 P0353 0102
09253 P0354 0900
09254 P0355 0101
09255 P0356 1800
09256 P0357 C800
09257 P0358 0097
09258 P0359 0FC5
09259 P035A A005
09260 P035B 09FE
09261 P035C 0113
09262 P035D C105
09263 P035E 0113
09264 P035F 1804
09265 P0360 09FE
09266 P0361 0102
09267 P0362 1800
09268 P0363 0080
09269 P0364 E108
09270 P0365 C4E9

LOCS NUM 0
RCDEN NUM 0
WRIND NUM 0
*
L 0 0
LDQ- 11,I
LDA- (ZERO),Q
ALS 1
SAP L01-*-1
LDA- 4,Q
SAP L01-*-1
JMP* J7
L01 RTJ- (NABS)
STQ- 5,I
LDA* WRIND
SAN 1
JMP* L5
*
L1 LDA- 6,I
LDQ- 3F7
RTJ* (COMV)
SAZ L4A
INA 0
SAZ L4A
L4 LDA- 6,I
ADD- 5,I
INA -1
LDQ- BOTOP
RTJ* (COMV)
SAZ L4A
INA 0
SAZ L5
L4A JMP* J7
L5 LDA HOLD
ALS 5
AND- 5
INA -1
SAN L50-*-1
LDA- 5,I
SAN L50A-*-1
JMP* J7
L50 INA -1
SAZ L6-*-1
L50A JMP P
L6 LDQ- 11,I
LDA- (\$E9)

LOCATION OF PARAMETER LIST
REQUEST CODE
ZERO IF WRITE OR FWRITE
1 CARD DELETED
REQUEST ADDRESS
DBIT SET
NO
YES--BIT 15 ON N SET
NO
YES--ERROR
ABSOLUTIZE N AND STORE IT IN
THE STACKED REQUEST
IF REQUEST IS NOT WRITE OR
EWRITE, MAKE SURE BUFFER
IS NOT IN PROTECTED CORE
BOTTOM-1 OF UNPROTECTED
IT IS IN PROTECTED
BELOW LOWER LIMIT
NUMBER OF WORDS
BUFFER ENDS IN PROTECTED CORE
PICK UP WORD 8 OF PDT - EREQST
MASK 3 BITS
SKIP IF NOT MAG TAPE
MAG TAPE CHECK FOR ZERO WORDS
SKIP IF NOT ZERO WORDS
ERROR 0 WORD + MAG TAPE
CHECK TO SEE IS MASS MEMORY
A=0 YES MASS MEMORY
NO
REQUEST ADDRESS
IF 65K SKIP THE

M7300921
M7300922
M7300923
M7300924
M7300925
**MSOS 4.0M7300926
**MSOS 4.0M7300927
**MSOS 4.0M7300928
**MSOS 4.0M7300929
**MSOS 4.0M7300930
**MSOS 4.0M7300931
**MSOS 4.0M7300932
**MSOS 4.0M7300933
M7300934
M7300935
**MSOS 4.0M7300936
**MSOS 4.0M7300937
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**MSOS 4.0M7300941
**MSOS 4.0M7300942
**MSOS 4.0M7300943
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**MSOS 4.0M7300945
**MSOS 4.0M7300946
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**MSOS 4.0M7300948
**MSOS 4.0M7300949
**MSOS 4.0M7300950
**MSOS 4.0M7300951
**MSOS 4.0M7300952
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M7300962
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M7300964
**MSOS 4.0M7300965
M7300966

0959	P0366	0112		SAN	L6A	INDIRECT S CHECK		M7300967
0970	P0367	C205		LDA-	5,Q	IF S IS INDIRECT, MOVE MASS		M7300968
0971	P0368	0138		SAM	L7-*--1	STORAGE ADDRESS TO STACK		M7300969
0972	P0369	C800	L6A	LDA	INDIR			M7300970
0973	P036A	FD1B						
0973	P036B	011A		SAN	L8-*--1			M7300971
0974	P036C	D800		RAO	RETURN	IF REQUEST AND S ARE DIRECT		M7300972
	P036D	FD17						
0975	P036E	D800		RAO	RETURN	ADD 2 TO RETURN ADDRESS		M7300973
	P036F	FD15						
0976	P0370	1806		JMP*	L8			M7300974
0977	P0371	E806	L7	LDQ*	LOCS			M7300975
0978	P0372	C201		LDA-	1,Q			M7300976
0979	P0373	6107		STA-	7,I			M7300977
0980	P0374	C202		LDA-	2,Q			M7300978
0981	P0375	6108		STA-	8,I			M7300979
0982	P0376	C108	L8	LDA-	8,I	CHECK FOR MINUS SECTOR NO.		M7300980
0983	P0377	0121		SAP	L85-*--1			M7300981
0984	P0378	18BB	L84	JMP*	J7			M7300982
0985	P0379	E8BF	L85	LDQ*	RCODE		61*1294	M7300983
0986	P037A	0DFC		INQ	-3		61*1294	M7300984
0987	P037B	C104		LDA-	4,I	IF LU NOT LIB DON'T ADD SCRATCH	61*1294	M7300985
0988	P037C	A00A		AND-	LPMSK+8	MASK OFF MODE BIT	64*1294	M7300986
0989	P037D	90C2		SUB-	LIBLU			M7300987
0990	P037E	6872		STA*	LIFLAG	ZERO IS LIB AND SCRATCH ARE SAME UNIT	61*1294	M7300988
0991	P037F	0113		SAN	L9A-*--1			M7300989
0992	P0380	C400	X L9	LDA+	LOADIN	IF LOADING IS IN PROGRESS,		M7300990
	P0381	7FFF	X					
0993	P0382	0102		SAZ	L10-*--1	DONT ADD SCRATCH ADDRESS.		M7300991
0994	P0383	0A00	L9A	ENA	0	SCRATCH DISK	61*1294	M7300992
0995	P0384	1803		JMP*	L10A		61*1294	M7300993
0996	P0385	C0C1	L10	LDA-	\$C1	COMPENSATE SCRATCH SECTOR -1	61*1294	M7300994
0997	P0386	09FE		INA	-1			M7300995
0998	P0387	0171	L10A	SQM	LC1A	READ/WRITE	61*1294	M7300996
0999	P0388	181A		JMP*	LD10	HANDLE FREAD/FWRITE AT L010		M7300997
1000	P0389	E107	L01A	LDQ-	7,I			M7300998
1001	P038A	0174		SQM	LC1ER	IF MSB NEGATIVE - ERROR		M7300999
1002	P038B	0154		SQN	L01G0	IF MSB POSITIVE, NOT ZERO - OK		M7301000
1003	P038C	E108		LDQ-	8,I			M7301001
1004	P038D	0D9F		INQ	-95	CHECK LSB GT SECTOR ZERO IF MSB = 0		M7301002
1005	P038E	0161		SQP	LC1G0			M7301003
1006	P038F	18E8	L01ER	JMP*	L84	ERROR EXIT		M7301004
1007	P0390	0C00	L01G0	ENQ	0		61*1294	M7301005
1008	P0391	0103		SAZ	L01G0A	SCRATCH DISK	61*1294	M7301006
1009	P0392	285C		MUI*	N95		61*1294	M7301007
1010	P0393	0FE1		LLS	1	MAKE START OF SCRATCH LOOK LIKE DRUM ADDRESS		M7301008
1011	P0394	0FCF		ALS	15			M7301009
1012	P0395	F107	L01G0A	ADQ-	7,I		61*1294	M7301010
1013	P0396	8108		ADD-	8,I	COMBINE START OF SCRATCH WITH USERS ADDRESS	61*1294	M7301011
1014	P0397	0122		SAP	L010B			M7301012
1015	P0398	0D01		INQ	1			M7301013
1016	P0399	0D11		AND-	NZERO-1	REMOVE SIGN IN LSB IF SET		M7301014
1017	P039A	0161	L010B	SQP	1			M7301015

1018	P039B	1813	JMP*	LER					M7301016
1019	P039C	4107	STQ-	7,I	STORE COMPENSATED MSB				M7301017
1020	P039D	6108	STA-	8,I	LSB	**MSOS	4.1**		M7301018
1021	P039E	0FC1	ALS	1					M7301019
1022	P039F	0F61	LRS	1	COMBINE DRUM ADDRESS				M7301020
1023	P03A0	384E	DVI*	N96	CONVERT TO SECTOR ADDRESS				M7301021
1024	P03A1	1813	JMP*	GOODAD	GOOD ADDRESS	**MSOS	4.1**		M7301022
1025	P03A2	0111	SAN	L010A	THIS SECTION CHECKS FWRITE/FREAD				M7301023
1026	P03A3	1840	JMP*	P	NOT LIBRARY DEVICE				M7301024
1027	P03A4	E107	L010A	LDQ-	7,I				M7301025
1028	P03A5	0158	SQN	LER	MSB HAS TO BE ZERO				M7301026
1029	P03A6	E108	LDQ-	8,I					M7301027
1030	P03A7	0146	SQZ	LER	LSB CAN'T BE ZERO				M7301028
1031	P03A8	8108	ADD-	8,I	COMBINE LSB AND SCRATCH START				M7301029
1032	P03A9	0842	CLR	Q					M7301030
1033	P03AA	0124	SAP	L11	POSITIVE OK - STORE IT				M7301031
1034	P03AB	0C01	ENQ	1		**MSOS	4.1**		M7301032
1035	P03AC	A011	AND-	LPMSK+15	MASK \$7FFF				M7301033
1036	P03AD	1802	JMP*	L11		**MSOS	4.1**		M7301034
1037	P03AE	18C9	LER	JMP*	L84	ERROR EXIT			M7301035
1038	P03AF	6108	L11	STA-	8,I	STORE INTO PARAMETER LIST			M7301036
1039	P03B0	4107	STQ-	7,I	MAKE	**MSOS	4.1**		M7301037
1040	P03B1	0FC1	ALS	1	SINGLE	**MSOS	4.1**		M7301038
1041	P03B2	0F61	LRS	1	PRECISION	**MSOS	4.1**		M7301039
1042	P03B3	1803	JMP*	PCK3		**MSOS	4.1**		M7301040
1043			*		1 CARD DELETED				M7301041
1044	P03B4	0151	GOODAD	SQN	PCK3	61*129+			M7301042
1045	P03B5	09FE	PCK2	INA	-1	**MSOS	4.0		M7301043
1046	P03B6	E83A	PCK3	LDQ*	LIFLAG	61*1294			M7301044
1047	P03B7	0141		SQZ	PCK4				M7301045
1048	P03B8	182B		JMP*	P	ADDRESS NOT BEYOND MAXSEC			M7301046
1049	P03B9	E4J0	X	PCK4	LDQ	MAXSEC			M7301047
	P03BA	7FFF	X						
1050	P03BB	5400	X		RTJ+	COMPV4	COMPARE MAGNITUDE	**MSOS	4.1**M7301048
	P03BC	02EF	X						
1051		03BC	P	COMV4	EQU	COMV4(*-1)			M7301049
1052	P03BD	0103		SAZ	PX0	EQUAL MAXSEC			M7301050
1053	P03BE	0900		INA	0	CHECK -0			M7301051
1054	P03BF	0101		SAZ	PXC	LESS THAN MAXSEC			M7301052
1055	P03C0	18B7		JMP*	L84	ADDRESS BEYOND MAXSEC - ERROR			M7301053
1056	P03C1	E800	PX0	LDQ	RCODE				M7301054
	P03C2	FF76							
1057	P03C3	0DFC		INQ	-3				M7301055
1058	P03C4	017D		SQM	PX2				M7301056
1059	P03C5	0842		CLR	Q	FREAD/FWRITE			M7301057
1060	P03C6	C105		LDA-	5,I	NUMBER OF WORDS			M7301058
1061	P03C7	3827		DVI*	N96	DIVIDE TO GET SECTORS			M7301059
1062	P03C8	G151		SQN	PX01				M7301060
1063	P03C9	09FE		INA	-1		114*4250	*****	
1064	P03CA	8108	PX01	ADD-	8,I	ADD START SECTOR	114*4260	*****	M7301062
1065	P03CB	E107		LDQ-	7,I				M7301063
1066	P03CC	0122		SAP	PX1				M7301064
1067	P03CD	0C01		ENQ	1				M7301065

1058	P03CE	A011		AND-	LPMSK+15	REMOVE SIGN IN LSB IF SET		M7301066
1059	P03CF	0FC1	PX1	ALS	1			M7301067
1070	PC3D0	0F61		LRS	1	MAKE SINGLE PRECISION		M7301068
1071	PG3D1	180C		JMP*	PX4			M7301069
1072	P03D2	C108	PX2	LDA-	8,I	READ/WRITE		M7301070
1073	PG3D3	E107		LDQ-	7,I			M7301071
1074	P03D4	8105		ADD-	5,I	ADD NUMBER OF WORDS IN REQUEST		M7301072
1075	P03D5	0122		SAP	PX3			M7301073
1076	P03D6	0D01		INQ	1			M7301074
1077	P03D7	A011		AND-	LPMSK+15	REMOVE SIGN BIT IN LSB IF SET		M7301075
1078	P03D8	0FC1	PX3	ALS	1			M7301076
1079	P03D9	0F61		LRS	1	COMBINE DRUM ADDRESS		M7301077
1080	P03DA	3814		DVI*	N96	CONVERT TO SECTOR ADDRESS		M7301078
1081	P03DB	0151		SQN	PX4			M7301079
1082	PC3DC	09FE		INA	-1			M7301080
1083	P03DD	ECDC	PX4	LDQ*	(PCK4+1)	GET MAX SECTOR		M7301081
1084	P03DE	5CDD		RTJ*	(COMV4)	COMPARE MAGNITUDE		M7301082
1085	P03DF	0103		SAZ	P	EQUAL SECTOR	**MSOS 4.1**	M7301083
1086	P03EG	0900		INA	0	CHECK -0	**MSOS 4.1**	M7301084
1087	P03E1	0101		SAZ	P	LESS THAN SECTOR	**MSOS 4.1**	M7301085
1088	P03E2	1895		JMP*	L84	ADDRESS BEYOND MAXSEC - ERROR		M7301086
1089	P03E3	E800	P	LDQ	WRIND	****	**MSOS 4.1**	M7301087
	P03E4	FF55						M7301088
1090	PG3E5	0A04		ENA	4	****		M7301089
1091	P03E6	0141		SQZ	P01	IS I/O REQUEST BY UNPROTECTED		M7301090
1092	P03E7	0A02		ENA	2	PROGRAM ALLOWED ON THIS	****	M7301091
1093	P03E8	A807	P01	AND*	HOLD	DEVICE, CK WORD 8 OF PDT - EREQST		M7301092
1094	P03E9	0112		SAN	P2-*--1	YES--OK	****	M7301093
1095	P03EA	1800	P1	JMP	W3A	NO- GO OUTPUT J08		M7301094
	P03EB	FD5B						M7301095
1096	P03EC	1000	P2	JMP	(L)	RETURN TO CALLING ROUTINE		M7301096
	P03ED	FF40						M7301097
1097	P03EE	0060	N96	ADC	96			M7301098
1098	P03EF	0000	HOLD	NUM	0	HOLDS WORD 8 OF PDT - EREQST		M7301099
1099	P03FG	0000	LIFLAG	NUM	0		61*1294	M7301097
1100		000A	P	EQU	LSA01(* /96)			M7301098
1101		000B	P	EQU	LSJ01(LSA01+1)			M7301099
1102		042C	P	EQU	LTL01(LSU01*96)			M7301100
1103	P03F1	002F		BSS	(LTL01-*)			M7301101
1104		042C	P	EQU	PRTEND(*)			M7301102

1106 ***** M7301104

1108 EQU ERREL(*-AREA) M7301106
1109 ***** M7301107

1111 * THE PROTECT VIOLATION IS ILLEGAL. M7301109

1113 PG420 0A00 GETGJ ENA 0 M7301111
1114 PG421 6800 STA GETTEM+ERREL **MSOS 4.0M7301112
1115 PG422 FE1A
1116 PG423 0162 SQP ERR Q=+ IF ERROR EMESSAGE M7301113
1117 PG424 1800 JMP JKILL Q=- JBKILL WAS REQUESTED M7301114
1118 PG425 7FFF X
1119 PG426 54F4 ERR RTJ- (SF4) SCHEDULE DOWN TO LEVEL 1 M7301115
1120 PG427 1301 ERRSCH ADC \$1301 M7301116
1121 PG428 0003 ADC ERRA-ERRSCH M7301117
1122 PG429 14EA JMP- (DISP) M7301118
1123 PG42A 0814 ERR A M7301119
1124 PG42B 8000 ADD =N\$3030 FORM THE ERROR CODE **MSOS 4.0M7301120
1125 PG42C 3030
1126 PG42D 0DFE INQ -1 CHECK IF PROTECT VIOLATION M7301121
1127 PG42E 0155 SQN EQ-*--1 SKIP IF NOT PROTECT VIOLATION M7301122
1128 PG42F E800 LDQ PCELL+ERREL PROTECT VIOLATION MOVE ADDRESS **MSOS 4.0M7301123
1129 PG430 FDBA
1130 PG431 0D82 INQ 2 TO BR CONVERTED TO ASCCI **MSOS 4.0M7301124
1131 PG432 4800 STQ PTRS+ERREL **MSOS 4.0M7301125
1132 PG433 FDB8
1133 PG434 E400 X E0 LDQ TRNVEC **MSOS 4.0M7301126
1134 PG435 01E0 X
1135 PG436 620A
1136 * STA- 10,2 SAVE ERROR CODE IN TRANTA TABLE **MSOS 4.0M7301127
1137 * THE FOLLOWING ROUTINE CONVERTS THE ADDRESS M7301128
1138 * OF THE VIOLATION FROM HEXIDECIMAL TO ASCII M7301129
1139 * AND PUTS IT IN THE MESSAGE BUFFER M7301130
1140 PG437 E400 X E1 LDQ+ MIBUF **MSOS 4.1**M7301131
1141 PG438 7FFF X
1142 PG439 40FF
1143 PG43A 0C03 STQ- I **MSOS 4.0M7301132
1144 PG43B 0AFF ENQ 3 **MSOS 4.0M7301133
1145 PG43C 6722 E1A ENA -0 **MSOS 4.0M7301134
1146 PG43D 0DFE STA- (ZERO),B CLEAR OUT ERROR BUFFER SO JOBPRO **MSOS 4.0M7301135
1147 PG43E 0171 INQ -1 DOESN'T PRINT MORE THAN THE ERROR **MSOS 4.0M7301136
1148 PG43F 18FC SQM E1B **MSOS 4.0M7301137
1149 PG440 C800 E1B JMP* E1A **MSOS 4.0M7301138
1150 PG441 FDAA LDA PTRS+ERREL **MSOS 4.0M7301139
1151 PG442 E400 X LDQ+ MIBUF GET ADDRESS OF MESSAGE BUFFER **MSOS 4.1**M7301140
1152 PG443 0438 X

1143 P0444 40FF
 1144 P0445 5400 X
 P0446 7FFF X
 1145 P0447 4522
 1146 P0448 5101
 1147 P0449 0802
 1148 P044A 1800 X
 P044B 0425 X
 1149

STQ- I
 RTJ+ HA

 STQ- (ZERO),I
 STA- 1,I
 SET Q
 JMP JKILL

 END

SAVE FOR INDEXING
 CONVERT ADDRESS TO ASCII

 STORE UPPER TWO CHAR
 STORE LOWER TWO CHAR
 ABNORMAL TERMINATE

MSOS 4.1M7301141
 MSOS 4.1M7301142

 MSOS 4.1M7301143
 MSOS 4.1M7301144
 MSOS 4.1M7301145
 M7301146

 M7301147

PGM= 044C (1100) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0073, 0242, 0315, 0355, 0484, 0622, 0737, 0832, 1134, 1143
0029	CODE	0013 (000019)	0158
0030	V	0005 (000005)	0031, 0602
0031	SIZE	0040 (000064)	0445
0032	PRLVL	00EF (000239)	0075, 0097
0032	ZERO	0022 (000034)	0115, 0121, 0145, 0151, 0164, 0283, 0336, 0405, 0499, 0508, 0541, 0549, 0745, 0749, 0750, 0834
0032	CNOTE	002E (000043)	0858, 0929, 1137, 1145
0032	MASKT	00B7 (000183)	0086, 0247, 0468, 0472, 0758, 0761, 0775, 0838, 0867
0033	VZERO	0012 (000018)	0098
0033	CABS	00BE (000190)	0089, 0127, 0152, 0155, 0165, 0170, 0337, 0338, 0368, 0469, 0625, 0628, 0634, 0720, 0740, 0759
0033	SABS	00BD (000189)	1016
0033	VABS	00BF (000191)	0497
0034	TOPMON	00F7 (000247)	0889
0034	BOTOP	00F6 (000246)	0935
0034	LUABS	00BC (000188)	0130, 0501, 0843, 0903
0035	PRESET	00F2 (000242)	0137, 0509, 0727, 0732, 0796, 0850, 0909, 0950
0035	LPREST	00F1 (000241)	0675
0035	JISP	00EA (000234)	0804
0036	ONEBIT	0023 (000035)	0802
0036	ZROBIT	0033 (000051)	0393, 0396, 0620, 0652, 0656, 0664, 0780, 0821, 1120
0036	LIBLU	00C2 (000194)	0080, 0248, 0491, 0522, 0685, 0746, 0748
0037	MMATOP	00C0 (000192)	0989
0037	SIZECR	00F5 (000245)	
0038	H7FFF	0011 (000017)	0841
0039	COUNT	00B8 (000184)	0767, 0768, 0778
0040	LPMSK	0002 (000002)	0078, 0226, 0460, 0692, 0701, 0825, 0988, 1035, 1068, 1077
0042	BUFF	0000 (000000)	0293
0044	MASLU	08C2 (002242)	0292
0045	J01	0001 (000001)	0269
0046	J02	0002 (000002)	0271
0047	J06	0006 (000006)	0462
0048	J08	0008 (000008)	0427
0601	PRTLEN	0026 (000038)	0603
0602	STLEN	0041 (000065)	0503
1108	ERRFL	0168 (0000360)	1114, 1125, 1127, 1141

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0056	PRT	0000	0277, 0568, 0569, 0570, 0571, 0572
0060	PRTER	0006	0058
0071	IPROC1	0008	0570
0082	K32	0013	0077
0083	BELOW2	0014	
0113	A	0020	J103
J119	AG2	0033	J117
0126	AG3A	003A	0124
0128	AG3	003C	J219
J134	COMP	0042	0139
0137	A05	0045	
0143	A1A	0040	0131, 0136, 0140
0144	A1	004C	0125, 0142
0150	A15	0052	0147
J153	A2	0055	
0160	A1F	0050	0149, 0154
0161	A4	005E	J159
J168	A5	0066	0166
0184	REQTB	006C	J169, 0172, 0184, 0185, 0186, 0187, 0188, 0189, 0190, 0191, 0192, 0193, 0194, 0195, 0196, 0197
J206	SAVA	007F	J198, 0199, 0200, 0201, 0202, 0490, 0520, 0719
0207	SAVI	0030	0071, 0254, 0769
0208	SAVPR	0081	0074, 0241, 0771
0209	PTR	0082	0082, 0223, 0244, 0459, 0773, 0824
0210	PCELL	0083	0094, 0113, 0119, 0129, 0138, 0144, 0150, 0216, 0221, 0231, 0250, 0318, 0333, 0485, 0492, 0529
0211	PTRS	0084	0532, 0795
0212	RETURN	0085	0092, 0093, 0101, 0229, 0252, 0253, 0255, 0734, 0805, 0807, 0818, 1125
0213	INDIR	0086	0095, 0170, 0369, 1127, 1141
0214	SAVQ	0087	0120, 0220, 0704, 0705, 0725, 0974, 0975
0216	IND	0088	J123, 0128, 0722, 0972
0220	BB	008C	0072, 0249, 0360, 0366, 0369, 0765
0225	B	008E	0200
0229	B1	0092	0187, 0189, 0191, 0195
J241	B4	009E	0811
0256	DOWN0	00AD	0227
0259	ASAVA	00B1	0228
0260	APTR	00B2	0233, 0257, 0827
0261	APCELL	00B3	0234, 0239
0269	F	00B4	J232, 0235
0271	F	00B6	J230, 0237, J238, 0240
			0118, 0555, 0875
			0143, 0160, 0167, 0184, 0194, 0196, 0199, 0201, 0202, 0342, 0417, 0568, 0714, 0914

0272	F1	00B7	J270, 0463
J276	GET	00B9	0059, 0572
0288	REQST	00C4	0116
0289	GETR	00C5	J294, 0303
0291	THREAD	00C7	0297
0295	GETMSB	00CB	
0296	GETLSB	00CC	0284
0297	CHKTHR	00CD	0299
0300	GETC	00D0	0298
0303	GETERR	00D4	J300
0304	GETITEM	00D5	0083, 0276, 0301, 1114
0305	PROTEN	00D6	J281
0311	Y	00D7	J185, 0186, 0188, 0190
0314	Y2	00DC	0412, 0436, 0706
0320	Y1	00E4	0362, 0372
0327	X	00E6	0192, 0193, 0364
0333	X1	00EE	0331
0342	TOF	00F8	0335
0346	ATEXP	00FC	J347, 0378
0350	X14	0100	0354
0355	X15	0105	0352
0361	X16	010C	J380, 0382
0363	X2	010F	0332
0364	X3	0110	
0374	TIME	011A	J350
0378	TEXP	011E	0345
0380	TIMEXP	011F	
0387	SCHCMP	0122	0364
0394	SCH	0129	0392
0397	SCH1	012D	0393
0400	SCHJMP	0130	0391, 0399
0404	Z	0131	0197
0411	Z4	0138	0416
0413	Z3	0138	J407
0417	Z0	013F	0415, 0435, 0515
0422	W	0141	0198
0427	W3A	0147	1095
0429	VEWTAP	0149	0426
0431	W6	014B	
0436	W7	0152	0430, 0434
0444	G	0153	0311, 0327, 0363, 0404, 0422, 0557
0446	G1	0155	J450
0451	G15	015A	0447
0459	G2	015B	0449, 0494
0466	G24	0160	0428
0464	G25	0162	0461
0468	G26	0166	0465
0479	G3	016E	0451
0488	G8	016F	0479, 0482, 0483, 0526, 0527
0499	G4	0182	0488, 0493
0497	G5	0184	
0499	G51	0186	0495
0504	QC	018E	0511, 0545, 0551

0508 G6 018F
 0515 G65 0196
 0516 G67 0197
 0532 G9 01A8
 0539 G10 01B3
 0549 TAG1 01B0
 0555 TAG3 01C3
 0556 TAG2 01C5
 0568 O2 01C7
 0569 J3 01C8
 0570 O4 01C9
 0571 O5 01CA
 0572 O6 01CB
 0573 F3 01CC
 0574 STACK 01C7
 0575 PRTA 01CD
 0593 PRIZRO 01E4
 0597 PRIZ 01E8
 0603 STIX 01ED
 0611 CCPP 0208
 0614 CCPP00 020C
 0618 CCPP00 0211
 0621 CCPP0 0214
 0645 CCPP1 0222
 0654 CCADRS 022F
 0655 CAREF 0233
 0657 CADRS1 0233
 0669 JMP 0233
 0670 CCTEMP 023F
 0673 CHKLU 0240
 0678 LOGTAB 0245
 0683 LUER 024B
 0700 VOTMS 0265
 0708 CKCSY 0267
 0709 NTCYSY 0268
 0713 NOTCSY 026B
 0714 LUERR 026C
 0717 H 026E
 0725 H2 0279
 0732 H25 0282
 0736 H3 0288
 0737 HH 0289
 0752 H1 0299
 0754 H1B 029B
 0758 H4 029F
 0765 K 02A3
 0781 SQV 02B7
 0789 AREA 02B8
 0795 C 02B8
 0801 CC1 02BF
 0802 D 02C0
 0804 U1 02C2
 0812 J2 02CD

0505
 0507
 J500, 0512, 0514
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 0546
 0548, 0552
 J542, 0554
 0574, 0576, 0591, 0593, 0601
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 0582
 0588
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 0597
 J540, 0483, 0571
 0600
 0596
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 0527
 J619
 J619
 0616
 0636
 0649
 0655
 0655
 0660, 0667
 0626, 0629
 J423, 0713, 0883
 0688
 0676, 0679
 0703
 0694
 0696
 0698, 0710
 0683
 0314, 0328, 0736
 0723
 0729
 J731
 0320
 0741, 0744, 0747
 0238
 0755
 0473, 0868
 0726, 0753
 0294, 0302, 1108
 0104
 0798
 0800
 J814
 0806

0815	J3	J2D0	J810
0818	ISTDIS	02D1	0801, 0813
0824	ISDISP	02D8	
0828	ATONE	02DE	J826
0831	AT1	02E1	0809
0835	VOTDIS	02E5	0823
0842	TBCK	02EC	J840
0845	COMV	02EF	J797, 0851, 0904, 0910, 0943, 0951
0849	ADR	02F3	0842, 0846
0855	PROT	02FA	0848, 0852
0856	TSOK	02FB	0854
0858	TRYEIN	02FD	0874
0866	ISINT	0305	0863
0869	NOTEIN	0309	J861, 0865
0875	VOEIN	030F	0735, 0815, 0855, 0872
0876	VIOL	0311	J836, 0866, 0869
0882	J	0312	0312, 0411, 0915
0883	J2B	031A	0886
0889	J2C	031B	
0895	J4	0322	
0898	J43	0324	0895
0900	J44	0326	0898
0908	J45	032E	0905
0914	J7	0334	0901, 0907, 0911, 0934, 0955, 0963, 0984
0915	J8	0336	J899, 0913
0916	SAVQ1	0337	0837, 0850
0923	LOCS	0338	0890, 0977
0924	RCODE	0339	0156, 0163, 0168, 0329, 0489, 0516, 0718, 0742, 0892, 0985, 1056
0925	WRIND	033A	0894, 0897, 0937, 1089
0927	L	033B	0313, 1096
0935	L01	0343	0931, 0933
0941	L1	0348	
0947	L4	034E	
0955	L4A	0356	J944, 0946, 0952
0956	L5	0357	J939, 0954
J964	L50	0360	0960
0966	L50A	0362	0962
0967	L6	0364	0965
0972	L6A	0369	0969
0977	L7	0371	J971
0982	L8	0376	J973, 0976
0984	L84	0378	1006, 1037, 1055, 1088
0985	L85	0379	0983
J992	L9	0380	
0994	L9A	0383	0991
0996	L10	0385	0993
0998	L10A	0387	0995
1000	L01A	0389	0998
1006	L01ER	038F	1001
1007	L01GO	0390	1002, 1005
1012	L01GOA	0395	1008
1017	L010B	039A	1014
1021	PCK1	039E	

1025	LG10	03A2	0999
1027	LG10A	03A4	1025
1037	LER	03AE	1018, 1028, 1030
1038	L11	03AF	1033, 1036
1044	GOODAD	03B4	1024
1045	PCK2	03B5	
1049	PCK3	03B6	1042, 1044
1051	PCK4	03B9	1047, 1083
1056	COMV4	03BC	1084
1064	PX0	03C1	1052, 1054
1069	PX01	03CA	1062
1072	PX1	03CF	1065
1078	PX2	03D2	1058
1083	PX3	03D8	1075
1089	PX4	03DD	1071, 1081
1093	P	03E3	0965, 1026, 1048, 1085, 1087
1095	P01	03E8	1091
1096	P1	03EA	0887
1097	P2	03EE	1094
1098	N96	03EF	1009, 1023, 1051, 1080
1099	HOLD	03FF	0690, 0956, 1093
1100	LIFLAG	03FG	0990, 1046
1101	LSAC1	000A	1101
1102	LSUG1	000B	1102
1104	LTLC1	0420	1103
1113	PRTEND	0420	0277
1117	GETGO	0420	
1118	FERR	0426	1115
1121	FERRSCH	0427	1119
1128	FERRA	042A	1119
1133	F1	0434	1124
1137	F1A	0437	
1141	F1B	043C	1140
		0440	1139

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0008	LOG1A	0246	0678
0008	HA	0446	1144
0009	COMPV+	03BC	0133, 0503, 0728, 0844, 1050
0010	MIBUF	0443	1133, 1142
0011	MAXSEC	03BA	1049
0012	LOADIN	0381	0992
0013	UNPIO	00E3	0319
0014	UNPTIM	010D	J361
0015	TMRTYP	00F0	J334
0016	SWAPCK	020B	J613
0017	JKIN	01DC	0586
0018	JBCNFG	0238	J273, 0394, 0662
0019	TRNVEC	0435	J589, 1128
0020	PRORET	01E9	0597
0022	FILE3	01CC	0573
0023	IP1	0108	J583
0024	LOCF	0100	0577
0024	LPTRS	01D4	0580
0025	PROTEC	00D6	0305
JG26	JKILL	0446	1116, 1148
0027	SWAPON	020E	0615

*** ALPHABETICAL SORT OF SYMBOLS ***

A	01113	A02	J119	A03	0128	A03A	0126	A05	0137	A1	0144	A15	0150	A1A	0143	A1F	0160
A2	0153	A4	0161	A5	0168	ADR	0849	APCELL	0261	APTR	0260	AREA	0789	ASAVA	0259	AT1	0831
ATEXP	0346	ATONE	0828	B	J225	B1	0229	B+	0241	BB	0220	BELOW2	0083	BOTOP	0034	BUFF	0042
C	0795	C1	0801	CABS	0033	CADRS	0654	CADRS1	0657	CAREF	0655	CCP	0031	CCP0	0621	CCP00	0614
CCP000	0618	CCP1	0645	CCTEMP	0670	CHKLU	0673	CHKTHR	0297	CKCSY	0708	CNOTE	0032	CODE	0029	COMP	0133
COMPV4	0009	COMV	0845	COMV4	1051	COUNT	0039	D	0802	D1	0804	D2	0812	D3	0815	DISP	0035
DOWN0	0256	E	0269	E0	1128	E1	1133	E1A	1137	E1B	1141	EQC	0504	E3	1117	ERRA	1121
ERREL	1108	E1	0271	E1	0272	E1	1133	E3	0573	FILE3	0022	G	0444	ERR	1117	ERRA	1121
G13	0451	E2	0459	E2	0463	E25	0464	G26	0468	G3	0479	G4	0495	G1	0446	G10	0539
G3	0508	E3	0515	E3	0519	G8	0480	G9	0532	GET	0276	GETC	0300	G5	0497	G51	0499
GETLSR	0296	E4	0736	E4	0758	G8	0304	GOODAD	1044	GET	0717	H1	0752	GETERR	0303	GETGO	1113
H23	0732	E5	0736	E5	0758	GETTR	0038	HA	0008	H	0737	H1	1098	I	0600	H2	0725
INDIR	0213	E6	0736	E6	0758	H7FFFF	0038	ISINT	0866	HH	0882	HOLD	0045	I1B	0600	IND	0216
JL8	0048	E7	0736	E7	0758	ISDISP	0824	J43	0898	J	0900	J01	0908	J02	0046	J06	0047
JBCNFG	0018	E8	0736	E8	0758	J4	0899	K	0765	J44	0900	J45	0908	J07	0914	J08	0915
L010A	1027	E9	0736	E9	0758	J4	0899	L0160	1007	J45	0900	L	0927	L01	0914	L010	1025
L11	1038	E10	0736	E10	0758	JMP	0669	L50	0964	K32	0082	L1	0941	L01	0935	L10A	0998
L3	0982	E11	0736	E11	0758	L01ER	1006	L9A	0994	L01GOA	1012	L1	0941	L10	0935	L7	0977
LOCF	0024	E12	0736	E12	0758	L5	0950	LPMSK	0040	L50A	0966	L6	0941	L6A	0972	LOADIN	0012
LTLO1	1102	E13	0736	E13	0758	L9	0992	MASKT	0032	LER	1037	LIBLU	0036	LIFLAG	1099	LSU01	1101
V	0030	E14	0736	E14	0758	LOGTAB	0678	NOEIN	0032	LPRST	0035	LPTR3	0024	MIBUF	0010	MATOP	0037
NTCSY	0709	E15	0736	E15	0758	LUERR	0714	O+	0570	MASLU	0044	MAXSEC	0011	NOTEIN	0869	NOTMS	0706
P01	1093	E16	0736	E16	0758	NEWAP	0429	PCK1	1021	NOTCSY	0713	NOTDIS	0835	ONEBIT	0036	P	1089
PRLVL	0032	E17	0736	E17	0758	O3	0569	PROTEN	0211	O5	0571	O6	0572	PCK4	1049	PRESET	0035
PRTLEN	0601	E18	0736	E18	0758	PCELL	0210	PROTEN	0305	PCK2	1045	PCK3	1046	PRTA	1104	PRTER	0060
PX3	1078	E19	0736	E19	0758	PROTEC	0025	PTRS	0211	PRT	1056	PRTA	0375	PX01	1069	PX2	1072
SAVPR	0208	E20	0736	E20	0758	PTR	0209	REQTB	0184	RETURN	0212	SABS	0033	PX1	1069	SAVI	0207
SQV	0781	E21	0736	E21	0758	REQST	0288	SCH1	0397	SCHCMP	0387	SCHJMP	0040	SAVA	0206	SIZECR	0037
TBCK	0842	E22	0736	E22	0758	SCH	0394	SWAPCK	0016	SWAPON	0027	TAG1	0349	SIZE	0031	TAG3	0555
TRYFIN	0858	E23	0736	E23	0758	SIX	0603	TIMEXP	0380	TMRTYP	0015	TOF	0342	TAG2	0556	TRNVEC	0019
W7	0436	E24	0736	E24	0758	TIME	0374	UNPTIM	0014	VIOL	0876	W	0422	TOPMON	0034	W6	0431
Y	0311	E25	0736	E25	0758	UNPIO	0013	X1	0333	X15	0355	X16	0361	W3A	0427	X2	0364
		E26	0736	E26	0758	X1	0333	X14	0350	Z3	0413	Z4	0411	X2	0363	X3	0364
		E27	0736	E27	0758	Z	0404	Z0	0417					ZERO	0032	ZROBIT	0036

0001
0002
0003
0004
0005

*
*
*
*

NAM BPROTK DECK-ID M74 MSOS 5.0
BUFFERED PROTECT PROCESSOR
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-115*****
M7400002
M7400003
M7400004
M7400005

0008
0009
0010
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029
0030
0031

0013
0005
0040
00EF
0022
002B
00B7
0012
00BE
00BD
00BF
00F7
00F6
00BC
00F2
00F1
00EA
0023
0033
00C2
00C0
00F5
0011
00B8

EXT LOG1A,HA
EXT COMPV4
EXT MIBUF
EXT MAXSEC
EXT LOADIN
EXT UNPIO
EXT UNPTIM
EXT TMR TYP TIMER TYPE IN SYSTEM
EXT SWAPCK
EXT JKIN
EXT JBCNFG JOB CANCEL WAIT FLAG
EXT TRNVEC ABS. ADDR. OF TRANTA BUFFER IN JOBERT (TRVEC)
EXT PRORET RETURN LOC. FOR PROTEC (TRVEC)
EXT COMPV4 LIMIT CHECK, IN TRVEC
EXT FILE3
EXT IP1
EXT LOCF,LPTRS
EXT PROTEC
EXT* JKILL
PART 1 REQ. ALLOWED FROM UNPROTECTED CORE
EQU CODE(19)
EQU N(5) MAX NUMBER OF STACKED REQ.
EQU SIZE(13*N-1)
EQU PRLVL(\$EF),ZERO(\$22),CNOTE(\$26),MASKT(\$B7)

M7400008
**MSOS 4.0 M7400009
**MSOS 4.0 M7400010
M7400011
M7400012
M7400013
M7400014
M7400015
M7400016
M7400017
M7400018
M7400019
M7400020
MSOS 4.1 M7400021
M7400022
M7400023
M7400024
M7400025
M7400026
**MSOS 4.0 M7400027
**MSOS 4.0 M7400028
M7400029
**MSOS 4.0 M7400030
M7400031

0032

EQU NZERO(\$12),CABS(\$BE),SABS(\$BD),NABS(\$BF)

M7400032

0033

EQU TOPMON(\$F7),BOTOP(\$F6),LUABS(\$BC)

M7400033

0034

EQU PRESET(\$F2),LPREST(\$F1),DISP(\$EA)

M7400034

0035

EQU ONEBIT(\$23),ZROBIT(\$33),LIBLU(\$C2)

M7400035

0036

EQU MMA TOP(\$C0),SIZECR(\$F5)

M7400036

0037

EQU H7FFF(\$11)

M7400037

0038

EQU COUNT(\$B8)

M7400038

0039	0002	*	* EQU	LPMSK(2)	*	*	*	*	*	**MSOS	4.	M7400039
0040			*	*	*	*	*	*	*	**MSOS	4.	M7400040
0041	0000	*	* EQU	BUFF(\$J0)	* SIZE	* OF	* JBKILL	* OVERLAY	*	**MSOS	4.	M7400041
0042			*	*	*	*	*	*	*	**MSOS	4.	M7400042
0043	0802		EQU	MASLU(\$8C2)								M7400043
0044	0001		EQU	J01(1)								M7400044
0045	0002		EQU	J02(2)								M7400045
0046	0006		EQU	J06(6)								M7400046
0047	0008		EQU	J08(8)								M7400047

0049	*****MSOS 4.0M7400049										M7400051		
0051	*	THIS VERSION WILL DO CORE SWAPS WHILE BUFFERED									M7400052		
0052	*	I/O IS IN PROGRESS UNDER THE FOLLOWING RULES									M7400053		
0053	*	BUFSIZ	IS	THE	MAXIMUN	BUFFERED	TRANSFERS	THAT	WILL	**MSOS	4.	M7400054	
0054	*	BE ATTEMPTED									**MSOS	4.	M7400055
0055	*	BUFFERED DATA TRANSFERS WILL BE ATTEMPTED IF...									**MSOS	4.	M7400056
0056	*	1.	THE DEVICE IS NOT A MASS STORAGE TYPE (EQUIPMENT CL								**MSOS	4.	M7400057
0057	*	2.	THE TRANSFER IS LESS THAN OR EQUAL TO BUFSIZ								**MSOS	4.	M7400058
0058	*	3.	THERE ARE NO BUFFERED TRANSFERS IN PROGRESS---								**MSOS	4.	M7400059
0059	*	IF THERE ARE THE I/O WILL BE PROCESSED UNBUFFERED									**MSOS	4.	M7400059

0061	*****MSOS 4.0M7400061												
0063		EXT	UNPIOF	BUFFERED I-O FLAG			**MSOS	4.	M7400063				
0064		EXT	SWAPON								**MSOS	4.	M7400064
0065	0060	EQU	BUFSIZ(96)								**MSOS	4.	M7400065

```

0058 *
0059 *
0070 P0000 C8FE PRT NUM $C8FE PICK UP PRECEEDING WORD
0071 P0001 6C00 STA (F3)
P0002 01D8
0072 P0003 0162 SQP PRTER--1 CHECK Q TO SEE IF JBKILL IS REQUESTED
0073 P0004 1800 JMP GET GO BRING IN JBKILL
P0005 00B4
0074 P0006 1800 PRTER JMP PRTA
P0007 01D4

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M7400068
M7400069
M7400070
M7400071
M7400072
M7400073
M7400074

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0075 *
0076 * *****
0077 * THIS PROGRAM OPERATES AT LEVEL ONE AND IS NOT *****
0078 * RE-ENTRANT AS NO PROTECT VIOLATIONS OCCUR ABOVE *****
0079 * LEVEL 1. IT PROCESSES ALL PROTECT VIOLATIONS *****
0080 * INCLUDING ILLEGAL VIOLATIONS, UNPROTECTED *****
0081 * PROTECTED COMMUNICATION AN UNPROTECTED MONITOR *****
0082 * CALLS. IT DOES VALIDITY CHECKING FOR MONITOR *****
0083 * CALLS WHICH NEED IT. *****

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M7400075
M7400076
M7400077
M7400078
M7400079
M7400080
M7400081
M7400082
M7400083

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0085 P0008 6877 IPROC1 STA* SAVA SAVE A
0086 P0009 487E STQ* SAVQ Q
0087 P000A C0FF LDA- I
0088 P000B 6875 STA* SAVI I
0089 P000C C0EF LDA- PRLVL
0090 P000D E4E9 LDQ- ($E9) 65K MODE SWITCH 65K=1
0091 P000E 0144 SQZ K32--1
0092 P000F A011 AND- LPMSK+15
0093 P0010 01B1 SNO 1
0094 P0011 B032 EOR- ONEBIT+15
0095 P0012 01A0 SOV 0
0096 P0013 686E K32 STA* SAVPR
0097 P0014 C800 BELOW2 LDA GETTEM IF NONZERO JOB IS BEING TERNIMATED
P0015 00C0
0098 P0016 0101 SAZ 1 IF JOB CANCEL FLAG NOT SET - GO ON
0099 P0017 14EA JMP- ($EA) SET - GO AWAY
0100 P0018 C42B LDA- (CN0TE)
0101 P0019 E4E9 LDQ- ($E9) 65K MODE SWITCH 65K=1
0102 P001A C151 SQN 1
0103 P001B A011 AND- NZERO-1 CLEAR OVERFLOW INDICATOR
0104 * IF IT WAS A CALL TO A SYSTEM
0105 P001C 09FD INA -2 MODULE, PCELL CONTAINS THE
0106 P001D 6806 STA* PCELL LOCATION OF THE MARK.
0107 P001E CC65 LDA* (PCELL)
0108 P001F 6863 STA* PTR
0109 P0020 6864 STA* PTRS SAVE MARK TWICE
0110 P0021 0C01 ENQ 1 SET UP LEVEL 1
0111 P0022 40EF STQ- PRLVL
0112 P0023 C6B7 LDA- (MASKT),Q
0113 P0024 0400 EIN
0114 P0025 0821 TRA M
0115 P0026 C85D LDA* PCELL

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M7400085
M7400086
M7400087
M7400088
**MSOS 4.0M7400089
**MSOS 4.0M7400090
**MSOS 4.0M7400091
**MSOS 4.0M7400092
**MSOS 4.0M7400093
**MSOS 4.0M7400094
**MSOS 4.0M7400095
**MSOS 4.0M7400096
**MSOS 4.0M7400097
M7400098
M7400099
M7400100
**MSOS 4.0M7400101
**MSOS 4.0M7400102
M7400103
M7400104
M7400105
M7400106
M7400107
M7400108
M7400109
M7400110
M7400111
M7400112
M7400113
M7400114
**MSOS 4.0M7400115

```

0116 P0027 90F4
0117 P0028 0102
0118 P0029 1800
P002A 0365

SUB- \$F4
SAZ A*-1
JMP C

CONTAIN AN RTJ- (\$F4).
GO CHECK FOR ENTRY TO A PRESET

**MSOS 4.0M7400116
M7400117
M74J0118

0121
0122
0123
0124
0125

*
*
*
*
*

THE INTERRUPT WAS PROBABLY A MONITOR CALL.
THEREFORE
1. PTR MUST POINT TO A PARAMETER LIST
2. PCELL CONTENTS MUST BE THE ADDRESS OF
MONI.

M7400121
M7400122
M7400123
M7400124
M7400125

0127 P002B E857
0128 P002C 00FE
0129 P002D C622
0130 P002E 9800
P002F 0095
0131 P0030 0102
0132 P0031 1800
P0032 0082
0133 P0033 E84F
0134 P0034 4851
0135 P0035 C622
0136 P0036 0C00
0137 P0037 484F
0138 P0038 0131
0139 P0039 1813
0140 P003A 0C01
0141 P003B B021
0142 P003C 484A
0143 P003D 6845
0144 P003E E0F7
0145 P003F 010B
0146 P0040 09FE
0147 P0041 5400
P0042 7FFF
0148 EQU COMP(*-1)
0149 P0043 0900
0150 P0044 0106
0151 P0045 E0F6
0152 P0046 C83C
0153 P0047 5CFA
0154 P0048 0102
0155 P0049 0900
0156 P004A 0101
0157 P004B 186B
0158 P004C E836
0159 P004D E622
0160 P004E 0F69
0161 P004F 0122
0162 P0050 0F66
0163 P0051 0138
0164 P0052 E830
0165 P0053 C622
0166 P0054 A018
0167 P0055 0F49
0168 P0056 0130
0169 P0057 A007

A
A02
A03A
A03
X
X
P
A05
A1A
A1
A15
A2

LDQ* PTR A MONITOR CALL WHEN
INQ -1 LOCATION BEFORE
LDA- (ZERO),Q THE MARK MUST
SUB REQST LOC. BEFORE THE MARK MUST
SAZ A02-*--1 ENTRY, WE HAVE A PROTECT
JMP E VIOLATION
LDQ* PTR
STQ* RETJRN SET RETURN LOCATION
LDA- (ZERO),Q LIST WORD
ENQ 0 SET INDIRECT FLAG
STQ* INJIR
SAM A03A BIT 15 SET IF INDIRECT
JMP* A1 BIT 15 NOT SET IF DIRECT
ENQ 1 SET INDIRECT FLAG TO 1
FOR- NZERO+15 CLEAR INDIRECT BIT
STQ* INJIR
STA* PTR SET PTR TO PAR. LIST LOCATION
LDQ- TOPMON
SAZ A1A ERROR IF PARAMETER STRING AT ADDR.0
INA -1 MAKE SURE THAT THE INDIRECT
RTJ COMPV4 ADDRESS IS IN UNPROTECTED CORE
EQU COMP(*-1)
INA 0
SAZ A1A IT ISN'T
LDQ- BOTOP SEE IF IT IS BELOW TOP OF UNPROTECTE
LDA* PTR
RTJ* (COMP) COMPARE ADDRESSES
SAZ A1A AT TOP+1 OF UNPROTECTED
INA 0 CHECK FOR -0
SAZ A1 BELOW TOP OF UNPROTECTED
JMP* F ABORT THE JOB
LDQ* PTR
LDQ- (ZERO),Q D AND X BITS MAY NOT BOTH BE SET
LRS 9
SAP A15
LRS 6
SAM A1F
LDQ* PTR
LDA- (ZERO),Q
AND- NZERO+9 UNPACK REQUEST CODE
ARS 9
SAM A1-*--1 REQUEST CODE GREATER THAN MAX
AND- NZERO-11 MASK OFF 0 FIELD

**MSOS 4.0M7400127
**MSOS 4.0M7400128
**MSOS 4.0M7400129
**MSOS 4.0M7400130
M7400131
**MSOS 4.0M7400132
M7400133
M7400134
**MSOS 4.0M7400135
M7400136
**MSOS 4.0M7400137
M7400138
M7400139
M7400140
M7400141
**MSOS 4.0M7400142
**MSOS 4.0M7400143
**MSOS 4.0M7400144
M7400145
M7400146
**MSOS 4.0M7400147
**MSOS 4.0M7400148
**MSOS 4.0M7400149
**MSOS 4.0M7400150
**MSOS 4.0M7400151
**MSOS 4.0M7400152
**MSOS 4.0M7400153
M7400154
M7400155
M7400156
**MSOS 4.0M7400157
**MSOS 4.0M7400158
**MSOS 4.0M7400159
**MSOS 4.0M7400160
**MSOS 4.0M7400161
**MSOS 4.0M7400162
**MSOS 4.0M7400163
**MSOS 4.0M7400164
**MSOS 4.0M7400165
M7400166
M7400167
M7400168
**MSOS 4.0M7400169

0170	P0058	6800	STA	RCODE	SAVE REQUEST CODE	M7400170
	P0059	03B7				
0171	P005A	0822	TRA	Q		M7400171
0172	P005B	09EC	INA	-CODE		M7400172
0173	P005C	0131	SAM	A4--*-1	ILLEGAL REQUEST SIGN = 1	M7400173
0174	P005D	1859	JMP*	F	GO GIVE J02 MESSAGE	M7400174
0175	P005E	E0E9	LDQ-	\$E9	ADDR OF EX. CORE TABLE	**MSOS 4.0M7400175
0176	P005F	E209	LDQ-	9,Q	ADDR OF RCTV TABLE IN MONI	**MSOS 4.0M7400176
0177	P0060	F800	ADQ	RCODE	ADD INDEX TO PROCESSOR	**MSOS 4.0M7400177
	P0061	03AF				
0178	P0062	C622	LDA-	(ZERO),Q	GET ADDR OF REQUEST RPROCESSOR	**MSOS 4.0M7400178
0179	P0063	9011	SUB-	NZERO-1		M7400179
0180	P0064	J111	SAN	A5--*-1		M7400180
0181	P0065	1851	JMP*	F	NO PROCESSOR - ILLEGAL	M7400181
0182	P0066	E800	LDQ	RCODE	GET INDEX TO REQTB	**MSOS 4.0M7400182
	P0067	C3A9				
0183	P0068	CA04	LDA*	REQTB,Q	PICK UP DISTANCE TO ROUTINE	**MSOS 4.0M7400183
0184	P0069	A000	AND-	NZERO-5	MASK OFF REQUEST LENGTH AND THRD IND	M7400184
0185	P006A	0822	TRA	Q	MOVE DISTANCE TO ROUTINE TO Q	M7400185
0186	P006B	1A01	JMP*	REQTB,Q	GO CHECK LEGALITY OF PARAMETERS	M7400186
0187			*		FOR THIS MONITOR CALL	M7400187

0191
0192
0193
0194
0195
0196

*
*
*
*
*
*

THIS TABLE IS INDEXED BY REQUEST CODE. IT
CONTAINS THE LENGTH OF THE PARAMETER LIST IN THE
* UPPER 4 BITS AND THE DISTANCE TO
PROCESSORS IN BITS 0-10.
BIT 11=1 FOR REQUESTS WHICH ARE STACKED BUT
NOT THREADED.

M7400191
M7400192
M7400193
M7400194
M7400195
M7400196

0198
0199
0200
0201
0202
0203
0204
0205
0206
0207
0208
0209
0210
0211
0212
0213
0214
0215
0216

P006C 004A
P006D 606B
P006E 606B
P006F 2020
P0070 606B
P0071 1020
P0072 606B
P0073 1020
P0074 3882
P0075 2882
P0076 004A
P0077 1020
P0078 004A
P0079 A0CD
P007A 50E0
P007B 004A
P007C 101C
P007D 004A
P007E 004A

REQTB

ADC F-REQTB
ADC Y-REQTB+\$6000 READ 1
ADC Y-REQTB+\$6000 WRITE 2
ADC BB-REQTB+\$2000 STATUS 3
ADC Y-REQTB+\$6000 FREAD 4
ADC BB-REQTB+\$1000 EXIT 5
ADC Y-REQTB+\$6000 FWRITE 6
ADC BB-REQTB+\$1000 LOADER 7
ADC X-REQTB+\$3800 TIMER 8
ADC X-REQTB+\$2800 SCHDLE 9
ADC F-REQTB SPACE 10
ADC BB-REQTB+\$1000 CORE 11
ADC F-REQTB RELEAS 12
ADC (Z-REQTB+\$2000) GTFILE 13
ADC W-REQTB+\$5000 TAPE 14
ADC F-REQTB 15
ADC INJ-REQTB+\$1000 PART1 INDIR 16
ADC F-REQTB PARTITIONED CORE 17
ADC F-REQTB DIR. SCHDLE 18

M7400198
M7400199
M7400200
**MSOS 4.0M7400201
M7400202
**MSOS 4.0M7400203
M7400204
**MSOS 4.0M7400205
**MSOS 4.0M7400206
M7400207
M7400208
**MSOS 4.0M7400209
M7400210
**MSOS 4.0M7400211
M7400212
**MSOS 4.0M7400213
**MSOS 4.0M7400214
**MSOS 4.0M7400215
**MSOS 4.0M7400216

0218
0219
0220
0221
0222
0223
0224
0225
0226
0227
0228

P007F 0000
P0080 0000
P0081 0000
P0082 0000
P0083 0000
P0084 0000
P0085 0000
P0086 0000
P0087 0000

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*
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*
*
*
*
*
*

THE FOLLOWING LOCATIONS ARE USED FOR STORING
APPLICABLE PARAMETERS UPON ENTRY TO PROTECT

SAVA NUM 0
SAVI NUM 0
SAVPR NUM 0
PTR NUM 0
PCELL NUM 0
PTRS NUM 0
RETURN NUM 0
INDIR NUM 0
SAVQ NUM 0

M7400218
M7400219
M7400220
M7400221
M7400222
M7400223
M7400224
M7400225
M7400226
M7400227
M7400228


```

0230 P0088 E8F9 IND LDQ* PTR PART 1 INDIR REQ.
0231 P0089 C201 LDA- 1,Q PICK UP LIST POINTER
0232 P008A GC02 ENQ 2
0233 P008B 1880 JMP* A03 RESET PTR
0234 P008C C8F8 BB LDA* RETURN
0235 P008D 68F4 STA* PTR

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**MSOS 4.0M7400230
**MSOS 4.0M7400231
**MSOS 4.0M7400232
**MSOS 4.0M7400233
M7400234
M7400235

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0237 * THIS IS THE EXIT TO A PRESET ENTRY POINT. M7400237

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0239 P008E C8F2 B LDA* SAVPR
0240 P008F A011 AND- LPMSK+15
0241 P0090 0101 SAZ B1-* -1
0242 P0091 1800 JMP* B4
0243 P0092 58F0 B1 LDA* PCELL SAVE THE MARK
0244 P0093 6820 STA* APCELL
0245 P0094 C8ED LDA* PTR
0246 P0095 681D STA* APTR
0247 P0096 5817 RTJ* DOWN0 GO TO LEVEL 0
0248 P0097 681A STA* ASAVA ALL REGISTERS ARE RESTORED
0249 P0098 C81A LDA* APTR
0250 P0099 0500 IIN 0
0251 P009A 6C19 STA* (APCELL) RESTORE THE MARK
0252 P009B 0818 RAO* APCELL
0253 P009C C815 LDA* ASAVA RESTORE A REG.
0254 P009D 1016 JMP* (APCELL) JUMP TO PRESET
0255 P009E C8E1 B4 LDA* SAVI RESTORE I
0256 P009F 60FF STA- I
0257 P00A0 01A0 SOV 0 CLEAR OVERFLOW
0258 P00A1 C8DF LDA* SAVPR
0259 P00A2 E4E9 LDQ- ($E9) 65K
0260 P00A3 0151 SQN 1
0261 P00A4 C42B LDA- (CNOTE)
0262 P00A5 8032 ADD- ONEBIT+15 RESTORE OVERFLOW
0263 P00A6 E8E0 LDQ* SAVQ RESTORE Q
0264 P00A7 C8DA LDA* PTR
0265 P00A8 0500 IIN 0
0266 P00A9 6CD9 STA* (PCELL) RESTORE THE MARK
0267 P00AA 08D8 RAO* PCELL
0268 P00AB C8D3 LDA* SAVA
0269 P00AC 10D6 JMP* (PCELL) JUMP TO PRESET
0270 P00AD 0000 DOWN0 NUM 0
0271 P00AE E8FE LDQ* DOWN0 RETURN ADDRES
0272 P00AF 1800 JMP H1B
0273 P00B0 0236 ASAVA NUM 0
0274 P00B1 0000 APTR NUM 0
0275 P00B3 0000 APCELL NUM 0

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M7400239
**MSOS 4.0M7400240
M7400241
M7400242
**MSOS 4.0M7400243
**MSOS 4.0M7400244
**MSOS 4.0M7400245
**MSOS 4.0M7400246
**MSOS 4.0M7400247
**MSOS 4.0M7400248
**MSOS 4.0M7400249
**MSOS 4.0M7400250
**MSOS 4.0M7400251
**MSOS 4.0M7400252
**MSOS 4.0M7400253
**MSOS 4.0M7400254
**MSOS 4.0M7400255
**MSOS 4.0M7400256
**MSOS 4.0M7400257
**MSOS 4.0M7400258
**MSOS 4.0M7400259
M7400260
M7400261
**MSOS 4.0M7400262
**MSOS 4.0M7400263
**MSOS 4.0M7400264
**MSOS 4.0M7400265
**MSOS 4.0M7400266
**MSOS 4.0M7400267
**MSOS 4.0M7400268
**MSOS 4.0M7400269
**MSOS 4.0M7400270
**MSOS 4.0M7400271
**MSOS 4.0M7400272
**MSOS 4.0M7400273
**MSOS 4.0M7400274
**MSOS 4.0M7400275

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0278      *      THIS ROUTINE HANDLES THE BRINGING IN          M7400278
0279      *      OF THE ERROR PROCESSOR AND JBKILL             M7400279
0280      *      IF Q IS POSITIVE THE CONTENTS OF Q EQUALS      M7400280
0281      *      THE ERROR CODE                                  M7400281
0282      *      IF Q IS NEGATIVE JBKILL HAS BEEN REQUESTED    M7400282
0283      E      ENQ J01          ENTER HERE TO GET J01 MESSAGE M7400283
0284      P00B4 0C01          JMP* F1                               M7400284
0285      P00B5 1802          ENQ J02          ENTER HERE TO GET J02 MESSAGE M7400285
0286      P00B6 0C02          EQU F1(*)       M7400286
0287      P00B7 D400          RAO JBCNFG      KILL THE JOB          M7400287
0288      P00B8 7FFF          *
0289      *      ENTER THE ROUTINE HERE TO PROCESS OTHER        M7400288
0290      *      ERRORS WITH FORMAT JOX OR TO BRING IN JBKILL M7400289
0291      GET      STQ* GETTEM      SAVE ERROR CODE OR JBKILL FLAG M7400290
0292      P00B9 481C          LDA =X'RTEND-PRT  FIND THE LENGTH OF PROTEC WHICH M7400291
0293      P00BA C000          ENQ 0          IS READ INTO CORE INITIALLY M7400292
0294      P00BB 04E0          DVI =N96       CONVERT THE LENGTH TO SECTORS M7400293
0295      P00BC 0C00          LDQ- $EB        GET THE SECTOR WHERE PROTEC IS M7400294
0296      P00BD 3000          ADQ* PROTEN    LOCATED FROM THE SYSTEM DIRECTORY M7400295
0297      P00BE 0060          INQ 6          AND ADD THE LENGTH OF PROTEC TO IT M7400296
0298      P00BF 00EB          ADD- (ZERO),Q   THIS VALUE IS THE ADDRESS TO READ M7400297
0299      P00C0 F816          STA* GETLSB    THE ERROR PROCESSOR AND JBKILL FROM M7400298
0300      P00C1 0006          *      GO AND READ THE ERROR PROCESSOR AND JBKILL M7400299
0301      P00C2 8622          *      INTO CORE. THEY WILL OVERLAY PROTEC STARTING M7400300
0302      P00C3 6809          *      AT 'AREA'. M7400301
0303      *      REQST RTJ- ($F4) M7400302
0304      *      GETR  NUM $0912 M7400303
0305      *      ADC 0          COMPLETION M7400304
0306      *      THREAD NUM 0 M7400305
0307      *      ADC MASLU M7400306
0308      *      ADC BUFF M7400307
0309      *      ADC AREA-GETR M7400308
0310      *      GETMSB NUM 0 M7400309
0311      *      GETLSB NUM 0 M7400310
0312      *      CHKTHR LDA* THREAD IF THREAD IS BUSY, HANG M7400311
0313      *      SAZ GETC M7400312
0314      *      JMP* CHKTHR M7400313
0315      *      GETC SQM GETERR-*--1 IF DISK ERROR RETRY THE READ M7400314
0316      *      LDQ* GETTEM NO ERROR ON READ. RESTORE Q M7400315
0317      *      JMP AREA AND JUMP TO OVERLAY M7400316
0318      *      GETERR JMP* GETR-1 M7400317
0319      *      GETTEM NUM 0
0319      *      PROTEN ADC PROTEC

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115*4324*****
115*4324*****
M7400304
M7400307
M7400308
M7400309
M7400310
115*4324*****
115*4324*****
115*4324*****
M7400312
M7400313
M7400314
M7400315
M7400316
M7400317

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0321      *      THIS IS A CONTROL ROUTINE USED FOR READ TYPE           M7400319
0322      *      REQUESTS. IT CAUSES UNPACKING AND LEGALITY             M7400320
0323      *      CHECKING OF ALL PARAMETERS.                             M7400321

0325 P0007 5800      Y      RTJ G      GO MOVE REQUEST TO PROTECT STACK      M7400323
      P0008 008A
0326 P0009 5800      RTJ J      CHECK LU, S                                  M7400324
      P000A 030F
0327 P000B 5800      RTJ L      CHECK N,S+N, READ/WRITE, ETC             M7400325
      P000C 0336
0328 P000D 5800      Y2     RTJ H      CHECK RETURN ADDRESS                    M7400326
      P000E 010B
0329 P000F 5800      RTJ M      MOVE THE BUFFER TO FOREGROUND            M7400327
      P0010 0223
0330 P0011 0153      SQN Y3
0331 P0012 0400      X      RAO UNPIO          ALLOW A SWAP TO OCCUR           **MSOS 4.0M7400328
      P0013 7FFF      X
      P0014 1803      JMP* Y4          **MSOS 4.0M7400329
0333 P0015 0400      X Y3     RAO UNPIOF        TELL T5 THAT I/O IS GOING ON.   **MSOS 4.0M7400330
      P0016 7FFF      X
0334 P0017 C0FF      Y4     LDA- I          **MSOS 4.0M7400332
0335 P0018 0901      INA 1
0336 P0019 CC02      ENQ 2          **MSOS 4.0M7400333
0337 P001A 6E00      STA (PTR),2   SET CALLER THREAD NON-ZERO     **MSOS 4.0M7400334
      P001B FF96      **MSOS 4.0M7400335
0338 P001C 1800      Y1     JMP HH      GO MAKE THE REQUEST AGAIN      M7400336
      P001D 01E7
    
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0341 * THIS IS ENTERED FOR SCHDLE REQUESTS AND OTHERS M7400339
0342 * WHICH ARE STACKED BUT NOT CHECKED PAST PRIORITY M7400340
0343 * AND COMPLETION ADDRESS. M7400341

0345 X RTJ* G M7400343
0346 P00EF 58C0 RTJ H CHECK RETURN ADDRESS M7400344
P00F0 01C9
P00F1 C800
0347 LDA RCODE M7400345
P00F2 031E
0348 P00F3 09F7 INA -8 IF IT IS A TIMER REQUEST M7400346
0349 P00F4 0101 SAZ X1--1 MOVE TIMER UNITS TO STACK M7400347
0350 P00F5 1822 JMP* X2 AND GO TO EXIT ROUTINE. M7400348
0351 P00F6 E88B X1 LDQ* PTR M7400349
0352 P00F7 C400 X LDA+ TMRTYP 0 SAYS NO TIMER IN SYSTEM M7400350
P00F8 7FFF X
0353 P00F9 0106 SAZ TOF DO NOT ALLOW REQUEST M7400351
0354 P00FA C622 LDA- (ZERO),0 JUST GO TO EXIT **MSOS 4.0 M7400352
0355 P00FB A00A AND- NZERO-8 ROUTINE. M7400353
0356 P00FC A016 AND- NZERO++ M7400354
0357 P00FD 0822 TRA Q **MSOS 4.0 M7400355
0358 P00FE 0DCE INQ -31 IS UNITS PARAMETER=0,1,2,3 *4.0/77*1867 M7400356
0359 P00FF 0171 SQM 1 SKIP IF LEGAL REQUEST **MSOS 4.0 M7400357
0360 P0100 18B5 TOF JMP* F M7400358
0361 P0101 8101 ADD- 1,I M7400359
0362 P0102 6101 STA- 1,I M7400360
0363 P0103 1823 JMP* TEXP GET ADDRESS OF TIMER EXPIRATION M7400361
0364 P0104 0000 ATEXP ADC 0 ADDRESS OF TIMER EXP RTN M7400362
0365 P0105 C8FE LDA* ATEXP ADDRESS OF TIMER EXP RTN M7400363
0366 P0106 6109 STA- 9,I PLACE IN TIMER STACK ENTRY M7400364
0367 P0107 0C03 ENQ 3 MOVE 4 INSTRUCTIONS ONTO STACK M7400365
0368 P0108 CA1A X14 LDA* TIME,Q M7400366
0369 P0109 6305 STA- 5,B M7400367
0370 P010A 0142 SQZ X15--1 M7400368
0371 P010B 0DFE INQ -1 M7400369
0372 P010C 18FB JMP* X14 M7400370
0373 P010D C0FF X15 LDA- I SAVE SLOT LOC. IN SLOT M7400371
0374 P010E 0901 INA 1 BUMP I FOR COMPLETION M7400372
0375 P010F 6104 STA- 4,I M7400373
0376 P0110 0904 INA 4 SET TIMER COMPLETION M7400374
0377 P0111 6102 STA- 2,I M7400375
0378 P0112 E800 LDQ SAVQ **MSOS 4.0 M7400376
P0113 FF73
0379 P0114 0400 X X16 RAO+ UNPTIM INCREMENT TIMER REQ COUNTER M7400377
P0115 7FFF X
0380 P0116 18D5 JMP* Y1 GO TO MAKE REQUEST AGAIN M7400378
0381 P0117 C84B X2 LDA* G CALCULATE ABS ADDR FOR SCHDLE **MSOS 4.0 M7400379
0382 P0118 8000 X3 ADD =XSCHCMP-X-1 **MSOS 4.0 M7400380
P0119 003B
0383 P011A 6102 STA- 2,I SAVE IN PROTECT STACK M7400381
0384 P011B C800 LDA SAVQ **MSOS 4.0 M7400382
P011C FF6A
0385 P011D 6103 STA- 3,I USERS PARAMETER TO SLOT M7400383

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0386	P011E	A011	AND-	NZERO-1		M7400384
0387	P011F	6800	STA	SAVQ		M7400385
	P0120	FF66				
0388			*		1 CARD DELETED	M7400386
0389	P0121	18CA	JMP*	Y1	GO MAKE THE REQUEST AGAIN	M7400387
0391	P0122	C8FE	TIME	LDA* *-1	ADDRESS OF TIMER STACK ENTRY	M7400389
0392	P0123	48FC		STQ* *-3	VALUE OF CLOCK	M7400390
0393	P0124	E822		TRA Q		M7400391
0394	P0125	1400		NUM \$1400	JUMP ABSOLUTE INSTR	M7400392
0395	P0126	58DD	TEXP	RTJ* ATEXP		M7400393
0396			*	TIMER EXPIRATION ENTERS HERE		M7400394
0397	P0127	CCED	TIMEXP	LDA* (X16+1)		M7400395
0398	P0128	09FE		INA -1		M7400396
0399	P0129	6CEB		STA* (X16+1)		M7400397
0401			*	THIS IS ENTERED TO EXECUTE SCHDLE AND TIMER		M7400399
0402			*	TYPE REQUESTS.		M7400400
0404	P012A	0DFD	SCHCMP	INQ -2		61*1298 M7400402
0405	P012B	0844		CLR A		**MSOS 4.0 M7400403
0406	P012C	620D		STA- 13,Q	CLEAR STACK ENTRY	**MSOS 4.0 M7400404
0407	P012D	C201		LDA- 1,Q		**MSOS 4.0 M7400405
0408	P012E	680A		STA* SCHJMP	SET UP TO JUMP TO USER	M7400406
0409	P012F	G111		SAN SCH-* -1		M7400407
0410	P0130	14EA		JMP- (DISP)	THE JOB IS DEAD	M7400408
0411	P0131	C400	X SCH	LDA JBCNFG		M7400409
	P0132	00B8	X			
0412	P0133	0101		SAZ SCH1		M7400410
0413	P0134	14EA		JMP- (DISP)	EXIT IF JOB IS CANCELLED	M7400411
0414	P0135	C201	SCH1	LDA- 1,Q		M7400412
0415	P0136	E204		LDQ- 4,Q		M7400413
0416	P0137	1C01		JMP* (SCHJMP)		M7400414
0417	P0138	0000	SCHJMP	NUM 0		M7400415


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0443      *      THE FOLLOWING PROCESSES TAPE MOTION CONTROL REQUESTS.
0445      P014C 5816      W      RTJ* G      GO MOVE REQUEST TO PROTECT STACK
0446      P014D 5860      RTJ  CHKLU      CHECK LU
0447      P014E 013B      ENA  1      SEE IF
0448      P014F 0A01      AND- 8,Q      UNPROTECTED I/O IS ALLOWED
0449      P0150 A208      SAZ  NEWTAP      A=0 IF IT IS ALLOWED
0450      P0152 0C08      W3A  ENQ  J08      NO UNPROTECTED I/O ALLOWED
0451      P0153 181C      JMP* G24      GO OUTPUT J08 MESSAGE
0452      P0154 E105      NEWTAP LDQ- 5,I      CHECK IF MOTION
0453      P0155 0177      SQM  W7      NO
0454      P0156 C000      W6  LDA  =N$7774      CHECK TAPE MOTION FUNCTION TO
0455      P0157 7774      SUB- 5,I      SEE IF THEY ARE ALL LEGAL
0456      P0159 A000      AND  =N$8888
0457      P015A 8888      SAZ  W7--1      A=0 THEY ARE ALL LEGAL
0458      P015C 18ED      JMP* Z0      GO OUTPUT J02 MESSAGE
0459      P015D 0A01      W7  ENA  1      SET FLAG TO ALLOW SWAP
0460      P015E 6800      STA  MMIND
0461      P015F 0188      JMP  Y2
0461      P0160 1800
0461      P0161 FF7B

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M7400437
M7400439
M7400440
**MSOS 4.0M7400441
M7400442
M7400443
M7400444
M7400445
M7400446
M7400447
M7400448
M7400449
M7400450
M7400451
M7400452
M7400453
M7400454
M7400455

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0465 *      THS FOLLOWING ROUTINE IS ENTERED ONLY FOR          M7400459
0466 *      REQUESTS WHOSE PARAMETER LISTS ARE MOVED TO        M7400460
0467 *      PROTECTED CORE FOR EXECUTION.                     M7400461

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0469 PG162 0000 G      0      0
0470 PG163 0C40      ENQ  SIZE
0471 PG164 CA71 G1     LDA*  STACK,Q      DETERMINE IF MAXIMUM NO OF
0472 PG165 0123      SAP  G15-*--1  REQUESTS ARE STACKED
0473 PG166 0DF2      INQ  -13      A=- IF NO ROOM AVAILABLE
0474 PG167 0172      SQM  G2-*--1  Q=- IF NO STACK SPACE AVAILABLE
0475 PG168 18FB      JMP*  G1      GO CONTINUE CHECKING SLOTS
0476 PG169 1814 G15   JMP*  G3      OPEN SLOT MOVE REQUEST

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**MSOS 4.0

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0478 *      NO SPACE - REQUEST MUST WAIT IF CALLER WAS          M7400472
0479 *      AT LEVEL ZERO - IF HE WAS AT LEVEL ONE, THE        M7400473
0480 *      JOB MUST BE BOMBED BECAUSE THERE IS NO             M7400474
0481 *      WAY FOR AN EMPTY TO OCCUR IN THE STACK WHILE      M7400475
0482 *      OPERATING AT LEVEL ONE.                             M7400476

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0484 PG16A C800 G2     LDA  SAVPR      CHECK PRIORITY TO SEE IF 1 OR 0
0485 PG16B FF15
0486 PG16C AD11      AND-  LPMSK+15
0487 PG16D 0103      SAZ  G25-*--1  A=0 IF PRIORITY IS ZERO
0488 PG16E 0C06 G24   ENQ  J06      PRIORITY IS NOT ZERO GIVE J06
0489 PG16F 1800      JMP  F1      MESSAGE
0490 PG170 FF46 G25   LDA-  ($E9)    IF MODE IS 65K
0491 PG171 C4E9      SAZ  G25
0492 PG172 0102      CLR  A      DO NOT TRY TO SAVE OVERFLOW FROM
0493 PG173 0844      SAZ  2      INT. TRAP
0494 PG174 0102 G26   LDA-  (CNOTE)  FOR 32K SAVE OV AND UNPRO. RETURN
0495 PG175 C42B      LDA-  (CNOTE)  IN LOCATION 100
0496 PG176 A021      AND-  NZERO+15
0497 PG177 8800      ADD  PTRS
0498 PG178 FF0B
0499 PG179 09FE      INA  -1
0499 PG17A 642B      STA- (CNOTE)  RETURN TO UNPROTECTED TO MAKE THE
0498 PG17B 1800      JMP  K      REQUEST AGAIN
0498 PG17C 0172

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**MSOS 4.0

**MSOS 4.0

**MSOS 4.0

**MSOS 4.0

**MSOS 4.0

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0501 *      AN OPEN SLOT FOR STACKING IS AVAILABLE.          M7400495
0502 *      INDEX TO IT IS IN Q.                             M7400496

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0504 PG17D 5801 G3     RTJ*  G8      FIND WHERE WE ARE
0505 PG17E 0000 G8     NUM  0
0506 PG17F 0DF3      INQ  -12      ADJUST Q TO GET TOP OF SLOT
0507 PG180 F8FD      ADQ*  G8      PUT SLOT ADDRESS IN I
0508 PG181 0D57      INQ  STACK-G8

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**MSOS 4.0

0509	P0182	40FF		STQ- I			M7400503
0510	P0183	E800		LDQ PTR			M7400504
0511	P0184	FEFD					
0512	P0185	C202		LDA- 2,Q	GET THREAD		M7400505
0513	P0186	5103		STA- 3,I	CLEAR THREAD IN STACKED REQ.		M7400506
0514	P0187	G109		SAZ G4-*-1			M7400507
0515	P0188	E800		LDQ RC00E	THREAD CHECK NOT VALID FOR		M7400508
0516	P0189	0287					
0517	P018A	CA00		LDA REQT8,Q	SOME REQUESTS		M7400509
0518	P018B	FEED					
0519	P018C	A02E		AND- ONEBIT+11			M7400510
0520	P018D	E800		LDQ PTR			M7400511
0521	P018E	FEF3					
0522	P018F	0111		SAN G4-*-1			M7400512
0523	P0190	18D9		JMP* G2	ALREADY THREADED		M7400513
0524	P0191	C201	G4	LDA- 1,Q	CHECK THE COMPLETION ADDRESS		M7400514
0525	P0192	0102		SAZ G51-*-1	TO SEE IF IT IS ZERO OR		M7400515
0526	P0193	54BE	G5	RTJ- (CABS)	ABSOLUTIZE COMPLETION ADDR.		M7400516
0527	P0194	0814		TRQ A			M7400517
0528	P0195	6522	G51	STA- (ZERO),I	PUT G IN STACK		M7400518
0529	P0196	010E		SAZ G7-*-1	NO COMPLETION ADDRESS		M7400519
0530	P0197	E0F7		LDQ- TOP40N	CHECK THE COMPLETION ADDRESS TO	**MSOS 4.0M	M7400520
0531	P0198	09FE		INA -1	SEE IF IT IS IN PROTECTED CORE	**MSOS 4.0M	M7400521
0532	P0199	54C0		RTJ COMPV4		**MSOS 4.0M	M7400522
0533	P019A	0042	X X P				
0534	P019A	019A		EQU EQC(*-1)		**MSOS 4.0M	M7400523
0535	P019B	0102		SAZ G6		**MSOS 4.0M	M7400524
0536	P019C	0900		INA 0	IF IT IS REQUEST IS ILLEGAL	**MSOS 4.0M	M7400525
0537	P019D	0106		SAZ G65		**MSOS 4.0M	M7400526
0538	P019E	C522	G6	LDA- (ZERO),I		**MSOS 4.0M	M7400527
0539	P019F	E0F6		LDQ- BOTOP		**MSOS 4.0M	M7400528
0540	P01A0	5CF9	*	RTJ* (EQC)	1 CARD DELETED	*L.0/77*1868	M7400529
0541	P01A1	0103		SAZ G7		**MSOS 4.0M	M7400530
0542	P01A2	0900		INA 0		**MSOS 4.0M	M7400531
0543	P01A3	0101		SAZ G7		**MSOS 4.0M	M7400532
0544	P01A4	18A5	G65	JMP* Z0	GO OUTPUT J02 MESSAGE	**MSOS 4.0M	M7400533
0545	P01A5	C800	G7	LDA RC00E		**MSOS 4.0M	M7400534
0546	P01A6	026A				**MSOS 4.0M	M7400535
0547	P01A7	0826		TRA A,Q	SAVE REQUEST CODE IN Q		M7400536
0548	P01A8	0FC9		ALS 9	UNPACK REQUEST CODE AND		M7400537
0549	P01A9	0902		INA 2	SET X=0, RP=0,CP=2		M7400538
0550	P01AA	EA00		LDQ REQT8,Q	CHECK FOR TIMER OR SCHEDULE CALL		M7400539
0551	P01AB	FECD					
0552	P01AC	GFF0		LLS 16			M7400540
0553	P01AD	A02E		AND- ONEBIT+11	IF NO THREAD CHECK, IT'S TIMER OR SCH		M7400541
0554	P01AE	0101		SAZ 1	NOT - COMPLETION AT LEVEL 2		M7400542
0555	P01AF	0DFE		INQ -1	YES - COMPLETION AT LEVEL 1		M7400543
0556	P01B0	4101		STQ- 1,I	PUT WORD 1 IN STACK		M7400544
0557	P01B1	C8CC		LDA* G8	PUT COMPLETION PROCESSOR		M7400545
0558	P01B2	8000		ADD =XCCP-G8		**MSOS 4.0M	M7400546
0559	P01B3	0098					
0560	P01B4	6102		STA- 2,I	COMPLETION ADDRESS		M7400547

0554	P01B5	E8J0		LDQ	PTR				M7400548
	P01B6	FECB							
0555	P01B7	410B		STQ-	11,I				M7400549
0556	P01B8	0CC3		ENQ	3				M7400550
0557	P01B9	0CE0	G9	LDA	(PTR),Q	MOVE WORDS 4 THROUGH 10 OF			M7400551
	P01BA	FEC7				THE REQUEST TO THE PROTECT			
0558	P01BB	6301		STA-	1,B	STACK.			M7400552
0559	P01BC	0D01		INQ	1				M7400553
0560	P01BD	0814		TRQ	A				M7400554
0561	P01BE	09F5		INA	-10				M7400555
0562	P01BF	C101		SAZ	G10--*-1				M7400556
0563	P01C0	18F8		JMP*	G9				M7400557
0564	P01C1	0804	G10	SET	A	SET THE STACK ENRRY BUSY	**MSOS 4.0M		M7400558
0565	P01C2	610C		STA-	12,I	USERS COMPLETION ADDRESS	**MSOS 4.0M		M7400559
0566	P01C3	C522		LDA-	(ZERO),I		*4.0/77*1865		M7400560
0567	P01C4	01GE		SAZ	TAG2	BOTTOM-1 OF UNPROTECTED	*4.0/77*1865		M7400561
0568	P01C5	E0F7		LDQ-	\$F7				M7400562
0569	P01C6	09FE		INA	-1				M7400563
0570	P01C7	5CD2		RTJ*	(EQC)	COMPARE ADDRESSES			M7400564
0571	P01C8	U102		SAZ	TAG1	WITHIN BOUNDS			M7400565
0572	P01C9	0900		INA	0	CHECK FOR -0			M7400566
0573	P01CA	0106		SAZ	TAG3	BELOW LOWER LIMIT			M7400567
0574	P01CB	C522	TAG1	LDA-	(ZERO),I	TOP+1 OF UNPROTECTED			M7400568
0575	P01CC	E0F6		LDQ-	\$F6	COMPARE ADDRESSES			M7400569
0576	P01CD	50CC		RTJ*	(EQC)	AT TOP+1 OF UNPROTECTED			M7400570
0577	P01CE	U102		SAZ	TAG3				M7400571
0578	P01CF	0900		INA	0	CHECK FOR -0			M7400572
0579	P01D0	U102		SAZ	TAG2	WITHIN BOUNDS			M7400573
0580	P01D1	18J0	TAG3	JMP	E	JP01 ERROR			M7400574
	P01D2	FEE1							
0581	P01D3	E10B	TAG2	LDQ-	11,I	REQUEST ADDRESS	*4.0/77*1865		M7400575
0582	P01D4	1C8D		JMP*	(G)				M7400576

0584	*	THE FOLLOWING AREA IS THE PROTECT STACK							M7400578
0585	*	UPON INITIAL EXECUTION OF PROTECT THIS AREA							M7400579
0586	*	IS USED TO PLACE PARAMETERS INTO OTHER							M7400580
0587	*	AREAS WHICH REQUIRE THEM. AFTER IT IS USED							M7400581
0588	*	TO FIX PARAMETERS THE AREA IS CLEARED AND							M7400582
0589	*	THEN BECOMES THE PROTECT STACK(TABLE)							M7400583
0590	*	THIS TABLE IS USED TO STACK UNPROTECTED							M7400584
0591	*	PARAMETER LISTS FOR EXECUTION.							M7400585

0593	P01D5	00B6	02	ADC	F-PRT				M7400587
0594	P01D6	0084	03	ADC	PTRS-PRT				M7400588
0595	P01D7	0008	04	ADC	IPROC1-PRT				M7400589
0596	P01D8	01D5	05	ADC	STACK-PRT				M7400590
0597	P01D9	00B9	06	ADC	GET-PRT				M7400591
0598	P01DA	7FFF	F3	ADC	FILE3				M7400592
0599		01D5		EQU	STACK(02)				M7400593
0600	P01DB	G822	PRTA	TRA	Q				M7400594

0501	P01DC	88F8		ADD* 02		M7400595
0502	P01DD	6400	X	STA LCF	POINTER TO PROTECT PROCESSOR ERROR ENTRY	M7400596
	P01DE	7FFF	X			
0503	PC1DF	0814		TRQ A		M7400597
0504	PC1E0	88F5		ADD* 03		M7400598
0505	P01E1	6400	X	STA LPTRS	POINTER TO PROTECT PROCESSOR'S PARAMETER	M7400599
	P01E2	7FFF	X			
0506	PC1E3	0814		TRQ A		M7400600
0507	P01E4	88F2		ADD* 04		M7400601
0508	P01E5	6400	X	STA IP1	LOCATION TO HANDLE INTERNAL INTERRUPTS	M7400602
	P01E6	7FFF	X			
0509	P01E7	0814		TRQ A		M7400603
0510	PC1E8	88F0		ADD* 06		M7400604
0511	PC1E9	6400	X	STA JKIN	FLAG TO INDICATE THAT JBKILL IS IN	M7400605
	P01EA	7FFF	X			
0512	PC1EB	0814		TRQ A		M7400606
0513	PC1EC	88EB		ADD* 05		M7400607
0514	PC1ED	E400	X	LDQ TRNVEC	LOCATION OF PROTECT STACK	M7400608
	P01EE	7FFF	X			
0515	P01EF	620B		STA- 11,0		M7400609
0516	P01F0	0C1C		ENQ *-02+1		M7400610
0517	P01F1	0A00		ENA 0		M7400611
0518	P01F2	6AE2	PRTZRO	STA* 02,0	ZERO OUT WHAT HAS JUST EXECUTED	M7400612
0519	P01F3	0DFE		INQ -1		M7400613
0520	P01F4	0141		SQZ PRTZ--1		M7400614
0521	P01F5	18FC		JMP* PRTZRO		M7400615
0522	P01F6	E400	X PRTZ	LDQ PRORET	GET ADDRESS TO RETURN TO AFTER	M7400616
	P01F7	7FFF	X			
0523	P01F8	68FD		STA* *-2	INITIAL FLAGS ARE SET AND	M7400617
0524	P01F9	68FD		STA* *-2	ZERO MORE LOCATIONS	M7400618
0525	PC1FA	1622		JMP- (\$22),0	RETURN	M7400619
0526		0026		EQU PRTLEN(*-02)		M7400620
0527		0041		EQU STLEN(13*N)		M7400621
0528	P01FB	001B		BZS STX(STLEN-PRTLEN)		M7400622

**MSOS 4.0

```

0531 * THIS IS THE COMPLETION PROCESSOR FOR ALL
0532 * STACKED REQUESTS. IT IS ENTERED WITH THE ADDRESS
0633 * OF THE PARAMETER LIST IN A AND THE ERROR CODE
0634 * IN Q.
M7400625
M7400626
M7400627
M7400628

0536 P0216 0822 CCP TRA Q POINTER TO STACK IN Q M7400630
0537 P0217 0DFD INQ -2 M7400631
0538 P0218 5400 RTJ SWAPCK CHECK IF A SWAP IS WAITING M7400632
X
X
0539 P021A 0500 CCP0 IIN 0 M7400633
0540 P021B CC36 LDA* (CCCP0+1) CHECK SWAPON FLAG M7400634
0541 P021C 0104 SAZ CCP0 NOT SWAPPED M7400635
0542 P021D 54F4 RTJ- ($F4) WAIT UNTIL SWAP DONE M7400636
0543 P021E 1302 CCP000 ADC $1302 M7400637
0544 P021F 7FFB ADC CCP00-CCP000 M7400638
0545 P0220 14EA JMP- (DISP) M7400639
0546 P0221 C20C CCP0 LDA- 12,Q **MSOS 4.0 M7400640
0547 P0222 60FF STA- I M7400641
* POINTER TO USERS REQUEST NOW IN I M7400642
M7400643
M7400644
0549 P0223 C2C5 LDA- 5,Q M7400645
0550 P0224 A01F AND- NZERO+13 M7400646
0551 P0225 6827 STA* CCTEMP M7400647
0552 P0226 C103 LDA- 3,I M7400648
0553 P0227 A06F AND- NZERO-3 M7400649
0554 P0228 8824 ADD* CCTEMP M7400650
0555 P0229 6103 STA- 3,I MOVE V FIELD FROM STACK TO USERS REQUEST M7400651
* M7400652
M7400653
0557 P022A C202 LDA- 2,Q M7400654
0558 P022B 0F49 ARS 9 M7400655
0559 P022C A007 AND- NZERO-11 IF IT IS A GTFIELD REQUEST M7400656
0560 P022D 09F2 INA -13 M7400657
0561 P022E 0116 SAN CCP1 M7400658
* **MSOS 4.1** M7400659
M7400660
0563 P022F C208 LDA- 8,Q STORE W2 BACK IN CALL **MSOS 4.1** M7400661
0564 P0230 5106 STA- 6,I MOVE MASS STORAGE ADDRESS INTO M7400662
0565 P0231 C20A LDA- 10,Q USERS REQUEST M7400663
* M7400664
M7400665
0567 P0232 6108 STA- 8,I M7400666
0568 P0233 C20B LDA- 11,Q M7400667
0569 P0234 6109 STA- 9,I M7400668
0570 P0235 0844 CCP1 CLR A CLEAR THREAD IN USERS REQUEST M7400669
0571 P0236 6102 STA- 2,I M7400670
* M7400671
M7400672
0573 P0237 C201 LDA- 1,Q CHECK FOR COMPLETION IN PROTECT STK4.0*79*1947 M7400673
0574 P0238 0113 SAN CADRS IF NO COMPLETION ADDRESS M7400674
0575 P0239 0844 CLR A **MSOS 4.0 M7400675
0576 P023A 620D STA- 13,Q **MSOS 4.0 M7400676
0577 P023B 14EA JMP- (DISP) M7400677
0578 * M7400678

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0573 P023C 54F4 CADRS RTJ- (SF4) SCHEDULE DOWN TO LEVEL 1 M7400673
0580 P023D 1301 CAREF ADC $1301,CADRS1-CAREF M7400674
P023E 0003
0681 P023F 14EA CADRS1 JMP- (DISP) M7400675
0682 P0240 0844 CLR A NOW AT LEVEL 1 **MSOS 4.0M7400676
0683 P0241 620D STA- 13,Q RELEASE STACK ENTRY **MSOS 4.0M7400677
0684 P0242 C201 LDA- 1,Q COMPLETION ADDRESS **MSOS 4.0M7400678
0685 P0243 6808 STA* JMP M7400679
0686 * LDA JBCNFG M7400680
0687 P0244 C400 X LDA M7400681
P0245 C132 X
0588 P0246 0101 SAZ 1 M7400682
0589 P0247 14EA JMP- (DISP) EXIT, IF JOB WAS CANCELED. M7400683
0590 P0248 C20C LDA- 12,Q ADDRESS OF USER IN A M7400684
0591 P0249 E205 LDQ- 5,Q V FIELD OF USER IN Q M7400685
0592 P024A 1C01 JMP* (JMP) RETURN TO USER IN UNPROTECTED CORE AT LEVEL 1 M7400686
0593 * M7400687
0694 P024B 0000 JMP NUM 0 M7400688
0695 P024C 0000 CCTEMP NUM 0 M7400689
0696 P024D 0000 LWAP1 NUM 0 115*4290 *****
0597 * THIS IS THE COMPLETION ADDRESS FOR I/O REQUESTS WHICH H**MSOS 4.0M7400690
0598 * BEEN MADE INTO THE FOREGROUND BUFFER. THE DATA IS MOV**MSOS 4.0M7400691
0599 * BACK TO THE REQUESTORS BUFFER AND THE NORMAL COMPLETION**MSOS 4.0M7400692
0700 * PROCESSING IS PERFORMED. **MSOS 4.0M7400693
0701 CCCP INA -1 **MSOS 4.0M7400694
0702 P024E 09FE CCCP0 TRA Q STACK ADDRESS **MSOS 4.0M7400695
0703 P024F C822 CCCP0 LDA SWAPON IS THE SYSTEM SWAPED **MSOS 4.0M7400696
P0250 C400 X
P0251 7FFF X
0704 P0252 0104 SAZ CCCP02 NO **MSOS 4.0M7400697
0705 P0253 54F4 RTJ- (SF4) YES WAIT UNTIL SWAP DONE **MSOS 4.0M7400698
0706 P0254 1302 CCCP01 ADC $1302 **MSOS 4.0M7400699
0707 P0255 7FFB ADC CCCP0-CCCP01 **MSOS 4.0M7400700
0708 P0256 14EA JMP- (DISP) **MSOS 4.0M7400701
0709 P0257 40FF CCCP02 STQ- I **MSOS 4.0M7400702
0710 P0258 C10A LDA- 10,I REQUEST CODE FOR THIS REQUEST 61*128+ M7400703
0711 P0259 09FD INA -2 CHECK FOR WRITE M7400704
0712 P025A 0102 SAZ CCCP03 M7400705
0713 P025B 09FB INA -4 CHECK FOR FWRITE M7400706
0714 P025C 0111 SAN CCCP04 M7400707
0715 P025D 1822 CCCP03 JMP* CCCP4 M7400708
0716 P025E 09F7 CCCP04 INA -8 CHECK FOR MOTION M7400709
0717 P025F 0111 SAN 1 M7400710
0718 P0260 1822 JMP* CCCP5 YES 61*1284 M7400711
0719 P0261 C104 LDA- 4,I GET LU 115*4290 *****
0720 P0262 A009 AND- LPMSK+7 115*4290 *****
0721 P0263 C822 TRA Q 115*4290 *****
0722 P0264 EE2B LDQ* (LOGTAB+1),Q PHYSTB ADDRESS IN Q 115*4290 *****
0723 P0265 C20B LDA- 11,Q GET LWA + 1 OF FOREGROUND BUFFER 115*4290 *****
0724 P0266 9106 SUB- 6,I GET INCREMENT 115*4290 *****
0725 P0267 8109 ADD- 9,I ADD TO REQUESTOR'S BUFFER ADDRESS 115*4290 *****
0726 P0268 620B STA- 11,Q STORE INTO WORD 11 OF PDT 115*4290 *****
0727 P0269 68E3 STA* LWAP1 SAVE LWA + 1 115*4290 *****
0728 P026A C104 LDA- 4,I

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0729 P026B 0FC1
0730 P026C 0125
0731 P026D C80F
0732 P026E F105
0733 P026F F106
0734 P0270 00FE
0735 P0271 6622
0736 P0272 C109
0737 P0273 6844
0738 P0274 C106
0739 P0275 6843
0740 P0276 F105
0741 P0277 0154
0742 P0278 0C01
0743 P0279 1803
0744 P027A 3E3E
0745 P027B 6E3C
0746 P027C 00FE
0747 P027D 0171
0748 P027E 18FB
0749
0750 P027F 0A00
0751
0752 P0280 6800
      P0281 3095
0753 P0282 C400
      P0283 00E6
0754
0755 P0284 09FE
0756 P0285 6CFD
0757 P0286 E0FF
0758 P0287 00FE
0759 P0288 1898

```

CCCP1

CCCP2

CCCP3

CCCP4

CCCP5

X
X
P

```

ALS 1
SAP CCCP1
LDA* LWAP1
LDQ- 5,I
ADQ- 6,I
INQ -1
STA- (ZERO),Q
LDA- 9,I
STA* XFERT
LDA- 6,I
STA* XFERF
LDQ- 5,I
SQN CCCP3
ENQ 1
JMP* CCCP3
LDA* (XFERF),Q
STA* (XFERT),Q
INQ -1
SQM CCCP4
JMP* CCCP2
*
CCCP4 ENA 0
*
STA BUFBZY
LDA UNPIOF
EQU UNP(*-1)
INA -1
STA* (UNP)
LDQ- I
INQ -1
JMP* CCP0

```

CHECK FOR SHORT READ

YES,SHORT READ
COMPUTE N + S - 1

STORE INTO LWA OF USER'S BUFFER
BLOCK TRANSFER THE DATA BACK TO THE
REQUESTORS BUFFER

FORCE ZERO LENGTH REQUEST
TO 1 WORD

1 CARD DELETED
SET THE BUFFER NOT BUSY

DECREMENT FOREGROUND I/O FLAG

AND GO THE THE NORMAL COMPLETION

```

115*4290 *****
115*4290 *****
115*4290 *****
115*4290 *****
115*4290 *****
115*4290 *****
115*4290 *****
**MSOS +.CM7400723
**MSOS +.CM7400724
**MSOS +.CM7400725
**MSOS +.CM7400726
**MSOS +.CM7400727
*+.0/77*1882 M7400728
*+.0/77*1882 M7400729
**MSOS +.CM7400730
**MSOS +.CM7400731
**MSOS +.CM7400732
**MSOS +.CM7400733
**MSOS +.CM7400734
**MSOS +.CM7400735
**MSOS +.CM7400736
**MSOS +.CM7400737
61*128+ M7400738
      M7400739
61*128+ M7400740
61*128+ M7400741
61*128+ M7400742
61*128+ M7400743
**MSOS +.CM7400744
**MSOS +.CM7400745
**MSOS +.CM7400746

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```

0752 P0289 0300 CHKLU NOP 0
0753 P028A E10B LDO- 11,I REQUEST ADDRESS
0754 P028B 54BC RTJ- (LJABS) ABSOLUTIZE LU
0755 P028C 0147 SQZ LUER LU. ZERO
0756 P028D 0854 TCQ A
0757 P028E 8400 X LOGTAB ADD LOG1A CHECK TO SEE IF LU LARGER THAN MAX
0758 P028F 7FFF X
0759 P0290 0133 SAM LUER YES
0760 P0291 0854 TCQ A NO
0761 P0292 0901 INA 1 IS THE LU=1
0762 P0293 0131 SAM 1
0763 P0294 1821 LUER JMP* LUERR
0764 P0295 C104 LDA- 4,I NO PUT THE LU IN THE PROTECT STACK
0765 P0296 A02F AND- ONEBIT+12
0766 P0297 0834 AAQ A
0767 P0298 6104 STA- 4,I
0768 P0299 EEF5 LDQ* (LOGTAB+1),Q GET THE PDT ADDRESS IN Q
0769 P029A C208 LDA- 8,Q
0770 P029B 6800 STA HOLD SAVE WORD 8 OF PDT
0771 P029C 022C
0772 P029D 0F44 ARS 4
0773 P029E A009 AND- LPMSK+7
0774 P029F 09F4 INA -11 EQUIPMENT TYPE BITS
0775 P02A0 010F SAZ CKCSY COSY DRIVER
0776 P02A1 09B0 INA -90+11 CHECK FOR OCR DEVICE
0777 P02A2 013E SAM NTCSY CODES 90 - 99
0778 P02A3 09F5 INA -10
0779 P02A4 012F SAP NOTCSY
0780 P02A5 C208 LDA- 8,Q YES, OCR DEVICE
0781 P02A6 0FC5 ALS 5 BUMP RETURN ADDRESS
0782 P02A7 A005 AND- LPMSK+3 ONLY IF EQUIPMENT CLASS = 2
0783 P02A8 09FD INA -2
0784 P02A9 C114 SAN NOIMS
0785 P02AA D800 RAO RETURN
0786 P02AB FDD9
0787 P02AC D800 RAO RETJRN INCREASE RETURN ADDRESS BY 2
0788 P02AD FDD7
0789 P02AE 1800 NOTMS JMP Z4A OCR REQUEST
0790 P02AF FE92
0791 P02B0 C204 CKCSY LDA- 4,Q COSY FLAG ACTIVE = NOT ZERO
0792 P02B1 42B1 P NTCSY EQU NTCSY(*)
0793 P02B2 0112 SAN NOTCSY SO JOBKILL WILL RESET IT'S
0794 P02B3 0804 SET A
0795 P02B4 6204 STA- 4,Q
0796 P02B5 1CD4 NOTCSY JMP* (CHKLU) RETURN
0797 P02B6 1800 LUERR JMP F GO OUTPUT J02 ERROR
0798 P02B7 0000 XFERT NUM 0
0799 P02B8 0000 XFER= NUM 0

```

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M7400749
**MSOS 4.0 M7400750
M7400751
M7400752
M7400753
M7400754
M7400755
M7400756
M7400757
M7400758
M7400759
M7400760
M7400761
M7400762
M7400763
M7400764
M7400765
M7400766
**MSOS 4.0 M7400767
**MSOS 4.0 M7400768
**MSOS 4.0 M7400769
M7400770
M7400771
M7400772
M7400773
M7400774
M7400775
M7400776
M7400777
M7400778
M7400779
M7400780
M7400781
115*4273*****
M7400784
M7400785
**MSOS 4.0 M7400786
**MSOS 4.0 M7400787
**MS6 4.1** M7400788
**MSOS 4.0 M7400789
M7400790
**MSOS 4.0 M7400791
**MSOS 4.0 M7400792

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0807	P02B9	0B00	H	NOP	0				M7400794
0808	P02BA	E800		LDQ	RCDJE				M7400795
	P02BB	0155							
0809	P02BC	CA00		LDA	REQT8,Q				M7400796
	P02BD	FDAE							
0810	P02BE	A01E		AND-	NZERO+12	UNPACK REQUEST LENGTH			M7400797
0811	P02BF	0FC4		ALS	4				M7400798
0812	P02C0	E800		LDQ	INDIR	IF REQUEST WAS INDIRECT, USE			M7400799
	P02C1	FDC4							
0813	P02C2	0141		SQZ	H2-*-1	1 INSTEAD OF REQ. LENGTH TO			M7400800
0814	P02C3	0814		TRQ	A	FIND RETURN ADDRESS	**MSOS	4.0M7400801	
0815	P02C4	8800	H2	ADD	RETURN				M7400802
	P02C5	FDBF							
0816	P02C6	683C		STA*	SQV		**MSOS	4.0M7400803	
0817	P02C7	E0F6		LDQ-	BOTOP	MAKE SURE RETURN IS	**MSOS	4.0M7400804	
0818	P02C8	5400		RTJ	COMPV4		**MSOS	4.0M7400805	
	P02C9	019A	X						
0819	P02CA	0102		SAZ	H25		**MSOS	4.0M7400806	
0820	P02CB	0900		INA	0		**MSOS	4.0M7400807	
0821	P02CC	0106		SAZ	H3	UNPROTECTED	**MSOS	4.0M7400808	
0822	P02CD	C0F6	H25	LDA-	BOTOP		**MSOS	4.0M7400809	
0823	P02CE	09FD		INA	-2				M7400810
0824	P02CF	6800		STA	PCELL	RETURN IS PROTECTED THEREFORE			M7400811
	P02D0	F0E2							
0825	P02D1	1800		JMP	N0EIN	A PROTECT VIOLATION HAS OCCURED	**MSOS	4.0M7400812	
	P02D2	0114							
0826	P02D3	1CE5	H3	JMP*	(H)				M7400813
0827	P02D4	C0FF	HH	LDA-	I				M7400814
0828	P02D5	0901		INA	1		**MSOS	4.0M7400815	
0829	P02D6	0822		TRA	Q				M7400816
0830	P02D7	B021		EOR-	NZERO+15		**MSOS	4.0M7400817	
0831	P02D8	680C		STA*	H1		**MSOS	4.0M7400818	
0832	P02D9	C800		LDA	RCDJE	IF THIS IS A GTFILE REQUEST			M7400819
	P02DA	0136							
0833	P02DB	09F2		INA	-13	SUBR. Z HAS			M7400820
0834	P02DC	0106		SAZ	H1-1	SET CORRECT D BIT			M7400821
0835	P02DD	C622		LDA-	(ZERO),Q				M7400822
0836	P02DE	A031		AND-	ONEBIT+14				M7400823
0837	P02DF	0113		SAN	H1-1				M7400824
0838	P02E0	B031		EOR-	ONEBIT+14	SET 0 BIT IF NOT SET			M7400825
0839	P02E1	8622		ADD-	(ZERO),Q				M7400826
0840	P02E2	6622		STA-	(ZERO),Q				M7400827
0841	P02E3	54F4		RTJ-	(\$F4)	INDIRECT REQUEST USING	**MSOS	4.0M7400828	
0842	P02E4	0300	H1	NUM	0	STACKED ENTRY	**MSOS	4.0M7400829	
0843	P02E5	E810		LDQ*	SQV		**MSOS	4.0M7400830	
0844	P02E6	C4E9	H1B	LDA-	(\$E9)		**MSOS	4.0M7400831	
0845	P02E7	0102		SAZ	H4		**MSOS	4.0M7400832	
0846	P02E8	0844		GLR	A	65K MODE--DO NOT SAVE	**MSOS	4.0M7400833	
0847	P02E9	0102		SAZ	2	OVERFLOW	**MSOS	4.0M7400834	
0848	P02EA	C428	H4	LDA-	(CNOTE)		**MSOS	4.0M7400835	
0849	P02EB	A021		AND-	NZERO+15	SAVE OVERFLOW BIT			M7400836
0850	P02EC	0834		AAQ	A				M7400837
0851	P02ED	642B		STA-	(CNOTE)				M7400838


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0853      *      THIS EXITS VIA WHATEVER IS IN 100 ON ENTRY      M7400840

0855      K      LDQ  SAVQ      M7400842
0856      P02EE E800      IIN  0      M7400843
0857      P02EF FD97      STQ- (COUNT)  SAVE Q IN INTERRUPT STACK  M7400844
0858      P02F0 0500      LDQ- COUNT      M7400845
0859      P02F1 44B8      LDA  SAVA      M7400846
0850      P02F2 E0B8      STA- 1,Q      SAVE A IN INTERRUPT STACK  M7400847
0851      P02F3 C800      LDA  SAVI      M7400848
0852      P02F4 FD8A      STA- 2,Q      SAVE I IN INTERRUPT STACK  M7400849
0853      P02F5 6201      LDA  SAVPR     M7400850
0854      P02F6 C800      STA- 4,Q      SAVE PRIORITY IN INTERRUPT STACK  M7400851
0855      P02F7 FD88      LDA- (CNJTE)  M7400852
0856      P02F8 6202      STA- 3,Q      SAVE RETURN IN INTERRUPT STACK  M7400853
0857      P02F9 C800      INQ  5      M7400854
0858      P02FA FD86      STQ- COUNT    RESTORE TOP OF INTERRUPT STACK  M7400855
0859      P02FB 6204      EIN  0      M7400856
0860      P02FC C42B      JMP- (DISP)   M7400857
0861      P02FD 6203      NUM  0      **MSOS 4.0M7400858
0862      P02FE 0D05
0863      P02FF 4088
0864      P0300 0400
0865      P0301 14EA
0866      P0302 0000

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0873      *      THIS ROUTINE MOVES THE I/O BUFFER TO THE FOREGROUND, IF**MSOS 4.0M7400860
0874      *      POSSIBLE. THIS ALLOWS CORE SWAPS TO BE PERFORMED EVEN**MSOS 4.0M7400861
0875      *      THOUGH BACKGROUND I/O IS IN PROCESS.          **MSOS 4.0M7400862

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0877      M      0      0      **MSOS 4.0M7400864
0878      P0303 0000      RTJ* M5      ABSOLUTIZE ALL REQUIRED ADDRESSES  M7400865
0879      P0304 5801      NUM  0      M7400866
0880      P0305 0000      LDA* MMIND   IS THIS A M.M. REQUEST          **MSOS 4.0M7400867
0881      P0306 C811      SET  Q      INITIALIZE THE SWAP ALLOWED FLAG  M7400868
0882      P0307 0802      SAZ  M1     YES, EXIT                       **MSOS 4.0M7400869
0883      P0308 010C      LDA  RC0DE  IF MOTION BYPASS BUFFER MOVING  61*1284 M7400870
0884      P0309 C800
0885      P030A 0106      STA- 10,I    61*1284 M7400871
0886      P030B 010A      INA  -14    61*1284 M7400872
0887      P030C 09F1      SAN  1      61*1284 M7400873
0888      P030D 0111      JMP* M9     MOTION                61*1284 M7400874
0889      *      LDA* BUFBZY  IS THE BUFFER BUSY          **MSOS 4.0M7400875
0890      P030E 181D      SAN  M1     YES, EXIT                       **MSOS 4.0M7400876
0891      *
0892      P0311 C105      LDA- 5,I    CHECK LENGTH FOR LESS THAN BUFSIZ **MSOS 4.0M7400877
0893      P0312 9000      SUB  =XBJFSIZ+1 **MSOS 4.0M7400878
0894      P0313 0061

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```

0894 P0314 0135 SAM M4
0895 P0315 1814 M1 JMP* M8
0896 *
0897 *
0898 P0316 0000 BUF BZY NUM 0
0899 P0317 0000 MMIND NUM 0
0900 P0318 FF48 ACCCP ADC (CCCP-M5)
0901 P0319 002A ABUF ADC BUFR-M5
0902 *
0903 P031A 68FB M4 STA* BUF BZY
0904 P031B C106 LDA- 6,I
0905 P031C 6109 STA- 9,I
0906 P031D 689A STA* XFERF
0907 *
0908 *
0909 *
0910 P031E C8E6 LDA* M5
0911 P031F 88F9 ADD* ABUF
0912 *
0913 P0320 6106 STA- 6,I
0914 P0321 6895 STA* XFERF
0915 *
0916 P0322 E105 LDQ- 5,I
0917 P0323 0152 SQN M7
0918 P0324 CF93 M6 LDA* (XFERF),Q
0919 P0325 6E91 STA* (XFERF),Q
0920 P0326 0DFE M7 INQ -1
0921 P0327 0173 SQM M9
0922 P0328 18FB JMP* M6
0923 P0329 0842 M8 CLR Q
0924 P032A 1804 JMP* M10
0925 P032B C809 M9 LDA* M5
0926 P032C 88EB ADD* ACCCP
0927 P032D 6102 STA- 2,I
0928 P032E 1C04 M10 JMP* (M)
0929 P032F 0060 BUFR BZS BUFR(BUFSIZ)

```

CAN'T BUFFER THIS REQUEST - EXIT

SET THE BUFFER BUSY

SAVE THE REQUESTORS S

2 CARDS DELETED
4 CARDS DELETED

1 CARD DELETED
SET NEW BUFFER ADDRESS IN THE STACK

BLOCK TRANSFER FROM USER TO THE BUFF

INDICATOR TO SET THE UNPIO FLAG

SET NEW COMPLETION IN THE STACK

EXIT

```

**MSOS +.0M7400881
**MSOS +.0M7400882
**MSOS +.0M7400883
**MSOS +.0M7400884
**MSOS +.0M7400885
**MSOS +.0M7400886
**MSOS +.0M7400887
**MSOS +.0M7400888
**MSOS +.0M7400889
**MSOS +.0M7400890
**MSOS +.0M7400891
**MSOS +.0M7400892
**MSOS +.0M7400893
**MSOS +.0M7400894
61*1284 M7400895
**MSOS +.0M7400896
**MSOS +.0M7400897
**MSOS +.0M7400898
61*1284 M7400899
**MSOS +.0M7400900
**MSOS +.0M7400901
**MSOS +.0M7400902
**MSOS +.0M7400903
61*1284 M7400904
**MSOS +.0M7400905
**MSOS +.0M7400906
**MSOS +.0M7400907
**MSOS +.0M7400908
**MSOS +.0M7400909
**MSOS +.0M7400910
61*1284 M7400911
61*1284 M7400912
61*1284 M7400913
61*1284 M7400914
61*1284 M7400915
**MSOS +.0M7400916

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0932 * THIS IS WHERE THE OVERLAY OF THE ERROR M7400919
0933 * ROUTINE AND JBKILL BEGINS. ROUTINES M7400920
0934 * WHICH ARE IN THIS AREA INITIALLY ARE M7400921
0935 * NOT REQUIRED AFTER AN ERROR HAS OCCURRED M7400922
0936 * OR JBKILL IS SCHEDULED. M7400923
0937 038F P EQU AREA(*) M7400924

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```

0939 * WE NOW INVESTIGATE THE POSSIBILITY OF M7400926
0940 * AN ATTEMPTED ENTRY INTO A PROTECTED PROGRAM M7400927
0941 * WHOSE ENTRY IS A PRESET. M7400928

```

```

0943 P038F C800 C LDA PTR M7400930

```

```

0944 P0390 FCF1 LDQ- BOTOP IS IT BELOW MONITOR COMMON **MSOS 4.0M7400931
0945 P0391 E0F6 RTJ* (COMV) **MSOS 4.0M7400932
0946 P0392 5034 SAZ C1 **MSOS 4.0M7400933
0947 P0393 0102 INA 0 **MSOS 4.0M7400934
0948 P0394 0900 SAZ D **MSOS 4.0M7400935
0949 P0395 0101 JMP* TSTDIS NO - CHECK JMP TO DISPATCHER **MSOS 4.0M7400936
0950 P0396 1812 D LDQ- LPREST LENGTH OF PRESET TO Q M7400937
0951 P0397 E0F1 INQ -1 M7400938
0952 P0398 0DFE D1 LDA- (PRESET),Q IS THE COMPUTED ADDRESS M7400939
0953 P0399 C6F2 SUB PCELL A PRESET ENTRY POINT M7400940
0954 P039A 9800 SAN D2-* -1 M7400941
0955 P039B FCE7 LDQ PCELL YES M7400942
0956 P039C 0117 LDA- 1,Q IS IT FOLLOWED BY AN IIN M7400943
0957 P039D E800 SUB* AT1 M7400944
0958 P039E FCE4 SAN D3-* -1 SKIP IF NO M7400945
0959 P039F C201 JMP B YES, GO EXIT IT PRESET M7400946

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```

0960 P03A0 9818 D2 INQ -4 M7400947
0961 P03A1 0115 SQM TSTDIS-* -1 ARE WE DONE CHECKING PRESETS M7400948
0962 P03A2 1800 JMP* D1 NO CONTINUE CHECKING M7400949
0963 P03A3 FCEA D3 JMP* NOEIN GO OUTPUT J01 ERROR M7400950
0964 P03A4 0DFB
0965 P03A5 C172
0966 P03A6 18F2
0967 P03A7 183F

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0966	P03A8	C800	TSTDIS	LDA	PCELL				M7400953
	P03A9	FC09							
0967	P03AA	C822		TRA	Q				M7400954
0968	P03AB	0901		INA	1				M7400955
0969	P03AC	90EA		SUB-	DISP	ADDR AT WHICH VIOLATION OCCURRED			M7400956
0970	P03AD	0101		SAZ	1	ADDRESS OF DISPATCHER			M7400957
0971	P03AE	180E		JMP*	NOTDIS	NOT A JUMP TO DISP	**MSOS	4.0M7400958	
0972	P03AF	C800	ISDISP	LDA	SAVPR	YES, WAS IT FROM LEVEL ZERO	**MSOS	4.0M7400959	
	P03B0	FC00							
0973	P03B1	A011		AND-	LPMSK+15		**MSOS	4.0M7400960	
0974	P03B2	0112		SAN	ATONE		**MSOS	4.0M7400961	
0975	P03B3	58C0		RTJ	DOWNO		**MSOS	4.0M7400962	
	P03B4	FCF8							
0976	P03B5	E0E9	ATONE	LDQ-	\$E9	ADDR OF EXTENDED CORE TABLE	**MSOS	4.0M7400963	
0977	P03B6	E2C9		LDQ-	9,Q	ADDR OF RCTV IN MONI	**MSOS	4.0M7400964	
0978	P03B7	C205		LDA-	5,Q	ADDR OF EXIT REQUEST (T5)			M7400965
0979	P03B8	0500	AT1	IIN	0				M7400966
0980	P03B9	60FF		STA-	I				M7400967
0981	P03BA	C802		SET	Q	-0 TO Q TO INDICATE ENTRY FROM PP			M7400968
0982	P03BB	1522		JMP-	(ZERO),I	JUMP TO T5			M7400969
0983	P03BC	0002	NOTDIS	INQ	2	Q=LOC OF INTERRUPT +1			M7400970
0984	P03BD	482B		STQ*	VIOL				M7400971
0985	P03BE	4850		STQ*	SAVQ1		**MSOS	4.0M7400972	
0986	P03BF	C42B		LDA-	(CNOTE)				M7400973
0987	P03C0	E4E9		LDQ-	(\$E9)	CHECK TO SEE IF	**MSOS	4.0M7400974	
0988	P03C1	0151		SQN	TBCK	LOC. IS FROM PART1	**MSOS	4.0M7400975	
0989	P03C2	A011		AND-	H7FFF				M7400976
0990	P03C3	6808	TBCK	STA*	ADR+1		**MSOS	4.0M7400977	
0991	P03C4	E0F7		LDQ-	TOPMON	CONTENTS OF \$100 MUST	**MSOS	4.0M7400978	
0992	P03C5	5400		RTJ	COMPV4		**MSOS	4.0M7400979	
	P03C6	02C9							
0993		03C6		EQU	COMV(*-1)		**MSOS	4.0M7400980	
0994	P03C7	0102		SAZ	ADR		**MSOS	4.0M7400981	
0995	P03C8	09C0		INA	0		**MSOS	4.0M7400982	
0996	P03C9	0107		SAZ	PROT	BE IN UNPROTECTED	**MSOS	4.0M7400983	
0997	P03CA	C000	ADR	LDA	=N0000		**MSOS	4.0M7400984	
	P03CB	0000							
0998	P03CC	E0F6		LDQ-	BOTOP	CORE OR ABORT	**MSOS	4.0M7400985	
0999	P03CD	5CF8		RTJ*	(COMV)		**MSOS	4.0M7400986	
1000	P03CE	0102		SAZ	PROT		**MSOS	4.0M7400987	
1001	P03CF	0900		INA	0		**MSOS	4.0M7400988	
1002	P0300	0101		SAZ	TSOK		**MSOS	4.0M7400989	
1003	P0301	1815	PROT	JMP*	NOEIN				M7400990
1004	P0302	E83C	TSOK	LDQ*	SAVQ1		**MSOS	4.0M7400991	
1005	P0303	0DFC		INQ	-3	Q=ADDR OF CELL 3 LOCATIONS BACK			M7400992
1006	P0304	C622	TRYEIN	LDA-	(ZERO),Q	FETCH CONTENTS OF CELL TO BE TESTED			M7400993
1007	P0305	0F48		ARS	8				M7400994
1008	P0306	09FB		INA	-4	EIN=400, IIN=500, ..., INTERREG=800, EXI=E00			M7400995
1009	P0307	0138		SAM	NOTEIN-*-1				M7400996
1010	P0308	09FA		INA	-5				M7400997
1011	P0309	0132		SAM	ISINT-*-1				M7400998
1012	P030A	09FA		INA	-5				M7400999
1013	P030B	0114		SAN	NOTEIN-*-1				M7401000

X
X
P

```

1014 P030C E80C ISINT LDQ* VIOL
1015 P030D +42B STQ- (CNOTE)
1016 P030E 1800 JMP K
      P030F FF0E
1017 P03E0 C808 NOTEIN LDA* VIOL
1018 P03E1 0864 TCA A
1019 P03E2 0834 AAQ A
1020 P03E3 0102 SAZ NOEIN-*--1
1021 P03E4 0D01 INQ 1
1022 P03E5 18EE JMP* TRYEIN
1023 P03E6 1800 NOEIN JMP E
      P03E7 FCCC
1024 P03E8 0000 VIOL ADC 0

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RETURN TO UNPROTECTED PROGRAM
THE VIOLATION IS LEGAL

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LAST ADDRESS TO TEST

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TRY NEXT CELL

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ERROR EXIT, PROTECT VIOLATION

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M7401001
M7401002
**MSOS 4.0 M7401003
M7401004
M7401005
M7401006
M7401007
M7401008
M7401009
M7401010
M7401011

```

```

1026 * THIS ROUTINE ABSOLUTIZES LOGICAL UNIT AND M7401013
1027 * STARTING ADDRESS WHILE DOING LEGALITY CHECKS M7401014
1028 * ON THEM. M7401015

1030 P03E9 0000 J 0 0 GO CHECK LU. RETURN WITH Q M7401017
1031 P03EA 3800 RTJ CHKLU M7401018
1032 P03EB FE9D ENA 1 SET TO ADDRESS OF PDT M7401019
1033 P03EC 0A01 AND- 8,Q PROTECTED ****M7401020
1034 P03ED A208 SAZ J2B--*-1 NO--OK ****M7401021
1035 P03EE 0102 JMP P1 YES--ERROR JOB M7401022
1036 P03EF 1800
1037 P03F0 0003
1038 P03F1 E10B J2B LDQ- 11,I NO,PREPARE TO ABS. PARAMETERS **MSOS 4.0M7401023
1039 P03F2 54BD J2C RTJ- (SABS) ABSOLUTIZE S **MSOS 4.0M7401024
1040 P03F3 681C STA* LOCS M7401025
1041 P03F4 4106 STQ- 6,I PUT S IN STACKED REQUEST M7401026
1042 P03F5 C81B LDA* RCODE GET REQUEST CODE M7401027
1043 P03F6 09FD INA -2 IS IT WRITE M7401028
1044 P03F7 681A STA* WRIND M7401029
1045 P03F8 0102 SAZ J43 YES-RETURN **MSOS 4.0M7401030
1046 P03F9 09FB J4 INA -4 IS IT FWRITE M7401031
1047 P03FA 6817 STA* WRIND M7401032
1048 P03FB 0111 J43 SAN J44 YES - RETURN M7401033
1049 P03FC 1811 JMP* J8 M7401034
1050 P03FD C106 J44 LDA- 6,I M7401035
1051 P03FE 010C SAZ J7 ERROR - IF STARTING ADDR. IS ZERO M7401036
1052 P03FF 09FE INA -1 STARTING ADDRESS - 1 *4.0/77*1868 M7401037
1053 P0400 EDF7 LDQ- TOPMON SEE IF STARTING ADDRESS IS IN UNPROT **MSOS 4.0M7401038
1054 P0401 50C4 RTJ* (COMV) **MSOS 4.0M7401039
1055 P0402 0102 SAZ J45 **MSOS 4.0M7401040
1056 P0403 0900 INA 0 **MSOS 4.0M7401041
1057 P0404 0106 SAZ J7 NO - ERROR **MSOS 4.0M7401042
1058 P0405 C106 J45 LDA- 6,I **MSOS 4.0M7401043
1059 P0406 EDF6 LDQ- BOTOP **MSOS 4.0M7401044
1060 P0407 50CBE RTJ* (COMV) **MSOS 4.0M7401045
1061 P0408 0102 SAZ J7 **MSOS 4.0M7401046
1062 P0409 0900 INA 0 **MSOS 4.0M7401047
1063 P040A 0102 J7 SAZ J8 YES **MSOS 4.0M7401048
1064 P040B 1800 JMP F GO OUTPUT J02 ERROR M7401049
1065 P040C FCA9 J8 JMP* (J)
1066 P040E 0000 SAVQ1 NUM 0 OK - RETURN **MSOS 4.0M7401050
M7401051

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1067	*	THIS ROUTINE ABSOLUTIZES N AND LEGALITY CHECKS	M7401054
1068	*	S+N. IT VERIFIES THAT THE CALLED DEVICE CAN READ	M7401055
1069	*	OR WRITE AS REQUESTED.	M7401056

1071	PG40F	0000	LOCS	NUM	0	LOCATION OF PARAMETER LIST	M7401058
1072	PG410	0000	RCODE	NUM	0	REQUEST CODE	M7401059
1073	PG+11	0000	WRIND	NUM	0	ZERO IF WRITE OR FWRITE	M7401060
1074			*			1 CARD DELETED	M7401061
1075	PG412	0000	L	0	0		M7401062
1076	PG413	E10B		LDQ-	11,I	REQUEST ADDRESS	**MSOS +.0M7401063
1077	PG414	C622		LDA-	(ZERO),Q	DBIT SET	**MSOS +.0M7401064
1078	PG415	0FC1		ALS	1		**MSOS +.0M7401065
1079	PG416	0123		SAP	L01-*--1	NO	**MSOS +.0M7401066
1080	PG417	C204		LDA-	4,Q	YES--BIT 15 ON N SET	**MSOS +.0M7401067
1081	PG418	0121		SAP	L01-*--1	NO	**MSOS +.0M7401068
1082	PG419	18F1		JMP*	J7	YES--ERROR	**MSOS +.0M7401069
1083	PG41A	54BF	L01	RTJ-	(NABS)	ABSOLUTIZE N AND STORE IT IN	**MSOS +.0M7401070
1084	PG41B	4105		STQ-	5,I	THE STACKED REQUEST	M7401071
1085	PG41C	C8F4		LDA*	WRIND		M7401072
1086	PG41D	0111		SAN	1		**MSOS +.0M7401073
1087	PG41E	1810		JMP*	L5	IF REQUEST IS NOT WRITE OR	**MSOS +.0M7401074
1088			*			EWRITE, MAKE SURE BUFFER	M7401075
1089	PG41F	C106	L1	LDA-	6,I	IS NOT IN PROTECTED CORE	M7401076
1090	PG+20	E0F7		LDQ-	5F7	BOTTOM-1 OF UNPROTECTED	M7401077
1091	PG421	5CA4		RTJ*	(COMV)		**MSOS +.0M7401078
1092	PG422	010A		SAZ	L4A	IT IS IN PROTECTED	**MSOS +.0M7401079
1093	PG423	0900		INA	0		**MSOS +.0M7401080
1094	PG424	0108		SAZ	L4A	BELOW LOWER LIMIT	M7401081
1095	PG425	C106	L4	LDA-	6,I		**MSOS +.0M7401082
1096	PG426	8105		ADD-	5,I	NUMBER OF WORDS	**MSOS +.0M7401083
1097	PG427	09FE		INA	-1		**MSOS +.0M7401084
1098	PG428	E0F6		LDQ-	BOTCP		**MSOS +.0M7401085
1099	PG429	5C9C		RTJ*	(COMV)		**MSOS +.0M7401086
1100	PG42A	0102		SAZ	L4A		**MSOS +.0M7401087
1101	PG42B	0900		INA	0		**MSOS +.0M7401088
1102	PG42C	0101		SAZ	L5		**MSOS +.0M7401089
1103	PG42D	18D0	L4A	JMP*	J7	BUFFER ENDS IN PROTECTED CORE	M7401090
1104	PG42E	C800	L5	LDA	HOLD	PICK UP WORD 8 OF PDT - EREQST	M7401091
	PG42F	0099					
1105	PG430	0FC5		ALS	5		M7401092
1106	PG431	A0C5		AND-	5	MASK 3 BITS	M7401093
1107	PG432	09FE		INA	-1		M7401094
1108	PG433	0113		SAN	L50-*--1	SKIP IF NOT MAG TAPE	M7401095
1109	PG434	C105		LDA-	5,I	MAG TAPE CHECK FOR ZERO WORDS	M7401096
1110	PG435	0112		SAN	L50A-*--1	SKIP IF NOT ZERO WORDS	M7401097
1111	PG436	18D4		JMP*	J7	ERROR 0 WORD + MAG TAPE	M7401098
1112	PG437	09FE	L50	INA	-1	CHECK TO SEE IS MASS MEMORY	M7401099
1113	PG438	68J0	L50A	STA	MMIND	MASS MEMORY INDICATOR	M7401100
	PG439	FEDD					
1114	PG43A	0102		SAZ	L6-*--1	A=0 YES MASS MEMORY	M7401101
1115	PG43B	1800		JMP	P	NO	M7401102
	PG43C	0080					

1116	P043D	E10B	L6	LDQ-	11,I	REQUEST ADDRESS	**MSOS 4.0	M7401103
1117	P043E	C4E9		LDA-	(\$E9)	IF 65K SKIP THE		M7401104
1118	P043F	U112		SAN	L6A	INDIRECT S CHECK		M7401105
1119	P0440	C205		LDA-	5,Q	IF S IS INDIRECT, MOVE MASS		M7401106
1120	PG+41	0138		SAM	L7-* -1	STORAGE ADDRESS TO STACK		M7401107
1121	P0442	C800	L6A	LDA	INDIR			M7401108
	P0443	FC42						
1122	P0444	011A		SAN	L8-* -1			M7401109
1123	P0445	D800		RAO	RETURN	IF REQUEST AND S ARE DIRECT		M7401110
	P0446	FC3E						
1124	P0+47	D800		RAO	RETJRN	ADD 2 TO RETURN ADDRESS		M7401111
	P0448	FC3C						
1125	P0449	1806		JMP*	L8			M7401112
1126	P044A	E8C4	L7	LDQ*	LOCS			M7401113
1127	P044B	C201		LDA-	1,Q			M7401114
1128	P044C	6107		STA-	7,I			M7401115
1129	P044D	C202		LDA-	2,Q			M7401116
1130	P044E	6108		STA-	8,I			M7401117
1131	P0+4F	C108	L8	LDA-	8,I	CHECK FOR MINUS SECTOR NO.		M7401118
1132	P0450	0121		SAP	L83-* -1			M7401119
1133	P0451	18B9	L84	JMP*	J7			M7401120
1134	P0452	E8BD	L85	LDQ*	RCODE		61*1294	M7401121
1135	P0453	0DFC		INQ	-3		61*1294	M7401122
1136	P0454	C104		LDA-	4,I	IF LU NOT LIB DON'T ADD SCRATCH	61*1294	M7401123
1137	P0455	A00A		AND-	LP4SK+8	MASK OFF MODE BIT	64*1294	M7401124
1138	P0456	90C2		SUB-	LIBLU			M7401125
1139	P0457	6872		STA*	LIFLAG	ZERO IS LIB AND SCRATCH ARE SAME UNIT	61*1294	M7401126
1140	P0458	0113		SAN	L9A-* -1			M7401127
1141	P0459	C400	X L9	LDA+	LOADIN	IF LOADING IS IN PROGRESS,		M7401128
	P045A	7FFF	X					
1142	PG45B	0102		SAZ	L10-* -1	DONT ADD SCRATCH ADDRESS.		M7401129
1143	P045C	0AC0	L9A	ENA	0	SCRATCH DISK	61*1294	M7401130
1144	P045D	1803		JMP*	L10A		61*1294	M7401131
1145	P045E	C0C1	L10	LDA-	\$G1	COMPENSATE SCRATCH SECTOR -1	61*1294	M7401132
1146	P045F	09FE		INA	-1			M7401133
1147	P0460	J171	L10A	SQM	L01A	READ/WRITE	61*1294	M7401134
1148	P0461	181A		JMP*	L010	HANDLE FREAD/FWRITE AT L010		M7401135
1149	P0462	E107	L01A	LDQ-	7,I			M7401136
1150	P0463	0174		SQM	L01ER	IF MSB NEGATIVE - ERROR		M7401137
1151	P0464	0154		SQN	L0130	IF MSB POSITIVE, NOT ZERO - OK		M7401138
1152	P0465	E108		LDQ-	8,I			M7401139
1153	P0466	0D9F		INQ	-93	CHECK LSB GT SECTOR ZERO IF MSB = 0		M7401140
1154	P0+67	0161		SQP	L01G0			M7401141
1155	P0468	18E8	L01ER	JMP*	L84	ERROR EXIT		M7401142
1156	P0469	0C00	L01G0	ENQ	0		61*1294	M7401143
1157	P046A	0103		SAZ	L01G0A	SCRATCH DISK	61*1294	M7401144
1158	P0+6B	285C		MUI*	N96		61*1294	M7401145
1159	P046C	0FE1		LLS	1	MAKE START OF SCRATCH LOOK LIKE DRUM ADDRESS		M7401146
115J	P046D	0FCF		ALS	15			M7401147
1161	P046E	F107	L01G0A	ADQ-	7,I		61*1294	M7401148
1162	P046F	8106		ADD-	8,I	COMBINE START OF SCRATCH WITH USERS ADDRESS		M7401149
1163	P0470	0122		SAP	L010B		61*1294	M7401150
1164	P0471	0D01		INQ	1			M7401151

1165	PO472	AJ11	AND-	NZERO-1	REMOVE SIGN IN LSB IF SET	M7401152
1166	PO473	0161	SQP	1		M7401153
1167	PO474	1813	JMP*	LER		M7401154
1168	PO475	4107	STQ-	7,I	STORE COMPENSATED MSB	M7401155
1169	PO476	6108	STA-	8,I	LSB	**MSOS 4.1**M7401156
1170	PO477	0FC1	ALS	1		M7401157
1171	PO478	0F61	LRS	1	COMBINE DRUM ADDRESS	M7401158
1172	PO479	384E	DVI*	N96	CONVERT TO SECTOR ADDRESS	M7401159
1173	PO47A	1813	JMP*	GOODAD	GOOD ADDRESS	**MSOS 4.1**M7401160
1174	PO47B	0111	SAN	L010A	THIS SECTION CHECKS FWRITE/FREAD	M7401161
1175	PO47C	1840	JMP*	P	NOT LIBRARY DEVICE	M7401162
1176	PO47D	E107	LDQ-	7,I		M7401163
1177	PO47E	0158	SQN	LER	MSB HAS TO BE ZERO	M7401164
1178	PO47F	E108	LDQ-	8,I		M7401165
1179	PO480	0140	SQZ	LER	LSB CAN'T BE ZERO	M7401166
1180	PO481	8108	ADD-	8,I	COMBINE LSB AND SCRATCH START	M7401167
1181	PO482	0842	CLR	Q		M7401168
1182	PO483	0124	SAP	L11	POSITIVE OK - STORE IT	M7401169
1183	PO484	0C01	ENQ	1		**MSOS 4.1**M7401170
1184	PO485	AJ11	AND-	LPMSK+15	MASK \$7FFF	M7401171
1185	PO486	1802	JMP*	L11		**MSOS 4.1**M7401172
1186	PO487	18C9	JMP*	L84	ERROR EXIT	M7401173
1187	PO488	6108	STA-	8,I	STORE INTO PARAMETER LIST	M7401174
1188	PO489	4107	STQ-	7,I	MAKE	**MSOS 4.1**M7401175
1189	PO48A	0FC1	ALS	1	SINGLE	**MSOS 4.1**M7401176
1190	PO48B	0F61	LRS	1	PRECISION	**MSOS 4.1**M7401177
1191	PO48C	1803	JMP*	PCK3		**MSOS 4.1**M7401178
1192			*		1 CARD DELETED	61*1294 M7401179
1193	PO48D	0151	GOODAD	SQN	PCK3	**MSOS 4.0M7401180
1194	PO48E	09FE	PCK2	INA	-1	M7401181
1195	PO48F	E83A	PCK3	LDQ*	LIFLAG	ADJUST LSB FOR LATER CHECK
1196	PO490	0141		SQZ	PCK4	IF LIBRARY UNIT MAKE SURE
1197	PO491	182B		JMP*	P	ADDRESS NOT BEYOND MAXSEC
1198	PO492	E400	PCK4	LDQ	MAXSEC	NOT LIBRARY UNIT
	PO493	7FFF	X			M7401184
1199	PO494	5400	RTJ+	COMPV4	COMPARE MAGNITUDE	**MSOS 4.1**M7401186
	PO495	03C6	P			M7401185
1200		0495	COMV4	EQU	COMV4 (*-1)	M7401187
1201	PO496	0103		SAZ	PX0	EQUAL MAXSEC
1202	PO497	09C0		INA	0	CHECK -0
1203	PO498	0101		SAZ	PX0	LESS THAN MAXSEC
1204	PO499	18B7		JMP*	L84	ADDRESS BEYOND MAXSEC - ERROR
1205	PO49A	E800	PX0	LDQ	RCD0E	M7401191
	PO49B	FF74				M7401192
1206	PO49C	0DFC		INQ	-3	M7401193
1207	PO49D	017D		SQM	PX2	M7401194
1208	PO49E	0842		CLR	Q	FREAD/FWRITE
1209	PO49F	C105		LDA-	5,I	NUMBER OF WORDS
1210	PO4A0	3827		DVI*	N95	DIVIDE TO GET SECTORS
1211	PO4A1	0151		SQN	PX01	M7401196
1212	PO4A2	09FE		INA	-1	M7401197
1213	PO4A3	8108	PX01	ADD-	8,I	ADD START SECTOR
1214	PO4A4	E107		LDQ-	7,I	M7401200

1215	P04A5	0122		SAP	PX1					M7401202
1216	P04A6	0C01		ENQ	1					M7401203
1217	P04A7	A011		AND-	LPMSK+15		REMOVE SIGN IN LSB IF SET			M7401204
1218	P04A8	0FC1	PX1	ALS	1					M7401205
1219	P04A9	0F61		LRS	1		MAKE SINGLE PRECISION			M7401206
1220	P04AA	180C		JMP*	PX4					M7401207
1221	P04AB	0108	PX2	LDA-	8,I		READ/WRITE			M7401208
1222	P04AC	E107		LDQ-	7,I					M7401209
1223	P04AD	8105		ADD-	5,I		ADD NUMBER OF WORDS IN REQUEST			M7401210
1224	P04AE	0122		SAP	PX3					M7401211
1225	P04AF	0D01		INQ	1					M7401212
1226	P04B0	AE11		AND-	LPMSK+15		REMOVE SIGN BIT IN LSB IF SET			M7401213
1227	P04B1	0FC1	PX3	ALS	1					M7401214
1228	P04B2	0F61		LRS	1		COMBINE DRUM ADDRESS			M7401215
1229	P04B3	3814		DVI*	N96		CONVERT TO SECTOR ADDRESS			M7401216
1230	P04B4	0151		SQN	PX4					M7401217
1231	P04B5	09FE		INA	-1					M7401218
1232	P04B6	ECDC	PX4	LDQ*	(PCK4+1)		GET MAX SECTOR			M7401219
1233	P04B7	5CDD		RTJ*	(COMV4)		COMPARE MAGNITUDE			M7401220
1234	P04B8	0103		SAZ	P		EQUAL SECTOR	**MSOS 4.1**		M7401221
1235	P04B9	0900		INA	0		CHECK -0	**MSOS 4.1**		M7401222
1236	P04BA	0101		SAZ	P		LESS THAN SECTOR	**MSOS 4.1**		M7401223
1237	P04BB	1895		JMP*	L84		ADDRESS BEYOND MAXSEC - ERROR			M7401224
1238	P04BC	E800	P	LDQ	WRIND		****	**MSOS 4.0		M7401225
	P04BD	FF53					****			M7401226
1239	P04BE	0A04		ENA	4		IS I/O REQUEST BY UNPROTECTED			M7401227
1240	P04BF	0141		SQZ	P01		PROGRAM ALLOWED ON THIS	***		M7401228
1241	P04C0	0A02		ENA	2		DEVICE, CK WORD 8 OF PDT - EREQST			M7401229
1242	P04C1	A807	P01	AND*	HOLD		YES--OK	***		M7401230
1243	P04C2	0112		SAN	P2-*--1		NO- GO OUTPUT JOB			M7401231
1244	P04C3	1800	P1	JMP	W3A					
	P04C4	FC8D								
1245	P04C5	1C00	P2	JMP	(L)		RETURN TO CALLING ROUTINE			M7401232
	P04C6	FF4B								
1246	P04C7	0060	N96	ADC	96					M7401233
1247	P04C8	0000	HOLD	NUM	0		HOLDS WORD 8 OF PDT - EREQST			M7401234
1248	P04C9	0000	LIFLAG	NUM	0			61*129+		M7401235
1249		0000	P	EQU	LSA01(* /96)					M7401236
1250		0000	P	EQU	LSUJ1(LSAJ1+1)					M7401237
1251		04E0	P	EQU	LTL01(LSUJ1*96)					M7401238
1252	P04CA	0016		BSS	(LTL01-*)					M7401239
1253		04E0	P	EQU	PRTEND(*)					M7401240

1255 ***** M74J1242

1257 0151 EQU ERREL (*-AREA) M7401244
1258 ***** M7401245

1250 * THE PROTECT VIOLATION IS ILLEGAL. M7401247

1252 P04E0 0A00 GETGJ ENA 0 M7401249
1253 P04E1 6800 STA GETTEM+ERREL **MSOS 4.0M7401250
P04E2 FD43

1254 P04E3 0162 SQP ERR Q=+ IF ERROR EMESSAGE M7401251
1255 P04E4 1800 JMP JKILL Q=- JBKILL WAS REQUESTED M74J1252
P04E5 7FFF X

1256 P04E6 54F4 ERR RTJ- (\$F4) SCHEDULE DOWN TO LEVEL 1 M7401253
1257 P04E7 1301 ERRSCH ADC \$1301 M7401254

1258 P04E8 0003 ADC ERRA-ERRSCH M74J1255
1259 P04E9 14EA JMP- (DISP) M7401256

1270 P04EA 0814 ERRA TRQ A **MSOS 4.0M7401257
1271 P04EB 8000 ADD =N\$3030 FORM THE ERROR CODE **MSOS 4.0M7401258
P04EC 3030

1272 P04ED 0DFE INQ -1 CHECK IF PROTECT VIOLATION M7401259
1273 P04EE 0155 SQN EQ-*--1 SKIP IF NOT PROTECT VIOLATION M74J1260
1274 P04EF E800 LDQ PCELL+ERREL PROTECT VIOLATION MOVE ADDRESS **MSOS 4.0M7401261
P04F0 FCE3

1275 P04F1 0D02 INQ 2 TO BR CONVERTED TO ASCCI **MSOS 4.0M74J1262
1276 P04F2 4800 STQ PTRS+ERREL **MSOS 4.0M7401263
P04F3 FCE1

1277 P04F4 E400 X E0 LDQ TRNVEC **MSOS 4.0M7401264
P04F5 01EE X
P04F6 620A

1278 STA- 10,Q SAVE ERROR CODE IN TRANTA TABLE **MSOS 4.0M7401265
1279 * THE FOLLOWING ROUTINE CONVERTS THE ADDRESS M74J1266
1280 * OF THE VIOLATION FROM HEXIDECIMAL TO ASCII M74J1267
1281 * AND PUTS IT IN THE MESSAGE BUFFER M7401268

1282 P04F7 E400 X E1 LDQ+ MIBUF **MSOS 4.1**M7401269
P04F8 7FFF X

1283 P04F9 40FF STQ- I **MSOS 4.0M74J1270
1284 P04FA 0C03 ENQ 3 CLEAR OUT ERROR BUFFER SO JOBPRO **MSOS 4.0M7401271
1285 P04FB 0AFF ENA -0 DOESN'T PTINT MORE THAN THE ERROR **MSOS 4.0M7401272
1286 P04FC 6722 E1A STA- (ZERJ),B MESSAGE **MSOS 4.0M7401273

1287 P04FD 0DFE INQ -1 **MSOS 4.0M7401274
1288 P04FE 0171 SQM E1B **MSOS 4.0M7401275
1289 P04FF 18FC JMP* E1A **MSOS 4.0M7401276
1290 P0500 C800 E1B LDA PTRS+ERREL **MSOS 4.0M7401277
P0501 FCD3

1291 P0502 E400 X LDQ+ MIBJF ADDRESS OF JOBENT INPUT BUFFER M7401278
P0503 04F8 X

1292 PG504 40FF
 1293 PG505 5400 X
 PG506 7FFF X
 1294 PG507 4522
 1295 PG508 6101
 1296 PG509 0802
 1297 PG50A 1800 X
 PG50B 04E5 X
 1298

STQ- I
 RTJ+ HA
 STQ- (ZERO),I
 STA- 1,I
 SET Q
 JMP JKILL
 END

CONVERT ADDRESS TO ASSCII
 STORE IN BUFFER
 ABNORMAL TERMINATE

M7401279
 M7401280
 M7401281
 M7401282
 M7401283
 M7401284
 M7401285

PGM= 0500 (1292) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0087, 0256, 0334, 0373, 0509, 0647, 0709, 0757, 0827, 0980, 1283, 1292
0028	CODE	0013 (000019)	0172
0029	N	0055 (000005)	0030, 0627
0030	SIZE	0040 (000064)	0470
0031	PRLVL	00EF (000239)	0089, 0111
0031	ZERO	0022 (000034)	0129, 0135, 0159, 0163, 0178, 0297, 0354, 0422, 0524, 0533, 0560, 0574, 0735, 0835, 0839, 0840
0031	CNOTE	002B (000043)	0982, 1006, 1077, 1286, 1294
0031	MASKT	00B7 (000183)	0100, 0261, 0493, 0497, 0848, 0851, 0865, 0986, 1015
0032	VZERO	0012 (000018)	0103, 0141, 0166, 0169, 0179, 0184, 0355, 0356, 0386, 0494, 0650, 0653, 0659, 0810, 0830, 0849
0032	CABS	00BE (000190)	1165
0032	SABS	00BD (000189)	0522
0032	VABS	00BF (000191)	1037
0033	TOPMON	00F7 (000247)	1083
0033	BOTOP	00F6 (000246)	0144, 0526, 0991, 1051
0033	LUABS	00BC (000188)	0151, 0534, 0817, 0822, 0944, 0998, 1057, 1098
0034	PRESET	00F2 (000242)	0764
0034	LPREST	00F1 (000241)	0952
0034	DISP	00EA (000234)	0950
0035	JNEBIT	0023 (000035)	0410, 0413, 0645, 0677, 0681, 0689, 0708, 0870, 0969, 1269
0035	ZROBIT	0033 (000051)	0094, 0262, 0510, 0547, 0774, 0836, 0838
0035	LIBLU	00C2 (000194)	1138
0035	MMA TOP	00C0 (000192)	
0036	SIZECR	00F5 (000245)	
0037	H7FFF	0011 (000017)	0989
0038	COUNT	00B8 (000184)	0857, 0858, 0868
0039	LPMSK	0002 (000002)	0092, 0240, 0485, 0720, 0781, 0790, 0973, 1137, 1184, 1217, 1226
0041	BUFF	0000 (000208)	0307
0043	MASLU	08C2 (002242)	0306
0044	J01	0001 (000001)	0283
0045	J02	0002 (000002)	0285
0046	J06	0006 (000006)	0487
0047	J08	0008 (000008)	0450
0065	BUFSIZ	0060 (000096)	0893, 0929
0026	PRTLEN	0026 (000038)	0628
0027	STLEN	0041 (000065)	0628
1257	ERREL	0151 (000337)	1263, 1274, 1276, 1290

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0070	PRT	0000	0291, 0593, 0594, 0595, 0596, 0597
0074	PRTER	0006	0072
0085	IPROC1	0008	0595
0096	K32	0013	0091
0097	BELOW2	0014	
0127	A	002E	0117
0133	AG2	0033	0131
0140	AG3A	003A	0138
0142	AG3	003C	0233
0143	COMP	0042	0153
0151	AG5	0045	
0157	A1A	0048	0143, 0153, 0154
0158	A1	0040	0139, 0154
0164	A15	0052	0161
0167	A2	0055	
0174	A1F	005D	0163, 0168
0175	A4	005E	0173
0182	A5	0066	0180
0198	REQTB	006C	0183, 0186, 0198, 0199, 0200, 0201, 0202, 0203, 0204, 0205, 0206, 0207, 0208, 0209, 0210, 0211 0212, 0213, 0214, 0215, 0216, 0515, 0545, 0809 0085, 0268, 0859
0220	SAVA	007F	0088, 0255, 0861
0221	SAVI	0080	0096, 0239, 0258, 044, 0863, 0972
0222	SAVPR	0081	0103, 0127, 0137, 0143, 0152, 0158, 0164, 0230, 0235, 0240, 0264, 0337, 0351, 0510, 0517, 050-
0223	STP	0082	0557, 0943
0224	PCELL	0083	0100, 0107, 0110, 0243, 0260, 0267, 0269, 0824, 0963, 0955, 0960, 1274
0225	PTRS	0084	0109, 0495, 0594, 1276, 1290
0226	RETURN	0085	0134, 0234, 0793, 0794, 0810, 1123, 1124
0227	INDIR	0086	0137, 0142, 0812, 1121
0228	SAVQ	0087	0085, 0263, 0378, 0384, 0387, 0855
0230	IND	0088	0214
0234	BB	008C	0201, 0203, 0205, 0209
0239	B	008E	0959
0243	B1	0092	0241
0255	B4	009E	0242
0270	JOWN0	00AD	0247, 0271, 0975
0273	ASAVA	00B1	0248, 0253
0274	APTR	00B2	0246, 0249
0275	APCELL	00B3	0244, 0251, 0252, 0254
0283	FE	00B4	0132, 0580, 1023
0285	FE	00B6	0157, 0174, 0181, 0193, 0203, 0210, 0213, 0215, 0216, 0360, 0440, 0593, 0803, 1062

0195	0195	0521
019A	019A	0536, 0570, 0576
019E	019E	0530
01A4	01A4	0532
01A5	01A5	0525, 0537, 0539
01B9	01B9	0563
01C1	01C1	0562
01CE	01CE	0571
01D1	01D1	0573, 0577
01D3	01D3	0567, 0579
01D5	01D5	0599, 0591, 0616, 0618, 0626
01D6	01D6	0504
01D7	01D7	0507
01D8	01D8	0513
01D9	01D9	0510
01DA	01DA	0571
01DB	01DB	0571, 0513, 0596
01DE	01DE	0574
01F2	01F2	0521
01F6	01F6	0520
01FB	01FB	
0216	0216	0552
021A	021A	0644
021E	021E	0644
0221	0221	0641, 0759
0235	0235	0661
023C	023C	0674
023D	023D	0680
024E	024E	0680
0250	0250	0685, 0692
0254	0254	0651, 0654
024D	024D	0727, 0731
025E	025E	0950
0250	0250	0640, 0707
0254	0254	0707
0259	0259	0704
025D	025D	0712
025E	025E	0714
0272	0272	0730
027A	027A	0748
027C	027C	0741, 0743
027F	027F	0715, 0747
0282	0282	0718
0289	0289	0750
0289	0289	0446, 0802, 1031
028E	028E	0722, 0777
0294	0294	0763, 0768
02AE	02AE	0792
02B0	02B0	0783
02B1	02B1	0783
02B7	02B7	0787, 0799
02B5	02B5	0772

00804	XFFERT	00207	0737,	0745,	0914,	0919
00805	XFFERF	00208	0739,	0744,	0906,	0918
00807	H	00209	0328,	0316,	0820	
00815	H2	00204	0813			
00822	H25	00200	0819			
00826	H3	00203	0821			
00827	HH	00204	0338			
00844	H1	00204	0831,	0834,	0837	
00844	H1B	00206	0272			
00844	H4	00204	0845			
00855	K	00204	0498,	1016		
00871	SQV	00202	0816,	0843		
00877	M	00203	0329,	0920		
00899	M5	00205	0878,	0900,	0901,	0911, 0925
00899	M1	00201	0802,	0890		
00909	BUFBZY	00216	0352,	0809,	0903	
00909	MIND	00217	0434,	0461,	0385,	1113
00909	ACCCCP	00218	0925			
00909	ABUF	00219	0911			
00911	M	00214	0894			
00911	M6	00221	0922			
00911	M7	00226	0917			
00911	M8	00229	0895			
00911	M9	00227	0877,	0921		
00911	M10	00228	0924			
00911	BUFR	00228	0901			
00911	AREA	00228	0308,	0316,	1257	
00911	CC1	00225	0118			
00911	DD1	00225	0940			
00911	DD2	00227	0948			
00911	DD3	00229	0962			
00911	DD4	00229	0954			
00911	DD5	00229	0958			
00911	DD6	00229	0949,	0961		
00911	ISDISP	00228	0974			
00911	ATONE	00228	0957			
00911	AT1	00228	0971			
00911	VOTDIS	00228	0988			
00911	TBCK	00228	0943,	0999,	1052,	1058, 1091, 1099
00911	COMV	00228	0990,	0994		
00911	ADR	00228	0996,	1000		
10003	PROT	00201	0802			
10004	TSOK	00202	1022			
10004	TRYEIN	00204	1011			
10014	ISINT	00200	1009,	1013		
10017	VOTFIN	00200	0825,	0963,	1006,	1020
10023	NOEIN	00206	0984,	1014,	1017	
10024	VIOL	00206	0326,	0428,	1003	
10030	J	00209	1034			
10036	J2B	00201				
10037	J2C	00202				
10044	J4	00209				
10046	J43	00208				

1044 J44 03FD
 1055 J45 0040
 1066 J7 0000
 1077 J8 0000
 1088 SAVQ1 0000
 1099 LOCS 0000
 1100 RCODE 0000
 1101 WRIND 0000
 1102 L 0000
 1103 LC1 0000
 1104 L1 0000
 1105 L4 0000
 1106 L4A 0000
 1107 L5 0000
 1108 L5A 0000
 1109 L5A 0000
 1110 L6 0000
 1111 L6A 0000
 1112 L7 0000
 1113 L8 0000
 1114 L84 0000
 1115 L85 0000
 1116 L9 0000
 1117 L9A 0000
 1118 L10 0000
 1119 L10A 0000
 1120 LU1A 0000
 1121 L01ER 0000
 1122 L01GO 0000
 1123 L01GOA 0000
 1124 L01CB 0000
 1125 PCK1 0000
 1126 L01C 0000
 1127 L010A 0000
 1128 LER 0000
 1129 L11 0000
 1130 GOODAD 0000
 1131 PCK2 0000
 1132 PCK3 0000
 1133 PCK4 0000
 1134 COMV4 0000
 1135 PX0 0000
 1136 PX01 0000
 1137 PX1 0000
 1138 PX2 0000
 1139 PX3 0000
 1140 PX4 0000
 1141 P 0000
 1142 PC1 0000
 1143 P1 0000
 1144 P2 0000
 1145 N96 0000
 1146 HOLD 0000

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 1059, 1055, 1059, 1082, 1103, 1111, 1133
 1067, 1061
 1085, 1004
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 1070, 1077, 1182, 1057, 1111, 1004, 1000, 1032, 1083, 1041, 1134, 1200
 1012, 1015, 1080, 1238
 1027, 1245
 1079, 1081

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 1120
 1122, 1125
 1155, 1186, 1234, 1237
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 1107, 1171, 1179
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 1196, 1232
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 1201, 1203
 1211
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 1115, 1175, 1197, 1234, 1230
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 1158, 1172, 1210, 1229
 1179, 1104, 1242

1248	LIFLAG	0409	1133, 1195
1249	LSAG1	0000	1250
1250	LSUC1	0000	1251
1251	LTLC1	0000	1252
1253	PRTEND	0291	0291
1262	GETGO	0400	
1269	ERRR	0400	1264
1269	ERRSCH	0400	1268
1270	ERRRA	0400	1268
1277	ERRD	0400	1273
1282	ERR1	0400	
1286	ERR1A	0400	1289
1290	ERR1B	0500	1288

EXTERNALS

OFF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0008	LOG1A	028F	0767
0008	HA	0506	1293
0009	COMPV4	0495	0147, 0528, 0818, 0992, 1199
0010	MIBUF	0503	1282, 1291
0011	MAXSFC	0493	1198
0012	LOADIN	045A	1141
0013	UNPIO	00EC	0331
0014	UNPTIM	0115	0379
0015	TMRTYP	0CF8	0352
0016	SWAPCK	0219	0038
0017	JKIN	01EA	0611
0018	JBCNFG	0245	0287, 0-11, 0087
0019	TRNVEC	04F9	0614, 1277
0020	PRORET	01F7	0622
0022	FILE3	01DA	0598
0023	IP1	01E6	0608
0024	LOCF	01DE	0602
0024	LPTRS	01E2	0603
0025	PROTEC	00D6	0319
0025	JKILL	050B	1265, 1297
0063	UNPIOF	0283	0333, 0753
0064	SWAPON	0251	0703

*** ALPHABETICAL SORT OF SYMBOLS ***

A	0127	A02	0133	A03	0142	A03A	0147	A05	0151	A1	0158	A15	0164	A1A	0167	A1F	0174
A2	0167	A+	0172	A5	0182	ABUF	0191	ACCP	0195	ADF	0199	APCELL	0204	APTR	0207	AKFA	0209
ASAVA	0273	AT1	0379	ATEXP	0364	ATOMF	0375	B	0239	B1	0243	B-	0239	BB	0228	BFLOWP	0297
BTOP	0063	BUFBZY	0089	BUFF	0041	BURFR	0023	BUFSIZ	0106	C	0094	C1	0094	CAS	0094	CADPFS	0079
CADDRS1	0088	CAREF	0080	CCCP	0070	CCCP0	0070	CCCP1	0070	CCCP2	0070	CCCP2	0070	CCCP1+	0070	CCCP1	0070
CCCP2	0082	CCCP3	0074	CCCP4	0075	CCCP5	0076	CNOTF	0071	CCP0	0071	CCP0	0071	CCP0+	0071	CCP1	0071
CCCTEMP	0069	CHKLU	0076	CHKTR	0081	CKCSY	0079	D2	0080	CCPF	0082	COMP	0084	COMPV+	0084	COMV	0099
CCMV4	1200	COUNT	0038	D	0055	D1	0052	EQC	0050	OD3	0053	DISP	0054	ERRA	0054	EM	0058
TE	1277	E1	1282	E1A	1286	E1B	1290	G	0069	OD3	0053	ERRA	0054	ERRA	1287	ERRSCH	1267
G	0285	F1	0286	F3	0298	FILE3	0022	G	0069	G1	0471	G10	0056	G15	0056	G2	0058
G2+	0048	G25	0048	G26	0049	G3	0050	G+	0052	G5	0052	G51	0052	G6	0053	G65	0054
G4	0054	G8	0050	G9	0053	GET	0029	GET	0031	GETERR	0031	GETGO	1203	H2	0031	GETMSB	0030
GETR	0033	GETEM	0034	GOODAD	1193	H	0807	GETC	0031	H16	0844	H2	0815	H25	0822	H3	0826
HEIR	0084	H7FFF	0037	HA	0008	HH	0827	H1	0842	I	0000	IND	0230	INDIR	0227	IP1	0023
IPROC1	0085	ISDISP	0097	ISINT	1014	J	1030	HOLD	1247	J01	0044	J06	0045	J08	0047	J2B	1036
J2C	1037	J+	1044	J43	1043	J+	1048	J01	0044	J7	1056	J8	1053	JBCNFG	0018	JKILL	0026
JKIN	0017	JMP	0069	K	0055	J+4	0096	J02	0045	L01	1083	J08	1053	LG10A	1176	L01CR	1166
J1A	1149	L01ER	1153	L	1155	J+5	0096	J7	1056	L10	1089	J8	1053	LG10A	1176	L4	1095
L4	1103	L5	1104	L50	1112	L1	1161	L01	1083	L10	1089	LG10	1174	L10A	1147	L8	1165
L35	1134	L9	1141	L9A	1143	L0	1116	L1	1089	L6A	1121	L7	1126	L7	1126	L+	1165
LOG1A	0008	LOGTAB	0767	L9A	1143	L0	1116	L1	1089	LIFLAG	1248	LOADIN	0012	L8	1126	LOC	1071
LJER	0077	LUERR	0803	LPMSK	0039	LER	1180	L1	1089	LSAC1	1249	LSU01	1253	L9	1131	LOC	1071
47	0920	M8	0923	LWAP1	0696	LPREST	0034	L0	1089	M10	0928	M+	0900	L+	1131	LUABS	0833
V	0029	N90	0923	M9	0925	M	0877	L0	1089	M1	0895	M+	0900	M5	0879	M6	0918
NTCSY	0079	NZERO	0032	MA8	0923	MASKT	0031	L0	1089	MASLU	0043	MIBUF	0010	MMATOP	0036	MMIND	0899
P01	1242	P1	1244	N90	1246	NEWTAP	0452	M10	0928	NOEIN	1023	NOTDIS	0083	NOTEIN	1017	NOTMS	0795
PRLVL	0031	PRORET	0020	O2	0593	O3	0594	NOEIN	1023	O+	0593	O6	0997	ONEBIT	0035	P	1238
PRILEN	0026	PRTZ	0622	P2	1245	PCELL	0224	PCK1	1170	PCK2	1194	PCK3	1195	PCK+	1198	PRESET	0034
PX3	1027	PRTZ	0622	PROT	1003	PROTEC	0025	PROTEN	0019	PRT	0070	PRTA	0070	PRTEND	1253	PRTER	0074
SAVDR	1222	PRTZ	0622	PTTR	1003	REQTB	0302	PTRS	0225	PX0	1205	PX01	1213	PX1	1218	PX2	1221
SAV	0371	PRIZ	0622	PTTR	1003	SCH	0411	REQTB	0302	RETURN	0226	SABS	0032	SAVA	0220	SAVI	0221
IBOK	0990	PX4	1232	RCODE	1072	SCH1	0414	SCH1	0414	SCHCMP	0414	SCHJMP	0417	SIZE	0030	SIZECR	0030
TRYFIN	1006	SAVQ	0228	STLEN	0627	SCH1	0414	SCH1	0414	SWAPON	0010	TAG1	0374	TAG2	0381	TAG3	0381
HLA	0350	STACK	0399	STX	0628	SCH1	0414	SCH1	0414	SWAPON	0010	TOF	0360	TOPMON	0353	TRANVEC	0353
X2	0381	TEXP	0399	TIME	0391	SWAPCK	0010	SWAPCK	0010	THRTYP	0015	UNPTIM	0014	VIOL	1324	X15	0373
Z	0421	TSOK	1004	UNP	0754	UNPIC	0013	UNPIC	0013	UNPIOF	0063	X14	0308	X15	0373	X16	0373
		W6	0451	WRIND	1073	X	0345	X	0345	Y1	0308	Y2	0323	Y3	0383	Y+	0384
		X3	0382	XFERF	0805	Y	0325	Y	0325	ZERO	0031	ZROBIT	0035				
		Z0	0410	Z3	0430	Z-A	0429	Z-A	0429								

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*      NAM  JBKILL          DECK-ID M75  MSOS 5.0
*      MASS STORAGE OPERATING SYSTEM VERSION 5.0
*      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
*      COPYRIGHT CONTROL DATA CORPORATION 1976

*      JOB KILL MODULE OF JOB PROCESSOR

* THIS IS THE JOB KILL PORTION OF THE JOB PROCESSOR.
* ALL INTERRUPT STACK ENTRIES AND PENDING I/O FROM
* UNPROTECTED CORE ARE DELETED.

*****
ENT  JKILL

EXT  INTSTK
EXT  UNOPTM
EXT  LOG1A
EXT  FILE3
EXT  IUP,LOADIN
EXT  UNPIO
EXT  UNPIOF
EXT  JBCNFG          JOB CANCEL WAIT FLAG
EXT  JBPROE          ENTRY POINT IN JOBENT (TRVEC)
EXT  JKIN

0002 EQU  LPMSK(2)
EXT  COMPV4

00EA EQU  DISP($EA)

JKILL STQ* QSAV          -5 TELLS CALL WAS FROM T5
LDQ  LOG1A

GETCSY STQ* LOGQ
LDQ  LOG1A,Q

LDA- 8,Q          EQUIP. TYPE
ARS 4
AND- LPMSK+7      BITS 4-10
INA -11          COSY TYPE
SAN DNCSY
LDA- 4,Q          COSY ACTIVE FLAG
SAZ DNCSY        NOT ACTIVE
INA 0
SAN DNCSY
STA- 4,Q          SET UNPROTECTED COSY INACTIVE
SET A            RESET INITIAL CALL FLAG IN COSY
STA- 31,Q        DRIVER PSYTAB IF C.D. USED DURING
LDQ* LOGQ        THIS JOB
INQ -1
SQZ DNCSY
JMP* GETCSY
```

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SUMMARY-110M7500001
M7500002
M7500003
M7500004

M7500006
M7500008
M7500009
M7500010
M7500012
M7500014
M7500015
M7500017
M7500018
M7500019
M7500020
M7500021
M7500022
M7500023
M7500024
M7500025
**MSOS 4.0M7500026
**MSOS 4.0M7500027

M7500029

**MSOS 4.0M7500031
**MSOS 4.0 M7500032

**MSOS 4.0 M7500033
M7500034

**MSOS 4.1**M7500035
**MSOS 4.1**M7500036
**MSOS 4.1**M7500037
**MSOS 4.1**M7500038
**MSOS 4.1**M7500039
**MSOS 4.1**M7500040
**MSOS 4.1**M7500041
**MSOS 4.1**M7500042
**MSOS 4.1**M7500043
**MSOS 4.1**M7500044
**MSOS 4.0 M7500045
**MSOS 4.0 M7500046
**MSOS 4.0 M7500047
**MSOS 4.0 M7500048
**MSOS 4.0 M7500049
**MSOS 4.0 M7500050
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0051          *
0052 P0016 0000 LOGQ NUM 0          2 CARDS DELETED          M7500051
                                     M7500052

0054 P0017 4400 X DONCSY STQ LOAJIN          M7500054
    P0018 7FFF X

0056 P0019 C0B8 SG1 LDA- $B8          SET ALL UNPROTECTED RETURN          M7500056
0057 P001A 09FA SG2 INA -5          LOCATIONS, LEVEL ZERO AND          M7500057
0058 P001B 60FF STA- I          ONE PRIORITY, TO THE ADDRESS          M7500058
0059 P001C 9030 X SUB =XINTSTK          OF THE DISPATCHER.          M7500059
    P001D 7FFF X

0060 P001E 0121 SAP 1          M7500060
0061 P001F 1824 JMP* SG4          TABLE CHECKED.          M7500061
0062 P0020 C4E9 LDA- ($E9)          CHECK 65K MODE SWITCH 65K=1          **MSOS 4.0M7500062
0063 P0021 0104 SAZ S1          **MSOS 4.0M7500063
0064 P0022 C300 LDA =X$GB00          **MSOS 4.0M7500064
    P0023 0B00

0065 P0024 680B STA* SGA+1          DO NOT CLEAR UPPER BIT OF P REG          **MSOS 4.0M7500065
0066 P0025 6813 STA* S2          IF 65K MACHINE          **MSOS 4.0M7500066
0067 P0026 C104 S1 LDA- 4,I          CHECK IF PRIORITY LEVEL ZERO          **MSOS 4.0M7500067
0068 P0027 A011 AND- LPMASK+15          OR ONE          **MSOS 4.0M7500068
0069 P0028 0FC1 ALS 1          SIGN EXTEND BIT 14          **MSOS 4.0M7500069
0070 P0029 0F41 ARS 1          **MSOS 4.0M7500070
0071 P002A 0133 SAM SGA          **MSOS 4.0M7500071
0072 P002B 09FD INA -2          M7500072
0073 P002C 0131 SAM SGA          **MSOS 4.0M7500073
0074 P002D 1811 JMP* SG3          **MSOS 4.0M7500074
0075 P002E C103 SGA LDA- 3,I          CHECK IF A RETURN LOCATION IS          M7500075
0076 P002F A011 AND- $11          A UNPROTECTED CORE LOCATION.          M7500076
0077 P0030 E0F7 LDQ- $F7          A UNPROTECTED LOCATION          **MSOS 4.0M7500077
0078 P0031 09FE INA -1          **MSOS 4.0M7500078
0079 P0032 5400 RTJ COMPV4          **MSOS 4.0M7500079
    P0033 7FFF X
                                     P

0080 EQU COMPAR(*-1)          **MSOS 4.0M7500080
0081 P0034 0102 SAZ S25          **MSOS 4.0M7500081
0082 P0035 0900 INA 0          **MSOS 4.0M7500082
0083 P0036 0107 SAZ SG3          PROTECTED CORE RETURN          **MSOS 4.0M7500083
0084 P0037 C103 S25 LDA- 3,I          **MSOS 4.0M7500084
0085 P0038 A011 S2 AND- $11          **MSOS 4.0M7500085
0086 P0039 E0F6 LDQ- $F6          **MSOS 4.0M7500086
0087 P003A 50F8 RTJ* (COMPAR)          **MSOS 4.0M7500087
0088 P003B 0102 SAZ SG3          **MSOS 4.0M7500088
0089 P003C 0900 INA 0          **MSOS 4.0M7500089
0090 P003D 0102 SAZ SGZ          **MSOS 4.0M7500090
0091 P003E C0FF SG3 LDA- I          TABLE LOCATION          M7500091
0092 P003F 18DA JMP* SG2          M7500092
0093 P0040 C0EA SGZ LDA- $EA          SET ADDRESS TO DISPATCHER          M7500093
0094 P0041 0103 STA- 3,I          M7500094
0095 P0042 18FB JMP* SG3          M7500095

0097 P0043 54F4 SG4 RTJ- ($F4)          SCHDLE SHELF DOWN TO LEVEL          M7500097
0098 P0044 1300 SG4A NUM $1300          ZERO          M7500098
0099 P0045 0004 ADC RETRN-SG4A          M7500099

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0100 P0046 14EA JMP- ($EA)
0101 P0047 0000 QSAV NUM 0
M7500100
**MSOS 4.0M7500101

0103 P0048 C400 X RETRN LDA UNPTIM CHECK IF TIMER IN EFFECT
P0049 7FFF X OR UNPROTECTED I/O
M7500103
0104 P004A 8400 X ADD UNPIO
P004B 7FFF X M7500104
0105 P004C 8400 X ADD UNPIOF
P004D 7FFF X M7500105
0106 P004E 0101 SAZ 1 IF SO, WAIT UNTIL COMPLETED.
0107 P004F 18F3 JMP* SG4 M7500106
0108 P0050 6400 STA JBCNFG CLEAR JOB CANCEL WAIT FLAG
P0051 7FFF X M7500107
0109 P0052 6400 STA JKIN M7500108
P0053 7FFF X M7500109
0110 * 1 CARD DELETED M7500110
0111 LDQ- $EE M7500111
0112 P0054 E0EE SPE 0 REPROTECT LOADER RETURN ADDRESS
P0055 0600 LDQ* QSAV M7500112
0113 P0056 E8FG INQ 0 **MSOS 4.0M7500113
0114 P0057 0D00 SQZ JOBP **MSOS 4.0M7500114
0115 P0058 0141 ENQ 8 TERMINATE IN JOBPRO **MSOS 4.0M7500115
0116 P0059 0C08 INQ 6 RF3 IN JOBPRO **MSOS 4.0M7500116
0117 P005A 0D06 LDA JBPROE GET JOBENT RETURN **MSOS 4.0M7500117
0118 P005B C400 X **MSOS 4.0M7500118
P005C 7FFF X **MSOS 4.0M7500119
0119 P005D 60FF STA- I **MSOS 4.0M7500120
0120 P005E 9A01 ENA 1 INDEX TO SCHEDULE JOBPRO **MSOS 4.0M7500121
0121 P005F 14FF JMP- (I)

0124 * 1 CARD DELETED M7500124
0126 END M7500126

PGM= 0060 ( 96) COM = 0000 ( 0) DAT = 0000 ( 0)

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E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	0JFF	(000255) 0058, 0091, 0119, 0121
0026	LPMSK	0002	(000002) 0037, 0068
0029	DISP	00EA	(000234)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	JKILL	0000	0014
0033	GETCSY	0003	0050
0047	DNCSY	0012	0039, 0041, 0043
0052	LOGQ	0016	0033, 0047
0054	JONCSY	0017	0049
0056	SG1	0019	
0057	SG2	001A	0092
0067	S1	0026	0063
0075	SGA	002E	0065, 0071, 0073
0080	COMPAR	0033	0087
0084	S25	0037	0081
0085	S28	0038	0066
0091	SG3	003E	0074, 0083, 0088, 0095
0093	SGZ	0040	0090
0097	SG4	0043	0061, 0107
0098	SG4A	0044	0099
0101	QSAV	0047	0031, 0113
0103	RETRN	0048	0099
0117	JOBP	005A	0115

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0016	INTSTK	0010	0059
0017	JNPTIM	0049	0103
0018	LOG1A	0005	0032, 0034
0019	FILE3	7FFF	
0020	IUP	7FFF	
0020	LOADIN	0018	0054
0021	UNPIO	004B	1104
0022	UNPIOF	0040	0105
0023	JBCNFG	0051	0108
0024	JBPROE	0050	1118
0025	JKIN	0053	0109
0027	COMPV4	0033	1079

*** ALPHABETICAL SORT OF SYMBOLS ***

COMPAR	0080	COMPV4	0027	DISP	0029	DNCSY	0047	DONCSY	0054	FILE3	0019	GETCSY	0033	I	0000	INTSTK	0016
IUP	0020	JBCNFG	0023	JBPROE	0024	JKILL	0014	JKIN	0025	JOBP	0117	LOADIN	0020	LOG1A	0018	LOGQ	0052
LPMSK	0026	QSAV	0101	RETRN	0103	S1	0067	S2	0085	S25	0084	SG1	0056	SG2	0057	SG3	0091
SG4	0097	SG4A	0098	SGA	0075	SGZ	0093	UNPIO	0021	UNPIOF	0022	UNPTIM	0017				

0001
0002
0003
0004

* NAM Jpload DECK-ID M76 MSOS 5.0
* MASS STORAGE OPERATING SYSTEM VERSION 5.0
* SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
* COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-11 0M7600001
M7600002
M7600003
M7600004

0006

* PROCESSOR FOR *L,*LGO,AND *ENTRY-POINT STATEMENTS

**MSOS 4.0M7600005

0009

M7600009

0012
0013

ENT JBL
ENT JP1

M7600012
M7600013

0015
0016
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0018
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0040

EXT TRNVEC ABS. ADDR. OF TRANTA BUFFER IN JOBENT (TRVEC)
EXT PRORET RETURN LOC. FOR PROTEC (TRVEC)
EXT JBPROE ABS ADDR. OF JOB PROC. ROUTINE IN JOBENT
EXT RELS1A
EXT PROTEC
EXT LOG1A
EXT MIB
EXT LIBET
EXT JBCNCL,JBCNFG
EXT TRANV
EXT IUP,MIB,LOADSD
EXT LOADIN
EXT JPRET,JPRET1,JPRETN
EXT FILE2
EXT FILE3
EXT LOG1
EXT BRKPT
EXT UNPIO
EXT SWAPCK
EXT COMPV4 65K COMPARE ROUTINE
EXT JOBIND
EQU LP1SK(2) LOCORE MASK TABLE
EQU HFFFF(\$12)
EQU ZERO(\$22)
EQU H80JJ(\$32)
EQU DISP(\$EA)

M7600015
M7600016
M7600017
M7600018
M7600019
M7600020
M7600021
M7600022
M7600023
M7600024
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M7600038
M7600039
M7600040

**MSOS 4.0M7600035
**MSOS 4.0M7600039

0002
0012
0022
0032
00EA

0042 PG000 C8FE
0043 PG001 6C74
0044 PG002 0167
0045 PG003 0C73
0046 PG004 6895
0047 PG005 0A00
0048 PG006 6C70
0049 PG007 54F4
0050 PG008 1800
0051 PG009 0000

JBL NUM \$C8FE ENTRY POINT
STA* (F2)
SQP JP2
LDA* (F3) ENTERING FROM JOB FILE MODULES
STA* RELEAS RELEASE IT BEFORE CALLING PROTECT
ENA 0
STA* (F3) CLEAR PROGRAM IN AREA3 FLAG
RTJ- (\$F+)
NUM \$1800
RELEAS NUM 0

M7600042
M7600043
**MSOS 4.0M7600044
**MSOS 4.0M7600045
**MSOS 4.0M7600046
**MSOS 4.0M7600047
**MSOS 4.0M7600048
**MSOS 4.0M7600049
**MSOS 4.0M7600050
**MSOS 4.0M7600051

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0052 P000A 006C JP2 LDA* (F3) IS PROTEC IN CORE **MSOS +.0M7600052
0053 P000B 0119 SAN JP1 M7600053
0054 P000C EC69 LDQ* (F2) SET UP RETURN ADDRESS FOR PROTEC M7600054
0055 P000D F000 ADQ =XJP1-JBL M7600055
0056 P000E 0015 STQ PRORET TEMP RETURN LOC. IN TRVEC M7600056
0057 P0010 7FFF X
0058 P0011 54F4 RTJ- ($F4) M7600057
0059 P0012 1200 NUM $1200 M7600058
0060 P0013 FFFF X ADC (PROTEC) SCHEDULE PROTEC M7600059
0061 P0014 14EA JMP- (DISP) M7600060
0062 P0015 0005 JP1 ENQ 5 M7600061
0063 P0016 C400 X LDA TRNVEC GET ADDR OF TRANTA TABLE IN JOBENT **MSOS +.0M7600062
0064 P0017 7FFF X
0065 P0018 0017 EQU TRNV(*-1) **MSOS 4.0 M7600063
0066 P0019 60FF STA- I **MSOS 4.0 M7600064
0067 P001A C6FF JP1A LDA- (I),Q MOVE 5WORDS FROM JOBENT BUFFER TO L**MSOS +.0M7600065
0068 * TRANSFER TABLE M7600065
0069 P001A 6A79 STA* JOBP3,Q M7600066
0070 P001B 0DFE INQ -1 M7600067
0071 P001C 0141 SQZ 1 M7600068
0072 P001D 18FB JMP* JP1A M7600069
0073 P001E CCF8 LDA* (TRNV) TRANTA TABLE ADDRESS **MSOS 4.0 M7600070
0074 P001F 090A INA 10 SET ABS. ADDRESS OF TRANTA **MSOS 4.0 M7600071
0075 P0020 5858 STA* ERRBUF ADDRESS FOR STORE OF ERR. MES. **MSOS 4.0 M7600072
0076 P0021 09FB INA -4 **MSOS 4.0 M7600073
0077 P0022 0CFC ENQ -3 **MSOS 4.0 M7600074
0078 P0023 6A79 LOOP STA* LOADEP,Q AND LOADEP FROM JOBENT BUFFER M7600075
0079 P0024 0901 INA 1 BUFFER. M7600076
0080 P0025 0142 SQZ OUT M7600077
0081 P0026 0D01 INQ 1 M7600078
0082 P0027 18FB JMP* LOOP M7600079
0083 P0028 4400 X OUT STQ MIB CLEAR INTERMODULE LOCKOUT FLAG M7600080
0084 P0029 7FFF X
0085 P002A C400 X LDA JBPROE GET RETURN **MSOS 4.0M7600082
0086 P002B 7FFF X
0087 P002C 6800 STA LBL7+1 TO JOBENT **MSOS 4.0M7600083
0088 P002D 0073
0089 P002E 0C01 LBL1 ENQ 1 **MSOS 4.0M7600084
0090 P002F CE66 LDA* (SM),Q M7600085
0091 P0030 EC65 LDQ* (SM) M7600086
0092 P0031 0FE8 LLS 8 M7600087
0093 P0032 4842 STQ* TEMP M7600088
0094 P0033 0C04 ENQ LTAB3-TAB1-1 M7600090
0095 P0034 CA35 LBL2 LDA* TAB1,Q M7600091
0096 P0035 983F SUB* TEMP M7600092
0097 P0036 0104 SAZ LBL3-*--1 M7600093
0098 P0037 0DFE INQ -1 M7600094
0099 P0038 0171 SQM 1 M7600095
0100 P0039 18FA JMP* LBL2 M7600096
0101 P003A 0C05 LBL2A ENQ 5 **MSOS +.0M7600098

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00999 P0003B 4839
01000 P0003C 00FD
01001 P0003D 00168
01002 P0003E 00001
01003 P0003F 00556
01004 P00040 00112
01005 P00041 00112
01006 P00042 00001
01007 P00043 18002
01008 P00044 00002
01009 P00045 18222
01010 P00046 00151
01011 P00047 18006
01012 P00048 00DFE
01013 P00049 00151
01014 P0004A 18003
01015 P0004B 00DFD
01016 P0004C 00150
01017 P0004D 0040F
01018 P0004E 00112
01019 P0004F 58000
01200 P00050 00E8
01201 P00051 08223
01202 P00052 CA10
01203 P00053 0834
01204 P00054 0917
01205 P00055 68002
01206 P00056 58000
01207 P00057 00000
01208 P00058 1845
01209 P00059 00002
01210 P0005A 003B
01211 P0005B 00001
01212 P0005C 0039
01213 P0005D 00E8
01214 P0005E 0814
01215 P0005F 90000
01216 P00060 4F20
01217 P00061 0104
01218 P00062 90000
01219 P00063 0003
01220 P00064 0101
01221 P00065 18D4
01222 P00066 18E6
01223 P00067 0A05
01224 P00068 1837
01403 P0069 58FF
01404 P006A 5820
01405 P006B 40FF
01406 P006C 4020
01407 P006D 4047

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LBL3 STQ* TEMP
      INQ -2
      SQP LBL3
      ENQ 1
      LDA* (SM),Q
      FOR- HFFFF
      SAN 2
      ENQ 1
      JMP* *+2
      ENQ 2
      JMP* LBL9
LBL8 SQN 1
      JMP* LBL3A
      INQ -1
      SQN 1
      JMP* LBL3A
      INQ -2
      SQN LBL5
LBL3A LDA* (LOADEP)
      SAN LADDON
      RTJ PREJOB
LADDON LDQ* TEMP
        LDA* TABLOC,Q
        AAQ A
        INA TABLOC-LBL4
        STA* LBL4
        RTJ* *
LBL4 NUM $0000
      JMP* RETRN
LBL5 ENQ 2
      LDA* (SM),Q
      ENQ 1
      LDQ* (SM),Q
      LLS 8
      TRQ A
      SUB =N$4F20
      SAZ LBL6
      SUB =N$D3
      SAZ 1
      JMP* LBL2A
      JMP* LBL3A
LBL6 ENA 5
      JMP* LBL7

```

```

REQUIRED TO BRING IN JPLG0
NOT *X OR *X,N
CHECK FOR N ON *X
SCHEDULE JPLGV4 TO EXECUTE
IS THE LOADER ALREADY IN CORE
YES, GO ON
NO, GET IT

```

```

IS THIS A LOAD AND GO STATEMENT
YES
*LGO FROM STANDARD INPUT
NO, LOAD FROM LIBRARY

```

```

* TABLE OF JOB PROCESSOR LOADER TYPE REQUEST
TAB1 NUM $58=F X JP PROCESSOR STATEMENT
      ALF 1,X X,N JP PROCESSOR STATEMENT
      NUM $4CFF L JP PROCESSOR STATEMENT
      ALF 1,L L,LU JP PROCESSOR STATEMENT
      ALF 1,LG LGO JP PROCESSOR STATEMENT

```

```

**MSOS 4.0M7600099
**MSOS 4.0M7600100
**MSOS 4.0M7600101
**MSOS 4.0M7600102
**MSOS 4.0M7600103
**MSOS 4.0M7600104
**MSOS 4.0M7600105
**MSOS 4.0M7600106
**MSOS 4.0M7600107
**MSOS 4.0M7600108
**MSOS 4.0M7600109
**MSOS 4.0M7600110
**MSOS 4.0M7600111
**MSOS 4.0M7600112
**MSOS 4.0M7600113
**MSOS 4.0M7600114
**MSOS 4.0M7600115
**MSOS 4.0M7600116
      M7600117
      M7600118
      M7600119
**MSOS 4.0M7600120
**MSOS 4.0M7600121
      M7600122
      M7600123
      M7600124
      M7600125
      M7600126
      M7600127
**MSOS 4.0M7600128
**MSOS 4.0M7600129
**MSOS 4.0M7600130
**MSOS 4.0M7600131
**MSOS 4.0M7600132
**MSOS 4.0M7600133
**MSOS 4.0M7600134
**MSOS 4.0M7600135
**MSOS 4.0M7600136
**MSOS 4.0M7600137
**MSOS 4.0M7600138
**MSOS 4.0M7600139
**MSOS 4.0M7600140
**MSOS 4.0M7600141
      M7600143
**MSOS 4.0M7600144
**MSOS 4.0M7600145
**MSOS 4.0M7600146
**MSOS 4.0M7600147
**MSOS 4.0M7600148

```



```

0149 P006E 0000 LTAB BSS LTAB(0)
0151          * TABLE OF JOB PROCESSOR LOADER PROGRAMS
0152 P006E 0033 TABLJC ADC RBLOAD-*
0153 P006F 0032          ADC RBLOAD-*
0154 P0070 0031          ADC RBLOAD-*
0155 P0071 0030          ADC RBLOAD-*
0156 P0072 002F          ADC RBLOAD-*
0157 P0073 0007          ADC TRLOAD-*

0159 P0074 0000 TEMP NUM $0000
0160 P0075 7FFF X F2 ADC FILE2
0161 P0076 7FFF X F3 ADC FILE3
0162 P0077 0000 LGOMOD NUM 0
0163 P0078 0000 ERRBJF NUM 0
0164 P0079 FFFF GOLOAD NUM $FFFF

```

```

M7600149
M7600151
**MSOS 4.0M7600152
**MSOS 4.0M7600153
**MSOS 4.0M7600154
**MSOS 4.0M7600155
**MSOS 4.0M7600156
M7600157

M7600159
M7600160
M7600161
**MSOS 4.0M7600162
**MSOS 4.0M7600163
**MSOS 4.0M7600164

```

0156 ***** M7600166

0158 *** *ENTRY POINT JOB PROCESSOR STATEMENT M7600168
0159 * THIS IS A PROGRAM LOAD AND EXECUTION PROGRAM M7600169

0171 ***** M7600171

0173 P007A 0B00 TRLOAD NOP 0 ENTRY POINT M7600173

0174 P007B 0C03 ENQ 3 M7600174

0175 P007C CE19 TRL LDA* (SM),Q CHECK FOR LIBEDT M7600175

0176 P007D 9A12 SUB* TAB,Q M7600176

0177 P007E 0116 SAN TRLO-* -1 M7600177

0178 P007F 0DFE INQ -1 M7600178

0179 P0080 0171 SQM 1 M7600179

0180 P0081 18FA JMP* TRL M7600180

0181 P0082 E400 LDQ LIBET M7600181

0182 P0083 7FFF X M7600182

0182 P0084 1622 JMP- (\$22),Q GET LIBEDT SCHEDULED M7600182

0184 P0085 E810 TRLO LDQ* SM ABS. LOCATION OF J.P. M7600184

0185 * STATEMENT. M7600185

0186 P0086 GA08 ENA 8 PROGRAM LOAD AND EXECUTE FROM LIB **MSOS 4.0 M7600186

0187 P0087 5800 RTJ LOADLR M7600187

0188 P0088 0091 M7600188

0189 P0089 0121 SAP TRL2 **MSOS 4.0 M7600188

0189 P008A 1878 JMP* JBP LOADER ERROR-ABORT JOB **MSOS 4.0 M7600189

0190 P008B 0C00 ENQ 0 **MSOS 4.0 M7600190

0191 P008C 40F3 TRL2 STQ- \$F3 ZERO \$F3 - LOC OF BREAKPOINT M7600191

0192 P008D 0C03 ENQ 3 **MSOS 4.0 M7600192

0193 P008E 18D8 JMP* LBL3 GET JOB EXECUTED **MSOS 4.0 M7600193

0194 P008F 2A4C TAB ALF 3,*LIBEDT (NOTE THAT T IS IN NEXT WORD) M7600194

0195 P0090 4942 M7600195

0195 P0091 4544 M7600195

0195 P0092 54FF NUM \$54FF M7600195

0197 ***** M7600197

0199 P0093 0000 JOBP3 NUM \$0000 ABS. LOC. M7600199

0200 P0094 0000 NUM \$0000 NOT USED M7600200

0201 P0095 0000 SM NUM \$0000 ABS. L M7600201

0202 P0096 0000 JOBP NUM \$0000 ABS. LOC. M7600202

0203 P0097 0000 JO4 NUM \$0000 ABS. LOC. M7600203

0204 P0098 0000 JO3 NUM 0 M7600204

0205 P0099 0000 NUM 0 NOT USED M7600205

0206 P009A 0000 BPS NUM \$0000 ABS. LOC. M7600206

0207 P009B 0000 RI NUM \$0000 ABS. LOC. M7600207

0208 P009C 0000 LOADP NUM \$0000 ABS. LOC. M7600208

0210 ***** M7600210

0212 P009D 0C0E RETRN ENQ 14 INDEX TO RF3 IN JOBPRO M7600212

0213 P009E 0A01 LBL5G0 ENA 1 INDEX TO SCHEDULE JOBPRO **MSOS 4.0 M7600213

0214 P009F 1400 LBL7 JMP+ 0
P00A0 0000

**MSOS 4.0M7600214

```

0216 *****
0218 *** *L JOB PROCESSOR STATEMENT
0219 * THIS ROUTINE INSTRUCTS THE LOADER TO LOAD
0220 * RELOCATABLE BINARY INFORMATION.
0222 *****
0224 P00A1 0B00 RBLOAD NOP 0 ENTRY POINT
0225 P00A2 C8D1 LDA* TEMP
0226 P00A3 09FB INA -4
0227 P00A4 0102 SAZ 2
0228 P00A5 0A00 ENA 0
0229 P00A6 180A JMP* LOAD
0230 P00A7 0C02 ENQ 2
0231 P00A8 CEEC LDA* (SM),Q
0232 P00A9 B000 EOR =N$2C4E
0233 P00AA 2C4E
0234 P00AB 0102 SAZ 2
0235 P00AC 0A01 ENA 1
0236 P00AD 1802 JMP* *+2
0237 P00AE 0A02 ENA 2
0238 P00AF 68C7 STA* LGOMOD SET *LGO,N STATEMENT INDICATOR
0239 P00B0 88E4 LOAD ADD* SM
0240 P00B1 0901 INA 1
0241 P00B2 0FC1 ALS 1
0242 P00B3 60FF LOAD1 STA- I
0243 P00B4 5800 RTJ ASCHEX NUMBER IS GIVEN.
0244 P00B5 00B4
0245 P00B6 0161 SQP RBL1-*--1
0246 P00B7 1842 ERR JMP* ERRJ04 INPUT ERROR.
0247 P00B8 E0FF RBL1 LDQ- I
0248 P00B9 484C STQ* NEXTI SAVE INPUT BUFFER CURRENT ADDRESS
0249 P00BA 0111 SAN RBL2B
0250 P00BB 1816 JMP* RBL2 NO LU BY USER - USE STANDARD
0251 P00BC E400 X RBL2B LDQ LOG1
0252 P00BD 7FFF X
0253 P00BE 0852 TCQ Q
0254 P00BF 0832 AAQ Q
0255 P00C0 0DFE INQ -1
0256 P00C1 0171 SQM 1
0257 P00C2 1837 JMP* ERRJ04
0258 P00C3 6841 STA* SAVLU SAVE LU NO.
0259 P00C4 0822 TRA Q
0260 P00C5 E600 X LDQ+ LOG1A,2 PICK-UP POINTER TO PHSTAB
0261 P00C6 7FFF
0262 P00C7 0A02 ENA 2
0263 P00C8 A208 AND- 8,Q CK BIT TO ALLOW UNPROTECTED READS
0264 P00C9 0103 SAZ EREX IF ZERO, READ BIT NOT SET
0265 P00CA 0A01 ENA 1
0266 P00CB A208 AND- 8,Q CHECK PROTECTED BIT
0267 P00CC 0101 SAZ RBL1A IF PROTECTED BIT SET - ERROR

```

M7600216

M7600218

M7600219

M7600220

M7600222

M7600224

**MSOS 4.0M7600225

**MSOS 4.0M7600226

**MSOS 4.0M7600227

**MSOS 4.0M7600228

**MSOS 4.0M7600229

**MSOS 4.0M7600230

**MSOS 4.0M7600231

**MSOS 4.0M7600232

**MSOS 4.0M7600233

**MSOS 4.0M7600234

**MSOS 4.0M7600235

**MSOS 4.0M7600236

**MSOS 4.0M7600237

**MSOS 4.0M7600238

M7600239

M7600240

**MSOS 4.0M7600241

M7600242

M7600243

M7600244

**MSOS 4.0M7600246

**MSOS 4.0M7600247

**MSOS 4.0M7600248

M7600249

M7600250

M7600251

M7600252

M7600253

M7600254

M7600255

M7600256

M7600257

M7600258

M7600259

M7600260

M7600261

M7600262

M7600263

M7600264

0255	P00CD	182C	EREX	JMP*	ERRJ0+				M7600265
0256	P00CE	C836	RBL1A	LDA*	SAVLU	RESTORE LU IN A			M7600266
0257	P00CF	CF04	RBL1B	ALS	4	NUMBER GIVEN	**MSOS4.0		M7600267
0258	P00D0	180A		JMP*	RBL3				M7600268
0270	P00D1	C8A5	RBL2	LDA*	LGM0D	CHECK IF *LGO STATEMENT	**MSOS4.0		M7600270
0271	P00D2	0103		SAZ	RBL2A		**MSOS4.0		M7600271
0272	P00D3	C0B3		LDA-	\$B3	FOR NO. NOT GIVEN ON *LGO	**MSOS4.0		M7600272
0273	P00D4	6830		STA*	SAVLU				M7600273
0274	P00D5	18F9		JMP*	RBL1B	USE STANDARD SCRATCH LU	**MSOS4.0		M7600274
0275	P00D6	C032	RBL2A	LDA-	H8000	FOR NO. NOT GIVEN ON\$L	**MSOS4.0		M7600275
0276	P00D7	E0F9		LDQ-	\$F9				M7600276
0277	P00D8	4800		STQ	SAVLU				M7600277
0278	P00DA	002B	RBL3	RTJ	LOADLR	USE STANDARD INPUT LU	**MSOS4.0		M7600278
0279	P00DB	003E							
0280	P00DC	0103		SAZ	RBL3A	NO,ERROR	**MSOS4.0		M7600279
0281	P00DD	0900		INA	0	CHECK FOR 65K ADDRESS WITH	**MSOS4.0		M7600280
0282	P00DE	0119		SAN	RBL4A	A CONTROL STATEMENT			M7600281
0283	P00DF	1823	RBL3A	JMP*	JBP	LOADER ERROR DISCONTINUE LOADING	**MSOS	+.0M	M7600282
0284	P00E0	E898		LDQ*	G0LOAD	ALL LOADS COMPLETED	**MSOS	+.0M	M7600283
0285	P00E1	0162		SQP	2		**MSOS	+.0M	M7600284
0286	P00E2	C823		LDA*	NEXTI	NO,GET NEXT LOGICAL UNIT	**MSOS	+.0M	M7600285
0287	P00E3	18CF		JMP*	LOAD1		**MSOS	+.0M	M7600286
0288	P00E4	E892		LDQ*	LGM0D	YES,*LGO STATEMENT	**MSOS	+.0M	M7600287
0289	P00E5	0141		SQZ	RBL4		**MSOS	+.0M	M7600288
0290	P00E6	1880	RBL4	JMP*	LBL9	YES,SCHEDULE EXECUTE MODULE	**MSOS	+.0M	M7600289
0291	P00E7	1CB9		JMP*	(RBL0A)	RETURN TO JOBPRO			M7600290
0292	P00E8	68B0	RBL4A	STA*	J03+1	SAVE BUFFER ADDRESS			M7600292
0293	P00E9	C400	X	LDA	IUP	INPUT LOGICAL UNIT			M7600293
0294	P00EA	7FFF	X						
0295	P00EB	A00A		AND-	\$A				M7600294
0296	P00EC	8818		EOR*	SAVLU				M7600295
0297	P00ED	0119	RBL5	SAN	RBL9A	SKIP IF INPUT UNIT NOT LOAD UNIT	**MSOS	+.0M	M7600296
0298	P00EE	0C24	*	ENQ	36	CONTROL STATEMENT TERMINATED	**MSOS	+.0M	M7600297
0299	P00EF	CEA9	RBL7	LDA*	(J03+1),Q	LOAD	**MSOS	+.0M	M7600298
0300	P00F0	6EA4		STA*	(SM),Q	MOVE STATEMENT TO THE JOB	**MSOS	+.0M	M7600299
0301	P00F1	0DFE		INQ	-1	PROCESSOR INPUT BUFFER	**MSOS	+.0M	M7600300
0302	P00F2	0171		SQM	RBL9	MOVE FINISHED	**MSOS	+.0M	M7600301
0303	P00F3	18FB		JMP*	RBL7		**MSOS	+.0M	M7600302
0304	P00F4	C8A0	RBL9	LDA*	SM	NO	**MSOS	+.0M	M7600303
0305	P00F5	6400	X	STA	JOBIND	YES,SET INDICATOR FOR JOBPRO MODULE	**MSOS	+.0M	M7600304
0306	P00F6	7FFF	X						
0307	P00F7	90F7	P	RBL9A	EQU RBL9A(*)		**MSOS	+.0M	M7600306
0308	P00F8	18E8		JMP*	RBL3A		**MSOS	+.0M	M7600307
0309	P00F8	0029	X	MIBI	ADC MIB				M7600309
0311			*			SET UP TO RETURN TO J04 PRINTOUT			M7600311
0312	P00F9	C000		ERRJ0+	LDA =N\$3034	PUT AN 04 IN TRANTA LOCATION	**MSOS	+.0M	M7600312
	P00FA	3034							

```

0313 P00FB 1803      *      JMP* ERJ03A
0314 P00FC 0000      *      ERJ03  LDA  =N$3033
0315 P00FD 3033      *      ERJ03A STA  (ERRBUF)
0316 P00FE 6000      *      ENQ  6
0317 P00FF FF78      *      JMP* LBL5GO
0318 P0100 0C06      *      ENA  -0
0319 P0101 189C      *      JMP* ERJ03A
0320 P0102 0AFF      *      SAVLJ ADC  J
0321 P0103 18FA      *      NEXTI NUM 0
0322 P0104 0000
0322 P0105 0000

```

```

FOR ERROR MESSAGE
SET UP TO RETURN TO J03 PRINTOUT
PUT 03 IN TRANTA ERROR INDICATOR

FOR ERROR MESSAGE

INDEX TO ERROR ROUTINE IN JOBPRO
LOADER ERROR-ABORT JOB
SAVE LU HERE WHILE CHECKING CLASS CODE

```

```

**MSOS 4.0M7600313
M7600314
**MSOS 4.0M7600315
M7600316
**MSOS 4.0M7600317
M7600318
**MSOS 4.0 M7600319
M7600320
M7600321
**MSOS 4.0M7600322

```

0327
0328 P0106 0000
0329 P0107 680A
0330 P0108 4808
0331 P0109 34F4
0332 P010A 4800
P010B 0000
0333 P010C 0000
P010D 08C2
0334 P010E 0000
0335 P010F 0000
0336 P0110 0000
P0111 0000
0337 P0112 C8F9
0338 P0113 0101
0339 P0114 18FD
0340 P0115 1CF0

*
READMM 0 0
STA* SN+1
STQ* SN
RTJ- (\$F4)
NUM \$4800,0

TH NUM \$0000,\$8C2

NW NUM \$0000
FL NUM \$0000
SN NUM \$0,\$0

LDA* TH
SAZ 1
JMP* *-2
JMP* (READMM)

READ MASS MEMORY SUBROUTINE

Q HAS MSB, A HAS LSB OF MM ADDRESS

WAIT FOR COMPLETION

**MSOS +.0M7600332

M7600327
M7600328
M7600329
M7600330
M7600331
M7600332

M7600333

M7600334
M7600335
M7600336

M7600337
M7600338
M7600339
M7600340

```

0342 *****
0344 * THIS SUBROUTINE JUMPS TO AND IS RETURN FROM THE
0345 * LOADER
0347 *****
0349 PO1116 7FFF X XSWAP ADC SWAPC< POINTER TO UNPIO RESET
0350 PO1117 7FFF X UNPIOS ADC UNPIO POINTER TO UNPIO SWITCH
0351 PO1118 0000 QSAV ADC 0
0352 PO1119 0000 LOADLR 0
0353 PO111A 5809 RTJ* LLR GIVE THE LOADER CONTROL
0354 PO111B 48F0 STQ* QSAV
0355 PO111C E0EE LDQ- $EE
0356 PO111D 0600 SPB 0 SET PROTECT BIT FOR
0357 PO111E 0C00 ENQ 0 CLEAR FLAG
0358 PO111F 4C18 STQ* (LOADI)
0359 PO120 0400 EIN 0 RETURN LOCATION
0360 PO121 E8F6 LDQ* QSAV
0361 PO122 1CF6 JMP* (LOADLR) RETURN TO CALLING PROGRAM.
0362 PO123 0000 LLR 0 0
0363 PO124 48F3 STQ* QSAV
0364 PO125 EC00 LDQ (LOADEP) CHECK IF LOADER PRESENT
0365 PO126 FFF7
0366 PO127 0151 SQN LOADL1
0367 PO128 18D3 JMP* ERJ03
0368 PO129 480D LOADL1 STQ* LOADL2+1
0369 PO12A DC0D RAO* (LOADI)
*
*
0371 PO12B E8F7 LDQ* LLR
0372 PO12C 44C0 X STQ JPRET1
0373 PO12D 7FFF X LDQ =XJPRETN
0374 PO12E E000 X
0375 PO12F 7FFF X STQ JPRET
0376 PO130 4400 X
0377 PO131 7FFF X
0378 PO132 40EE STQ- $EE
0379 PO133 0700 CPB 0
0377 PO134 E8E3 LDQ* QSAV
0378 PO135 1400 LOADL2 JMP+ 0
0379 PO136 0000
0379 PO137 7FFF X LOADI ADC LOADIN

```

```

M7600342
M7600344
M7600345
M7600347
M7600349
M7600350
M7600351
M7600352
M7600353
M7600354
M7600355
M7600356
M7600357
M7600358
M7600359
M7600360
M7600361
M7600362
M7600363
M7600364
M7600365
M7600366
M7600367
M7600368
M7600369
M7600370
M7600371
M7600372
M7600373
M7600374
M7600375
M7600376
M7600377
M7600378
M7600379

```



```

0381 ***** M7600381
0383 *** *P JOB PROCESSOR STATEMENT M7600383
0384 * THIS IS THE PRELOAD INITIALIZATION ROUTINE M7600384
0386 * LOADSD - MASS STORAGE SYSTEM DIRECTOR TABLE LOC. M7600386
0387 * LOADEP - LOADER ENTRY POINT M7600387
0389 ***** M7600389

```

```

0391 P0138 0B00 PREJOB NOP 0 ENTRY POINT M7600391
0392 P0139 C0F7 LDA- $F7 SET TEMPORARY HIGHEST AND M7600392
0393 P013A 60ED STA- $EJ LOWEST UNPROTECTED LOCATION M7600393
0394 P013B 0901 INA 1 **MSOS 4.0M7600394
0395 P013C 682A STA* FWALOD SET FWA BASE FOR LOADER **MSOS 4.0M7600395
0396 P013D C0F6 LDA- $F6 M7600396
0397 P013E 60EC STA- $EJ M7600397
0398 P013F 6828 STA* LWALOD SET LWA BASE FOR LOADER **MSOS 4.0M7600398

0400 P0140 E825 LDQ* LSD LOAD LOADER INTO HIGH CORE M7600400
0401 P0141 F0EB ADQ- $EB M7600401
0402 P0142 C204 LDA- 4,Q M7600402
0403 P0143 68CA STA* NW LOADER SIZE M7600403
0404 P0144 90F6 SUB- $F6 M7600404
0405 P0145 0864 TCA A FIRST WORD ADDRESS M7600405
0406 P0146 68C8 STA* FL M7600406
0407 P0147 6C00 STA (LOADEP) M7600407
0408 P0148 FF53
0409 P0149 4810 STQ* PJ5 SAVE Q TEMPORARILY M7600408
0410 P014A C0F7 LDA- $F7 GET START OF UNPROTECTED -1 M7600409
0411 P014B 0901 INA 1 +1, ACTUAL START M7600410
0412 P014C 5400 RTJ+ COMPV4 GO COMPARE M7600411
0413 P014D 7FFF X
0414 P014E E808 LDQ* PJ5 RESTORE Q M7600412
0415 P014F 0103 SAZ OKL SAME SIZE M7600413
0416 P0150 0900 INA 0 TEST MINUS ZERO M7600414
0417 P0151 0111 SAN OKL UNPROTECTED BIGGER THAN LOADER M7600415
0418 P0152 180F JMP* JPO5 ERROR, JPO5, LOADER BIGGER THAN UNPRO M7600416
0419 P0153 0153 EQU OKL(*) M7600417
0420 P0154 C206 LDA- 6,Q MSB IN Q, LSB IN A M7600418
0421 P0155 E205 LDQ- 5,Q M7600419

0422 P0156 DCC1 RAO* (UNPIO) SET UNPIO SWITCH M7600421
0423 P0157 58AF RTJ* READMM READ IN LOADER FROM MASS STORAGE M7600422

0424 P0158 5CBE PJ4 RTJ* (XSWAP) CLEAR UNPIO SWITCH M7600424
0425 P0159 5801 RTJ* *+1 **MSOS 4.0M7600425
0426 P015A C000 PJ5 0 **MSOS 4.0M7600426
0427 P015B C000 LDA =XFWALOD-PJ5 SET UP Q TO POINT TO ADDRESS **MSOS 4.0M7600427
0428 P015C 88FC ADD* PJ5 CONTAINING FWA-LWA-BASES FOR **MSOS 4.0M7600428
0429 P015D 0822 TRA Q LOADER **MSOS 4.0M7600429

```

```

0430 P015E 0A01      ENA 1
0431 P015F 58B9      RTJ* LOADLR
0432 P0160 1CD7      JMP* (PREJOB)
0433 P0161 C000      LDA =N$3035      JP05      RETURN
                                OUTPUT JP05 ERROR
0434 P0162 3033
      P0163 1800      JMP ERJ03A      NOT ENOUGH CORE FOR LOADER
      P0164 FF99

0436 P0165 7FFF X LSD  ADC  LOADSD
0437 P0166 0000      FWALDD NUM 0
0438 P0167 0000      LWALOD NUM 0
0439 P0168 0000      NUM 0

```

```

**MSOS 4.0M7600430
**MSOS 4.0M7600431
                                M7600432
                                M7600433
                                M7600434
                                M7600436
**MSOS 4.0M7600437
**MSOS 4.0M7600438
**MSOS 4.0M7600439

```

```

*****
* THIS IS A DECIMAL ASCII TO HEX ONVERSION ROUTINE
ASCHEX 0 0
NEXT LDQ- I SET TEMP LOC. TO ZERO
LRS 1 LEFT OR WRITE CHAR. COUNT
SQP 2
ADQ- H8000
INQ -1
LDQ- ($22),Q
SAP 2
QRS 8 LEFT CHARACTER
JMP* *+3
RAO- I RIGHT CHAR. INCREASE WORD
RAO- I COUNT
LRS 8
ALS 8
TRA Q A AND Q CONTAINS CHARACTER
LDA- I
EOR- $3
STA- I
TRQ A
EOR- $A CHECK FOR $FF
SAN NEXT1 NOT $FF CHECK IF COMMA
ENA 0
STA GOLOAD
NEXT1 JMP* OVER
EOR =N$D3 THIS CHARACTER A COMMA
OVER SAN CHECK*-1
ENA 0
LDQ* TEMP1 DECIMAL HEX HUMBER
LLS 8
SAZ OK*-1 CHECK FOR OVER TWO CHARACTERS.
JMP* ERR1
OK LLS 4 COMPUTE HEX NUMBER
QLS 4
STQ* TEMP1
SAZ 2
MUI =N$A
ADD* TEMP1 A CONTAINS HEX NUMBER
ENQ 0 Q - NO ERROR.
JMP* (ASCHEX) RETURN
CHECK INQ -$30 CHECK IF BETWEEN $30 AND $39
TRQ A
SQM ERR1*-1
INQ -10

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M7600441
M7600442
M7600443
M7600444
M7600445
M7600446
M7600447
M7600448
**MSOS4.0 M7600449
**MSOS4.0 M7600450
**MSOS4.0 M7600451
M7600452
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M7600455
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M7600457
M7600458
M7600459
M7600460
M7600461
M7600462
M7600463
M7600464
M7600465
M7600466
**MSOS 4.0 M7600467
**MSOS 4.0 M7600468
**MSOS 4.0 M7600469
**MSOS 4.0 M7600470
**MSOS 4.0 M7600471
M7600472
M7600473
M7600474
M7600475
M7600476
M7600477
M7600478
M7600479
M7600480
M7600481
M7600482
M7600483
M7600484
M7600485
M7600487
M7600488
M7600489
M7600490

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0491 P019A 0172 SQM CK1-*-1
0492 P019B E012 ERR1 LDQ- LPMASK+16 ERROR RETURN Q=$FFFF
0493 P019C 1CCC JMP* (ASCHEX)
0494 P019D E805 CK1 LDQ* TEMP1 STORE HEX. DIGIT
0495 P019E 0FA4 QLS 4
0496 P019F 0834 AAQ A
0497 P01A0 6802 STA* TEMP1 GET NEXT CHARACTER.
0498 P01A1 18CA JMP* NEXT
0499 P01A2 0000 TEMP1 NUM $0000

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M7600491
M7600492
M7600493
M7600494
M7600495
M7600496
M7600497
M7600498
M7600499

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0501 END JBL

M7600501

PGM= 01A3 (419) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0064, 0065, 0241, 0246, 0447, 0456, 0457, 0462, 0464
0036	LPMSK	0002	(000002) 0492
0037	HFFFF	0012	(000018) 0104
0038	ZERO	0022	(000034)
0039	H8000	0032	(000050) 0275, 0450
0040	DISP	00EA	(000234) 0060

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0012	JBL	0000	0012, 0055
0013	JP1	0015	0013, 0053, 0055
0051	RELEAS	0009	0046
0052	JP2	000A	0044
0063	TRNV	0017	0071
0065	JP1A	0019	0070
0070	LOOP	0023	0080
0081	OUT	0028	0078
0084	LBL1	002E	
0091	LBL2	0034	0095
0098	LBL2A	003A	0138
0099	LBL3	003B	0093
0110	LBL8	0040	0101
0117	LBL3A	004D	0111, 0114, 0139
0120	LADDON	0051	0118
0126	LBL4	0057	0123, 0124
0128	LBL5	0059	0116
0139	LBL6	0066	0135
0140	LBL9	0067	0109, 0193, 0289
0144	TAB1	0069	0090, 0091
0149	LTAB	006E	0090
0152	TABLOC	006E	0121, 0123
0159	TEMP	0074	0088, 0092, 0099, 0120, 0225
0160	F2	0075	0043, 0054
0161	F3	0076	0045, 0048, 0052
0162	LGOMOD	0077	0237, 0270, 0287
0163	ERRRBUF	0078	0073, 0316
0164	GOLOAD	0079	0283, 0469
0173	TRLOAD	007A	0157
0175	TRL	007C	0180
0184	TRLG	0085	0177
0190	TRL2	008B	0188
0194	TAB	008F	0176
0199	JOBP3	0093	0067
0201	SM	0095	0085, 0086, 0103, 0129, 0131, 0175, 0184, 0231, 0238, 0300, 0304
0202	JOBP	0096	
0203	JO4	0097	
0204	JO3	0098	0292, 0299
0206	BBPS	009A	
0207	RTI	009B	
0208	LOADEP	009C	0076, 0117, 0364, 0407

0212	RETRN	009D	0127
J213	LBL5GO	009E	J318
0214	LBL7	009F	0083, 0141
0224	RBLLOAD	00A1	J152, 0153, 0154, 0155, 0156, 0290
0238	LOAD	00BC	0229
0241	LOAD1	00B3	J286
0244	RERR	00B7	
0246	RBL1	00B8	0243
0250	RBL2B	00BC	0248
0265	RREX	00CD	0261
0266	RBL1A	00CE	0264
0267	RBL1B	00CF	0274
0270	RBL2	00D1	0249
0273	RBL2A	00D6	J271
J273	RBL3	00DA	0268
0283	RBL3A	00E0	0279, 0307
0290	RBL4	00E7	0288
0292	RBL4A	00E8	J281
0297	RBL5	00EE	
0299	RBL7	00EF	0303
0304	RBL9	00FF	J302
0306	RBL9A	00F7	0296
0309	MIBI	00F8	
0312	RERRJO4	00F9	0244, 0255, 0265
0315	RERRJO3	00FC	0368
J316	RERRJO3A	00FE	J313, 0320, 0-34
J319	JBP	0102	0189, 0282
0321	SAVLU	0104	0256, 0266, 0273, 0277, 0295
0322	VEXTI	0105	J247, 0285
0328	READMM	0106	J340, 0422
0333	TH	010C	0337
0334	VW	010E	0403
J335	FL	010F	0405
0336	SN	0110	0329, 0330
0339	XSWAP	0116	0424
0350	UNPIOS	0117	J421
0351	QSAV	0118	0354, 0360, 0363, 0377
0352	LOADLR	0119	0187, 0278, 0361, 0431
0362	LLR	0123	0353, 0371
0367	LOADDL1	0129	0365
0378	LOADDL2	0135	0367
0379	LOADI	0137	J358, 0368
0391	PREJOB	0138	0119, 0432
0417	JKL	0153	J413, 0415
0424	PJ4	0157	
0426	PJ5	0159	J408, 0412, 0427, 0428
0433	JP05	0161	0410
0436	LSD	0165	0400
0437	FWALOD	0166	0395, 0427
0438	LWALOD	0167	0398
0444	ASCHEX	0169	J242, 0485, 0493
0447	VEXT	016C	0498
0471	NEXT1	0185	0467

0473	OVER	0188
0478	OK	018D
0487	CHECK	0196
0492	ERR1	0198
0494	CK1	019D
0499	TEMP1	01A2

0470
0476
0472
0477, 0489
0491
0446, 0474, 0480, 0483, 0494, 0497

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0015	TRNVEC	0017	0062
0016	PRORET	0010	0055
0017	JBPROE	002B	0082
0018	RELS1A	7FFF	
0019	PROTEC	0013	0059
0020	LOG1A	00C6	0258
0021	MIB	00F8	0081, 0309
0022	LIBET	0083	0181
0023	JBCNCL	7FFF	
0023	JBCNFG	7FFF	
0024	TRANV	7FFF	
0025	IUP	00EA	J293
0025	LOADSD	0165	0436
0026	LOADIN	0137	0379
0027	JPRET	0131	0374
0027	JPRET1	012D	J372
0027	JPRETN	012F	0373
0028	FILE2	0075	0160
0029	FILE3	0076	0161
0030	LOG1	00BD	J250
0031	BRKPT	7FFF	
0032	UNPIO	0117	0350
0033	SWAPCK	0116	0349
0034	COMPV4	014D	J411
0035	JOBIN0	00F6	0305

0001		NAM JPCHGE	DECK-ID M77	MSOS 5.0	SUMMARY-116M7700001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0			M7700002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA			M7700003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976			M7700004

0006	*	JPCHGE-STATEMENT PROCESSOR FOR, *K * CSY *V	**MSOS 4.0M7700006
0007	*	*ADR *ADF *BSR *BSF	M7700007

0009	*****		M7700009
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0011	***	*K JOB PROCESSOR STATEMENT	M7700011
0012	*	THIS STATEMENT ALLOWS THE OPERATOR THE OPTION OF	M7700012
0013	*	SELECTING DEVICES FOR SYSTEM UNITS OTHER THAN	M7700013
0014	*	THOSE CURRENTLY USED.	M7700014
0015	*****		M7700015

0017		ENT CHANGE	M7700017
0018		ENT JPCG	M7700018

0020	0022	EQU	ZERO(\$22)	**MSOS 4.0M7700020
0021		EXT	JBCNCL	**MSOS 4.0M7700021
0022		EXT	MIINP	BUFFER ADDRESS IN MINT
0023		EXT	VINPV4	**MSOS 4.0M7700022
0024		EXT	NUMLU	NO OF LU IN SYSBUF
0025		EXT*	ASCHEX	M7700024
0026		EXT	IUP	M7700025
0027		EXT	TRNVEC	ABS. ADDR. OF TRANTA BUFFER IN JOBENT (TRVEC)
0028		EXT	FILE2	M7700028
0029		EXT	LOG1A	M7700029
0030		EXT	MIB, MIBX	FLAGS IN MINT
0031		EXT	JBPROE	M7700030
0032		EXT	MIBUF	M7700031
0033	0002	EQU	LPMSK(2)	M7700032
0034	00EF	EQU	LEVEL(\$EF)	M7700034

0036	P0000	C8FE	JPCG	NUM	\$C8FE	ENTRY POINT - (LDA* *-1)	M7700035
0037	P0001	684A		STA*	ABSLOC	SAVE ABS LOC OF PROGRAM	M7700037
0038	P0002	E0EF		LDQ-	LEVEL	**MSOS 4.0M7700038	
0039	P0003	0157		SQN	GOGO	CALLED FROM MINT	**MSOS 4.0M7700039
0040	P0004	0C43		STA*	(F2)	FWA TO FILE 2	M7700040
0041	P0005	0844		CLR	A		M7700041
0042	P0006	6400	X	STA	MIB	CLEAR MIB SWITCH - LOCK OUT FOR INTER MODULE	M7700042
	PC007	7FFF	X				

0043			*			TRANSFERS	M7700043
0044	P0008	E400	X	LDQ	MIBJF	CALLED FROM JOBPRO	**MSOS 4.0M7700044
	P0009	7FFF	X				
0045	P000A	1803		JMP*	REENTR	**MSOS 4.0M7700045	
0046	P000B	E000	X	GOGO	LDQ	=XMIINP	**MSOS 4.0M7700046
	P000C	7FFF	X				

0048	P000D	C622		REENTR	LDA-	(\$22),3	Q IS POINTER TO INPUT BUFFER AT THIS POINT	M7700048
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0049 P000E B000 EOR =N$2A56 M7700049
P000F 2A56
0050 P0010 6800 STA VSW M7700050
P0011 0080
0051 P0012 0111 SAN SET M7700051
0052 P0013 1818 JMP* NCSY M7700052
0053 P0014 09E8 SET INA -$17 *A M7700053
0054 P0015 0112 SAN SET0 M7700054
0055 P0016 1800 JMP ADX GOTO ADVANCE ROUTINE M7700055
P0017 00E2
0056 P0018 0903 SET0 INA 3 *B M7700056
0057 P0019 0112 SAN SET00 M7700057
0058 P001A 1800 JMP BSX GOTO BACKSPACE ROUTINE M7700058
P001B 00EA
0059 P001C 09FE SET00 INA -1 M7700059
0060 P001D 0110 SAN NCSY NO **MSOS 4.0M7700060
0061 P001E 0D01 INQ 1 **MSOS 4.0M7700061
0062 P001F C622 LDA- ($22),2 **MSOS +.0M7700062
0063 P0020 B000 EOR =N$5359 **MSOS +.0M7700063
P0021 5359
0064 P0022 0115 SAN SET1 **MSOS 4.0M7700064
0065 P0023 C201 LDA- 1,Q MAKE SURE A COMMA **MSOS 4.0M7700065
0066 P0024 0FC8 ALS 8 FOLLOWS *CSY **MSOS 4.0M7700066
0067 P0025 A00A AND- $A **MSOS 4.0M7700067
0068 P0026 09D3 INA -$20 **MSOS +.0M7700068
0069 P0027 0102 SAZ SETCF **MSOS 4.0M7700069
0070 P0028 CA02 SET1 ENA 2 NO **MSOS 4.0M7700070
0071 P0029 1818 JMP* RF3A+1 SCHEDULE JPLOAD **MSOS 4.0M7700071
0072 P002A D822 SETCF RAO* CFLAF WIL BE STORING L.U. IN COSY UNIT LOC **MSOS 4.0M7700072
0073 P002B 0D01 NCSY INQ 1 INPUT BUFFER **MSOS +.0M7700073
0074 P002C 40FF STQ- I M7700074

0076 P002D 5822 RTJ* CHANGE M7700076
0077 P002E C820 LDA* VLUFLG NO V PROCESSED GET OUT **MSOS 4.0M7700077
0078 P002F 0117 SAN GT0JT M7700078
0079 P0030 E400 LDQ TRNVEC JOBENT TRANTA TABLE **MSOS 4.0M7700079
P0031 7FFF X
0080 P0032 C20C LDA- 12,Q IS A JOB IN PROGRESS **MSOS 4.0M7700080
0081 P0033 0113 SAN GT0JT YES **MSOS 4.0M7700081
0082 P0034 CC15 LDA* (IUPP) M7700082
0083 P0035 6400 STA VINPV4 **MSOS 4.0M7700083
P0036 7FFF X
0084 P0037 C0EF GTOUT LDA- LEVEL **MSOS 4.0M7700084
0085 P0038 0106 SAZ RF3A-1 BACK TO J.P. **MSOS 4.0M7700085
0086 P0039 0844 SWAP CLR A **MSOS +.0M7700086
0087 P003A 6400 STA MIBX DONE WITH MINT BUFFER **MSOS 4.0M7700087
P003B 7FFF X
0088 RELEAS (JPCG-*+1),1,1 **MSOS +.0M7700088
0088 P003C 54F4
0088 P003D 19G1
0088 P003E FFC2
0089 P003F CAG1 RF3A ENA 1 SCHEDULE JOBPRO **MSOS 4.0M7700089
0090 P0040 0C0E ENQ 14 INDEX TO RF3 IN JOBPRO M7700090

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0091	P0041	6807		STA*	INDEX		INDEX TO PROPER MOD IN JOBENT	**MSOS	4.0M7700091
0092	P0042	C400	X	LDA	JBPROE		SET UP RETURN	**MSOS	4.0M7700092
	P0043	7FFF	X						
0093	P0044	60FF		STA-	I		TO JOBPRO	**MSOS	4.0M7700093
0094	P0045	C803		LDA*	INDEX			**MSOS	4.0M7700094
0095	P0046	14FF		JMP-	(I)		RETURN TO JOBENT	**MSOS	4.0M7700095
0097	P0047	7FFF	X	F2	ADC	FILE2			M7700097
0098	P0048	0000		INDEX	NUM	0		**MSOS	4.0M7700098
0100	P0049	7FFF	X	IUPP	ADC	IUP			M7700100
0101	P004A	0000		QSAVE	ADC	0			M7700101
0102	P004B	0000		ABSLOC	ADC	0			M7700102
0103	P004C	0000		CFLAF	NUM	0		**MSOS	4.0M7700103
0104	P004D	0000		VLU	NUM	0		**MSOS	4.0M7700104
0105	P004E	FFFE		VLUFLG	NUM	-1		**MSOS	4.0M7700105
0107	P004F	0B00		CHANGE	NOP	0	ENTRY POINT		M7700107
0108	P0050	0AFD			ENA	-2	SET COUNT TO -2		M7700108
0109	P0051	6841		STA*	COUNT				M7700109
0110	P0052	C83F		LDA*	VSW		CHECK IF *V OR *K		M7700110
0111	P0053	C113		SAN	C3-* -1		A=NON ZERO IF *K		M7700111
0112	P0054	C000		LDA	=N\$56		A=0 SET COUNT+1 TO ENABLE THE		M7700112
	P0055	0056					PROCESSING OF THE *V STATEMENT		M7700113
0113			*	STA*	COUNT+1				M7700114
0114	P0056	6830							
0116	P0057	E8F3		C3	LDQ*	ABSLOC	FIND ABS. LOC. OF BUFFER		M7700116
0117	P0058	F000			ADQ	=X3JF-JPC3	LOCATION TO STORE ALPHA		M7700117
	P0059	0095							
0118	P005A	F838		ADQ*	COUNT		CHAR. INTO.		M7700118
0120	P005B	5800	X	RTJ	ASCHEX				M7700120
	P005C	7FFF	X						
0122	P005D	0FF0		LLS	15				M7700122
0123	P005E	0156		SQN	C5-* -1				M7700123
0124	P005F	E833		LDQ*	COUNT				M7700124
0125	P0060	0141		SQZ	1		IF MORE THAN 3 WORDS READ		M7700125
0126	P0061	0164		SQP	ERR-* -1		ERROR.		M7700126
0127	P0062	6A36		STA*	NJM,Q		STORE L.U. NO. IN NUM ARRAY.		M7700127
0128	P0063	D82F		RAO*	COUNT				M7700128
0129	P0064	18F2		JMP*	C3				M7700129
0131	P0065	0172		C5	SQM	C6-* -1			M7700131
0132	P0066	1800		ERR	JMP	J04ER		**MSOS	4.0M7700132
	P0067	0070							
0134	P0068	E82A		C6	LDQ*	COUNT	LAST CHAR.		M7700134
0135	P0069	0142			SQZ	C7-* -1			M7700135
0136	P006A	C171			SQM	C7-* -1			M7700136
0137	P006B	186C			JMP*	J04ER			M7700137

0138	P006C	0A2C	C7	STA*	NUM,Q	STORE L.U. NO. IN NUM ARRAY.	M7700138
0139	P006D	0143		SQZ	SAX-*--1	Q=0 IF COUNT HAS GONE TO ZERO	M7700139
0140	P006E	0D01		INQ	1	SET UNUSED PORTION OF ARRAY	M7700140
0141	P006F	0804		SET	A		M7700141
0142	P0070	18FB		JMP*	C7		M7700142
0144	P0071	0AFC	SAX	ENA	-3		M7700144
0145	P0072	60FF		STA-	I		M7700145
0146	P0073	00FF	C8	RAC-	I		M7700146
0147	P0074	C921		LDA*	BUF,I	CHARACTER	M7700147
0148	P0075	E923		LDQ*	NUM,I	LOGICAL UNIT NO.	M7700148
0149	P0076	0161		SQP	C14-*--1		M7700149
0150	P0077	1CD7		JMP*	(CHANGE)	RETURN	M7700150
0152	P0078	0151	C14	SQN	C14XX		**MSOS 4.0M7700152
0153	P0079	1872		JMP*	JO8ER	L.U. ZERO	**MSOS 4.0M7700153
0154	P007A	C9B6	C14XX	INA	-\$49		**MSOS 4.0M7700154
0155	P007B	0115		SAN	C9-*--1		M7700155
0156	P007C	0A01	C14A	ENA	1		**MSOS 4.0M7700156
0157	P007D	5870		RTJ* CADD		GET THE RIGHT SYSTEM ADDRESS	**MSOS 4.0M7700157
0158	P007E	0A02		ENA	2		M7700158
0159	P007F	6854		STA*	MASK	MAY BE READ FROM	M7700159
0160	P0080	1830		JMP*	PROTST	(\$F9) = UNIT NI FOR CURRENT DEVIM	M7700160
0161	P0081	09FC	C9	INA	-3		M7700161
0162	P0082	0117		SAN	C11-*--1		M7700162
0163	P0083	0A03		ENA	3	PUNCH	**MSOS 4.0M7700163
0164	P0084	5869		RTJ* CADD			**MSOS 4.0M7700164
0165	P0085	0A04		ENA	4		M7700165
0166	P0086	684D		STA*	MASK	BE WRITTEN ON	M7700166
0167	P0087	C84D		LDA* MSCLAS		STORE CODE TO REJECT IF NEW	M7700167
0168	P0088	684D		STA* EQCLAS		LIST DEVICE IF MASS STORAGE EQPT.	M7700168
0169	P0089	1827		JMP*	PROTST	LIST DEVICE	M7700169
0170	P008A	09FB	C11	INA	-4		M7700170
0171	P008B	011E		SAN	C13-*--1		M7700171
0172	P008C	0A02		ENA	2	LIST	**MSOS 4.0M7700172
0173	P008D	5860		RTJ* CADD			**MSOS 4.0M7700173
0174	P008E	0A04		ENA	4		M7700174
0175	P008F	6844		STA*	MASK	MAY BE WRITTEN ON	M7700175
0176	P0090	1820		JMP*	PROTST	FOR CURRENT PUNCH DEVICE	M7700176
0177	P0091	0000	VSW	NUM	0		M7700177
0178	P0092	0000	COUNT	NUM	0,0,0		M7700178
	P0093	0000					
	P0094	0000					
0179	P0095	0000	BUF	NUM	0,0,0		M7700179
	P0096	0000					
	P0097	0000					
0180	P0098	0000	NUM	NUM	0,3FFFF		M7700180
	P0099	FFFF					
0181	P009A	09F9	C13	INA	-5		M7700181
0182	P009B	011D		SAN	C13J-*--1		M7700182
0183	P009C	0A02		ENA	2		M7700183
0184	P009D	6836		STA*	MASK		M7700184
0185	P009E	C9FA		LDA*	NUM+1,I		M7700185

0186	P009F	0134	SAM	C13X--1			M7700186
0187	P00A0	00FF	RAO-	I			M7700187
0188	P00A1	C9F3	LDA*	BUF,I			M7700188
0189	P00A2	09BE	INA	-B+1			*M7700189
0190	P00A3	0113	SAN	C13Y--1			M7700190
0191	P00A4	F000	ADQ	=N\$1000	C13X		M7700191
	P00A5	1000					
0192	P00A6	1804	JMP*	C13Z			M7700192
0193	P00A7	09FE	INA	-1	C13Y		M7700193
0194	P00A8	0101	SAZ	1			M7700194
0195	P00A9	182E	JMP*	JO4ER	C13J		M7700195
0196	P00AA	68A3	STA*	VLJFLG	C13Z		M7700196
0197	P00AB	CC9D	LDA*	(IUPP)		SET V FLAG	**MSOS 4.0M7700197
0198	P00AC	68A0	STA*	VLJ		SAVE J P INPUT UNIT	**MSOS 4.0M7700198
0199	P00AD	C000	LDA	=XIUP			**MSOS 4.0M7700199
	P00AE	0049					
0200	P00AF	6822	STA*	LUADDR			**MSOS 4.0M7700200
0201	P00B0	4822	STQ*	UNITNO	PROTST	SAVE NEW LU NUMBER	**MSOS 4.0M7700201
0202	P00B1	C00B	LDA-	LPMSK+9			M7700202
0203	P00B2	08B6	LAQ	A,Q		SAVE LU ONLY	M7700203
0204	P00B3	09FE	INA	-1			M7700204
0205	P00B4	0111	SAN	NOERR--1			M7700205
0206	P00B5	1822	JMP*	JO4ER	NOERR	JUMP IF CORE ALLOCATOR	M7700206
0207	P00B6	0901	INA	1			M7700207
0208	P00B7	9000	SUB	=XNJMLJ		GET NO OF LU FROM SYSEUF	M7700208
	P00B8	7FFF					
0209	P00B9	0102	SAZ	CNTINU--1		CONTINUE IF OK	M7700209
0210	P00BA	0131	SAM	CNTINU--1		CONTINUE IF OK	M7700210
0211	P00BB	181C	JMP*	JO4ER			M7700211
0212	P00BC	E600	LDQ	LOG1A,2	CNTINU		M7700212
	P00BD	7FFF					
0213	P00BE	0A01	ENA	1			M7700213
0214	P00BF	A208	AND-	8,Q		PROTECTED	M7700214
0215	P00C0	0101	SAZ	1		SKIP IF LEGITIMATE CHANGE	M7700215
0216	P00C1	1828	JMP*	JO7ER			M7700216
0217	P00C2	C811	LDA*	MASK		UNIT NUMBER--DEVICE IS PROTECTED	M7700217
0218	P00C3	A208	AND-	8,Q		IF BIT 0 = 1	M7700218
0219	P00C4	0111	SAN	1			M7700219
0220	P00C5	1826	JMP*	JO8ER	PTDR	ERROR-EXIT	**MSOS 4.0M7700220
0221	P00C6	C80F	LDA*	EQCLAS			M7700221
0222	P00C7	0106	SAZ	NOCLCK		SKIP IF NO EQPT CLASS CHECK REQUIRED	M7700222
0223	P00C8	B208	EOR-	8,Q		COMPARE EQPT CLASS NEW	M7700223
0224	P00C9	A80D	AND*	EQCMYK		UNIT- REJECT IF SAME AS	M7700224
0225	P00CA	0111	SAN	RSCLCK		INVALID CLASS	M7700225
0226	P00CB	1820	JMP*	JO8ER			M7700226
0227	P00CC	0A00	RSCLCK	ENA		RESET FIELD AFTER CHECK PERFORMED	M7700227
0228	P00CD	5808	STA*	EQCLAS			M7700228
0229	P00CE	C804	NOCLCK	LDA*	UNITNO	FINALLY--SET NEW UNIT NUMBER	M7700229
0230	P00CF	6C02	STA*	(LUADDR)		IN LOCATION RESERVED FOR IT	M7700230
0231	P00D0	18A2	JMP*	C8		GO GET ANOTHER PARAM	M7700231
0232	P00D1	0000	LUADDR	NUM			M7700232
0233	P00D2	0000	UNITNO	NUM			M7700233
0234	P00D3	0000	MASK	NUM			M7700234

0235	P00D4	1000	MSCLAS	NUM	\$1000	MASS STORAGE DEV EQPT CLASS	M7700235
0236	P00D5	0000	EQCLAS	NUM	0		M7700236
0237	P00D6	3800	EQCMSK	NUM	\$3800	EQPT CLASS FIELD SPEC.	M7700237
0238	P00D7	0A00	JO4ER	ENA	0		**MSOS +.0M7700238
0239	P00D8	E400	COMEX	LDQ	TRNVEC	TRANA TABLE IN JOBENT	**MSOS +.0M7700239
	P00D9	0031					
0240	P00DA	8000	COMEXX	ADD	=N\$3034		**MSOS +.0M7700240
	P00DB	3034					
0241	P00DC	620A		STA-	10,Q		**MSOS +.0M7700241
0242	P00DD	C0EF		LDA-	LEVEL		**MSOS +.0M7700242
0243	P00DE	0106		SAZ	JPXERR		**MSOS +.0M7700243
0244	P00DF	0802		SET	Q		**MSOS +.0M7700244
0245	P00EG	54F4		RTJ-	(SF4)	SCHEDULE JOB CANCEL WHICH WILL CALL	**MSOS +.0M7700245
0246	P00E1	1202		NUM	\$1202	IN JBKILL	**MSOS +.0M7700246
0247	P00E2	7FFF		ADC	JBCNCL		**MSOS +.0M7700247
0248	P00E3	1800		JMP	SWAP	RELEASE CORE	**MSOS +.0M7700248
	P00E4	FF54					
0249	P00E5	0A01	JPXERR	ENA	1	TELL JOBPRO	**MSOS +.0M7700249
0250	P00E6	0C06		ENQ	6		**MSOS +.0M7700250
0251	P00E7	1800		JMP	RF3A+1	TO TERMINATE JOB	**MSOS +.0M7700251
	P00E8	FF58					
0252	P00E9	0A03	JO7ER	ENA	3		**MSOS +.0M7700252
0253	P00EA	18ED		JMP*	COMEX		**MSOS +.0M7700253
0254	P00EB	0A04	JO8ER	ENA	4		**MSOS +.0M7700254
0255	P00EC	18EB		JMP*	COMEX		**MSOS +.0M7700255
0256	P00ED	0B00	CADD	NOP	0		**MSOS +.0M7700256
0257	P00EE	48A3		STQ*	COUNT		**MSOS +.0M7700257
0258	P00EF	E800		LDQ	CFLAF		**MSOS +.0M7700258
	P00F0	FF5B					
0259	P00F1	0144		SQZ	SYS		**MSOS +.0M7700259
0260	P00F2	80E9		ADD-	\$E9	THE STATEMENT WAS XCSY, PICK UP	M7700260
0261	P00F3	68DD	HERE	STA*	LUAJDR	COSY L.U. ADDRESS	**MSOS +.0M7700261
0262	P00F4	E89D		LDQ*	COUNT		**MSOS +.0M7700262
0263	P00F5	1CF7		JMP*	(CADD)		**MSOS +.0M7700263
0264	P00F6	8802	SYS	ADD*	SADD	STANDARD SYSTEM ADDRESSES	**MSOS +.0M7700264
0265	P00F7	18FB		JMP*	HERE		**MSOS +.0M7700265
0266	P00F8	00F8	SADD	NUM	\$F8		**MSOS +.0M7700266
0268			*			ADVANCE ROUTINE WHICH ADVANCES RECORDS OR FILES	M7700268
0269			*				M7700269
0271	P00F9	0D01	ADX	INQ	1		M7700271
0272	P00FA	C622		LDA-	(\$22),2		M7700272
0273	P00FB	8000		EOR	=ADF	IS IT A *ADF	M7700273
	P00FC	4446					
0274	P00FD	0103		SAZ	ADF	YES	M7700274
0275	P00FE	09EB		INA	-\$14	IS IT A *ADR	M7700275
0276	P00FF	0103		SAZ	ADR		M7700276
0277	P0100	18D6		JMP*	JO4ER	ERROR	M7700277
0278	P0101	0A05	ADF	ENA	5		M7700278

0279	P0102	180E		JMP*	MOTION		M7700279
0280	P0103	0A07	ADR	ENA	7		M7700280
0281	P0104	180C		JMP*	MOTION		M7700281
0283			*	BACKSPACE ROUTINE WHICH BACKSPACES RECORDS OR FILES			M7700283
0284			*				M7700284
0285	P0105	0D01	BSX	INQ	1		M7700286
0287	P0106	C622		LDA-	(\$22),2		M7700287
0288	P0107	B000		EOR	=AS7	IS IT A *BSF	M7700288
	P0108	5346					
0289	P0109	0103		SAZ	BSF	YES	M7700289
0290	P010A	09EB		INA	-\$14	IS IT A *BSR	M7700290
0291	P010B	0103		SAZ	BSR	YES	M7700291
0292	P010C	18CA		JMP*	JO4ER	ERROR	M7700292
0293	P010D	0A06	BSF	ENA	6		M7700293
0294	P010E	1802		JMP*	MOTION		M7700294
0295	P010F	0A01	BSR	ENA	1		M7700295
0296			*				M7700296
0297			*	MOTION ROUTINE SETS UP A REPEATED MOTION REQUEST			M7700297
0298			*				M7700298
0299	P0110	0FCC	MOTION	ALS	12		M7700299
0300	P0111	681C		STA*	REQ+4		M7700300
0301	P0112	C201		LDA-	1,2	MAKE SURE THERE IS A COMMA	M7700301
0302	P0113	0FC8		ALS	8		M7700302
0303	P0114	A00A		AND-	\$A		M7700303
0304	P0115	09D3		INA	-\$2C		M7700304
0305	P0116	0101		SAZ	MOT0		M7700305
0306	P0117	18BF		JMP*	JO4ER	ERROR	M7700306
0307	P0118	0001	MOT0	INQ	1		M7700307
0308	P0119	40FF		STQ-	I		M7700308
0309	P011A	E800	MOT1	LDQ	ABSL0C	FIND ABS. LOC OF BUFFER	M7700309
	P011B	FF2F					
0310	P011C	F000		ADQ	=XBJF-JPCG	GIVE ASCHEX ADDRESS INCASE OF AN INCORRECT	M7700310
	P011D	0095				ALPHA WAS ENTERED, SHOULD NEVER GET ONE	
0311			*				M7700311
0312	P011E	5800	X	RTJ	ASCHEX		M7700312
	P011F	005C	X				
0313	P0120	0143		SQZ	MOT2A	ZERO WAS RETURNED ERROR	M7700313
0314	P0121	0121		SAP	MOT2		M7700314
0315	P0122	1805		JMP*	MOT4	ALL DONE GO DO MOTION	M7700315
0316	P0123	0101	MOT2	SAZ	MOT3		M7700316
0317	P0124	18B2	MOT2A	JMP*	JO4ER	JP04 ERROR	M7700317
0318	P0125	4807	MOT3	STQ*	REQ+3	STORE LU	M7700318
0319	P0126	18F3		JMP*	MOT1		M7700319
0320	P0127	480A	MOT4	STQ*	REQCNT+1	SAVE NUM OF TIME TO REPEAT	M7700320
0321	P0128	54F4		RTJ-	(\$F4)		M7700321
0322	P0129	1D00	REQ	NUM	\$1000		M7700322
0323	P012A	0006		ADC	MOT5-REQ		M7700323

0324	P012B 0000	NUM 0,0,0		M7700324
	P012C 0000			
	P012D 0000			
0325	P012E 14EA	JMP- (\$E4)		M7700325
0326		*		M7700326
0327	P012F 0178	MOT5 SQM COMPER	IF ERROR CHECK IT OUT	M7700327
0328	P0130 E000	REQCNT LDQ =N0		M7700328
	P0131 0000			
0329	P0132 0DFE	INQ -1		M7700329
0330	P0133 0141	SQZ COMP	ALL DONE	M7700330
0331	P0134 18F2	JMP* MOT4	NOT DONE, DO AGAIN	M7700331
0332		*		M7700332
0333	P0135 0A01	COMP ENA 1		M7700333
0334	P0136 1800	JMP RF3A		M7700334
	P0137 FF08			
0335		*		M7700335
0336	P0138 0814	COMPER TRQ A		M7700336
0337	P0139 A01F	AND- \$1F	\$E000	M7700337
0338	P013A B021	EOR- \$21	\$8000	M7700338
0339	P013B 0101	SAZ COMJP4	GOTO JP04 ROUTINE	M7700339
0340	P013C 18F3	JMP* REQCNT		M7700340
0341	P013D 1899	COMJP4 JMP* JO4ER		M7700341
0342		END		M7700342

PG4= 013E (318) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0074, 0093, 0095, 0145, 0146, 0187, 0308
0020	ZERO	0022	(000034)
0033	LPMSK	0002	(000002) 3202
0034	LEVEL	00EF	(000239) 0038, 0084, 0242

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0017	CHANGE	004F	0017, 0075, 0150
0018	JPCG	0000	0018, 0088, 0117, 0310
0046	GOGO	000B	0039
0048	REENTR	000D	0045
0053	SET	0014	0051
0056	SET0	0018	0054
0059	SET0C	001C	0057
0070	SET1	0028	0064
0072	SETCF	002A	0069
0073	VCSY	002B	0052, 0060
0084	GTOUT	0037	0078, 0081
0086	SWAP	0039	0248
0090	RF3A	0040	0071, 0085, 0251, 0334
0097	F2	0047	0040
0098	INDEX	0048	0091, 0094
0100	IUPP	0049	0082, 0197
0101	QSAVE	004A	
J102	ABSLOC	004B	0037, 0116, 0309
0103	CFLAF	004C	0072, 0258
0104	VLU	004D	0198
J105	VLUFLG	004E	0077, 0196
0116	C3	0057	0111, 0129
0131	C5	0065	0123
J132	ERR	0066	0125
0134	C6	0068	0131
0138	C7	006C	0135, 0136, 0142
0144	SAX	0071	0139
0146	C8	0073	J231
0152	C14	0078	0149
0154	C14XX	007A	0152
0156	C14A	007C	
0161	C9	0081	J155
0170	C11	008A	0162
0177	VSW	0091	0050, 0110
0178	COUNT	0092	0109, 0114, 0118, 0124, 0128, 0134, 0257, 0262
0179	BUF	0095	0117, 0147, 0188, 0310
J180	NUM	0098	J127, 0138, 0148, 0185
0181	C13	009A	0171
0191	C13X	00A4	0186
0193	C13Y	00A7	J190
J195	C13J	00A9	0182

0196 G13Z 00AA
 0201 PROTST 00B0
 0207 NOERR 00B6
 J212 CNTINU 00BCC
 0220 PTDER 00C5
 0227 RSCCLK 00CC
 0229 NOCLCK 00CE
 0232 LUADDR 00D1
 0233 JNITNO 00D2
 0234 MASK 00D3
 J235 MSCLAS 00D4
 0236 EQCLAS 00D5
 0237 EQCMSK 00D6
 0238 JO4ER 00D7
 0239 COMEXX 00D8
 J240 COMEXX 00DA
 0249 JPXERR 00E5
 0252 JO7ER 00E9
 0254 JO8ER 00EB
 0256 CAADD 00ED
 0261 HERE 00F3
 0264 SYS 00F6
 0266 SADD 00F8
 0271 ADX 00F9
 0273 ADF 0101
 0280 ADR 0103
 0286 BSX 0105
 0293 BSF 010D
 0295 BSR 010F
 0299 MOTION 0110
 0307 MOT0 0118
 0309 MOT1 011A
 0316 MOT2 0123
 0317 MOT2A 0124
 0318 MOT3 0125
 0320 MOT4 0127
 0322 REQ 0129
 0327 MOT5 012F
 J328 REQCNT 0130
 0333 COMP 0135
 0336 COMPER 0138
 0341 COMJP4 013D

0192
 J160, 0169, 0176
 J203
 J209, 0210

 0225
 J222
 J200, 0230, 0261
 0201, 0229
 0159, 0166, 0175, 0184, 0217
 0167
 J168, 0221, 0228
 0224
 0132, 0137, 0195, 0206, 0211, 0277, 0292, 0306, 0317, 0341
 J253, 0255

 0243
 J216
 J153, 0220, 0226
 J157, 0164, 0173, 0263
 0265
 0259
 0264
 0055
 0274
 0276
 0058
 0289
 0291
 0279, 0281, 0294
 J303
 0319
 0314
 J313
 J316
 0315, 0331
 0300, 0318, 0323
 0323
 0320, 0340
 0330
 0327
 0339

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0021	JBCNGL	00E2	0247
0022	MIINP	000C	0046
0023	VINPV4	0036	0083
0024	NJMLU	00B8	0208
0025	ASCHEX	011F	0120, 0312
0026	IUP	00AE	0100, 0199
0027	TRNVEC	00D9	0079, 0239
0028	FILE2	0047	0097
0029	LOG1A	00BD	0212
0030	MIB	0007	0042
0030	MIBX	003B	0087
0031	JBPROE	0043	0092
0032	MIBUF	0009	0044

0001		NAM	ASCHEX	DECK-ID M78	MSOS 5.0	SUMMARY-11	M7800001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0					M7800002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA					M7800003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976					M7800004

0006	*	ASCII TO HEX CONVERSION					M7800005
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0008	*****						M7800008
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0010	*	THIS IS A DECIMAL ASCII TO HEX CONVERSION ROUTINE.					M7800010
0011	*	UPON ENTRANCE THE FOLLOWING REGISTERS CONTAIN.					M7800011
0012	*	I - LOCATION OF 1ST CHARACTER.					M7800012
0013	*	Q = THE LOCATION TO STORE A ALPHA CHARACTER.					M7800013
0014	*	UPON EXIT.					M7800014
0015	*	A - PLUS ONE IS ERROR CONDITION					M7800015
0016	*	ZERO - MORE WORDS FOLLOWING					M7800016
0017	*	MINUS - NO MORE FOLLOWING					M7800017
0018	*	Q - HEX NUMBER					M7800018
0019	*	I - NEXT WORD LOCATION					M7800019

0021	*****						M7800021
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0023		ENT	ASCHEX				M7800023
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0026	P0000	0B00	ASCHEX	VOP	0	ENTRY POINT	M7800026
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0028	P0001	484F	STQ*	LOCA		LOC. OF ALPHA CHAR.	M7800028
0029	P0002	0A00	ENA	0			M7800029
0030	P0003	684F	STA*	TEMP		ZERO TEMPORARY STORAGE	M7800030
0031	P0004	684F	STA*	COMMA		ZERO COMMA COUNTER.	M7800031
0032	P0005	684F	STA*	HEXNO		ZERO NUMERIC FLAG	M7800032

0034	P0006	C522	ASCH	LDA-	(\$22),I	INPUT WORD	M7800034
0035	P0007	0822		TRA	Q		M7800035
0036	P0008	F000		ADQ	=N\$D303		M7800036

0037	P000A	J140	SQZ	ERR--1			M7800037
0038	P000B	0F48	ARS	8			M7800038
0039	P000C	A00A	AND-	\$A			M7800039
0040	P000D	580F	RTJ*	SJB			M7800040
0041	P000E	D845	RAO*	COMMA		INCREASE COMMA COUNTER.	M7800041
0042	P000F	G156	SQN	ASCH1--1			M7800042
0043	P0010	C522	LDA-	(\$22),I		WORD	M7800043
0044	P0011	A00A	AND-	\$A			M7800044
0045	P0012	580A	RTJ*	SUB			M7800045
0046	P0013	D0FF	RAO-	I		INCREASE WORD LOCATION	M7800046
0047	P0014	G151	SQN	ASCH1--1			M7800047
0048	P0015	18F0	JMP*	ASCH			M7800048

0050	P0016	0133	ASCH1	SAM	ASCH4--1		M7800050
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0051	P0017	0102		SAZ	ASCH4--*-1		M7800051
0052	P0018	0A01	ERR	ENA	1		M7800052
0054	P0019	1CE6	ASCH2	JMP*	(ASCHEX)	RETURN	M7800054
0056	P001A	E838	ASCH4	LDQ*	TEMP	PICK UP NUMBER	M7800056
0057	P001B	1CE4		JMP*	(ASCHEX)	AND RETURN	M7800057
0059	P001C	0B00	SUB	NOF	0	ENTRY POINT.	M7800059
0060	P001D	0C2C		ENQ	\$2C		M7800060
0061	P001E	0872		EAQ	Q	CHECK FOR COMMA.	M7800061
0062	P001F	015E		SQN	SJB2--*-1		M7800062
0063	P0020	E833		LDQ*	COMMA	YES - IS THIS FIRST CHAR.	M7800063
0064	P0021	0A00		ENA	0	A EQUAL ZERO	M7800064
0065	P0022	0159		SQN	SJB0--*-1		M7800065
0066	P0023	0CFE		ENQ	-1	FIRST CHARACTER COMMA	M7800066
0067	P0024	C722		LDA-	(\$22),B	CHECK LAST CHAR. OF	M7800067
0068	P0025	A00A		AND-	\$A	PREVIOUS WORD FOR COMMA.	M7800068
0069	P0026	09D3		INA	-\$2C		M7800069
0070	P0027	0111		SAN	1		M7800070
0071	P0028	18EF		JMP*	ERR		M7800071
0072	P0029	0A00		ENA	0		M7800072
0073	P002A	0C00		ENQ	0		M7800073
0074	P002B	1CF0		JMP*	(SUB)		M7800074
0075	P002C	6802	SUB0	SET	Q	Q EQUALS MINUS	M7800075
0076	P002D	1CEE	SUB1	JMP*	(SUB)	RETURN	M7800076
0078	P002E	E00A	SUB2	LDQ-	\$A		M7800078
0079	P002F	0872		EAQ	Q	CHECK FOR \$FF	M7800079
0080	P0030	0144		SQZ	+		M7800080
0081	P0031	E000		LDQ	=N\$20		M7800081
0082	P0033	0872		EAQ	Q		M7800082
0083	P0034	0152		SQN	SJB3--*-1		M7800083
0084	P0035	0804		SET	A	YES A AND Q MINUS	M7800084
0085	P0036	18F5		JMP*	SUB1-1		M7800085
0087	P0037	0CCF	SUB3	ENQ	-\$30	CHECK FOR CHARACTER SMALLER	M7800087
0088	P0038	0832		AAQ	Q	THAN \$30	M7800088
0089	P0039	0162		SQP	SUB4--*-1		M7800089
0090	P003A	0A01	SERR	ENA	1	YES - ERROR - A = ONE	M7800090
0091	P003B	18F0		JMP*	SJB1-1	RETURN	M7800091
0093	P003C	0CC5	SUB4	ENQ	-\$3A	CHECK FOR NUMERIC.	M7800093
0094	P003D	0832		AAQ	Q		M7800094
0095	P003E	0179		SQM	SJB6--*-1		M7800095
0096	P003F	E815	*	LDQ*	HEXNO	CHECK HEXNO TO SEE IF ALPHA CHARACTER	M7800096
0097			*			FOLLOWS NUMERIC CHARACTER	M7800097
0098	P0040	0152	*	SQN	SUB4A--*-1	Q=NON ZERO IF NUMERIC CHARACTER FIRST	M7800098
0099			*			THIS IS AN ERROR	M7800099
0100	P0041	EC0F	*	LDQ*	(LOCA)	Q=0 ALPHA CHARACTER IS FIRST	M7800100
0101			*			CHECK TO SEE IF THERE WAS AN ALPHA	M7800101
0102			*			CHARACTER BEFORE THIS ONE.	M7800102

0103	P0042	0142		SQZ	SUB+B--1	Q=0 THIS IS FIRST ALPHA CHARACTER	M7800103
0104	P0043	0842	SUB4A	CLR	Q	AN ERROR CONDITION HAS OCCURRED	M7800104
0105			*			2 ALPHA CHARACTERS FOUND BETWEEN DELIMITERS	M7800105
0106			*			OR AN ALPHA CHAR. FOLLOWS A NUMERIC CHAR.	M7800106
0107	P0044	18D3		JMP*	ERR	RETURN WITH AN ERROR INDICATION	M7800107
0108	P0045	5C0B	SUB4B	STA*	(LOCA)	STORE CHARACTER	M7800108
0109	P0046	0846	SUB5	CLR	A,Q		M7800109
0110	P0047	1CD4		JMP*	(SUB)	RETURN	M7800110
0112	P0048	A006	SUB6	AND-	\$6	STORE 4 BIT NUMERIC	M7800112
0113	P0049	6808		STA*	TP		M7800113
0114	P004A	C808		LDA*	TEMP		M7800114
0115	P004B	2046		MUI-	\$45	TEN	M7800115
0116	P004C	8805		ADD*	TP		M7800116
0117	P004D	D807		RAO*	HEXNO		M7800117
0118	P004E	6804		STA*	TEMP		M7800118
0119	P004F	18F6		JMP*	SUB5		M7800119
0121	P0050	0000	LOCA	NUM	\$0000		M7800121
0122	P0051	0000	TP	NUM	\$0000		M7800122
0123	P0052	0000	TEMP	NUM	\$0000		M7800123
0124	P0053	0000	COMMA	NUM	\$0000		M7800124
0125	P0054	0000	HEXNO	NUM	\$0000		M7800125
0126				END			M7800126

PSM= 0055 (85) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0046

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0023	ASCHEX	0000	0023, 0054, 0057
0034	ASCH	0006	0048
0050	ASCH1	0016	0042, 0047
0052	ERR	0018	0037, 0071, 0107
0054	ASCH2	0019	
0056	ASCH4	001A	0050, 0051
0059	SUB	001C	0040, 0045, 0074, 0076, 0110
0075	SUB0	0020	0065
0076	SUB1	002D	0085, 0091
0078	SUB2	002E	0062
0087	SUB3	0037	0083
0090	VFERR	003A	
0093	SUB4	003C	0089
0104	SUB4A	0043	0098
0108	SUB4B	0045	0103
0109	SUB5	0046	0113
0112	SUB6	0048	0095
0121	LOCA	0050	0028, 0100, 0108
0122	TP	0051	0113, 0116
0123	TEMP	0052	0030, 0056, 0114, 0118
0124	COMMA	0053	0031, 0041, 0063
0125	HEXNO	0054	0032, 0096, 0117

*** ALPHABETICAL SORT OF SYMBOLS ***

ASCH	0034	ASCH1	0050	ASCH2	0054	ASCH4	0055	ASCHEX	0023	COMMA	0124	ERR	0052	HEXNO	0125	I	0000
LOCA	0121	SERR	0090	SUB	0059	SUB0	0075	SUB1	0076	SUB2	0078	SUB3	0087	SUB4	0093	SUB4A	0104
SJB4B	0108	SUB5	0109	SUB6	1112	TEMP	0123	TP	0122								

0001
0002
0003
0004

* NAM T13 DECK-ID M79 MSOS 5.0
* MASS STORAGE OPERATING SYSTEM VERSION 5.0
* SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
* COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110M7900001
M7900002
M7900003
M7900004

0006
0008

* GET-FILE REQUEST PROCESSOR

M7900006

M7900008

0010
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029

* THIS IS THE GET-FILE ROUTINE
* THIS IS THE GET-FILE REQUEST PROCESSOR
* THIS REQUEST IS USED TO ACCESS PERMANENT FILES
* WHICH ARE LOCATED IN THE PROGRAM LIBRARY.
* GET-FILE IS CHECKED FOR BEING BUSY, IF SO, THE
* REQUEST IS THROAT AND A RETURN IS MADE TO THE
** A REGISTER NEGATIVE IF CALL IS INDIRECT.
* DISPATCHER.
** UPON ENTRANCE THE FOLLOWING REGISTERS CONTAIN.
** I ADDRESS OF VOLATILE
** Q LOCATION OF GET-FILE
** 0 - Q REGISTER
** 1 - A REGISTER
** 2 - I REGISTER
** 3 - RETURN LOCATION
** 4 - UNUSED
** 5 - LOC. OF REQUEST PARAMETER LIST.
** 6 - UNUSED
** 7 - UNUSED
* 8 - INDIRECT REQ INDICATION = MINUS WHEN INDIRECT

M7900010
M7900011
M7900012
M7900013
M7900014
M7900015
M7900016
M7900017
M7900018
M7900019
M7900020
M7900021
M7900022
M7900023
M7900024
M7900025
M7900026
M7900027
M7900028
**MSOS 4.0M7900029

0031

M7900031

0033

ENT T13

M7900033

0035
0036
0037
0038
0039
0040
0041

EXT SCHERR
EXT SWAPCK
EXT LOCF,LPTRS
EXT FILE2,MIB
EXT COMPV4
EQU SABS(\$BD)
EQU NZERO(\$12),ZERO(\$22),BOTOP(\$F0)

M7900035
M7900036
M7900037
M7900038
**MSOS 4.0M7900039
M7900040
**MSOS 4.0M7900041

0042
0043
0044
0045

00BD
0012
0022
00F0

EQU ONEBIT(\$23)
EQU LPMASK(2)
EQU CABS(\$BE)
EQU REQXT(\$B9),DISP(\$EA)

M7900042
**MSOS 4.0M7900043
M7900044
M7900045

0047 P0000 C8FE

EREQST NUM \$C8FE

GET LOCATION OF T13

M7900047

```

0048 P0001 1800 JMP T13SUP GO SETUP INITIAL PARAMETERS M7900048
      P0002 012D
0049 P0003 4800 T13 STQ T13LOC **MSOS 4.0M7900049
      P0004 3092
      P0005 C108 LDA- 8,I
      P0006 0133 SAM GFA **MSOS 4.0M7900050
      P0007 C103 LDA- 3,I **MSOS 4.0M7900051
      P0008 090A INA 10 INCREASE RETURN ADDRESS M7900052
      P0009 6103 STA- 3,I BY TEN. M7900053
      P000A E105 GFA LDQ- 5,I CHECK IF REQUEST ALREADY M7900054
      P000B C202 LDA- 2,Q THREADED. M7900055
      P000C 6102 SAZ GFB-**-1 A=0 REQUEST NOT THREADED M7900056
      P000D 1400 JMP SCHERR REQUEST ALREADY THREADED ERROR M7900057
      P000E 7FFF X M7900058
X
0050 P000F C800 GFB LDA GFBJSY **MSOS 4.0M7900060
      P0010 0087
      P0011 0113 SAN GFB1-**-1 M7900061
      P0012 0804 SET A SET THREAD LOCATION NEGATIVE. M7900062
      P0013 6202 STA- 2,Q M7900063
      P0014 1816 JMP* GF M7900064
      P0015 0804 GFB1 SET A GET FILE BUSY. M7900066
      P0016 0500 IIN 0 M7900067
      P0017 6202 STA- 2,Q SET THREAD LOC. NEGATIVE. M7900068
* LDA GFTHED 2 CARDS DELETED M7900069
**MSOS 4.0M7900070
      P0018 C800
      P0019 007F
      P001A 0900 INA 0 M7900071
      P001B 0114 SAN GFB+ CHECK IF ANY REQUESTS THREADED M7900072
      P001C 4800 STQ GFTHED **MSOS 4.0M7900073
      P001D 007B
      P001E 0400 GFB2 EIN 0 M7900074
      P001F 14B9 GFB3 JMP- (REQXT) M7900075
      P0020 E878 GFB+ LDQ* GFTHED CHECK EACH REQUEST THREAD M7900077
      P0021 0814 GFB5 TRQ A FOR A NEGATIVE ZERO M7900078
      P0022 E202 LDQ- 2,Q M7900079
      P0023 3D00 INQ 0 M7900080
      P0024 0141 SQZ GFB6 M7900081
      P0025 18FB JMP* GFB5 M7900082
      P0026 0822 GFB6 TRA Q M7900084
      P0027 C105 LDA- 5,I STORE REQUEST LOC. IN M7900085
* 1 CARD DELETED M7900086
      P0028 6202 STA- 2,Q THREAD OF LAST REQUEST. M7900087
      P0029 18F4 JMP* GFB2 M7900088
      P002A 486D GF STQ* GFBUSY LOC. OF REQUEST M7900090
      P002B C0FF LDA- I SAVE I REGISTER M7900091
      P002C 6875 STA* SAVI M7900092
      P002D 40FF STQ- I STORE REQUEST LOC. IN I REG. M7900093

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```

0094 P002E E522 UNPRJT LDQ- (ZERO),I
0095 P002F C107 LDA- 7,I
0096 P003C GFA1 QLS 1 IS D BIT SET
0097 P0031 0161 SQP UN1 NO
0098 P0032 0132 SAM UN1A D IS SET AND I IS NEGATIVE
0099 P0033 E109 UN1 LDQ- 9,I NEGATIVE SECTOR
0100 P0034 0161 SQP 1
0101 P0035 1847 UN1A JMP* ERRGO YES
0102 P0036 0834 AAQ A I AND SECTOR ARE ZERO -- ERROR
0103 P0037 010E SAZ UN2 YES
0104 P0038 C106 LDA- 6,I
0105 P0039 010D SAZ UN3 W2=0
0106 * THIS COMPARE ALLOWS FOR FILES LARGER THAN 32K
0107 P003A E104 LDQ- 4,I IF W2 LESS THAN W1
0108 P003B 5C3D RTJ* (COMPV)
0109 P003C 0102 SAZ UN1B SKIP IF W1.EQ.W2 (OK)
0110 P003D 0900 INA 0 TEST FOR $FFFF
0111 P003F 0107 SAZ UN2 SKIP IF W2.LT.W1 (ERROR)
0112 P003F 684C UN1B STA* NS1 WORDS-1 TO READ
0113 P0040 8105 ADD- 5,I DOES BUFFER END IN PROTECTED CORE
0114 P0041 E0F6 LDQ- BOTOP
0115 P0042 5C36 RTJ* (COMPV)
0116 P0043 0102 SAZ UN2 YES
0117 P0044 0900 INA 0
0118 P0045 0101 SAZ UN3 NO
0119 P0046 1836 UN2 JMP* ERRGO
0120 P0047 C101 UN3 LDA- 1,I
0121 P0048 6857 STA* C MOVE COMPLETION ADDRESS
0122 P0049 C105 LDA- 5,I AND STARTING ADDRESS INTO
0123 P004A 6856 STA* S T13 ROUTINE
0124 P004B C104 GFM LDA- 4,I SAVE W1
0125 P004C 6850 STA* W1
0126 P004D C106 LDA- 6,I SAVE W2
0127 P004E 684F STA* W2
0128 P004F C109 LDA- 9,I CHECK IF SECTOR NO IS SPECIFIED
0129 P0050 0103 SAZ GT4-*--1 A=0 NO SECTOR SPECIFIED
0130 P0051 C84C LDA* W2 SECTOR SPECIFIED CHECK IF W2
0131 P0052 0101 SAZ GT4 TREAT AS IF ALL PARAM = 0
0132 * **MSOS 4.1**M7900131
0133 P0053 1821 GT4A JMP* GT9B MANY WORDS TO READ
0134 P0054 C107 GT4 LDA- 7,I GET THE FILE
0135 P0055 0135 SAM GT5
0136 P0056 810A ADD- 10,I SKIP IF INDIRECT
0137 P0057 E4FF LDQ- (I) ADD ADDRESS OF PARAMETER LIST
0138 P0058 DFA1 QLS 1
0139 P0059 0172 SQM GT5 SKIP IF D BIT SET, USE 16 BIT ARITH
0140 P005A 8032 ADD- ONEBIT+15 ELSE 15 BIT ARITH
0141 P005B A011 GT5 AND- LPMSK+15
0142 P005C 0822 GT6 TRA Q
0143 P005D C622 GT6A LDA- (ZERO),Q
0144 P005E 683B STA* NAME
0145 P005F C201 LDA- 1,Q
0146 P0060 683A STA* NAME+1

```

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**MSOS 4.0M7900094
**MSOS 4.0M7900095
**MSOS 4.0M7900096
**MSOS 4.0M7900097
**MSOS 4.0M7900098
**MSOS 4.0M7900099
**MSOS 4.0M7900100
**MSOS 4.0M7900101
**MSOS 4.0M7900102
**MSOS 4.0M7900103
**MSOS 4.0M7900104
**MSOS 4.0M7900105
**MSOS 4.0M7900106
**MSOS 4.0M7900107
**MSOS 4.0M7900108
**MSOS 4.0M7900109
**MSOS 4.0M7900110
**MSOS 4.0M7900111
**MSOS 4.0M7900112
**MSOS 4.0M7900113
**MSOS 4.0M7900114
**MSOS 4.0M7900115
**MSOS 4.0M7900116
**MSOS 4.0M7900117
**MSOS 4.0M7900118
**MSOS 4.0M7900119
**MSOS 4.0M7900120
**MSOS 4.0M7900121
**MSOS 4.0M7900122
**MSOS 4.0M7900123
**MSOS 4.0M7900124
**MSOS 4.0M7900125
**MSOS 4.0M7900126
**MSOS 4.0M7900127
**MSOS 4.0M7900128
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**MSOS 4.0M7900140
**MSOS 4.0M7900141
**MSOS 4.0M7900142
**MSOS 4.0M7900143
**MSOS 4.0M7900144
**MSOS 4.0M7900145
**MSOS 4.0M7900146

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0147 P0061 C202
0148 P0062 6839
0149 P0063 5830
P0064 008A
0150 P0065 E837
0151 P0066 C838
0152 P0067 0153
0153 P0068 09FE
0154 P0069 6822
0155 P006A 180B
0156 P006B E832
0157 P006C 0153
0158
0159 P006D 982F
0160 P006E 681D
0161 P006F 1806
0162 P0070 0901
0163 P0071 5C07
0164 P0072 0900
0165 P0073 0108
0166 P0074 C817
0167 P0075 882B
0168 P0076 E0F6
0169 P0077 3400
P0078 7FFF
0170
0171 P0079 0102
0172 P007A 0900
0173 P007B 0101
0174 P007C 1855
0175 P007D C819
0176 P007E 8000
P007F 00B2
0177 P0080 6808
0178 P0081 D80A
0179 P0082 C81E
0180 P0083 6809
0181 P0084 C109
0182 P0085 581D
0183 P0086 54F4
0184 P0087 4202
0185 P0088 0000
P0089 0000
P008A 08C2
0186 P008B 0000
0187 P008C 0000
0188 P008D 0000
P008E 0000
0189 P008F C812
0190 P0090 0111
0191 P0091 14EA
0192 P0092 60FF
0193 P0093 0A00

X
X
P

GT91

*

GT9A

GT9B

GTA

ERRG0

GT10

CR

NS1

SA

SN

LDA- 2,2
STA* NAME+2
RTJ SPD
LDQ* W1
LDA* NS
SQN GT91
INA -1
STA* NS1
JMP* GTA
LDQ* W2
SQN GT9A
SUB* W1
STA* NS1
JMP* GTA
INA 1
RTJ* (COMPV)
INA 0
SAZ ERRG0
LDA* NS1
ADD* S
LDQ- \$F5
RTJ COMPV4
EQU COMPV(*-1)
SAZ ERRG0
INA 0
SAZ GT10
JMP* ERRC
LDA* T13LOC
ADD =XCOMP1-T13
STA* CR
RAO* NS1
LDA* S
STA* SA
LDA- 9,I
RTJ* WCONV
RTJ- (\$F4)
NUM \$4202
NUM 0,0,\$8C2
NUM 0
NUM 0
NUM 0,0
LDA* SAVI
SAN 1
JMP- (DISP)
STA- I
ENA 0

GO SEARCH PROGRAM LIBRARY FOR NAME

NUMBER OF WORDS IN FILE
PARTAIL READ

READ ENTIRE FILE

PARTAIL READ
1 CARD DELETED
STARTING WITH W1

IF W2 EXCEEDS NS ERROR

ERROR

CHECK TO BE SURE ENDING
ADDRESS IS IN UNPROTECTED CORE

ADDRESS IS O.K.
GO TO OUTPUT ERROR MESSAGE
GET ADDRESS OF T13
FORM COMPLETION ADDRESS

SET COMPLETION ADDRESS

STARTING ADDRESS

CONVERT TO WORD ADDRESS

NUMBER OF WORDS
STARTING ADDRESS
SECTOR NUMBER

CHECK FOR NOT BEING THREAD
REQUEST
NO
YES

M7900147
M7900148
M7900149

**MSOS 4.0M7900150
**MSOS 4.0M7900151
**MSOS 4.0M7900152
**MSOS 4.0M7900153
**MSOS 4.0M7900154
**MSOS 4.0M7900155
**MSOS 4.0M7900156
**MSOS 4.0M7900157
M7900158
**MSOS 4.0M7900159
**MSOS 4.0M7900160
**MSOS 4.0M7900161
**MSOS 4.0M7900162
**MSOS 4.0M7900163
**MSOS 4.0M7900164
**MSOS 4.0M7900165
**MSOS 4.0M7900166
**MSOS 4.0M7900167
**MSOS 4.0M7900168
**MSOS 4.0M7900169
**MSOS 4.0M7900170
**MSOS 4.0M7900171
**MSOS 4.0M7900172
**MSOS 4.0M7900173
**MSOS 4.0M7900174
M7900175
M7900176
M7900177
**MSOS 4.0M7900178
M7900179
M7900180
M7900181
M7900182
**MSOS 4.0M7900183
M7900184
**MSOS 4.0M7900185
**MSOS 4.0M7900186
**MSOS 4.0M7900187
**MSOS 4.0M7900188
M7900189
M7900190
M7900191
M7900192
M7900193

0194 P0094 6800
0195 P0095 14E9

STA* SAVI SAVI = 0
JMP- (REQXT)

M7900194
M7900195

0197

M7900197

0199
0200 P0096 7FFF
0201 P0097 0000
0202
0203
0204 P0098 FFFF
0205 P0099 0000
0206 P009A 0000
0207 P009B 0000
0208 P009C 0000
0209 P009D 0000
0210 P009E 0000
0211 P009F 7FFF
0212 P00AC 0000
0213
0214
0215 P00A1 0000

* CONSTANTS
T13LOC NUM \$7FFF ABSOLUTE LOC. OF GET-FILE.
GFBUSY NUM \$0000 GET-FILE BUSY SWITCH, POINTER
* TO LOC. OF REQ. PARAMETER
* LIST.
* GETFILE THREAD POINTER \$*MSOS +.0M
* FILE NAME
W1 NUM 0 FIRST WORD OF FILE
W2 NUM 0 LAST WORD OF FILE
NS NUM \$0000 NUMBER OF SECTORS IN FILE.
C NUM \$7FFF COMPLETION ADDRESS.
S NUM \$0000 STARTING ADDRESS OF BLOCK INTO
* WHICH THE FILE OR PORTION OF
* FILE IS TO BE TRANSFERED.
SAVI NUM \$0000 SAVE I REGISTER.

M7900199
M7900200
M7900201
M7900202
M7900203
M7900204
M7900205
M7900206
M7900207
M7900208
M7900209
M7900210
M7900211
M7900212
M7900213
M7900214
M7900215

0217

M7900217

0220

* CONVERSION ROUTINE FOR SECTOR TO WORD ADDRESS

M7900220

0222 P00A2 0B00
0223 P00A3 282C
0224 P00A4 0FE1
0225 P00A5 0F41
0226 P00A6 A011
0227 P00A7 68E6
0228 P00A8 C8F3
0229 P00A9 0109
0230 P00AA 0122
0231 P00AB 0D01
0232 P00AC A011
0233 P00AD 09FE
0234 P00AE 88DF
0235 P00AF 0122
0236 P00B0 0D01
0237 P00B1 A011
0238 P00B2 68DB
0239 P00B3 48D9
0240 P00B4 1CED

WCONV NOP 0
MUI* NINE6
LLS 1
ARS 1
AND- \$11 7FFF
STA* SN+1 LSB
LDA* W1
SAZ OUT
SAP WCONV1 IS W1 .GT. 32K
INQ 1 YES, INCREASE MSB OF WORD ADDRESS
AND- \$11 SAVE ONLY LOWER 15 BITS
WCONV1 INA -1
ADD* SN+1
SAP 2
INQ 1
AND- \$11
STA* SN+1 LSB
OUT STQ* SN MSB
JMP* (WCONV)

**MSOS +.0M7900222
**MSOS +.0M7900223
**MSOS +.0M7900224
**MSOS +.0M7900225
**MSOS +.0M7900226
**MSOS +.0M7900227
**MSOS +.0M7900228
**MSOS +.0M7900229
M7900230
M7900231
M7900232
M7900233
**MSOS +.0M7900234
**MSOS +.0M7900235
**MSOS +.0M7900236
**MSOS +.0M7900237
**MSOS +.0M7900238
**MSOS +.0M7900239
**MSOS +.0M7900240

0242

* DISK I/O COMPLETION ROUTINE

M7900242

```

0243 P00B5 E8E1 COMP1 LDQ* GFBUSY CLEAR THREAD M7900243
0244 P00B6 0A00 ENA 0 M7900244
0245 P00B7 6202 STA- 2,Q M7900245
0246 P00B8 C622 LDA- ($22),Q M7900246
0247 P00B9 8021 ADD- $21 M7900247
0248 P00BA 6622 STA- ($22),Q M7900248
0249 P00BB 0171 SQM 1 M7900249
0250 P00BC F021 ADD- $21 M7900250
0251 P00BD 4803 STQ* COMP4 M7900251
0252 P00BE 0C00 ENQ 0 M7900252
0253 P00BF 54F4 RTJ- ($F4) SCHEDULE COMPLETION ADDRESS M7900253
0254 P00C0 0000 COMP4 NUM $0000 M7900254
0255 P00C1 05C0 IIN 0 M7900255
0256 P00C2 C8D5 LDA* GFTHED CHECK THREAD TO SEE IF ANY M7900256
0257 P00C3 0900 INA 0 M7900257
0258 P00C4 0113 SAN COMP5 REQUESTS ARE WAITING M7900258
0259 P00C5 58D1 STA* GFBUSY M7900259
0260 P00C6 0400 EIN 0 M7900260
0261 P00C7 14EA JMP- (DISP) M7900261
0262 P00C8 68CE COMP5 STA* GFBUSY REQUEST WAITING SET GTFILE BUSY M7900262
0263 P00C9 60FF STA- I M7900263
0264 P00CA C102 LDA- 2,I THREAD LOC. POINTER TO M7900264
0265 P00CB 68CC STA* GFTHED NEXT REQUEST. M7900265
0266 P00CC 0400 EIN 0 GO PERFORM THE NEW REQUEST M7900266
0267 P00CD 1800 JMP UNPROT **MSOS 4.0M7900267
0268 P00CE FF5F M7900268
0269 P00CF 0060 NINES NUM 96 NO. OF WORDS IN SECTOR M7900269
0270 P00D0 0000 SAVII NUM $0000 M7900270
0271 * THE FOLLOWING ROUTINE PROCESSES ERRORS M7900271
0272 * IT SCHEDULES LOCFL IN PROTECT FOR THE M7900272
0273 * ERROR MESSAGE TO BE OUTPUT. M7900273
0274 P00D1 E8C5 ERRC LDQ* GFBUSY GET LOCATION OF REQUEST M7900274
0275 P00D2 C400 X LDA LPTRS **MSOS 4.0M7900275
0276 P00D3 7FFF X M7900276
0277 P00D4 6803 STA* ERRCE+1 **MSOS 4.0M7900277
0278 P00D5 C20A LDA- 10,Q **MSOS 4.0M7900278
0279 P00D6 6400 ERRCE STA+ 0 **MSOS 4.0M7900279
0280 P00D7 0000 M7900280
0281 P00D8 C844 CLR A M7900281
0282 P00D9 C500 IIN 0 M7900282
0283 P00DA 6202 STA- 2,Q CLEAR THREAD - PROTECT PROC. M7900283
0284 P00DB 0DFE INQ -1 M7900284
0285 P00DC 6622 STA- ($22),Q CLEAR WORD PROCEEDING REQUEST M7900285
0286 P00DD 0804 SET A M7900286
0287 P00DE 68B9 STA* GFTHED SET THREAD POINTER TO $FFFF M7900287
0288 P00DF C8C1 LDA* SAVI M7900288
0289 P00E0 0102 SAZ ERRD--1 M7900289
0290 P00E1 60FF STA- I M7900290
0291 P00E2 54BA RTJ- ($BA) RELEASE VOLATILE M7900291
0292 P00E3 0400 ERRD EIN 0 M7900292
0293 P00E4 CC09 LDA* (F) M7900293

```

0293	P00E5	6806		STA* ERR1		M7900293
0294	P00E6	5400	X	RTJ SWAPCK	DECREMENT UNPIO	M7900294
	P00E7	7FFF	X			
0295	P00E8	0C02		ENQ 2		M7900295
0296	P00E9	5+F4		RTJ- (\$F4)	'SCHDLE LOC. F AT LEVEL ONE	M7900296
0297	P00EA	1201		NUM \$1201		M7900297
0298	P00EB	0000	ERR1	ADC \$0000		M7900298
0299	P00EC	14EA		JMP- (DISP)		M7900299
0300	P00ED	7FFF	X F	ADC LOCF		M7900300
0302	P00EE	0B00	SPD	NOP 0		M7900302
0303	P00EF	C0FF		LDA- I		M7900303
0304	P00F0	680F		STA* SAVII	SAVE THE CONTENTS OF THE I REG	M7900304
0305	P00F1	E0C4		LDQ- \$C4	GET SECTOR NO OF PROGRAM LIBRARY	M7900305
0306	P00F2	0151	SPDA	SQN SPDB	DIRECTORY AND CHECK IF EQUAL TO 0	M7900306
0307	P00F3	18DD	ERR	JMP* ERRC	SECTOR NO EQUALS 0 -- ERROR	M7900307
0308	P00F4	4809	SPDB	STQ* SPD2+1	STORE SECTOR NO IN READ REQUEST	M7900308
0309			*		FIND NAME	M7900309
0310	P00F5	54F4	SPD1	RTJ- (\$F4)	READ ONE SECTOR	M7900310
0311	P00F6	0900		NUM \$900,\$0,\$0,\$8C2		M7900311
	P00F7	0000				
	P00F8	0000				
	P00F9	08C2				
0312	P00FA	0060		NUM 96		M7900312
0313	P00FB	0039		ADC GTFILE-*+5		M7900313
0314	P00FC	0000	SPD2	NUM \$0,\$0	SECTOR NUMBER	M7900314
	P00FD	00C0				
0316	P00FE	C8F9		LDA* SPD1+3		M7900316
0317	P00FF	0101		SAZ 1		M7900317
0318	P0100	18FD		JMP* *-2		M7900318
0319	P0101	0CA6		ENQ -89	COMPLEMENT OF 89	M7900319
0320	P0102	C800		LDA GTFILE+93		M7900320
	P0103	0089				
0321	P0104	0832		AAQ Q		M7900321
0322	P0105	0A00	SPD3	ENA 0		M7900322
0323	P0106	60FF		STA- I		M7900323
0324	P0107	C928	SPD4	LDA* GTFILE,I	CHECK PROGRAM LIBRARY DIRECTORY	M7900324
0325	P0108	9890		SUB* NAME	FOR THE NAME OF THE SPECIFIED FILE	M7900325
0326	P0109	0117		SAN NO-*--1		M7900326
0327	P010A	C92E		LDA* GTFILE+1,I		M7900327
0328	P010B	988E		SUB* NAME+1		M7900328
0329	P010C	0114		SAN NO-*--1		M7900329
0330	P010D	C924		LDA* GTFILE+2,I		M7900330
0331	P010E	988C		SUB* NAME+2		M7900331
0332	P010F	0111		SAN NO-*--1		M7900332
0333	P0110	1809		JMP* YES		M7900333
0334	P0111	C0FF	NO	LDA- I	NAME NOT SAME	M7900334
0335	P0112	0905		INA 5		M7900335
0336	P0113	60FF		STA- I		M7900336
0337	P0114	0834		AAQ A		M7900337
0338	P0115	0121		SAP OVER-*--1		M7900338
0339	P0116	18F0		JMP* SPD4	CHECK NEXT NAME	M7900339

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0340 P0117 E8777 OVER LDQ* GTFILE+95 CHECK IF ANOTHER SECTOR OF NAMES M7900340
0341 P0118 18D9 JMP* SPJA FOLLOWS. M7900341
0342 P0119 C919 YES LDA* GTFILE+3,I NAMES MATCH M7900342
0343 P011A 0131 SAM 1 TEST FOR AND JUMP IF PROGRAM M7900343
0344 P011B 18F5 JMP* NO NAME INSTEAD OF FILE NAME M7900344
0345 P011C 0864 TCA A THE DESIRED FILE HAS BEEN FOUND M7900345
0346 P011D 28B1 MUI* NINE6 FORM THE NUMBER OF WORDS M7900346
0347 P011E 6800 STA NS AND SAVE M7900347
0348 P0120 0141 SQZ 1 **MSOS 4.0M7900348
0349 P0121 18AF JMP* ERRC FILE LARGER THAN 65K **MSOS 4.0M7900349
0350 P0122 E8AD LDQ* SAVII M7900350
0351 P0123 C800 LDA W2 CHECK FOR W2 ALREADY DEFINED M7900351
0352 P0124 FF78 SAN PARTL USED DEFINED VALUE M7900352
0353 P0125 0113 LDA NS USE FILE LENGTH M7900353
0354 P0126 C800
0355 P0127 FF76
0356 P0128 6206 PART- STA- 6,Q STORE W2 BACK IN CALL **MSOS 4.1**M7900354
0357 P0129 C90A LDA* GTFILE+4,I GET SECTOR NUMBER M7900355
0358 P012A 40FF STQ- I M7900356
0359 P012B 6109 STA- 9,I STORE SECTOR NUMBER. M7900357
0360 P012C 0A00 ENA 0 M7900358
0361 P012D 6108 STA- 8,I RETURN TO THE CALLING ROUTINE M7900359
0362 P012E 1C8F JMP* (SPD) M7900360
* THE FOLLOWING AREA IS THE AREA WHERE M7900361
* THE GTFILE ROUTINE READS THE INFORMATION INTO M7900362
* THIS AREA UPON INITIALLY CALLING T13 INTO M7900363
* CORE IS USED TO ESTABLISH THE T13 PARAMETERS M7900364
* REQUIRED BY OTHER ROUTINES. M7900365
T13SUP STA* (F2) SAVE ADDRESS OF T13 MODULE M7900366
STQ* SAVQ SAVE CONTENTS OF Q UPON ENTRY M7900367
ADD* JBT13 GET ADDRESS OF REQUEST PROCESSOR TABLE M7900368
LDQ- $E9 M7900369
LDQ- 9,Q ADDR OF RCTV IN MONI **MSOS 4.0M7900370
* SAVE ADDR OF T13 IN SLOT 13 **MSOS 4.0M7900371
0371 P0134 620D STA- 13,Q M7900372
0372 P0135 0844 CLR A M7900373
0373 P0136 6400 STA MIB M7900374
0374 P0137 7FFF X
0375 P0138 C0F3 X LDA- $F3 CHECK IF BREADPOINT IS REQUIRED M7900375
0376 P0139 E804 LDQ* SAVQ M7900376
0377 P013A 0101 SAZ NOBP--1 M7900377
0378 P013B 14F3 JMP- ($F3) YES--GO TO BREAKPOINT ROUTINE M7900378
0379 P013C 1622 JMP- ($22),Q NO--RETURN TO ADDRESS BROUGHT IN Q M7900379
0380 P013D 0000 NUM 0 M7900380
0381 P013E 7FFF X F2 ADC FILE2 M7900381
0382 P013F 0003 P ADC T13-EREQST M7900382
0383 EQU GTFILE(T13SUP) M7900383
0384 EQU SUPLEN(*-T13SUP) M7900384
0385 P0140 004F BZS GTFB(95-SUPLN) M7900385
0386 018C EQU T13LEN(*-T13) M7900386

```

T13

PAGE 9

DATE: 01/27/99

0388

END

M79J0388

PGM= 018F (399) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0091, 0093, 0137, 0192, 0263, 0288, 0303, 0323, 0334, 0336, 0356
0040	SABS	008D	(000189)
0041	NZERO	0012	(000018)
0041	ZERO	0022	(000034) 0094, 0143
0041	BOTOP	00F6	(000246) 0114
0042	ONEBIT	0023	(000035) 0140
0043	LPMSK	0002	(000002) 0141
0044	CABS	00BE	(000190)
0045	RFQXT	00B9	(000185) 0075, 0195
0045	DISP	00EA	(000234) 0191, 0261, 0299
0384	SUPLN	0011	(000017) 0385
0386	T13LEN	018C	(000395)

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	T13	0003	0033, 0176, 0382, 0386
0047	EREQST	0000	0382
0055	GFA	000A	0051
0060	GFB	000F	0057
0066	GFB1	0015	0061
0074	GFB2	001E	0088
0075	GFB3	001F	
0077	GFB4	0020	0072
0078	GFB5	0021	0082
0084	GFB6	0026	0081
0090	GF	002A	0064
0094	UNPROT	002E	0267
0099	UN1	0033	0097
0101	UN1A	0035	0098
0112	UN1B	0037	0109
0119	UN2	0040	0103, 0111, 0116
0120	JN3	0047	0105, 0118
0124	GFM	004B	
0133	GT4A	0053	
0134	GT4	0054	0129, 0131
0141	GT5	005B	0135
0142	GT6	005C	0139
0143	GT6A	005D	
0156	GT91	006B	0152
0162	GT9A	0070	0157
0165	GT9B	0074	0133
0167	GTA	0075	0155, 0161
0170	COMPV	0078	0108, 0115, 0163
0174	ERRGO	007C	0101, 0119, 0165, 0171
0175	GT10	007D	0173
0185	CR	0088	0177
0186	NS1	008B	0112, 0154, 0160, 0166, 0178
0187	SA	008C	0180
0188	SN	008D	0227, 0234, 0238, 0239
0200	T13 LOC	0096	0049, 0175
0201	GFBUSY	0097	0060, 0090, 0243, 0259, 0262, 0274
0204	GFTHED	0098	0070, 0073, 0077, 0256, 0265, 0285
0205	NAME	0099	0144, 0146, 0148, 0320, 0328, 0331
0208	W1	009C	0125, 0150, 0159, 0228
0209	W2	009D	0127, 0130, 0150, 0351
0210	VS	009E	0151, 0347, 0353

0211 S
 J212 SAVI
 0215 WCONV
 J222 WCONV1
 0233 OUT
 0239 COMP1
 0243 COMP4
 0254 COMP5
 0262 VINE6
 0268 SAVVII
 0269 RRC
 0274 RRC
 0278 RRC
 0291 RRC
 0293 RRC
 0300 RRC
 0302 SP
 0306 SPDA
 0307 RRC
 0308 SPDB
 0310 SPD1
 0314 SPD2
 0322 SPD3
 0324 SPD4
 0334 NO
 0340 OVER
 0342 YES
 0355 PARTL
 0366 T13SUP
 0379 NOBP
 0380 SAVQ
 0381 F2
 0382 JBT13
 0383 GTFILE
 0385 GTFB

009F
 00AG
 00A1
 00A2
 00AD
 00B3
 00B5
 00C0
 00C8
 00CF
 00D0
 00D6
 00E3
 00EB
 00ED
 00EE
 00F2
 00F3
 00F4
 00F5
 00F6
 0105
 0107
 0111
 0117
 0119
 0129
 0130
 013C
 013D
 013E
 013F
 012F
 0140

J121
 0123, 0167, 0179
 0092, 0189, 0194, 0286
 0182, 0240
 0230
 0229
 0176
 0251
 J2298
 J223, 0346
 0304, 0350
 0174, 0307, 0349
 0276
 0287
 0293
 0292
 J149, 0360
 J341

 0306
 J316
 0308

 0339
 0326, 0329, 0332, 0344
 0338
 0333
 0352
 0048, 0383, 0384
 0377
 0367, 0376
 0366
 0368
 0313, 0320, 0324, 0327, 0330, 0340, 0342, 0355

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0035	SCHERR	000E	0058
0036	SWAPCK	00E7	0294
0037	LOCF	00ED	1300
0037	LPTRS	00D3	0275
0038	FILE2	013E	0381
0038	MIB	0137	0374
0039	COMPV4	0078	0169

00001
00002
00003
00004

NAM JCRJV4 DECK-ID M80 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-122*****
M8000002
M8000003
M8000004

00006

* JCRDV4-STATEMENT PROCESSOR FOR *JOB, *CTO, *PAUS

**MSOS +.0M8000006

00008
00009
00110
00111
00112
00113
00114
00115
00116
00117
00118
00119
00220
00221

ENT CRDV4
EXT JBPROE
EXT MIBJF
EXT TRNVEC
EXT AUTF9 (TRVEC)
EXT AUTFA (TRVEC)
EXT AUTFB (TRVEC)
EXT FILE2
EXT MIB
EXT LOG1A
EXT FMPFLG FILEMANAGER
EQU H0007(\$5)
EQU M7FF(\$42)
EQU HFF(10)

**MSOS 4.0M8000008
**MSOS 4.0M8000009
**MSOS 4.0M8000010
**MSOS 4.0M8000011
M8000012
M8000013
M8000014
**MSOS 4.0M8000015
M8000016
M8000017
M8000018
M8000019
M8000020
**MSOS 4.0M8000021

00223 P0000 C8FE
00224 P0001 6800
P0002 C07E
00225 P0003 6C00
P0004 008A
00226 P0005 C844
00227 P0006 6400 X
P0007 7FFF X
00228 P0008 C400 X
P0009 7FFF X
00229 P000A 6800
P000B 009A
0030 P000C 80FF
0031 P000D C102
0032 P000E E101
0033 P000F 0F68
0034 P0010 E400 X
P0011 7FFF X
0035 0011 P
0036 P0012 E20A
0037 P0013 CDF2
0038 P0014 FA02
0039 P0015 1AFA
0040 P0016 008F TAB
0041 P0017 0019
0042 P0018 0059
0043 P0019 9000 CTO
P001A 4F2C
0044 P001B 0102
0045 P001C 0A02 LOAD

CRDV+ NUM \$C8FE
STA ABS
STA (F2) SET JCRDV+ ADDRESS IN FILE2
CLR A
STA MIB CLEAR LOCKOUT
LDA MIBUF ADDRESS OF INPUT BUFFER
STA ISAVE
STA- I
LDA- 2,I
LDQ- 1,I
LRS 8
LDQ TRNVEC TRANTA TABLE ADD. IN JOBENT
EQU TARD(*-1)
LDQ- 10,Q J.P. REQUEST CODE
INQ -13
LDQ* TAB,Q
JMP* CRJV4,Q GO TO PROPER ROUTINE
ADC JO-CRDV4
ADC CTO-CRDV4
ADC PA-CRDV4
SUB =N\$4F2C LOOK FOR 0,
SAZ CT1 FOUND IT
ENA 2 NOT A \$CTO GET JPLOAD AND

**MSOS 4.0M8000023
M8000024
M8000025
**MSOS 4.0M8000026
**MSOS 4.0M8000027
**MSOS 4.0M8000028
M8000029
**MSOS +.0M8000030
**MSOS 4.0M8000031
**MSOS 4.0M8000032
**MSOS 4.0M8000033
**MSOS 4.0M8000034
**MSOS 4.0M8000035
**MSOS 4.0M8000036
M8000037
**MSOS 4.0M8000038
**MSOS 4.0M8000039
**MSOS 4.0M8000040
**MSOS 4.0M8000041
**MSOS 4.0M8000042
**MSOS 4.0M8000043
**MSOS +.0M8000044
**MSOS 4.0M8000045

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0046 P001D 1867 JMP* EXIT+1 TRY TO LOAD IT
0047 P001E 0023 ENQ L-1 INPUT BUFFER LENGTH-1
0048 0024 EQU L(36)
0049 P001F 0722 LDA- (ZERO),8 LAST WORD OF BUFFER
0050 0022 EQU ZERO($22)
0051 P0020 0900 INA 0 GET RID OF BACKGROUND
0052 P0021 0102 SAZ CT3
0053 P0022 6A13 STA* CT3BUF,Q OVERLAID BUFFER
0054 P0023 0809 RAO* CWD BUMP WORD COUNT
0055 P0024 00FE CT3 INQ -1
0056 P0025 0171 SQM CT4
0057 P0026 18F8 JMP* CT2 GET MORE
0058 P0027 54F4 CT4 RTJ- ($F4)
0059 P0028 0000 CT5 NUM $D00,0
0060 P0029 0000 TR NUM J
0061 P002A 0000 NUM $18FC
0062 P002B 18FC CWD NUM 0
0063 P002C 0000 ADC CT0BUF-CT5
0064 P002D 0000 LDA* TR
0065 P002E 0101 SAZ 1
0066 P002F 18FD JMP* *-2
0067 P0030 0161 SQP 1
0068 P0031 0161 JMP* CT5-1 I/O ERROR TRY AGAIN
0069 P0032 18F4 ENA 1 SCHEDULE JBPRO
0070 P0033 0A01 JMP* EXIT
0071 P0034 184F CT0BUF BZS CT0BUF(36)
0072 P0035 0024 PA CT0BUF SUB =N$5553 WAS STATMENT PAUS
0073 P0036 9000 SAN PAX
0074 P0037 5553 LDA- 2,I MAKE SURE REST
0075 P0038 0115 LDQ- 3,I IS BACKGROUND
0076 P0039 0102 LLS 8
0077 P0040 0103 INA 0
0078 P0041 0900 SAZ PA1-1 YES
0079 P0042 18BA PAX JMP* LOAD NO - TRY TO LOAD IT
0080 P0043 54F4 PA1 RTJ- ($F4)
0081 P0044 0000 PA1 NUM $D00,0
0082 P0045 0000 TR1 NUM 0
0083 P0046 0000 NUM $18FC,3
0084 P0047 18FC ADC PABUF-PA1 READY
0085 P0048 0003 LDA* TR1
0086 P0049 001A SAZ PA2
0087 P0050 C8FB JMP* *-2
0088 P0051 0101 PA2 SQP PA3-1
0089 P0052 0161 JMP* PA1-1 I/O ERROR TRY AGAIN
0090 P0053 18F4 RTJ- ($F4) INPUT A CR
0091 P0054 54F4 PA3 NUM $0900,0
0092 P0055 0000 TR2 NUM 0
0093 P0056 0000 NUM $18FD,0
0094 P0057 18FD
0095 P0058 0000

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**MSOS 4.0M80000045
**MSOS 4.0M80000047
**MSOS 4.0M80000048
**MSOS 4.0M80000049
**MSOS 4.0M80000050
**MSOS 4.0M80000051
**MSOS 4.0M80000052
**MSOS 4.0M80000053
**MSOS 4.0M80000054
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**MSOS 4.0M80000056
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**MSOS 4.0M80000061
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**MSOS 4.0M80000063
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**MSOS 4.0M30000065
**MSOS 4.0M80000066
**MSOS 4.0M80000067
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**MSOS 4.0M80000069
**MSOS 4.0M80000070
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**MSOS 4.0M80000076
**MSOS 4.0M30000077
**MSOS 4.0M80000078
**MSOS 4.0M80000079
**MSOS 4.0M80000080
**MSOS 4.0M80000081
**MSOS 4.0M30000082
**MSOS 4.0M80000083
**MSOS 4.0M80000084
**MSOS 4.0M80000085
**MSOS 4.0M80000086
**MSOS 4.0M80000087
**MSOS 4.0M30000088
**MSOS 4.0M80000089
**MSOS 4.0M30000090
122*4569*****
**MSOS 4.0M80000092
**MSOS 4.0M80000093

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0099 P0074 0000 ADC CR-PA3
0099 P0075 C8FB LDA* TR2
0099 P0076 0101 SAZ PA4
0099 P0077 18FD JMP* *-2
0099 P0078 0161 PA4 SQP PA5
0099 P0079 18E8 JMP* PA1-1 I/O ERROR START OVER
0100 P007A 0A01 PA5 ENA 1
0101 P007B 1808 JMP* EXIT
0102 P007C 0000 CR NUM 0
0103 P007D 5245 PABU= ALF 3,READY?
      P007E 4144
      P007F 593F
0104 P0080 0000 ABS NUM 0 ABSOLUTE LOAD ADDRESS
0105 P0081 0000 CHCT NUM 0 CHARACTER COUNT
0106 P0082 0A01 ENA 1
0107 P0083 0C0E EXIT ENQ 14
0108 P0084 6809 STA* RMOD
0109 P0085 C400 LDA JBPROE
      P0086 7FFF X
      P0087 60FF X
0110 P0088 C805 STA- I
0111 P0089 14FF LDA* RMOD
0112 P008A 0A01 ERR JMP- (I)
0113 P008B 0C0E ENA 1
0114 P008C 18F7 ENQ 6 TERMINATE IN JOBPRO
0115 P008D 0000 JMP* EXIT+1
0116 P008E 008D RMOD NUM 0
0117 P008F 7FFF EQU PARAM(RMOD)
0118 P0090 9000 F2 ADC FILE2
0119 P0091 422C JO SUB =N$+22C IS IT A B,
      P0092 008F P EQU NAME(JO)
0120 P0093 J10B SAZ JO1 YES
0121 P0094 9000 SUB =N$D3 LOOK FOR BACKGROUND
0122 P0095 00D3
0123 P0096 3112 SAN JO11
0124 P0097 08F7 RAO* PARAM JOB CARD NO PARAMETERS
0125 P0098 1807 JMP* JO1
0126 P0099 EC00 JO1 LDQ (TARD) IS A JOB IN PROGRESS
      P009A FF78
0127 P009B C20C LDA- 12,Q M8000131
0128 P009C 0106 SAZ JO12 NO, OUTPUT JP15 ERROR M8000132
0129 P009D 1800 JMP LOAD YES, LET JPLOAD HANDLE IT M8000133
      P009E FF7F
0130 P009F EC00 JO1 LDQ (TARD) M8000134
      P009A FF72
0131 P009B C20C LDA- 12,Q IS A JOB IN PROGRESS
0132 P009C 0105 SAZ JO3
0133 P009D C0C0 JO12 LDA =N$3135 OUTPUT JP15 ERROR
      P009E 3135
0134 P009F 620A STA- 10,Q
0135 P00A0 18E5 JMP* ERR+1
0136 P00A1 0000 ISAVE NUM 0
0137 P00A2 C400 JO3 LDA+ AUTF9 RESTORE LOCATIONS $F9,FA,FB
      P00A3 7FFF X

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**MSOS 4.0M8000094
**MSOS 4.0M8000095
**MSOS 4.0M8000096
**MSOS 4.0M8000097
**MSOS 4.0M8000098
**MSOS 4.0M8000099
**MSOS 4.0M8000100
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**MSOS 4.0M8000102
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**MSOS 4.0M8000134
**MSOS 4.0M8000135
**MSOS 4.0M8000136
**MSOS 4.0M8000137
**MSOS 4.0M8000138
**MSOS 4.0M8000139
**MSOS 4.0M8000140
**MSOS 4.0M8000141

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0138	P00A8	60F9		STA- \$F9	TO AUTOLOAD VALUES	M8000142
0139	P00A9	C400	X	LDA+ AUTFA	IN CASE	M8000143
	P00AA	7FFF	X			
0140	P00AB	60FA		STA- \$FA	PREVIOUS USER	M8000144
0141	P00AC	C400	X	LDA+ AUTFB	HAS CHANGED THEM	M8000145
	P00AD	7FFF	X			
0142	P00AE	60FB		STA- \$FB	TO SUIT HIS OWN PURPOSES	M8000146
0143	P00AF	C400	X	LDA FMPFLG	IS FILE MANAGER PRESENT	M8000147
	P00B0	7FFF	X			
0144	P00B1	B042		EOR- M7FFF	SEE IF UNPATCHED	M8000148
0145	P00B2	0112		SAN JO31		M8000149
0146	P00B3	6400	X	STA FMPFLG	CLEAR FMPFLG JUST IN CASE SOMEONE SET IT	M8000150
	P00B4	00B0	X			
0147	P00B5	D20C	J031	RAO- 12,Q		M8000151
0148	P00B6	C8D6		LDA* PARAM		**MSOS +.OM8000152
0149	P00B7	0103		SAZ JO33		**MSOS +.OM8000153
0150	P00B8	0804		SET A	FLAG ABSENSE OF NAME	**MSOS +.OM8000154
0151	P00B9	620F		STA- 15,Q		**MSOS +.OM8000155
0152	P00BA	181B		JMP* JO1A-1		**MSOS +.OM8000156
0153	P00BB	DCFF	J033	RAO- I		**MSOS +.OM8000157
0154	P00BC	00FF		RAO- I		**MSOS +.OM8000158
0155	P00BD	0C06		ENQ 6		M8000159
0156	P00BE	0A20		ENA \$20		M8000160
0157	P00BF	6ACF	BLN	STA* NAME,Q	BLANK OUT NAME BUFFER	M8000161
0158	P00C0	0DFE		INQ -1		M8000162
0159	P00C1	0171		SQM 1		M8000163
0160	P00C2	18FC		JMP* BLN		M8000164
0161	P00C3	5846	GOON	RTJ* CRACK	GET THE JOB NAME	**MSOS +.OM8000165
0162	P00C4	C844		LDA* CT		M8000166
0163	P00C5	0111		SAN 1		M8000167
0164	P00C6	1869		JMP* ERRX		M8000168
0165	P00C7	0A0F		ENA 15		M8000169
0166	P00C8	5800		RTJ PACK	PUT NAME IN WORD 15 OF TRANTA	M8000170
	P00C9	007F				
0167	P00CA	0A00		ENA 0		**MSOS +.OM8000171
0168	P00CB	683D		STA* CT		**MSOS +.OM8000172
0169	P00CC	583D		RTJ* CRACK	GET THE ACCOUNT NUMBER	**MSOS +.OM8000173
0170	P00CD	C83B		LDA* CT		M8000174
0171	P00CE	0111		SAN 1		M8000175
0172	P00CF	1860		JMP* ERRX		M8000176
0173	P00D0	0A12		ENA 18		M8000177
0174	P00D1	5800		RTJ PACK	PUT ACCT. IN WORD 18 OF TRANTA	M8000178
	P00D2	0076				
0175	P00D3	C8D1		LDA* ISAVE		**MSOS +.OM8000179
0176	P00D4	60FF		STA- I		**MSOS +.OM8000180
0177	P00D5	0C23		ENQ L-1		**MSOS +.OM8000181
0178	P00D6	C722	J01A	LDA- (ZERO),B		**MSOS +.OM8000182
0179	P00D7	0900		INA 0		**MSOS +.OM8000183
0180	P00D8	0102		SAZ JO2		**MSOS +.OM8000184
0181	P00D9	6A00		STA CTORUF,Q		M8000185
	P00DA	FF5A				
0182	P00DB	0DFE	J02	INQ -1		**MSOS +.OM8000186
0183	P00DC	0171		SQM JO3A		**MSOS +.OM8000187

0184 PG0DD 18F8
0185 PG0DE C0FB
0186 PG0DF 90FC
0187 PG0EQ 0111
0188 PG0E1 18A0
0189 PG0E2 C0FB
0190 PG0E3 B02F
0191 PG0E4 680F
0192 PG0E5 C89A
0193 PG0E6 8000
PG0E7 0035
0194 PG0E8 6800
0195 PG0E9 C300
PG0EA FF4A
0196 PG0EB 9000
PG0EC 1E00
0197 PG0ED 6800
PG0EE FF46
0198 PG0EF 54F4
0199 PG0F0 C000
PG0F1 C000
0200 PG0F2 0000
0201 PG0F3 03C0
0202 PG0F4 0024
0203 PG0F5 0000
0204 PG0F6 C8FB
0205 PG0F7 01C1
0206 PG0F8 18FD
0207 PG0F9 0161
0208 PG0FA 18F4
0209 PG0FB E0FB
0210 PG0FC E600
PG0FD 7FFF
0211 PG0FE C208
0212 PG0FF 0F4B
0213 PJ100 A005
0214 PJ101 09F9
0215 PJ102 0103
0216 PJ103 0A08
0217 PJ104 1800
PJ105 FF7D
0218 PJ106 1800
PJ107 FF7A
0219 PJ108 0000
0220 PJ109 0B00
0221 PJ10A C83D
0222 PJ10B 0101
0223 PJ10C 180C
0224 PJ10D C522
0225 PJ10E A00A
0226 PJ10F 5827
0227 PJ110 0141
0228 PJ111 181B

J03A LDA- \$FB
SUB- \$FC
SAN TAG100
JMP* EXIT-1
TAG100 LDA- \$FB
EOR- \$2F
STA* LU
LDA* ABS
ADD =XCTOBJF-CRJV4
STA* BF
LDA CT0BJF
SUB =NS1E00
STA CT0BUF
J05 RTJ- (\$F+)
NUM \$C00,0
TR4 NUM 0
LU NUM 0
WORDS NUM \$24
BF ADC 0
LDA* TR4
SAZ J05
JMP* *-2
J06 SQP J07
JMP* J05-1
J07 LDQ- \$FB
LDQ LOG1A,Q
X
LDA- 8,Q
ARS 11
AND- H0007
INA -6
SAZ J07A
ENA 8
JMP EXIT
J07A JMP EXIT-1
CT NUM 0
CRACK NOP 0
J041 LDA* RL
SAZ 1
JMP* J04B
J04A LDA- (ZERO),I
AND- HFF
RTJ* SUB
SQZ 1
JMP* ASCH1

STANDARD LIST
LU OF OUTPUT COMMENT DEVICE
LIST AND COMMENT UNITS NOT THE SAME
SAME - DO NOT PRINT TWICE
ADD MOBE BIT
CHANGE THE * TO A
PAGE EJECT(\$0C)
I/O ERROR
LU OF STD LIST DEVICE
PHYSTB ADDRESS TO Q
WORD 8 OF PHYSTB TO A
CLASS CODE TO A 2-0
MASK OFF UPPER BITS
CHECK FOR TTY CLASS
DONT PRINT BLOCK JOB NAME IF TTY
PRINT THE NAME
DON'T PRINT IT
COMMA WAS IN RIGHT CHAR. POSITION
END OF FIELD

**MSOS 4.0M8000188
**MSOS 4.0M8000189
M8000190
M8000191
M8000192
M8000193
**MSOS 4.0M8000194
**MSOS 4.0M8000195
**MSOS 4.0M8000196
**MSOS 4.0M8000197
**MSOS 4.0M8000198
**MSOS 4.0M8000199
**MSOS 4.0M8000200
**MSOS 4.0M8000201
**MSOS 4.0M8000202
**MSOS 4.0M8000203
**MSOS 4.0M8000204
**MSOS 4.0M8000205
M8000206
**MSOS 4.0M8000207
**MSOS 4.0M8000208
**MSOS 4.0M8000209
**MSOS 4.0M8000210
**MSOS 4.0M8000211
**MSOS 4.0M8000212
M8000213
M8000214
M8000215
M8000216
M8000217
M8000218
M8000219
**MSOS 4.0M8000220
M8000221
M8000222
M8000223
**MSOS 4.0M8000224
M8000225
**MSOS 4.0M8000226
**MSOS 4.0M8000227
**MSOS 4.0M8000228
**MSOS 4.0M8000229
**MSOS 4.0M8000230
**MSOS 4.0M8000231
**MSOS 4.0M8000232

02229	PG112	0111	SAN	1		
02230	PG113	1816	JMP*	ASCH2		
02231	PG114	08F3	RAO*	CT		
02232	PG115	E8F2	LDQ*	CT	INDEX	
02233	PG116	6A00	STA	NAME,Q		
	PG117	FF77				
02234	PG118	D0FF	RAO-	I	J048	
02235	PG119	C522	LDA-	(ZERO),I		
02236	PG11A	0822	TRA	Q		
02237	PG11B	F000	ADQ	=N\$J3D3	J04	
	PG11C	D3D3				
02238	PG11D	0151	SQN	1		
02239	PG11E	1811	JMP*	ERRX	TWO COMMAS IN A ROW	
02240	PG11F	0F48	ARS	8		
02241	PG120	A00A	AND-	HFF		
02242	PG121	5815	RTJ*	SUB		
02243	PG122	0159	SQN	ASCH1	END OF FIELD	
02244	PG123	0108	SAZ	ASCH1	COMMA	
02245	PG124	D8E3	RAO*	CT		
02246	PG125	E8E2	LDQ*	CT	INDEX	
02247	PG126	6A00	STA	NAME,Q		
	PG127	FF67				
02248	PG128	18E1	JMP*	J041		
02249	PG129	0A01	ENA	1	ASCH2	
02250	PG12A	6810	STA*	RL		
02251	PG12B	1CDD	JMP*	(CRACK)		
02252	PG12C	0A00	ENA	0	ASCH1	
02253	PG12D	681A	STA*	RL		
02254	PG12E	1CDA	JMP*	(CRACK)		
02255	PG12F	EC00	LDQ	(TARD)	ERRX	
	PG130	FE00				
02256	PG131	C000	LDA	=N\$3033		
	PG132	3033				
02257	PG133	620A	STA-	10,Q		
02258	PG134	1800	JMP	ERR+1		
	PG135	FF54				
02259	PG136	0B00	NOP	0	SUB	
02260	PG137	0C2C	ENQ	\$2C	COMMA	
02261	PG138	0872	EAQ	Q		
02262	PG139	0155	SQN	SUB2		
02263	PG13A	0A00	ENA	0	SUB5	
02264	PG13B	0C00	ENQ	0		
02265	PG13C	1CF9	JMP*	(SJB)		
02266	PG13D	0802	SET	Q	SUB0	
02267	PG13E	1CF7	JMP*	(SJB)	SUB1	
02268	PG13F	E00A	LDQ-	HFF	SUB2	
02269	PG140	0872	EAQ	Q		
02270	PG141	0143	SQZ	SUB2A		
02271	PG142	0C20	ENQ	\$20		
02272	PG143	0872	EAQ	Q		
02273	PG144	0151	SQN	SUB3		
02274	PG145	18F7	JMP*	SUB0	SUB2A	
02275	PG146	18F4	JMP*	SUB5+1	SUB3	

**MSOS	+	0M8000	233
**MSOS	+	0M8000	234
		M8000	235
**MSOS	+	0M8000	236
		M8000	237
**MSOS	+	0M8000	238
**MSOS	+	0M8000	239
**MSOS	+	0M8000	240
**MSOS	+	0M8000	241
**MSOS	+	0M8000	242
**MSOS	+	0M8000	243
**MSOS	+	0M8000	244
**MSOS	+	0M8000	245
**MSOS	+	0M3000	246
**MSOS	+	0M8000	247
**MSOS	+	0M3000	248
		M8000	249
**MSOS	+	0M8000	250
**MSOS	+	0M8000	251
**MSOS	+	0M8000	252
		M8000	253
		M8000	254
		M8000	255
		M8000	256
		M8000	257
		M8000	258
**MSOS	+	0M8000	259
**MSOS	+	0M8000	260
**MSOS	+	0M8000	261
**MSOS	+	0M8000	262
**MSOS	+	0M8000	263
**MSOS	+	0M8000	264
**MSOS	+	0M8000	265
**MSOS	+	0M8000	266
**MSOS	+	0M8000	267
**MSOS	+	0M8000	268
**MSOS	+	0M8000	269
**MSOS	+	0M8000	270
**MSOS	+	0M8000	271
**MSOS	+	0M8000	272
**MSOS	+	0M8000	273
**MSOS	+	0M8000	274
**MSOS	+	0M8000	275
**MSOS	+	0M8000	276
**MSOS	+	0M8000	277
**MSOS	+	0M8000	278
**MSOS	+	0M8000	279

0276	P0147	0000	RL	NUM	0	M8000280
0277	P0148	0000	PACK	NUM	0	M8000281
0278	P0149	0000		LDQ	(TARD)	M8000282
	P014A	FFEC6				
0279	P014B	0832		AAQ	Q	M8000283
0280	P014C	4810		STQ*	ADR	M8000284
0281	P014D	0C01		ENQ	1	M8000285
0282	P014E	CA00	ANOT	LDA	NAME,Q	M8000286
	P014F	FF3F				
0283	P0150	0FC8		ALS	8	M8000287
0284	P0151	0D01		INQ	1	M8000288
0285	P0152	8A00		ADD	NAME,Q	M8000289
	P0153	FF3B				
0286	P0154	6C08		STA*	(ADR)	M8000290
0287	P0155	D807		RAO*	ADR	M8000291
0288	P0156	0D01		INQ	1	M8000292
0289	P0157	0DF8		INQ	-7	M8000293
0290	P0158	0142		SQZ	DONE	M8000294
0291	P0159	0D07		INQ	7	M8000295
0292	P015A	18F3		JMP*	ANOT	M8000296
0293	P015B	1CEC	DONE	JMP*	(PACK)	M8000297
0294	P015C	0000	ADR	NUM	0	M8000298
0295				END		M8000299

PGM= 0150 (349) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0030, 0110, 0112, 0153, 015+, 0176, 0234
0019	H0007	0005 (000005)	J213
0020	M7FFF	0042 (000066)	0144
0021	HFF	000A (000010)	0225, 0241, 0268
0048	L	002+ (000036)	J047, 0177
0050	ZERO	0022 (000034)	J049, 0178, 0224, 0235

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
J008	CRDV4	0000	J008, 0039, 0040, 0041, 0042, 0193
0035	TARD	0011	0126, 0130, 0255, 0278
0040	TAB	0016	0038
0043	CT0	0019	0041
0045	LOAD	001C	0073, 0129
0047	CT1	001E	0044
0049	CT2	001F	0057
0055	CT3	0024	J032
0058	CT4	0027	0050
0059	CT5	0028	0063, 0068
0060	TR	002A	0064
0062	CWD	002C	J054
0071	CTOBUF	0035	J053, 0063, 0181, 0193, 0195, 0197
0072	PA	0059	0042
0079	PAX	0061	0073
0081	PA1	0063	0078, 0084, 0089, 0099
0082	TR1	0065	0085
0088	PA2	006C	0086
0091	PA3	006F	0088, 0094
0092	TR2	0071	0095
0098	PA4	0078	0096
0100	PA5	J07A	0098
0102	CR	007C	0094
0103	PABUF	007D	0084
0104	ABS	0080	J024, 0192
0105	CHCT	0081	
0107	EXIT	0083	0046, 0070, 0101, 0115, 0188, 0217, 0218
0112	ERR	0089	0133, 0258
0116	RMOD	008D	0108, 0111, 0117
0117	PARAM	008D	J124, 0148
0118	F2	008E	0025
0119	JO	008F	0040, 0120
0120	VAME	008F	J157, 0233, 0247, J282, 0285
0126	JO11	0097	0123
0130	JO1	009D	J121, 0125
0133	JO12	00A1	0128
0136	ISAVE	00A5	0029, 0175
0137	JO3	00A6	0132
0147	JO31	00B5	0145
0153	JO33	00BB	J149
0157	BLN	00BF	0160

0161	GOON	00C3							
0178	JO1A	00D6	J152,	0184					
0182	JO2	00DB	0180						
J183	JO3A	00DE	0183						
0189	TAG100	00E2	0187						
0199	JO5	00FC	0208						
0200	TR4	00F2	J204						
0201	LU	00F3	0191						
0202	WORDS	00F4							
0203	BF	00F5	0194						
0207	JO6	00F9	0205						
0209	JO7	00F6	0207						
0218	JO7A	0106	J215						
0219	CT	J108	0162,	0168,	0170,	0231,	0232,	0245,	0246
0220	CRACK	C109	J161,	0169,	0251,	0254			
J221	JO41	010A	0248						
0224	JO4A	010D							
0234	JO4B	0118	0223						
0237	JO4	011B							
0249	ASCH2	0129	J230						
0252	ASCH1	012C	0228,	0243,	0244				
0255	ERRX	012F	0164,	0172,	0239				
0259	SUB	0136	0226,	0242,	0265,	0267			
0263	SUB5	013A	0275						
0266	SJBC	013D	0274						
0267	SUB1	013E							
J268	SUB2	013F	0262						
0274	SUB2A	0145	0270						
0275	SUB3	0146	0273						
0276	RL	0147	J221,	0250,	0253				
0277	PACK	0148	0166,	0174,	0293				
0282	ANOT	014E	0292						
0293	DONE	015B	0290						
0294	ADR	015C	0280,	0286,	0287				

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0009	JBPROE	0086	J109
0010	MIBUF	0009	0028
0011	TRNVEC	0011	0034
0012	AUTF9	00A7	0137
0013	AUTFA	00AA	0139
0014	AUTFR	00AD	J141
0015	FILE2	008E	0118
0016	MIB	0007	0027
0017	LOG1A	00FD	0210
0018	FMPFLG	00B4	G143, 0145


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0001      NAM JLGOV4          DECK-ID M81  MSOS 5.0          SUMMARY-110M8100001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M81000002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    M81000003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976        M81000004

0006      *      PROCESSOR FOR *X,*LGO,AND *ENTRY-POINT STATEMENTS  **MSOS 4.0M8100006
0008      *****
0011      ENT JLGV4          **MSOS 4.0M8100011

0013      EXT TRNVEC          ABS. ADDR. OF TRANTA BUFFER IN JOBENT (TRVEC)M8100013
0014      EXT JBPROE          ABS ADDR. OF JOB PROC. ROUTINE IN JOBENT M8100014
0015      EXT MIB              M8100015
0016      EXT MIB              **MSOS 4.1**M8100016
0017      EXT LOADIN          M8100017
0018      EXT JPRET,JPRET1,JPRETN M8100018
0019      EXT FILE2           M8100019
0020      EXT BRKPT           M8100020
0021      EXT UNPIO           M8100021
0022      EXT SWAPCK          M8100022
0023      EXT COMPV4          ABSOLUTE COMPARE MODULE M8100023
0024      EQU LP4SK(2)        LOCORE MASK TABLE M8100024
0025      EQU HFFFF($12)      M8100025
0026      EQU HFF00($1A)      **MSOS 4.0M8100026
0027      EQU H00FF($A)       **MSOS 4.0M8100027
0028      EQU H0020($28)      **MSOS 4.0M8100028
0029      EQU H8000($32)      **MSOS 4.0M8100029
0030      EQU ZERO($22)       **MSOS 4.0M8100030
0031      EQU DISP($EA)       M8100031

0033      P0000 C8FE          JLGV4 NUM $C8FE          ENTRY POINT          **MSOS 4.0M8100033
0034      P0001 6C00          STA (F2)          **MSOS 4.0M8100034
0035      P0002 0022          STQ* CONTRL      **MSOS 4.0M8100035
0036      P0003 481F          ENQ 5            **MSOS 4.0M8100036
0037      P0004 6C05          LDA TRNVEC       GET ADDR OF TRANTA TABLE IN JOBENT **MSOS 4.0M8100037
0038      P0005 C400          LDA TRNVEC       **MSOS 4.0 M8100038
0039      P0006 7FFF          EQU IRNV(*-1)    **MSOS 4.0M8100039
0040      P0007 60FF          STA- I           **MSOS 4.0M8100040
0041      P0008 C6FF          LDA- (I),Q       MOVE 5WORDS FROM JOBENT BUFFER TO L**MSOS 4.0M8100041
0042      *      JP1A          *      STA JOBP3,Q          **MSOS 4.0M8100042
0043      P0009 6A00          STA JOBP3,Q          M8100043
0044      P000A 001B          INQ -1           M8100044
0045      P000B 0DFE          SQZ 1            M8100045
0046      P000C 0141          JMP* JP1A        M8100046
0047      P000D 18FA          LDA* (TRNV)      **MSOS 4.0 M8100047
0048      P000E CCF7          INA 10           **MSOS 4.0M8100048
0049      P000F 090A          STA* ERRBUF      **MSOS 4.0M8100049
0050      P0010 6813          INA -4           **MSOS 4.0M8100049
0051      P0011 09FB

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0050	P0012	0CFC		ENQ	-3				M8100050
0051	P0013	6A1B	LOOP	STA*	LOADEP,Q	AND LOADEP FROM JOBENT BUFFER INTO LOCAL			M8100051
0052	P0014	0901		INA	1	BUFFER.			M8100052
0053	P0015	0142		SQZ	OUT				M3100053
0054	P0016	0001		INQ	1				M8100054
0055	P0017	18FB		JMP*	LOOP				M8100055
0056	P0018	4400	X OUT	STQ	MIB	CLEAR INTERMODULE LOCKOUT FLAG			M8100056
	P0019	7FFF	X						
0057	P001A	CC73		LDA*	(JBPR)	GET RETURN	**MSOS 4.	M8100057	
0058	P001B	6800		STA	LBL5+1	TO JOBENT	**MSOS 4.	M8100058	
	P001C	001B							
0059	P001D	0AFC		ENA	-3		**MSOS 4.	M8100059	
005C	P001E	8804		ADD*	CONTRL	*ENTRY-POINT STATEMENT	**MSOS 4.	M3100060	
0061	P001F	0101		SAZ	1		**MSOS 4.	M8100061	
0062	P0020	181C		JMP*	LULOAD	*X,*X,*LGO OR *LGO,N STATEMENT	**MSOS 4.	M8100062	
0063	P0021	1818		JMP*	PLLOAD	*ENTRY-POINT STATEMENT	**MSOS 4.	M3100063	
0064	P0022	0000	CONTRL	NUM	0		**MSOS 4.	M8100064	
0065	P0023	0000	ERRBJF	NUM	0		**MSOS 4.	M3100065	
0066	P0024	7FFF	X F2	ADC	FILE2			M8100066	

0069

M8100069

0071	P0025	0000	JOBP3	NUM	\$0000	ABS. LOC.
0072	P0026	0000		NUM	\$0000	NOT USED
0073	P0027	0000	SM	NUM	\$0000	ABS. L
0074	P0028	0000	JOBP	NUM	\$0000	ABS. LOC.
0075	P0029	0000	JO4	NUM	\$0000	ABS. LOC.
0076	P002A	0000	JO3	NUM	0	
0077	P002B	0000		NUM	0	NOT USED
0078	P002C	0000	BPS	NUM	\$0000	ABS. LOC.
0079	P002D	0000	RI	NUM	\$0000	ABS. LOC.
0080	P002E	0000	LOADEP	NUM	\$0000	ABS. LOC.

M8100071
M8100072
M8100073
M8100074
M8100075
M8100076
M8100077
M8100078
M8100079
M8100080

0082

M8100082

0084	P002F	0000	ERJ03	LDA	=N\$3034	STORE ERROR IN TRANTA BUFFER
	P0030	3034				
0085	P0031	6CF1	LDERR	STA*	(ERRBUF)	IN JOBENT
0086	P0032	3C06		ENQ	6	
0087	P0033	1802		JMP*	LBL5GO	
0088	P0034	0C0E	RETRN	ENQ	14	INDEX TO RF3 IN JOBPRO
0089	P0035	0A01	LBL500	ENA	1	INDEX TO SCHEDULE JOBPRO
0090	P0036	1400	LBL5	JMP+	0	
	P0037	0000				

**MSOS 4.0M8100084
**MSOS 4.0 M8100085
**MSOS 4.0M8100086
**MSOS 4.0M8100087
M8100088
M8100089
**MSOS 4.0M8100090

0093 ***** M8100093

0095 *** *X JOB PROCESSOR STATEMENT M8100095
0096 * THIS ROUTINE INSTRUCTS THE JOB PROCESSOR TO BEGIN M8100096
0097 * PROGRAM EXECUTION. M8100097

0099 ***** M8100099

0102 P0038 003C SAVI ADC 0 SAVE MASS-CORE PTR FROM LOADER M8100102

0104 P0039 5800 PLLOAD RTJ LINK PROGRAM LIBRARY LOAD-LINK ENTRYS **MSOS 4.0M8100104

0105 P003A 00A5 PLLOAD JMP* EX8 GO EXECUTE THE PROGRAM **MSOS 4.0M8100105
0106 P003B 1812 LULOAD RTJ LINK LOAD FROM LOGICAL UNIT-LINK ENTRYS **MSOS 4.0M8100106
0107 P003C 5800

0108 P003D 00A2 ENQ 0 **MSOS 4.0M8100107
0109 P003E 0C00 STQ- \$F3 ZERO F3 **MSOS 4.0 M8100108
0110 P003F 40F3 ENA -2 **MSOS 4.0M8100109

0111 P0040 0AFD ADD* CONTRL **MSOS 4.0M8100110
0112 P0041 88E0 SAZ EX8 NO MEMORY MAP **MSOS 4.0M8100111
0113 P0042 01CA PG RTJ- (\$F4) **MSOS 4.0M8100112

0114 P0043 54F4 NUM \$0300 FORMAT WRITE M8100113
0115 P0044 C060 ADC COMPI-PG-1 COMPL.ADDR. M8100114
0116 P0045 0007 ADC 0 THREAD M8100115

0117 P0046 0060 NUM \$18FB V,M,A,LU M8100116
0118 P0047 18FB NUM 3 NO. OF WORDS M8100117
0119 P0048 0003 ADC PGEJCT-PG-1 ADDR.OF BUFFER M8100118

0120 P0049 0075 COMP1 JMP- (DISP) M8100119
0121 P004A 14EA ENA 6 MEMORY MAP M8100120
0122 P004B 0A66 RTJ* LOADLR M8100121
0123 P004C 5873

0123 P004D DC70 EX8 RAO* (UNPIOS) SET UNPIO SWITCH M8100123
0124 P004E E8E9 LDQ* SAVI **MSOS 4.0M8100124
0125 P004F C202 LDA- 2,Q **MSOS 4.0M8100125

0126 P0050 6842 STA* TRVADR SAVE TRANSFER ADDRESS **MSOS 4.0M8100126
0127 P0051 C622 LDA- (ZERO),Q CHECK IF PROGRAM ON MASS STORAGE **MSOS 4.0M8100127
0128 P0052 0111 SAN 1 STORAGE. M8100128

0129 P0053 180B JMP* EX9 M8100129
0130 P0054 C201 LDA- 1,Q GET NUMBER OF WORDS LOADED **MSOS 4.0M8100130
0131 P0055 6853 STA* NW READ PROGRAMS FROM MASS M8100131

0132 P0056 C0F7 LDA- \$F7 STORAGE. M8100132
0133 P0057 0901 INA 1 M8100133
0134 P0058 6851 STA* FL STARTING ADDRESS. M8100134

0135 P0059 C858 LDA* SCRLU **MSOS 4.0M8100135
0136 P005A 6840 STA* LUWRD GET SCRATCH LOGICAL UNIT **MSOS 4.0M8100136
0137 P005B C622 LDA- (ZERO),Q GET SECTOR WHERE **MSOS 4.0M8100137

0138 P005C 0C00 ENQ 0 **MSOS 4.0M8100138
0139 P005D 5843 EX10 RTJ* REAJMM READ THE PROGRAMS IN FROM MASS STORAGE UNIT M8100139
0140 P005E 0A66 EX9 ENA 0 M8100140
0141 P005F 6C00 STA (LOADEP) **MSOS 4.0M8100141
0142 P0060 FFCD

0142	P0061	CC00	LDA	(BPS)	CHECK FOR BREAKPOINT SWITCH ON	**MSOS 4.0M8100142
	P0062	FFC9				
0143	P0063	0111	SAN	1		M8100143
0144	P0064	181E	JMP*	EX15	NOT SET	M8100144
0145	P0065	CA00	ENA	0		M8100145
0146	P0066	6C00	STA	(BPS)	BREAKPOINT SWITCH =0	M8100146
	P0067	FFC4				
0147	P0068	E828	LDQ*	BRKPTD		M8100147
0148	P0069	F0EB	ADQ-	\$EB		M8100148
0149	P006A	C204	LDA-	4,Q	BRKPTD PROGRAM SIZE	M8100149
0150	P006B	683D	STA*	NW		M8100150
0151	P006C	C844	LDA*	LIBRLU	READ BREAKPOINT FROM LIB.LU.	**MSOS 4.0M8100151
0152	P006D	683A	STA*	LUWRJ	STORE IN READ M.M. REQUEST	**MSOS 4.0M8100152
0153	P006E	C0EC	LDA-	\$EC	END OF AVIALABLE UNPROTECTED CORE	**MSOS 4.0M8100153
0154	P006F	9204	SUB-	+,Q		**MSOS 4.0M8100154
0155	P0070	6839	STA*	FL	FIRST LOCATION OF READ	M8100155
0156	P0071	60F3	STA-	\$F3		M8100156
0157	P0072	C0EC	LDA-	\$EC	CHECK IF BREAKPOINT FITS	M8100157
0158	P0073	90ED	SUB-	\$EJ	IN UNPROTECTED CORE.	M8100158
0159	P0074	484A	STQ*	QSAV	SAVE Q	M8100159
0160	P0075	E833	LDQ*	NW	LENGTH OF BREAKPOINT MODULE	M8100160
0161	P0076	5400	RTJ+	COMPV4		M8100161
	P0077	7FFF				
0162	P0078	E846	LDQ*	QSAV	RESTORE Q	M8100162
0163	P0079	0900	INA	0	IF A.NE.0 THEN BREAKPOINT	M8100163
0164	P007A	0112	SAN	EX13	WILL FIT IN CORE	M8100164
0165	P007B	5C41	RTJ*	(XSWAP)	RESET UNPIO	M8100165
0166	P007C	1818	JMP*	EX20		M8100166
0167	P007D	C0F3	LDA-	\$F3	LOAD START ADDR.OF BREAKPOINT AND	M8100167
0168	P007E	60EC	STA-	\$EC	STORE IT AS TOP OF UNPROTECTED CORE	M8100168
0169					SO THAT IT CANNOT BE OVERLAID	M8100169
0170	P007F	C206	LDA-	6,Q	READ IN BREAKPOINT	M8100170
0171	P0080	E205	LDQ-	5,Q		M8100171
0172	P0081	581F	RTJ*	READMM		M8100172
0173	P0082	5C3A	RTJ*	(XSWAP)	CLEAR UNPIO SWITCH	M8100173
0174	P0083	54F4	RTJ-	(\$F4)		M8100174
0175	P0084	0D00	NUM	\$0000	FORMAT WRITE	M8100175
0176	P0085	0007	ADC	COMP2-T-1	COMPL.ADDR.	M8100176
0177	P0086	0000	ADC	0	THREAD	M8100177
0178	P0087	18FB	NUM	\$18FB	V,M,A,LU	M8100178
0179	P0088	0003	NUM	3	NO. OF WORDS	M8100179
0180	P0089	0035	ADC	PGEJCT-T-1	ADDR.OF BUFFER	M8100180
0181	P008A	14EA	JMP-	(DISP)		M8100181
0182	P008B	E807	LDQ*	TRNADR	PASS THE TRANSFER ADDRESS	M8100182
0183	P008C	C400	LDA	JBPROE	GET RETURN	**MSOS 4.0M8100183
	P008D	7FFF				
0184		008D	EQU	JBPR(*-1)		M8100184
0185	P008E	6803	STA*	EX15Z+1	TO JOBENT	**MSOS 4.0M8100185
0186	P008F	0A00	ENA	0	INDEX TO SCHEDULE JPT 13	**MSOS 4.0M8100186
0187	P0090	1400	JMP+	0	RETURN TO JOBENT	**MSOS 4.0M8100187
	P0091	0000				
0188	P0092	0000	TRNAJR	NUM	0	**MSOS 4.0M8100188
0189	P0093	7FFF	BRKPTD	ADC	BRKPT	M8100189

X

EX13

*

EX15

T

COMP2

X

X

EX15Z

X

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0191 P0094 54F4 EX20 RTJ- ($F4) WRITE ERROR MESSAGE M8100191
0192 P0095 0000 ADC $0000,0,0,$18FC M8100192
      P0096 0000
      P0097 0000
      P0098 18FC
0193 P0099 0007 ADC $7,EX21-EX20-1 M8100193
      P009A 0010
0194 P009B C8FB LDA* EX20+3 WAIT FOR COMPLETION M8100194
0195 P009C 0101 SAZ 1 M8100195
0196 P009D 18FD JMP* *-2 M8100196
0197 P009E 00F3 STA- $F3 CLEAR F3 IF BRKPT WONT FIT M8100197
0198 P009F 18E3 JMP* T EXECUTE WITHOUT BREAKPOINT **MSOS 4.0 M8100198
      * READMM C 0 READ MASS MEMORY SUBROUTINE M8100199
0200 P00A0 0000 STA* SN+1 M8100200
0201 P00A1 680A STG* SV Q HAS MSB, A HAS LSB OF MM ADDRESS M8100201
0202 P00A2 4808 RTJ- ($F4) M8100202
0203 P00A3 54F4 NUM $4800,0 **MSOS 4.0 M8100203
0204 P00A4 4800 TH NUM 0 **MSOS 4.0 M8100204
      P00A5 0000 LUWRJ NUM $08C2 **MSOS 4.0 M8100205
0205 P00A6 0000 NW NUM $0000 **MSOS 4.0 M8100206
0206 P00A7 C8C2 FL NUM $0000 M8100207
0207 P00A8 0000 SN NUM $0,$0 M8100208
0208 P00A9 0000 P00AB 0000 M8100209
0209 P00AA 0000
      P00AC C8F9 LDA* TH WAIT FOR COMPLETION M8100210
0210 P00AD 0101 SAZ 1 M8100211
0211 P00AE 18FD JMP* *-2 M8100212
0212 P00AF 1CF0 JMP* (READMM) M8100213
0213 P00B0 08C2 LIBR_J NUM $08C2 ADDRESS OF LIBRARY LU. **MSOS 4.0 M8100214
0214 P00B1 08B3 SCRLJ NUM $08B3 ADDRESS OF SCRATCH LOGICAL UNIT **MSOS 4.0 M8100215
      * FOLLOWING IS ALFA FOR M8100216
      * E5 M8100217
      * E10 M8100218
      * BRKPT M8100219
0215 P00B2 0045 EX21 NUM $00+5,$3500,$4531,$3000,$4252 M8100220
0216 P00B3 3500
0217 P00B4 4531
0218 P00B5 3000
0219 P00B6 4252
0220 P00B7 4B50 NUM $+350,$5400 M8100221
0221 P00B8 5400
0222 P00B9 0C20 PGEJCT NUM $0C20 M8100222
0223 P00BA 2020 NUM $2020 M8100223
0224 P00BB 2020 NUM $2020 M8100224

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0226          ***** M8100226
0228          * THIS SUBROUTINE JUMPS TO AND IS RETURN FROM THE M8100228
0229          * LOADER M8100229
0231          ***** M8100231

0233 P00B0 7FFF X XSWAP ADC SWAPCK POINTER TO UNPIO RESET M8100233
0234 P00B0 7FFF X UNPIOS ADC UNPIO POINTER TO UNPIO SWITCH M8100234
0235 P00BE 0000 QSAV ADC 0 M8100235
0236 P00BF 0000 LOADL R 0 M8100236
0237 P00C0 5809 RTJ* LLR GIVE THE LOADER CONTROL M8100237
0238 P00C1 48FC STQ* QSAV M8100238
0239 P00C2 E0EE LDQ- $EE M8100239
0240 P00C3 0600 SPB 0 SET PROTECT BIT FOR M8100240
0241 P00C4 0C00 ENQ 0 CLEAR FLAG M8100241
0242 P00C5 4C19 STQ* (LOADI) M8100242
0243 P00C6 0400 EIN 0 RETURN LOCATION M8100243
0244 P00C7 E8F6 LDQ* QSAV M8100244
0245 P00C8 1CF6 JMP* (LOADL R) RETURN TO CALLING PROGRAM. M8100245
0246 P00C9 0000 LLR 0 M8100246
0247 P00CA 48F3 STQ* QSAV M8100247
0248 P00CB EC00 LDQ (LOADEP) CHECK IF LOADER PRESENT M8100248
0249 P00CD 0152 SQN LOADL1 M8100249
0250 P00CE 1800 JMP ERJ03 M8100250
0251 P00D0 4800 LOADL1 STQ* LOADL2+1 LOCATION OF LOADER M8100251
0252 P00D1 0C00 RAO* (LOADI) SET FLAG FOR PROTECT PROCESSOR M8100252
0253 * TO LET LOADER READ AND WRITE M8100253
0254 * BELOW THE SCRATCH AREA. M8100254
0255 P00D2 E8F6 LDQ* LLR LOADER RETURN ADDRESS IS AT RTJ LLR PLUS 1 M8100255
0256 P00D3 4400 X STQ JPRET1 PATCH RETURN IN TRVEC MODULE M8100256
0257 P00D4 7FFF X LDQ =XJPRETN RETURN FROM LOADER TO JPRETN IN TRVEC MODULE M8100257
0258 P00D5 E000 X LDQ =XJPRETN M8100258
0259 P00D6 7FFF X STQ JPRET PATCH THE PRESET TABLE IN LOCORE M8100259
0260 P00D7 4400 X STQ- $EE CLEAR PROTECT BIT FOR M8100260
0261 P00D8 40EE CPB 0 RETURN LOCATION. M8100261
0262 P00DA 0700 LDQ* QSAV M8100262
0263 P00DB E8E2 LOADL2 JMP+ J M8100263
0264 P00DC 1400 P00DD 0000
0265 P00DE 7FFF X LOADL ADC LOADIN M8100265

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0255 PG0DF 0000 LINK 0 0
0256 PG0EJ 0A02 ENA 2
0257 PG0E1 5806 RTJ* CMLoad LINK ENTRY POINTS
0258 PG0E2 0A0A ENA 10 PATCH TO PROGRAM LIBRARY
0259 PG0E3 5804 RTJ* CMLoad PRINT UNPATCHED EXTERNALS
0270 PG0E4 0AC7 LINK1 ENA 7
0271 PG0E5 5802 RTJ* CMLoad
0272 PG0E6 18FD JMP* LINK1
0273 PG0E7 0000 CMLoad 0 0
0274 PG0E8 58D6 RTJ* LOADLR PERFORM LOADER FUNCTION
0275 PG0E9 0136 SAM EREXIT LOADER ERROR-ABORT JOB
0276 PG0EA 0161 SQP 1
0277 PG0EB 1CFB JMP* (CMLoad) UNPATCHED EXTERNALS REMAIN
0278 PG0EC E0FF LDQ- I
0279 PG0ED 4800 STQ SAVI SAVE ADDR. OF KEY LOADER INFRO.
PG0EE FF49
0280 PG0EF 1CEF JMP* (LINK)
0281 PG0F0 1800 EREXIT JMP LDERR
PG0F1 FF3F
0282 END JLGV4

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**MSOS 4.0M8100265
**MSOS 4.0M8100266
**MSOS 4.0M8100267
**MSOS 4.0M8100268
**MSOS 4.0M8100269
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**MSOS 4.0M8100271
**MSOS 4.0M8100272
**MSOS 4.0M8100273
**MSOS 4.0M8100274
**MSOS 4.0M8100275
**MSOS 4.0M8100276
**MSOS 4.0M8100277
**MSOS 4.0M8100278
**MSOS 4.0M8100279
**MSOS 4.0M8100280
**MSOS 4.0M8100281
**MSOS 4.0M8100282

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PG4= 00F2 (242) COM = 0000 (0) DAT = 0000 (3)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0039, 0040, 0278
0024	LPMSK	0002	(000002)
0025	HFFFF	0012	(000018)
0026	HFFF00	001A	(000026)
0027	H00FF	000A	(000010)
0028	H0020	0028	(000040)
0029	H8000	0032	(000050)
0030	ZERO	0022	(000034) 0127, 0137
0031	JISP	00EA	(000234) 0119, 0181

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	JLGV4	0000	0011
0038	TRNV	0006	0046
0040	JP1A	0008	0045
0051	LOOP	0013	0055
0056	OUT	0018	0053
0064	CONTRL	0022	0035, 0066, 0110
0065	FERRBUF	0023	0048, 0085
0066	F2	0024	0034
0071	JOBP3	0025	0042
0073	SM	0027	
0074	JOBP	0028	
0075	JO4	0029	
0076	JO3	002A	
0078	BPS	002C	J142, 0146
0079	RI	002D	
0080	LOADEP	002E	0051, 0141, 0248
0084	ERJ03	002F	J250
0085	LDERR	0031	J281
0088	RETRN	0034	
0089	LBLEGO	0035	0087
0090	LBLE5	0036	0058
J102	SAVI	0038	J124, 0279
0104	PLLOAD	0039	0063
J106	LULOAD	003C	0062
J112	PG	0043	J114, 0118
0120	COMP1	0048	0114
0123	EX8	004D	J105, 0111
0139	EX16	005D	
0140	EX9	005E	0129
J167	EX13	007D	0164
0173	EX15	0082	0144
0174	T	0083	0176, 0180, 0198
J182	COMP2	008B	0176
0184	JBPR	008D	0057
0187	EX15Z	0090	0185
0188	TRNADR	0092	J126, 0182
0189	BRKPTD	0093	J147
0191	EX2C	0094	J166, 0193, 0194
0200	READMM	00A0	0139, 0172, 0213
0205	TH	00A6	0210
0206	LUWRD	00A7	0136, 0152

0207	NW	00A8	0131, 0150, 0160
0208	FL	00A9	0134, 0155
0209	SN	00AA	0201, 0202
0214	LIBRLU	00B0	0151
0215	SCRLU	00B1	0135
0221	EX21	00B2	0193
0222	PGEJCT	00B9	J118, 0180
0233	XSWAP	00B0	0165, 0173
0234	UNPIOS	00B0	0123
0235	QSAV	00BF	J159, 0162, J238, 0244, 0247, 0261
0236	LOADLR	00BF	J121, 0245, 0274
0246	LLR	00C9	0237, 0255
0251	LOADL1	00D0	0249
0262	LOADL2	00DC	0251
0263	LOADI	00DE	J242, 0252
0265	LINK	00DF	0104, 0106, 0280
0270	LINK1	00E4	0272
0273	CMLOAD	00E7	0267, 0269, 0271, 0277
0281	EREXIT	00F0	0275

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0013	TRNVEC	0006	0037
0014	JBPROE	0080	0183
0015	MIB	0019	0056
0017	LOADIN	00DE	0263
0018	JPRET	00D8	0258
0018	JPRET1	00D4	0256
0018	JPRETN	00D6	0257
0019	FILE2	0024	0066
0020	BRKPT	0093	0189
0021	JNPIO	0080	0234
0022	SWAPCK	00BC	0233
0023	COMPV4	0077	0161

*** ALPHABETICAL SORT OF SYMBOLS ***

BPSS	0078	BRKPT	0020	BRKPTD	0189	CMLoad	0273	COMP1	0120	COMP2	0182	COMPV4	0023	CONTRL	0064	DISP	0031
EREXIT	0281	ERJ03	0084	ERRBUF	0065	EX10	0139	EX13	0167	EX15	0173	EX15Z	0187	EX20	0191	EX21	0220
EX8	0123	EX9	0140	F2	0066	FILE2	0019	FL	0208	H002J	0028	H00FF	0027	H8000	0029	HFF00	0026
H=FFF	0025	I	0000	JBR	0184	JBPROE	0017	JLGV4	0011	JO3	0076	JO4	0075	JOBP	0074	JOBP3	0071
J1A	0040	JPRET	0018	JPRET1	0018	JPRETN	0018	LBL5	0090	LBL5GO	0089	LDERR	0085	LIBRLU	0214	LINK	0265
LINK1	0270	LLR	0246	LOADEP	0080	LOADI	0263	LOADIN	0017	LOADL1	0251	LOADL2	0262	LOADLR	0236	LOOP	0051
LPMSK	0024	LULOAD	0106	LURD	0206	MIB	0015	NW	0207	OUT	0056	PG	0112	PGEJCT	0222	PLLOAD	0104
QSAV	0235	REAJMM	0200	RETRN	0088	RI	0079	SAVI	0102	SCRLU	0215	SM	0073	SN	0209	SWAPCK	0022
T	0174	TH	0205	TRNAJR	0188	TRNV	0038	TRNVEC	0013	UNPIO	0021	UNPIOS	0234	XSWAP	0233	ZERO	0030

0001		NAM JPFLV4	DECK-ID M82	MSOS 5.0	SUMMARY-110	M8200001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0				M8200002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA				M8200003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976				M8200004

0006	*	JOB PROCESSOR FILE REQUEST PROGRAM MODULE1				M8200006
0007	*	1700 MASS STORAGE OPERATING SYSTEM VERSION 4.1				M8200007
0008	*	SMALL COMPUTER DEVELOPMENT DIVISION, LA JOLLA, CALIFORNIA				M8200008
0009	*	COPYRIGHT CONTROL DATA CORPORATION 1973				M8200009

0011	**	** ** ** **				M8200011
0012	*					M8200012
0013	*	THIS MODULE ENTERED FROM THE JOB PROCESSOR FOR PROCESSING				M8200013
0014	*	A REQUEST REGARDING A JOB PROCESSOR FILE				M8200014
0015	*					M8200015
0016	*	THIS MODULE VALIDATES THE GIVEN REQUEST FORMAT-				M8200016
0017	*	CORRECT REQUEST CODE AND CORRECT NUMBER OF CORRECTLY				M8200017
0018	*	FORMATTED PARAMETERS				M8200018
0019	*	FOR A CORRECT REQUEST THE PARAMETERS ARE SAVED IN A				M8200019
0020	*	BUFFER JPFLBF IN THE JOBERT PROGRAM. AN EXIT IS MADE				M8200020
0021	*	TO THE JOB PROCESSOR WHICH IN TURN CALLS MODULE 2 -JPF2V4- TO				M8200021
0022	*	ACTUALLY EXECUTE THE REQUEST				M8200022
0023	*					M8200023
0024	*	FOR AN INCORRECT REQUEST RETURN IS MADE TO THE JOB PROCESSOR				M8200024
0025	*	WITH THE APPROPRIATE ERROR CODE				M8200025
0026	*					M8200026

0028	*					M8200028
0029	*****	EQUATE CARDS				M8200029
0030		EQU LPMASK(\$2)				M8200030
0031	0002	EQU NZERO(\$12)				M8200031
0032	0022	EQU ZERO(\$22)				M8200032
0033	0023	EQU ONEBIT(\$23)				M8200033
0034	0046	EQU TEN(\$46)	TEN DECIMAL			M8200034
0035	00EA	EQU ADISP(\$EA)				M8200035
0036	00F4	EQU AMONI(\$F4)				M8200036

0038	*					M8200038
0039	*			FIRST WORD IS THE NUMBER OF PARAMETERS.		M8200039
0040				REQUEST CODE		M8200040
0041	0001	EQU V01(1)		)		M8200041
0042	0002	EQU V02(2)		) 1ST PARAMETER		M8200042
0043	0003	EQU V03(3)		)		M8200043
0044	0004	EQU V04(4)		)		M8200044
0045	0005	EQU V05(5)		)		M8200045

0004	0006	EQU	V06(6)	)	2ND PARAMETER	M8200046
0007	0007	EQU	V07(7)	)		M8200047
0008	*					M8200048
0009	0008	EQU	V08(8)	)		M8200049
000A	0009	EQU	V09(9)	)	THIRD PARAMETER	M8200050
000B	000A	EQU	V10(10)	)		M8200051
000C	*					M8200052
000D	000B	EQU	V11(11)	)		M8200053
000E	000C	EQU	V12(12)	)	4TH PARAMETER	M8200054
000F	000D	EQU	V13(13)	)		M8200055
0010	*					M8200056
0011	000E	EQU	V14(14)	)		M8200057
0012	000F	EQU	V15(15)	)	5TH PARAMETER	M8200058
0013	0010	EQU	V16(16)	)		M8200059
0014	*					M8200060
0015	0011	EQU	V17(17)	)		M8200061
0016	0012	EQU	V18(18)	)		M8200062
0017	0013	EQU	V19(19)	)		M8200063
0018	0014	EQU	V20(20)	)		M8200064
0019	0015	EQU	V21(21)	)		M8200065
001A	0016	EQU	V22(22)	)	TEMPORARY CHAR STORAGE	M8200066
001B	0017	EQU	V23(23)	)	CHARACTER STORAGE ADDRESS	M8200067
0074	0018	EQU	V24(24)	)		M8200068
0075	0019	EQU	V25(25)	)	TEMPORARY USAGE	M8200069
0076	001A	EQU	V26(26)	)	ADDRESS OF FLBUF2	M8200070
0078	001B	EQU	V27(27)	)	TOTAL NUMBER OF FILES CHECKED SO FAR	M8200071
0079	*					M8200072

0074	*****	ENTRY POINTS				M8200074
0075		ENT JP=L				M8200075
0076	*					M8200076

0078	*****	EXTERNAL POINTS				M8200078
0079	EXT	MIBUF			SMI BUFFER ADDRESS	M8200079
0080	EXT	PKEYV4				M8200080
0081	EXT	JBPROE			ENTRY POINT TO JOBENT (TRNVEC)	M8200081
0082	EXT	TRNVEC			ABS.ADRS OF TRANTA BUFFER IN JOBENT	M8200082
0083	EXT	MIB				M8200083
0084	EXT	JBFLV4			NBR OF JP FILES IN SYSTEM	M8200084
0085	EXT	AYERTO			CURRENT SYSTEM YEAR	**MSOS +.1** M8200085
0086	EXT	AMONTO			CURRENT SYSTEM MONTH	**MSOS +.1** M8200086
0087	EXT	ADAYTO			CURRENT SYSTEM DAY	**MSOS +.1** M8200087
0088	EXT	LOG1A				M8200088
0089	EXT	FILE3				M8200089
0090	EXT	PAR3V4			LOC. WITH THE ADDRESS OF THE JOBENT BUFFER	M8200090

```

0092          *
0093 JPFL NUM $C8FE
0094 P0000 C8FE STA* (F3)
0095          * SAVE START ADDRESS OF JBFL PROGRAM
0096 P0002 6868 STA* JBV01
0097          *
0098          * SAVE THE CONTENTS OF REGISTER Q
0099          *
0100 P0003 4869 STQ* JBV03
0101          *
0102          * SAVE INPJT REQUEST BUFFER ADDRESS
0103 P0004 E400 X LDQ MIBUF
      P0005 7FFF X
0104          *
0105 P0006 4865 STQ* JBV02
0106          *
0107          * COMPUTE THE OTHER ABSOLUTE ADDRESSES OF LOCATIONS
0108          * REFERRED TO IN THIS MODULE
0109          *
0110 P0007 E866 LDQ* FLBF1A REQUEST PARAMETER BUFFER ADDRESS
0111 P0008 C832 AAQ Q
0112 P0009 4864 STQ* FLBF1A
0113 P000A 40FF STQ- I

0115          * THE FOLLOWING CODE WILL SET SET THE JOB FILE TABLE
0116          * TO ZERO THE FIRST TIME THE JOB FILES ARE USED.
0117          * THE CORE IMAGE IS UPDATED--WORD 19 OF EXTENDED CORE
0118          * TABLE-- SO THIS PROCEDURE IS ONLY DONE ONCE
0119          * EACH TIME A NEW SYSTEM IS BUILT

0121 P0003 E0E9 JBFL03 LDQ- $E9 ADDRESS OF EXT. CORE TABLE
0122 P000C C213 LDA- 19,Q
0123 P0000 C101 SAZ JBFL3A
0124 P000E 184A JMP* JBFL02
0125 P000F C000 X JBFL3A LDA =XJBFLV4 ANY FILES TO INITIALIZE
      P0010 7FFF X
0126          *
0127 P0011 0117 EQU JBF(*-1)
0128 P0012 C85A SAN JBFL3B
0129 P0013 0132 LDA* JBV03 NO
0130 P0014 1800 SAM JBFL31
      P0015 00A3 JMP FL0001

0131 P0016 0C04 JBFL31 ENQ 4 ABORTING A JO SO
0132 P0017 1800 JMP FL0076 JUST GET OUT

0133 P0019 0D13 JBFL3B INQ 19
0134 P001A 4822 STQ* FWORD SAVE FLAG ADDRESS
0135 P001B 0DF4 INQ -11
0136 P001C C622 LDA- (ZERO),Q FIRST SECTOR OF DIRECTORY
0137 P001D 6812 STA* SECTOR
0138 P001E 0DFB INQ -4

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M8200092
M8200093
M8200094
M8200095
M8200096
M8200097
M8200098
M8200099
M8200100
M8200101
M8200102
M8200103
M8200104
M8200105
M8200106
M8200107
M8200108
M8200109
M8200110
M8200111
M8200112
M8200113
M8200115
M8200116
M8200117
M8200118
M8200119
**MSOS 4.0M8200121
**MSOS 4.0M8200122
**MSOS 4.0M8200123
M8200124
M8200125
**MSOS 4.0M8200126
M8200127
M8200128
M8200129
M8200130
M8200131
M8200132
**MSOS 4.0M8200133
**MSOS 4.0M8200134
**MSOS 4.0M8200135
**MSOS 4.0M8200136
**MSOS 4.0M8200137
**MSOS 4.0M8200138

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0139 P001F C622 LDA- (ZERO),Q CORE IMAGE SECTOR
0140 P0020 681A STA* IMAGE
0141 P0021 C8EE LDA* JBFL3A+1 NUMBER OF FILES
0142 P0022 0C00 ENQ 0
0143 P0023 3046 DVI- TEN
0144 P0024 0141 SQZ 1
0145 P0025 0901 INA 1
0146 P0026 6815 STA* NSECT
0147 P0027 54F4 DCOMP RTJ- ($F4)
0148 P0028 0000 NUM $000
0149 P0029 0009 ADC COMP-DCOMP-1
0150 P002A 0000 NUM 0,$8C2,1
0151 P002B 08C2
P002C 0001
P002D 0011 ADC BUF-DCOMP-1,0
0152 P002E 0000 SECTOR NUM 0
0153 P0030 14EA JMP- ($EA)
0154 P0031 0161 COMP SQP 1 NO I/O ERROR
0155 P0032 18F4 JMP* DCOMP HAVE ALL SECTORS BEEN ZEROED
0156 P0033 C808 LDA* NSECT
0157 P0034 09FE INA -1
0158 P0035 6806 STA* NSECT
0159 P0036 0106 SAZ GONE
0160 P0037 08F7 RAO* SECTOR NO,BUMP SECTOR NUMBER
0161 P0038 18EE JMP* DCOMP AND DO ANOTHER
0162 P0039 0000 BUF NUM 0
0163 P003A 0000 IMAGE NUM 0
0164 P003B 0000 NSECT NUM 0
0165 P003C 0000 FWORD NUM 0
0166 *
0167 P003D E0E9 LDQ- $E9 1 CARD DELETED
0168 P003E 4213 STQ- 19,Q SET INITIALIZED FLAG
0169 P003F 48F9 STQ* BUF
0170 P0040 C8F9 LDA* IMAGE CORE IMAGE SECTOR
0171 P0041 2000 MUI =N95
P0042 0060
0172 P0043 0FE1 LLS 1 CONVERT TO WORD ADDRESS
0173 P0044 0F41 ARS 1
0174 P0045 A011 AND- $11
0175 P0046 68E8 STA* SECTOR
0176 P0047 C8F4 LDA* FWORD ADDRESS TO UPDATE
0177 P0048 88E6 ADD* SECTOR COMBINE CORE IMAGE ADDRESS
0178 P0049 0122 SAP 2
0179 P004A 0001 INQ 1
0180 P004B A011 AND- $11
0181 P004C 48E1 STQ* SECTOR-1
0182 P004D 68E1 STA* SECTOR
0183 P004E C000 LDA =N$500 WORD WRITE
P004F 0500
0184 P0050 68D7 STA* DCOMP+1
0185 P0051 C000 LDA =XCOMP1-DCOMP-1
P0052 002D

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**MSOS 4.0M8200139
**MSOS 4.0M8200140
M8200141
M8200142
M8200143
**MSOS 4.0M8200144
**MSOS 4.0M8200145
**MSOS 4.0M8200146
**MSOS 4.0M8200147
**MSOS 4.0M8200148
**MSOS 4.0M8200149
**MSOS 4.0M8200150
**MSOS 4.0M8200151
**MSOS 4.0M8200152
**MSOS 4.0M8200153
**MSOS 4.0M8200154
**MSOS 4.0M8200155
**MSOS 4.0M8200156
**MSOS 4.0M8200157
**MSOS 4.0M8200158
**MSOS 4.0M8200159
**MSOS 4.0M8200160
**MSOS 4.0M8200161
**MSOS 4.0M8200162
**MSOS 4.0M8200163
**MSOS 4.0M8200164
**MSOS 4.0M8200165
M8200166
**MSOS 4.0M8200167
**MSOS 4.0M8200168
**MSOS 4.0M8200169
**MSOS 4.0M8200170
M8200171
**MSOS 4.0M8200172
**MSOS 4.0M8200173
**MSOS 4.0M8200174
**MSOS 4.0M8200175
**MSOS 4.0M8200176
**MSOS 4.0M8200177
**MSOS 4.0M8200178
**MSOS 4.0M8200179
**MSOS 4.0M8200180
**MSOS 4.0M8200181
**MSOS 4.0M8200182
M8200183
M3200184
**MSOS 4.0M8200185

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0186	P0053	6805	STA*	DCOMP+2		**MSOS	4.	CM8200186
0187	P0054	1802	JMP*	DCOMP	UPDATE CORE IMAGE	**MSOS	4.	CM8200187
0188	P0055	U161	COMP1	SQP	1	**MSOS	4.	CM8200188
0189	P0056	1800	JMP*	DCOMP		**MSOS	4.	CM8200189
0190	P0057	1861	JMP*	FLJ001		**MSOS	4.	CM8200190
0191			*					M3200191
0192			*	CHECK WHETHER THE REQUEST IS TO CLOSE ALL THE FILES				M8200192
0193			*	OPENED SO FAR.				M8200193
0194			*					M8200194
0195	P0058	E814	JBFLJ2	LDQ*	JBV03			M8200195
0196	P0059	0164	SQP	JBFL05	NOT SUCH A REQUEST. SKIP			M8200196
0197	P005A	5809	RTJ*	TESTFM	TEST FILE MANAGER PRESENT TEST			M3200197
0198	P005B	4101	STQ-	1,I	JUMP TO CLOSE ALL PREVIOUSLY OPENED FILES			M8200198
0199	P005C	1800	JMP	FLO190				M8200199
	P005D	0129						
0200			*					M8200200
0201			*	EXIT TO CALLER. NO FILES TO BE CLOSED				M8200201
0202			*					M8200202
0203	P005E	0DF8	JBFLJ5	INQ	-7			M8200203
0204	P005F	0161	SQP	NOFMTS	REWIND OR UNLOAD			M8200204
0205	P0060	5803	RTJ*	TESTFM	TEST FILE MANAGER PRESENT TEST			M8200205
0206	P0061	1800	NOFMTS	JMP	FLO001	EXIT TO PROCESSOR		M8200206
	P0062	0056						
0208	P0063	0000	TESTFM	NUM	0	CHECK FOR FILE MANAGER PRESENT		M8200208
0209	P0064	C8AB	LDA*	JBFL3A+1	GET NO. JOB FILES			M8200209
0210	P0065	0101	SAZ	NOFM	NO FILES, DO NOT RETURN			M8200210
0211	P0066	10FC	JMP*	(TESTFM)	FILES PRESENT, OK TO RETURN			M8200211
0212	P0067	1800	NOFM	JMP	FLO070	JP04, NO FILES, CANT OPERATE		M8200212
	P0068	00A5						
0213			*					M8200213

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0215      *
0216      *****VARIABLES USED
0217      *
0218 P0069 7FFF X F3      ADC  FILE3
0219 P006A 0000      JBV01  ADC  0      START ADDRESS OF JBFL PROGRAM
0220 P006B 0000      JBVJ2  ADC  0      INPUT REQUEST BUFFER ADDRESS
0221 P006C 0000      JBV03  NUM  0      TEMPY STORAGE FOR Q PASSED BY CALLER
0222      *
0223 P006D 006E      FLBF1A  ADC  FLBJF1-JPFL  ADDRESS OF FLBUF1
0224      *
0225      *      THE BUFFER FLBUF1 IS USED TO SAVE THE PARAMETERS OF THE
0226      *      GIVEN REQUEST. THE TEMPY STORAGE FOR SAVING INTERMEDIATE
0227      *      INFORMATION IS THE LATTER PART OF THIS BUFFER
0228      *
0229 P006E 001C      FLBUF1  BZS  FLBJF1(28)

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M8200215
M8200216
M8200217
M8200218
M8200219
M8200220
M8200221
M8200222
M8200223
M8200224
M8200225
M8200226
M8200227
M8200228
M8200229

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0231		*			M8200231
0232		*	REQUESTS AND THEIR CODES TABLE		M8200232
0233		*			M8200233
0234	P008A 4445	*	FLTOJ1 ALF 3,DEFINE		M8200234
	P008B 4649				
	P008C 4E45				
0235	P008D 0000	*	NUM 0	REQUEST CODE 0 FOR DEFINE	M8200235
0236					M8200236
0237	P008E 5245	*	ALF 3,RELEAS		M8200237
	P008F +C45				
	P0090 4153				
0238	P0091 0001	*	NUM 1	REQUEST CODE 1 FOR RELEASE	M8200238
0239					M8200239
0240	P0092 4F50	*	ALF 3,OPEN		M8200240
	P0093 454E				
	P0094 2020				
0241	P0095 0002	*	NUM 2	REQUEST CODE 2 FOR OPEN	M8200241
0242					M8200242
0243	P0096 434C	*	ALF 3,CLOSE		M8200243
	P0097 4F53				
	P0098 4520				
0244	P0099 0003	*	NUM 3	REQUEST CODE 3 FOR CLOSE	M8200244
0245					M8200245
0246	P009A 404F	*	ALF 3,MODIFY		M8200246
	P009B 4449				
	P009C 4659				
0247	P009D 0004	*	NUM 4	REQUEST CODE 4 FOR MODIFY	M8200247
0248					M8200248
0249	P009E 4649	*	ALF 3,FILTBL		M8200249
	P009F +C54				
	P00A0 424C				
0250	P00A1 0005	*	NUM 5	REQUEST CODE 5 FOR FILTBL	M8200250
0251					M8200251
0252	P00A2 5055	*	ALF 3,PJRGE		M8200252
	P00A3 5247				
	P00A4 4520				
0253	P00A5 0006	*	NUM 6	REQUEST CODE 6 FOR PURGE	M8200253
0254					M8200254
0255	P00A6 5245	*	ALF 3,REW		M8200255
	P00A7 5720				
	P00A8 2020				
0256	P00A9 0007	*	NUM 7	REQUEST CODE 7 FOR REWIND	M8200256
0257					M8200257
0258	P00AA 554E	*	ALF 3,UNL		M8200258
	P00AB 4C20				
	P00AC 2020				
0259	P00AD 0008	*	NUM 8	REQUEST CODE 8 FOR UNLOAD	M8200259
0260					M8200260
0261	P00AE FFFF	*	NUM \$FFFF	END OF REQUEST CODE TABLE.	M8200261
0262		*			M8200262

0264
0265
0266
0267 P00AF 0146
0268 P00B0 0120
0269 P00B1 0158
0270 P00B2 0120
0271 P00B3 0131
0272 P00B4 0136
0273 P00B5 0160
0274 P00B6 0176
0275 P00B7 0176
0276

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*

ADDRESSES OF THE VAIDATION S/ROUTINES

FLT002 ADC FL0145-JPFL +0 DEFINE
ADC FL0120-JPFL +1 RELEAS
ADC FL0150-JPFL +2 OPEN
ADC FL0120-JPFL +3 CLOSE
ADC FL0140-JPFL +4 MODIFY
ADC FL0190-JPFL +5 FILTBL
ADC FL0160-JPFL +6 PURGE
ADC FL0170-JPFL +7 REWIND
ADC FL0170-JPFL +8 UNLOAD

M8200264
M8200265
M8200266
M8200267
M8200268
M8200269
M8200270
M8200271
M8200272
M8200273
M8200274
M8200275
M8200276

0278 * M8230278

0280 * M8200280
0281 * EXTRACT THE PARAMETERS OF THE REQUEST AND SAVE THEM M8200281
0282 * IN BUFFER FLBUF1 M8200282
0283 * THE REQUEST CODE WILL ALSO BE SAVED IN FLBUF1. M8200283
0284 * M8200284

0285 P00B8 C8B4 FLO001 LDA* FLBF1A M8200285
0286 P00B9 60FF STA- I M8200286
0287 P00BA 0A01 ENA 1 M8200287
0288 P00BB 5800 RTJ FLS01 COLLECT THE CODE CHARACTERS M8200288
0289 P00BC 00E0 JMP* FLO007 INVALID CHARACTER JUMP

0290 * M8200289
0291 * COME HERE FOR THE COMMA OR END OF REQUEST DELIMITER M8200290
0292 * M8200291
0293 * M8200292

0294 * VALIDATE THE REQUEST CODE. M8200293
0295 * AFTER THE REQUEST CODE IS SAVED IN V19,V20,AND V21 VALIDATE. M8200294
0296 * THE CODE. M8200295
0297 * THE VALID CODES ARE IN FLT001 TABLE. M8200296

0298 P00BE 0C00 FLO002 ENQ 0 M8200297
0299 P00BF CACA FLO003 LDA* FLT001,Q ADDRESS OF FLT001 M8200298
0300 P00C0 013D SAM FLO007 END OF TABLE SKIP M8200299
0301 P00C1 B113 EOR- V19,I M8200300
0302 P00C2 0102 SAZ FLO005 FIRST TWO CHARS MATCH.SKIP M8200301
0303 P00C3 0D04 INQ 4 GET NEXT TABLE ADDRESS. M8200302
0304 P00C4 18FA JMP* FLO003 M8200303

0305 * M8200304
0306 P00C5 0D01 FLO005 INQ 1 M8200305
0307 P00C6 CAC3 LDA* FLT001,Q CHECK NEXT TWO CHARACTERS M8200306
0308 P00C7 B114 EOR- V20,I M8200307
0309 P00C8 011E SAN FLO007D SKIP IF NO MATCH OF 3RD AND 4TH CHARS M8200308

0310 P00C9 0D01 INQ 1 M8200309
0311 P00CA CABF LDA* FLT001,Q CHECK NEXT TWO CHARACTERS M8200310
0312 P00CB B115 EOR- V21,I M8200311
0313 P00CC 010E SAZ FLO008 MATCH FOUND.SKIP M8200312

0314 * M8200313
0315 P00CD 180B JMP* FLO007E JUMP IF NO MATCH OF 5TH AND 6TH CHARS M8200314
0316 * SET UP TO CALL A PROGRAM WITH THE GIVEN NAME M8200315
0317 * M8200316

0318 P00CE C400 X FLO007 LDA JBPROE GET RETURN M8200317
0319 P00CF 7FFF X M8200318
0320 P00D0 6806 STA* FLO007A+1 TO JOBENT M8200319
0321 P00D1 0C00 ENQ 0 RESET THE LOCKOUT FLAG M8200320

0322 P00D2 4C08 STQ* (FLO007B) M8200321
0323 P00D3 0A32 LDQ- ONEBIT+15 SET Q NEGATIVE M8200322
0324 P00D4 0A02 ENA 2 INDEX TO SCHEDULE JPLOAD M8200323
0325 P00D5 1400 FLO007A JMP+ 0 M8200324
0326 P00D6 0000

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0325 *
0326 P0007 0001 FL007D INQ 1 SET UP TO GET NEXT CODE ENTRY
0327 P0008 0002 FL007E INQ 2 SET UP TO GET NEXT CODE ENTRY
0328 P0009 18E5 JMP* FL0003 PROCESS NEXT ENTRY
0329 *
0330 P000A 7FFF X FL007B ADC MIB
0331 *
0332 * SAVE THE REQUEST CODE IN THE PARAMETER BUFFER
0333 *
0334 P000B 0001 FL0008 INQ 1
0335 P000C CAAD LDA* FLT001,Q
0336 P000D 6101 STA- 1,I PARAMETER BUFFER ADDRESS
0337 *
0338 * CHECK ANY MORE PARAMETERS FOR THE REQUEST.
0339 *
0340 P000E C116 FL0010 LDA- V22,I CHARACTER GOT LAST
0341 P000F 09D3 INA -$2C CHECK IT TO BE A COMMA
0342 P0010 0101 SAZ FL0012 SKIP IF A COMMA
0343 P0011 1815 JMP* FL0050 OTHERWISIE JUMP TO PROCESS REQUEST.
0344 *
0345 * FOR A COMMA CHECK WHETHER FIVE (MAX NBR FOR A REQUEST)
0346 * ALREADY SAVED. IF YES, REJECT. J04
0347 *
0348 P0012 C522 FL0012 LDA- (ZERO),I
0349 P0013 09FA INA -5
0350 P0014 0131 SAM FL0014 OK LESS THAN 5
0351 P0015 1828 JMP* FL0070 REJECT. J04. INVALID PARAMETER
0352 *
0353 * SET UP TO GET THE PARAMETERS OF THE REQUEST, IF ANY
0354 *
0355 P0016 D111 FL0014 RAO- V17,I UPDATE CHARACTER INDEX
0356 P0017 C111 LDA- V17,I
0357 P0018 5800 RTJ FLS01 COLLECT PARAMETER
0358 P0019 00B3
0359 P001A 1823 JMP* FL0070 REJECT. J04. INVALID PARAMETER
0360 *
0361 * SAVE THE PARAMETER IN THE REQUEST PARAMETER BUFFER
0362 * COMPUTE STORAGE ADDRESS 3*PARAM NBR + 2
0363 *
0364 P001B C522 FL0020 LDA- (ZERO),I PARAMETER NUMBER
0365 P001C 5800 RTJ FLS02
0366 P001D 00F3
0367 *
0368 P001E C113 LDA- V19,I SAVE THE 6 CHARACTERS OF THE PARAMETER.
0369 P001F 6622 STA- (ZERO),Q
0370 P0020 C114 LDA- V20,I
0371 P0021 6201 STA- 1,Q
0372 P0022 C115 LDA- V21,I
0373 P0023 6202 STA- 2,Q
0374 *
0375 P0024 D522 RAO- (ZERO),I UPDATE NUMBER OF PARAMETERS SAVED
*
* AND BRANCH TO GET THE NEXT PARAMETER IF ANY

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M8200325
M8200326
M8200327
M8200328
M8200329
M8200330
M8200331
M8200332
M8200333
M8200334
M8200335
M8200336
M8200337
M8200338
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M8200366
M8200367
M8200368
M8200369
M8200370
M8200371
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M8200373
M8200374
M8200375

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0376
0377 P00F5 18E8      *          JMP* FL0010      M8200376
                                           M8200377

0379      *
0380      *
0381      *
0382      *
0383 P00F6 E101      FL0050 LDQ- 1,I          REQUEST CODE
0384 P00F7 CA27      LDA* FL0080,Q        ANY PARAMETERS REQUIRED ON THIS REQ.
0385 P00F8 0111      SAN CKPRM          YES, CHECK NUMBER ENTERED
0386 P00F9 1813      JMP* FL0060        NO, CONTINUE WITHOUT CHECK
0387 P00FA C522      CKPRM LDA- (ZERO),I YES, WERE ANY ENTERED
0388 P00FB 0111      SAN CKNJM          YES, VALIDATE NUMBER ENTERED
0389 P00FC 1811      JMP* FL0070        NO, FLAG AS ILLEGAL PARAMETER
0390 P00FD 9A21      CKNUM SUB* FL0080,Q TEST IF NUMBER OF PARMS. IS CORRECT
0391 P00FE 010D      SAZ FL0060        VALID, EXACTLY MAXIMUM NUMBER
0392 P00FF 012D      SAP FL0070        TOO MANY, REJECT AS ILLEGAL PARAM.
0393 P0100 0149      SQZ FL0055        SKIP IF A DEFINE REQUEST
0394 P0101 0DFB      INQ -4
0395 P0102 0147      SQZ FL0055        SKIP IF A MODIFY REQUEST
0396 P0103 0DFD      INQ -2
0397 P0104 0145      SQZ FL0055        PURGE
0398 P0105 0DFE      INQ -1
0399 P0106 0145      SQZ FL0060        REWIND
0400 P0107 0DFE      INQ -1
0401 P0108 0143      SQZ FL0060        UNLOAD
0402 P0109 0153      SQN FL0070        NOT UNLOAD EITHER. REJECT
0403 P010A 0901      FL0055 INA 1
0404 P010B 0111      SAN FL0070        INVALID NBR OF PARAMETERS. REJECT J04
0405      *
0406 P010C 1818      FL0056 JMP* FL0100 JUMP TO VALIDATE THE PARAMETERS.
0407      *
0408 P010D C000      FL0070 LDA =NS3034 ILLEGAL PARAMETER FORMAT. ERROR J04
0409 P010E 3034
0409      *
0410 P010F 0C06      FL0072 ENQ 6
0411      *
0412 P0110 480D      FL0075 STQ* FL0079 SAVE Q TEMPORARLIY
0413 P0111 E400      LDQ TRNVEC        GET TRANTA+10
0414 P0112 7FFF      X
0415 P0113 0D0A      INQ 10
0416 P0114 6522      STA- (ZERO),Q    AND SAVE THE ERROR CODE
0417      *
0418 P0115 E808      LDQ* FL0079      GET Q CONTENTS
0419      *
0420 P0116 C400      FL0076 LDA JBPROE GET RETURN
0421 P0117 00CF      X
0422 P0118 68BD      STA* FL007A+1    TO JOBENT
0422 P0119 0A00      *
0422      ENA 0

```

```

M8200379
M8200380
M8200381
M8200382
M8200383
M8200384
M8200385
M8200386
M8200387
M8200388
M8200389
M8200390
M8200391
M8200392
M8200393
M8200394
M8200395
M8200396
M8200397
M8200398
M8200399
M8200400
M8200401
M8200402
M8200403
M8200404
M8200405
M8200406
M8200407
M8200408
M8200409
M8200410
M8200411
M8200412
M8200413
M8200414
M8200415
M8200416
M8200417
M8200418
M8200419
M8200420
M8200421
M8200422

```

0423	P011A	6CBF	STA* (FL007B)		M8200423
0424	P011B	6A01	ENA 1	INDEX TO SCHEDULE JOBPRO	M8200424
0425	P011C	18B8	JMP* FL007A		M8200425
0426			*		M8200426
0427	P011D	0000	FL0079 NUM 0	TEMPORARY Q STORAGE	M8200427
0428			*		M8200428
0429			*		M8200429

0431			*		M8200431
0432			*	NUMBER OF VALID PARAMETERS FOR REQUESTS	M8200432
0433			*		M8200433
0434	P011E	0003	FL0080 NUM 3	+0 DEFINE NUMBER MAY BE 2 OR 3.	M8200434
0435	P011F	0002	NUM 2	+1 RELEAS	M8200435
0436	P0120	0004	NUM 4	+2 OPEN	M8200436
0437	P0121	0002	NUM 2	+3 CLOSE	M8200437
0438	P0122	0005	NUM 5	+4 MODIFY NUMBER MAY BE 4 OR 5.	M8200438
0439	P0123	0000	NUM 0	+5 FILTBL	M8200439
0440	P0124	0002	NUM 2	+6 PURGE MAY BE 1 OR 2	M8200440
0441	P0125	0005	NUM 5	+7 REWIND	M8200441
0442	P0126	0005	NUM 5	+8 UNLOAD	M8200442
0443			*		M8200443

0445			*		M8200445
0446			*	PICK UP THE PARAMETER VALIDATION ROUTINE	M8200446
0447			*		M8200447
0448	P0127	E101	FL0100 LDQ- 1,I	REQUEST CODE	M8200448
0449			*		M8200449
0450	P0128	EA00	LDQ FLT002,Q	REQUEST CODE=INDEX TO TABLE	M8200450
0451	P0129	FF85	ADQ JBV01		M8200451
0452	P012A	F800	JMP- (ZERO),Q		M8200452
0453	P012B	FF3E	*		M8200453
0454	P012C	1622			

0455			*		M8200455
0456			*	COME HERE FOR RELEASE,CLOSE	M8200456
0457			*	VALIDATE PARAMETER AS A VALID FILE NAME	M8200457
0458			*	FIRST CHARACTER MUST BE AN ALPHA CHAR.	M8200458
0459			*		M8200459
0460	P012D	0A00	FL0120 ENA 0	PARAMETER INDEX=0	M8200460
0461	P012E	5800	RTJ FLS04		M8200461
0462	P012F	00B9	*		M8200462
0463	P0130	1856	FL0125 JMP* FL0190	EXIT	M8200463

0464 * M8200464

0466 * M8200466
0467 * M8200467
0468 * M8200468
0469 * M8200469

MODIFY REQUEST

VALIDATE 5TH PARAMETER AS A DATE.
IF 5TH PARAMETER IS NOT GIVEN, MAKE DATE=PRESENT DATE(LOCORE)

0470 * M8200470
0471 * M8200471
0472 * M8200472
0473 * M8200473
0474 * M8200474
0475 * M8200475
0476 * M8200476
0477 * M8200477
0478 * M8200478
0479 * M8200479

PO131 C522
PO132 09FB
PO133 011B

FL0140 LDA- (ZERO),I NO OF PARAMETERS IN THE REQUEST
INA -4
SAN FL0141 SKIP.NOT +.

FOR THE GIVEN 4 PARAMETERS, ASSUME DATE=PRESENT DATE (LOCORE)
AND ENTER AS 5TH PARAMETER

0480 * M8200480
0481 * M8200481
0482 * M8200482
0483 * M8200483

PO134 C400 X
PO135 7FFF X
PO136 610F
PO137 C400 X
PO138 7FFF X
PO139 610F
PO13A C400 X
PO13B 7FFF X
PO13C 6110
PO13D D522

LDA+ AMONTO

MSOS 4.1

STA- 14,I
LDA+ ADAYTO

MSOS 4.1

STA- 15,I
LDA+ AYERTO

MSOS 4.1

0484 * M8200484
0485 * M8200485
0486 * M8200486
0487 * M8200487
0488 * M8200488
0489 * M8200489
0490 * M8200490

PO13E 1804
PO13F 0A04
PO140 5800
PO141 00B3

STA- 16,I
RAO- (ZERO),I BUMP NUMBER OF PARAMETERS TO 5

JMP* FL0142

FL0141 ENA 4 VALIDATE 5TH PARAM AS A DATE
RTJ FLS09

0491 * M8200491
0492 * M8200492
0493 * M8200493
0494 * M8200494
0495 * M8200495

PO142 0A02
PO143 5800
PO144 00A4

CHECK 3RD PARAMETER AS A VALID FILE NUMBER

FL0142 ENA 2
RTJ FLS04

0496 * M8200496
0497 * M8200497
0498 * M8200498
0499 * M8200499
0500 * M8200500

PO145 18E7

VALIDATE 1ST PARAMETER AS A VALID FILE NAME.

JMP* FL0120

0502 * M8200502
0503 * M8200503
0504 * M8200504
0505 * M8200505

DEFINE STATEMENT VALIDATION

VALIDATE THE 3RD PARAMETER AS A VALID DATE

```

05106 *
05107 *
05108 *
05109 P0146 C522 FL0145 LDA- (ZERO),I NBR OF PARAMETERS IN REQUEST M8200506
05110 P0147 C9FD INA -2 M8200507
05111 P0148 G11B SAN FL0147 NOT 2. SKIP M8200508
05112 * M8200509
05113 * MAKE DATE=PRESENT DATE M8200510
05114 * M8200511
05115 P0149 C400 X LDA+ AMONTO **MSOS 4.1** M8200512
05116 P014A 0135 X M8200513
05117 P014B 6108 STA- V08,I M8200514
05118 P014C C400 X LDA+ ADAYTO **MSOS 4.1** M8200515
05119 P014D 0138 X M8200516
05120 P014E 6109 STA- V09,I M8200517
05121 P014F C400 X LDA+ AYERTO **MSOS 4.1** M8200518
05122 P0150 013B X M8200519
05123 P0151 610A STA- V10,I M8200520
05124 * M8200521
05125 P0152 D522 RAO- (ZERO),I BUMP NUMBER OF PARAMETERS TO 3. M8200522
05126 P0153 18D9 JMP* FL0120 M8200523
05127 P0154 GAG2 FL0147 ENA 2 VALIDATE 3RD PARAMETER AS A JULIAN DATE. M8200524
05128 P0155 5800 RTJ FLS09 M8200525
05129 P0156 J09E M8200526
05130 P0157 18D5 JMP* FL0120 M8200527
05131 * M8200528
05132 *
05133 *
05134 *
05135 *
05136 *
05137 *
05138 *
05139 *
05140 *
05141 *
05142 *
05143 *
05144 *
05145 *
05146 *
05147 *
05148 *

```

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0530 *
0531 *
0532 *
0533 *
0534 *
0535 P0158 0A03 FL0150 ENA 3 GET PARAMETER ADDRESS M8200530
0536 P0159 5800 RTJ FLS02 M8200531
0537 P015A 0C86 RTJ FLS13 M8200532
0538 P015B 5800 M8200533
0539 P015C 00EF M8200534
0530 * M8200535
0531 * M8200536
0532 *
0533 *
0534 *
0535 *
0536 *
0537 *
0538 *
0539 *
0540 *
0541 *
0542 *
0543 *
0544 *
0545 *
0546 *
0547 *
0548 *

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0545 *
0546 *
0547 *
0548 *

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0549	P0161	9000	SUB	=AR			M8200549
	P0162	5220					
0550	P0163	0106	SAZ	FL0153	R. SKIP		M8200550
0551	P0164	C622	LDA-	(ZERO),Q			M8200551
0552	P0165	9000	SUB	=AW			M8200552
	P0166	5720					
0553	P0167	0101	SAZ	FL0152	W. SKIP		M8200553
0554	P0168	18A4	FL0151	JMP* FL0070	ILLEGAL PARAMETER. REJECT. J04		M8200554
			*				M8200555
0555			FL0152	ENA 1			M8200556
0556	P0169	JA01	FL0153	ALS 15			M8200557
0557	P016A	0FCF		STA- (ZERO),Q			M8200558
0558	P016B	6622	*				M8200559
0559				JMP* FL0120			M8200560
0560	P016C	18C0	*				M8200561
0561							

0563			*				M8200563
0564			*	COME HERE TO VALIDATE THE PURGE REQUEST			M8200564
0565			*				M8200565
0566			*	VALIDATE THE PARAMETER AS A VALID DATE			M8200566
0567			*				M8200567
0568	P016D	0A00	FLJ150	ENA 0			M8200568
0569	P016E	5800		RTJ FLS09			M8200569
	P016F	0085					

0570			*				M8200570
0571			*	VALIDATE NEXT PARAMETER AS PURGE KEY			M8200571
0572			*				M8200572
0573	P0170	C105		LDA- V05,I			M8200573
0574	P0171	9000		SUB =XPKEYV4			M8200574
	P0172	7FFF	X				
	P0173	0111	X				
0575			*	SAN 1			M8200575
0576			*				M8200576
0577	P0174	1812		JMP* FL0190			M8200577
0578			*				M8200578
0579	P0175	184A		JMP* FLS015	INVALID PURGE KEY		M8200579

0581			*				M8200581
0582			*	COME HERE TO VALIDATE THE REWIND AND THE UNLOAD REQUEST			M8200582
0583			*				M8200583
0584			*	THE MAXIMUM NUMBER OF PARAMETERS IS 5.			M8200584
0585			*				M8200585
0586			*	THE PARAMETER CAN BE ONE OR TWO DIGIT NUMBER (0-9,00-99)			M8200586
0587			*				M8200587
0588	P0176	0A00	FL0170	ENA 0	SAVE CURRENT PARAMETER NUMBER		M8200588
0589	P0177	680E		STA* FLV171			M8200589
0590			*				M8200590
0591	P0178	C80D	FL0171	LDA* FLV171			M8200591


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00021 *
00022 *
00023 *
00024 *
00025 *
00026 *
00027 *
00028 P0186 0A3F FL0190 ENA 15 TOTAL NBR OF WORDS(MAX 16)
00029 P0187 00FF RAO- 3FF UPDATE INDEX TO FLBUF1 BUFFER
00030 *
00031 P0188 E400 X LDQ PARBV4 GET ADDRESS OF JOBENT BUFFER
00032 P0189 7FFF X
00033 P018A 6810 FL0192 STA* FL0197 SAVE CURRENT WORD INDEX
00034 *
00035 P018B CDCF * LDA* (FL0197),I CURRENT WORD
00036 P018C 6E0E * STA* (FL0197),Q SAVE WORD
00037 *
00038 P018D C80D LDA* FL0197 CHECK ALL WORDS MOVED
00039 P018E J9FE INA -1
00040 P018F 0131 SAM FL0195 SKIP IF ALL MOVED
00041 *
00042 P019C 18F9 * JMP* FL0192 OTHERWISE LOOP
00043 *
00044 P0191 0844 FL0195 CLR A CLEAR THE MIB SWITCH
00045 P0192 6C09 STA* (FL0198)
00046 P0193 0C05 ENQ 5
00047 P0194 C400 X LDA JBR0E
00048 P0195 0117 X
00049 P0196 6803 STA* FL0196+1
00050 P0197 0A01 ENA 1
00051 P0198 1400 FL0196 JMP+ 0
00052 P0199 0000 *
00053 P019A 0000 FL0197 NUM 0 TEMP STORAGE
00054 P019B 00DA X FL0198 ADC MIB
00055 *

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M8200621
M8200622
M8200623
M8200624
M8200625
M8200626
M8200627
M8200628
M8200629
M8200630
M8200631
M8200632
M8200633
M8200634
M8200635
M8200636
M8200637
M8200638
M8200639
M8200640
M8200641
M8200642
M8200643
M8200644
M8200645
M8200646
M8200647
M8200648
M8200649
M8200650
M8200651
M8200652
M8200653
M8200654
M8200655

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0057
 0058
 0059
 0060
 0061
 0062
 0063
 0064
 0065
 0066
 0067
 0068
 0069
 0070
 0071
 0072
 0073
 0074
 0075
 0076
 0077
 0078
 0079
 0080
 0081
 0082
 0083
 0084
 0085
 0086
 0087 PC19C 0000
 0088 PC19D 6111
 0089 PC19E 0A00
 0090 PC19F 6112
 0091
 0092 P01AJ E0FF
 0093 P01A1 0D13
 0094 P01A2 4117
 0095
 0096
 0097
 0098 P01A3 C000
 P01A4 2020
 P01A5 6622
 0700 P01A6 6201
 0701 P01A7 6202
 0702
 0703 P01A8 E800
 P01A9 FEC1
 0704
 0705 P01AA 5800
 P01AB 0090
 0706

```

  *
  *
  * COMMON SUBROUTINE TO COLLECT THE CHARACTERS OF A PARAMETER
  *
  * FOR A VALID PARAMETER
  *   .IT MUST BE ONE THRU SIX ALPHANUMERIC CHARS
  *   .THE DELIMITER MUST BE A COMMA,OR $FF.
  *
  * INPUT
  *   (A)= CHAR POSITION IN THE BUFFER
  *        UPPER CHAR (B8-15) OF BUFFER+0=CHAR POSITION 0
  *        LOWER CHAR (B0-7) OF BUFFER+0=CHAR POSITION 1
  *        UPPER CHAR (B8-15) OF BUFFER+1=CHAR POSITION 2
  *        AND SO ON.
  *
  * OUTPUT
  *   V17=UPDATED TO REFLECT NEXT CHAR POSITION IN BUFFER
  *   V18=NUMBER OF CHARACTERS IN THE PARAMETERS
  *   V19=FIRST TWO CHARACTERS
  *   V20=NEXT TWO CHARACTERS
  *   V21=LAST TWO CHARACTERS
  *   V22=DELIMITER CHARACTER (COMMA OR $FF)
  *
  * EXIT
  *
  * RETURN+0        INVALID NOT AN ALPHANUMERIC
  * RETURN+1        COMMA OR END OF REQUEST DELIMITER
  *
  * CELLS USED  V17,18,22,23,19,20,21
  *
  * FLS01  ADC 0
  *        STA- V17,I          SAVE INPUT CHAR POSITION
  *        ENA 0
  *        STA- V18,I          CLEAR CHAR STORED COUNT
  *
  *        LDQ- I              INITIALIZE PARAMETER STORAGE ADDRESS
  *        INQ 19
  *        STQ- V23,I
  *
  *        BLANK OUT THE THREE WORD PARAMETER STORE AREA
  *
  *        LDA =N$2020
  *
  *        STA- (ZERO),Q
  *        STA- 1,Q
  *        STA- 2,Q
  *
  * FLS010 LDQ JBVU2          INPUT REQUEST BUFFER ADDRESS
  *
  *        RTJ FLS11          GET THE CHARACTER
  *
  *
  *

```

M8200557
M8200658
M8200659
M8200660
M8200661
M8200662
M8200663
M8200664
M8200665
M8200666
M8200667
M8200668
M8200669
M8200670
M8200671
M8200672
M8200673
M8200674
M8200675
M8200676
M8200677
M8200678
M8200679
M8200680
M8200681
M8200682
M8200683
M8200684
M8200685
M8200686
M8200687
M8200688
M8200689
M8200690
M8200691
M8200692
M8200693
M8200694
M8200695
M8200696
M8200697
M8200698

M8200699
M8200700
M8200701
M8200702
M8200703

M8200704
M8200705

M8200706

```

0707 P01AC 6116      * STA- V22,I          SAVE CHARACTER TEMPORARILY
0708                                *
0709 P01AD 0102      * SAZ FLS011         SKIP IF END OF REQUEST
0710                                * CHECK CHAR TO BE AN ALPHAMERIC, $FF, OR COMMA.
0711                                *
0712 P01AE 80GA      * EOR- LPMASK+8
0713 P01AF 0111      * SAN FLS013         NOT A BLANK SKIP
0714 P01B0 182C      * FLS011 JMP* FLS010 END OF REQUEST ($FF OR 0)
0715                                *
0716 P01B1 C116      * FLS013 LDA- V22,I
0717 P01B2 09D3      * INA -$2C
0718 P01B3 0111      * SAN FLS014         NOT A COMMA.SKIP
0719 P01B4 1828      * JMP* FLS010        COMMA.JUMP
0720 P01B5 C116      * FLS014 LDA- V22,I  CHECK CHAR TO BE AN ALPHANUMERIC
0721 P01B6 09CF      * INA -$30
0722 P01B7 0137      * SAM FLS015        INVALID CHARACTER. SKIP
0723 P01B8 09F5      * INA -10
0724 P01B9 0136      * SAM FLS016        VALID NUM CHAR 0-9
0725 P01BA C116      * LDA- V22,I
0726 P01BB 09BE      * INA -$41
0727 P01BC 0132      * SAM FLS015        INVALID CHAR
0728 P01BD 09E5      * INA -$1A
0729 P01BE 0131      * SAN FLS016        VALID ALPHA CHAR
0730                                *
0731 P01BF 1820      * FLS015 JMP* FLS01F
0732                                *
0733                                * FOR A VALID CHAR CHECK NBR OF CHARS ALREADY SAVED. 6 INVALID
0734                                *
0735 P01C0 C112      * FLS016 LDA- V18,I
0736 P01C1 09F9      * INA -6
0737 P01C2 0131      * SAM FLS017
0738 P01C3 181C      * JMP* FLS01F        INVALID IF 6 CHARS ALREADY SAVED
0739                                *
0740                                * SAVE CHARACTER IN APPROPRIATE SLOT.
0741                                *
0742 P01C4 D112      * FLS017 RAO- V18,I  UPDATE CHAR COUNT
0743 P01C5 E117      * LDQ- V23,I        CHARACTER STORAGE ADDRESS
0744 P01C6 C112      * LDA- V18,I        CURRENT CHARACTER COUNT
0745 P01C7 09FC      * INA -3            COMPUTE PARAMETER STORAGE ADDRESS
0746 P01C8 0134      * SAM FLS01A
0747 P01C9 0D01      * INQ 1
0748 P01CA 09FD      * INA -2
0749 P01CB 0131      * SAM FLS01A
0750 P01CC 0D01      * INQ 1
0751                                *
0752 P01CD C112      * FLS01A LDA- V18,I
0753 P01CE 0FCF      * ALS 15
0754                                *
0755                                * (Q)= ADDRESS OF THE WORD FOR THE CHARACTER STORAGE
0756                                *
0757                                * CHECK CHARACTER TO BE STORED IN THE UPPER OR LOWER POSTION
0758                                *
0759                                * FOR CHARACTER COUNT=1,3,5 CHARACTER WILL BE IN UPPER POSTION

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M8200707
M8200708
M8200709
M8200710
M8200711
M8200712
M8200713
M8200714
M8200715
M8200716
M8200717
M8200718
M8200719
M8200720
M8200721
M8200722
M8200723
M8200724
M8200725
M8200726
M8200727
M8200728
M8200729
M8200730
M8200731
M8200732
M8200733
M8200734
M8200735
M8200736
M8200737
M8200738
M8200739
M8200740
M8200741
M8200742
M8200743
M8200744
M8200745
M8200746
M8200747
M8200748
M8200749
M8200750
M8200751
M8200752
M8200753
M8200754
M8200755
M8200756
M8200757
M8200758
M8200759

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0750 * FOR CHARACTER COUNT= 2,4,6 CHARACTER WILL BE IN LOWER POSITION M8200760
0751 * M8200761
0752 P010F 0133 SAM FLS018 SKIP IF UPPER POSITION OF CHARACTER M8200762
0753 * M8200763
0754 * FOR THE LOWER POSITION OF CHARACTR M8200764
0755 * M8200765
0756 P010C C622 LDA- (ZERO),Q M8200766
0757 P0101 A01A AND- NZERO+8 M8200767
0758 P0102 1806 JMP* FLS019 M8200768
0759 * M8200769
0760 * FOR THE UPPER CHARACTER M8200770
0761 * M8200771
0762 * M8200772
0763 P0103 C116 FLS018 LDA- V22,I ADJUST CHARACTER FOR STORAGE M8200773
0764 P0104 0FC8 ALS 8 M8200774
0765 P0105 0116 STA- V22,I M8200775
0766 * M8200776
0767 P0106 C622 LDA- (ZERO),Q M8200777
0768 P0107 A00A AND- LPMASK+8 M8200778
0769 * M8200779
0770 P0108 B116 FLS019 EOR- V22,I SAVE THE CHARACTER M8200780
0771 * M8200781
0772 P0109 0622 STA- (ZERO),Q M8200782
0773 * M8200783
0774 * SET UP TO GET NEXT CHAR M8200784
0775 * M8200785
0776 P010A D111 RAO- V17,I M8200786
0777 P010B 18CC JMP* FLS010 M8200787
0778 * M8200788
0779 P010C C112 FLS01D LDA- V18,I REJECT IF NO CHAR STORED M8200789
0780 P010D 0101 SAZ FLS01F REJECT M8200790
0781 P010E D8BD RAO* FLS01 ERROR FREE EXIT M8200791
0782 * M8200792
0783 * M8200793
0784 P010F 1C8C FLS01F JMP* (FLS01) EXIT.NON ALPHANUM/COMMA M8200794
0785 * M8200795

```


0797
0798
0799
0800
0801
0802
0803
0804
0805
0806
0807
0808
0809
0810
0811
0812
0813
0814
0815
0816
0817
0818

PO1E0 0000
PO1E1 0322
PO1E2 0FC1
PO1E3 0834
PO1E4 0902
PO1E5 80FF
PC1E6 0822

PO1E7 1CF8

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*
*
*

COMMON SUBROUTINE TO COMPUTE THE START ADDRESS
OF A PARAMETER IN THE PARAMETER BUFFER

INPUT
(A) = PARAMETER NUMBER 0- 4

=(3*NUMBER+2)+I

OUTPUT
(Q) = START ADDRESS OF THE PARAMETER

FLS02

ADC 0
TRA Q
ALS 1
AAQ A
INA 2
ADD- I
TRA Q

JMP* (FLS02) EXIT

M8200797
M8200798
M8200799
M8200800
M8200801
M8200802
M8200803
M8200804
M8200805
M8200806
M8200807
M8200808
M8200809
M8200810
M8200811
M8200812
M8200813
M8200814
M8200815
M8200816
M8200817
M8200818

08220
 08221
 08222
 08223
 08224
 08225
 08226
 08227
 08228
 08229
 08330
 08331
 08332
 08333
 08334
 08335
 08336
 08337
 08338
 08339

```

*      FOR THE OPEN,CLOSE,RELEAS,AND MODIFY REQUESTS
*
*      COMMON SUBROUTINE TO VALIDATE A PARAMETER AS A FILE IDENTIFIER.
*
*      INPUT
*      (A)=PARAMETER INDEX  0-4
*
*      FLS04  ADC  0
*             RTJ* FLS02      COMPUTE PARAMETER ADDRESS
*             LDA- (ZERO),Q   FIRST CHARACTER MUST BE ALPHA.ELSE REJECT.
*             ALS  8
*             AND- LPMASK+8
*             INA  -$41
*             SAM  FLS045     REJECT.NOT ALPHA
*             INA  -$1A
*             SAM  FLS049     O.K.
*             JMP  FLS070     ILLEGAL PARAMETER. J04
*
*      FLS045 JMP  FLS070
*
*      FLS049 JMP* (FLS04)   EXIT
*
  
```

M8200820
 M8200821
 M8200822
 M8200823
 M8200824
 M8200825
 M8200826
 M8200827
 M8200828
 M8200829
 M8200830
 M8200831
 M8200832
 M8200833
 M8200834
 M8200835
 M8200836
 M8200837
 M8200838
 M8200839

```
0841 *
0842 *
0843 *
0844 *
0845 *
0846 *
0847 *
0848 *
0849 *
0850 *
0851 *
0852 *
0853 *
0854 *
0855 *
0856 *
0857 *
0858 *
0859 *
0860 *
0861 *
0862 *
0863 *
0864 *
0865 *
0866 *
0867 *
0868 *
0869 *
0870 *
0871 *
0872 *
0873 *
0874 *
0875 *
0876 *
0877 *
0878 *
0879 *
0880 *
0881 *
0882 *
0883 *
0884 *
0885 *
0886 *
0887 *
0888 *
0889 *
0890 *
0891 *
0892 *
```

COMMON SUBROUTINE TO VALIDATE THE GIVEN SIX CHARACTER
PARAMETER AS A DATE

THIS PARAMETER SHOULD BE ALL NUMERIC (0-9), AND IS AS FOLLOWS

WHERE

MM = MONTH 01-12
DD = DAY 01-31
YY = YEAR 00-99

ALSO DD MUST CORRESPOND TO THE MONTH, VIZ., 31 FOR JAN, 28 FOR
FEB, 31 FOR MAR, AND SO ON.
FOR A LEAP YEAR (YY DIVIDED EQUALLY BY 4) DD FOR FEB MAY BE 29.

ANY NUMBER OTHER THAN THE ABOVE RESULTS IN J04.

INPUT
(A)= INDEX TO PARAMETER IN BUFFER

OUTPUT
THE VALIDATED NUMBER IN ITS ORIGINAL PLACE.

PC1F4 0000 FLS03 ADC 0
P01F5 5800 RTJ FLS02 COMPUTE ADDRESS OF PARAMETER.
P01F6 FFE9 UPON RETURN (Q)=ADDRESS OF FIRST WORD OF THE PARAMETER

VALIDATE FIRST WORD AS A MONTH 01-12

LDA- (ZERO),Q
RTJ* FLS10 CONVERT ASCII TO BINARY
SAZ FLS092 00 IS INVALID. SKIP
INA -13
SAM FLS095 LT.13. VALID. SKIP

FLS092 JMP* FLS045 INVALID PATAMETER. J04

FLS095 INA 13
STA* FLSV91

VALIDATE THIRD WORD AS A YEAR. 00-99.

LDA- 2,Q
RTJ* FLS10 CONVERT ASCII TO BINARY
STA* FLSV93 AND SAVE IT TEMPORARILY.

VALIDATE SECOND WORD AS A DAY. 01-31. THIS MUST CORRESPOND
TO THE MONTH. IT MAY BE 29 FOR FEBRUARY OF A LEAP YEAR.

M8200841
M8200842
M8200843
M8200844
M8200845
M8200846
M8200847
M8200848
M8200849
M8200850
M8200851
M8200852
M8200853
M8200854
M8200855
M8200856
M8200857
M8200858
M8200859
M8200860
M8200861
M8200862
M8200863
M8200864
M8200865
M8200866
M8200867
M8200868
M8200869
M8200870
M8200871
M8200872
M8200873
M8200874
M8200875
M8200876
M8200877
M8200878
M8200879
M8200880
M8200881
M8200882
M8200883
M8200884
M8200885
M8200886
M8200887
M8200888
M8200889
M8200890
M8200891
M8200892

08993 P0202 C201
 08994 P0203 581F
 08995 P0204 581C
 08996 *
 08997 *
 08998 *
 08999 P0205 E80D
 09000 P0206 CACF
 09001 *
 09002 P0207 980D
 09003 P0208 0128
 09004 *
 09005 P0209 0901
 09006 P020A 0115
 09007 *
 09008 P020B 0DFD
 09009 P020C 0153
 09010 *
 09011 P020D 0806
 09012 P020E A004
 09013 P020F 0101
 09014 *
 09015 P0210 18E0
 09016 *
 09017 P0211 10E2
 09018 *
 09019 P0212 0000
 09020 P0213 0000
 09021 P0214 0000
 09022 *

LDA- 1,2
 RTJ* FLS10 CONVERT ASCII TO BINARY
 STA* FLSV94 SAVE NBR OF DAYS
 *
 * GET THE HIGHEST VALID NUMBER OF DAYS FOR THE GIVEN MONTH.
 *
 *
 * LDQ* FLSV91 MONTH
 * LDA* FLS90T,Q VALID HIGHEST NUMBER OF DAY
 *
 * FLS096 SUB* FLSV94
 * SAP FLS099 VALID.SKIP
 *
 * INA 1
 * SAN FLS098 INVALID REJECT J04
 *
 * INQ -2
 * SQN FLS098 NOT FEBRUARY. SKIP.INVALID
 *
 * LDA* FLSV93 CHECK FOR A LEAP YEAR
 * AND- LPMASK+2
 * SAZ FLS099 29 DAYS FOR FEB IN LEAP YEAR.VALID.SKIP
 *
 * FLS098 JMP* FLS045 INVALID PARAMETER. J04
 *
 * FLS099 JMP* (FLS09) VALID PARAMETER.EXIT.
 *
 * FLSV91 NUM 0)MONTH (BINARY)
 * FLSV93 NUM 0)YEAR (BINARY)
 * FLSV94 NUM 0)DAYS (BINARY)
 *

M8200893
 M8200894
 M8200895
 M8200896
 M8200897
 M8200898
 M8200899
 M8200900
 M8200901
 M8200902
 M8200903
 M8200904
 M8200905
 M8200906
 M8200907
 M8200908
 M8200909
 M8200910
 M8200911
 M8200912
 M8200913
 M8200914
 M8200915
 M8200916
 M8200917
 M8200918
 M8200919
 M8200920
 M8200921
 M8200922

09224 P0215 0000
 09225 P0216 001F
 09226 P0217 001C
 09227 P0218 001F
 09228 P0219 001E
 09229 P021A 001F
 09230 P021B 001E
 09231 P021C 001F
 09232 P021D 001F
 09233 P021E 001E
 09234 P021F 001F
 09235 P0220 001E
 09236 P0221 001F
 09237 *

FLS90T NUM 0
 NUM 31
 NUM 28
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 NUM 30
 NUM 31
 *
 JAN +1
 FEB +2
 MAR +3
 APR +4
 MAY +5
 JUN +6
 JUL +7
 AUG +8
 SEP +9
 OCT +10
 NOV +11
 DEC +12
 CHECK FOR LEAP YEAR

M8200924
 M8200925
 M8200926
 M8200927
 M8200928
 M8200929
 M8200930
 M8200931
 M8200932
 M8200933
 M8200934
 M8200935
 M8200936
 M8200937

```

0939
0940
0941
0942
0943
0944
0945
0946
0947
0948
0949
0950
0951 P0222 0000
0952 P0223 4816
0953
0954
0955 P0224 6816
0956
0957 P0225 A000
0958 P0226 F0F0
0959 P0227 B000
0960 P0228 3030
0961 P0229 0101
0962 P022A 1806
0963
0964 P022B C80F
0965 P022C 0822
0966 P022D A006
0967 P022E 0FF0
0968 P022F 0F48
0969 P0230 480A
0970 P0231 A006
0971 P0232 0822
0972 P0233 0FC3
0973 P0234 0834
0974 P0235 0834
0975 P0236 8804
0976
0977 P0237 E802
0978 P0238 1CE9
0979
0980 P0239 0000
0981 P023A 0000
0982

```

```

*
* COMMON SUBROUTINE TO CONVERT AN ASCII WORD TO A BINARY VALUE
*
* INPUT
* (A)= ASCII WORD
*
* OUTPUT
* (A)= BINARY VALUE
*
* EXAMPLE
* (A)=ASCII WORD 3139 (DECIMAL 19)
*
*
* FLS10 ADC 0
*
* STQ* FLS101 SAVE REGISTER Q
*
* VALIDATE THE PARAMETER AS TWO NUMERALS (00-99)
*
* STA* FLS102 SAVE IT TEMPORARILY.
*
* AND =N$F0F0
*
* EOR =N$3030
*
* SAZ FLS104 NUMERIC. SKIP
* FLS103 JMP* FLS045 INVALID PARAMETER. J04
*
* FLS104 LDA* FLS102
* TRA Q
* AND- LPMASK+4
* LLS 16
* ARS 8
* STQ* FLS102
* AND- LPMASK+4
* TRA Q
* ALS 3
* AAQ A
* AAQ A
* ADD* FLS102
*
* LDQ* FLS101 RESTORE Q
* JMP* (FLS10) EXIT.
*
* FLS101 NUM 0 TEMPORARY STORAGE
* FLS102 NUM 0 TEMPY STORAGE
*

```

```

EXAMPLE
19(DEC)=3139(ASCII)

```

```

(Q) (A)
Q A
3139 3139
3139 0009
0009 3139
0009 0031
0009 0001
0001 0001
0001 0008
0001 0009
0001 000A
0001 0013 (HEX)

```

```

M8200939
M8200940
M8200941
M8200942
M8200943
M8200944
M8200945
M8200946
M8200947
M8200948
M8200949
M8200950
M8200951
M8200952
M8200953
M8200954
M8200955
M8200956
M8200957
M8200958
M8200959
M8200960
M8200961
M8200962
M8200963
M8200964
M8200965
M8200966
M8200967
M8200968
M8200969
M8200970
M8200971
M8200972
M8200973
M8200974
M8200975
M8200976
M8200977
M8200978
M8200979
M8200980
M8200981
M8200982

```

```
0984 *
0985 *
0986 *
0987 *
0988 *
0989 *
0990 *
0991 *
0992 *
0993 *
0994 *
0995 *
0996 *
0997 *
0998 P023B 0000
0999 P023C C111
1000 P023D 0F41
1001 P023E 0832
1002 P023F 480B
1003 *
1004 P0240 C111
1005 P0241 A003
1006 *
1007 P0242 EC08
1008 P0243 0102
1009 *
1010 P0244 0814
1011 P0245 1803
1012 *
1013 P0246 0814
1014 P0247 0FC8
1015 *
1016 P0248 A00A
1017 *
1018 P0249 1CF1
1019 *
1020 P024A 0000
```

```
*
* COMMON SUBROUTINE TO GET A CHAR(INDEX IN V17) FROM
* A BUFFER (ADDRESS IN Q)
*
* INPUT
* V17=CHARACTER INDEX
* 0=UPPER CHAR(B8-15) OF WORD1
* 1=LOWER CHAR(B8-7) OF WORD1
* 2=UPPER CHAR(B8-15) OF WORD2,
* AND SO ON.
*
* OUTPUT
* A BITS 0-7= CHARACTER
*
FLS11 ADC 0
LDA- V17,I CHARACTER INDEX
ARS 1
AAQ Q Q=WORD ADDRESS
STQ* FLS11V
*
LDA- V17,I CHECK UPPER OR LOWER CHARRACTER
AND- LPMASK+1
*
LDQ* (FLS11V) GET WORD
SAZ FLS11D SKIP IF UPPER CHARACTER (A=0)
*
TRQ A
JMP* FLS11E
*
FLS11D TRQ A GET LOWER CHARACTER
ALS 0
*
FLS11E AND- LPMASK+8
*
JMP* (FLS11) EXIT
*
FLS11V NUM 0 TEMP STORAGE
```

```
M82J0984
M82J0985
M82J0986
M82J0987
M82J0988
M82J0989
M82J0990
M82J0991
M82J0992
M82J0993
M82J0994
M82J0995
M82J0996
M82J0997
M82J0998
M82J0999
M82J1000
M82J1001
M82J1002
M82J1003
M82J1004
M82J1005
M82J1006
M82J1007
M82J1008
M82J1009
M82J1010
M82J1011
M82J1012
M82J1013
M82J1014
M82J1015
M82J1016
M82J1017
M82J1018
M82J1019
M82J1020
```

```

1022 *
1023 * COMMON SUBROUTINE TP VALIDATE A PARAMETER AS A VALID LU
1024 * NUMBER OF 1 OR 2 NUMERALS AND ALSI .LE. LEGAL LU NUMBER(ALOG1A)
1025 *
1026 * INPUT
1027 * (Q)=PARAMETER ADDRESS
1028 *
1029 P024B 0000 FLS13 ADC 0
1030 *
1031 * CHECK IR TO BE ONE OR TWO DIGIT NUMBER
1032 *
1033 P024C C201 LDA- 1,Q
1034 PC24D B000 EOR =N$2020
1035 PG24E 2020
1036 PG24F 0101
1037 P0250 1809 FLS151 JMP* FLS103 OTHERWISE REJECT(J04)
1038 P0251 C622 FLS132 LDA- (ZERO),Q CONVERT THE NBR TO BINARY
1039 P0252 A00A AND- LPMASK+8
1040 P0253 G9DF INA -$20
1041 P0254 G115 SAN FLS134 SKIP IF 2 CHARACTERS
1042 P0255 C622 LDA- (ZERO),Q
1043 P0256 A01A AND- NZERO+8
1044 P0257 C930 INA $30
1045 P0258 GFC8 ALS 8
1046 P0259 1802 JMP* FLS135
1047 *
1048 P025A C622 FLS134 LDA- (ZERO),Q
1049 *
1050 P025B 5800 FLS135 RTJ FLS10
1051 P025C FFC5 *
1052 * STA- (ZERO),Q SAVE THE BINARY NUMBER
1053 *
1054 * VALIDATE THE NBR TO BE A VALID LEGAL LU
1055 *
1056 P025E 9C10 SUB* (ALOG1A)
1057 P025F 0102 SAZ FLS136 EQ. OK
1058 P0260 0131 SAM FLS136 LT. OK
1059 *
1060 P0261 18EE JMP* FLS131 OTHERWISE REJECT
1061 *
1062 P0262 C101 FLS136 LDA- V01,I REQUEST CODE
1063 P0263 09F8 INA -7
1064 P0264 0128 SAP FLS139 SKIP FOR THE REWIND AND UNLOAD REQUESTS
1065 P0265 E622 LDQ- (ZERO),Q FOR OTHERS CHECK LU REFERS A PSUEDO DRIVER
1066 *
1067 P0266 EE08 LDQ* (ALOG1A),Q
1068 P0267 3203 LDA- 8,Q EQPT CODE
1069 P0268 0F44 ARS +
1070 P0269 A009 AND- LPMASK+7
1071 P026A 09DB INA -36
1072 P026B 0101 SAZ FLS139 SKIP IF A PSUEDO DRIVER

```

```

M8201022
M8201023
M8201024
M8201025
M8201026
M8201027
M8201028
M8201029
M8201030
M8201031
M8201032
M8201033
M8201034
M8201035
M8201036
M8201037
M8201038
M8201039
M8201040
M8201041
M8201042
M8201043
M8201044
M8201045
M8201046
M8201047
M8201048
M8201049
M8201050
M8201051
M8201052
M8201053
M8201054
M8201055
M8201056
M8201057
M8201058
M8201059
M8201060
M8201061
M8201062
M8201063
M8201064
M8201065
M8201066
M8201067
M8201068
M8201069
M8201070
M8201071
M8201072

```

1073 P026C 18E3 JMP* FLS131
1074 *
1075 P026D 1000 FLS139 JMP* (FLS13)
1076 *
1077 P026E 7FFF X ALOG1A ADC LOG1A
1078 END JPFL

OTHERWISE REJEXT
EXIT

M8201073
M8201074
M8201075
M8201076
M8201077
M8201078

PGM= 026F (623) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	J113, 0286, 0692, 0814
0030	LPMASK	0002 (000002)	J712, 0778, 0831, 0912, 0960, 0970, 1005, 1016, 1039, 1070
0031	VZERO	0012 (000018)	J767, 1043
0032	ZERO	0022 (000034)	0136, 0139, 0348, 0363, 0367, 0373, 0387, 0415, 0452, 0472, 0485, 0509, 0522, 0548, 0551, 0558 0596, 0600, 0699, 0766, 0777, 0782, 0829, 0872, 1038, 1042, 1048, 1052, 1065
0033	ONEBIT	0023 (000035)	J322
0034	TEN	0046 (000070)	0143
0035	ADISP	00EA (000234)	
0036	AMONI	00F4 (000244)	
0040	V01	0001 (000001)	1062
0041	V02	0002 (000002)	
0042	V03	0003 (000003)	
0043	V04	0004 (000004)	
0045	V05	0005 (000005)	0573
0046	V06	0006 (000006)	
0047	V07	0007 (000007)	
0049	V08	0008 (000008)	J516
0050	V09	0009 (000009)	0518
0051	V10	000A (000010)	0520
0053	V11	000B (000011)	
0054	V12	000C (000012)	
0055	V13	000D (000013)	
0057	V14	000E (000014)	
0058	V15	000F (000015)	
0059	V16	0010 (000016)	J601
0061	V17	0011 (000017)	J355, 0356, 0688, 0786, 0999, 1004
0062	V18	0012 (000018)	J690, 0735, 0742, 0744, 0752, 0789
0063	V19	0013 (000019)	J361, 0366
0064	V20	0014 (000020)	J303, 0368
0065	V21	0015 (000021)	0312, 0370
0066	V22	0016 (000022)	0340, 0707, 0716, 0720, 0725, 0773, 0775, 0780
0067	V23	0017 (000023)	J694, 0743
0068	V24	0018 (000024)	
0069	V25	0019 (000025)	
0070	V26	001A (000026)	
0071	V27	001B (000027)	

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0075	JPFL	J000	0075, 0223, 0267, 0268, 0269, 0270, 0271, 0272, 0273, 0274, 0275
0121	JBFL03	000B	
0125	JBFL3A	000F	0123, 0141, 0209
0126	JBF	0010	
0131	JBFL31	0016	0129
0133	JBFL3B	0019	0127
0147	DCOMP	0027	J149, 0151, 0155, 0161, 0184, 0185, 0186, 0187, 0139
0152	SECTOR	002F	J137, 0160, 0175, 0177, 0181, 0182
0154	COMP	0031	0149
0162	BUF	0039	J151, 0169
0163	IMAGE	003A	J140, 0170
0164	VSECT	003B	J146, 0156, 0158
0165	FWORD	003C	J134, 0176
0167	ZONE	003D	0159
0188	COMP1	0055	0185
0195	JBFL02	0058	0124
0203	JBFL03	005E	0196
0206	VOFMTS	0061	J204
0208	TESTFM	0063	0197, 0205, 0211
0212	NOFM	0067	0210
0218	F3	0069	J09+
0219	JBVC1	006A	0096, 0451
0220	JBVC2	006B	J103, 0703
0221	JBVC3	006C	0100, 0128, 0195
0223	FLBF1A	006D	J110, 0112, 0285
0229	FLBUF1	006E	J223
0234	FLT001	008A	0299, 0307, 0311, 0335
0267	FLT002	008F	J450
0285	FL0001	0088	0130, 0190, 0200
0298	FL0002	008E	
0299	FL0003	008F	J304, 0328
0306	FL0005	00C5	J302
0318	FL0007	00CE	0289, 0300
0324	FL007A	00D5	J319, 0420, 0425
0326	FL0070	00D7	J309
0327	FL007E	00D8	J315
0330	FL0078	00DA	J321, 0423
0334	FL0068	J0DB	0313
0340	FL0010	00DE	0377
0348	FL0012	00E2	0342
0355	FL0014	00E6	0350

03363 FL0020 00EB
 03383 FL0050 00FA
 03387 CKPRM 00FA
 03390 CKNUM 00FD
 0403 FL0055 010A
 0405 FL0060 010C
 0408 FL0070 010D
 0410 FL0072 010F
 0412 FL0075 0110
 0419 FL0076 0116
 0427 FL0079 011D
 0434 FL0080 011E
 0448 FL0100 0127
 0460 FL0120 012D
 0463 FL0125 0130
 0472 FL0140 0131
 0489 FL0141 013F
 0499 FL0142 0142
 0500 FL0145 0146
 0502 FL0147 0154
 0503 FL0150 0158
 0504 FL0151 0168
 0505 FL0152 0169
 0507 FL0153 016A
 0508 FL0160 016D
 0508 FL0170 0176
 0509 FL0171 0178
 0509 FL0172 017E
 0517 FLV171 0185
 0528 FL0190 0186
 0532 FL0192 018A
 0544 FL0195 0191
 0551 FL0196 0198
 0553 FL0197 019A
 0554 FL0198 019B
 0687 FL01 019C
 0703 FL010 01A8
 0714 FL011 01B0
 0716 FL013 01B1
 0720 FL014 01B5
 0731 FL015 01BF
 0735 FL016 01C0
 0742 FL017 01C4
 0752 FL01A 01CD
 0773 FL018 01D3
 0780 FL019 01D8
 0789 FL010 01DC
 0794 FL01F 01DF
 0809 FL02 01E0
 0827 FL04 01E8
 0836 FL045 01F1
 0838 FL049 01F3
 0865 FL09 01F4

0343
 0385
 0388
 J393, 0390, 0397
 J386, 0391, 0399, 0401
 0212, 0351, 0358, 0389, 0392, 0402, 0404, 0554, 0836

 0132
 0412, 0417
 J384, 0390
 J406
 J268, 0270, 0499, 0523, 0526, 0560

 J271
 0474
 0487
 0267
 J511
 0269

 0553
 J550
 0273
 0274, 0275
 J015
 J597
 0589, 0591, 0604, 0614
 0199, 0272, 0463, 0577, 0602
 0642
 J040
 0648
 0632, 0634, 0636, 0638
 0645
 0288, 0357, 0791, 0794
 0787
 0709
 0713
 J718
 J579, 0722, 0727
 J724, 0729
 J737
 0746, 0749
 0762
 0768
 0714, 0719
 0731, 0738, 0790
 0304, 0536, 0544, 0605, 0817, 0828, 0867
 0461, 0495, 0838
 J833, 0878, 0915, 0962
 0835
 0490, 0525, 0569, 0917

0878 FLS092 01FC
0880 FLS095 01FD
0902 FLS096 0207
0915 FLS098 0210
0917 FLS099 0211
0919 FLSV91 0212
0920 FLSV93 0213
0921 FLSV94 0214
0924 FLS9CT 0215
0951 FLS10 0222
0962 FLS103 0222A
0964 FLS104 0222B
0980 FLS101 0239
0981 FLS102 023A
0998 FLS11 023B
1013 FLS110 0240
1016 FLS11E 0248
1020 FLS11V 024A
1029 FLS13 024B
1036 FLS131 0250
1038 FLS132 0251
1048 FLS134 025A
1050 FLS133 025B
1062 FLS136 0262
1075 FLS139 026D
1077 ALOC1A 026E

0874
0876
J906, 0909
0903, 0913
0881, 0899
0888, 0911
0895, 0902
0900
0873, 0887, 0894, 0978, 1050
1036
0961
0953, 0977
0957, 0964, 0969, 0975
0705, 1018
1008
1011
1002, 1007
0537, 0609, 1075
1060, 1073
1035
1041
1046
1057, 1058
1064, 1072
1056, 1067

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0079	MIBUF	0005	0103
0080	PKEYV+	0172	0574
0081	JBPROE	0195	0318, 0419, 0647
0082	TRNVEC	0112	0413
0083	MIB	019B	0330, 0654
0084	JBFLV4	0010	0125
0085	AYERTO	0150	0483, 0519
0086	AMONTO	014A	0479, 0515
0087	ADAYTO	014D	0481, 0517
0088	LOG1A	026E	1077
0089	FILE3	0069	0218
0090	PARBV+	0189	0631

0001		NAM JPF2V4	DECK-ID M83	MSOS 5.0	SUMMARY-110	M8300001
0002	*	JOB PROCESSOR FILE REQUEST PROGRAM MODULE 2				M8300002
0003	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0				M8300003
0004	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA				M8300004
0005	*	COPYRIGHT CONTROL DATA CORPORATION 1976				M8300005

0007	*					M8300007
0008	*	THIS MODULE IS ENTERED FROM THE JOB PROCESSOR FOR				M8300008
0009	*	PROCESSING A REQUEST FOR PROCESSUNG A REQUEST FOR				M8300009
0010	*	THE JOB PROCESSOR FILE				M8300010
0011	*					M8300011
0012	*	THE REQUEST WAS ALREADY CHECKED FOR THE ACCURACY IF THE				M8300012
0013	*	VALIDATED REQUEST CODE AND THE NIMBER AND FORMAT				M8300013
0014	*	OF THE PARAMETERS OF A REQUEST				M8300014
0015	*					M8300015
0016	*	THE REQUEST CODE AND THE PARAMETERS ARE SAVED IN				M8300016
0017	*	THE JOBEVT BUFFER JPFLBF				M8300017
0018	*					M8300018
0019	*	MODULE 2 TAKED THE APPROPRIATE ACTION ON RHE REQUEST AS PER THE				M8300019
0020	*	THE REQUEST CODE				M8300020
0021	*	AFTER EXECUTION THE CONTROL IS RETURNED TO THE JOB PROCESSOR				M8300021
0022	*					M8300022
0023	*	DIAGNOSTICS ARE TYPED IN CASE OF AN INVALID PARAMETER(S)				M8300023
0024	*					M8300024

0026	*					M8300026
0027	*****	EQUATE CARDS				M8300027
0028	0002	EQU LPMASK(\$2)				M8300028
0029	0012	EQU NZERO(\$12)				M8300029
0030	0022	EQU ZERO(\$22)				M8300030
0031	0023	EQU ONEBIT(\$23)				M8300031
0032	0046	EQU TEN(\$46)	TEN DECIMAL			M8300032
0033	00FA	EQU ADISP(\$EA)				M8300033
0034	00F4	EQU AMONI(\$F4)				M8300034

0036	*					M8300036
0037	*			FIRST WORD IS THE NUMBER OF PARAMETERS.		M8300037
0038	0001	EQU V01(1)		REQUEST CODE		M8300038
0039	0002	EQU V02(2)		)		M8300039
0040	0003	EQU V03(3)		) 1ST PARAMETER		M8300040
0041	0004	EQU V0+(4)		)		M8300041
0042	*					M8300042
0043	0005	EQU V05(5)		)		M8300043
0044	0006	EQU V06(6)		) 2ND PARAMETER		M8300044
0045	0007	EQU V07(7)		)		M8300045
0046	*					M8300046

```

00047 EQU V08(8) )
00048 EQU V09(9) ) THIRD PARAMETER
00049 EQU V10(10) )
*
00050 EQU V11(11) )
00051 EQU V12(12) ) 4TH PARAMETER
00052 EQU V13(13) )
*
00053 EQU V14(14) )
00054 EQU V15(15) ) 5TH PARAMETER
00055 EQU V15(16) )
*
00056 EQU V17(17) )
00057 EQU V18(18) )
00058 EQU V19(19) )
00059 EQU V20(20) )
00060 EQU V21(21) )
00061 EQU V22(22) )
00062 EQU V23(23) )
00063 EQU V24(24) )
00064 EQU V25(25) )
00065 EQU V25(26) )
00066 EQU V27(27) )
*

```

TEMPORARY CHAR STORAGE
CHARACTER STORAGE ADDRESS

TEMPORARY USAGE
ADDRESS OF FLBUF2
TOTAL NUMBER OF FILES CHECKED SO FAR

```

M83J00047
M83000048
M83J00049
M83000050
M83000051
M83000052
M83000053
M83000054
M83J00055
M83000056
M83000057
M83000058
M83000059
M83000060
M83J00061
M83000062
M83000063
M83000064
M83J00065
M83000066
M83000067
M83000068
M83000069
M83J00070

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```

0072 *****ENTRY POINTS
0073 ENT JPF2
0074 *

```

```

M83J00072
M83000073
M83J00074

```

```

0076 *****EXTERNAL POINTS
0077 EXT MIBJF SMI BUFFER ADDRESS
0078 EXT JBPROE ENTRY POINT TO JOBENT(TRNVEC)
0079 EXT TRNVEC ABS.ADRS OF TRANTA BUFFER IN JOBENT
0080 EXT MIB
0081 EXT LOG1A
0082 EXT FILE3
0083 EXT PARBV4 LOC. WITH THE ADDRESS OF THE JOBENT BUFFER
0084 EXT FBASV4 FIRST FILE NDR USED BY JOB PROCESSOR
0085 EXT JBFLV4 NBR OF JOB PROCESSOR FILES IN SYSTEM
0086 EXT RELFIL FILE MANAGER RELEASE ROUTINE

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M83000076
M83J00077
M83000078
M83000079
M83000080
M83000081
M83000082
M83000083
M83000084
M83000085
M83J00086

```



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0088 *
0089 0000 P EQU JPF2(*) ENTRY POINT
0090 P0000 C8FE JPFL NUM $C8FE
0091 P0001 6C39 STA* (F3)
0092 * SAVE START ADDRESS OF JBFL PROGRAM
0093 P0002 6B39 STA* JBV01
0094 *
0095 * SAVE INPUT REQUEST BUFFER ADDRESS
0096 P0003 E400 X LDQ MIBUF
0097 P0004 7FFF X
0098 *
0099 * IN HERE
0100 *
0101 * COMPUTE THE OTHER ABSOLUTE ADDRESSES OF LOCATIONS
0102 * REFERRED TO IN THIS MODULE
0103 P0005 E839 LDQ* FLBF1A REQUEST PARAMETER BUFFER ADDRESS
0104 P0007 0832 AAQ Q
0105 P0008 4837 STQ* FLBF1A
0106 P0009 40FF STQ- I
0107 *
0108 P000A E836 LDQ* FLBF2A FILE BLOCK BUFFER ADDRESS
0109 P000B 0832 AAQ Q
0110 P000C 4834 STQ* FLBF2A
0111 P000D 411A STQ- V26,I
0112 *
0113 P000E E833 LDQ* FLBF3A PRINT BUFFER ADDRESS
0114 P000F 0832 AAQ Q
0115 P0010 4800 STQ FLS08C
0116 P0011 0302
0117 P0012 482F STQ* FLBF3A
0118 *
0119 * MOVE THE REQUEST COSE AND THE PARAMETERS FROM THE JOBENT
0120 * BUFFER JBFL3F TO THE LOCAL BUFFER FLBUF1
0121 P0013 0A0F ENA 15 INDEX=15
0122 P0014 D0FF RAO- I ADJUST I
0123 *
0124 P0015 E400 X LDQ PARBV4 GET ADDRESS OF JOBENT BUFFER
0125 P0016 7FFF X
0126 *
0127 * JBFL02 STA* JBV04 SAVE CURRENT INDEX
0128 *
0129 P0018 CE26 LDA* (JBV04),Q GET WORD
0130 P0019 6D25 STA* (JBV04),I STORE WORD
0131 *
0132 P001A C824 LDA* JBV04 CHECK IF ALL WORDS MOVED
0133 P001B 09FE INA -1
0134 P001C 0131 SAM JBFL04 SKIP IF ALL MOVED
0135 P001D 18F9 JMP* JBFL02 OTHERWISE LOOP
0136 *
0137 P001E C0FF JBFL04 LDA- $FF RESTORE I
0138 P001F 09FE INA -1
    
```

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M8300088
M8300089
M8300090
M8300091
M8300092
M8300093
M8300094
M8300095
M8300096
M8300097
M8300098
M8300099
M8300100
M8300101
M8300102
M8300103
M8300104
M8300105
M8300106
M8300107
M8300108
M8300109
M8300110
M8300111
M8300112
M8300113
M8300114
M8300115
M8300116
M8300117
M8300118
M8300119
M8300120
M8300121
M8300122
M8300123
M8300124
M8300125
M8300126
M8300127
M8300128
M8300129
M8300130
M8300131
M8300132
M8300133
M8300134
M8300135
M8300136
M8300137
    
```

0133	P0020	60FF		STA- \$FF		M8300138
0139			*			M8300139
0140	P0021	C000	X	LDA =XJBFLV4		M8300140
	P0022	7FFF	X			
0141	P0023	0116		SAN JBFL03	SKIP IF ANY FILE IN SYSTEM	M8300141
0142			*			M8300142
0143	P0024	C101		LDA- 1,I	FOR ANY REQUEST OTHER THAN REW/UNL NO ACTION	M8300143
0144	P0025	09F8		INA -7		M8300144
0145	P0026	0120		SAP JBFL05	SKIP IF REW/UNL	M8300145
0146			*			M8300146
0147	P0027	0C04		ENQ 4		M8300147
0148	P0028	1800		JMP FL0622		M8300148
	P0029	010B				
0149			*	READ THE FIRST FILE BLOCK		M8300149
0150			*			M8300150
0151	P002A	E0F9		JBFL03 LDQ- \$E9	EXTENDED CORE TABLE	M8300151
0152	P002B	C208		LDA- 8,Q	FIRST SECTOR OF DIRECTORY	M8300152
0153	P002C	6111		STA- V17,I	SAVE IT FOR USE IN FLS05	M8300153
0154	P002D	5800		RTJ FLS05	READ THE BLOCK	M8300154
	P002E	0245				
0155	P002F	4850		NUM \$4800	FREAD	M8300155
0156			*			M8300156
0157			*			M8300157
0158			*	CHECK WHETHER THE REQUEST IS TO CLOSE ALL THE FILES		M8300158
0159			*	OPENED SO FAR.		M8300159
0160			*			M8300160
0161	P0030	E101		LDQ- 1,I		M8300161
0162	P0031	0162		SQP JBFL05	NOT SUCH A REQUEST. SKIP	M8300162
0163	P0032	1800		JMP FL0500		M8300163
	P0033	0163				
0164			*			M8300164
0165	P0034	E101		JBFL05 LDQ- 1,I	GET REQUEST CODE AND EXIT TO	M8300165
0166	P0035	EA00		LDQ FLT003,Q	THE APPROPRIATE ROUTINE	M8300166
	P0036	00A2				
0167	P0037	F800		ADQ JBV01		M8300167
	P0038	0003				
0168	P0039	1622		JMP- (ZERO),Q		M8300168
0169			*			M8300169

0171
0172
0173
0174 P003A 7FFF X
0175 P003B 0000
0176 P003C 0000
0177 P003D 0000
0178 P003E 0000
0179
0180 P003F 0042
0181 P0040 0052
0182 P0041 00BE
0183
0184
0185
0186
0187
0188 P0042 0010
0189
0190
0191
0192
0193 P005E 0060
0194
0195
0196
0197 P00BE 2020
P00BF 204E
P00C0 4140
P00C1 4520
P00C2 2020
P00C3 2020
P00C4 2020
P00C5 2044
P00C6 4154
P00C7 4520
P00C8 2020
P00C9 2020
P00CA 2020
P00CB 204F
P00CC 502F
P00CD 434C
P00CE 2020
P00CF 2020
P00D0 2020
P00D1 2052
P00D2 2F57
P00D3 2020

```

*
*****VARIABLES USED
*
F3      ADC  FILE3      START ADDRESS OF JBFL PROGRAM
JBV01   ADC  0          INPUT REQUEST BUFFER ADDRESS
JBV02   ADC  0          TEMPY STORAGE FOR Q PASSED BY CALLER
JBV03   NUM  0          TEMP SOTIRAGE
JBV04   NUM  0
*
FLBF1A  ADC  FLBUF1-JPFL ADDRESS OF FLBUF1
FLBF2A  ADC  FLBJF2-JPFL ADDRESS OF FLBJF2
FLBF3A  ADC  FLBJF3-JPFL ADDRESS OF FLBUF3
*
*   THE BUFFER FLBUF1 IS USED TO SAVE THE PARAMETERS OF THE
*   GIVEN REQUEST. THE TEMPY STORAGE FOR SAVING INTERMEDIATE
*   INFORMATION IS THE LATTER PART OF THIS BUFFER
*
FLBUF1  BZS  FLBUF1(28)
*
*   THE BUFFER FLBUF2 IS USED TO READ THE FILE BLOCK AVAILABLE
*   ON ONE SECTOR OF THE MASS STORAGE FILE.
*
FLBUF2  BZS  FLBJF2(96)
*
*   THE FLBJF3 IS USED TO DUMP THE FILE TABLE
*
FLBUF3  ALF  22,  NAME      DATE      OP/CL      R/W

```

M8300171
M8300172
M8300173
M8300174
M8300175
M8300176
M8300177
M8300178
M8300179
M8300180
M8300181
M8300182
M8300183
M8300184
M8300185
M8300186
M8300187
M8300188
M8300189
M8300190
M8300191
M8300192
M8300193
M8300194
M8300195
M8300196
M8300197

0138

*

M8300198

0200 *
0201 P0004 C000 JBFIDE LDA =N\$3039
P0005 3039
0202 *
0203 P0006 1800 JMP FL0405
P0007 004E
0204 *

JOB ABORTED
I/O ERROR IN EXECUTION OF REQUEST
JOB ABORTED

M8300200
M8300201
M8300202
M8300203
M8300204

0206
0207
0208
0209 P0008 00E1
0210 P0009 011F
0211 P000A 0134
0212 P000B 017E
0213 P000C 00FD
0214 P000D 01EE
0215 P000E 0196
0216 P000F 024A
0217 P000G 024A
0218

*
*
*
*
*
*
*
*
*

FILE HANDLING ROUTINE ADDRESS TABLES

FLT003 ADC FLO300-JPFL +0 DEFINE
ADC FLO400-JPFL +1 RELEAS
ADC FLO450-JPFL +2 OPEN
ADC FLO500-JPFL +3 CLOSE
ADC FLO350-JPFL +4 MODIFY
ADC FLO650-JPFL +5 FILTBL
ADC FLO600-JPFL +6 PURGE
ADC FLO700-JPFL +7 REWIND
ADC FLO700-JPFL +8 UNLOAD

M8300206
M8300207
M8300208
M8300209
M8300210
M8300211
M8300212
M8300213
M8300214
M8300215
M8300216
M8300217
M8300218

```

0220 *
0221 *   DEFINE FILE REQUEST ACTION
0222 *
0223 *   SEARCH FOR A 9 WORD EMPTY FILE ENTRY. IF NO EMPTY ENTRY
0224 *   IS FOUND, REJECT (J13).
0225 *   REJECT REQUEST IF THE GIVEN FILE NAME ALREADY DEFINES
0226 *   AN EXISTING FILE (J11).
0227 *
0228 *   THE FIRST FILE BLOCK ADDRESS IS IN V26,I
0229 *
0230 P00E1 5800 FL0300 RTJ FLS07
      P00E2 0106
0231 *
0232 *   CHECK WHETHER AN EMPTY FILE WAS FOUND
0233 *
0234 *   LDA- V20,I
0235 *   SAN FL0304          EMPTY FILE ENTRY IS AVAILABLE. SKIP
0236 *   LDA =N$3133        NO MORE ROOM FOR THIS FILE, J13
0237 *
0238 *   JMP* FL0405
0239 *
0240 *   READ THE FILE BLOCK WITH THE EMPTY ENTRY
0241 *
0242 *   P00E8 5800 FL0304 RTJ FLS12
      P00E9 0240
0243 *
0244 *   BASE ADDRESS OF THE EMPTY ENTRY IN (Q)
0245 *
0246 *   SET UP TO DEFINE THE FILE AND REWRITE THE FILE BLOCK
0247 *
0248 *   SAVE THE DEFINITION PARAMETERS
0249 *
0250 *   LDA- V02,I          FILE NAME
0251 *   STA- (ZERO),Q
0252 *   LDA- V03,I
0253 *   STA- 1,Q
0254 *   LDA- V04,I
0255 *   STA- 2,Q
0256 *
0257 *   LDA- V05,I          SECURITY CODE
0258 *   STA- 3,Q
0259 *   LDA- V06,I
0260 *   STA- 4,Q
0261 *   LDA- V07,I
0262 *   STA- 5,Q
0263 *
0264 *   LDA- V08,I          EXPIRATION DATE
0265 *   STA- 6,Q
0266 *   LDA- V09,I
0267 *   STA- 7,Q
0268 *   LDA- V10,I
0269 *   STA- 8,Q

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M8300220
M8300221
M8300222
M8300223
M8300224
M8300225
M8300226
M8300227
M8300228
M8300229
M8300230
M8300231
M8300232
M8300233
M8300234
M8300235
M8300236
M8300237
M8300238
M8300239
M8300240
M8300241
M8300242
M8300243
M8300244
M8300245
M8300246
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M8300248
M8300249
M8300250
M8300251
M8300252
M8300253
M8300254
M8300255
M8300256
M8300257
M8300258
M8300259
M8300260
M8300261
M8300262
M8300263
M8300264
M8300265
M8300266
M8300267
M8300268
M8300269

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JPF2V4

PAGE 3

DATE: 01/27/99

0270 *
0271 P00FC 181E *
0272 *

JMP* FL0360

REWRITE BLOCK AND EXIT

M8300270
M8300271
M8300272

0274
 0275
 0276
 0277
 0278
 0279
 0280
 0281
 0282
 0283
 0284
 0285
 0286
 0287 P00FD 5800
 P0JFE 01AA
 0288
 0289
 0290
 0291 P00FF C114
 0292 P0100 0111
 0293 P0101 1922
 0294
 0295
 0296
 0297 P0102 5800
 P0103 0226
 0298
 0299
 0300
 0301
 0302
 0303 P0104 C108
 0304 P0105 6622
 0305 P0106 C109
 0306 P0107 6201
 0307 P0108 C10A
 0308 P0109 6202
 0309
 0310 P010A C10B
 0311 P010B 6203
 0312 P010C 010C
 0313 P010D 6204
 0314 P010E 010D
 0315 P010F 5205
 0316
 0317 P0110 C206
 0318 P0111 A021
 0319 P0112 810E
 0320 P0113 6206
 0321 P0114 C207
 0322 P0115 A021
 0323 P0116 810F
 0324 P0117 6207

```

*
*   MODIFY FILE REQUEST ACTION
*
*   SEARCH FOR A 9 WORD FILE ENTRY MATCHING THE GIVEN
*   FILE NAME, AND THE SECURITY CODE.
*   IF NO SJCH ENTRY IS PRESENT, REJECT (J10 OR J04)
*   IF SUCH AN ENTRY IS PRESENT, CHECK WHETHER THE NEW
*   FILE NAME ALREADY DEFINES ANOTHER EXISTING FILE.
*   IF YES, REJECT J11 IN FLS07
*   IF NO, THEN MODIFY THE FILE PARAMETERS
*
*   THE FIRST FILE BLOCK CORE ADDRESS IS IN V26,I.
*
*   FL0350 RTJ FLS07
*
*   CHECK WHETHER A FILE ENTRY HAS BEEN FOUND
*
*   LDA- V20,I
*   SAN FLS352
*   JMP* FLS01          FILE NOT DEFINED EARLIER. J10
*
*   READ THE FILE BLOCK CONTAINING THE SPECIFIC FILE ENTRY
*
*   FL0352 RTJ FLS12
*
*   BASE ADDRESS OF THE ENTRY IN (Q)
*
*   SET UP TO MODIFY THE FILE.
*
*   LDA- V08,I          NEW FILE NAME
*   STA- (ZERO),Q
*   LDA- V09,I
*   STA- 1,Q
*   LDA- V10,I
*   STA- 2,Q
*
*   LDA- 11,I          NEW SECURITY CODE
*   STA- 3,Q
*   LDA- 12,I
*   STA- 4,Q
*   LDA- 13,I
*   STA- 5,Q
*
*   LDA- 6,Q          NEW EXPIRATION DATE
*   AND- NZERO+15
*   ADD- 14,I
*   STA- 6,Q
*   LDA- 7,Q
*   AND- NZERO+15
*   ADD- 15,I
*   STA- 7,Q
  
```

M8300274
 M8300275
 M8300276
 M8300277
 M8300278
 M8300279
 M8300280
 M8300281
 M8300282
 M8300283
 M8300284
 M8300285
 M8300286
 M8300287
 M8300288
 M8300289
 M8300290
 M8300291
 M8300292
 M8300293
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 M8300295
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 M8300299
 M8300300
 M8300301
 M8300302
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 M8300311
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 M8300318
 M8300319
 M8300320
 M8300321
 M8300322
 M8300323
 M8300324

0325 P0118 C110
0326 P0119 6208
0327 *
0328 *
0329 *
0330 PG11A 5800
 P0119 0158
0331 P011C 4C00
0332 *
0333 P011D 1800
 P011E 00C1
0334 *

LDA- 16,I
STA- 8,Q
*
REWRITE THE FILE BLOCK AND EXIT
*
FL0350 RTJ FLS05
*
NUM \$4000 FWRITE
*
JMP FL0620
*

M8300325
M8300326
M8300327
M8300328
M8300329
M8300330

M8300331
M8300332
M8300333

M8300334

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03336
03337
03338
03339
0340
0341
0342
0343
0344
0345 P011F 5800 FL0400 RTJ FLS07 SEARCH FOR THE SPECIFIC FILE
      P0120 0188
0346
0347 P0121 C114 LDA- V20,I
0348 P0122 0114 SAN FL0402
0349 P0123 C000 FL0401 LDA =N$3130 FILE NOT DEFINED EARLIER. J10
      P0124 3130
      P0125 1800 FL0405 JMP FL0072
      P0126 0107
0351
0352
0353
0354
0355
0356
0357
0358
0359 P0127 CA08 FL0402 ENA 8
0360 P0128 6800 FL0404 STA FLV601
      P0129 00C4
0361 P012A 0844 CLR A
0362 P012B 6622 STA- (ZERO),Q
0363 P012C 0800 LDA FLV601
      P012D 00C0
0364 P012E 0103 SAZ FL0409 RFLEAS IT
0365 P012F 00C1 INQ 1
0366 P0130 09FE INA -1
0367 P0131 18F6 JMP* FL0404
0368 P0132 5800 FL0439 RTJ FLS15 REWIND AND CLEAN UP PSYTAB
      P0133 020C
0369 P0134 5802 RTJ* RELFEL
0370 P0135 18E4 JMP* FL0360
0371 P0136 0B00 RELFEL NOP 0
0372
0373 P0137 C800 FL0410 LDA JBV01 ABSOLUTIZE ADDRESSES FOR FILMGR
      P0138 FF02
0374 P0139 8000 ADD =XFILEN-JPFL CALL
      P013A 0153
0375 P013B 6800 STA* LOC1 ADDRESS OF FILE NUMBER
0376 P013C 680E STA* LOC3 STATUS RETURN
0377 P013D 0901 INA 1
0378 P013E 680B STA* LOC2 WORKINF BUFFER FOR FILE MANAGER
0379 P013F 5800 RTJ FLS14 GET FILE NUMBER
      P0140 01F6

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M8300336
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M8300340
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61*1293M8300368
61*1293M8300369
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M8300372
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M8300374
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M8300378
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0380 P0141 6812          STA* FILEN
0381                    * HAVE TO SCHEDULE UP TO 3 TO MAKE THE FILE MANAGER CALL
0382                    * IF WE DON'T THE F. M. WILL INTERPRET THE CALL AS IF
0383                    * IT CAME FROM UNPROTECTED
0384 P0142 54F4          RTJ- ($F4)
0385 P0143 1303          RIL NUM $1303
0386 P0144 0003          ADC RFIL-RIL
0387 P0145 14EA          JMP- ($EA)
0388 P0146 5400          X RFIL RTJ RELFIL          RELEASE THE FILE
0389 P0147 7FFF          X
0390 P0148 0000          LOC1 NUM 0
0391 P0149 0000          LOC2 NUM 0
0392 P014A 0000          LOC3 NUM 0
0393 P014B 54F4          GOZERO RTJ- ($F4)
0394 P014C 1300          NUM $1300
0395 P014D 0003          ADC BACK0-GOZERO
0396 P014E 14EA          JMP- ($EA)
0397 P014F C800          BACK0 LDA FLBF1A          RESTORE I
0398 P0150 FEEF          STA- I
0399 P0151 60FF          JMP* (RELFEL)
0400 P0152 1CE3
0401 PC153 0000          FILEN NUM 0
0402                    * THE NEXT 12 DEC. LOCATIONS WILL BE USED AS A WORKING
0403                    * BUFFER BY THE FILE MANAGER. THIS WILL OVERLAY PART
0404                    * OF THE OPEN FILE ROUTINE BUT WILL CAUSE NO PROBLEM
0405                    * SINCE JPF2V4 WILL BE BROUGHT IN AGAIN.

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M8300380
M8300381
M8300382
M8300383
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M8300400
M8300401
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M8300404

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0454

P0154 E108
P0155 EE00
P0156 0217
P0157 C208
P0158 0FCF
P0159 0123
P015A C000
P015B 3037
P015C 18C8
P015D 5800
P015E 014A
P015F 0114
P0160 0111
P0161 18C1
P0162 C206
P0163 0121
P0164 1814
P0165 B032
P0166 6206
P0167 C207
P0168 A011
P0169 B108
P016A 6207
P016B E108
P016C EE00
P016D 0200

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*
*   OPEN FILE REQUEST ACTION
*
*   SEARCH FOR A 9-WORD FILE ENTRY MATCHING THE GIVEN
*   FILE NAME AND THE SECURITY CODE.
*   IF NO SJCH ENTRY IS FOUND REJECT (J10 OR J04)
*   IF SUCH A FILE EXISTS OPEN THE FILE (SET B15 OF
*   ENTRY+6) AND REWRITE THE FILE BLOCK.
*
*   FL0450 LDA- V11,I      GET LOGICAL UNIT
*          LDQ (ALOG1A),Q  GET PDT ADDRESS
*
*   LDA- 8,Q             GET EREQST
*   ALS 15              GET AVAILABLE TO JNPROT BIT IN A15
*   SAP OKJP           IS AVAILABLE TO UNPROTECTED
*   LDA =A07          JP07 ERROR
*
*   JMP* FL0405       GO REPORT
*   RTJ FLS07        SEARCH FOR SPECIFIC FILE
*
*
*   LDA- V20,I
*   SAN FL0452
*   JMP* FL0401      FILE NOT DEFINED EARLIER. J10
*
*   SET B15 OF FILE ENTRY+6
*   BASE ADDRESS OF FILE ENTRY IS IN (Q)
*
*   FL0452 LDA- 6,Q
*          SAP FL0453   SKIP IF THE FILE IS CLOSED
*          JMP* FL0455  OTHERWISE REJECT. J14
*
*   FL0453 EOR- ONEBIT+15
*
*   STA- 6,Q
*
*   SET THE R/W INDICATOR (BIT 15 OF ENTRY+7).
*   FOR R(READ) B15=0 AND FOR W(WRITE) B15=1
*
*   LDA- 7,Q
*   AND- LPMASK+15
*   EOR- V08,I
*   STA- 7,Q
*
*
*   GET THE PHYSTAB ASSOC. WITH THE ASSIGNED LU AND
*   CHECK TO SEE IF THERE IS A CURRENTLY OPEN FILE
*   ASSIGNED TO THIS PSEUDO TAPE. IF THERE IS OUTPUT
*   A JP14 ERROR. IF NOT GET THE FILE NUMBER AND
*   SAVE IT IN PHYSTAB+16.
*
*   LDQ- V11,I      GIVEN LU(4TH PARAMETER)
*   LDQ (ALOG1A),Q
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M8300406
M8300407
M8300408
M8300409
M8300410
M8300411
M8300412
M8300413
M8300414
MSOS 4.1M8300415
MSOS 4.1M8300416
MSOS 4.1M8300417
MSOS 4.1M8300418
MSOS 4.1M8300419
MSOS 4.1M8300420
MSOS 4.1M8300421
MSOS 4.1M8300422
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0455 PG16E C210
 0456 PG16F 0118
 0457 PG170 5800
 PG171 01C5
 0458 PG172 6210
 0459 *
 0460 PG173 C000
 PG174 2401
 0461 PG175 B108
 0462 PG176 620C
 0463 *
 0464 PG177 18A2
 0465 *
 0466 PG178 C000
 PG179 3134
 0467 PG17A 18AA
 0468 PG17B 0000
 0469 PG17C 0000
 0470 PG17D 0000
 0471 *
 0472 *

LDA- 16,Q
 SAN FL0455
 RTJ FLS14

 STA- 16,Q

 * LDA =N\$2401

 EOR- V08,I
 STA- 12,Q

 * JMP* FL0360
 * FL0455 LDA =N\$3134

 JMP* FL0405
 FLV457 NUM 0
 FLV458 NUM 0
 FLV459 NUM 0
 *
 *

IS THE ALREADY A FILE ASSIGNED
 YES, OUTPUT JP14
 NO, GET THE ABS. NBR. OF THE FILE

(A)=FILE NUMBER
 SET 800 LOADPOINT READY STATUS

TRY TO OPEN AN OPENED FILE.REJECT.J14

TEMPY USE
 TEMPY USE
 TEMPY USE

M8300455
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 M8300460

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 M8300462
 M8300463
 M8300464
 M8300465
 M8300466

 M8300467
 M8300468
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 M8300470
 M8300471
 M8300472

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0474 *
0475 * CLOSE FILE REQUEST ACTION
0476 *
0477 * SEARCH FOR A 9 WORD FILE ENTRY MATCHING THE GIVEN
0478 * FILE NAME AND THE SECURITY CODE.
0479 * IF NO SJCH ENTRY IS FOUND REJECT (J10 OR J04)
0480 *
0481 * IF SUCH A FILE EXISTS BUT HAS NOT BEEN YET OPENED REJECT J12
0482 *
0483 * IF SUCH A FILE EXISTS CLOSE THE FILE (CLEAR B15 OF
0484 * ENTRY+6) AND REWRITE THE FILE BLOCK.
0485 *
0486 P017E 5800 FL0500 RTJ FLS07 SEARCH FOR THE MATCHING FILE ENTRY
0487 P017F 0129 *
0488 P0180 C114 LDA- V20,I
0489 P0181 0111 SAN FL0502
0490 P0182 18A0 JMP* FL0401 FILE NOT DEFINED EARLIER. J10
0491 *
0492 * CLEAR BIT 15 OF THE FILE ENTRY+6 (BASE ADDRESS IN Q)
0493 * AND REWRITE THE FILE BLOCK.
0494 *
0495 P0183 C206 FL0502 LDA- 6,Q
0496 P0184 0131 SAM FL0502A SKIP IF OPEN FILE
0497 P0185 180E JMP* FL0509 OTHERWISE REJECT.
0498 P0186 8032 FL0502A EOR- ONEBIT+15
0499 P0187 6206 STA- 6,Q
0500 *
0501 * RESET THE WRITE INDICATOR (BIT 15 OF ENTRY+7)
0502 *
0503 P0188 C207 LDA- 7,Q
0504 P0189 A011 AND- LPMASK+15
0505 P018A 6207 STA- 7,Q
0506 P018B 48F1 STQ* FLV459 SAVE CURRENT FILE ENTRY
0507 P018C 5800 RTJ FLS15
0508 P018D 01B2 *
0509 * FL0506 LDQ* FLV459
0510 P018E E8EE LDA FLBF1A RESTORE I
0511 P018F C800
0512 P0190 FEAE STA- I
0513 P0191 60FF *
0514 * FL0507 JMP* FL0360
0515 *
0516 P0193 C000 FL0509 LDA =N$3132 FILE NOT OPENED EARLIER. REJECT. J12
0517 P0194 3132
0518 P0195 188F JMP* FL0405

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M8300474
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0573 P019C 0111 SAN FL061A ENTRY IS DEFINED.SKIP
0574 P019D 1825 JMP* FL0610 EMPTY ENTRY.
0575 *
0576 *
0577 * CHECK THE PURGE/CLOSE ALL REQUEST
0578 *
0579 P019E C101 FL061A LDA- V01,I
0580 P019F C121 SAP FL0618 PURGE REQUEST.SKIP
0581 P01A0 1830 JMP* FL0615 CLOSE ALL FILES REQUEST.
0582 *
0583 P01A1 C206 FL061B LDA- 6,Q DO NOT PURGE AN OPEN FILE.
0584 P01A2 J121 SAP FL0602 CLOSED FILE.SKIP TO PURGE IF NECESSARY
0585 P01A3 1811 JMP* FL0605 OPEN FILE.DO NOT PURGE.
0586 * COMPARE THE EXPIRATION DATE OF THE ENTRY WITH THAT OF REQUEST.
0587 *
0588 P01A4 C104 FL06J2 LDA- V04,I YY
0589 P01A5 9208 SUB- 8,Q
0590 P01A6 C102 SAZ FL0603 SKIP TO CHECK MONTH
0591 P01A7 012D SAP FL0606 PURGE
0592 P01A8 180C JMP* FL0605 DO NOT PURGE
0593 *
0594 P01A9 C206 FL0603 LDA- 6,Q MM
0595 P01AA A011 AND- LPMASK+15
0596 P01AB 9102 SUB- V02,I
0597 P01AC 8102 SAZ FL0604 SKIP TO CHECK DAYS
0598 P01AD 0137 SAM FL0606 PURGE
0599 P01AE 1806 JMP* FL0605 DO NOT PURGE
0600 *
0601 P01AF C207 FL0604 LDA- 7,Q DD
0602 P01B0 A011 AND- LPMASK+15
0603 P01B1 9103 SUB- V03,I
0604 P01B2 0132 SAM FL0606 PURGE
0605 P01B3 0101 SAZ FL0606 PURGE OF EQUAL DAYS.EQUALMONTH.EQUAL YEAR
0606 P01B4 180E FL0605 JMP* FL0610 DO NOT PURGE
0607 *
0608 * PURGE THE ENTRY
0609 *
0610 P01B5 0A08 FL0606 ENA 8
0611 P01B6 6837 FL0607 STA* FLV501
0612 P01B7 0844 CLR A
0613 P01B8 6622 STA- (ZERO),Q
0614 P01B9 C834 LDA* FLV601
0615 P01BA 0103 SAZ FL0608 ENTRY PURGED.SKIP
0616 P01BB 0D01 INQ 1
0617 P01BC 09FE INA -1
0618 P01BD 18F8 JMP* FL0607 LOOP
0619 *
0620 P01BE 5800 FL06J8 RTJ RELFEL RELEASE FILE SPACE
0621 P01BF FF76 SET AN ENTRY WAS PURGED
0622 P01C0 D114 RAO- V20,I
0623 P01C1 0DF7 INQ -8
0624 P01C2 C116 FL0610 LDA- V22,I CHECK ALL ENTRIES IN THE FILE BLOCK

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M8300624

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0525	P01C3 09F6	INA -9			M8300625
0526	P01C4 0117	SAN FL0614	NOT ALL PROCESSED. SKIP		M8300626
0527		*			M8300627
0528	P01C5 C114	LDA- V20,I	CHECK ANY FILE CLOSED/PURGED FROM THIS BLOCK.		M8300628
0529	P01C6 0105	SAZ FL0614	NONE.SKIP		M8300629
0530		*			M8300630
0531	P01C7 5800	RTJ FLS05	OTHERWISE REWRITE THE FILE BLOCK		M8300631
0532	P01C8 00A8				
0533	P01C9 4C00	NUM \$4C00	FWRITE		M8300632
0534		*			M8300633
0535	P01CA 0844	CLR A	RESET THE FILE CLOSED/PURGED FLAG.		M8300634
0536	P01CB 6114	STA- V20,I			M8300635
0537		*			M8300636
0538	P01CC 5800	FL0614 RTJ FLS05	GET NEXT FILE ENTRY,IF ANY.		M8300637
0539	P01CD 00C5				
0540	P01CE 1811	JMP* FL0620	ALL FILES CHECKED EXIT		M8300638
0541	P01CF 180B	JMP* FL0501	PROCESS THE NEXT ENTRY.		M8300639
0542		*			M8300640
0543		**	COME HERE TO CLOSE THE FILE IF IT IS OPEN		M8300641
0544		*			M8300642
0545	P01D0 C206	FL0615 LDA- 6,Q			M8300643
0546	P01D1 012C	SAP FL0616	FILE CLOSED ALREADY SKIP		M8300644
0547		*			M8300645
0548	P01D2 A011	AND- LPMASK+15	CLOSED FILE FLAG		M8300646
0549	P01D3 6206	STA- 5,Q			M8300647
0550	P01D4 C207	LDA- 7,Q			M8300648
0551	P01D5 A011	AND- LPMASK+15			M8300649
0552	P01D6 6207	STA- 7,Q			M8300650
0553		*			M8300651
0554	P01D7 C115	LDA- V21,I	NUMBER OF THE FILE BLOCK SECTOR		M8300652
0555	P01D8 6112	STA- V18,I			M8300653
0556	P01D9 C116	LDA- V22,I	NUMBER OF ENTRIES IN THE FILE BLOCK		M8300654
0557	P01DA 6113	STA- V19,I			M8300655
0558	P01DB 5800	RTJ FLS15			M8300656
0559	P01DC 0163				
0560		*			M8300657
0561	P01DD D114	RAO- V20,I	SET A FILE IS CLOSED INDICATOR		M8300658
0562		*			M8300659
0563	P01DE 18E3	FL0616 JMP* FL0610	CHECK NEXT ENTRY		M8300660
0564		*			M8300661
0565		*			
0566		*	SET UP TO TYPE J AND INPUT CONTROL STATEMENT		M8300663
0567	P01DF 0C00	FL0620 ENQ 0			M8300664
0568	P01E0 C101	LDA- V01,I	ARE WE ABIRTING A JOB		M8300665
0569	P01E1 0131	SAM 1	YES		M8300666
0570	P01E2 0D0A	INQ 10			M8300667
0571	P01E3 0D04	INQ 4			M8300668
		*			M8300669
					M8300670
					M8300671

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0572 P01E4 C844 FL0622 CLR A CLEAR MIB SWITCH
0573 P01E5 6C37 STA* (FL0625)
0574 P01E6 C450 X LDA JBPROE
      P01E7 7FFF X
0575 P01E8 6803 STA* FL0629+1
0576 P01E9 0A01 ENA 1
0577 *
0578 P01EA 1400 FL0629 JMP+ 0
      PC1EB 0000
0679 *
0680 *
0681 P01EC 7FFF X FL0625 ADC MIB
0682 *
0683 *
0684 P01ED 0000 FLV601 NUM 0 TEMPORARY STORAGE
0685 *

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M8300572
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M8300685

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0738	P0205	6102	STA- 2,I		M8300738
0739	P0206	C202	LDA- 2,Q		M8300739
0740	P0207	6103	STA- 3,I		M8300740
0741			*		M8300741
0742	P0208	C206	LDA- 6,Q	EXPIRATION DATE	M8300742
0743	P0209	A011	AND- LPMASK+15		M8300743
0744	P020A	6107	STA- 7,I		M8300744
0745	P020B	C207	LDA- 7,Q		M8300745
0746	P020C	A011	AND- LPMASK+15		M8300746
0747	P020D	6108	STA- 8,I		M8300747
0748	P020E	C208	LDA- 8,Q		M8300748
0749	P020F	6109	STA- 9,I		M8300749
0750			*		M8300750
0751			*	CHECK STATUS OPEN/CLOSE	M8300751
0752			*		M8300752
0753	P0210	C206	LDA- 6,Q		M8300753
0754	P0211	0126	SAP FL0656	CLOSED. SKIP	M8300754
0755			*		M8300755
0756	P0212	C000	LDA =AOP	ENTER OPEN	M8300756
	P0213	4F50			
0757	P0214	610D	STA- 13,I		M8300757
0758	P0215	C000	LDA =AEN		M8300758
	P0216	454E			
0759	P0217	1806	JMP* FL0658		M8300759
0760			*		M8300760
0761	P0218	C000	FL0656 LDA =ACL		M8300761
	P0219	434C			
0762	P021A	610D	STA- 13,I		M8300762
0763	P021B	C000	LDA =AOS		M8300763
	P021C	4F53			
0764			*		M8300764
0765	P021D	610E	FL0658 STA- 14,I		M8300765
0766	P021E	C000	LDA =AEO		M8300766
	P021F	4544			
0767	P0220	610F	STA- 15,I		M8300767
0768			*	CHECK READ/WRITE STATUS	M8300768
0769			*		M8300769
0770	P0221	C207	LDA- 7,Q		M8300770
0771			*		M8300771
0772	P0222	0129	SAP FL0660	READ ONLY. SKIP	M8300772
0773			*		M8300773
0774	P0223	C000	LDA =AWR	ENTER WRITE	M8300774
	P0224	5752			
0775	P0225	6113	STA- 19,I		M8300775
0776	P0226	C000	LDA =AIT		M8300776
	P0227	4954			
0777	P0228	6114	STA- 20,I		M8300777
0778	P0229	C000	LDA =AE		M8300778
	P022A	4520			
0779	P022B	1809	JMP* FL0662		M8300779
0780			*		M8300780
0781	P022C	C000	FL0660 LDA =ARE		M8300781
	P022D	5245			

0782	P022E	6113	STA-	19,I		M8300782
0783	P022F	C000	LDA	=AA0		M8300783
	P0230	4174				
0784	P0231	6114	STA-	20,I		M8300784
0785	P0232	C0C0	LDA	=A		M8300785
	P0233	2020				
0786	P0234	6115	FL0652	STA-	21,I	M8300786
0787			*			M8300787
0788	P0235	C813	LDA*	FLV651	RESTORE I	M8300788
0789	P0236	60FF	STA-	I		M8300789
0790			*			M8300790
0791	P0237	5800	RTJ	FLS08	PRINT BUFFER AND BLANK OUT.	M8300791
	P0238	00D3				
0792			*			M8300792
0793	P0239	5800	FL0664	RTJ	FLS06	M8300793
	P023A	0058				
0794	P023B	1802	JMP*	FL0669	ALL FILES PROCESSED EXIT	M8300794
0795	P023C	18B6	JMP*	FL0652	PROCESS NEXT FILE ENTRY.	M8300795
0796			*			M8300796
0797			*	PAGE	EJECT AFTER THE FILES ARE PRINTED	M8300797
0798			*			M8300798
0799	P023D	C000	FL0659	LDA	=N\$200C	M8300799
	P023E	200C			PAGE EJECT	**MSOS 4.1**
0800			*			M8300800
0801	P023F	E800	LDQ	FLBF3A	BUFFER ADDRESS	M8300801
	P0240	FE00				
0802	P0241	6622	*	STA-	(ZERO),Q	M8300802
0803						M8300803
0804	P0242	0A01	ENA	1	NUMBER OF WORDS TO BE OUTPUT	M8300804
0805	P0243	6800	STA	FLS08C-1		M8300805
	P0244	00CE	*			
0806						M8300806
0807	P0245	5800	RTJ	FLS08	I/O PRINTER	M8300807
	P0246	J005				
0808			*			M8300808
0809	P0247	1897	JMP*	FL0620	EXIT	M8300809
0810			*			M8300810
0811	P0248	0000	FLV651	NUM	0	M8300811
0812	P0249	0000	FLV652	ADC	0	M8300812
0813			*		TEMPY STORAGE	M8300813
					SAVE Q TEMPORARILLY	

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0815 *
0816 * REWIND/UNLOAD REQUEST
0817 *
0818 * THE MAXIMUM NUMBER OF PARAMETERS IN A REWIND/UNLOAD
0819 * REQUEST IS 5.
0820 *
0821 * THE PARAMETERS OF A REWIND/UNLOAD REQUEST SPECIFY A
0822 * LOGICAL UNIT NUMBER
0823 *
0824 * FOR A LU THE EQUIVALENT BINARY NUMBER IS THE PARAMETER
0825 *
0826 * GET THE NUMBER OF PARAMETERS IN THE REW/UNL REQUEST
0827 * IT WAS SAVED AT V16,I( BY JPFLV4). PICK IT UP AND SAVE IN V00,I
0828 *
0829 P024A C110 FL0700 LDA- V16,I
0830 P024B 6522 STA- (ZERO),I
0831 P024C 68FB STA* FLV651
0832 P024D 0C03 ENQ 3
0833 *
0834 * CHECK IT FOR REWIND/ UNLOAD REQUEST
0835 *
0836 P024E C101 LDA- V01,I REQUEST CODE
0837 P024F 09F8 INA -7
0838 P0250 0101 SAZ FL0704 SKIP IF REWIND REQUEST
0839 *
0840 P0251 0D01 INQ 1
0841 *
0842 P0252 0FAC FL0704 QLS 12
0843 P0253 480C STQ* FL0726
0844 *
0845 P0254 C8F3 FL0705 LDA* FLV651 NBR OF PARAMETERS
0846 P0255 09FE INA -1
0847 P0256 5800 RTJ FLS02 GET PARAMETER ADDRESS
0848 P0257 0014
0849 *
0850 P0258 C622 LDA- (ZERO),Q SAVE THE GIVEN LU IN REQUEST.
0851 P0259 6805 STA* FL0725
0852 *
0853 * REWIND REQUEST
0854 *
0855 P025A 54F4 FL0720 RTJ- (AMONI)
0856 P025B 1000 NUM $1000
0857 P025C 0006 ADC FL0742-FL0720-1
0858 P025D 0000 FL0724 ADC 0 +2 THREAD
0859 P025E 0000 FL0725 NUM 0 +3 V,M,A,LU
0860 P025F 0000 FL0726 NUM 0 +4 MOTION REQ CODE (3=REW,4=UNLOAD).
0861 *
0862 P0260 14EA FL0730 JMP- (ADISP) DISPATCHER EXIT.
0863 *
0864 *
0865 P0261 3800 FL0742 LDA FLBF1A RESTORS I
0866 P0262 FDDC

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M8300815
M8300816
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M8300860
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M8300863
M8300864
M8300865

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0856 P0263 60FF
 0857 P0264 C8E3
 0858 P0265 09FE
 0869 P0266 0102
 0870 *
 0871 P0267 68E0
 0872 P0268 18EB
 0873 *
 0874 P0269 1800
 P026A FF74
 0875 *

STA- I
 LDA* FLV651
 INA -1
 SAZ FL0745
 STA* FLV651
 JMP* FL0705
 FL0745 JMP FL0620

SKIP IF ALL DONE
 OTHERWISE UPDATE NBR YET TO BE DONE
 AND BUILD NEXT REW/UNL REQUEST
 EXIT FROM THE ROUTINE

M8300866
 M8300867
 M8300868
 M8300869
 M8300870
 M8300871
 M8300872
 M8300873
 M8300874
 M8300875

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P026E 0000
 P026C C822
 P026D JFC1
 P026E 0834
 P026F 0902
 P0270 80FF
 P0271 0822
 P0272 1CF8

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COMMON SUBROUTINE TO COMPUTE THE START ADDRESS
 OF A PARAMETER IN THE PARAMETER BUFFER

INPUT
 (A) = PARAMETER NUMBER 0- 4
 =(3*NUMBER+2)+I

OUTPUT
 (Q) = START ADDRESS OF THE PARAMETER

FLS02 ADC 0
 TRA Q
 ALS 1
 AAQ A
 INA 2
 ADD- I
 TRA Q
 JMP* (FLS02) EXIT

M8300877
 M8300878
 M8300879
 M8300880
 M8300881
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0900  *
0901  ** COMMON SUBROUTINE TO READ/WRITE A FILE BLOCK
0902  **
0903  ** INPUT
0904  ** (I)=BASE ADDRESS OF TEMPORARY STORAGE
0905  ** V17,I=LSB OF THE SECTOR TO BE READ/WITTEN
0906  **
0907  ** OUTPUT
0908  ** (I)= NOT CHANGED
0909  ** (Q)= BASE ADDRESS OF THE BUFFER
0910  *
0911  P0273 0000 FLS05  ADC 0          SAVE THE REQUEST CODE
0912  P0274 CCFE LDA* (FLS05)
0913  P0275 6809 STA* FLS051
0914  P0276 D8FC RAO* FLS05  UPDATE RETURN
0915  P0277 C0FF LDA- I      SAVE REGISTER I
0916  P0278 6819 STA* FLSV51
0917  *
0918  P0279 E11A LDQ- V26,I   BUFFER ADDRESS
0919  P027A 4809 STQ* FLS05C
0920  P027B C111 LDA- V17,I   LSB
0921  P027C 6809 STA* FLS05D
0922  *
0923  *
0924  P027D 54F4 RTJ- (AMONI)
0925  P027E 0000 FLS051  NUM 0      +0 RC USER SUPPLIED
0926  P027F 0000 ADC 0      +1 CA
0927  P0280 0000 FLS05A  ADC 0      +2 T
0928  P0281 08C2 FLS05B  NUM 38C2 +3 LIBRARY UNIT
0929  P0282 0060 NUM 96     +4 NUMBER OF WORDS
0930  P0283 0000 FLS05C  ADC 0      +5 START ADDRESS
0931  P0284 0000 NUM 0      +6 MSB
0932  P0285 C000 FLS05D  NUM 0      +7 LSB
0933  *
0934  P0286 C8F9 FLS052  LDA* FLS05A CHECK REQUEST COMPLETED
0935  P0287 0101 SAZ FLS053 COMPLETED.SKIP
0936  P0288 18FD JMP* FLS052
0937  *
0938  P0289 C808 FLS053  LDA* FLSV51 RESTORE I
0939  P028A 60FF STA- I
0940  *
0941  * CHECK ANY ERROR
0942  *
0943  P028B C8F5 LDA* FLS05B
0944  P028C 0122 SAP FLS059 NO ERROR.SKIP
0945  P028D 1800 JMP JBFI0E I/O ERROR.DIAGNOSTIC
0946  P028E FE45
0947  P028F E11A FLS059  LDQ- V25,I
0948  P0290 1CE2 JMP* (FLS05)
0949  *
0950  P0291 0000 FLSV51  NUM 0      TEMP STORAGE

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M8300900
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M8300902
M8300903
M8300904
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M8300950

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0952 *
0953 * COMMON SUBROUTINE TO FIND NEXT FILE ENTRY IN THE FILE BLOCK.
0954 *
0955 * IF NO MORE ENTRY IN THE CURRENT FILE BLOCK, THE NEXT FILE
0956 * BLOCK IS ACCESSED.
0957 *
0958 * IF ALL FILE BLOCKS HAVE BEEN CHECKED AND NO FILE ENTRY CAN
0959 * BE PASSED TO THE CALLER THE EXIT IS RETURN+0
0960 * IF A FILE ENTRY IS AVAILABLE THE EXIT IS RETURN+1
0961 *
0962 * INPUT
0963 * (I)=BASE ADDRESS OF TEMPORARY STORAGE
0964 * V21,I =NUMBER OF FILE BLOCKS CHECKED
0965 * V22,I =NUMBER OF ENTRIES CHECKED
0966 * V23,I =CURRENT FILE BLOCK ADDRESS
0967 * V27,I = CURRENT TOTAL NUMBER OF FILES CHECKED
0968 * (Q) =CURRENT FILE ENTRY ADDRESS
0969 *
0970 * OUTPUT
0971 * V21,I = UPDATED NUMBER OF FILE BLOCKS CHECKED
0972 * V22,I = UPDATED NUMBER OF FILE ENTRIES CHECKED IN
0973 * THE FILE BLOCK(ADDRESS IN V23,I)
0974 * V23,I = ADDRESS OF FILE BLOCK(EITHER OLD,OR NEW)
0975 * V27,I = UPDATED TOTAL NUMBER OF FILES CHECKED
0976 * (Q) = NEW FILE ENTRY ADDRESS
0977 *
0978 P0292 0000 FLS05 ADC 0
0979 *
0980 P0293 0116 RAO- V22,I BUMP NBR OF FILES IN CURRENT BLOCK CHECKED
0981 *
0982 P0294 011B RAO- V27,I BUMP NBR OF FILES (TOTAL)CHECKED SO FAR
0983 *
0984 * CHECK ALL THE SYSTEM FILES CHECKED
0985 *
0986 P0295 0000 X LDA =XJBFLV4
0987 P0296 0022 X
0988 P0297 911B SUB- V27,I LESS FILES CHECKED SO FAR
0989 P0298 0111 SAN FLS05A NOT DONE. SKIP
0990 P0299 180E JMP* FLS069 JUMP IF ALL CHECKED
0991 *
0992 P029A 0116 FLS06A LDA- V22,I CHECK IF ALL 16 ENTRIES OF THIS BLOCK DONE
0993 P029B 09F5 INA -10
0994 P029C 0102 SAZ FLS061 SKIP IF YES.
0995 *
0996 * OTHERWISE SET UP FOR NEXT ENTRY IN THIS BUFFER
0997 *
0998 P029D 0009 INQ 9
0999 P029E 1808 JMP* FLS067
1000 *
1001 P029F 0115 FLS051 RAO- V21,I BUMP NUMBER OF SECTORS CHECKED
1002 *
1003 * SET UP TO READ THE NEXT SECTOR

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M8301003

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1004	P02A0 D111	FLS052 RAO- V17,I	UPDATE LSB OF SECTOR	M8301004
1005		*		M8301005
1006	P02A1 5800	RTJ FLS05	READ THE SECTOR	M8301006
	P02A2 FFD0			
1007	P02A3 4800	NUM \$4800	FREAD	M8301007
1008		*		M8301008
1009		*	UPON RETURN THE NEW SECTOR IS READ INTO FILE BUFFER FLBUF2	M8301009
1010		*	THE ADDRESS OF THIS BUFFER IS IN Q AND V26,I	M8301010
1011		*	V22,I TO ZERO (NUMBER OF ENTRIES CHECKED).	M8301011
1012	P02A4 0844	CLR A		M8301012
1013	P02A5 0116	STA- V22,I	FIRST ENTRY IN FILE BLOCK	M8301013
1014		*		M8301014
1015		*	AND EXIT WITH AN AVAILABLE FILE ENTRY.	M8301015
1016		*		M8301016
1017	P02A6 D8EB	FLS057 RAO* FLS05		M8301017
1018		*		M8301018
1019	P02A7 1CEA	FLS059 JMP* (FLS06)		M8301019
1020		*		M8301020

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1022 *
1023 * COMMON SUBROUTINE TO SEARCH FOR A FILE ENTRY IN THE
1024 * JOB PROCESSOR FILES, WHICH MATCHES THE FILE REFERENCED
1025 * IN THE CURRENT FILE REQUEST.
1026 *
1027 * THE FIRST FILE BLOCK ADDRESS IS IN V26,I
1028 *
1029 PG2A8 0000 FLS07 ADC 0 INITIALIZE
1030 *
1031 PG2A9 08+4 CLR A
1032 PG2AA 6114 STA- V20,I ORIGINAL FILE NAME AND SC ENTRY FOUND.
1033 PG2AB 6115 STA- V21,I INDEX TO FILE BLOCK HAVING THE ENTRY.
1034 PG2AC 6116 STA- V22,I INDEX TO ENTRY IN THE FILE BLOCK
1035 *
1036 PG2AD E11A LDQ- V25,I FILE BLOCK CORE ADDRESS
1037 *
1038 * CHECK REQUEST CODE
1039 *
1040 PG2AE C101 FLS071 LDA- V01,I
1041 PG2AF 0101 SAZ FLS71A DEFINE REQUEST.SKIP
1042 PG2B0 1815 JMP* FLS072
1043 *
1044 * FOR DEFINE REQUEST
1045 *
1046 PG2B1 C622 FLS71A LDA- (ZERO),Q CHECK FILE ENTRY EMPTY
1047 PG2B2 0109 SAZ FLS71B EMPTY.SKIP
1048 *
1049 * OTHERWISE CHECK WHETHER THE GIVEN FILE NAME ALREADY
1050 * EXISTS FOR ANOTHER FILE. IF YES, REJECT (J11)
1051 *
1052 PG2E3 9102 SUB- V02,I
1053 PG2E4 0119 SAN FLS71C NO DUPLICATE SKIP
1054 PG2E5 C201 LDA- 1,Q
1055 PG2E6 9103 SUB- V03,I
1056 PG2E7 0116 SAN FLS71C NO DUPLICATE. SKIP
1057 PG2E8 C202 LDA- 2,Q
1058 PG2E9 9104 SUB- V04,I
1059 PG2EA 0113 SAN FLS71C NO DUPLICATE. SKIP
1060 PG2EB 183B JMP* FLS07F DUPLICATE FILE. J11
1061 *
1062 * CHECK WHETHER AN EMPTY ENTRY HAS BEEN ALREADY FOUND.
1063 *
1064 PG2BC C114 FLS71B LDA- V20,I
1065 PG2BD 0101 SAZ FLS71D EMPTY ENTRY NOT FOUND. SKIP
1066 PG2BE 1826 FLS71C JMP* FLS07A OTHERWISE ACCESS NEXT ENTRY IF ANY
1067 *
1068 * SAVE THE POINTERS TO THE EMPTY FILE, AND SET THE EMPTY
1069 * ENTRY FOUND FLAG.
1070 *
1071 PG2BF C115 FLS71D LDA- V21,I INDEX TO FILE BLOCK
1072 PG2C0 6112 STA- V18,I
1073 PG2C1 C116 LDA- V22,I INDEX TO FILE ENTRY
1074 PG2C2 6113 STA- V19,I

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1075 P02C3 D114
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 1079 P02C4 1820
 1080
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 1083 P02C5 C622
 1084 P02C6 C108
 1085 P02C7 B102
 1086 P02C8 G116
 1087 P02C9 C201
 1088 P02CA B103
 1089 P02CB 0113
 1090 P02CC C202
 1091 P02CD B104
 1092 P02CE G101
 1093 P02CF 1819
 1094
 1095
 1096
 1097 P02D0 C203
 1098 P02D1 B105
 1099 P02D2 J116
 1100 P02D3 C204
 1101 P02D4 B106
 1102 P02D5 G113
 1103 P02D6 C205
 1104 P02D7 B107
 1105 P02D8 G102
 1106 P02D9 1800
 P02DA 0021
 1107
 1108
 1109
 1110 P02DB D114
 1111 P02DC C115
 1112 P02DD 6112
 1113 P02DE C116
 1114 P02DF 6113
 1115
 1116 P02EG C101
 1117 P02E1 09FB
 1118 P02E2 0101
 1119
 1120 P02E3 1CC4
 1121
 1122
 1123
 1124 P02E4 5800
 P02E5 FFAC
 1125 P02E6 18FC

RAO- V20,I SET FLAG WORD
 *
 * AND ACCESS NEXT ENTRY
 *
 * JMP* FLS07A
 *
 * COME HERE FOR THE MODIFY,RELEAS,OPEN,AND CLOSE FILE REQUESTS
 *
 * FLS072 LDA- (ZERO),Q
 SAZ FLS073 NO MATCH.SKIP
 EOR- V02,I
 SAN FLS073 NO MATCH. SKIP
 LDA- 1,Q
 EOR- V03,I
 SAN FLS073 NO MATCH. SKIP
 LDA- 2,Q
 EOR- V04,I
 SAZ FLS074 MATCH FOUND.SKIP
 FLS073 JMP* FLS07B NO MATCH FOUND.
 *
 * THE SECURITY CODES MUST ALSO MATCH
 *
 * FLS074 LDA- 3,Q CHECK THE SC
 EOR- V05,I
 SAN FLS076 NO MATCH.SKIP
 LDA- 4,Q
 EOR- V06,I
 SAN FLS076 NO MATCH.SKIP
 LDA- 5,Q
 EOR- V07,I
 SAZ FLS078 SC MATCH.SKIP
 FLS076 JMP FL0070 INVALID PARAMETER. J04
 *
 * FOR A MATCHING FILE ENTRY,SAVE ITS INDICES.
 *
 * FLS078 RAO- V20,I SET THE FLAG INDICATING ENTRY FOUND
 LDA- V21,I INDEX TO FILE BLOCK
 STA- V18,I
 LDA- V22,I INDEX TO FILE ENTRY IN BLOCK
 STA- V19,I
 *
 * LDA- V01,I SKIP FOR A MODIFY REQUEST.
 INA -4
 SAZ FLS07A SKIP IF A MODIFY REQUEST
 *
 * FLS079 JMP* (FLS07) EXIT TO CALLER
 *
 * COME HERE TO ACCESS NEXT FILE ENTRY, IF ANY
 *
 * FLS07A RTJ FLS06
 *
 * JMP* FLS079 AFTER ALL FILE BLOCKS ARE CHECKED.

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1126 P02E7 18C6      JMP* FLS071      AFTER AN ENTRY IS FOUND
1127 *
1128 *      CHECK THE REQJEST CODE IS TO MODIFY FILE(=4)
1129 *
1130 P02E8 C101      FLS07B LDA- V01,I      REQUEST CODE
1131 P02E9 09FB      INA -4
1132 P02EA 0101      SAZ FLS07C      SKIP IF YES
1133 *
1134 P02EB 18F8      JMP* FLS07A      OTHERWISE GET NEXT ENTRY, IF ANY
1135 *
1136 *      FOR A MODIFY REQUEST CHECK THE NEW FILE NAME IS GIVEN TO A
1137 *      PREVIOUSLY DEFINED FILE. IF YES, REJECT. J11
1138 *
1139 P02EC C622      FLS07C LDA- (ZERO),Q
1140 P02ED 010C      SAZ FLS07D      NO DUPLICATE.SKIP
1141 P02EE B108      EOR- V08,I
1142 P02EF J11A      SAN FLS07D      NO DUPLICATE.SKIP
1143 P02F0 C201      LDA- 1,Q
1144 P02F1 B109      EOR- V09,I
1145 P02F2 0117      SAN FLS07D      NO DUPLICATE.SKIP
1146 P02F3 C202      LDA- 2,Q
1147 P02F4 B10A      EOR- V10,I
1148 P02F5 0114      SAN FLS07D      NO DUPLICATE.SKIP
1149 P02F6 C000      FLS07F LDA =N$3131  DUPLICATE FILE. REJECT. J11
      P02F7 3131
1150 P02F8 1800      JMP FL0072
      P02F9 0004
1151 *
1152 P02FA 18E9      FLS07D JMP* FLS07A  ACCESS NEXT ENTRY, IF ANY.
1153 *
1154 *

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1173 *
1174 * COMMON SUBROUTINE TO PRINT A BUFFER FLBUF3 AT THE
1175 * STANDARD LIST DEVICE ($FB)
1176 *
1177 P030B 0000 FLS08 ADC 0
1178 *
1179 P030C 481C STQ* FLSV81 SAVE Q TEMPORARILY
1180 *
1181 P030D 54F4 RTJ- (AMONI)
1182 P030E 4C00 NUM $4C00 +0 RC FWRITE
1183 P030F 0000 ADC J +1 CA
1184 P0310 0000 FLS08A ADC 0 +2 T
1185 P0311 08FB FLS08B NUM $08FB +3 V,M,A,LU
1186 P0312 0016 NUM 22 +4 NUMBER
1187 P0313 0000 FLSC8C ADC 0 +5 START ADDRESS.PRINT BUFFER.
1188 *
1189 *
1190 P0314 C8FB FLS082 LDA* FLS08A CHECK REQUEST COMPLETED
1191 P0315 0101 SAZ FLS084 COMPLETED. SKIP
1192 P0316 18FD JMP* FLS082 WAIT TILL REQUEST IS DONE
1193 *
1194 P0317 C800 FLS084 LDA FL3F1A RESTORE I
1195 P0318 FD26
1196 P0319 60FF STA- I
1197 P031A C8F6 LDA* FLS08B CHECK FOR I/O ERROR
1198 P031B 0122 SAP FLS085 NO ERROR. SKIP
1199 P031C 1800 JMP FLS082 ERROR - EXIT
1200 P031D FEC1
1201 *
1202 * 2 CARDS DELETED
1203 *
1204 * RESET THE BUFFER TO ALL BLANKS
1205 *
1206 P031E 0C15 FLS085 ENQ 21
1207 P031F 0000 LDA =N$2020
1208 P0320 2020
1209 P0321 6E00 FLS086 STA (FL3F3A),2
1210 P0322 FD1E
1211 P0323 0DFE INQ -1
1212 P0324 0171 SQM FLS088 ALL DONE. SKIP
1213 P0325 18FB JMP* FLS086
1214 *
1215 P0326 E802 FLS088 LDQ* FLSV81 RESTORE Q
1216 P0327 1CE3 FLS089 JMP* (FLS08) EXIT.
1217 *
1218 P0328 0000 FLSV81 NUM 0 TEMPY Q STORAGE

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M8301215

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1274 *
1275 * COMMON S/R TO SEARCH FOR A PSUEDO DRIVER WITH THE THE GIVEN FILR
1276 *
1277 * IF FOUND REWIND THE LU ASSOC WITH THE FILE
1278 *
1279 * START SEARCH IN LOG1A BACKWARDS WITH MAX LU
1280 *
1281 P033F 0000 FLS15 ADC 0
1282 P0340 482B STQ* FLS15C
1283 P0341 5800 RTJ FLS14 GET ABS FILE NBR
1284 P0342 FFF3
1285 P0343 6826 STA* FLS15A
1286 *
1287 P0344 E829 LDQ* ALOG1A
1288 PG345 E622 LDQ- (ZERO),Q
1289 P0346 4824 FLS153 STQ* FLS15B SAVE CURRENT LU
1290 P0347 EEF0 LDQ (ALOG1A),Q
1291 PC348 0025
1292 PC349 C208 LDA- 8,Q
1293 P034A 0F44 ARS 4
1294 P034B A009 AND- LPMASK+7
1295 P034C 090B INA -36
1296 P034D 0104 SAZ FLS155 SKIP IF PSUEDO DRIVER
1297 *
1298 * OTHERWISE CHECK NEXT LU IF ANY
1299 *
1300 P034E E81C FLS154 LDQ* FLS15B
1301 P034F 00FE INQ -1
1302 P0350 0145 SQZ FLS156 SKIP IF DONE
1303 P0351 18F4 JMP* FLS153
1304 *
1305 P0352 C210 FLS155 LDA- 16,Q COMPARE THE FILE NUMBER
1306 P0353 9816 SUB* FLS15A
1307 P0354 0106 SAZ FLS158 SKIP IF MATCHES
1308 *
1309 P0355 18F8 JMP* FLS154 OTHERWISE SEARCH NEXT
1310 *
1311 P0356 E815 FLS156 LDQ* FLS15C RESTORE Q
1312 PC357 C800 LDA FLBF1A RESTORE I
1313 P0358 FCE6
1314 P0359 60FF STA- I
1315 P035A 1CE4 JMP* (FLS15) EXIT
1316 *
1317 P035B 4811 FLS158 STQ* FLS15D SAVE PSYTAB OF PSEUDO TAPE
1318 P035C C80E LDA* FLS15B GENERATE A REWIND REQUEST
1319 P035D 6805 STA* FLS162
1320 *
1321 P035E 54F4 FLS150 RTJ- (AMONI)
1322 P035F 1D00 NUM $1000
1323 P0360 0006 ADC FLS157-FLS160
1324 P0361 C000 ADC 0 +2 T
1325 P0362 0000 FLS162 NUM 0 +3 V,M,A,LU
1326 P0363 3000 NUM $3000 +4 REWIND

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M8301323

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1324
1325 P0364 14EA * JMP- (ADISP)
1326 *
1327 P0365 E8L7 FLS157 LDQ* FLS15D
1328 P0366 0AG0 ENA 0
1329 P0367 6210 STA- 16,Q
1330 P0368 18ED JMP* FLS156
1331 *
1332 P0369 0000 FLS15A NUM 0
1333 P036A 0000 FLS15B NUM 0
1334 P036B 0000 FLS15C NUM J
1335 P036C 0000 FLS15D NUM 0
1336 P036D 7FFF X ALOG1A ADC LOG1A
1337 *
1338 ***
1339 END JPFL

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ZERO FILE NUMBER

TEMP STORAGE
TEMP STORAGE

CURRENT PSYTAB

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M8301324
M8301325
M8301326
M8301327
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M8301332
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M8301338
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PGM= 036E (878) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (0000255)	0106, 0122, 0397, 0511, 0729, 0733, 0789, 0866, 0894, 0915, 0939, 1195, 1311
0028	LPMASK	0002 (0000002)	0443, 0504, 0595, 0602, 0646, 0649, 0743, 0746, 1292
0029	VZERO	0012 (0000018)	0318, 0322
0030	ZERO	0022 (0000034)	0168, 0250, 0304, 0362, 0572, 0613, 0723, 0735, 0802, 0830, 0849, 1046, 1083, 1139, 1287
0031	ONEBIT	0023 (0000035)	0435, 0498
0032	TEN	0046 (0000070)	
0033	ADISP	00EA (0000234)	0862, 1325
0034	AMONI	00F4 (0000244)	0855, 0924, 1181, 1318
0038	V01	0001 (0000001)	0579, 0667, 0836, 1040, 1116, 1130
0039	V02	0002 (0000002)	0249, 0596, 1052, 1085
0040	V03	0003 (0000003)	1231, 0603, 1055, 1088
0041	V04	0004 (0000004)	0253, 0588, 1058, 1091
0043	V05	0005 (0000005)	0257, 1098
0044	V06	0006 (0000006)	0259, 1101
0045	V07	0007 (0000007)	0261, 1104
0047	V08	0008 (0000008)	0264, 0303, 0444, 0461, 1141
0048	V09	0009 (0000009)	0266, 0305, 1144
0049	V10	000A (0000010)	0268, 0307, 1147
0051	V11	000B (0000011)	0415, 0453
0052	V12	000C (0000012)	
0053	V13	000D (0000013)	
0055	V14	000E (0000014)	
0056	V15	000F (0000015)	
0057	V16	0010 (0000016)	0829
0059	V17	0011 (0000017)	0153, 0920, 1004, 1236
0060	V18	0012 (0000018)	0653, 1072, 1112, 1235, 1264, 1266, 1267
0061	V19	0013 (0000019)	0655, 1074, 1114, 1245, 1247, 1269
0062	V20	0014 (0000020)	1234, 0291, 0347, 0424, 0488, 0507, 0621, 0628, 0635, 0658, 1032, 1064, 1075, 1110
0063	V21	0015 (0000021)	0568, 0652, 0704, 1000, 1033, 1071, 1111
0064	V22	0016 (0000022)	0569, 0624, 0654, 0705, 0716, 0718, 0980, 0991, 1013, 1034, 1073, 1113
0065	V23	0017 (0000023)	
0066	V24	0018 (0000024)	
0067	V25	0019 (0000025)	
0068	V26	001A (0000026)	0111, 0570, 0719, 0918, 0946, 1036
0069	V27	001B (0000027)	0982, 0987

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0073	JPF2	0000	0073
0090	JPFL	0000	0180, 0181, 0182, 0209, 0210, 0211, 0212, 0213, 0214, 0215, 0216, 0217, 0374
0126	JBFL02	0017	0134
0136	JBFL04	001E	0133
0151	JRFL03	002A	0141
0165	JBFL05	0034	0145, 0162
0174	F3	003A	0091
0175	JBVC01	003B	0093, 0167, 0373
0176	JBVC02	003C	0098
0177	JBVC03	003D	
0178	JBVC04	003E	
0180	FLBF1A	003F	0126, 0128, 0129, 0131
0181	FLBF2A	0040	0103, 0105, 0396, 0510, 0865, 1194, 1310
0182	FLBF3A	0041	0103, 0110
0188	FLBUF1	0042	0113, 0116, 0732, 0801, 1207
0193	FLBUF2	005E	0180
0197	FLBUF3	008E	0181
0201	JBFFIOE	0004	0182
0209	FLTC03	0008	0945
0230	FLO300	00E1	0166
0241	FLO304	00E8	0209
0287	FLO350	00FD	0235
0297	FLO352	0102	0213
0330	FLO360	011A	0292
0345	FLO400	011F	0271, 0370, 0464, 0513
0349	FLO401	0123	0210
0350	FLO405	0125	0293, 0426, 0490
0359	FLO402	0127	0203, 0237, 0421, 0467, 0517
0360	FLO404	0128	0348
0368	FLO409	0132	0367
0371	RELFEL	0136	0364
0373	FLO410	0137	0363, 0398, 0620
0385	RFIL	0143	0386
0388	RFIL	0145	0386
0389	LOC1	0148	0375
0390	LOC2	0149	0378
0391	LOC3	014A	0376
0393	GOZERO	014C	0394
0396	BACKU	014F	0394
0400	FILEN	0153	0374, 0380
0415	FLO450	0154	0211

00422	OKUP	0150	J419
00431	FL0452	0162	04255
00435	FL0453	0165	0432
00439	FL0455	0178	0433, 0456
00468	FLV457	017B	
00469	FLV458	017C	
00470	FLV459	017D	J506, 0509
00480	FL0500	017E	0212
00495	FL0502	0183	0489
00509	FL0502A	0186	0496
00513	FL0506	018E	
00516	FL0507	0192	
00566	FL0509	0193	0497
00572	FL0600	0196	0163, 0215
00577	FL0601	019B	0639
00583	FL061A	019E	0573
00588	FL061B	01A1	0580
00594	FL0602	01A4	0584
00601	FL0603	01A9	0590
00606	FL0604	01AF	J597
00610	FL0605	01B4	0585, 0592, 0599
00611	FL0606	01B5	0591, 0598, 0604, 0605
00620	FL0607	01B6	0618
00624	FL0610	01C2	J615
00637	FL0614	01CC	0574, 0666, 0660
00643	FL0615	01D0	0626, 0629
00660	FL0616	01DE	0581
00666	FL0620	01DF	J644
00672	FL0622	01E4	0333, 0638, 0809, 0874, 1198
00678	FL0625	01EA	0148
00681	FL0629	01EC	0675
00684	FLV601	01ED	0673, 1167
00703	FL0650	01EE	0360, 0363, 0611, 0614
00715	FL0652	01F3	0214
00729	FL0654	01FD	0795
00761	FL0656	0218	0724
00765	FL0658	0210	0754
00781	FLJ660	022C	0759
00786	FL0662	0234	0772
00793	FL0664	0239	0779
00799	FL0669	0230	0725
00811	FLV651	0248	0794
00812	FLV652	0249	J730, 0788, 0831, 0845, 0867, 0871
00829	FL0700	024A	0722
00842	FL0704	0252	0215, 0217
00845	FL0705	0254	0838
00855	FL0720	025A	0872
00858	FL0724	025D	0857
00859	FL0725	025E	J850
00860	FL0726	025F	0843
00862	FL0730	0260	
00863	FL0742	0261	0857

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1303 FLS155 0352
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1314 FLS158 035B
1319 FLS160 035F
1322 FLS162 0362
1327 FLS167 0365
1332 FLS15A 0369
1333 FLS15B 036A
1334 FLS15C 036E
1335 FLS15D 036C
1336 AL0G1A 036D

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0416, 0454, 1286, 1289

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0077	MIBUF	0004	0095
0078	JBPROE	0302	0674, 1164
0079	TRNVEC	02FE	1161
0080	MIB	01EC	0681
0081	LOG1A	036D	1336
0082	FILE3	003A	0174
0083	PARBV4	0016	0124
0084	FBASV4	033C	1268
0085	JBFLV4	0296	0140, 0986
0086	RELFIL	0147	0388

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0033	ALOG1A	1336	AMONI	0034	BACK0	0390	F3	0174	FBASV4	0084	FILE3	0082	FILEN	0400	FLO670	1159
-0072	1161	FL0079	1171	FL007A	1169	FL0300	0230	FL0304	0241	FLO350	0287	FL0352	0297	FL0360	0330	FLO400	C345
FL0401	0349	FL0402	0359	FL0404	0360	FL0405	0350	FL0409	0368	FLO410	0373	FL0450	0415	FL0452	0431	FLO453	0435
FL0455	0460	FL0500	0486	FL0502	0495	FL0505	0509	FL0507	0513	FLO509	0516	FL0600	0566	FL0601	0572	FLO602	0588
FL0610	0594	FL0604	0601	FL0605	0605	FL0606	0610	FL0607	0611	FLO608	0620	FL0610	0624	FL0614	0637	FLO615	0643
FL0654	0729	FL061A	0579	FL061B	0583	FL0620	0666	FL0622	0672	FLO625	0681	FL0629	0678	FL0650	0703	FLO652	0715
FL0705	0845	FL0656	0761	FL0658	0765	FL0660	0781	FL0662	0786	FLO664	0793	FL0669	0799	FL0700	0829	FLO704	0842
FL0711	0845	FL0720	0855	FL0724	0858	FL0725	0859	FL0726	0860	FLO730	0862	FL0742	0865	FL0700	0829	FL502A	0498
FL0752	0934	FL072A	0181	FLBF3A	0182	FLBUF1	0188	FLBUF2	0193	FLBUF3	0197	FLS02	0889	FLS05	0911	FLS051	0925
FL0866	1004	FLS053	0938	FLS059	0946	FLS05A	0927	FLS05B	0928	FLS05C	0930	FLS05D	0932	FLS06	0978	FLS061	1000
FL0976	1106	FLS067	1017	FLS069	1019	FLS06A	0991	FLS07	1029	FLS071	1040	FLS072	1083	FLS073	1093	FLS074	1097
FL0982	1190	FLS078	1110	FLS079	1120	FLS07A	1124	FLS07B	1130	FLS07C	1139	FLS07D	1152	FLS07F	1149	FLS08	1177
FL1012	1231	FLS084	1194	FLS085	1205	FLS086	1207	FLS088	1212	FLS089	1213	FLS08A	1184	FLS08B	1185	FLS08C	1187
FL115B	1333	FLS14	1263	FLS15	1281	FLS153	1288	FLS154	1298	FLS155	1303	FLS156	1309	FLS158	1314	FLS15A	1332
FL1312	1071	FLS15C	1334	FLS15J	1335	FLS160	1319	FLS162	1322	FLS167	1327	FLS71A	1046	FLS71B	1064	FLS71C	1066
FL1510	0812	FLSV51	0949	FLSV81	1215	FLT003	0209	FLV457	0468	FLV458	0469	FLV459	0470	FLV601	0684	FLV651	0811
FL1512	1071	GOZERO	0393	I	0000	JBFL02	0201	JBFL03	0126	JBFL03	0151	JBFL04	0136	JBFL05	0165	JBFLV4	0085
FL1515	1071	JBV01	0175	JBV02	0176	JBV03	0177	JBVJ4	0178	JPF2	0073	JPFL	0090	LOC1	0389	LOC2	0390
FL1518	0391	LOG1A	0081	LPMASK	0028	MIB	0080	MIBUF	0077	NZERO	0029	OKUP	0422	LOC1	0389	PARBV4	0083
FL1522	0371	RELFIL	0086	RFIL	0388	RIL	0385	TEN	0032	TRNVEC	0079	V01	0038	ONEBIT	0031	V03	0046
FL1525	0041	V05	0043	V06	0044	V07	0045	V08	0047	V09	0048	V10	0049	V02	0039	V12	0052
FL1528	0053	V14	0055	V15	0056	V16	0057	V17	0059	V18	0060	V19	0061	V11	0051	V21	0063
FL1532	0064	V23	0065	V24	0066	V25	0067	V26	0068	V27	0069	ZERO	0030	V20	0062		

```

0001      *      NAM JPSTV4          DECK-ID M84  MSOS 5.0          SUMMARY-110M8400001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M8400002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    M8400003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976        M8400004

```

```

0006      ENT V4JPV4
0007      EXT INPTV4
0008      EXT TRNVEC,IUP,JOBIND,LOADIN
0009      EXT IP1,RELFILE,FILE2,JBPROE
0010      EXT MIB
0011      EQU DISP($EA)
0012      EQU REQXT($B9)

```

```

**MSOS 4.0M8400005
**MSOS 4.0M8400007
M8400008
M8400009
**MSOS 4.1**M8400010
**MSOS 4.0M8400011
**MSOS 4.0M8400012

```

```

0014      *      JPST ROUTINE
0015      *      HANDLES *B, *U, *V, *SR, *, AND *Z INPUT STATEMENTS **

```

```

M8400014
M8400015

```

```

0017 P0000 C8FE V4JPV4 NUM $C8FE
0018 P0001 6C15 STA* (F2) STORE FWA IN TRVEC
0019 P0002 0A00 ENA 0
0020 P0003 6400 STA MIB CLEAR JOB LOCKOUT
0021 P0004 7FFF X
0021 P0005 E400 X LDQ TRNVEC TRANTA TABLE ADDRESS IN JOBENT
0021 P0006 7FFF X
0022 P0007 0814 TRQ A
0023 P0008 E20A JPST LDQ- 10,Q REQUEST CODE
0024 P0009 0DFE INQ -1
0025 P000A EA00 LDQ* TAB,Q
0026 P000B 1AFC JMP* JPST,Q
0027 P000C 0C0E RETRF3 ENQ 14 SCHEDULE JOBPRO
0028 P000D 0A01 ENA 1
0029 P000E 6806 GETMDD STA* INDEX MODULE INDEX
0030 P000F C400 X LDA JBPROE GET NEXT CONTROL
0031 P0010 7FFF X
0031 P0011 60FF STA- I STATEMENT
0032 P0012 C802 LDA* INDEX
0033 P0013 14FF JMP- (I)
0034 P0014 0000 INDEX NUM 0
0035 P0015 18FD COMDEV NUM $18FD
0036 P0016 7FFF X F2 ADC FILE2

```

```

**MSOS 4.0M8400017
**MSOS 4.0M8400018
**MSOS 4.0M8400019
**MSOS 4.0M8400020
**MSOS 4.0M8400021
**MSOS 4.0M8400022
**MSOS 4.0M8400023
M8400024
M8400025
M8400026
**MSOS 4.0M8400027
**MSOS 4.0M8400028
**MSOS 4.0M8400029
**MSOS 4.0M8400030
**MSOS 4.0M8400031
**MSOS 4.0M8400032
**MSOS 4.0M8400033
**MSOS 4.0M8400034
**MSOS 4.0M8400035
**MSOS 4.0M8400036

```

```

0039      *      ***** M8400039

```

```

0041 P0017 0016 TAB ADC BLOAD-JPST
0042 P0018 0019 ADC TYPEIN-JPST
0043 P0019 001C ADC STJINP-JPST
0044 P001A 0032 ADC SGVJFF-JPST
0045 P001B 0020 ADC SETREC-JPST
0046 P001C 002B ADC RESUME-JPST
0047 P001D 004A ADC WEOF-JPST

```

```

M8400041
M8400042
M8400043
M8400044
M8400045
M8400046
**MSOS 4.0M8400047

```

```

0049      * ***** M8400049
0051      *** *B JOB PROCESSOR STATEMENT M8400051
0052      * SET THE BREAK-POINT LOAD SWITCH M8400052

0054 P001E 0822 Bpload TRA Q TRANTA ADUTESS **MSOS 4.0M8400054
0055 P001F 6207 STA- 7,Q SET BPS **MSOS 4.0M8400055
0056 P0020 18E8 JMP* RETRF3 M8400056

0058      *** *U JOB PROCESSOR STATEMENT M8400058
0059      * READ ALL CONTROL STATEMENTS FROM COMMENT MEDIUM M8400059

0061 P0021 08F3 TYPEIN LDA* COMDEV SET INPUT COMMENT TO TTY **MSOS 4.0M8400061
0062 P0022 6C17 STA* (IUPP) M8400062
0063 P0023 18E8 JMP* RETRF3 M8400063

0066      *** *V JOB PROCESSOR STATEMENT M8400066
0067      * READ ALL CONTROL STATEMENTS FROM STANDARD M8400067
0068      * INPUT DEVICE M8400068

0070 P0024 C000 STDINP LDA =N$18F9 SET INPUT UNIT TO SBI M8400070
0071 P0025 18F9 M8400071
0072 P0026 6C13 STA* (IUPP) M8400072
0072 P0027 18E4 JMP* RETRF3 M8400072

0074      *** *SR JOB PROCESSOR STATEMENT M8400074

0076 P0028 0822 SETREC TRA Q **MSOS 4.0M8400076
0077 P0029 C2C2 LDA- 2,Q INPUT BUFFER **MSOS 4.0M8400077
0078 P002A 60FF STA- I **MSOS 4.0M8400078
**** *MO****

0079 P002B C101 LDA- 1,I **MSOS 4.0M8400079
0080 P002C A00A AND- $A **MSOS 4.0M8400080
0081 P002D 900A SUB- $A IF NOT RECOVERY GO TO JPLOAD **MSOS 4.0M8400081
0082 P002E 0112 SAN GETLD NOT AN *SR **MSOS 4.0M8400082
0083 P002F 4208 STQ- 8,Q SET RECOVERY INDICATOR **MSOS 4.0M8400083
0084 P0030 18DB JMP* RETRF3 M8400084
0085 P0031 0A02 GETLD ENA 2 **MSOS 4.0M8400085
0086 P0032 18DB JMP* GETMDD GET JPLOAD THRU JOBENT **MSOS 4.0M8400086

0088      * THIS ROUTINE WILL CAUSE THE JOB PROCESSOR TO CONTINUE WITH ($E4) = 1 M8400088
0089      * AND THE LOADER-IN-CORE FLAG SET TO ZERO **MSOS 4.0M8400089

0091 P0033 0A01 RESUME ENA 1 SET START OF SCRATCH TO BEGINNING M8400091
0092 P0034 60E4 STA- $E4 M8400092
0093 P0035 0A0C ENA 0 **MSOS 4.0M8400093
0094 P0036 6400 X STA LOADIN **MSOS 4.0M8400094
0094 P0037 7FFF X
0095 P0038 18D3 JMP* RETRF3 M8400095
0096 P0039 7FFF X IUPP ADC IUP **MSOS 4.0M8400096

```

```

0098          *****                                     M84J0098
0100          *** *Z JOB PROCESSOR STATEMENT                                     M8400100
0101          * *Z WILL TERMINATE THE BATCH SUBSYSTEM                          **MSOS 4.0M8400101

0103 P003A 0A00 SGNOFF ENA 0                                     M8400103
0104 P003B 6400 X STA JOBIND                                     M8400104
0105 P003C 7FFF X STA LOADIN                                    M8400105
0106 P003D 6400 X STA                                     M8400106
0107 P003E 0037 X ENA 1                                       M8400107
0107 P003F 0A01 STA- $E+                                       M8400107
0107 P0040 60E4

0109 P0041 E0E9 LDQ- $E9 ADDR OF EXTENDED CORE TABLE          **MSOS 4.0M8400109
0110 P0042 E209 LDQ- 9,Q ADDR OF RCTV IN MONI                   **MSOS 4.0M8400110
0111 P0043 C0B9 LDA- REQXT
0112 P0044 6203 STA- 3,Q
0113 P0045 6205 STA- 5,Q
0114 P0046 6207 STA- 7,Q
0115 P0047 620B STA- 11,Q
0116 P0048 620D STA- 13,Q
0117 P0049 C0EA LDA- DISP
0118 P004A 6400 STA IP1 SET PROTECT FAULT RETURN TO DISPATCHER
0118 P004B 7FFF X
0119 P004C C400 X LDA INPTV4 RESET CONTROL INPUT DEVICE          **MSOS 4.0M8400119
0119 P004D 7FFF X
0120 P004E 6CEA STA* (IJPP) **MSOS 4.0M8400120
0121 P004F 0844 CLR A M8400121
0122 P0050 5400 X RTJ RELFLE M8400122
0122 P0051 7FFF X

0124          * *EOF PROCESSOR **MSOS 4.0M8400124
0125          * *EOF WILL WRITE ONE END OF FILE **MSOS 4.0M8400125
0126          * TP THE STANDARD BINARY OUTPUT DECICE **MSOS 4.0M8400126

0128 P0052 0822 WEOF TRA Q **MSOS 4.0M8400128
0129 P0053 E202 LDQ- 2,Q INPUT BUFFER ADDRESS **MSOS 4.0M8400129
0130 P0054 C202 LDA- 2,Q **MSOS 4.0M8400130
0131 P0055 0900 INA 0 **MSOS 4.0M8400131
0132 P0056 0101 SAZ 1 **MSOS 4.0M8400132
0133 P0057 1809 JMP* GETLD NOT A CONTROL STATEMENT **MSOS 4.0M8400133
0134 P0058 C0FA LDA- $FA **MSOS 4.0M8400134
0135 P0059 6805 STA* REQ+3 **MSOS 4.0M8400135
0136 P005A 54F4 RTJ- ($F4) **MSOS 4.0M8400136
0137 P005B 1000 REQ NUM $1000 **MSOS 4.0M8400137
0138 P005C 0006 ADC COMP-REQ **MSOS 4.0M8400138

```

0139 P005D 0000 NUM 0,0,\$2000

M8400139

P005E 0000

P005F 2000

0140 P0060 14EA

0141 P0061 18AA

COMP

JMP- (\$EA)
JMP* RETRF3
END

M8400140

M8400141

M8400142

PGM= 0062 (98) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0031, 0033, 0078
0011	DISP	00EA	(000234) 0117
0012	REQXT	00B9	(000185) 0111

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	V+JPV4	0000	0006
0023	JPST	0008	0026, 0041, 0042, 0043, 0044, 0045, 0046, 0047
0027	RETRF3	000C	0056, 0063, 0072, 0084, 0095, 0141
0029	GETMOD	000E	0085
0034	INDEX	0014	0029, 0032
0035	COMDEV	0015	0061
0036	F2	0016	0018
0041	TAB	0017	0025
0054	BPLOAD	001E	0041
0061	TYPEIN	0021	0042
0070	STDINP	0024	0043
0076	SETREC	0028	0045
0085	SETLD	0031	0082, 0133
0091	RESUME	0033	0046
0096	IUPP	0039	0062, 0071, 0120
0103	SGNOFF	003A	0044
0128	WEOF	0052	0047
0137	REQ	005B	0135, 0138
0141	COMP	0061	0138

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0007	INPTV+	0040	0119
0008	TRNVEC	0006	0021
0008	IUP	0039	0096
0008	JOBIND	003C	0104
0008	LOADIN	003E	0094, 0105
0009	IP1	004B	0118
0009	RELFILE	0051	0122
0009	FILE2	0016	0036
0009	JBPROE	0010	0030
0010	MIB	0004	0020

*** ALPHABETICAL SORT OF SYMBOLS ***

BPLOAD	0054	COMDEV	0035	COMP	0141	DISP	0011	F2	0036	FILE2	0009	GETLD	0085	GETMOD	0029	I	0000
INDEX	0034	INPTV4	0007	IP1	0009	IUP	0008	IUPP	0096	JBPROE	0009	JOBIND	0008	JPST	0023	LOADIN	0008
MIB	0010	RELFL	0009	REQ	0137	REQXT	0012	RESUME	0091	RETRF3	0027	SETREC	0076	SGNOFF	0103	STDINP	0070
TAB	0041	TRNVEC	0008	TYPEIN	0061	V4JPV4	0005	WEOF	0128								

0001 ERRORS

```

0001      *      NAM NAMEV4      DECK-ID M85  MSOS 5.0      SUMMARY-110M8500001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M8500002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      M8500003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976      M8500004

0006      ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** ** 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0008      *      NAMEV4-OUTPUTS JOB NAME IN BLOCK FORM      **MSOS 4.0M8500008
0009      *      -ON STANDARD LIST DEVICE      **MSOS 4.0M8500009

0011      ENT NV4      **MSOS 4.0M8500011
0012      EXT FILE3      **MSOS 4.0M8500012
0013      EXT SYSID,SYSDON,SYSDAY,SYSYER      M8500013
0014      EXT AYERTO,AMONTO,ADAYTO,TRNVEC      **MSOS 4.1**M8500014
0015      EQU ONEBIT($23)      M8500015
0016      EQU NZERO($12)      M8500016
0017      P0000 C8FE      NV4      NUM $C8FE      PICK UP FILE3 ADDRESS      **MSOS 4.0M8500017
0018      P0001 64CC      X      STA FILE3      **MSOS 4.0M8500018
0019      P0002 7FFF      X
0020      P0003 1804      JMP* NAMJOB      **MSOS 4.0M8500019
0021      EQU ZERO($22)      **MSOS 4.0M8500020
0022      P0004 0001      BZS      SPACTR      **MSOS 4.0M8500021
0023      P0005 0001      BZS      CHKLEG(1),ADRJOB(1)      **MSOS 4.0M8500022
0024      P0006 0001      NAMJOB      ENA      0      **MSOS 4.0M8500023
0025      P0007 0A00      STA*      SPACTR      *COUNTER OF NO. OF DOU**MSOS 4.0M8500024
0026      P0008 68FB      STA      THIRT      COUNTER OF BITS SHIFTED**MSOS 4.0M8500025
0027      P0009 6800
0028      P000A 00E0      STA FLAG1      **MSOS 4.0M8500026
0029      P000B 6800
0030      P000C 00DC
0031      P000D 0A08      ENA      8      **MSOS 4.0M8500027
0032      P000E 6800      STA OUTCTR      **MSOS 4.0M8500028
0033      P000F 00DC
0034      P0010 C400      LDA TRNVEC      **MSOS 4.0M8500029
0035      P0011 7FFF      X
0036      P0012 090F      INA 15      ADDRESS OF JOB NAME IF ANY      **MSOS 4.0M8500030
0037      P0013 68F2      STA* ADRJOB      **MSOS 4.0M8500031
0038      P0014 0C0F      ENQ 15
0039      P0015 C600      X      MOVID      LDA+ SYSID,3      MOVE SYSTEM ID      M8500032
0040      P0016 7FFF      X
0041      P0017 5A00      STA OUTBFB+7,Q      INTO BUFFER      M8500034
0042      P0018 0159
0043      P0019 CDFE      INQ -1      M8500035
0044      P001A 0171      SQM MOVDAT      M8500036
0045      P001B 18F9      JMP* MOVID      M8500037
0046      P001C 0000      X      MOV DAT      LDA =XSYSDON      M8500038
0047      P001D 7FFF      X
0048      P001E 6800      STA OUTBFC+1      MOVE SYSTEM DATE      M8500039
0049      P001F 0163
0050      P0020 C000      LDA =XSYSYER      INTO BUFFER      M8500040
0051      P0021 7FFF      X
0052      P0022 6800      STA OUTBFC+4      M8500041
0053      P0023 0162

```

```

0042 P0024 E000 LDQ =N$2F2F M8500042
      P0025 2F2F
0043 P0026 C000 X LDA =XSYSDAY M8500043
      P0027 7FFF X
0044 P0028 0FE8 LLS 8 M8500044
0045 P0029 4800 STQ OUTBFC+2 M8500045
      P002A 0159
0046 P002B 5800 STA OUTBFC+3 M8500046
      P002C 0158
0047 P002D C400 X LDA+ AMONTO **MSOS 4.1**M8500047
      P002E 7FFF X
0048 P002F 6800 STA OUTBFA+8 M8500048
      P0030 0136
0049 P0031 C400 X LDA+ ADAYTO **MSOS 4.1**M8500049
      P0032 7FFF X
0050 P0033 0C2F ENQ $2F /
0051 P0034 0FE8 LLS 8
0052 P0035 4800 STQ OUTBFA+9 **MSOS 4.0M8500050
      P0036 0131 **MSOS 4.0M8500051
0053 P0037 092F INA $2F / M8500052
0054 P0038 6800 STA OUTBFA+10 **MSOS 4.0M8500053
      P0039 012F M8500054
0055 P003A C400 X LDA+ AYERTO **MSOS 4.1**M8500055
      P003B 7FFF X
0056 P003C 6800 STA OUTBFA+11 M8500056
      P003D 012C
0057 RUN FWRITE $FB,HEADXX-RUN-1,OUTBUF-RUN-1,08,A,,,I,X **MSOS 4.0M8500057
0057 P003E 54F4
0057 P003F 0000
0057 P0040 0007
0057 P0041 0000
0057 P0042 18FB
0057 P0043 0044
0057 P0044 0107
0058 P0045 14EA JMP- ($EA)
0059 P0046 0A00 HEADXX ENA 0
0059 P0047 0C43 ENQ 67
0060 P0048 6A00 ZERXX STA OUTBUF,Q
0061 P0049 00FD
0062 P004A 0DFE
0063 P004B 0171 INQ -1
0064 P004C 18FB SQM 1
0065 P004D E400 JMP* ZERXX
0065 P004E 0011 LDQ TRNVEC
0066 P004F C20F X LDA- 15,Q
0067 P0050 0122 SAP FORM
0068 P0051 1800 JMP BACKJP NO JOB NAME
0069 P0052 00EC
0069 P0053 5800 FORM RTJ SETBL SET BUFFER BLANK M8500059
0069 P0054 00C0
0070 FORM1 FWRITE $FB,LOOP-FORM1-1,SPACE-FORM1-1,9,A,,,I,X M8500070
0070 P0055 54F4
0070 P0056 0000

```

```

0070 P0057 0007
0070 P0058 0000
0070 P0059 18FB
0070 P005A 0009
0070 P005B 00EF
0071 P005C 14EA
0072 P005D D8A6
0073 P005E C8A5
0074 P005F 9025
0075 P0060 0101
0076 P0061 18F1
0077 P0062 68A1
0078 P0063 60FF
0079 P0064 5800
0080 P0065 0125
0081 P0066 E89F
0081 P0067 C622
0082 P0068 0842
0083 P0069 0FE8
0084 P006A 689A
0085 P006B 5807
0086 P006C C898
0087 P006D 2842
0088 P006E 0FE8
0089 P006F 5803
0090 P0070 D895
0091 P0071 18F4
0092 P0072 0800
0093 P0073 0814
0094 P0074 00CF
0095 P0075 0176
0096 P0076 0DF5
0097 P0077 0177
0098 P0078 0DF8
0099 P0079 0172
0100 P007A 0DE5
0101 P007B 0172
0102 P007C 0A20
0103 P007D 0C00
0104 P007E 0D1A
0105 P007F 0D0A
0106 P0080 69C9
0107 P0081 0FA3
0108 P0082 F85F
0109 P0083 495F
0110 P0084 D0FF
0111 P0085 C0FF
0112 P0086 9044
0113 P0087 0107
0114 P0088 1CE9
0115 P0089 0006
0116 P008F 5800
0090 P0090 0084

```

```

JMP- ($EA)
LOOP SPACTR *INCREASE DOUBLE SPACE
LDA* SPACTR
SUB- $25 FOUR * 8 LINES DOWN FROM TOP OF FORM
SAZ STOSPA
JMP* FORM
STOSPA STA* SPACTR
STA- I
RTJ REL PICK JP ADDRESS OF TABL
START LDQ* ADRJOB M85J0080
LDA- (ZERO),Q M8500081
CLR Q **MSOS 4.0M8500082
LLS 8 SHIFT UPPER CHAR TO A **MSOS 4.0M8500083
STA* CHKLEG *STORE LOWER CHAR **MSOS 4.0M8500084
RTJ* STWDAD **MSOS 4.0M8500085
LDA* CHKLEG *LOWER CHAR. OF WORD **MSOS 4.0M8500086
CLR Q M8500087
LLS 8 M8500088
RTJ* STWDAD STORE ADDRESS OF WORD **MSOS 4.0M8500089
RAQ* ADRJOB M8500090
JMP* START M8500091
STWDAD NOP STORE ADDRESS OF WORD **MSOS 4.0M8500092
TRQ A M8500093
INQ -$30 M8500094
SQM NOTLEG-* -1 SKIP IF LOW LIMIT ILL M8500095
INQ -10 M8500096
SOM LEGAL1-* -1 SKIP IF NUMERIC M8500097
INQ -7 M8500098
SQM NOTLEG-* -1 SKIP IF MIDDLE LIMIT M8500099
INQ -$1A M8500100
SQM LEGAL2-* -1 SKIP IF ALPHA M8500101
NOTLEG ENA $20 M8500102
ENQ INDEX TO SPACE M8500103
LEGAL2 INQ $1A INDEX TO ALPHA M8500104
LEGAL1 INQ $A INDEX TO NUMBR M8500105
STA* ASCII,I M8500106
QLS 3 X3 M8500107
ADQ* ABSTAD M8500108
STQ* WORD,I WORD M8500109
RAO- I **MSOS 4.0M8500110
LDA- I M8500111
SUB- $++ SIX * SIX WORD ADDRESS **MSOS 4.0M8500112
SAZ STBLKS YES - ALL SIX ARE STORE **MSOS 4.0M8500113
JMP* (STWDAD) NO - PICK UP NEXT WORD **MSOS 4.0M8500114
ASCII BZS ASCII(5) M8500115
STBLKS RTJ SETBL M8500116

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0117 PG0091 GA00 DECOD ENA 0 **MSOS 4.0M8500117
0118 PG0092 60FF STA- I **MSOS 4.0M8500118
0119 PG0093 E94F DECODE LDQ* WORD,I Q=ADDRESS OF CODING FOR LET **MSOS 4.0M8500119
0120 PG0094 C854 LDA* FLAG1 **MSOS 4.0M8500120
0121 PG0095 9024 SUB- $24 TWO * SHOULD Q BE INCREASED **MSOS 4.0M8500121
0122 PG0096 0112 SAN LOAD1 **MSOS 4.0M8500122
0123 PG0097 0D01 INQ INC ADR TO PICK UP **MSOS 4.0M8500123
0124 PG0098 494A STQ* WORD,I NEXT WORD **MSOS 4.0M8500124
0125 PG0099 C622 LOAD1 LDA- (ZERO),Q A = CONTENTS OF ADDRESS M8500125
0126 PG009A A01A AND- $1A $FF00 * PICK UP FIRST CODE **MSOS 4.0M8500126
0127 PG009B 0FC8 ALS 8 **MSOS 4.0M8500127
0128 PG009C 6822 PKUP TRA Q Q= NUMBER OF CODE **MSOS 4.0M8500128
0129 PG009D CA00 LDA CODEL,Q CODE IN A **MSOS 4.0M8500129
PG009E 0216
PG009F 6840 STA* TEMPBF **MSOS 4.0M8500130
0130 PG00A0 C9E8 LDA* ASCII,I M8500131
0131 PG00A1 0822 TRA Q M8500132
0132 PG00A2 B530 EOR- ONEBIT+13 20XX M8500133
0133 PG00A3 6827 STA* BLKX+1 M8500134
0134 PG00A4 0FC8 ALS 8 M8500135
0135 PG00A5 6809 STA* INSX+2 M8500136
0136 PG00A6 A01A AND- NZERO+8 $FF00 M8500137
0137 PG00A7 0834 AAQ A M8500138
0138 PG00A8 6831 STA* DJB58+1 XXXX M8500139
0139 PG00A9 C836 SUBST LDA* TEMPBF TEMPBF CONTAINS CODE **MSOS 4.0M8500140
0140 PG00AA 0131 SAM INSX CHECK BIT 15 FOR A 1 **MSOS 4.0M8500141
0141 PG00AB 1809 JMP* INSBLK NOT SET LEAVE BLANK **MSOS 4.0M8500142
0142 PG00AC E83F INSX LDQ* OUTCTR BIT 15 SET STORE A X **MSOS 4.0M8500143
0143 PG00AD C000 LDA =N$5820 AND A BLANK IN THE BUFF **MSOS 4.0M8500144
0144 PG00AE 5820
0145 PG00AF 6A00 STA OUTBUF,Q **MSOS 4.0M8500145
PG00B0 C096
0146 PG00B1 0A01 ENA 1 **MSOS 4.0M8500146
0147 PG00B2 682E STA* XSET * SET FLAG TO INSERT X **MSOS 4.0M8500147
0148 PG00B3 C82C LDA* TEMPBF **MSOS 4.0M8500148
0149 PG00B4 0FC1 INSBLK ALS 1 SHIFT TO CHECK FOR BIT **MSOS 4.0M8500149
0150 PG00B5 682A STA* TEMPBF **MSOS 4.0M8500150
0151 PG00B6 D834 RAO* THIRT *INCREASE COUNTER OF B **MSOS 4.0M8500151
0152 PG00B7 180B JMP* SUBSTI **MSOS 4.0M8500152
0153 PG00B8 C830 WDGNT LDA* FLAG1 *CHECK IF IN LOWER PART OF WO **MSOS 4.0M8500153
0154 PG00B9 9023 SUB- $23 ONE **MSOS 4.0M8500154
0155 PG00BA 0111 SAN INCR IN UPPER PORTION OF WOR **MSOS 4.0M8500155
0156 PG00BB 183E JMP* DEC1 CONTINUE **MSOS 4.0M8500156
0157 PG00BC D0FF INCR RAO- I **MSOS 4.0M8500157
0158 PG00BD C0FF LDA- I **MSOS 4.0M8500158
0159 PG00BE 9044 SUB- $+4 SIX * SIX WORDS **MSOS 4.0M8500159
0160 PG00BF 0111 SAN BLANKS **MSOS 4.0M8500160
0161 PG00C0 185F JMP* OUTBLK YES - OUTPUT BLANKS **MSOS 4.0M8500161
0162 PG00C1 1801 BLANKS JMP* DECODE NO - PICK UP CODE **MSOS 4.0M8500162
0163 PG00C2 0131 SUBSTI SAM INX BIT 15 SET - INSERT AN X **MSOS 4.0M8500163
0164 PG00C3 1809 JMP* INBLKI KEEP BLANK **MSOS 4.0M8500164
0165 PG00C4 E827 INX LDQ* OUTCTR *Q=POSITION IN OUTPUT **MSOS 4.0M8500165
0166 PG00C5 C81B LDA* XSET * CHECK IF X SET IN UPPER **MSOS 4.0M8500166

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0167	P00C6	9023		SUB-	\$23 ONE	* PART OF WORD	**MSOS	4.	0M8500167
0168	P00C7	0111		SAN	BLKX	NO-STORE A BLANK AND A	**MSOS	4.	0M8500168
0169	P00C8	1810		JMP*	DUB58	YES - STORE 2 X'S	**MSOS	4.	0M8500169
0170	P00C9	C000	BLKX	LDA	=N\$2058		**MSOS	4.	0M8500170
	P00CA	2058							
0171	P00CB	6A78		STA*	OUTBUF,Q		**MSOS	4.	0M8500171
0172	P00CC	C813	INBLKI	LDA*	TEMPBF		**MSOS	4.	0M8500172
0173	P00CD	0FC1		ALS	1	CHECK IF BIT 15 SET	**MSOS	4.	0M8500173
0174	P00CE	6811		STA*	TEMPBF		**MSOS	4.	0M8500174
0175	P00CF	D81C		RAO*	OUTCTR	* INC COUNTER OF WORDS USED IN BUFFE	**MSOS	4.	0M8500175
0176	P00DG	D81A		RAO*	THIRT	* INCREASE COUNTER	**MSOS	4.	0M8500176
0177	P00D1	C819		LDA*	THIRT		**MSOS	4.	0M8500177
0178	P00D2	9027		SUB-	\$27 \$10	* 16 BITS SHIFTED	**MSOS	4.	0M8500178
0179	P00D3	0118		SAN	LOOP1		**MSOS	4.	0M8500179
0180	P00D4	680C		STA*	XSET				
0181	P00D5	6815		STA*	THIRT	*CLEAR COUNTER OF BITS SHIFTED	**MSOS	4.	0M8500180
0182	P00D6	5854		RTJ*	SIXBLK	YES- OUTPUT TWO BLANKS	**MSOS	4.	0M8500181
0183	P00D7	18E0		JMP*	W0CNT		**MSOS	4.	0M8500182
0184	P00D8	C000	DUB58	LDA	=N\$5858		**MSOS	4.	0M8500183
	P00D9	5858							
0185	P00DA	6A6C		STA*	OUTBUF,Q		**MSOS	4.	0M8500184
0186	P00DB	18F0		JMP*	INBLKI		**MSOS	4.	0M8500185
0187	P00DC	6A00	LOOP1	ENA	G		**MSOS	4.	0M8500186
0188	P00DD	6803		STA*	XSET	CLEAR FLAG	**MSOS	4.	0M8500187
0189	P00DE	18CA		JMP*	SUBST		**MSOS	4.	0M8500188
0190	P00DF	0001		BZS	TEMPBF(1)		**MSOS	4.	0M8500189
0191	P00EG	0001		BZS	XSET(1)		**MSOS	4.	0M8500190
0192	P00E1	0001		BZS	ABSTAD(1),WORD(6),FLAG1(1)		**MSOS	4.	0M8500191
	P00E2	0006							
	P00E8	0001							
0193	P00E9	0001		BZS	LINCTR(1)		**MSOS	4.	0M8500192
0194	P00EA	0001		BZS	THIRT(1),OUTCTR(1)		**MSOS	4.	0M8500193
	P00EB	0001							
0195	P00EC	6A00	DECOJ1	ENA	0		**MSOS	4.	0M8500194
0196	P00ED	68FA		STA*	FLAG1		**MSOS	4.	0M8500195
0197	P00EE	60FF		STA-	I		**MSOS	4.	0M8500196
0198	P00EF	E9F2	DE1	LDQ*	I		**MSOS	4.	0M8500197
0199	P00F0	C8F7		LDA*	WORD,I		**MSOS	4.	0M8500198
0200	P00F1	9024		LDA*	FLAG1		**MSOS	4.	0M8500199
0201	P00F2	0111		SUB-	\$24 TWO	* SHOULD Q BE INCREASED	**MSOS	4.	0M8500200
0202	P00F3	0D01		SAN	DEC		**MSOS	4.	0M8500201
0203	P00F4	0A01	DEC	INQ	1		**MSOS	4.	0M8500202
0204	P00F5	68F2		ENA	1	SET FLAG FOR	**MSOS	4.	0M8500203
0205	P00F6	C622	LOAD	STA*	FLAG1	LOWER PORTION OF WORD	**MSOS	4.	0M8500204
0206	P00F7	A00A		LDA-	(ZERO),Q	PICK UP CODE IN LOWER	**MSOS	4.	0M8500205
0207	P00F8	18A3		AND-	\$A \$FF	* PART OF WORD	**MSOS	4.	0M8500206
0208	P00F9	0A00	DEC1	JMP*	PKJP		**MSOS	4.	0M8500207
0209	P00FA	68ED		ENA	0		**MSOS	4.	0M8500208
0210	P00FB	00FF		STA*	FLAG1	CLEAR FLAG	**MSOS	4.	0M8500209
0211	P00FC	C0FF		RAO-	I		**MSOS	4.	0M8500210
0212	P00FD	90+4		LDA-	I		**MSOS	4.	0M8500211
0213	P00FE	0111		SUB-	\$44 SIX		**MSOS	4.	0M8500212
0214	P00FF	1802		SAN	PKNXCH	NO - PICK UP NEXT CHAR	**MSOS	4.	0M8500213
				JMP*	OUTBK1	YES - OUTPUT LINE OF C	**MSOS	4.	0M8500214


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0215 P0100 18EE PKNXCH JMP* DE1 **MSOS 4.0M8500215
0216 OUTBK1 FWRITE $FB,OB1-OUTBK1-1,OUTBUF-OUTBK1-1,68,A,,,I,X **MSOS 4.0M8500216
0215 P0101 54F4
0216 P0102 0000
0216 P0103 0007
0216 P0104 0000
0216 P0105 18FB
0216 P0106 0044
0216 P0107 0044
0217 P0108 14EA
0218 P0109 580B OB1 JMP- ($EA) **MSOS 4.0M8500217
0219 P010A D80E RTJ* SETBL * CLEAR OUTPUT BUFFER **MSOS 4.0M8500218
0220 P010B C8DD RAO* LINCTR * INCREASE LINE COUNTER **MSOS 4.0M8500219
0221 P010C 9027 LDA* LINCTR **MSOS 4.0M8500220
0222 P010D 6112 SUB- $27 16 LINES OF CODE PRINTED M8500221
0223 P010E 680A SAN JMDEC **MSOS 4.0M8500222
0224 P010F 1826 STA* LINCTR CLEAR LINE COUNTER **MSOS 4.0M8500223
0225 P0110 GA02 JMDEC JMP* EJECT **MSOS 4.0M8500224
0226 P0111 68D6 ENA 2 **MSOS 4.0M8500225
0227 P0112 1800 STA* FLAG1 SET FLAG TO INCREASE Q**MSOS 4.0M8500226
0227 P0113 FF7D JMP DECOD M8500227
0228 P0114 0B00 SETBL NOP 0 ROUTINE TO SET BLANKS IN BU**MSOS 4.0M8500228
0229 P0115 0A08 ENA 8 **MSOS 4.0M8500229
0230 P0116 68D4 STA* OUTCTR SET LEFT HAND MARGIN **MSOS 4.0M8500230
0231 P0117 C000 LDA =N$202C **MSOS 4.0M8500231
0231 P0118 2020
0232 P0119 0C43 ENQ 67 **MSOS 4.0M8500232
0233 P011A 6A2C BLANK STA* OUTBUF,Q STORE BLANKS IN 134 CHA**MSOS 4.0M8500233
0234 P011B 0DFE INQ -1 DECREASE MODIFIER **MSOS 4.0M8500234
0235 P011C 0171 SQM RET*-1 **MSOS 4.0M8500235
0236 P011D 18FC JMP* BLANK LOOP UNTIL BLANKS IN ALL **MSOS 4.0M8500236
0237 P011E 1CF5 RET JMP* (SETBL) **MSOS 4.0M8500237
0238 OUTBLK FWRITE $FB,OB-OUTBLK-1,OUTBUF-OUTBLK-1,68,A,,,I,X **MSOS 4.0M8500238
0238 P011F 54F4
0238 P0120 0000
0238 P0121 0007
0238 P0122 0000
0238 P0123 18FB
0238 P0124 0044
0238 P0125 0026
0239 P0126 14EA
0240 P0127 58EC OB JMP- ($EA) **MSOS 4.0M8500239
0241 P0128 D80C RTJ* SETBL * CLEAR OUTPUT BUFFER **MSOS 4.0M8500240
0242 P0129 18C2 RAO* LINCTR * INCREASE LINE COUNTER **MSOS 4.0M8500241
0243 P012A 0B00 JMP* DECOD1 M8500242
0244 P012B E8BF SIXBLK NOP 0 **MSOS 4.0M8500243
0245 P012C C000 LDQ* OUTCTR **MSOS 4.0M8500244
0245 P012D 2020 LDA =N$2020 **MSOS 4.0M8500245
0246 P012E 6A18 STA* OUTBUF,Q STORE BLANKS OUTPUT BUF**MSOS 4.0M8500246
0247 P012F D8BB RAO* OUTCTR **MSOS 4.0M8500247
0248 P0130 1CF9 JMP* (SIXBLK) **MSOS 4.0M8500248
0249 P0131 0B00 ABSTAB NOP 0 **MSOS 4.0M8500249
0250 P0132 C8FE LDA* ABSTAB **MSOS 4.0M8500250

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0251 P0133 68AD
0252 P0134 1C56
0253 P0135 58DE
0254 P0136 54F4
0255 P0137 0D00
0256 P0138 C007
0257 P0139 0000
0258 P013A 18FB
0259 P013B 0009
025A P013C 0000
025B P013D 14EA
025C P013E 0C0E
025D P013F C400
025E P0140 7FFF
025F P0141 60FF
0260 P0142 0A01
0261 P0143 14FF
0262 P0144 0C20
0263 P0145 0D20
0264 P0146 2031
P0147 3730
P0148 3020
P0149 4041
P014A 5353
P014B 2053
P014C 544F
P014D 5241
P014E 4745
P014F 204F
P0150 5045
P0151 5241
P0152 5449
P0153 4E47
P0154 2053
P0155 5953
P0156 5445
P0157 4020
P0158 5645
P0159 5253
P015A 494F
P015B 4E20
P015C 352E
P015D 3020
0255 P015E 2020
P015F 2044
P0160 4154
P0161 4520
P0162 4F46
P0163 2052
P0164 554E
P0165 3A20
P0166 4040

STA* ABSTAD
JMP* (REL)
EJECT RTJ* SETBL SET BUFFER BLANK
EJECT1 FWRITE \$FB, BACKJP-EJECT1-1, TOPA-EJECT1-1, 9, A, ,, I, X

BACKJP JMP- (\$EA)
ENQ 14
LDA JBPROE

EXT JBPROE
STA- I
ENA 1
JMP- (I)
TOPA NUM \$C20
SPACE NUM \$D20
OUTBJF ALF 24, 1700 MASS STORAGE OPERATING SYSTEM VERSION 5.0

**MSOS 4.0M8500251
**MSOS 4.0M8500252
M8500253
M8500254

**MSOS 4.0M8500255
**MSOS 4.0M8500256
**MSOS 4.0M8500257

**MSOS 4.0M8500258
**MSOS 4.0M8500259
**MSOS 4.0M8500260
**MSOS 4.0M8500261
**MSOS 4.0M8500262
**MSOS 4.0M8500263
M8500264

OUTBFA ALF 12, DATE OF RUN: MM/DD/YY

M8500265

0256 P0167 2F+4
 P0168 442F
 P0169 5959
 P016A 2020
 P016B 2053
 P016C 5953
 P016D 5445
 P016E 4020
 P016F 4944
 P0170 3A20
 P0171 2020
 P0172 2020
 P0173 2020
 P0174 2020
 P0175 2020
 P0176 2020
 P0177 2020
 P0178 2020
 P0179 2020
 P017A 2020
 P017B 2020
 P017C 2020
 P017D 2020
 P017E 2020
 P017F 2020
 P0180 2020
 0257 P0181 2023
 P0182 404D
 P0183 2F+4
 P0184 442F
 P0185 5959
 P0186 2920
 P0187 2020
 P0188 2020
 P0189 2020
 0268 P018A 0B00
 0259 P018B 58A5
 0271 P018C 1300
 P018D 0003
 P018E 0303
 P018F 0303
 P0190 0303
 P0191 0303
 P0192 0000
 0271 P0193 132B
 P0194 040F
 P0195 1011
 P0196 0504
 P0197 0404
 P0198 0404
 P0199 0404
 P019A 0000
 P019B 002B

OUTBFB ALF 23, SYSTEM ID:

M8500256

OUTBFC ALF 9, (MM/DD/YY)

M8500257

REL NOP 0
 RTJ* ABSTAB
 H0 NUM \$1300,\$0003,\$0303,\$.303,\$0303,\$0303,\$0,\$132B

**MSOS 4.0M8500268
 **MSOS 4.0M8500259
 M8500270

H1 NUM \$040F,\$1011,\$0504,\$0404,\$0+04,\$0+04,\$0,\$002B

M8500271

0272	P019C 1300	H2	NUM	\$1300,\$0003,\$0608,\$0904,\$0A0B,\$0D01,\$0,\$002B	M8500272
	P019D 0003				
	PG19E 0608				
	P019F 0904				
	P01A0 0A0B				
	P01A1 0D01				
	P01A2 0000				
	P01A3 002B				
0273	P01A4 1300	H3	NUM	\$1300,\$0003,\$1414,\$0E13,\$0E14,\$1403,\$0,\$132B	M8500273
	PG1A5 0003				
	P01A6 1414				
	P01A7 0E13				
	P01A8 0E14				
	P01A9 1403				
	PG1AA J000				
	P01AB 132B				
027-	P01AC 0303	H4	NUM	\$0303,\$0303,\$0303,\$0,\$0014,\$1414,\$1414,\$142B	M8500274
	PG1AD 0303				
	P01AE 0303				
	P01AF 0000				
	P01B0 0014				
	PG1B1 1414				
	P01B2 1414				
	P01B3 142B				
0275	P01B4 0000	H5	NUM	\$0,\$0001,\$0101,\$0200,\$0014,\$1403,\$0,\$132B	M8500275
	PG1B5 0001				
	P01B6 0101				
	PG1B7 0200				
	P01B8 0014				
	P01B9 1403				
	PG1BA 0000				
	P01BB 132B				
0276	P01BC 1300	H6	NUM	\$1300,\$0003,\$0101,\$0200,\$0003,\$0303,\$0,\$132B	M8500276
	PG1BD 0003				
	P01BE 0101				
	PG1BF 0200				
	P01C0 0003				
	PG1C1 0303				
	P01C2 0000				
	P01C3 132B				
0277	P01C4 0000	H7	NUM	\$0,\$0003,\$1406,\$0708,\$0904,\$0A0B,\$0B0B,\$0B2B	M8500277
	PG1C5 0003				
	P01C6 1406				
	PG1C7 0708				
	P01C8 0904				
	PG1C9 0A0B				
	P01CA 0B0B				
	P01CB 0B2B				
0278	P01CC 1300	H8	NUM	\$1300,\$0003,\$0303,\$0013,\$0003,\$0303,\$0,\$132B	M8500278
	PG1CD 0003				
	P01CE 0303				
	PG1CF 0013				
	P01D0 0003				
	P01D1 0303				

0279	P01D2 0000 P01D3 132B P01D4 1300 P01D5 0003 P01D6 0303 P01D7 0000 P01D8 0E14 P01D9 1403 P01DA 0000 P01DB 132B	H9	NUM	\$1300,\$0003,\$0303,\$0,\$0E14,\$1+03,\$0,\$132B	M8500279
0280	P01DC 1300 P01DD 0003 P01DE 0303 P01DF 0000 P01E0 0003 P01E1 0303 P01E2 0303 P01E3 032B P01E4 0200 P01E5 0003 P01E6 0303 P01E7 0002 P01E8 0003 P01E9 0303 P01EA 0000 P01EB 022B	TA	NUM	\$1300,\$0003,\$0303,\$0000,\$0003,\$0303,\$0303,\$032B	M8500280
0281	P01EC 1300 P01ED 0003 P01EE 0101 P01EF 0101 P01F0 0101 P01F1 0103 P01F2 0000 P01F3 132B	TB	NUM	\$0200,\$0003,\$0303,\$0002,\$0003,\$0303,\$0,\$022B	M8500281
0282	P01F4 0200 P01F5 0003 P01F6 0303 P01F7 0303 P01F8 0303 P01F9 0303 P01FA 0000 P01FB 022B	TC	NUM	\$1300,\$0003,\$0101,\$0101,\$0101,\$0103,\$0,\$132B	M8500282
0283	P01FC 0000 P01FD 0001 P01FE 0101 P01FF 0202 P0200 0201 P0201 0101 P0202 0000 P0203 002B	TD	NUM	\$0200,\$0003,\$0303,\$0303,\$0303,\$0303,\$0,\$022B	M8500283
0284	P0204 0000 P0205 0001 P0206 0101 P0207 0202	TE	NUM	\$0,1,\$0101,\$0202,\$0201,\$0101,0,\$002B	M8500284
0285		TF	NUM	0,1,\$0101,\$0202,\$0201,\$0101,\$0101,\$012B	M8500285

	P0208	0201						
	P0209	0101						
	P020A	0101						
	P020B	012B						
0286	P020C	1300	TG	NUM	\$1300,\$0003,\$0101,\$0101,\$1212,\$0303,\$0,\$132B		M8500286	
	P020D	0003						
	P020E	0101						
	P020F	0101						
	PG210	1212						
	PG211	0303						
	PG212	0000						
	P0213	132B						
0287	PG214	0303	TH	NUM	\$0303,\$0303,\$0303,\$0,\$0003,\$0303,\$0303,\$032B		M8500287	
	P0215	0303						
	P0216	0303						
	P0217	0000						
	P0218	0003						
	P0219	0303						
	P021A	0303						
	P021B	032B						
0288	P021C	0000	TI	NUM	\$0,\$0004,\$0404,\$0404,\$0404,\$0404,\$0,\$002B		M8500288	
	P021D	0004						
	P021E	0404						
	P021F	0404						
	P0220	0404						
	P0221	0404						
	P0222	0000						
	P0223	002B						
0289	P0224	1414	TJ	NUM	\$1414,\$1414,\$1414,\$1414,\$1414,\$1403,\$0,\$132B		M8500289	
	P0225	1414						
	P0226	1414						
	P0227	1414						
	P0228	1414						
	P0229	1403						
	P022A	0000						
	P022B	132B						
0290	P022C	0303	TK	NUM	\$0303,\$1517,\$1829,\$1B1A,\$1B29,\$1817,\$1503,\$032B		M8500290	
	P022D	1517						
	P022E	1829						
	P022F	1B1A						
	P0230	1B29						
	PG231	1817						
	P0232	1503						
	P0233	032B						
0291	P0234	0101	TL	NUM	\$0101,\$0101,\$0101,\$0101,\$0101,\$0101,\$0,\$002B		M8500291	
	P0235	0101						
	P0236	0101						
	P0237	0101						
	P0238	0101						
	PG239	0101						
	P023A	0000						
	P023B	002B						
0292	P023C	031D	TM	NUM	\$031D,\$1E1F,\$2021,\$2203,\$0303,\$0303,\$0303,\$032B		M8500292	
	P023D	1E1F						

0299	PO274 0000 PO275 0004 PO276 0404 PO277 0404 PO278 0404 PO279 0404 PO27A 0404 PO27B 042B	TT	NUM	\$0,0004,\$0404,\$0404,\$0404,\$0404,\$0404,\$0+2B	M8500299
0300	PO27C 0303 PO27D 0303 PO27E 0303 PO27F 0303 PO280 0303 PO281 0303 PO282 0300 PO283 132B	TU	NUM	\$0303,\$0303,\$0303,\$0303,\$0303,\$0303,\$0,\$132B	M8500300
0301	PO284 0303 PO285 0303 PO286 0303 PO287 0303 PO288 0303 PO289 1028 PO28A 192C PO28B 042B	TV	NUM	\$0303,\$0303,\$0303,\$0303,\$0303,\$1028,\$192C,\$042B	M8500301
0302	PO28C 0303 PO28D 0303 PO28E 0303 PO28F 0303 PO290 2221 PO291 201F PO292 1E1D PO293 032B	TW	NUM	\$0303,\$0303,\$0303,\$0303,\$2221,\$201F,\$1E1D,\$032B	M8500302
0303	PO294 0303 PO295 031C PO296 2819 PO297 2C04 PO298 2C19 PO299 281C PO29A 0303 PO29B 032B	TX	NUM	\$0303,\$031C,\$2819,\$2C04,\$2C19,\$281C,\$0303,\$032B	M8500303
0304	PO29C 0303 PO29D 031C PO29E 2819 PO29F 2C04 PO2A0 0404 PO2A1 0404 PO2A2 0404 PO2A3 042B	TY	NUM	\$0303,\$031C,\$2819,\$2C04,\$0404,\$0404,\$0404,\$042B	M8500304
0305	PO2A4 0000 PO2A5 0006 PO2A6 0708 PO2A7 0904 PO2A8 0A08 PO2A9 0C00	TZ	NUM	\$0,\$0006,\$0708,\$0904,\$0A08,\$0C00,\$0,\$002B	M8500305

0306	P02AA	0000								
	P02AR	002B								
	P02AC	2B2B	SP	NUM	\$2323, \$2B2B, \$2B2B, \$2B2B, \$2B2B, \$2B2B, \$2B2B, \$2B2B				M8500306	
	P02AD	2B2B								
	P02AE	2B2B								
	P02AF	2B2B								
	P02B0	2B2B								
	P02B1	2B2B								
	P02B2	2B2B								
	P02B3	2B2B								
0307	P02B4	FFFF8	CODEL	NUM	\$FFF8					
0308	P02B5	0000		NUM	\$E000					
0309	P02B6	FFFF0		NUM	\$FFF0					
0310	P02B7	E038		NUM	\$E038					
0311	P02B8	C700		NUM	\$0710					
0312	P02B9	7F00		NUM	\$7F00					
0313	P02BA	0070		NUM	\$0070					
0314	P02BB	00E0		NUM	\$00E0					
0315	P02BC	01C0		NUM	\$01C0					
0316	P02BD	0380		NUM	\$0380					
0317	P02BE	6E00		NUM	\$0E00					
0318	P02BF	1000		NUM	\$1000					
0319	P02C0	3800		NUM	\$3800					
0320	P02C1	7000		NUM	\$7000					
0321	P02C2	7FFF8		NUM	\$7FFF8					
0322	P02C3	0F00		NUM	\$0F00					
0323	P02C4	1F00		NUM	\$1F00					
0324	P02C5	3F00		NUM	\$3F00					
0325	P02C6	E0F8		NUM	\$E0F8					
0326	P02C7	7FFF0		NUM	\$7FFF0					
0327	P02C8	0038		NUM	\$0038					
0328	P02C9	E070		NUM	\$E070					
0329	P02CA	E1F8		NUM	\$E1F8					
0330	P02CB	E0E0		NUM	\$E0E0					
0331	P02CC	E1C0		NUM	\$E1C0					
0332	P02CD	10C0		NUM	\$10C0					
0333	P02CE	FF00		NUM	\$FF00					
0334	P02CF	FF00		NUM	\$FF00					
0335	P02D0	7070		NUM	\$7070					
0336	P02D1	F078		NUM	\$F078					
0337	P02D2	F8F8		NUM	\$F8F8					
0338	P02D3	FD78		NUM	\$FD78					
0339	P02D4	EF88		NUM	\$EF88					
0340	P02D5	EF38		NUM	\$EF38					
0341	P02D6	EF38		NUM	\$EF38					
0342	P02D7	F038		NUM	\$F038					
0343	P02D8	F838		NUM	\$F838					
0344	P02D9	FC38		NUM	\$FC38					
0345	P02DA	FE38		NUM	\$FE38					
0346	P02DB	E3B8		NUM	\$E3B8					
0347	P02DC	38E0		NUM	\$38E0					
0348	P02DD	E380		NUM	\$E380					
0349	P02DE	E078		NUM	\$E078					

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M8500349

G350	P02DF	0000	NUM	\$0000	\$2B
G351	P02EJ	0F80	NUM	\$0F80	\$2C
G352	P02E1	E700	NUM	\$E700	\$2D
G353			END		

M8500350
M8500351
M8500352
M8500353

PSM= 02E2 (738) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0078, 0110, 0111, 0113, 0157, 0158, 0197, 0210, 0211, 0259, 0261
0015	ONEBIT	0023	(000035) 0133
0016	NZERO	0012	(000018) 0137
0020	ZERO	0022	(000034) 0081, 0125, 0205

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	NV4	0000	0011
0021	SPACTR	0004	0024, 0072, 0073, 0077
0022	CHKLEG	0005	0084, 0086
0022	ADRJOB	0006	0031, 0080, 0090
0023	NAMJOB	0007	0019
0033	MOVID	0015	0037
0038	MOV DAT	0010	0036
0057	RUN	003E	0037, 0057
0059	HEADXX	0040	0057
0061	ZERXX	0048	0064
0069	FORM	0053	0067, 0076
0070	FORM1	0055	0070, 0070
0072	LOOP	0050	0070
0077	STOSPA	0062	0075
0080	START	0066	0091
0092	STWDAD	0072	0085, 0089, 0114
0102	NOTLEG	0070	0095, 0099
0104	LEGAL2	007E	0101
0105	LEGAL1	007F	0097
0115	ASCII	0089	0106, 0131
0116	STBLKS	008F	0113
0117	DECODE	0091	0227
0119	JECODE	0093	0162
0125	LOAD1	0099	0122
0128	PKUP	0090	0207
0140	SUBST	00A9	0189
0143	INSX	00AC	0136, 0141
0149	INSELK	00B4	0142
0153	WDCNT	00B8	0183
0157	INCR	00BC	0155
0162	BLANKS	00C1	0160
0163	SUBSTI	00C2	0132
0165	INX	00C4	0163
0170	BLKX	00C9	0134, 0168
0172	INBLKI	00CC	0164, 0186
0184	DUB58	00D8	0139, 0169
0187	LOOP1	00DC	0179
0190	TEMPBF	00DF	0130, 0140, 0148, 0150, 0172, 0174
0191	XSET	00E0	0147, 0166, 0180, 0188
0192	ABSTAD	00E1	0108, 0251
0192	WORD	00E2	0109, 0119, 0124, 0198

0192	FLAG1	00E6	0026, 0120, 0153, 0196, 0199, 0204, 0209, 0226
0193	LINCTR	00E9	0219, 0220, 0223, 0241
0194	THIRT	00EA	0225, 0151, 0176, 0177, 0181
0194	OUTCTR	00EB	0028, 0143, 0165, 0175, 0230, 0244, 0247
0195	JECOD1	00EC	0242
0198	DEF1	00EF	0215
0200	DEC	00FF	0201
0200	LOAD	00F6	
0208	DEC1	00F9	0156
0215	PKNXCH	0100	0213
0216	OUTBK1	0101	0214, 0216, 0216
0218	OB1	0109	0216
0222	JMDEC	0110	0222
0228	SETBL	0114	0069, 0116, 0218, 0237, 0240, 0253
0233	BLANK	011A	0236
0237	ZET	011E	0235
0238	OUTBLK	011F	0161, 0238, 0238
0240	OB	0127	0238
0243	SIXBLK	012A	0182, 0248
0249	ABSTAB	0131	0250, 0269
0253	EJECT	0135	0224
0254	EJECT1	0136	0254, 0254
0255	BACKJP	013E	0068, 0254
0262	TOPA	0144	0254
0263	SPACE	0145	0070
0264	OUTBUF	0146	0057, 0061, 0145, 0171, 0185, 0216, 0233, 0238, 0246
0265	OUTBFA	015E	0048, 0052, 0054, 0056
0266	OUTBFB	016A	0034
0267	OUTBFC	0181	0039, 0041, 0045, 0046
0268	REL	018A	0079, 0252
0270	HO	018C	
0271	H1	0194	
0272	H2	019C	
0273	H3	01A4	
0274	H4	01AC	
0275	H5	01B4	
0276	H6	01BC	
0277	H7	01C4	
0278	H8	01CC	
0279	H9	01D4	
0280	TA	01DC	
0281	IB	01E4	
0282	TC	01EC	
0283	ID	01F4	
0284	TE	01FC	
0285	IF	0204	
0286	TG	020C	
0287	TH	0214	
0288	TI	021C	
0289	TJ	0224	
0290	TK	022C	
0291	TL	0234	
0292	TM	023C	

0293	TN	0244
0294	TO	024C
0295	TP	0254
0296	TQ	025C
0297	TR	0264
0298	TS	026C
0299	TT	0274
0300	TU	027C
0301	TV	0284
0302	TW	028C
0303	TX	0294
0304	TY	029C
0305	TZ	02A4
0306	SP	02AC
0307	CODEL	02B4

0129

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0012	FILE3	0002	0018
0013	SYSID	0016	0033
0013	SYSMON	0010	0038
0013	SYSDAY	0027	0043
0013	SYSYER	0021	0043
0014	AYERTO	003B	0035
0014	AMONTO	002E	0047
0014	ADAYTO	0032	0049
0014	TRNVEC	004E	0029, 0065
0258	JSBPROE	0140	0257

*** ALPHABETICAL SORT OF SYMBOLS ***

ABSTAB	0249	ABSTAD	0192	ADAYTO	0014	ADRJOB	0022	AMONTO	0014	ASCII	0115	AYERTO	0014	BACKJP	0256	BLANK	0233
BLANKS	0162	BLKX	0170	CHKLEG	0022	CODEL	0307	DE1	0198	DEC	0203	DEC1	0208	DECOD	0117	DECOD1	0195
DECODE	0119	DUB58	0184	EJECT	0253	EJECT1	0254	FILE3	0012	FLAG1	0192	FORM	0059	FORM1	0070	H0	0270
H1	0271	H2	0272	H3	0273	H4	0274	H5	0275	H6	0276	H7	0277	H8	0278	H9	0279
HEADXX	0059	I	0000	INBLKI	0172	INCR	0157	INSBLK	0149	INSX	0143	INX	0165	JBPROE	0258	JMDEC	0225
LEGAL1	0105	LEGAL2	0104	LINCTR	0193	LOAD	0205	LOAD1	0125	LOOP	0072	LOOP1	0187	MOVDAT	0038	MOVID	0033
NAMJOB	0023	NOTLEG	0102	NV+	0011	NZERO	0016	OB	0240	OB1	0218	ONEBIT	0015	OUTBFA	0265	OUTBFB	0266
OJTFPC	0257	OUTBK1	0216	OUTBLK	0238	OUTBUF	0264	OUTCTR	0194	PKNXCH	0215	PKUP	0128	REL	0268	RET	0237
RJV	0057	SETBL	0228	SIXB_K	0243	SP	0306	SPACE	0263	SPACTR	0021	START	0080	STBLKS	0116	STOSPA	0077
STWDAJ	0092	SUBST	0140	SUBSTI	0163	SYSDAY	0013	SYSID	0013	SYSMON	0013	SYSYER	0013	TA	0280	TB	0281
TC	0282	TD	0283	TE	0284	TEMPBF	0190	TF	0285	TG	0286	TH	0287	THIRT	0194	TI	0288
TJ	0289	TK	0290	TL	0291	TM	0292	TN	0293	TO	0294	TOPA	0252	TP	0295	TQ	0296
TR	0297	TRNVEC	0014	TS	0298	TT	0299	TU	0300	TV	0301	TW	0302	TX	0303	TY	0304
TZ	0305	WDCNT	0153	WORD	0192	XSET	0191	ZERO	0020	ZERXX	0061						


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0001      *      NAM RESTOR          DECK-ID M86  MSOS 5.0          SUMMARY-114*****
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M8600002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    M8600003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976       M8600004

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0006      *      RESTORE A LOGICAL UNIT THAT WAS PREVIOUSLY DOWNED **MSOS 4.0M8600006
0007      *      1700 MASS STORAGE OPERATING SYSTEM VERSION 4.1  M8600007
0008      *      SMALL COMPUTER DEVELOPMENT DIVISION, LA JOLLA, CALIFORNIA M8600008
0009      *      COPYRIGHT CONTROL DATA CORPORATION 1973       M8600009

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0011      * THIS ROUTINE INFORMS THE 1700 OPERATING SYSTEM THAT M8600011
0012      * ACTION HAS BEEN TAKEN TO RESTORE THE DEVICE TO AN M8600012
0013      * OPERABLE STATE AND IT IS NOW READY FOR I/O. M8600013

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0015      ENT      RSTR          M8600015
0016      EXT      MIB,MIBX      M8600016
0017      EXT      LOS1         M8600017
0018      EXT      JBPROE       M8600018
0019      EXT      MIBUF        M8600019
0020      EXT      FILE2        M8600020
0021      EXT      LOS1A        M8600021
0022      EQU      PRLVL($EF)   M8600022
0023      EQU      RPOCP($20)   M8600023
0024      EQU      LPMASK($2),ONEBIT($23),ZROBIT($33) M8600024

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0025      EQU      ELU(5)       M8600025
0026      P0000C C8FFE RSTR NUM $C8FE ENTRY POINT M8600026
0027      P00001 481E STQ* SAVEPT SAVE Q M8600027
0028      P00002 E0EF LDQ- PRLVL CHECK PRIORITY LEVEL M8600028
0029      P00003 0136 SQN GOGO NOT ZERO - BEING RUN AS A STAND ALONE PROG M8600029
0030      P00004 4400 STQ MIB CLEAR MIB FLAG M8600030

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0031      P00005 7FFF X STA* (F2) M8600031
0032      P00006 6C52 X LDQ MIBUF PICK UP JOBENT MIBUF ADDRESS M8600032
0033      P00007 E400 X JMP* GOGO1 MAKE Q POINT TO STATEMENT BUFFER M8600033

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0034      P00008 1802 GOGO LDQ* SAVEPT M8600034
0035      P00009 E815 GOGO1 STQ* SAVEPT SAVE POINTER TO INPUT BUFFER 114*4259*****
0036      P0000A 4814 INQ 1 INCREMENT POINTER TO BYPASS *R IN 114*4259*****
0037      P0000B 0D01 * STQ- I FIRST WORD OF BUFFER 114*4259*****
0038      P0000C 40FF RTJ ASCHEX PASS POINTER TO ASCHEX 114*4259*****
0039      P0000D 5800 SQP RSTR1-*--1 GET THE LU NO M8600040
0040      P0000E 0093 JMP* ERJ04 PRINT J04 ILLEGAL CHARACTER M8600041
0041      P0000F 0093 RSTR1 LDQ* (L1) M8600044

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0042      P00010 C161 SAZ ERR M8600045
0043      P00011 183B TCQ Q M8600046
0044      P00012 EC44 AAQ Q M8600047
0045      P00013 0104
0046      P00014 0852
0047      P00015 0832

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0047 P0016 0DFE      INQ  -1
0048 P0017 0171      SQM   1
0049 P0018 1834      ERR   JMP* ERJ04
0050 P0019 0822      TRA   Q
0051 P001A 4800      STQ  SAVEI      SAVE LU NUMBER
0052 P001B 0084
0053 P001C 40FF      STQ- I
0054 P001D 0500      IIN  J          INHIBIT INTERRUPTS
0055 P001E 183C      JMP* X1         GO TO X1      **MSOS 4.1**

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M8600048
M8600049
M8600050
M8600051
M8600052

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M8600053
M8600054
M8600055

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0056 * THIS SECTION OUTPUT LU NO RESTORED, CLEAR MIBX, RELEASE CORE M8600057

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0058 P001F 0000      SAVEPT ADC 0
0059 P0020 08FE      RSTR2 LDQ* SAVEPT      RESTORE POINTER TO INPUT BUFFER
0060 P0021 C201      LDA- 1,Q
0061 P0022 A009      AND- LPMASK+7     PICK OFF FIRST CHARACTER
0062 P0023 B000      EOR  =X$2000     ADD SPACE CHARACTER TO LSB
0063 P0024 2000
0064 P0025 0202      LDQ- 2,Q
0065 P0026 0171      SQM  STORE       IF SECOND CHAR, CHECK FOR FF
0066 P0027 0FE8      LLS  8
0067 P0028 681E      STORE STA* LUBUF
0068 P0029 54F4      WRITE RTJ- ($=4)
0069 P002A 0020      PARM  ADC $D00+R3CP  FORMAT WRITE - LU XX RESTORED
0070 P002B 0000      ADC  0
0071 P002C 0000      ADC  0
0072 P002D 18FC      ADC  $18FC
0073 P002E 0008      QUANT ADC NUM
0074 P002F 001A      ADC  BUF-PARM
0075 P0030 C8FB      LOP2  LDA* PARM+2
0076 P0031 0101      SAZ  1           WAIT ON THREAD
0077 P0032 18FD      JMP* LOP2
0078 P0033 C8F9      LDA* PARM+3     CHECK FOR ERROR
0079 P0034 0121      SAP  1
0080 P0035 18F3      JMP* WRITE
*****EXIT SECTION*****
0081 P0036 00EF      LDA- PRLVL      CHECK LEVEL
0082 P0037 0106      SAZ  RF3A      NOT ZER, DO RELEASE CORE
0083 P0038 C8F4      CLR  A
0084 P0039 6400      STA  MIBX      CLEAR MIBX FLAG
0085 P003A 7FFF      X
X
      RELEAS (RSTR-#+1),1,1

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M8600059
M8600060
M8600061
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M8600063
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M8600081
M8600082
M8600083
M8600084
M8600085
M8600086

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0087 P003E 6C0E      RF3A ENQ  14      INDEX TO RF3 ROUTINE IN JOBPRO
0088 P003F 3400      LDA  JBPROE     SET UP INDIR ADDRESS
0089 P0040 7FFF      STA- I          FOR RETURN      **MSOS 4.0M8600088
**MSOS 4.0M8600089
**MSOS 4.0M8600090

```

RESTOR

PAGE 3

DATE: 01/27/99

0130 P0042 0AG1
0091 P0043 14FF

ENA 1
JMP- (I)

INDEX TO SCHEDULE JOBPRO
RETURN TO JOBENT

**MSOS 4.0M8600J91
**MSOS 4.0M8600092

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0093 P0044 204C BUF ALF 2, LU M8600094
      P0045 5520
0094 P0046 2020 LUBUF ALF 5, RESTORED M8600095
      P0047 2052
      P0048 4553
      P0049 544F
      P004A 5245
0095 P004B 4400 NUM $4400 CR M8500096
0096 EQU NUM(*-BUF) M8600097
0097 P004C C000 ERJ04 LDA =AJP **MSOS 4.0M8600098
      P004D 4A50
0098 P004E 68F5 STA* BUF STORE J04 MESSAGE IN BUFFER
0099 P004F C000 LDA =A04 **MSOS 4.0M8600100
      P0050 3034
0100 P0051 6800 STA BUF+1 M8600101
      P0052 FFF2
0101 P0053 0A02 ENA 2 MODIFY LENGTH IN PARAMETER LIST M8600102
0102 P0054 68D9 STA* QUANT M8600103
0103 P0055 18D3 JMP* WRITE M8600104
0104 P0056 7FFF X L1 ADC LOG1 M8600105
0105 P0057 7FFF X L1A ADC LOG1A M8600106
0106 P0058 7FFF X F2 ADC FILE2 M8600107
0107 P0059 0000 PDTI NUM 0 M8600108

0109 P005A CDFB X1 LDA* (L1),I RESET LU DOWN BIT M8600110
0110 P005B A040 AND- ZROBIT+13 M8600111
0111 P005C A03F AND- ZROBIT+12 CLEAR MESSAGE FLAG BIT M8600112
0112 P005D 6DF8 STA* (L1),I M8600113

0114 * UPDATE ALL TYPE 1 BITS M8600115

0116 * I = INDEX FOR LU NO BEING CHECKED M8600117
0117 * J = COUNT OF NO OF POTS THAT ARE SHARE BY LU I M8600118
0118 * Q = INDEX FOR SEARCH OF LOG1A TABLE M8600119

0120 P005E CCF7 LDA* (L1) M8600121
0121 P005F 60FF STA- I M8600122
0122 P0060 CDF5 LDA* (L1),I M8600123
0123 P0061 CFC2 ALS 2 M8600124
0124 P0062 0121 SAP T0-* -1 IF LU IS DOWN M8600125
0125 P0063 1820 JMP* T9 GO TO T9 M8600126
0126 P0064 0A00 ENA 0 M8600127
0127 P0065 683C STA* J RESET P.D.T COUNT M8600128
0128 P0066 CDF0 LDA* (L1A),I M8600129
0129 * M8600130
0130 * M8600131
0131 0022 EQU ZERO($22) M8600132
0132 003B EQU HFEFF($3B) M8600133
0133 * M8600134
0134 P0067 EDEF LDQ* (L1A),I ADR OF PDT M8600135
0135 P0068 C622 LDA- (ZERO),Q FIRST WORD OF PDT M8600136

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0136	P0069	A03B	AND-	HFEFF	CLEAR MESSAGE FLAG BIT	M8600137
0137	P006A	6622	STA-	(ZERO),Q		M8600138
0138	P006B	0814	TRQ	A		M8600139
0139	P006C	ECE9	LDQ*	(L1)		M8600140
0140			*			M8600141
0141	P006D	68EB	STA*	PDTI	P.D.T. ADR OF LU I	M8600142
0142	P006E	4832	STQ*	QSAV		M8600143
0143	P006F	CCE6	LDA*	(L1)	INITIALIZE LUCNT TO MAX LU	M8600144
0144	P0070	680E	STA*	LUCNT		M8600145
0145	P0071	CEE4	LDA*	(L1),Q		M8600146
0146	P0072	0FC2	ALS	2		M8600147
0147	P0073	012B	SAP	T1--1		M8600148
0148	P0074	0F42	ARS	2		M8600149
0149	P0075	A00C	AND-	LPMSK+10		M8600150
0150	P0076	010C	SAZ	T4--1	LU Q IS DOWN AND HAS NO ALT	M8600151
0151	P0077	0822	TRA	Q		M8600152
0152	P0078	C806	LDA*	LUCNT		M8600153
0153	P0079	09FE	INA	-1		M8600154
0154	P007A	6804	STA*	LUCNT		M8600155
0155	P007B	0131	SAM	1		M8600156
0156	P007C	18F2	JMP*	T2		M8600157
0157	P007D	1806	JMP*	T4		M8600158
0158	P007E	0000	NUM	0		M8600159
0159	P007F	CE07	LDA*	(L1A),Q	PDT OF LU Q OR ITS ALT LU	M8600160
0160	P0080	9808	SUB*	PDTI	PDT OF LU I	M8600161
0161	P0081	0111	SAN	T4--1		M8600162
0162	P0082	081F	RAQ*	J	ADD ONE TO J IF PDTS MATCH	M8600163
0163	P0083	E810	LDQ*	QSAV		M8600164
0164	P0084	00FE	INQ	-1		M8600165
0165	P0085	0141	SQZ	T5--1	END OF SEARCH FOR LU I	M8600166
0166	P0086	18E7	JMP*	T5		M8600167
0167	P0087	E81A	LDQ*	J		M8600168
0168	P0088	0DFD	INQ	-2		M8600169
0169	P0089	0500	IIN	0		M8600170
0170	P008A	CDCB	LDA*	(L1),I		M8600171
0171	P008B	A041	AND-	ZROBIT+14	CLEAR BIT 14 OF LOG1 FOR LU I	M8600172
0172	P008C	0171	SQM	T7--1		M8600173
0173	P008D	0031	EOR-	ONEBIT+14	SET BIT 14, LU I IS TYPE 1	M8600174
0174	P008E	60C7	STA*	(L1),I		M8600175
0175	P008F	0400	FIN	0		M8600176
0176	P0090	C0FF	LDA-	I		M8600177
0177	P0091	09FE	INA	-1		M8600178
0178	P0092	0101	SAZ	T10	END OF SUBPROGRAM	M8600179
0179	P0093	180B	JMP*	T8		M8600180
0180	P0094	E80B	LDQ*	SAVEI	LU NUMBER	M8600181
0181	P0095	EFC1	LDQ*	(L1A),Q	PHYSTB ADDRESS	M8600182
0182	P0096	C205	LDA-	ELU,Q	CHECK IF PHYSTB BUSY	M8600183
0183	P0097	0116	SAN	BUSY		M8600184
0184	P0098	C807	LDA*	SAVEI		M8600185
0185	P0099	5205	STA-	ELJ,Q	SET PHYSTB BUSY	M8600186
0186	P009A	48C3	STQ*	PDTADR		M8600187
0187	P009B	54F4	RTJ-	(\$F4)	SCHEDULE THE DRIVER	M8600188
0188	P009C	2000	NUM	\$2000		M8600189

0189 P009D 0000
 0190 P009E 1881
 0191 P009F 0000
 0192 P00A0 0000
 0193 P00A1 0000

PDTADR ADC 0
 BUSY JMP* RSTR2
 SAVEI NUM 0
 QSAV NUM 0
 J NUM 0

M8600190
 M8600191
 M8600192
 M8600193
 M8600194

0197
 0199 P00A2 0800
 0200 P00A3 0A00
 0201 P00A4 682D
 0202 P00A5 682D
 0203
 0204
 0205 P00A6 E0FF
 0206
 0207 P00A7 E622
 0208 P00A8 C82A
 0209 P00A9 0102
 0210 P00AA 0F28
 0211 P00AB 1802
 0212 P00AC D0FF
 0213 P00AD 0844
 0214 P00AE 0F68
 0215 P00AF 0FC8
 0216 P00B0 0822
 0217 P00B1 C821
 0218 P00B2 B023
 0219 P00B3 681F
 0220
 0221 P00B4 0814
 0222 P00B5 800A
 0223 P00B6 011E
 0224 P00B7 0A00
 0225 P00B8 E819
 0226 P00B9 0FE8
 0227 P00BA 0101
 0228 P00BB 180F
 0229 P00BC 0FE4
 0230 P00BD 0FA4
 0231 P00BE 4813
 0232 P00BF 0102
 0233 P00C0 2000
 P00C1 000A
 0234 P00C2 880F
 0235 P00C3 0C00
 0236 P00C4 1CDD

* THIS IS A DECIMAL ASCII TO HEX ONVERSION ROUTINE
 ASCHEX NOP 0
 ENA 0
 STA* TEMP1 SET TEMP LOC. TO ZERO
 STA* LEFTF INITIALIZE LEFTF TO SIGNIFY THAT 1ST
 * CHAR IS PICKED UP FROM RIGHT HALF OF
 * WORD (COMMA IS LEFT CHARACTER)
 * NEXT LDQ- I 4 CARDS DELETED
 * LDQ- (\$22),Q
 LDA* LEFTF LOAD LEFT CHAR INDICATOR
 SAZ INCWD*-1 IS CHAR FROM RIGHT HALF OF WORD
 QRS 8 LEFT CHARACTER
 JMP* SHCHAR SKIP INCREMENT OF WORD COUNT
 INCWJ RAO- I INCREASE WORD COUNT BY ONE
 SHCHAR CLR A SHIFT CHAR TO RIGHT 8 BITS OF A
 LRS 8
 ALS 8
 TRA Q A AND Q CONTAINS CHARACTER
 LDA* LEFTF CHANGE VALUE OF LEFTF (SET=0 FOR
 EOR- ONEBIT CHAR RETRIEVAL FROM RIGHT HALF OF
 STA* LEFTF WORD, =1 FOR CHAR RETRIEVAL FROM LEFT
 * HALF OF WORD)
 TRQ A
 EOR- \$A CHECK FOR \$FF
 SAN CHECK*-1
 OVER ENA 0
 LDQ* TEMP1 DECIMAL HEX NUMBER
 LLS 8
 SAZ OK*-1 CHECK FOR OVER TWO CHARACTERS.
 JMP* ERR1
 OK LLS 4 COMPUTE HEX NUMBER
 QLS 4
 STQ* TEMP1
 SAZ 2
 MUI =V\$A
 ADD* TEMP1 A CONTAINS HEX NUMBER
 ENQ U Q - NO ERROR.
 JMP* (ASCHEX) RETURN

M8600198
 M8600200
 M8600201
 M8600202
 114*4259*****
 114*4259*****
 114*4259*****
 M8600203
 114*4259*****
 M8600208
 114*4259*****
 114*4259*****
 M8600210
 114*4259*****
 114*4259*****
 114*4259*****
 M8600215
 M8600216
 M8600217
 114*4259*****
 114*4259*****
 114*4259*****
 114*4259*****
 M8600221
 M8600222
 M8600223
 M8600224
 M8600225
 M8600226
 M8600227
 M8600228
 M8600229
 M8600230
 M8600231
 M8600232
 M8600233
 M8600234
 M8600235
 M8600236

```

0238 P00C5 0DCF CHECK INQ -$30 CHECK IF BETWEEN $30 AND $39
0239 P00C6 0814 TRQ A
0240 P00C7 0172 SQM ERR1--1
0241 P00C8 0DF5 INQ -10
0242 P00C9 0172 SQM CK1--1
0243 P00CA 0CFF ERR1 ENQ -0 ERROR CONDITION
0244 P00CB 1CD6 CK1 JMP* (ASCHEX)
0245 P00CC E805 LDQ* TEMP1 STORE HEX. DIGIT
0246 P00CD 0FA4 QLS 4
0247 P00CE 0834 AAQ A
0248 P00CF 6802 STA* TEMP1
0249 P00D0 1805 JMP* NEXT GET NEXT CHARACTER.
0250 P00D1 0000 TEMP1 NUM $0000
0251 P00D2 0000 LEFTF NUM 0 LEFT CHARACTER INDICATOR
* (=1 FOR RETRIEVAL OF CHARACTER
* FROM LEFT HALF OF WORD, =0 FOR
* RETRIEVAL OF CHARACTER FROM
* RIGHT HALF OF WORD)
END RSTR

```

```

M86J0238
M86J0239
M86J0240
M86J0241
M86J0242
M86J0243
M86J0244
M86J0245
M86J0246
M86J0247
M86J0248
M86J0249
M86J0250
114*4259*****
114*4259*****
114*4259*****
114*4259*****
114*4259*****
114*4259*****
M86J0251

```

PSM= 00D3 (211) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0020	I	00FF	(000255) 0038, 0052, 0089, 0091, 0121, 0176, 0205, 0212
0022	PRLVL	00EF	(000239) 0028, 0081
0023	RPCP	0020	(000032) 0068
0024	LPMSK	0002	(000002) 0061, 0149
0024	ONEBIT	0023	(000035) 0173, 0218
0024	ZROBIT	0033	(000051) 0110, 0111, 0171
0025	ELU	00J5	(000005) 0182, 0185
0096	NUM	0008	(000008) 0072
0131	ZERO	0022	(000034) 0135, 0137
0132	HFEFF	003B	(000059) 0136

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	RSTR	0000	0015, 0085
0034	GOGO	000A	0029
0035	GOGO1	000B	0033
0048	RSTR1	0012	0040
0049	ERR	0018	0044
0058	SAVEPT	001F	0027, 0034, 0035, 0059
0059	RSTR2	0020	0190
0066	STORE	0028	0064
0067	WRITE	0029	0079, 0103
0068	PARM	002A	0073, 0074, 0077
0072	QUANT	002E	0102
0074	LOP2	0030	0076
0087	RF3A	003E	0082
0093	BUF	0044	0073, 0096, 0098, 0100
0094	LUBUF	0046	0065
0097	ERJ04	004C	0041, 0049
0104	L1	0056	0043, 0109, 0112, 0120, 0122, 0139, 0143, 0145, 0170, 0174
0105	L1A	0057	0128, 0134, 0159, 0181
0106	F2	0058	0031
0107	PDTI	0059	0141, 0160
0109	X1	005A	0054
0121	T8	005F	0179
0126	T0	0064	0124
0142	T6	006E	0166
0143	T2	006F	0156
0158	LUCNT	007E	0144, 0152, 0154
0159	T1	007F	0147
0163	T4	0083	0150, 0157, 0161
0167	T5	0087	0165
0174	T7	008E	0172
0176	T9	0090	0125
0186	T10	0094	0178
0189	PDTADR	009D	0186
0190	BUSY	009E	0183
0191	SAVEI	009F	0051, 0180, 0184
0192	QSAV	00A0	0142, 0163
0193	J	00A1	0127, 0162, 0167
0199	ASCHEX	00A2	0039, 0236, 0244
0205	VEXT	00A6	0249
0212	INCWD	00AC	0209
0213	SHCHAR	00AD	0211

0224 OVER 00B7
0229 JK 00BC
0238 CHECK 00C5
0243 ERR1 00CA
0245 JK1 00CC
0250 TEMP1 00D1
J251 LEFTF 00D2

0227
0223
0228, 0240
0242
0201, 0225, 0231, 0234, 0245, 0248
0202, 0208, 0217, 0219

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0016	MIB	0005	0030
0016	MIBX	003A	0084
0017	LOG1	005E	0104
0018	JBPROE	0040	0088
0019	MIBUF	0008	0032
0020	FILE2	0058	0106
0021	LOG1A	0057	0105


```

0001      *      NAM RCOVER          DECK-ID M87  MSOS 5.0
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976

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SUMMARY-110M8700001
M8700002
M8700003
M8700004

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0006      *****
0008      * THIS IS THE RECOVERY ROUTINE.
0009      * ITS PURPOSE IS TO GIVE A PROGRAMER THE ABILITY
0010      * TO DUMP CORE AND MASS STORAGE AT THE END OF
0011      * EXECUTING.A JOB.

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```

M8700006
M8700008
M8700009
M8700010
M8700011

```

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0013      *****

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M8700013

```

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0015      ENT RECOVER
0016      ENT IBUF,REC,ERR
0017      ENT ABIBUF,BUF,BIASCI
0018      ENT TERMIN
0019      ENT GET,SIFT
0020      ENT SP
0021      ENT LUND

```

```

M8700015
M8700016
M8700017
M8700018
M8700019
M8700020
M8700021

```

```

0023      EXT* DMPCOR,MASDMP
0024      EXT* OUTSEL
0025      EXT JKIN
0026      EXT FILE3
0027      EXT SWTCH

```

```

M8700023
M8700024
M8700025
M8700026
M8700027

```

```

0029 P0000 GCFF RECOVER ENQ -1 ENTRY POINT
0030 P0001 CAFF LDA* RECOVER,Q FIND ABS. LOC. OF RECOVER
0031 P0002 6C50 STA* (F3)
0032 P0003 6963 INA IBUF-RECOVER STORE ABS. LOC. OF INPUT
0033 P0004 684F STA* ABIBUF AND OUTPUT BUFFER.
0034 P0005 C0FB LDA- $FB SET UP STANDARD OUTPUT
0035 P0006 684E STA* LJNO COMMENT MEDIUM.

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M8700029
M8700030
M8700031
M8700032
M8700033
M8700034
M8700035

```

```

0037 P0007 0C03 REC ENQ 3 WRITE RE
0038 P0008 C400 LDA SWTCH IF SWTCH POSITIVE TERMINATE

```

```

M8700037
M8700038

```

```

0039 P000A 0131 SAM 1
0040 P000B 1839 JMP* TERMIN
0041 P000C 5849 RTJ* WR
0042 P000D 0D52 NUM $0052 RECOVERY READY
0043 P000E 4520 NUM $4520
0044 P000F 200D NUM $200D

```

```

M8700039
M8700040
M8700041
M8700042
M8700043
M8700044

```

```

0046 P0010 0AFF ENA -0 INPUT RECOVERY STATEMENT.
0047 P0011 0C27 ENQ 39
0048 P0012 6A51 REC1 STA* IBUF,Q
0049 P0013 0DFE INQ -1

```

```

M8700046
M8700047
M8700048
M8700049

```

0050 P0014 0171
0051 P0015 18FC
0052 P0016 5+F4
0053 P0017 0900
P0018 0000
0054 P0019 0000
0055 P001A 18FD
0056 P001B 0027
0057 P001C 004C
0058 P001D C8FB
0059 P001E 0101
0060 P001F 18FD
0061
0062
0063
0064
0065 P0020 C843
0066 P0021 9000
P0022 2A44
0067 P0023 0112
0068 P0024 1800 X
P0025 7FFF X
0069 P0026 C83D
0070 P0027 9000
P0028 2A4D
0071 P0029 0112
0072 P002A 1800 X
P002B 7FFF X
0073
0074
0075
0076
0077
0078
0079
0080
0081
0082
0083
0084
0085 P002C E837
0086 P002D C837
0087 P002E 0FE8
0088 P002F A00A
0089 P0030 0905
0090 P0031 010B
0091 P0032 0C02
0092 P0033 5822
0093 P0034 4552
P0035 5220
0094 P0036 C828
0095 P0037 0101
0096 P0038 18FD

SQM 1
JMP* REC1
RTJ- (BF4)
NUM \$0900,\$0000

REC2 NUM \$0000
NUM \$18FD COMMENTS IN DEVICE
NUM 39 NUMBER OF WORDS
ADC IBUF-*+5
LDA* REC2 CHECK FOR COMPLETION
SAZ 1 OF REQUEST.
JMP* *-2

*
* TEST FIRST WORD IN BUFFER FOR CORRECT INPUT
* INFORMATION AND JUMP TO APPROPRIATE ROUTINE TO
* PROCESS STATEMENT.
REC3 LDA* IBJF
SUB =N\$2A+4

SAN REC4-*--1
JMP DMPCOR CORE DUMP

REC4 LDA* IBUF 1ST WORD OF STATEMENT IN BUFFER.
SUB =N\$2A+D 1ST WORD SHOULD LOOK LIKE.

SAN REC5-*--1
JMP MASDMP COMPARES - MASS STORAGE DUMP.

***** NOTICE
*
* A USER MAY INSERT CODING HERE TO TEST FOR USER
* INSERTED PROGRAMS.
* 1. LDA* IBJF 1ST WORD OF INPUTED STATEMENT
* 2. SUB =N\$---- THE ALPHNUMERIC CHARACTERS WHICH
* DEFINE THE USERS INSERTED PROGRAM.
* 3. TEST FOR ZERO
* 4. IF ZERO JJMP TO USERS PROGRAM.
* ***** THIS PROGRAM MUST BE DEFINED AS AN EXTERNAL.
*
*
REC5 LDQ* IBJF
LDA* IBUF+1
LLS 8
AND- \$A
INA -\$2A
SAZ RECS-*--1
ERR ENQ 2 WRITE ERROR MESSAGE
RTJ* WR
ALF 2,ERR

LDA* WR1
SAZ 1
JMP* *-2

M8700050
M8700051
M8700052
M8700053

M8700054
M8700055
M8700056
M8700057
M8700058
M8700059
M8700060
M8700061
M8700062
M8700063
M8700064
M8700065
M8700066

M8700067
M8700068

M8700069
M8700070

M8700071
M8700072

M8700073
M8700074
M8700075
M8700076
M8700077
M8700078
M8700079
M8700080
M8700081
M8700082
M8700083
M8700084
M8700085
M8700086
M8700087
M8700088
M8700089
M8700090
M8700091
M8700092
M8700093

M8700094
M8700095
M8700096

0097	P0039	CA00		ENA	0				M8700097
0098	P003A	6800		STA	HEXN				M8700098
	P003B	00E4							
0099	P003C	18CA		JMP*	REC				M8700099
0100	P003D	0814	REC6	TRQ	A				M8700100
0101	P003E	9000		SUB	=V\$54FF				M8700101
	P003F	54FF							
0102	P0040	0111		SAN	REC7				M8700102
0103	P0041	1803		JMP*	TERMIN				M8700103
0104	P0042	1800	X REC7	JMP	OJTSEL				M8700104
	P0043	7FFF	X						

0106	P0044	COEE	TERMIN	LDA-	SEE	SCHDLE RETURN LOCATION			M8700106
0107	P0045	5803		STA*	TERM				M8700107
0108	P0046	54F4		RTJ-	(\$F4)				M8700108
0109	P0047	1200		NUM	\$1200				M8700109
0110	P0048	7FFF	TERM	NUM	\$7FFF				M8700110
0111	P0049	CCG9		LDA*	(F3)				M8700111
0112	P004A	0C00		ENQ	0				M8700112
0113	P004B	4C07		STQ*	(F3)				M8700113
0114	P004C	4400	X	STQ	JKIN	CLEAR PROTEC FLAG IN TRVEC			M8700114
	P004D	7FFF	X						
0115	P004E	6803		STA*	TERM1				M8700115
0116	P004F	54F4		RTJ-	(\$F4)				M8700116
0117	P0050	1801		NUM	\$1801				M8700117
0118	P0051	0000	TERM1	NUM	\$0000				M8700118

0120	P0052	7FFF	X F3	ADC	FILE3	ABS. LOC. OF RECOVER			M8700120
0121	P0053	7FFF	ABIBUF	NUM	\$7FFF	ABS. LOC. OF IBUF			M8700121
0122	P0054	0000	LUNO	NUM	\$0000				M8700122

0124 *****

0126			* WRITE ROUTINE						M8700126
0127	P0055	0B00	WR	NOP	0				M8700127
0128	P0056	C8FE		LDA*	WR				M8700128
0129	P0057	680A		STA*	WR2+1				M8700129
0130	P0058	0834		AAQ	A				M8700130
0131	P0059	68FB		STA*	WR				M8700131
0132	P005A	4806		STQ*	WR2				M8700132
0133	P005B	54F4		RTJ-	(\$F4)				M8700133
0134	P005C	0C00		NUM	\$0C00,\$0000				M8700134
	P005D	0000							
0135	P005E	0000	WR1	NUM	\$0000				M8700135
0136	P005F	18FC		NUM	\$18FC	COMMENTS OUT			M8700136
0137	P0060	0000	WR2	NUM	\$0000	NO. OF WORDS			M8700137
0138	P0061	0000		NUM	\$0000	STARTING ADDRESS			M8700138
0139	P0062	1CF2		JMP*	(WR)				M8700139

0141	P0063	0060	IBUF	BSS	IBUF(96)	INPUT AND OUTPUT BUFFER			M8700141
------	-------	------	------	-----	----------	-------------------------	--	--	----------

0144

0146 P00C3 0B00
 0147 P00C4 00FF
 0148 P00C5 0F61
 0149 P00C6 EA9C
 0150 P00C7 0131
 0151 P00C8 0F28
 0152 P00C9 0844
 0153 P00CA 0F68
 0154 P00CB 0FC8
 0155 P00CC 0822
 0156 P00CD 00FF
 0157 P00CE 1CF4

GET NOP 0
 LDQ- I
 LRS 1 LEFT OR WRITE CHAR. COUNT.
 LDQ* 1BJF,Q GET BUFFER WORD.
 SAM 1
 QRS 8 LEFT CHARACTER
 CLR A
 LRS 8
 ALS 8
 TRA Q A AND Q CONTAINS CHARACTER
 RAO- I INCREASE I CHARACTER COUNTER
 JMP* (GET)

M8700144

M8700146
 M8700147
 M8700148
 M8700149
 M8700150
 M8700151
 M8700152
 M8700153
 M8700154
 M8700155
 M8700156
 M8700157

0159

0161 P00CF 0B00
 0162 P00D0 0A00
 0163 P00D1 0C04
 0164 P00D2 5A47
 0165 P00D3 0DFE
 0166 P00D4 0171
 0167 P00D5 18FC
 0168 P00D6 6841
 0169 P00D7 6841
 0170 P00D8 8AG2
 0171 P00D9 60FF

SIFT NOP 0 ENTRY
 ENA 0
 ENQ 4
 SFT STA* BU*,Q ZERO OUT 5 WORD BUFFER
 INQ -1
 SQM 1
 JMP* SFT
 STA* COUNT ZERO OUT WORD CHAR. COUNTER
 STA* WCOUNT ZERO OUT WORD COUNT.
 ENA 2 SET CHARACTER COUNTER
 STA- I TO TWO.

M8700159

M8700161
 M8700162
 M8700163
 M8700164
 M8700165
 M8700166
 M8700167
 M8700168
 M8700169
 M8700170
 M8700171

0173 P00DA 58E8
 0174 P00DB 800A
 0175 P00DC 0106
 0176 P00DD 9000
 P00DE 00D3
 0177 P00DF 0108
 0178 P00E0 5814
 0179 P00E1 5825
 0180 P00E2 18F7

GO RTJ* GET
 EOR- \$A CHECK FOR \$\$F
 SAZ OVER*-1
 SUB =V\$D3 CHECK FOR COMMA
 SAZ COMMA*-1
 RTJ* CHECK
 RTJ* STORE
 JMP* GO GET NEXT CHARACTER.

M8700173
 M8700174
 M8700175
 M8700176

M8700177
 M8700178
 M8700179
 M8700180

0182 P00E3 C834
 0183 P00E4 09FA
 0184 P00E5 0131
 0185 P00E6 181B
 0186 P00E7 1CE7

OVER LDA* COUNT
 INA -5
 SAM 1
 JMP* ERR1
 JMP* (SIFT) ALL INPUT STORED IN BUF

M8700182
 M8700183
 M8700184
 M8700185
 M8700186

0188 P00E8 D830
 0189 P00E9 C82F
 0190 P00EA 09F9
 0191 P00EB 0131
 0192 P00EC 1815
 0193 P00ED C82A
 0194 P00EE 09FA

COMMA RAO* WCOUNT INCREASE WORD COUNT
 LDA* WCOUNT
 INA -5 CHECK FOR MORE THAN 5 WORDS
 SAM 1
 JMP* ERR1
 LDA* COUNT CHECK FOR MORE THAN 4 CHAR.
 INA -5

M8700188
 M8700189
 M8700190
 M8700191
 M8700192
 M8700193
 M8700194

0195 P00EF 0131
 0196 P00F0 1811
 0197 P00F1 0A00
 0198 P00F2 5825
 0199 P00F3 18E6

SAM 1
 JMP* ERR1
 ENA 0
 STA* COUNT
 JMP* GO

READ NEXT CHARACTER

M8700195
 M8700196
 M8700197
 M8700198
 M8700199

0201 P00F4 0B00
 0202 P00F5 0DC6
 0203 P00F6 0814
 0204 P00F7 0161
 0205 P00F8 1809
 0206 P00F9 0DF5
 0207 P00FA 0179
 0208 P00FB 09F8
 0209 P00FC 0DF8
 0210 P00FD 0161
 0211 P00FE 1803
 0212 P00FF 0DF9
 0213 P0100 0172
 0214 P0101 1800
 0215 P0103 081C
 0216 P0104 681A
 0217 P0105 1CEE

CHECK

NOP 0
 INQ -\$30
 TRQ A
 SQP 1
 JMP* ERR1
 INQ -10
 SQM CK1-*--1
 INA -7
 INQ -7
 SQP 1
 JMP* ERR1
 INQ -5
 SQM C11A
 JMP ERR

CHECK FOR UNDER \$30

CHECK OVER \$39

CHECK OVER \$40

CHECK UNDER 47

ERR1

C11A
CK1

RAO* HEXN
 STA* TEMP
 JMP* (CHECK)

STORE HEX DIGIT IN TEMP

M8700201
 M8700202
 M8700203
 M8700204
 M8700205
 M8700206
 M8700207
 M8700208
 M8700209
 M8700210
 M8700211
 M8700212
 M8700213
 M8700214

M8700215
 M8700216
 M8700217

0219 P0106 0B00
 0220 P0107 E811
 0221 P0108 0DFB
 0222 P0109 0153
 0223 P010A C815
 0224 P010B 01G1
 0225 P010C 18F4
 0226 P010D 0D04
 0227 P010E CA0B
 0228 P010F 0FC4
 0229 P0110 A016
 0230 P0111 B800
 0231 P0112 6A07
 0232 P0113 D804
 0233 P0114 0A00
 0234 P0115 680A
 0235 P0116 1CEF

STORE

NOP 0
 LDQ* WCOUNT
 INQ -4
 SQN STR1
 LDA* HEXN
 SAZ 1
 JMP* ERR1
 STR1 INQ 4
 LDA* BZF,Q
 ALS 4
 AND- \$16
 EOR* TEMP
 STA* BUF,Q
 RAO* COUNT
 ENA 0
 STA* HEXN
 JMP* (STORE)

GET WORD COUNT

HEX LU NUMBER

GET WORD BUFFER
SHIFT OVER 4

ADD HEX DIGIT

INCREASE WORD COUNT

RETURN

COUNT NUM
 WCOUNT NUM
 BUF BZS
 TEMP NUM
 HEXN NUM

\$0000
 \$0000
 BUF(5)
 \$0000
 0

CHAR. COUNT
 WORD COUNT
 5 WORD HEX BUFFER OF INPUT DATA.
 TEMP. STORAGE OF HEX NUMBER.

M8700219
 M8700220
 M8700221
 M8700222
 M8700223
 M8700224
 M8700225
 M8700226
 M8700227
 M8700228
 M8700229
 M8700230
 M8700231
 M8700232
 M8700233
 M8700234
 M8700235

**MSOS 4.0

0243

M8700243

0245
0246

*
 * ENTER WITH BINARY NUMBER IN A

M8700245
 M8700246

```

0247      * EXIT WITH ASCII CODE IN A AND Q
0248      *
0249 PG120 JB00 BIASCI NOP 0
0250 PG121 6818 STA* WRD
0251 PG122 CC03 ENQ 3
0252 PG123 A006 RPT AND- 6 CONVERT LOWER 4 BITS TO ASCII
0253 PG124 09F5 INA -$A CHARACTER OR NUMBER
0254 PG125 0131 SAM LT10
0255 PG126 0907 INA 7
0256 PG127 093A LT10 INA $3A IS A NUMBER
0257 PG128 6A0D STA* W4,Q STORE CONVERTED WORD
0258 PG129 0145 SQZ DONE
0259 PG12A 0DFE INQ -1
0260 PG1288 C80E LDA* WRD
0261 PG12CC CF44 ARS +
0262 PG12D0 680C STA* WRD
0263 PG12EE 18F4 JMP* RPT
0264 PG12F0 0F08 DONE ALS 8
0265 PG130 8805 ADD* W3
0266 PG131 E806 LDQ* W2
0267 PG132 CFA8 QLS 8
0268 PG133 F805 ADQ* W1
0269 PG134 1CEB JMP* (BIASCI)
0270 PG135 0000 W4 NUM 0
0271 PG136 0000 W3 NUM 0
0272 PG137 0000 W2 NUM 0
0273 PG138 0000 W1 NUM 0
0274 PG139 0000 WRD NUM 0

```

```

M8700247
M8700248
M8700249
M8700250
**MSOS 4.0M8700251
MSOS 4.0M8700252
**MSOS 4.0M8700253
MSOS 4.0M8700254
MSOS 4.0M8700255
MSOS 4.0M8700256
MSOS 4.0M8700257
MSOS 4.0M8700258
MSOS 4.0M8700259
MSOS 4.0M8700260
MSOS 4.0M8700261
MSOS 4.0M8700262
MSOS 4.0M8700263
MSOS 4.0M8700264
MSOS 4.0M8700265
MSOS 4.0M8700266
MSOS 4.0M8700267
MSOS 4.0M8700268
MSOS 4.0M8700269
MSOS 4.0M8700270
MSOS 4.0M8700271
MSOS 4.0M8700272
MSOS 4.0M8700273
**MSOS 4.0M8700274

```

```

0276 *****

```

M8700276

```

0278 * STORE SPACES IN IBUF

```

M8700278

```

0280 *****

```

M8700280

```

0282 PG13A 0B00 SP NOP 0
0283 PG13B C000 LDA =NS2020
0284 PG13D 0C39 SP1 ENQ 57
0285 PG13E 6A00 STA IBUF,Q
0286 PG13F FF23 INQ -1
0287 PG141 0171 SQM 1
0288 PG142 18FB JMP* SP1
0289 PG143 1CF6 JMP* (SP)
0290 END

```

M8700282

M8700283

M8700284

M8700285

M8700286

M8700287

M8700288

M8700289

M8700290

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0147, 0156, 0171

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	RECOVR	0000	0015, 0030, 0032
0016	IBUF	0063	0016, 0032, 0048, 0057, 0065, 0069, 0085, 0086, 0149, 0285
0016	REC	0007	0016, 0099
0016	ERR	0032	0016, 0214
0017	ABIBUF	0053	0017, 0033
0017	BUF	0119	0017, 0164, 0227, 0231
0017	BIA SCI	0120	0017, 0269
0018	TERMIN	0044	0018, 0040, 0103
0019	GET	00C3	0019, 0157, 0173
0019	SIFT	00CF	0019, 0186
0020	SP	013A	0020, 0289
0021	LUN0	0054	0021, 0035
0048	REC1	0012	0051
0054	REC2	0019	0058
0065	REC3	0020	
0069	REC4	0026	0067
0085	REC5	002C	0071
0100	REC6	003D	0090
0104	REC7	0042	0102
0110	TERM	0048	0107
0118	TERM1	0051	0115
0120	F3	0052	0031, 0111, 0113
0127	WR	0055	0041, 0092, 0128, 0131, 0139
0135	WR1	005E	0094
0137	WR2	0060	0129, 0132
0164	SFT	0002	0167
0173	GO	00DA	0180, 0199
0182	OVER	00E3	0175
0188	COMMA	00E8	0177
0201	CHECK	00F4	0178, 0217
0214	ERR1	0101	0185, 0192, 0196, 0205, 0211, 0225
0215	011A	0103	0213
0216	CK1	0104	0207
0219	STORE	0106	0179, 0235
0226	STR1	010D	0222
0237	COUNT	0117	0168, 0182, 0193, 0198, 0232
0238	WCOUNT	0118	0169, 0188, 0189, 0220
0240	TEMP	011E	0216, 0230
0241	HEXN	011F	0098, 0215, 0223, 0234
0252	RPT	0123	0263
0256	LT10	0127	0254

RCOVER

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DATE: 01/27/99

0264 DONE 012F
0270 W4 0135
0271 W3 0136
0272 W2 0137
0273 W1 0138
0274 WRD 0139
0285 SP1 013E

0258
0257
0265
0266
0268
0259, 0260, 0262
0288

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0023	DMPCOR	0025	0068
0023	MASDMP	0028	0072
0024	OUTSEL	0043	0104
0025	JKIN	0040	1114
0026	FILE3	0052	0120
0027	SWTCH	0009	0038

0001 NAM OUTSEL DECK-ID M88 MSOS 5.0 SUMMARY-110M8800001

0003 * MASS STORAGE OPERATING SYSTEM VERSION 5.0 M8800003
0004 * SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA M8800004
0005 * COPYRIGHT CONTROL DATA CORPORATION 1976 M8800005

0007 * CHANGE JUMPING UNIT M8800007

0009 ***** M8800009

0011 * A RECOVERY FUNCTION MODULE - *UNIT NUMBER M8800011
0012 * THIS STATEMENT ALLOWS THE OPERATOR THE OPTION M8800012
0013 * OF SELECTING ANY DEVICE TO BE USED AS THE OUTPUT M8800013
0014 * MEDIUM. M8800014

0016 ***** M8800016

0018 ENT OUTSEL M8800018
0019 EXT* GET,ERR,REC,LUNO M8800019
0020 EXT LOG1A M8800020

0022 P0000 CA00 OUTSEL ENA 0 M8800022
0023 P0001 6834 STA* HOLD M8800023
0024 P0002 0C01 ENQ 1 M8800024
0025 P0003 40FF STQ- I M8800025
0026 P0004 5800 X OUT RTJ GET M8800026
0027 P0005 7FFF X

0027 P0006 B00A EOR- \$A M8800027
0028 P0007 0102 SAZ OVER-* -1 M8800028
0029 P0008 5833 RTJ* SAVE M8800029
0030 P0009 18FA JMP* OUT M8800030
0031 P000A C0FF OVER LDA- I CHECK IF ONLY FOUR CHARACTERS M8800031
0032 P000B 09F9 INA -6 INPUTED. M8800032

0033 P000C 0131 SAM OK-* -1 M8800033
0034 P000D 181B JMP* ER M8800034
0035 P000E CA00 OK ENA 0 M8800035
0036 P000F 6827 STA* NUMB M8800036
0037 P0010 0AFC ENA -3 M8800037
0038 P0011 60FF STA- I M8800038

0039 P0012 C823 OUT1 LDA* HOLD CONVERSION WORD - SHIFT 4 M8800039
0040 P0013 0FC4 ALS 4 M8800040
0041 P0014 6821 STA* HOLD M8800041
0042 P0015 A006 AND- \$6 M8800042
0043 P0016 E0FF LDQ- I CHECK IF LAST WORD M8800043
0044 P0017 0146 SQZ OUT3-* -1 M8800044

0045 P0018 0103 SAZ OUT2-* -1 IF NO. ZERO M8800045
0046 P0019 2A21 MUI* LOC+1,Q M8800046
0047 P001A 881C ADD* NUMB M8800047
0048 P001B 681B STA* NUMB M8800048
0049 P001C 00FF OUT2 RAO- I INCREASE WORD COUNT M8800049


```

0050 P0010 18F4 JMP* OUT1 M8800050
0051 P001F 8818 OUT3 ADD* NJMB M8800051
0052 P001F 681B STA* LJ A CONTAINS LOGICAL UNIT NO. M8800052
0053 P0020 6822 TRA Q M3800053
0054 P0021 0111 SAN 1 M8800054
0055 P0022 1806 JMP* ER M8800055
0056 P0023 C400 LDA LOG1A M8800056
0057 P0024 7FFF X SUB* LU M8800057
0058 P0025 9815 SAZ OUT4-* -1 M8800058
0059 P0026 0103 SAP OJT4-* -1 M8800059
0060 P0027 0122 JMP ERR NO SUCH DEVICE M8800060
0061 P0028 1800 X ER
0062 P0029 7FFF X OUT4 LDQ LOG1A,Q M8800061
0063 P002A E600 X
0064 P002B 0024 X
0065 P002C C208 LDA- 8,Q M8800062
0066 P002D 0FCD ALS 13 M8800063
0067 P002E 0131 SAM 1 M8800064
0068 P002F 18F8 JMP* ER DEVICE CAN NOT BE WRITTEN ON M8800065
0069 P0030 C80A LDA* LJ M8800066
0070 P0031 6800 STA LUNO M8800067
0071 P0032 7FFF X
0072 P0033 1800 X JMP REC M8800068
0073 P0034 7FFF X
0074 P0035 0000 HOLD NUM $0000 M8800070
0075 P0036 0000 NUMB NUM $0000 M8800071
0076 P0037 03EB NUM $3EB,$64 M8800072
0077 P0038 0064
0078 P0039 000A LOC NUM $A M8800073
0079 P003A 0000 LU NUM $0000 M8800074
0080 *****
0081 SAVE NOP 0 DECIMAL DIGIT SAVER. M8800078
0082 P003B 0B00 LDA* HOLD CHARACTER DIGIT IN Q M8800079
0083 P003C C8F8 ALS 4 REGISTER M8800080
0084 P003D 0FC4 AND- $16 HOLD CONTAINS ANY PREVIOUS M8800081
0085 P003E A016 LLS 16 DIGITS. M8800082
0086 P003F 0FF0 INA -$30 M8800083
0087 P0040 09CF AND- $5 M8800084
0088 P0041 A006 EAQ A M8800085
0089 P0042 0874 STA* HOLD M8800086
0090 P0043 58F1 JMP* (SAVE) M8800087
0091 P0044 1CF6 END M8800088

```

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0025, 0031, 0038, 0043, 0049

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0018	OUTSEL	0000	0018
0026	OUT	0004	0030
0031	OVER	000A	0028
0035	OK	000E	0033
0039	OUT1	0012	0050
0049	OUT2	001C	0045
0051	OUT3	001E	0044
0060	ER	0028	0034, 0055, 0065
0061	OUT4	002A	0058, 0059
0070	HOLD	0035	0023, 0039, 0041, 0079, 0086
0071	NUMB	0036	0036, 0047, 0048, 0051
0073	LOC	0039	0046
0074	LU	003A	0052, 0057, 0066
0078	SAVE	003B	0029, 0087

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0019	GET	0005	0026
0019	ERR	0029	0060
0019	REC	0034	0068
0019	LUNO	0032	0067
0020	LOG1A	002B	0056, 0061

0001		NAM RMPV4	DECK-ID M89	MSQS 5.0	SUMMARY-110	M8900001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0				M8900002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA				M8900003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976				M8900004

0006	*	PROCESS *J STATEMENTS FOR RECOVERY PROGRAM				M8900006
------	---	--	--	--	--	----------

0008		*****				M8900008
------	--	-------	--	--	--	----------

0010	*	*DHHH, HHHH				M8900010
0011	*	* AT HEXADECIMAL ADDRESS HHHH AND TERMINATING AT				M8900011
0012	*	* HEXADECIMAL ADDRESS HHHH.				M8900012

0014		*****				M8900014
------	--	-------	--	--	--	----------

0016	ENT	DMPCOR				M8900016
0017	ENT	DUMPC				M8900017
0018	ENT	COREL, WLOC, STOP				M8900018
0019	ENT	COMPE, ASKWR, B				M8900019

0021	EXT	SWTCH				M8900021
0022	EXT*	REC, BJF, SP, LUNO				M8900022
0023	EXT*	SIFT, ABIBUF				M8900023
0024	EXT*	BIASCI				M8900024
0025	EXT*	ERR				M8900025
0026	EXT*	TERMIN				M8900026
0027	EXT	LOG1A				M8900027

0029	P0000	5800	X	DMPCOR	RTJ	SIFT				M8900029
------	-------	------	---	--------	-----	------	--	--	--	----------

0030	P0001	7FFF	X		LDA	BUF	FIND START AND STOP LOCATION.			M8900030
------	-------	------	---	--	-----	-----	-------------------------------	--	--	----------

0031	P0002	C800	X							M8900031
------	-------	------	---	--	--	--	--	--	--	----------

0032	P0003	7FFF	X		STA*	START				M8900032
------	-------	------	---	--	------	-------	--	--	--	----------

0033	P0004	6822			STA*	WLOC				M8900033
------	-------	------	--	--	------	------	--	--	--	----------

0034	P0005	6823			STA*	COREL				M8900034
------	-------	------	--	--	------	-------	--	--	--	----------

0035	P0006	6828			ENQ	1				M8900035
------	-------	------	--	--	-----	---	--	--	--	----------

0036	P0007	0C01			LDA	BJF, Q				M8900036
------	-------	------	--	--	-----	--------	--	--	--	----------

0037	P0008	CA00	X							M8900037
------	-------	------	---	--	--	--	--	--	--	----------

0038	P0009	0003	X		STA*	STOP				M8900038
------	-------	------	---	--	------	------	--	--	--	----------

0039	P000A	6810			SAN	2				M8900039
------	-------	------	--	--	-----	---	--	--	--	----------

0040	P000B	0112			LDA*	START				M8900040
------	-------	------	--	--	------	-------	--	--	--	----------

0041	P000C	C81A			STA*	STOP				M8900041
------	-------	------	--	--	------	------	--	--	--	----------

0042	P000D	681A			ENQ	2				M8900042
------	-------	------	--	--	-----	---	--	--	--	----------

0043	P000E	0C02			LDA	BUF, Q				M8900043
------	-------	------	--	--	-----	--------	--	--	--	----------

0044	P000F	CA00	X							M8900044
------	-------	------	---	--	--	--	--	--	--	----------

0045	P0010	0009	X		SAZ	2				M8900045
------	-------	------	---	--	-----	---	--	--	--	----------

0046	P0011	G102			JMP	ERR				M8900046
------	-------	------	--	--	-----	-----	--	--	--	----------

0047	P0012	1800	X							M8900047
------	-------	------	---	--	--	--	--	--	--	----------

0048	P0013	7FFF	X							M8900048
------	-------	------	---	--	--	--	--	--	--	----------

0049	P0014	C800	X		LDA	ABIBUF	ABS. LOC. OF IBUF			M8900049
------	-------	------	---	--	-----	--------	-------------------	--	--	----------

0050	P0015	7FFF	X							M8900050
------	-------	------	---	--	--	--	--	--	--	----------

0046 P0015 6800
P0017 0081

STA B

**MSOS 4.0M8900046

0048 P0018 6811
0049 P0019 0A00
0050 P001A 5810

STA* COMPE
ENA 0
STA* ASKWR

M8900048
M8900049
M8900050

0052 P001B C80C
0053 P001C E80C

LDA* STJP
LDQ* WLOC

CHECK IF START LOCATION

M8900052
**MSOS 4.0M8900053
**MSOS 4.0M8900054
**MSOS 4.0M8900055
**MSOS 4.0M8900056

0054 P001D 0131
0055 P001E 0173
0056 P001F 0164

BNK1

SAM BNK1
SQM RETURN
SQP NOERR

GREATER THAN STOP LOCATION.

0057 P0020 9808
0058 P0021 0122
0059 P0022 1800

RETURN

SUB* WLOC
SAP 2
JMP REC

RETURN TO PROGRAM

M8900057
M8900058
M8900059

0050 P0023 7FFF
0051 P0024 5808
0051 P0025 18FC

NOERR

RTJ* DUMPC
JMP* RETURN

**MSOS 4.0M8900060
M8900061

0053 P0026 7FFF
0054 P0027 7FFF

START

NUM \$7FFF

FIRST LOC. TO DUMP

M8900063

0055 P0028 7FFF
0056 P0029 7FFF

STOP

NUM \$7FFF

LAST LOC. TO DUMP

M8900064

0057 P002A 0000
0058 P002B 0000
0059 P002C 0000

WLOC

NUM \$7FFF

CURRENT WORD DUMPING.

M8900065

0060 P002D 0000
0070 P002D 0000
0071 P002E 7FFF

COMPE

NUM \$7FFF

WORD COMPARE CHECK FLAG.

M8900066

0073 P002F 0800
0074 P0030 5800
0074 P0031 7FFF

ASKWR

NUM \$0000

LINE COMPARE CHECK FLAG.

M8900067

0076 P0032 5870
0077 P0033 6864
0078 P0034 0A01

WORDS

NUM \$0000

WORD COUNT

M8900068

0079 P0035 60FF
0080 P0036 C8F1
0081 P0037 5800

LWORD

NUM \$0000

LAST WORD

M8900069

0082 P0039 6D5F
0083 P003A D0FF
0084 P003B 4D5D

SAVE

NUM \$0000

LOC. OF CURRENT WORD DUMPING.

M8900070

0085 P003C 0A06
0086 P003D 60FF

COREL

NUM \$7FFF

STORE SPACES IN BUFFER.

M8900071

0073 P002F 0800
0074 P0030 5800
0074 P0031 7FFF

DUMPC

NOP 0

STORE SPACES IN BUFFER.

M8900073

0076 P0032 5870
0077 P0033 6864
0078 P0034 0A01

DUMP

RTJ SP

SET UP NEW BUFFER COUNT

M8900074

0079 P0035 60FF
0080 P0036 C8F1
0081 P0037 5800

RTJ

SETC

SET WORD LOCATION IN BUFFER.

M8900076

0082 P0039 6D5F
0083 P003A D0FF
0084 P003B 4D5D

RTJ

B-1

SET UP NEW BUFFER COUNT

M8900077

0085 P003C 0A06
0086 P003D 60FF

RTJ

1

SET UP NEW BUFFER COUNT

M8900078

0088 P003E C879
0089 P003F 68EB

RTJ

I

SET UP NEW BUFFER COUNT

M8900079

0091 P0040 CCEU
0092 P0041 68EB
0093 P0042 5800
0093 P0043 0038

RTJ

I

GET WORD TO DUMP

M8900080

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900081

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900082

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900083

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900084

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900085

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900086

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900088

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900089

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900091

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900092

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900093

0098 P003E C879
0099 P003F 68EB

RTJ

I

GET WORD TO DUMP

M8900093

0094	P0044	6054	STA*	(B),I		M8900094
0095	P0045	00FF	RAO-	I		M8900095
0096	P0046	4052	STQ*	(B),I		M8900096
0097	P0047	00FF	RAO-	I		M8900097
0098	P0048	00FF	RAO-	I		M8900098
0099	P0049	C8DF	LDA*	COMPE	IS COMPE SET	M8900099
0100	P004A	0136	SAN	DUMP3--*--1		M8900100
0101	P004B	0115	SAN	DUMP3--*--1		M8900101
0102	P004C	C8DF	LDA*	LWORD	CHECK LAST WORD OF PREVIOUS BUFFER)	M8900102
0103	P004D	BCE0	FEOR*	(COREL)		M8900103
0104	P004E	0102	SAZ	DUMP3--*--1		M8900104
0105	P004F	0804	SET	A		M8900105
0106	P0050	6808	STA*	COMPE	NOT EQUAL	M8900106
0108	P0051	C8D6	DUMP3	LDA* WLOC		**MSOS +.OM8900108
0109	P0052	0103		SAZ INCR		**MSOS +.OM8900109
0110	P0053	5865		RTJ* FFFECH	CHECK FOR FFFE	**MSOS +.OM8900110
0111	P0054	5839		RTJ* PRINT		**MSOS +.OM8900111
0112	P0055	1CD9		JMP* (DUMPC)	TERMINATE ON FFFE	**MSOS +.OM8900112
0113	P0056	D8D1	INCR	RAO* WLOC		**MSOS +.OM8900113
0114	P0057	D8D6		RAO* COREL		**MSOS +.OM8900114
0115	P0058	D8D2	INCR	RAO* WORJC		**MSOS +.OM8900115
0116	P0059	C8CD	CHBU=F	LDA* STOP	HAVE ALL WORDS BEEN SET IN BUFFERS	**MSOS +.OM8900116
0117	P005A	0122		SAP DUMP3A		**MSOS +.OM8900117
0118	P005B	E8CC		LDQ* WLOC		**MSOS +.OM8900118
0119	P005C	0163		SQP DUMP3B		**MSOS +.OM8900119
0120	P005D	93CA	DUMP3A	SUB* WLOC		**MSOS +.OM8900120
0121	P005E	0121		SAP 1		M8900121
0122	P005F	131C		JMP* DUMP7		M8900122
0123	P0060	C8CA	DUMP3B	LDA* WORDC	CHECK IF 10 WORDS IN BUFFER	**MSOS 4.OM8900123
0124	P0061	0121		SAP DUMP4--*--1		M8900124
0125	P0062	18DD		JMP* DUMP1		M8900125
0127	P0063	C8C5	DUMP4	LDA* COMPE		M8900127
0128	P0064	0107		SAZ DUMP5--*--1		M8900128
0129	P0065	5828		RTJ* PRINT		M8900129
0130	P0066	C8C6		LDA* SAVE		M8900130
0131	P0067	68C4		STA* LWORD		M8900131
0132	P0068	0A00		ENA 0		M8900132
0133	P0069	68C0		STA* ASKWR		M8900133
0134	P006A	68BE		STA* COMPE		M8900134
0135	P006B	18C4		JMP* DJMP	GET NEXT LINE	M8900135
0136	P006C	C8BD	DUMP5	LDA* ASKWR		M8900136
0137	P006D	0121		SAP DUMP6--*--1		M8900137
0138	P006E	18C1		JMP* DUMP	GET NEXT LINE	M8900138
0139	P006F	5800	X DUMP5	RTJ SP		M8900139
			X			
0140	P0070	0031		LDA =V82A2A		M8900140
0141	P0071	C000				
0142	P0072	2A2A				
0143	P0073	0C01		ENQ 1		M8900141
0144	P0074	6E24		STA* (B),Q		M8900142
0145	P0075	0A02		ENA 2		M8900143
0146	P0076	6821		STA* B-1		M8900144

0145	P0077	5816		RTJ*	PRINT	STORE DUP. LINE *	M8900145
0146	P0078	0804		SET	A		M8900146
0147	P0079	68B0		STA*	ASKWR	SET DUP. LINE SWITCH.	M8900147
0148	P007A	18B5		JMP*	DUMP		M8900148
0150	P007B	C8AD	DUMP7	LDA*	COMPE		M8900150
0151	P007C	0104		SAZ	DUMP8--*-1		M8900151
0152	P007D	C0FF		LDA-	I		M8900152
0153	P007E	5819		STA*	B-1		M8900153
0154	P007F	580E		RTJ*	PRINT		M8900154
0155	P0080	1CAE		JMP*	(DUMPC)		M8900155
0156	P0081	C8A8	DUMP8	LDA*	ASKWR		M8900156
0157	P0082	0139		SAM	DUMP9--*-1		M8900157
0158	P0083	5800	X	RTJ	SP		M8900158
	P0084	0070	X				
0159	P0085	0000		LDA	=N\$2A2A	STORE DUP. LINE *	M8900159
	P0086	2A2A					
0160	P0087	0C01		ENQ	1		M8900160
0161	P0088	6E10		STA*	(B),Q		M8900161
0162	P0089	0A02		ENA	2		M8900162
0163	P008A	580D		STA*	B-1		M8900163
0164	P008B	5802		RTJ*	PRINT	PRINT BUF	M8900164
0165	P008C	1CA2	DUMP9	JMP*	(DUMPC)	RETURN TO PROGRAM	M8900165
0157	P008D	0B00	PRINT	NOP	0		M8900167
0158	P008E	C800	X	LDA	LJNO	SET UP LOGICAL UNIT	M8900168
	P008F	7FFF	X				
0159	P0090	802F		ADD-	\$2F		M8900169
0170	P0091	6805		STA*	TH+1		M8900170
0171	P0092	54F4		RTJ-	(\$F4)	WRITE BUFFER	M8900171
0172	P0093	0C00		NUM	\$0000,\$0000		M8900172
	P0094	0000					
0173	P0095	0000	TH	NUM	\$0000,\$0000		M8900173
	P0096	0000					
0174	P0097	0024		NUM	36		M8900174
0175	P0098	7FFF	B	NUM	\$7FFF	ABSOLUTE LOC. OF IBUF	M8900175
0176	P0099	C8FB		LDA*	TH	CHECK THREAD FOR COMPLETION	M8900176
0177	P009A	0101		SAZ	1		M8900177
0178	P009B	18FD		JMP*	*-2		M8900178
0179	P009C	C400	X	LDA	SWTCH	IF SWTCH POSITIVE TERMINATE	M8900179
	P009D	7FFF	X				
0180	P009E	0132		SAM	2		M8900180
0131	P009F	1800	X	JMP	TERMIN		M8900181
	P00A0	7FFF	X				
0182	P00A1	1CEB		JMP*	(PRINT)		M8900182
0183	P00A2	0B00	SETC	NOP	0		M8900183
0184	P00A3	E800	X	LDQ	LUNO		M8900184
	P00A4	008F	X				
0185	P00A5	E600	X	LDQ	LOG1A,Q		M8900185
	P00A6	7FFF	X				
0186	P00A7	C208		LDA-	8,Q		M8900186
0187	P00A8	0F4B		ARS	11		M8900187

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0188 P00A9 A006 AND- $5
0189 P00AA 09FF INA -1 MT
0190 P00AB 0105 SAZ PR--*-1
0191 P00AC 09FB INA -4 PR
0192 P00AD 0103 SAZ PR--*-1
0193 P00AE 0A24 ENA 36
0194 P00AF 0CF5 ENQ -10
0195 P00B0 1803 JMP* PRA
0196 P00B1 0A36 PR ENA 54
0197 P00B2 0CEF ENQ -16
0198 P00B3 5803 PRA STA* DNW
0199 P00B4 4803 STQ* DNL
0200 P00B5 1CEC JMP* (SETC)
0201 P00B6 0000 DNW NUM 0
0202 P00B7 0000 DNL NUM 0
0203 * SUBROUTINE TO CHECK FOR FFFE
0204 P00B8 0B00 FFFECH NOP 0
0205 P00B9 9000 SUB =N$FFFE CHECK FOR FFFE
P00BA FFFE
0206 P00BB 0111 SAN LESTHN
0207 P00BC 1CFB JMP* (FFFECH) EXIT
0208 P00BD D8FA LESTHN RAO* FFFECH INCREMENT RETURN ADDRESS
0209 P00BE D8F9 RAO* (FFFECH)
0210 P00BF 1CF8 JMP* (FFFECH) EXIT
0211 END

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M8900188
M8900189
M8900190
M8900191
M8900192
M8900193
M8900194
M8900195
M8900196
M8900197
M8900198
M8900199
M8900200
M8900201
M8900202
**MSOS 4.0M8900203
**MSOS 4.0M8900204
**MSOS 4.0M8900205
**MSOS 4.0M8900206
**MSOS 4.0M8900207
**MSOS 4.0M8900208
**MSOS 4.0M8900209
**MSOS 4.0M8900210
M8900211

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PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0079, 0083, 0086, 0095, 0097, 0098, 0152

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	DMPCOR	0000	0016
0017	DUMPC	002F	0017, 0060, 0112, 0155, 0165
0018	CORFL	002E	0018, 0033, 0091, 0103, 0114
0018	WLOC	0028	0018, 0032, 0053, 0057, 0080, 0108, 0113, 0118, 0120
0018	STOP	0027	0018, 0036, 0039, 0052, 0116
0019	COMPE	0029	0019, 0048, 0099, 0105, 0127, 0134, 0150
0019	ASKWR	002A	0019, 0050, 0133, 0136, 0147, 0156
0019	B	0098	0019, 0046, 0077, 0082, 0084, 0094, 0096, 0142, 0144, 0153, 0161, 0163
0056	BNK1	001F	0054
0059	RETURN	0022	0055, 0061
0060	NOERR	0024	0056
0063	START	0026	0031, 0038
0068	WORDC	0025	0089, 0115, 0123
0069	LWORD	002C	0102, 0131
0070	SAVE	002D	0092, 0130
0074	DUMP	0030	0135, 0138, 0148
0091	DUMP1	0040	0125
0108	DUMP3	0051	0100, 0101, 0104
0113	INCR	0056	0109
0115	INCR	0058	
0116	CHBUFF	0059	
0120	DUMP3A	0050	0117
0123	DUMP3B	0060	0119
0127	DUMP4	0063	0124
0136	DUMP5	006C	0128
0139	JUMP6	006F	0137
0150	DUMP7	007B	0122
0156	DUMP8	0081	0151
0159	JUMP9	008C	0157
0167	PRINT	008D	0111, 0129, 0145, 0154, 0164, 0182
0173	TH	0095	0170, 0175
0183	SETC	00A2	0076, 0200
0196	PR	00B1	0190, 0192
0198	PRA	00B3	0195
0201	DNW	00B6	0198
0202	DNL	00B7	0088, 0199
0204	FFFECH	00B8	0110, 0207, 0208, 0209, 0210
0208	LESTHN	00BD	0205

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0021	SWTCH	009D	0179
0022	REC	0023	0059
0022	BUF	0010	0030, 0038, 0041
0022	SP	0084	0074, 0139, 0158
0022	LUNO	00A4	0163, 0184
0023	SIFT	0001	0029
0023	ABIBUF	0015	0045
0024	BIA SCI	0043	0081, 0093
0025	ERR	0013	0043
0026	TERMIN	00A0	0181
0027	LOG1A	00A6	0185


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0001      *      NAM MASDMP          DECK-ID M90  MSOS 5.0          SUMMARY-110M9000001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      M9000002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    M9000003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976        M9000004

0006      *      DUMP MASS STORAGE FOR RECOVERY PROGRAM          M9000006
0008      * THIS ROUTINE DUMPS MASS STORAGE.                      M9000008
0010      ENT MASDMP                                             M9000010
0012      EXT* SIFT,REC,ERR                                       **MSOS 4.1**M9000012
0013      EXT* BIASCI,BJF,LUNO                                    M9000013
0014      EXT* DJMPC,D,ASKWR,COMPE,COREL                        M9000014
0015      EXT* WLOC,STOP,ABIBUF                                  M9000015
0016      EXT LOG1A                                              M9000016

0018 P0000 5800 X MASDMP RTJ SIFT ENTRY M9000018
0019 P0001 7FFF X
0020 P0002 0C04 X MD ENQ 4 STORE INPUTED PARAMETERS M9000019
0021 P0003 CA00 X LDA BJF,Q M9000020
0022 P0004 7FFF X
0023 P0005 6A00 STA S1,Q M9000021
0024 P0006 J082
0025 P0007 0DFE INQ -1 M9000022
0026 P0008 0171 SQM MD1--*-1 M9000023
0027 P0009 18F9 JMP* MD M9000024

0028 P000A C800 MD1 LDA N M9000026
0029 P000B 0981
0030 P000C 0822 TRA Q M9000027
0031 P000D 09EF INA -16 M9000028
0032 P000E 0137 SAM MD11 M9000029
0033 P000F 09EF INA -16 M9000030
0034 P0010 0134 SAM MD111 M9000031
0035 P0011 09EF INA -16 M9000032
0036 P0012 0131 SAM MD1111 M9000033
0037 P0013 0DF9 INQ -6 M9000034
0038 P0014 0DF9 MD1111 INQ -6 M9000035
0039 P0015 0DF9 MD111 INQ -6 M9000036
0040 P0016 4876 MD11 STQ* N M9000037
0041 P0017 C800 X LDA ABIBUF ABS LOC OF IBBUF M9000038
0042 P0018 7FFF X
0043 P0019 6800 X STA B M9000039
0044 P001A 7FFF X

0041 P001B C0C2 LDA- $C2 CHECK IF PARAMETER N IS A MASS
0042 P001C E870 LDQ* N STORAGE DEVICE. M9000041
0043 P001D 0152 SQN MD2--*-1 M9000042
M9000043

0045 P001E 686E STA* N NO N GIVER USE STANDARD LIB. UNIT M9000045
0046 P001F 180F JMP* MD4 M9000046

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0047 P0020 6874 MD2 EAQ A M9000047
0048 P0021 0111 SAN MD3--*-1 M9000048
0049 P0022 180C JMP* MD4 N EQUALS STANDARD LIB. UNIT M9000049
0050 P0023 CC6A MD3 LDA* (LOG) M9000050
0051 P0024 9868 SUB* N M9000051
0052 P0025 0136 SAM ERR1--*-1 NO M9000052
0053 P0026 EE67 LDQ* (LOG),2 M9000053
0054 P0027 C208 LDA- 8,Q STORAGE DEVICE. M9000054
0055 P0028 0FC5 ALS 5 CHECK GROUP CLASS CODE FOR MASS M9000055
0056 P0029 A005 AND- 5 M9000056
0057 P002A 09FD INA -2 M9000057
0058 P002B 0102 SAZ MD4 M9000058
0059 P002C 1800 X ERR1 JMP ERR M9000059
P002D 7FFF X

0051 P002E C85A MD4 LDA* S1 * M9000061
0062 P002F E85B LDQ* S2 * M9000062
0063 P0030 0151 SQN 1 * M9000063
0064 P0031 6859 STA* S2 S2=0,SET S2=S1 * M9000064
0065 P0032 C857 LDA* W1 * M9000065
0066 P0033 0111 SAN 1 * M9000066
0067 P0034 D855 RAO* W1 W1=0, SET W1=1 * M9000067
0068 P0035 E856 LDQ* W2 * M9000068
0069 P0036 0152 SQN 2 * M9000069
0070 P0037 0C60 ENQ 96 SET W2=96 ID ZERO * M9000070
0071 P0038 4853 STQ* W2 * M9000071
0072 P0039 C84F LDA* S1 * M9000072
0073 P003A 9850 SUB* S2 * M9000073
0074 P003B 0135 SAM MJ5--*-1 ***** M9000074
0075 P003C 0113 SAN ERCD--*-1 ERROR--S1 GTR S2 ***** M9000075
0076 P003D C84E LDA* W2 * M9000076
0077 P003E 984B SUB* W1 S1=S2, SO * M9000077
0078 P003F 0121 SAP MJ6--*-1 CHECK W1 AND W2 * M9000078
0079 P0040 18EB JMP* ERR1 ERROR W1 GTR W2 * M9000079
0080 P0041 0A01 ENA 1 M9000080
0081 P0042 6800 X STA COMPE SET SO FIRST LINE IS PRINTED. M9000081
P0043 7FFF X
0082 P0044 8A00 ENA 0 M9000082
0083 P0045 6800 X STA ASKWR M9000083
P0046 7FFF X
0084 P0047 C843 MSD LDA* S2 CHECK IF LAST SECTOR M9000084
0085 P0048 9840 SUB* S1 M9000085
0086 P0049 0114 SAN MSD1--*-1 M9000086
0087 P004A C841 LDA* W2 LAST SECTOR M9000087
0088 P004B 3800 X STA STOP M9000088
P004C 7FFF X
0089 P004D 1806 JMP* MSD3 M9000089
0090 P004E 0121 MSD1 SAP MSD2--*-1 CHECK IF COMPLETED. M9000090
0091 P004F 1817 JMP* OVER M9000091
0092 P0050 0A60 MSD2 ENA 96 NO. OF LAST WORD TO PRINT OF SECTOR. M9000092
0093 P0051 6800 X STA STOP M9000093
P0052 004C X
0094 P0053 C836 MSD3 LDA* W1 FIRST WORD TO PRINT OF SECTOR M9000094

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0095	P0054	6800	X	STA	WLOC		M9000095
	P0055	7FFF	X				
0096	P0056	5801		RTJ*	*+1		M9000096
0097	P0057	0800		NOB	0		M9000097
0098	P0058	E8FE		LDQ*	*-1	FIND ABS. LOC. OF MBUF	M9000098
0099	P0059	004D		INQ	MBUF-#+2		M9000099
0100	P005A	09FE		INA	-1		M9000100
0101	P005B	0834		AAQ	A		M9000101
0102	P005C	6800	X	STA	COREL	STORE ABS. LOC. OF BUFFER	M9000102
	P005D	7FFF	X				
0103	P005E	580A		RTJ*	SECNO	WRITE SECTOR NO.	M9000103
0104	P005F	582F		RTJ*	GETFIL	GET SECTOR.	M9000104
0105	P0060	5800	X	RTJ	DUMPC		M9000105
	P0061	7FFF	X				
0106	P0062	0A01		ENA	1		M9000106
0107	P0063	6826		STA*	W1	SET 1ST WORD	M9000107
0108	P0064	D824		RAO*	S1		M9000108
0109	P0065	18E1		JMP*	MSD		M9000109
0111	P0066	1800	X	JMP	REC	OPERATION COMPLETED.	M9000111
	P0067	7FFF	X				
0113	P0068	0800		SECNO	NOB	SEQUENCE NO. PRINT OUT	M9000113
0114	P0069	C81F		LDA*	S1		M9000114
0115	P006A	5800	X	RTJ	BIASCI		M9000115
	P006B	7FFF	X				
0116	P006C	681A		STA*	SNO1		M9000116
0117	P006D	481A		STQ*	SNO2		M9000117
0118	P006E	CA00	X	LDA	LUNO	SET UP LU NO.	M9000118
	P006F	7FFF	X				
0119	P0070	802F		ADD-	\$2F		M9000119
0120	P0071	6805		STA*	LU1		M9000120
0121	P0072	54F4		RTJ-	(\$F+)		M9000121
0122	P0073	0000		NUM	\$0000,\$0		M9000122
	P0074	0000					
0123	P0075	0000	TH	NUM	\$0		M9000123
0124	P0076	0000	LU1	NUM	\$0000		M9000124
0125	P0077	0000		NUM	\$B		M9000125
0126	P0078	000A		ADC	SNO-#+5		M9000126
0127	P0079	C8FB		LDA*	TH	WAIT FOR I/O COMPLETION	M9000127
0128	P007A	0101		SAZ	1		M9000128
0129	P007B	18FD		JMP*	*-2		M9000129
0130	P007C	1CEB		JMP*	(SECNO)		M9000130
0131	P007D	2020	SNO	ALF	9, SECTOR NUMBER		M9000131
	P007E	2053					
	P007F	+543					
	P0080	544F					
	P0081	5220					
	P0082	4E55					
	P0083	4042					
	P0084	4552					
	P0085	2020					

0132 P0086 2020 SNO1 NUM \$2020
 0133 P0087 2020 SNO2 NUM \$2020
 0135 P0088 0000 S1 NUM \$0000
 0136 P0089 0000 W1 NUM \$0000
 0137 P008A 0000 S2 NUM \$0000
 0138 P008B 0000 W2 NUM \$0000
 0139 P008C 0000 N NUM \$0000
 0140 P008D 7FFF X LOG ADC LOG1A

STARTING SECTOR
 FIRST WORD OF STARTING SECTOR.
 LAST SECTOR
 LAST WORD OF LAST SECTOR.
 LOGICAL UNIT NO.

M9000132
 M9000133
 M9000135
 M9000136
 M9000137
 M9000138
 M9000139
 M9000140

0142 P008E 0B00 GETFIL NOP 0
 0143 P008F C8F8 LDA* S1
 0144 P0090 680B STA* SN2
 0145 P0091 C8FA LDA* N
 0146 P0092 6805 STA* LJ
 0147 P0093 54F4 RTJ- (\$F4)
 0148 P0094 0900 NUM \$0900,\$0

GET MASS STORAGE SECTOR TO BE
 OUTPUTED.

M9000142
 M9000143
 M9000144
 M9000145
 M9000146
 M9000147
 M9000148

0149 P0096 0000 NUM \$0
 0150 P0097 0000 LU NUM \$0000
 0151 P0098 0060 NUM 95
 0152 P0099 0010 ADC MBUF-*+5
 0153 P009A 0000 SN1 NUM \$0000
 0154 P009B 0000 SN2 NUM \$0000
 0155 P009C C8F9 LDA* LU-1
 0156 P009D 0101 SAZ 1
 0157 P009E 18FD JMP* *-2
 0158 P009F C8F7 LDA* LU
 0159 P00A0 0131 SAM 1
 0160 P00A1 1CEC JMP* (GETFIL)
 0161 P00A2 1800 X JMP REC
 0161 P00A3 0067 X

OPERATION COMPLETED WITH ERROR
 TYPE RE

**MSOS 4.0M9000161

M9000149
 M9000150
 M9000151
 M9000152
 M9000153
 M9000154
 M9000155
 M9000156
 M9000157
 M9000158
 M9000159
 M9000160

0162 *
 0164 P00A4 0060 MBUF BSS MBJF(96)
 0165 END

M9000162
 M9000164
 M9000165

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	MASDMP	0000	0010
0020	MD	0003	0024
0026	MD1	000A	0023
0035	MD1111	0014	0033
0036	MD111	0015	0031
0037	MD11	0016	0029
0047	MD2	0020	0043
0050	MD3	0023	0048
0059	ERR1	002C	0052, 0079
0061	MD4	002E	0046, 0049, 0058
0079	ERCD	0040	0075
0080	MD6	0041	0074, 0078
0084	MSD	0047	0109
0090	MSD1	004E	0086
0092	MSD2	0050	0090
0094	MSD3	0053	0089
0111	OVER	0066	0091
0113	SECNO	0068	0103, 0130
0123	TH	0075	0127
0124	LU1	0076	0120
0131	SNO	007D	0125
0132	SNO1	0086	0116
0133	SNO2	0087	0117
0135	S1	0088	0021, 0061, 0072, 0085, 0108, 0114, 0143
0136	W1	0089	0065, 0067, 0077, 0094, 0107
0137	S2	008A	0032, 0064, 0073, 0084
0138	W2	008B	0068, 0071, 0076, 0087
0139	N	008C	0026, 0037, 0042, 0045, 0051, 0145
0140	LOG	008D	0050, 0053
0142	GETFIL	008E	0104, 0160
0150	LU	0097	0146, 0155, 0158
0153	SN1	009A	
0154	SN2	009B	0144
0164	MBUF	00A4	0099, 0152

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0012	SIFT	0001	J018
0012	REC	00A3	J111, 0161
0012	ERR	002D	0059
0013	BIASCI	006B	J115
0013	BUF	0004	0020
0013	LUNO	006F	J118
0014	DUMPC	0081	0105
0014	B	001A	0039
0014	ASKWR	0040	0083
0014	COMPE	0043	0081
0014	COREL	005D	0102
0015	WLOC	0055	0095
0015	STOP	0052	0088, 0393
0015	ABIBUF	0018	0038
0016	LOG1A	008D	J140


```

00001
00002
00003
00004
00005
00006
00007
00008
00009
00010
00011
00012
00013
00014
00015
00016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034
0035
0036
0037
0038
0039
0040
0041
0042
0043
0044
0045
0046
0047
PG028

```

```

*
*
*
*
* THIS PROGRAM ADDS BREAKPOINTS TO THE LIST OF CURRENT ONES.
* IT IGNORES DUPLICATES AND CHECKS FOR PROTECT VIOLATIONS
* AS WELL AS FORMAT ERRORS.
*
NBTS EQU NBTS(15) MAXIMUM NUMBER OF BREAKPOINTS
*
SET NUM 0
INA 12
STA- I INPUT BUFFER LOCATION
CLR A
STA CHAR
ENA 2
STA WDIX
*
SET1 RTJ* GET GET DELIMITOR
INA -$2C
SAZ SET3--1 SKIP ON A COMMA
INA $C IS IT A BLANK
SAZ SET2
SUB =N$DF IS IT A FF
SAZ SET2--1 SKIP ON STATEMENT END
ENA 2
JMP- 40,I FORMAT ERROR - BACK TO CONTROL PROGRAM
SET2 JMP* (SET) DONE - RETURN
*
SET3 LDA WDIX
STA FSTRT SAVE FIELD START LOCATION
RTJ HEX
STA* BASE SAVE IT
RTJ* GET GET DELIMITOR
INA -$2B
SAN SET4--1 SKIP IF NOT A PLUS
RTJ* HEX CONVERT INCREMENT
ADD* BASE
STA* BASE ADD TO BASE TO GET EFFECTIVE ADDRESS
JMP* SET6
SET4 INA -1
SAZ SET5--1 SKIP IF COMMA
INA $C IS IT A BLANK
SAN TRYFF
JMP* SET5
TRYFF SUB =N$DF IS IT A FF

```

```

M9100002
M9100003
M9100004
M9100005
M9100006
M9100007
M9100008
M9100009
M9100010
M9100011
M9100012
M9100013
M9100014
M9100015
M9100016
M9100017
M9100018
M9100019
M9100020
M9100021
M9100022
M9100023
M9100024
M9100025
M9100026
M9100027
M9100028
M9100029
M9100030
M9100031
M9100032
M9100033
M9100034
M9100035
M9100036
M9100037
M9100038
M9100039
M9100040
M9100041
M9100042
M9100043
M9100044
M9100045
M9100046
M9100047

```

0048	P0029	0102	SAZ	SET5--1	SKIP ON STATEMENT END	M9100048
0049	P002A	C872	LDA*	FSTRT		M9100049
0050	P002B	1128	JMP-	40,I	FORMAT ERROR - BACK TO CONTROL PROGRAM	M9100050
			*			M9100051
0051	P002C	5849	SET5	RTJ* BACK	BACK UP SCAN BY 1	M9100052
0052	P002D	5837	SET6	RTJ* PCHK	PROTECT CHECK	M9100053
0053	P002E	CC65		LDA* (BASE)		M9100054
0054	P002F	986C		SUB* TOF3		M9100055
0055	P0030	0111		SAZ	SET7--1	M9100056
0056	P0031	18D7		JMP*	SET1	M9100057
0057	P0032	E0FF	SET7	LDQ-	I	M9100058
0058	P0033	0D2B		INQ	43	M9100059
0059	P0034	4861		STQ*	NUM	M9100060
0060	P0035	0C0E		ENQ	NBTS-1	M9100061
0061	P0036	CE5F	SET8	LDA*	(NUM),2	M9100062
0062	P0037	0104		SAZ	SET10--1	M9100063
0063	P0038	0DFF		INQ	-1	M9100064
0064	P0039	0161		SQP	SET9--1	M9100065
0065	P003A	180C		JMP*	SET20	M9100066
0066	P003B	18FA	SET9	JMP*	SET8	M9100067
0067	P003C	C857	SET10	LDA*	BASE	M9100068
0068	P003D	6E58		STA*	(NUM),2	M9100069
0069	P003E	C857		LDA*	NUM	M9100070
0070	P003F	0910		INA	NBTS+1	M9100071
0071	P0040	6855		STA*	NUM	M9100072
0072	P0041	CC52		LDA*	(BASE)	M9100073
0073	P0042	6E53		STA*	(NUM),Q	M9100074
0074	P0043	C858		LDA*	TOF3	M9100075
0075	P0044	6C4F		STA*	(BASE)	M9100076
0076	P0045	18C3		JMP*	SET1	M9100077
0077			*			M9100078
0078			SET20	RTJ*	*+1	M9100079
0079	P0046	5801		NUM	0	M9100080
0080	P0047	2000		LDA*	SET20+1	M9100081
0081	P0048	C8FE		INA	POJ-SET20-1	M9100082
0082	P0049	0913		STA*	STRT	M9100083
0083	P004A	680A		ENQ	-7	M9100084
0084	P004B	0CF8		LDA-	(\$22),B	M9100085
0085	P004C	C722		STA*	VEE	M9100086
0086	P004D	6805	*			M9100087
0087				RTJ-	(\$F4)	M9100088
0088	P004E	54F4		NUM	\$4C00,0	M9100089
0089	P004F	4C00				
0090	P0050	0000				
0091	P0051	0000	THUD	NUM	0	M9100090
0092	P0052	0000	VEE	NUM	0,0	M9100091
0093	P0053	0000				
0094	P0054	0000	STRT	NUM	0	M9100092
0095			*			M9100093
0096	P0055	C8FB	SET21	LDA*	THUD	M9100094
0097	P0056	0101		SAZ	SET22--1	M9100095
0098	P0057	18FD		JMP*	SET21	M9100096
0099	P0058	C844	SET22	LDA*	FSTRT	M9100097
0100	P0059	1128		JMP-	40,I	M9100098
					SKIP ON OUTPUT COMPLETE	
					WAIT	

0099
0100 P005A 544F
P005B 4F20
P005C 4D41
P005D 4E59
P005E 2042
P005F 5243
P0060 414B
P0061 504F
P0062 494E
P0063 5453

*
P00 ALF 10, TOO MANY BREAKPOINTS

M9100099
M9100100

0101
0102
0103
0104
0105 P0064 0000
0106 P0065 C82E
0107 P0066 ECF7
0108 P0067 09FE
0109 P0068 5852
0110 P0069 0102
0111 P006A 0900
0112 P006B 0107
0113 P006C C827
0114 P006D E0F6
0115 P006E 584C
0116 P006F 0102
0117 P0070 0900
0118 P0071 0111
0119 P0072 1CF1
0120 P0073 C829
0121 P0074 1129

*
* THIS SUBROUTINE CHECKS THE STORE ADDRESS TO DETECT POSSIBLE
* PROTECT ERRORS

M9100101
M9100102
M9100103
M9100104
M9100105
M9100106
M9100107
M9100108
M9100109
M9100110
M9100111
M9100112
M9100113
M9100114
M9100115
M9100116
M9100117
M9100118
M9100119
M9100120
M9100121
M9100122
M9100123
M9100124
M9100125
M9100126
M9100127
M9100128
M9100129
M9100130
M9100131
M9100132
M9100133
M9100134
M9100135
M9100136
M9100137
M9100138
M9100139
M9100140
M9100141
M9100142

*
PCHK NUM 0
LDA* BASE
LDQ- \$F7 CHECK ADDRESS FOR ABOVE START
INA -1 OF UNPROTECTED
RTJ* CMPV4
SAZ PCHK1 GREATER THAN START OF UNPROTECTED
INA 0
SAZ PE NOT IN UNPROTECTED
PCHK1 LDA* BASE
LDQ- \$F6 TEST FOR LESS THAN END OF UNPROTECTED
RTJ* CMPV4
SAZ PCHK2 ADDRESS IS OK
INA 0
SAN PE ADDRESS NOT OK, PROTECT VIOLATION
PCHK2 JMP* (PCHK)
PE LDA* FSTRT
JMP- 41,I GO TO PROTECT ERROR TYPEOUT

*
* THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER.

0122
0123
0124
0125 P0075 0000
0126 P0076 C81C
0127 P0077 0115
0128 P0078 081A
0129 P0079 C81B
0130 P007A 09FE
0131 P007B 6819
0132 P007C 1CF8
0133 P007D 0844
0134 P007E 6814
0135 P007F 1CF5

*
BACK NUM 0
LDA* CHAR
SAN BACK1--*-1 SKIP ON CHAR > RIGHT
RAO* CHAR
LDA* WDIK
INA -1
STA* WDIK
JMP* (BACK)
BACK1 CLR A
STA* CHAR SET CHAR TO LEFT
JMP* (BACK)

*
* THIS SUBROUTINE JNPACKS ONE CHARACTER FROM THE INPUT BUFFER
* AND RETURNS IT IN A.

0136
0137
0138
0139
0140 PC080 0000
0141 P0081 CD13
0142 P0082 E810

*
GET NUM 0
LDA* (WDIX),I GET CHARACTER WORD
LDQ* CHAR CHARACTER FLAG 0=LEFT 1=RIGHT

0143	P0083	C151	SQN	GET1-**-1	SKIP ON RIGHT CHARACTER	M9100143
0144	P0084	0FC8	ALS	8		M9100144
0145	P0085	A00A	GET1	AND- \$A	UNPACK IT	M9100145
0146	P0086	01+4	SQZ	GET2-**-1	SKIP ON LEFT	M9100146
0147	P0087	0842	CLR	Q		M9100147
0148	P0088	480A	STO*	CHAR	UPDATE CHARACTER FLAG	M9100148
0149	P0089	D80B	RAO*	WDIX	UPDATE WORD INDEX	M9100149
0150	P008A	1CF5	JMP*	(GET)	RETURN	M9100150
0151	P008B	D807	GET2	RAO*	CHAR	UPDATE CHARACTER FLAG
0152	P008C	E808	LDQ*	WDIX	TEST FOR BUFFER END	M9100151
0153	P008D	0DDA	INQ	-37		M9100152
0154	P008E	0141	SQZ	OFLOW-**-1	SKIP ON INPUT BUFFER END - ERROR	M9100153
0155	P008F	1CF0	JMP*	(GET)	RETURN	M9100154
0156	P0090	0A00	OFLOW	ENA	0	M9100155
0157	P0091	1128	JMP-	40,I		M9100156
0158			*			M9100157
0159	P0092	0001	CHAR	BSS	CHAR(1)	CHARACTER FLAG FOR UNPACKING 0=LEFT 1=RIGHT
0160	P0093	0001	BASE	BSS	BASE(1)	BASE OR EFFECTIVE ADDRESS
0161	P0094	0001	WDIX	BSS	WDIX(1)	INDEX TO CURRENT BUFFER WORD
0162	P0095	0006	NUM	BSS	NUM(6)	SCRATCH
0163	P009B	54F3	TOF3	RTJ-	(\$F3)	ENTRY SUBSTITUTED FOR USER INSTRUCTION
0164	P009C	0001	FSTRT	BSS	FSTRT(1)	FIELD START ONDEX
0165			*			M9100164
0166			*	THIS ROUTINE CONVERTS A	HEX (ASCII) FIELD TO BINARY.	M9100165
0167			*			M9100166
0168	P009D	0000	HEX	NUM	0	M9100167
0169	P009E	0844	CLR	A		M9100168
0170	P009F	68F5	STA*	NUM		INITIALIZE CONVERTED VALUE
0171	P00A0	9AFA	ENA	-5		M9100169
0172	P00A1	68F4	STA*	NUM+1		INITIALIZE DIGIT COUNT
0173			*			M9100170
0174	P00A2	580D	HEX3	RTJ*	GET	GET A CHARACTER
0175	P00A3	09CF	INA	-\$30		UNDER \$30 CHECK
0176	P00A4	0121	SAP	HEX4-**-1		SKIP ON NUMERIC - MAYBE
0177	P00A5	1812	JMP*	HEX10		NOT NUMERIC
0178	P00A6	0822	HEX4	TRA	Q	
0179	P00A7	0DF5	INQ	-\$A		
0180	P00A8	0175	SQM	HEX405-**-1		SKIP ON DIGIT 0 THRU 9
0181	P00A9	09F8	INA	-7		
0182	P00AA	0DF8	INQ	-7		
0183	P00AB	017B	SQM	HEX10-**-1		SKIP IF NON-NUMERIC
0184	P00AC	0DF9	INQ	-6		UNDER \$47 CHECK
0185	P00AD	0169	SQP	HEX10-**-1		SKIP IF NON-NUMERIC
0186	P00AE	E8E6	HEX405	LDQ*	NUM	CONVERTED DIGIT IN A
0187	P00AF	0FA4	QLS	4		
0188	P00B0	0874	EAQ	A		
0189	P00B1	68E3	STA*	NUM		PACKED DIGIT IS STORED
0190	P00B2	D8E3	RAO*	NUM+1		
0191	P00B3	C8E2	LDA*	NUM+1		
0192	P00B4	0111	SAN	HEX5-**-1		SKIP IF 4 OR LESS DIGITS
0193	P00B5	1128	JMP-	40,I		FORMAT ERROR - BACK TO CONTROL PROGRAM
0194	P00B6	18EB	HEX5	JMP*	HEX3	CONTINUE
0195	P00B7	58BD	HEX10	RTJ*	BACK	BACK UP SCAN BY ONE

SETBR1

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DATE: 01/27/99

0196 P00B8 C8DC
0197 P00B9 1CE3

LDA* NUM
JMP* (HEX)

RETURN

M9100196
M9100197

```

0199          *
0200          ** ADDRESS COMPARE ROUTINE
0201          ***
0202          * A.GT.Q      DIFFERENCE RETURNED IN A
0203          * A.EQ.Q      A EQUAL 0
0204          * A.LT.Q      A EQUAL $FFFF
0205          *
0206          *
0207 P00BA 0B00 CMPV4 NOP 0
0208 P00BB 0132     SAH  AUPPER A IN UPPER BANK
0209 P00BC 0165     SQP  BTHSAM BOTH IN LOWER BANK
0210 P00BD 1808     JMP* QBIGER A IN LOWER, Q IN UPPER
0211 P00BE 0173     AUPPER SQM  BTHSAM BOTH IN UPPER BANK
0212 P00BF 0852     TCQ  Q      A IN UPPER, Q IN LOWER
0213 P00C0 0834     AAQ  A      GET DIFFERENCE IN A
0214 P00C1 1805     JMP* ABIGER
0215 P00C2 0852     BTHSAM TCQ  Q
0216 P00C3 0834     AAQ  A      SUBTRACT Q FROM A
0217 P00C4 0121     SAP  ABIGER A IS BIGGER
0218 P00C5 0804     QBIGER SET  A      Q IS BIGGER
0219 P00C6 1CF3     ABIGER JMP* (CMPV4)
0220          END

```

```

M9100199
M9100200
M9100201
M9100202
M9100203
M9100204
M9100205
M9100206
M9100207
M9100208
M9100209
M9100210
M9100211
M9100212
M9100213
M9100214
M9100215
M9100216
M9100217
M9100218
M9100219
M9100220

```

PGM= 0007 (199) COM = 0000 (0) DAT = 0003 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0014, 0058
0010	VBTS	000F	(000015) 0061, 0071

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0012	SET	0000	0029
0020	SET1	0009	0057, 0077
0029	SET2	0013	0024, 0026
0031	SET3	0014	0022
0042	SET4	0022	0037
0047	TRYFF	0027	0045
0052	SET5	0020	0043, 0046, 0048
0053	SET6	0020	0041
0058	SET7	0032	0056
0062	SET8	0036	0067
0067	SET9	0038	0083
0068	SET10	0030	0063
0079	SET20	0046	0066, 0081, 0082
0090	THUD	0051	0094
0091	VEE	0052	0085
0092	STRT	0054	0083
0094	SET21	0055	0096
0097	SET22	0058	0095
0100	POO	005A	0082
0105	PCHK	0064	0053, 0119
0113	PCHK1	006C	0110
0119	PCHK2	0072	0116
0120	PE	0073	0112, 0118
0125	BACK	0075	0052, 0132, 0135, 0195
0133	BACK1	007D	0127
0140	GET	0080	0020, 0035, 0150, 0155, 0174
0145	SET1	0085	0143
0151	SET2	008B	0146
0156	OFLOW	0090	0154
0159	CHAR	0092	0010, 0126, 0128, 0134, 0142, 0148, 0151
0160	BASE	0093	0034, 0039, 0040, 0051, 0068, 0073, 0076, 0106, 0113
0161	WDIX	0094	0018, 0031, 0129, 0131, 0141, 0149, 0152
0162	NUM	0095	0060, 0062, 0069, 0070, 0072, 0074, 0170, 0172, 0186, 0189, 0190, 0191, 0196
0163	TOF3	009B	0055, 0075
0164	STRT	009C	0032, 0049, 0097, 0120
0168	HEX	009D	0033, 0038, 0197
0174	HEX3	00A2	0194
0178	HEX4	00A6	0175
0186	HEX405	00AE	0180
0194	HEX5	00B6	0192
0195	HEX10	00B7	0177, 0183, 0185

0207	CMPV4	00BA
0211	AUPPER	00BE
0215	BTHSAM	00C2
0218	QBIGER	00C5
0219	ABIGER	00C6

J109, 0115, 0219
J208
0209, 0211
0210
0214, 0217

00001
00002
00003
00004
00005
00006
00007
00008
00009
00010
00011 P0000C 0000
00012 P00001 090C
00013 P00002 60FF
00014 P00003 092B
00015 P00004 6859
00016 P00005 0844
00017 P00006 684D
00018 P00007 CA02
00019 P00008 584C
00020
00021 P00009 580C
00022 P0000A 007C
00023 P0000B 09D3
00024 P0000C 0108
00025 P0000E 0105
00026 P0000F 9000
00027 P00011 0102
00028 P00012 CA02
00029 P00013 1128
00030 P00014 1835
00031
00032 P00015 083F
00033 P00016 6846
00034 P00017 5847
00035 P00018 683D
00036 P00019 586D
00037 P0001A 09D4
00038 P0001B 0114
00039 P0001C 5842
00040 P0001D 8838
00041 P0001E 6837
00042 P0001F 18CC
00043
00044 P00020 09FE
00045 P00021 0108
00046 P00022 090C
00047 P00023 0111
00048 P00024 1806
00049 P00025 9000
00050 P00027 0102

```

*      NAM TERMI1      DECK-ID M92  MSOS 5.0
*      MASS STORAGE OPERATING SYSTEM VERSION 5.0
*      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
*      COPYRIGHT CONTROL DATA CORPORATION 1976
*
* THIS PROGRAM TERMINATES BREAKPOINTS SPECIFIED VIA THE *TRM STATEMENT.
* NO PARAMETERS IMPLIES TERMINATE ALL.
*
NBTS EQU NBTS(15)      MAXIMUM NUMBER OF BREAKPOINTS
*
TRM NUM 0
INA 12
STA- I      BUFFER LOCATION
INA 43
STA* TEMP   BPL TABLE ORIGIN
CLR A
STA* CHAR   SET CHARACTER FLAG TO LEFT
ENA 2
STA* WDIK   INITIALIZE WORD INDEX TO BUFFER
*
TRM1 RTJ GET      GET DELIMITER
*
INA -$2C
SAZ TRM3--1     SKIP IF A COMMA
INA $C          IS IT A BLANK
SAZ TRM2
SUB =N$DF      IS IT A FF
*
SAZ TRM2--1    SKIP IF NO PARAMETERS (STATEMENT END)
ENA 2
JMP- 40,I     FORMAT ERROR - BACK TO CONTROL PROGRAM
TRM2 JMP* TRM30 REMOVE ALL BREAKPOINTS
*
TRM3 LDA* WDIK   SAVE INDEX TO FIELD START
STA* FSTRT
RTJ* HEX      CONVERT BASE
STA* BASE    SAVE IT
RTJ* GET     GET DELIMITER
INA -$2B
SAN TRM4--1   SKIP IF NOT A PLUS
RTJ* HEX     CONVERT INCREMENT
ADD* BASE
STA* BASE    EFFECTIVE ADDRESS OF BREAKPOINT
JMP* TRM5
*
TRM4 INA -1
SAZ TRM5--1   SKIP IF A COMMA
INA $C        IS IT A BLANK
SAN TRYFF
JMP* TRM5
SUB =N$DF    IS IT A FF
*
SAZ TRM5--1   SKIP IF STATEMENT END

```

M92000001
M92000002
M92000003
M92000004
M92000005
M92000006
M92000007
M92000008
M92000009
M92000010
M92000011
M92000012
M92000013
M92000014
M92000015
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M92000043
M92000044
M92000045
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M92000049
M92000050

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000051 P0028 C834 TRM45 LDA* FSTRT
000052 P0029 1128 JMP- 40,I FORMAT ERROR - BACK TO CONTROL PROGRAM
000053 *
000054 P002A 5851 TRM5 RTJ* BACK BACK UP SCAN BY ONE
000055 P002B 0C0E TRM6 ENQ NBTS-1 INDEX TO BPL
000056 P002C CE31 TRM7 LDA* (TEMP),Q GET A BPL ENTRY
000057 P002D 9828 SUB* BASE
000058 P002E 0104 SAZ TRM9--*-1 SKIP IF A CORRESPONDING ENTRY IS FOUND
000059 P002F 0DFE INQ -1
000060 P0030 0171 SQM TRM8--*-1 SKIP IF A CORRESPONDING ENTRY DOES NOT EXIST
000061 P0031 18FA TRM8 JMP* TRM7 LOOK SOME MORE
000062 P0032 18F5 TRM9 JMP* TRM45 GO DO DIAGNOSTIC
000063 P0033 580E TRM9 RTJ* TREM GO TERMINATE THE BREAKPOINT
000064 P0034 5852 RTJ* GET GET DELIMITOR
000065 P0035 0903 INA -$20
000066 P0036 0109 SAZ TRM11--*-1 SKIP IF A COMMA
000067 P0037 9000 SUB =N&D3
000068 P0038 0003
000069 P0039 0105 SAZ TRM10--*-1 SKIP IF STATEMENT END
000070 P003A E819 LDQ* CHAR
000071 P003B C819 LDA* NDIX
000072 P003C 0151 SQM TRM95--*-1
000073 P003D 09FE INA -1
000074 P003E 1128 TRM95 JMP- 40,I FORMAT ERROR - BACK TO CONTROL PROGRAM
000075 P003F 10CC TRM10 JMP* (TRM) RETURN
000076 P0040 18D4 TRM11 JMP* TRM3 CONTINUE
000077 *
000078 * THE FOLLOWING SUBROUTINE TERMINATES ONE BREAKPOINT.
000079 * BPL INDEX (VIA TEMP) IS IN Q.
000080 *
000081 P0041 0000 TREM NUM 0
000082 P0042 0844 CLR A
000083 P0043 0010 STA* (TEMP),Q CLEAR BPL ENTRY
000084 P0044 CE18 INQ NBTS+1
000085 P0045 0C0F LDA* (TEMP),Q GET USER INSTRUCTION
000086 P0046 0C0F STA* (BASE) PUT IT BACK IN THE PROGRAM
000087 P0047 0DEF INQ -NBTS-1
000088 P0048 10F8 JMP* (TREM) RETURN
000089 *
000090 * THIS SUBROUTINE REMOVES ALL BREAKPOINTS.
000091 *
000092 P0049 0C0E TRM31 ENQ NBTS-1
000093 P004A CE13 TRM31 LDA* (TEMP),Q GET A BPL ENTRY
000094 P004B 0102 SAZ TRM32--*-1 SKIP IF AN EMPTY ENTRY
000095 P004C 5809 STA* BASE
000096 P004D 58F3 RTJ* TREM REMOVE THE BREAKPOINT
000097 P004E 0DFE TRM32 INQ -1
000098 P004F 0171 SQM TRM33--*-1 SKIP IF DONE
000099 P0050 18F9 TRM32 JMP* TRM31 CONTINUE
000100 P0051 10AF TRM33 JMP* (TRM) DONE
000101 P0052 0001 BUFL0C BSS BUFL0C(1) INPUT BUFFER LOCATION PLUS 2
000102 P0053 0001 CHAR BSS CHAR(1) CHARACTER FLAG FOR UNPACKING - 0=LEFT 1=RIGHT

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M9200051
M9200052
M9200053
M9200054
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M9200060
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M9200093
M9200094
M9200095
M9200096
M9200097
M9200098
M9200099
M9200100
M9200101
M9200102

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0103	PC054	0001	WDIX	BSS	WDIX(1)
0104	PC055	0001	BASE	BSS	BASE(1)
0105	PC056	0006	NUM	BSS	NUM(6)
0106	PC05C	0001	FSTRT	BSS	FSTRT(1)
0107	PC05D	0001	TEMP	BSS	TEMP(1)

INDEX TO CURRENT BUFFER WORD
BASE OR EFFECTIVE ADDRESS
SCRATCH
FIELD START INDEX
MORE SCRATCH

M9200103
M9200104
M9200105
M9200106
M9200107

```

0109
0110
0111
0112 P0055 0000
0113 P005F 0814
0114 P0060 08F5
0115 P0061 0AFA
0116 P0062 08F4
0117
0118 P0063 5823
0119 P0064 090F
0120 P0065 0121
0121 P0066 1812
0122 P0067 0822
0123 P0068 00F5
0124 P0069 0175
0125 P006A 09F8
0126 P006B 00F8
0127 P006C 017B
0128 P006D 00F9
0129 P006E 0109
0130 P006F E8E6
0131 P0070 0FA4
0132 P0071 0874
0133 P0072 68E3
0134 P0073 08E3
0135 P0074 C8E2
0136 P0075 0111
0137 P0076 18B1
0138 P0077 18FB
0139 P0078 5833
0140 P0079 C8DC
0141 P007A 10E3
0142
0143
0144
0145 P0073 0000
0146 P007C 0806
0147 P007D 0115
0148 P007E 08D4
0149 P007F C8D4
0150 P0080 09FE
0151 P0081 68U2
0152 P0082 10F8
0153 P0083 0814
0154 P0084 58CE
0155 P0085 10F5
0156
0157
0158
0159 P0086 0000
0160 P0087 00CC
0161 P0088 E8CA

```

```

*
* THIS ROUTINE CONVERTS A HEX (ASCII) FIELD TO BINARY.
*
HEX NUM 0
CLR A
STA* NUM INITIALIZE CONVERTED VALUE
ENA -5
STA* NUM+1 INITIALIZE DIGIT COUNT
*
HEX3 RTJ* GET GET A CHARACTER
INA -$30 UNDER $30 CHECK
SAP HEX+--*-1 SKIP ON NUMERIC - MAYBE
JMP* HEX10 NOT NUMERIC
*
HEX4 TRA Q
INQ -$A
SQM HEX+05--*-1 SKIP ON DIGIT 0 THRU 9
INA -7
INQ -7
SQM HEX10--*-1 SKIP IF NON-NUMERIC
INQ -5 UNDER $47 CHECK
SQP HEX10--*-1 SKIP IF NON-NUMERIC
HEX405 LDQ* NUM CONVERTED DIGIT IN A
QLS +
FAQ A
STA* NUM PACKED DIGIT IS STORED
RAO* NUM+1
LDA* NUM+1
SAN HEX5--*-1 SKIP IF 4 OR LESS DIGITS
JMP* TRN+5 FORMAT ERROR - BACK TO CONTROL PROGRAM
HEX5 JMP* HEX3 CONTINUE
HEX10 RTJ* BACK BACK UP SCAN BY ONE
LDA* NUM
JMP* (HEX) RETURN
*
* THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER.
*
BACK NUM 0
LDA* CHAR
SAN BACK1--*-1 SKIP IF ON RIGHT CHARACTER
RAO* CHAR SET RIGHT CHARACTER
LDA* WDI
INA -1 REDUCE WORD INDEX BY ONE
STA* WDI
JMP* (BACK)
*
BACK1 CLR A
STA* CHAR SET TO LEFT CHARACTER
JMP* (BACK)
*
* THIS SUBROUTINE JNPACKS 1 CHARACTER FROM INPUT BUFFER. RETURNS IN A.
*
GET NUM 0
LDA* (WDIX),I CHARACTER WORD
LDQ* CHAR CHARACTER FLAG 0=LEFT 1=RIGHT

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M9200109
M9200110
M9200111
M9200112
M9200113
M9200114
M9200115
M9200116
M9200117
M9200118
M9200119
M9200120
M9200121
M9200122
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M9200156
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M9200159
M9200160
M9200161

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0162	P0089	0151		SQN	GET1--1	SKIP IF RIGHT CHARACTER	M9200162
0163	P008A	0FC8		ALS	8		M9200163
0164	P008B	A00A	GET1	AND-	%A	UNPACK	M9200164
0165	P008C	0144		SQZ	GET2--1	SKIP IF LEFT CHARACTER	M9200165
0166	P008D	0842		CLR	Q		M9200166
0167	P008E	48C4		STQ*	CHAR	SET TO LEFT CHARACTER	M9200167
0168	P008F	08C4		RAO*	WDIX	GO TO NEXT BUFFER WORD	M9200168
0169	P0090	1CF5		JMP*	(GET)	RETURN	M9200169
0170			*				M9200170
0171	P0091	08C1	GET2	RAO*	CHAR	SFT TO RIGHT CHARACTER	M9200171
0172	P0092	E8C1		LDQ*	WDIX	TEST FOR BUFFER END	M9200172
0173	P0093	CDDA		INQ	-37		M9200173
0174	P0094	0141		SQZ	OFLOW--1	SKIP IF PAST BUFFER END	M9200174
0175	P0095	1CF0		JMP*	(GET)		M9200175
0176	P0096	CAC0	OFLOW	ENA	0		M9200176
0177	P0097	1128		JMP-	+0,I	PRINT DIAGNOSTIC	M9200177
0178				END			M9200178

PGM= 0098 (152) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0013
0009	NRTS	000F	(000015) 0055, 0083, 0086, 0091

S Y N B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	TRM	0000	007+, 0099
0021	TRM1	0009	
0030	TRM2	0014	0025, 0027
0032	TRM3	0015	0023, 0075
0044	TRM4	0020	0038
0049	TRYFF	0025	0047
0045	TRM45	0028	0062, 0137
0054	TRM5	002A	0043, 0048, 0050
0056	TRM6	002E	0042
0057	TRM7	002C	0061
0058	TRM8	0032	0060
0059	TRM9	0033	0058
0095	TRM95	003E	0071
0099	TRM10	003F	0063
0077	TRM11	0040	0066
0080	TREM	0041	0068, 0087, 0095
0091	TRM30	0049	0080
0092	TRM31	004A	0093
0095	TRM32	004E	0093
0099	TRM33	0051	0097
0101	BUFLOW	0052	
0102	CHAR	0053	0017, 0069, 0140, 0143, 015+, 0161, 0167, 0171
0103	NDIX	0054	0019, 0032, 0070, 0149, 0151, 0160, 0168, 0172
0104	BASE	0055	0035, 0040, 0041, 0057, 0085, 0094
0105	VUM	0056	0114, 0116, 0130, 0133, 013+, 0135, 0140
0106	FSTRT	0057	0033, 0051
0107	TEMP	005D	0015, 0056, 0082, 0084, 0092
0112	HEX	005E	0034, 0039, 0141
0118	HEX3	0063	0138
0122	HEX+	0067	0120
0125	HEX405	006F	0124
0138	HEX505	0077	0136
0139	HEX10	0078	0121, 0127, 0129
0145	BACK	007E	0054, 0139, 0152, 0155
0153	BACK1	0083	0147
0159	GET	0086	0021, 0036, 006+, 0118, 0169, 0175
0164	GET1	008D	0162
0171	GET2	0091	0165
0175	OFLOW	0096	0174

*** ALPHABETICAL SORT OF SYMBOLS ***

BACK	0145	BACK1	0153	BASE	0164	BUFLOC	0181	CHAR	0182	FSTRT	0186	GET	0159	GET1	0164	GET2	0171
HEX	0112	HEX10	0139	HEX3	0118	HFX-	0122	HEX-5	0130	HEX5	0138	I	0000	NOTS	0009	NJM	0105
OFFLOW	0176	TEMP	0167	TREM	0080	TRM	0011	TRM1	0021	TRM10	0074	TRM11	0075	TRM2	0030	TRM3	0032
TRM3C	0091	TRM31	0092	TRM32	0095	TRM33	0099	TRM+	0047	TRM45	0051	TRM	0054	TRM6	0055	TRM7	0056
TRM8	0062	TRM9	0063	TRM95	0073	TRYFF	0049	WDIX	0103								

NAM ENT001 DECK-ID M93 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

* THIS PROGRAM OPERATES AS AN OVERLAY CALLED VIA GTFIELD IN BREAKPOINT
 * CONTROL. IT PROCESSES *LHX, *LIT, *LAS, *LSP, *LDP STATEMENTS.
 * IT IS ENTERED WITH THE LOCATION OF THE 1ST CELL OF THE TABLE
 * BLOCK IN A. IT DOES EVERYTHING ELSE ITSELF.

ENTCJR NUM 0 ENTRY FROM BREAKPOINT CONTROL
 INA 12
 STA- I LOCATION OF INPUT BUFFER TO I
 LDA- 1,I GET THIRD INPUT CHARACTER
 ALS 8
 AND- 6 CONTAINS \$F
 CLR Q
 INA -1
 SAZ ENT0--1 SKIP IF ASCII INPUT
 INA -3
 SAM ENT1--1 SKIP ON SINGLE PRECISION FP
 SAZ ENT2--1 SKIP ON DOUBLE PRECISION FP
 INA -4
 SAZ ENT3--1 SKIP ON HEX INPUT
 INQ 3 DECIMAL INPUT
 ENT3 INQ 3
 ENT2 INQ 3
 ENT1 INQ 3
 ENTC INQ JIMPLST-CONVRT
 ADD =N\$18J0 COMPUTE ENTRY TO PROPER CONV. ROUTINE

STQ* CONVRT PLUGS ENTRY TO CONVERSION ROUTINE

* THE FOLLOWING INITIALIZES THE GET SUBROUTINE.

ENQ 2 INDEX TO 1ST STATEMENT DELIMITOR
 STQ WDIX
 CLR A
 STA CHAR SET FOR LEFT CHARACTER

* PTJ GET GET NEXT CHARACTER

SUB =N\$2C

SAZ ENT+-*-1 SKIP IF A COMMA
 ENA 2
 JMP- 40,I BACK TO CONTROL PROGRAM

* ENT4 LDA WDIX
 STA FSTRT SAVE FIELD START INDEX

00001
 00002
 00003
 00004
 00005
 00006
 00007
 00008
 00009
 00010
 00011
 00012
 00013
 00014
 00015
 00016
 00017
 00018
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M9300001
 M9300002
 M9300003
 M9300004
 M9300005
 M9300006
 M9300007
 M9300008
 M9300009
 M9300010
 M9300011
 M9300012
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 M9300039
 M9300040
 M9300041
 M9300042
 M9300043
 M9300044
 M9300045
 M9300046
 M9300047

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0043 P0027 0A00 ENA 0 M9300048
0049 P0028 5800 RTJ HEX CONVERT BASE ADDRESS M9300049
P0029 509F
0050 P002A 5800 STA BASE M9300050
P002B 5092
0051 P002C 5800 RTJ GET GET NEXT CHARACTER M9300051
P002D 00DD
0052 P002E 09D3 INA -$20 M9300052
0053 P002F 0103 SAZ ENT5--*-1 SKIP ON COMMA M9300053
0054 P0030 C800 LDA FSTRT M9300054
P0031 0596
0055 P0032 1128 JMP- 40,I BAD DELIMITOR M9300055
0056 P0033 0A00 ENA J M9300056
0057 P0034 5800 RTJ HEX CONVERT INCREMENT M9300057
P0035 5093
0058 P0035 8800 ADD BASE M9300058
P0036 0086
0059 P0038 6800 STA BASE EFFECTIVE ADDRESS CALCULATED M9300059
P0039 0084
0060 P003A 5800 RTJ GET GET NEXT CHARACTER M9300060
P003B 00CF
0061 P003C 09D0 INA -$2F M9300061
0062 P003D 0101 SAZ ENT5--*-1 SKIP IF SLASH M9300062
0063 P003E 18F1 JMP* ENT45 BAD DELIMITOR M9300063
0064 P003F C800 LDA WJIX M9300064
P0040 007C
0065 P0041 0800 STA FSTRT M9300065
P0042 0085
0066 P0043 5800 RTJ* CONV CONVERT AND STORE NEXT VALUE M9300066
0067 P0044 5800 RTJ GET GET NEXT CHARACTER M9300067
P0045 00C5
0068 P0046 09D3 INA -$20 M9300068
0069 P0047 0111 SAN ENT7--*-1 SKIP ON NO COMMA M9300069
0070 P0048 18F6 JMP* ENT5 M9300070
0071 P0049 090C ENT7 INA $C IS IT A BLANK M9300071
0072 P004A 0112 SAN TRYFF M9300072
0073 P004B 1800 JMP ENT8 M9300073
P004C 00C5
0074 P004D 9000 TRYFF SUB =N$DF IS IT A FF M9300074
P004E 00DF
0075 P004F 0101 SAZ ENT8--*-1 SKIP ON END OF STATEMENT M9300075
0076 P0050 18DF JMP* ENT45 M9300076
0077 P0051 1CAE ENT8 JMP* (ENTCOR) STATEMENT PROCESSING COMPLETE M9300077
M9300078
M9300079
M9300080
M9300081
M9300082
M9300083
M9300084
M9300085
M9300086
M9300087
0081 PC052 0000 CONV NUM 0 NON-ZERO MEANS CONVERT AND STORE DATA
0082 P0053 0A01 ENA 1 ZERO MEANS CONVERT BUT DO NOT STORE.
0083
0084
0085
0086
0087
* THE FOLLOWING INSTRUCTION IS PLUGGED ON PROGRAM ENTRY
* TO GO TO THE PROPER CONVERSION AND STORE ROUTINE.

```

0088
 0089
 0090
 0091
 0092
 0093
 0094
 0095
 0096
 0097
 0098
 0099
 0100
 0101
 0102

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*
CONVRT NUM 0
*
* THE INSTRUCTION AT CONVRT JUMPS TO ONE OF THE FOLLOWING.
*
JMP* (CONV)
RTJ ASCII ASCII
RTJ SPRE SINGLE PRECISION FLOATING POINT
JMP* (CONV)
RTJ DPRE DOUBLE PRECISION FLOATING POINT
JMP* (CONV)
RTJ HEX HEXADECIMAL
JMP* (CONV)
RTJ DEC DECIMAL
JMP* (CONV)

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M9300088
 M9300089
 M9300090
 M9300091
 M9300092
 M9300093

 M9300094
 M9300095

 M9300096
 M9300097

 M9300098
 M9300099

 M9300100
 M9300101

 M9300102

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0104      *
0105      * THIS ROUTINE UNPACKS ASCII CHARACTERS AND REPACKS THEM
0106      * TWO PER WORD AND STORES THEM. IT CHECKS FOR PROTECT ERROR ALSO.
0107      *
0108      ASCII  NUM  J
0109      P0064 000C CLR  A
0110      P0065 0844 STA* NJM+1
0111      P0066 6859 RTJ  GET          SET LEFT/RIGHT FLAG TO LEFT
0112      P0067 5800          GET A CHARACTER
0113      P0068 00A2          SUB- $A          CONTAINS $FF
0114      P0069 900A          SAN  ASC3--*-1   SKIP IF NOT DONE
0115      P006A 011D          RTJ  BACK          BACK SCAN UP BY ONE
0116      P006B 5800          LDA* NUM+1
0117      P006C 0093          SAN  ASC21--*-1  SKIP ON RIGHT CHARACTER
0118      P006D C852          JMP* (ASCII)     DONE
0119      P006E 0111          LDA- $A
0120      P006F 1CF4          EOR* NUM        ADD $FF TO RIGHT OF LAST CHARACTER
0121      P0070 C00A          STA* NUM
0122      P0071 884D          RTJ* PCHK       PROTECT CHECK
0123      P0072 684C          LDA* NJM
0124      P0073 587B          STA* (BASE)    STORE LAST WORD
0125      P0074 C84A          RAO* BASE
0126      P0075 6C48          JMP* (ASCII)   DONE
0127      P0076 D847          *
0128      P0077 1CEC          *
0129      P0078 800A          ASC3  ADD- $A
0130      P0079 E846          LDQ* NUM+1
0131      P007A 0154          SQN  ASC4--*-1  SKIP ON RIGHT CHARACTER
0132      P007B 0FC8          ALS  8
0133      P007C D843          RAO* NJM+1     SET FLAG TO RIGHT
0134      P007D 6841          STA* NUM
0135      P007E 18F8          JMP* ASC1
0136      P007F B83F          EOR* NJM       ADD FIRST TO SECOND CHARACTER
0137      P0080 C842          CLR  Q
0138      P0081 483E          STQ* NUM+1    SFT FLAG TO LEFT
0139      P0082 583C          STA* NUM
0140      P0083 586B          RTJ* PCHK     PROTECT CHECK
0141      P0084 C83A          LDA* NJM
0142      P0085 6C38          STA* (BASE)   STORE THE WORD
0143      P0086 D837          RAO* BASE     UPDATE STORE ADDRESS
0144      P0087 18DF          JMP* ASC1     CONTINUE

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M9300104
M9300105
M9300106
M9300107
M9300108
M9300109
M9300110
M9300111
M9300112
M9300113
M9300114
M9300115
M9300116
M9300117
M9300118
M9300119
M9300120
M9300121
M9300122
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M9300134
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M9300137
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M9300140
M9300141
M9300142

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0144
0145
0146
0147
0148 P0088 0000
0149 P0089 0834
0150 P008A 8834
0151 P008B 8834
0152 P008C 5834
0153 P008D CCAF9
0154 P008E 8833
0155 P008F 587B
0156 P0090 8830
0157 P0091 015A
0158 P0092 09D4
0159 P0093 0112
0160 P0094 D82C
0161 P0095 18F9
0162 P0096 09FD
0163 P0097 0112
0164 P0098 D827
0165 P0099 18FA
0166 P009A D826
0167 P009B C92D
0168 P009C E825
0169 P009D 0152
0170 P009E C829
0171 P009F 1128
0172 P00A0 D821
0173 P00A1 09CF
0174 P00A2 0121
0175 P00A3 186F
0176 P00A4 09F5
0177 P00A5 0131
0178 P00A6 180C
0179 P00A7 090A
0180 P00A8 681A
0181 P00A9 0ACA
0182 P00AA 2814
0183 P00AB 0141
0184 P00AC 18F1
0185 P00AD 8815
0186 P00AE 01B1
0187 P00AF 18EE
0188 P00B0 680E
0189 P00B1 18DD
0190
0191
0192 P00B2 584D
0193 P00B3 583B
0194 P00B4 C80A
0195 P00B5 E80A
0196 P00B6 0141

```

```

*
* THIS SUBROUTINE CONVERTS SIGNED DECIMAL INTEGERS TO BINARY
* AND STORES THEM AFTER CHECKING FOR A PROTECT ERROR.
*
DEC NUM 0
CLR A
STA* NUM CLEAR NUMBER
STA* NUM+1 SET SIGN POSITIVE
STA* NUM+2 SET 1ST CHARACTER FLAG TO 1ST
FNA -8
STA* NUM+3 SET DIGIT COUNT

*
DEC1 RTJ* GET GET A CHARACTER
LDQ* NUM+2
SQN DEC8--*-1 SKIP ON NOT 1ST CHARACTER
DEC2 INA -32B
SAN DEC5--*-1 SKIP IF NOT A PLUS
DEC3 RAO* NUM+2 TURN OFF 1ST CHARACTER FLAG
JMP* DEC1
DEC5 INA -2
SAN DEC5--*-1 SKIP IF NOT A MINUS
RAO* NUM+1 SET SIGN NEGATIVE
JMP* DEC3
DEC6 RAO* NUM+2 TURN OFF 1ST CHARACTER FLAG
INA $2D
DEC8 LDQ* NUM+3
SQN DEC9--*-1 SKIP IF LESS THAN 5 DIGITS
DEC85 LDA* FSTRT
JMP- 40,I TOO MANY DIGITS
DEC9 RAO* NUM+3 UPDATE DIGIT COUNT
INA -$30
SAP DEC10--*-1 SKIP ON OK SO FAR
JMP* DEC30 NOT A DECIMAL DIGIT
DEC10 INA -$A
SAM DEC11--*-1 SKIP ON DECIMAL DIGIT
JMP* DEC30
DEC11 INA $A
STA* NUM+4
ENA 10
MUI* NUM
SQZ DEC12--*-1 SKIP IF NUMBER LESS THAN 32768
JMP* DEC85 NUMBER TOO LARGE
DEC12 ADD* NUM+4
SNO DEC13--*-1 SKIP IF NO. LESS THAN 32768
JMP* DEC85 NUMBER TOO LARGE
DEC13 STA* NUM SAVE CURRENT PROCEEDS
JMP* DEC1 GO GET NEXT DIGIT

*
DEC3J RTJ* BACK BACK UP SCAN BY ONE
RTJ* PCHK PROTECT CHECK
LDA* NUM
LDQ* NUM+1
SQZ DEC31--*-1 SKIP IF NUMBER IS POSITIVE

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0197	P00B7	0864		TCA	A	COMPLEMENT A NEGATIVE	M9300197
0198	P00B8	6CC5	DEC31	STA*	(BASE)	STORE THE DATA	M9300198
0199	P00B9	0804		RAO*	BASE	SET FOR NEXT CELL	M9300199
0200	P00BA	1CC0		JMP*	(DEC)	DONE	M9300200
0201			*				M9300201
0202	P00BB	0001	CHAR	BSS	CHAR(1)	CHARACTER FLAG FOR UNPACKING - 0=LEFT 1=RIGHT	M9300202
0203	P00BC	0001	WDIX	BSS	WDIX(1)	INDEX TO CURRENT BUFFER WORD	M9300203
0204	P00BD	0001	BASE	BSS	BASE(1)	EFFECTIVE STORE ADDRESS	M9300204
0205	P00BE	0009	NUM	BSS	NUM(9)	CONVERSION SCRATCH	M9300205
0206	P00C7	0001	FSTRT	BSS	FSTRT(1)	FIELD START INDEX	M9300206

```

0208 * THIS SUBROUTINE CONVERTS ASCII-HEX VALUES TO BINARY IF A=0.
0209 * IF A IS NOT ZERO IT ALSO CHECKS FOR PROTECT ERRORS AND STORES DATA.
0210 *
0211 HEX NUM 0
0212 P000C9 68F5 STA* NUM+2
0213 P000CA C8F5 HEX1 LDA* NUM+2
0214 P000CB 0101 SAZ HEX2--*-1 SKIP IF CONVERT ONLY
0215 P000CC 5822 RTJ* PCHK PROTECT CHECK
0216 P000CD 08-4 HEX2 CLR A
0217 P000CE 68EF STA* NUM INITIALIZE CONVERTED VALUE
0218 P000CF 0AFA ENA -5
0219 P000D0 68EE STA* NUM+1 DIGIT COUNT INITIALIZED
0220 P000D1 5839 HEX3 RTJ* GET GRT A CHARACTER
0221 P000D2 09CF INA -$30 UNDER $30 CHECK
0222 P000D3 0121 SAP HEX+-*-1 SKIP ON OK NUMBER
0223 P000D4 1812 JMP* HEX10 NON-NUMBER
0224 P000D5 1822 HEX4 TRA Q
0225 P000D6 0DF5 INQ -$A
0226 P000D7 0175 SQM HEX405--*-1 DIGIT IS 0 THRU 9 AND IN A
0227 P000D8 09F8 INA -7
0228 P000D9 0DF8 INQ -7 OVER $40 CHECK
0229 P000DA 017B SQM HEX10--*-1 SKIP ON NON NUMBER
0230 P000DB 0DF9 INQ -5 UNDER $47 CHECK
0231 P000DC 0169 SQP HEX10--*-1 SKIP ON NON NUMBER
0232 P000DD E8E0 HEX405 LDQ* NJM CONVERTED DIGIT IN A
0233 P000DE 0FA4 QLS 4
0234 P000DF 0874 EAQ A
0235 P000E0 680D STA* NUM PACKED DIGIT IS STORED
0236 P000E1 080D RAO* NUM+1
0237 P000E2 C80C LDA* NJM+1
0238 P000E3 0111 SAN HEX5--*-1 SKIP ON 5 OR LESS DIGITS
0239 P000E4 18B9 JMP* DEC85 BAD DATA
0240 P000E5 18EB HEX5 JMP* HEX3 CONTINUE
0241 *
0242 P000E6 5819 HEX10 RTJ* BACK BACK SCAN UP ONE
0243 P000E7 E8D8 LDQ* NUM+2
0244 P000E8 C8D5 LDA* NJM
0245 P000E9 0151 SQN HEX11--*-1 SKIP IF STORING REQUIRED
0246 P000EA 1CDD JMP* (HEX) DONE
0247 P000EB 6CD1 HEX11 STA* (BASE) STORE THE DATA
0248 P000EC 08D0 RAO* BASE INCREMENT STORE ADDRESS
0249 P000ED 1CDA JMP* (HEX) DONE
0250 *
0251 * THIS SUBROUTINE CHECKS THE STORE ADDRESS TO DETECT
0252 * POSSIBLE PROTECT ERRORS
0253 *
0254 P000EE 0000 PCHK NUM 0
0255 P000EF C8CD LDA* BASE
0256 P000F0 E0F7 LDQ- $F7 CHECK ADDRESS FOR ABOVE START
0257 P000F1 09FE INA -1 OF UNPROTECTED
0258 P000F2 582C RTJ* CMPV4
0259 P000F3 0102 SAZ PCHK1 GREATER THAN START OF UNPROTECTED
0260 P000F4 0900 INA 0

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0251 P00F5 0107          SAZ   PE          NOT IN UNPROTECTED
0252 P00F6 C8C6      PCHK1 LDA*  BASE          TEST FOR LESS THAN END OF UNPROTECTED
0253 P00F7 E0F6          LDQ- SF5
0254 P00F8 5826          RTJ* CMPV4          ADDRESS IS OK
0255 P00F9 6102          SAZ   PCHK2
0256 P00FA 0900          INA   0
0257 P00FB 0111          SAN   PE          ADDRESS NOT OK, PROTECT VIOLATION
0258 P00FC 1CF1      PCHK2 JMP*  (PCHK)
0259 P00FD C8C9      PE     LDA*  FSTRT
0270 P00FE 1129          JMP-  41,I          PROTECT ERROR - BACK TO BRKPTD
0271 *
0272 * THE FOLLOWING BACKS THE SCAN UP ONE CHARACTER.
0273 *
0274 P00FF 0000      BACK  NUM   0
0275 P0100 C8BA          LDA*  CHAR
0276 P0101 0115          SAN  BACK1--1          SKIP ON RIGHT
0277 P0102 D8B8          RAO*  CHAR          SET TO RIGHT
0278 P0103 C8B8          LDA*  WDIX
0279 P0104 09FE          INA  -1
0280 P0105 68B5          STA*  WDIX          BACK UP ONE WORD
0281 P0106 1CF8          JMP*  (BACK)
0282 P0107 0844      BACK1 CLR   A
0283 P0108 68B2          STA*  CHAR          SET TO LEFT CHARACTER
0284 P0109 1CF5          JMP*  (BACK)
0285 *
0286 * THIS SUBROUTINE UNPACKS A CHARACTER FROM THE INPUT BUFFER
0287 * AND RETURNS IT IN A.
0288 *
0289 P010A 0000      GET   NUM   0
0290 P010B CDB0          LDA*  (WDIX),I          GET CHARACTER WORD
0291 P010C E8AE          LDQ*  CHAR          CHARACTER FLAG 0=LEFT 1=RIGHT
0292 P010D 0151          SQN  GET1--1          SKIP ON RIGHT CHARACRER
0293 P010E 0FC8          ALS   8
0294 P010F A00A      GET1  AND-  $A          UNPACK IT
0295 P0110 0144          SQZ  GET2--1          SKIP ON LEFT
0296 P0111 0842          CLR   Q
0297 P0112 48A8          STQ*  CHAR          UPDATE LEFT/RIGHT FLAG
0298 P0113 D8A8          RAO*  WDIX          UPDATE WORD INDEX
0299 P0114 1CF5          JMP*  (GET)          RETURN
0300 *
0301 P0115 D8A5      GET2  RAO*  CHAR          UPDATE LRFT/RIGHT FLAG
0302 P0116 E8A5          LDQ*  WDIX          TEST FOR BUFFER END
0303 P0117 0DDA          INQ  -37
0304 P0118 J141          SQZ  OFLOW--1          END OF BUFFER - ERROR
0305 P0119 1CF0          JMP*  (GET)          RETURN
0306 P011A 0A00      OFLOW ENA   0
0307 P011B 1128          JMP-  +0,I          TO PRINT DIAGNOSTIC
0308 *
0309 P011C 18FD      SPRE  JMP*  OFLOW          *****HOOK FOR SINGLE PRECISION INPUT
0310 P011D 18FC      DPRE  JMP*  OFLOW          *****HOOK FOR DOUBLE PRECISION INPUT

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0312      *
0313      *      ADDRESS COMPARE ROUTINE
0314      *
0315      *      A.ST.Q      DIFFERENCE RETURNED IN A
0316      *      A.EQ.Q      A EQUAL Q
0317      *      A.LT.Q      A EQUAL $FFFF
0318      *
0319      *
0320 PG11E 0B00  CMPV4  NOP  0
0321 PG11F 0132      SAM  AUPPER  A IN UPPER BANK
0322 PG120 0165      SQP  BTHSAM  BOTH IN LOWER BANK
0323 PG121 1808      JMP* QBIGER  A IN LOWER, Q IN UPPER
0324 PG122 0173  AUPPER SQM  BTHSAM  BOTH IN UPPER BANK
0325 PG123 0852      TCQ  Q      A IN UPPER, Q IN LOWER
0326 PG124 0834      AAQ  A      GET DIFFERENCE IN A
0327 PG125 1805      JMP* ABIGER
0328 PG126 0852  BTHSAM TCQ  Q
0329 PG127 0834      AAQ  A
0330 PG128 0121      SAP  ABIGER  SUBTRACT Q FROM A
0331 PG129 0804      SET  A      A IS BIGGER
0332 PG12A 1CF3  ABIGER JMP* (CMPV4)  Q IS BIGGER
0333      END

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PGM= 012B (299) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0013

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	ENTCOR	000C	0077
0026	ENT3	000F	0024
0027	ENT2	0010	0022
0028	ENT1	0011	0021
0029	ENTC	0012	0019
0046	ENT4	0023	0042
0054	ENT45	0036	0063, 0076
0055	ENT5	0033	
0064	ENT6	003F	0062, 0070
0071	ENT7	0049	0069
0074	TRYFF	004D	0072
0077	ENT8	0051	0073, 0075
0082	CONV	0052	0066, 0094, 0096, 0098, 0100, 0102
0089	CONVRT	0054	0029, 0031
0093	JMPLST	0055	0029
0108	ASCI1	0064	0093, 0117, 0125
0111	ASC1	0067	0133, 0142
0114	ASC2	006B	
0118	ASC21	0070	0116
0127	ASC3	0078	0113
0134	ASC4	007F	0129
0148	DEC	0088	0101, 0200
0156	DEC1	008F	0162, 0190
0159	DEC2	0092	
0161	DEC3	0094	0166
0163	DEC5	0096	0160
0167	DEC6	009A	0164
0169	DEC8	009C	0158
0171	DEC85	009E	0185, 0188, 0239
0173	JDEC9	00A0	0170
0177	JDEC10	JGA4	0175
0180	DEC11	00A7	0178
0186	JDEC12	JCAD	0184
0189	JDEC13	JUB0	0187
0192	JDEC30	JCB2	0176, 0179
0198	DEC31	00B8	0195
0202	CHAR	00BB	0038, 0275, 0277, 0283, 0291, 0297, 0301
0203	WDIX	00BC	0036, 0046, 0064, 0278, 0280, 0290, 0298, 0302
0204	BASE	00BD	0050, 0058, 0059, 0123, 0124, 0140, 0141, 0198, 0199, 0247, 0248, 0255, 0262
0205	NUM	00BE	0110, 0115, 0119, 0120, 0122, 0128, 0131, 0132, 0134, 0136, 0137, 0139, 0150, 0151, 0152, 0154
			0157, 0161, 0165, 0167, 0169, 0173, 0181, 0183, 0185, 0189, 0194, 0195, 0212, 0213, 0217, 0219

0206 =STRT 00C7
 0211 HEX 00C8
 0213 HEX1 00CA
 0216 HEX2 00CD
 0220 HEX3 00D1
 0224 HEX4 00D5
 0232 HEX405 00DD
 0240 HEX5 00E5
 0242 HEX10 00E6
 0247 HEX11 00EB
 0254 PCHK 00EE
 0262 PCHK1 00F6
 0268 PCHK2 00FC
 0269 PE 00FD
 0274 BACK 00FF
 0282 BACK1 0107
 0289 GET 010A
 0294 GET1 010F
 0301 GET2 0115
 0306 JFLOW 011A
 0309 SPRE 011C
 0310 JPRE 011D
 0320 CMPV4 011E
 0324 AUPPER 0122
 0328 BTHSAM 0126
 0331 QBIGER 0129
 0332 ABIGER 012A

0232, 0235, 0236, 0237, 0243, 0244
 0047, 0054, 0065, 0171, 0269
 0049, 0057, 0099, 0246, 0249

 J214
 J240
 0222
 J226
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 0223, 0229, 0231
 J243
 J121, 0138, 0193, 0215, 0268
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 J114, 0192, 0242, 0281, 0284
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 0040, 0051, 0060, 0067, 0111, 0156, 0220, 0299, 0305
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 0258, 0264, 0332
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 0327, 0330

SUMMARY-110M9400001

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NAM RESJM1          DECK-ID M94  MSOS 5.0
* MASS STORAGE OPERATING SYSTEM VERSION 5.0
* SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
* COPYRIGHT CONTROL DATA CORPORATION 1976
* THIS PROGRAM PROCESSES *END STATEMENTS FOR BREAKPOINT.
* NORMAL EXIT FROM THIS PROGRAM IS TO THE USER.
NBTS EQU NBTS(15)   MAXIMUM NUMBER OF BREAKPOINTS
*
RESUME NUM 0        SAVE TABLE BASE
STA- I
STA* BASE
ENQ 56+2*NBTS
LDA- ($22),B       CHECK FOR 1ST ENTRY (FROM MONITOR)
SAZ RESME- *-1    SKIP IF NOT 1ST TIME
STA* RET+1        SET JUMP TO USER PROGRAM
CLR A
STA- ($22),B      CLEAR 1ST PASS FLAG
RET JMP+ 0        TO USER PROGRAM
*
RESME LDA- 54,I    GET BREAKPOINT LOCATION
STA* LOC
INA 1
STA* LOC1
INA 1
STA* LOC2
LDA- NBTS+55,I    GET INSTRUCTION AT BREAKPOINT (SAVED)
STA* INSTR
CLR Q
LLS +
STQ* INSTN
SQN RESME3- *-1
JMP* SRR1
*
RESME3 ENQ 0
LLS +
STQ* MODE
ENQ 0
LLS 8
STQ* DELT
LDA* MODE        CHECK MODE TYPE
INA -8
SAP RESM05- *-1
JMP* RESMEA
RESM05 INA -4
SAP RESME4- *-1
JMP* RESMED
RESME4 LDA* INSTR
AND =NB$F300
INDIRECT RELATIVE MODE
MAKE TWO WORD RELATIVE ABSOLUTE
ADD- $20

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0108 P0059 0000
0109 P005A 0000
0110 P005B C000
0111 P005C 0000
0112 P005D 0000
0113 P005E 0000
0114 P005F 0000
0115 P0060 C000
0116 P0061 0000
0117 P0062 0000
0118 P0063 0000
0119 P0064 0001
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0122
0123 P0065 E8F9
0124 P0066 0FA8
0125 P0067 0F28
0126 P0068 F8F0
0127 P0069 C8F0
0128 P006A 181C
0129
0130 P006B 0842
0131 P006C 0FE4
0132 P006D 0157
0133 P006E C8F1
0134 P006F 6829
0135 P0070 C8EB
0136 P0071 6828
0137 P0072 C8E7
0138 P0073 6828
0139 P0074 1816
0140
0141 P0075 0DFE
0142 P0076 0141
0143 P0077 18F6
0144 P0078 0842
0145 P0079 0FC4
0146 P007A 0FE4
0147 P007B F8DE
0148 P007C 4821
0149 P007D C8E2
0150 P007E 681A
0151 P007F C8DC
0152 P0080 A016
0153 P0081 0902
0154 P0082 6817
0155 P0083 C8D6
0156 P0084 6817

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*
*****
*
CONSTANTS
*
LOC NUM 0 LOCATION OF INSTRUCTION
LOC1 NUM 0 1 WORD LOC. FOLLOWING INSTR.
LOC2 NUM 0 2 WORD LOC. FOLLOWING INSTR.
INSTR NUM 0 INSTRUCTION AT LOC
INSTN NUM 0 1ST 4 BITS OF INSTRUCTION
MODE NUM 0 MODE OF OPERATION
DELT NUM 0 DELTA
NOP NOP
REGQ NUM 0 Q REGISTER SAVED
REGA NUM 0 A REGISTER SAVED
REGI NUM 0 I REGISTER SAVED
BASE BSS BASE(1) BRKPTD TABLES BASE ADDRESS
*
*****
*
RESMEE LDQ* DELT 1 WORD DIRECT RELATIVE
QLS 8 MAKE 2 WORD ABS. COMMAND
QRS 8
ADQ* LOC
LDA* LOC1
JMP* RETURN
*
SRR1 CLR Q SKIP OR REGISTER REF. INSTRUCTION
LLS 4
SQN SRR11-*--1
SRR1D LDA* NOP GET NOP INSTRUCTION
STA* INST1
LDA* INSTR
STA* INST2
LDA* LOC1
STA* RL
JMP* RETRN
*
SRR11 INQ -1
SQZ SRR12-*--1
JMP* SRR1D
SRR12 CLR Q NOT A SKIP INSTRUCTION
ALS 4 SKIP INSTRUCTION
LLS 4
ADQ* LOC1
STQ* RL3KP
LDA* NOP
STA* INST1
LDA* INSTR
AND - $16
INA 2
STA* INST2
LDA* LOC1
STA* RL

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0157 P0085 1805      JMP* RETRN
0158
0159 P0086 6815      *
0160 P0087 4812      RETURN STA* RL
0161 P0088 C0FF      STQ* INST2
0162 P0089 680F      LDA- I
0163
0164 P008A 0002      *
0165 P008B CED8      RETRN ENQ 2
0166 P008C 0AD4      LDA* (BASE),Q
0167 P008D 0DFE      STA* REGQ,Q
0168 P008E 0171      INQ -1
0169 P008F 18FB      SQM RETR05--*-1
0170 P0090 C8CC      RETR05 JMP* RETRN+1
0171 P0091 09FA      LDA* INSTN
0172 P0092 0111      INA -5
0173 P0093 1808      SAN RETRN1--*-1
0174
0175 P0094 C8CE      *
0176 P0095 60FF      RETRN1 LDA* REGI
0177 P0096 E8CA      STA- I
0178 P0097 C8CA      LDQ* REGQ
0179
0180 P0098 0B00      *
0181 P0099 0B00      INST1 NOP 0
0182 P009A 1400      INST2 NOP 0
0183 P009B 0000      RL NUM $1400
0184 P009C 1400      NUM 0
0185 P009D 0000      RLSKP NUM $1400
0186
0187 P009E C8F9      *
0188 P009F 0F48      RTJUMP LDA* INST1
0189 P00A0 A006      ARS 8
0190 P00A1 E0E9      AND- 6
0191 P00A2 E622      LDQ- $E9
0192 P00A3 0142      LDQ- ($22),2
0193 P00A4 E8F4      SQZ IS32K--*-1
0194 P00A5 1805      LDQ* INST2
0195 P00A6 E8F2      JMP* CHECK4
0196 P00A7 0162      IS32K LDQ* INST2
0197 P00A8 E622      SQP CHECK4--*-1
0198 P00A9 18FD      LDQ- ($22),2
0199 P00AA 09FB      JMP* *-2
0200 P00AB 0121      CHECK+ INA -4
0201 P00AC 0905      SAP CHECK5--*-1
0202 P00AD 0106      INA 5
0203 P00AE 09FE      CHECK5 SAZ OVER--*-1
0204 P00AF 0103      INA -1
0205 P00B0 09FE      SAZ X--*-1
0206 P00B1 0104      INA -1
0207 P00B2 F8AF      SAZ Q--*-1
0208 P00B3 F8AF      X ADDQ* REGQ
0209 P00B4 480C      OVER ADD I REGISTER
          STQ* RETJUMP+1

```

```

A CONTAINS RETURN LOCATION
Q CONTAINS 2ND WORD OF INSTRUCTION
I CONTAINS 1ST WORD OF INSTRUCTION

```

GO GET SAVED REGISTERS

CHECK FOR RTJ

RETURN REGISTERS

```

1ST WORD OF INSTRUCTION
2ND WORD OF INSTRUCTION
JUMP
NEXT LOC. FOLLOWING INSTRUCTION
JUMP
SKIP LOCATION

```

RETURN JUMP INSTRUCTION

CHECK MODE SWITCH

```

LOCATION
CHECK IF INDIRECT

```

```

ADD Q REGISTER
ADD I REGISTER

```

```

M9400157
M9400158
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0210 P00B5 1803      JMP* NEXT
0211 P00B6 F8AA      Q      ADQ* REGQ
0212 P00B7 18FC      *      JMP* OVER
0213
0214 P00B8 C8E2      NEXT   LDA* RL
0215 P00B9 6622      STA- ($22),Q
0216 P00BA D805      RAO* RETJMP+1
0217 P00BB C8A7      LDA* REGI
0218 P00BC 60FF      STA- I
0219 P00BD C8A4      LDA* REGA
0220 P00BE E8A2      LDQ* REGQ
0221 P00BF 1400      RETJMP JMP+ 0
0222 P00C0 0000
      END

```

RETURN REGISTERS

```

M9400210
M9400211
M9400212
M9400213
M9400214
M9400215
M9400216
M9400217
M9400218
M9400219
M9400220
M9400221
M9400222

```

PGM= 00C1 (193) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0012, 0052, 0072, 0087, 0094, 0161, 0176, 0218
0009	NBTS	000F	(000015) 0014, 0028

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	RESUME	0000	
0020	RET	0009	0017
0022	RESUME	000B	0016
0036	RESUME3	0018	0033
0046	RESUME33	0022	0044
0049	RESUME4	0025	0047
0061	RESUME33A	0031	0054
0069	RESUME33B	0038	0045
0077	RESUME33F	003F	0070
0083	RESUME33C	0045	0079
0084	RESUME33Z	0046	0082
0091	RESUME33D	004D	0048
0102	RESUME9	0058	0095
0108	LOC	0059	0023, 0064, 0126
0109	LOC1	005A	0025, 0055, 0056, 0060, 0073, 0088, 0097, 0098, 0127, 0137, 0147, 0155
0110	LOC2	005B	0027, 0058, 0074, 0099
0111	INSTR	005C	0029, 0049, 0071, 0084, 0091, 0135, 0151
0112	INSTN	005D	0032, 0170
0113	MODE	005E	0038, 0042, 0077
0114	DELT	005F	0041, 0053, 0061, 0069, 0080, 0083, 0095, 0123
0115	VOP	0060	0133, 0149
0116	REGQ	0061	0166, 0177, 0207, 0211, 0220
0117	REGA	0062	0178, 0219
0118	REGI	0063	0175, 0208, 0217
0119	BASE	0064	0013, 0165
0123	RESUME	0065	0102
0130	SRR1	006B	0034
0133	SRR10	006E	0143
0141	SRR11	0075	0132
0144	SRR12	0078	0142
0159	RETURN	0086	0039, 0067, 0075, 0089, 0100, 0128
0164	RETURN	008A	0139, 0157, 0169
0170	RETR05	0090	0168
0175	RETRN1	0094	0172
0180	INST1	0098	0134, 0150, 0162, 0187
0181	INST2	0099	0136, 0154, 0160, 0193, 0195
0183	RL	009B	0138, 0156, 0159, 0214
0185	RLSKP	009D	0148
0187	RTJUMP	009E	0173
0195	IS32K	00A6	0192
0199	CHECK4	00AA	0194, 0196

0202 CHECK5 00AD
0208 X 00B3
0209 OVER 00B4
0211 Q 00B6
0214 NEXT 00B8
0221 RETJMP 00BF

0200
0204
J202, 0212
J206
0210
0209, 0216

SUMMARY-110M9500001

NAM PRTRF1 DECK-ID M95 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

* THIS PROGRAM PRINTS THE CONTENTS OF P, A, Q, I, AND M
* AT THE CURRENT BREAKPOINT

00001
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PRTRF NUM 0
STA* HOLD SAVE TABLE AREA ADDRESS
LDQ* (HOLD) GET USER Q
RTJ* CONVRT CONVERT TO ASCII
STA* QBUF+1 STORE FOR OUTPUT
STQ* QBUF
RAO* HOLD SET UP FOR NEXT USER REGISTER
LDQ* (HOLD) GET USER A
RTJ* CONVRT CONVERT TO ASCII
STA* ABJF+1 STORE FOR OUTPUT
STQ* ABJF
RAO* HOLD SET UP FOR NEXT REGISTER
LDQ* (HOLD) GET USER I
RTJ* CONVRT
STA* IBJF+1 STORE FOR OUTPUT
STQ* IBUF
RAO* HOLD SET UP FOR NEXT REGISTER
LDQ* (HOLD) GET M CONTENTS
RTJ* CONVRT CONVERT TO ASCII
STA* MBUF+1 STORE FOR OUTPUT
STQ* MBUF
ENQ 4
LDQ* (HOLD),Q GET P CONTENTS
RTJ* CONVRT CONVERT TO ASCII
STA* PBUF+1 STORE FOR OUTPUT
STQ* PBUF
*
PRT1 RTJ* PRT1 COMPUTE BUFFER LOCATION
NUM 0
LDA* PRT1
INA BUF-PRT1
STA* PRTS STORE ADDRESS FOR OUTPUT
ENQ 2
LDA* (HOLD),Q GET OUTPUT UNIT
STA* LU STORE IN REQUEST
*
THUD RTJ- (\$F4) WRITE THE MESS OUT
NUM \$4000,J,0
*
LU NUM 0,23
*
PRTS NUM 0
*
PRT5 LDA* THUD+2

M95000001
M95000002
M95000003
M95000004
M95000005
M95000006
M95000007
M95000008
M95000009
M95000010
M95000011
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0051 P002A 0101
0052 PC02B 18FD
0053 P002C 1CD3
0054 * PRT6

SAZ PRT6--1
JMP* PRT5
JMP* (PRTRES)

SKIP WHEN OUTPUT COMPLETE
WAIT SOME MORE
RETURN

M9500051
M9500052
M9500053
M9500054


```

00356
00357
00358
00359 P002D 0000
00360 P002E 580D
00361 P002F 682C
00362 P0030 580B
00363 P0031 E82A
00364 P0032 1CFA
00365
00366 P0033 0000
00367 P0034 0844
00368 P0035 0FE4
00369 P0036 09F5
00370 P0037 0131
00371 P0038 0907
00372 P0039 093A
00373 P003A 1CF8
00374
00375 P003B 0000
00376 P003C 58F6
00377 P003D 0FC8
00378 P003E 681C
00379 P003F 58F3
00380 P0040 B81A
00381 P0041 1CF9
00382
00383
00384
00385 P0042 503D
00386 P0043 0000
00387 P0044 0000
00388 P0045 2020
00389 P0046 2020
00390 P0047 413D
00391 P0048 0000
00392 P0049 0000
00393 P004A 2020
00394 P004B 2020
00395 P004C 513D
00396 P004D 0000
00397 P004E 2020
00398 P004F 2020
00399 P0050 2020
00400 P0051 493D
00401 P0052 0000
00402 P0053 0000
00403 P0054 2020
00404 P0055 2020
00405 P0056 403D
00406 P0057 0000
00407 P0058 0000
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* THE FOLLOWING CONVERTS A WORD TO 4 HEX DIGITS IN
* A AND Q. MOST SIGNIFICANT DIGITS IN Q. NUMBER IN Q ON ENTRY.

```

```

*
CONVRT NUM 0
RTJ* CON7 GET 2 CHARACTERS
STA* TEMP+1 SAVE THEM TEMPORARILY
RTJ* CON7 2 MORE
LDQ* TEMP+1
JMP* (CONVRT) RETURN
*
CON10 NUM 0
CLR A
LLS 4 SHIFT 1 HEX DIGIT INTO A
INA -$A
SAM CON11-*--1 SKIP IF DIGIT LESS THAN A
INA 7
CON11 INA $3A
JMP* (CON10) RETURN WITH CONVERTED DIGIT IN A
*
CON7 NUM 0
RTJ* CON10 CONVERT 1 DIGIT
ALS 8 PACK LEFT DIGIT
STA* TEMP
RTJ* CON10 CONVERT RIGHT DIGIT
EOR* TEMP PACK IT
JMP* (CON7) RETURN

```

```

* OUTPUT AREA

```

```

*
BUF ALF 1,P=
PBUF NUM 0,0
ALF 3, A=
ABUF NUM 0,0
ALF 3, Q=
QBUF NUM 0,0
ALF 3, I=
IBUF NUM 0,0
ALF 3, M=
MBUF NUM 0,0

```

```

*
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M9500056
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```

0096 P0059 0001 HOLD BSS HOLD(1)
0097 P005A 0001 TEMP BSS TEMP(1)
0098 END

BREAKPOINT TABLE AREA BASE ADDRESS
SCRATCH

M9500096
M9500097
M9500098

PSM= 005B (91) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0009	PRTREG	0000	0053
0037	PRT1	0018	0036, 0038, 0039
0046	THUD	0023	0050
0047	LU	0026	0043
0048	PRTS	0028	0040
0050	PRT5	0029	0052
0053	PRT6	002C	0051
0059	CONVRT	002D	0012, 0017, 0022, 0027, 0032, 0064
0066	CON10	0033	0073, 0076, 0079
0072	CON11	0039	0070
0073	CON7	003B	0060, 0062, 0081
0085	BUF	0042	0039
0086	PBUF	0043	0033, 0034
0088	ABUF	0048	0018, 0019
0090	QBUF	004D	0013, 0014
0092	IBUF	0052	0023, 0024
0094	YBUF	0057	0028, 0029
0096	HOLD	0059	0010, 0011, 0015, 0016, 0020, 0021, 0025, 0026, 0031, 0042
0097	TEMP	005A	0061, 0063, 0078, 0080

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```

*      NAM SETAQ1          DECK-ID M96  MSOS 5.0
*      MASS STORAGE OPERATING SYSTEM VERSION 5.0
*      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
*      COPYRIGHT CONTROL DATA CORPORATION 1976
*
* THIS PROGRAM PROCESSES *SAH, *SQH, AND *SIH FOR BREAKPOINT.
* THE ADDRESS OF THE BREAKPOINT TABLES IS IN A ON ENTRY.
* THIS PROGRAM MOVES CORRECT INPUT DATA TO QX, AX, OR IX IN BRKPTD.
*
SETAQI  NUM  0
        INA  12
        STA- 1          LOCATION OF INPUT BUFFER
        ENA  2          WORD INDEX TO 5TH CHARACTER
        STA* WDIX
        CLR  A
        STA* CHAR      SET CHARACTER FLAG FOR LEFT
*
        RTJ* GET       GET DELIMITOR
        INA  -$2C
        SAZ  SET1-*--1  SKIP IF A COMMA
SET05   ENA  0
        JMP- 40,I      FORMAT ERROR - BACK TO CONTROL PROGRAM
SET1    RTJ* HEX      CONVERT BASE VALUE OF INPUT DATA
        STA* BASE
        RTJ* GET       GET DELIMITOR
        INA  -$2B
        SAZ  SET2-*--1  SKIP IF A PLUS
        INA  $B        IS IT A BLANK
        SAN  TRYFF
        JMP* SET3
        SUB  =N$0F     IS IT A FF
TRYFF   SET3-*--1     SKIP IF STATEMENT END
        JMP* SET05     FORMAT ERROR - BACK TO BRKPTD
SET2    RTJ* HEX      CONVERT INCREMENT
        ADD* BASE
        STA* BASE
        LDA- 1,I      INCREMENT ADDED TO BASE VALUE
SET3    AND- $1A      GET WORD WITH 3RD CHARACTER
        SUB  =N$4900  UNPACK IT
        CLR  Q
        SAZ  SET35-*--1  SKIP IF I TO BE CHANGED
        SAP  SET3-*--1  SKIP IF Q TO BE CHANGED
        SAM  SET4-*--1  SKIP IF A TO BE CHANGED
SET35   INQ  1        Q TO BE CHANGED
SET4    INQ  1
SET5    LDA* BASE     Q HAS INDEX TO QX, AX, OR IX
        INQ  -12
        STA- ($22),B   STORE NEW VALUE IN REGISTER STORAGE
        JMP* (SETAQI)  DONE
*
        WDIX BSS  WDIX(1)  WORD INDEX TO INPUT BUFFER

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M9600002
M9600003
M9600004
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```

0052 P002A 0001 CHAR BSS CHAR(1) CHARACTER FLAG 0=LEFT 1=RIGHT M9600052
0053 P002B 0001 BASE BSS BASE(1) STORAGE FOR NEW VALUE M9600053
0054 P002C 0003 NUM BSS NUM(3) SCRATCH M9600054
0055 * M9600055
0056 * THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER. M9600056
0057 * M9600057
0058 P002F 0000 BACK NUM 0 M9600058
0059 P0030 C8F9 LDA* CHAR M9600059
0060 P0031 0115 SAN BACK1--1 SKIP ON CHAR = RIGHT M9600060
0061 P0032 D8F7 RAO* CHAR M9600061
0062 P0033 C8F5 LDA* WDI* M9600062
0063 P0034 09FE INA -1 M9600063
0064 P0035 68F3 STA* WDI* M9600064
0065 P0036 1CF8 JMP* (BACK) M9600065
0066 P0037 08F4 BACK1 CLR A M9600066
0067 P0038 68F1 STA* CHAR SET CHAR TO LEFT M9600067
0068 P0039 1CF5 JMP* (BACK) M9600068
0069 * M9600069
0070 * THIS SUBROUTINE UNPACKS ONE CHARACTER FROM THE INPUT BUFFER M9600070
0071 * AND RETURNS IT IN A. M9600071
0072 * M9600072
0073 P003A 0000 GET NUM 0 M9600073
0074 P003B CDED LDA* (WDI*),I GET CHARACTER WORD M9600074
0075 P003C E8ED LDQ* CHAR CHARACTER FLAG 0=LEFT 1=RIGHT M9600075
0076 P003D 0151 SQN GET1--1 SKIP ON RIGHT CHARACTER M9600076
0077 P003E 0FC8 ALS 8 M9600077
0078 P003F A03A GET1 AND- $A UNPACK IT M9600078
0079 P0040 0144 SQZ GET2--1 SKIP ON LEFT M9600079
0080 P0041 0842 CLR Q M9600080
0081 P0042 48E7 STQ* CHAR UPDATE CHARACTER FLAG M9600081
0082 P0043 D8E5 RAO* WDI* UPDATE WORD INDEX M9600082
0083 P0044 1CF5 JMP* (GET) RETURN M9600083
0084 P0045 D8E4 GET2 RAO* CHAR UPDATE CHARACTER FLAG M9600084
0085 P0046 E8E2 LDQ* WDI* TEST FOR BUFFER END M9600085
0086 P0047 0DDA INQ -37 M9600086
0087 P0048 J141 SQZ OFLOW--1 SKIP ON INPUT BUFFER END - ERROR M9600087
0088 P0049 1CF0 JMP* (GET) RETURN M9600088
0089 P004A 18BF OFLOW JMP* SET05 M9600089
0090 * M9600090
0091 * THIS ROUTINE CONVERTS A HEX (ASCII) FIELD TO EINARY. M9600091
0092 * M9600092
0093 P004B 0000 HEX NUM 0 M9600093
0094 P004C 0844 CLR A M9600094
0095 P004D 68DE STA* NUM INITIALIZE CONVERTED VALUE M9600095
0096 P004E 0AFA ENA -5 M9600096
0097 P004F 68DD STA* NUM+1 INITIALIZE DIGIT COUNT M9600097
0098 * M9600098
0099 P0050 58E9 HEX3 RTJ* GET GET A CHARACTER M9600099
0100 P0051 09CF INA -$30 UNDER $30 CHECK M9600100
0101 P0052 0121 SAP HEX4--1 SKIP ON NUMERIC - MAYBE M9600101
0102 P0053 1812 JMP* HEX10 NOT NUMERIC M9600102
0103 P0054 0822 HEX4 TRA Q M9600103
0104 P0055 0DF5 INQ -$A M9600104

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0105	P0056	0175		SQM	HEX405--1	SKIP ON DIGIT 0 THRU 9	M9600105
0106	P0057	09F8		INA	-7		M9600106
0107	P0058	0DF8		INQ	-7		M9600107
0108	P0059	017B		SQM	HEX10--1	SKIP IF NON-NUMERIC	M9600108
0109	P005A	0DF9		INQ	-6	UNDER \$+7 CHECK	M9600109
0110	P005B	0169		SQP	HEX10--1	SKIP IF NON-NUMERIC	M9600110
0111	P005C	E8CF	HEX405	LDQ*	NUM	CONVERTED DIGIT IN A	M9600111
0112	P005D	0FA4		QLS	4		M9600112
0113	P005E	0874		EAQ	A		M9600113
0114	P005F	08CC		STA*	NUM	PACKED DIGIT IS STORED	M9600114
0115	P0060	D8CC		RAO*	NUM+1		M9600115
0116	P0061	C8CB		LDA*	NUM+1		M9600116
0117	P0062	0111		SAN	HEX5--1	SKIP IF 4 OR LESS DIGITS	M9600117
0118	P0063	18A6		JMP*	SET05	FORMAT ERROR - BACK TO CONTROL PROGRAM	M9600118
0119	P0064	18EB	HEX5	JMP*	HEX3	CONTINUE	M9600119
0120	P0065	58C9	HEX10	RTJ*	BACK	BACK UP SCAN BY ONE	M9600120
0121	P0066	C8C5		LDA*	NUM		M9600121
0122	P0067	1CF3		JMP*	(HEX)	RETURN	M9600122
0123				END			M9600123

PGM= 0068 (104) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0012

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	SETAQI	0000	0049
0021	SETG5	000A	0033, 0089, 0118
0023	SET1	000C	0020
0031	TRYFF	0014	0029
0034	SET2	0018	0027
0037	SET3	001B	0030, 0032
0044	SET35	0023	0041
0045	SET4	0024	0043
0046	SET5	0025	0042
0051	WDIX	0029	0014, 0062, 0064, 0074, 0082, 0085
0052	CHAR	002A	0016, 0059, 0061, 0067, 0075, 0081, 0084
0053	BASE	002B	0024, 0035, 0036, 0046
0054	NUM	002C	0095, 0097, 0111, 0114, 0115, 0116, 0121
0058	BACK	002F	0065, 0068, 0120
0066	BACK1	0037	0060
0073	SET	003A	0018, 0025, 0083, 0088, 0099
0078	GET1	003F	0076
0084	GET2	0045	0079
0089	OFLOW	004A	0087
0093	HEX	004B	0023, 0034, 0122
0099	HEX3	0050	0119
0103	HEX4	0054	0101
0111	HEX405	005C	0105
0119	HEX5	0064	0117
0120	HEX10	0065	0102, 0108, 0110

*** ALPHABETICAL SORT OF SYMBOLS ***

BACK	0058	BACK1	0066	BASE	0053	CHAR	0052	GET	0073	GET1	0078	GET2	008+	HEX	0093	HEX10	0120
HEX3	0099	HEX4	0103	HEX405	0111	HEX5	0119	I	0000	NUM	0054	OFLOW	0089	SET05	0021	SET1	CC23
SET2	0034	SET3	0037	SET35	0044	SET4	0045	SET5	0046	SETAQI	0010	TRYF	0031	WDIX	0051		

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0001      *      NAM CORDM1      DECK-ID M97  MSOS 5.0
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976
0005      *
0006      * THIS PROGRAM PROCESSES ALL CORE DUMP REQUESTS FOR BREAKPOINT.
0007      * CORE LOCATION OF QX, IN BRKPTD, IS IN A ON ENTRY.
0008      *
0009      * COR      NUM      0
0010      *      INA      12
0011      *      STA-     1      INPUT BUFFER ADDRESS
0012      *      CLR      A
0013      *      STA* CHAR      SET FOR LEFT CHARACTER
0014      *      ENA      2
0015      *      STA* WJIX      SET FOR 5TH CHARACTER
0016      *
0017      *      LDA-     1,I      GET 2ND BUFFER WORD
0018      *      AND-     $1A      UNPACK LEFT CHARACTER (3RD)
0019      *      ALS      8
0020      *      STA* TYPE      WILL TELL DUMP TYPE LATER
0021      *      ENQ      -7
0022      *      LDA-     ($22),B  GET OUTPUT UNIT
0023      *      STA      LU      SET OUTPUT UNIT
0024      *
0025      *      ENG      20
0026      *      LDA      DMPTAB,Q  SEARCH DATA TABLE FOR DUMP TYPE
0027      *
0028      *      SUB* TYPE
0029      *      SAZ      COR04--1  SKIP IF RIGHT ONE FOUND
0030      *      INQ      -5
0031      *      JMP* COR03      LOOK SOME MORE
0032      *
0033      *      LDA      DMPTAB+1,Q
0034      *      STA* INCREM      SET NUMBER OF WORDS PER VALUE
0035      *      LDA      DMPTAB+2,Q
0036      *
0037      *      STA* VPL
0038      *      LDA      DMPTAB+3,Q  SET NUMBER OF VALUES PER LINE
0039      *
0040      *      STA* CONVRT      SET INDEX TO CONVERSION ROUTINE
0041      *      LDA      DMPTAB+4,Q
0042      *
0043      *      STA* DBUF      SET NUMBER OF POSITIONS PER DUMP FIELD
0044      *      RTJ      GET      GET DELIMITOR
0045      *
0046      *      INA      -$2C
0047      *      SAZ      COR1--1  SKIP IF A COMMA
0048      *      ENA      2
0049      *      JMP-     40,I      FORMAT ERROR - BACK TO BRKPTD
0050      *

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M9700002
M9700003
M9700004
M9700005
M9700006
M9700007
M9700008
M9700009
M9700010
M9700011
M9700012
M9700013
M9700014
M9700015
M9700016
M9700017
M9700018
M9700019
M9700020
M9700021
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M9700023
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M9700036
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M9700038
M9700039
M9700040
M9700041
M9700042
M9700043
M9700044
M9700045
M9700046

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0047	P0028	5800	COR1	RTJ	HEX	GET START	M9700047
	P0029	0131					
0048	P002A	684F		STA*	START	STORE FOR DUMP START	M9700048
0049	P002B	5800		RTJ	GET	GET DELIMITER	M9700049
	P002C	0163					
0050	P002D	0903		INA	-\$2C		M9700050
0051	P002E	01C2		SAZ	COR2--*-1	SKIP IF A COMMA	M9700051
0052	P002F	C856	COR15	LDA*	FSTR		M9700052
0053	P0030	1128		JMP-	40,I	FORMAT ERROR - BACK TO BRKPTD	M9700053
			*				M9700054
0054							M9700055
0055	P0031	5800	COR2	RTJ	HEX	GET DUMP END	M9700056
	P0032	0128					
0056	P0033	6847		STA*	END	STORE FOR DUMP	M9700056
0057	P0034	5800		RTJ	GET	GET DELIMITER	M9700057
	P0035	015A					
0058	P0036	0903		INA	-\$2C		M9700058
0059	P0037	0107		SAZ	COR3--*-1	SKIP IF A COMMA	M9700059
0060	P0038	090C		INA	%C	IS IT A BLANK	M9700060
0061	P0039	0111		SAN	TRYFF		M9700061
0062	P003A	180C		JMP*	COR35		M9700062
0063	P003B	9000	TRYFF	SUB	=N\$JF	IS IT A FF	M9700063
	P003C	00DF					
0064	P003D	0108		SAZ	COR35--*-1	SKIP ON STATEMENT END - NO BASE ADDRESS	M9700064
0065	P003E	18F0		JMP*	COR15	FORMAT ERROR - BACK TO BRKPTD	M9700065
			*				M9700066
0066							M9700067
0067	P003F	5800	COR3	RTJ	HEX	GET BASE	M9700068
	P0040	011A					
0068	P0041	8838		ADD*	START		M9700068
0069	P0042	6837		STA*	START	BASE ADDED TO START OF DUMP	M9700069
0070	P0043	C837		LDA*	END		M9700070
0071	P0044	8837		ADD*	NUM		M9700071
0072	P0045	6835		STA*	END	BASE ADDED TO END OF DUMP	M9700072
0073	P0046	C834	COR35	LDA*	END		M9700073
0074	P0047	9832		SUB*	START		M9700074
0075	P0048	0122		SAP	COR4--*-1	SKIP IF END NOT LESS THAN START	M9700075
0076	P0049	0A00		ENA	0		M9700076
0077	P004A	1128		JMP-	40,I	BAD INPUT	M9700077
			*				M9700078
0078							M9700079
0079	P004B	5801	COR4	RTJ*	*+1		M9700080
0080	P004C	0000		NUM	0		M9700081
0081	P004D	C8FE		LDA*	*-1		M9700082
0082	P004E	8000		ADD	=X\$UTBUF-COR4-1		M9700083
0083	P004F	003A					
	P0050	6800		STA	ESS	STARTING ADDRESS FOR OUTPUT BUFFER	M9700083
	P0051	0090					
			*				M9700084
0084	P0052	0C23	COR5	ENQ	35		M9700085
0085	P0053	C000	COR6	LDA	=N\$2020	BLANKS	M9700085
	P0054	2020					
0087	P0055	6A31		STA*	OUTBUF,Q	BLANK OUT BUFFER	M9700087
0088	P0056	0DFE		INQ	-1		M9700088
0089	P0057	0171		SQM	COR8--*-1	SKIP WHEN DONE	M9700089
0090	P0058	18FA		JMP*	COR5		M9700090

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0091          *
0092 P0059 0844  COR8  CLR  A
0093 P005A 6800  STA  OBIX          INITIALIZE BUFFER INDEX
0094 P005B 6085
0095 P005C 6827  STA* CV          INITIALIZE CURRENT VALUES PER LINE
0096 P005D C810  LDA* START
0097 P005E 5800  RTJ  HEXM          CONVERT AND PUT LINE START ADDR. IN BUFFER
0098 P005F 8080
0099 P0060 GAC5  ENA  5
0100 P0061 687F  STA* OBIX          SET BUFFER INDEX FOR 1ST VALUE
0101          *
0102          *
0103 P0062 E820  COR10 LDQ* CONVRT
0104 P0063 5A69  RTJ* CONTBL,Q      CONVERT AND STORE A VALUE IN BUFFER
0105 P0064 C87C  LDA* OBIX
0106 P0065 881F  ADD* DBUF
0107 P0066 687A  STA* OBIX
0108          *
0109 P0067 C812  LDA* START
0110 P0068 8819  ADD* INCREM
0111 P0069 6810  STA* START          SET FOR NEXT VALUE
0112 P006A C810  LDA* END
0113 P006B 980E  SUB* START
0114 P006C 0122  SAP  COR10A
0115 P006D 586A  RTJ* WRITE          SKIP IF NOT DONE
0116 P006E 1C91  JMP* (COR)          EMPTY THE BUFFER
0117 P006F 0814  COR10A RAO* CV          DONE
0118 P0070 C813  LDA* CV              ADD 1 TO CURRENT NO. OF VALUES ON THE LINE
0119 P0071 980F  SUB* VPL
0120 P0072 0112  SAN  COR11--*-1    SKIP IF MORE NEEDED ON THIS LINE
0121 P0073 5864  RTJ* WRITE          EMPTY LINE BUFFER
0122 P0074 180D  JMP* COR5           PREPARE FOR NEXT LINE
0123          *
0124 P0075 18EC  COR11  JMP* COR10
0125          *
0126          *****
0127 P0076 0001  WDIX  BSS  WDIX(1)   WORD INDEX TO INPUT BUFFER
0128 P0077 0001  CHAR  BSS  CHAR(1)  CHARACTER FLAG 0=LEFT 1=RIGHT
0129 P0078 0001  TYPE  BSS  TYPE(1)  FORMAT TYPE (CHARACTER FROM COMMAND)
0130 P0079 0001  START BSS  START(1)  STARTING ADDRESS FOR DUMP (INCREMENTED)
0131 P007A 0001  END   BSS  END(1)   ENDING ADDRESS FOR DUMP
0132 P007B 0005  NUM   BSS  NUM(5)   SCRATCH
0133 P007C 0001  VPL   BSS  VPL(1)   NUMBER OF VALUES PER LINE
0134 P007D 0001  INCREM BSS  INCREM(1)  INCREMENT BETWEEN CORE VALUES
0135 P007E 0001  CONVRT BSS  CONVRT(1)  INDEX TO CONVERSION ROUTINE ENTRY
0136 P007F 0001  CV    BSS  CV(1)   CURRENT NUMBER OF VALUES ON THE LINE
0137 P0080 0001  DBUF  BSS  DBUF(1)  NUMBER OF POSITIONS PER FIELD
0138 P0081 0001  FSTRT BSS  FSTRT(1)  FIELD START INDEX
0139 P0082 0024  OUTBUF BSS  OUTBUF(36)  OUTPUT BUFFER

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M9700091
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M9700102
M9700103
M9700104
M9700105
M9700106
M9700107
M9700108
M9700109
M9700110
M9700111
M9700112
M9700113
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*
* THE FOLLOWING TABLE CONTAINS DATA FOR EACH TYPE OF DUMP.
* EACH ENTRY CONSISTS OF 5 WORDS AS FOLLOWS,
*
* WORD 1 ASCII CHARACTER FROM COMMAND
* WORD 2 NO. OF WORDS FOR EACH VALUE TO BE DUMPED
* WORD 3 NUMBER OF VALUES ON EACH LINE OF THE DUMP
* WORD 4 INDEX TO A CONVERSION ROUTINE
* WORD 5 NUMBER OF BUFFER WORDS PER FIELD
*

DMPTAB NUM \$41,1,8,0,2 A ASCII

NUM \$50,1,8,4,4 P HEX

NUM \$44,3,2,8,13 D DOUBLE PRECISION

NUM \$49,1,8,12,4 I DECIMAL

NUM \$53,2,2,16,13 S SINGLE PRECISION

*
* FOLLOWING ARE THE JUMPS TO CONVERSION ROUTINES INDEXED VIA DMPTAB
*

CONTBL NUM 0
RTJ ASCII ASCII CONVERSION

JMP* (*-3)
NUM 0
RTJ HEXO HEX CONVERSION

JMP* (*-3)
NUM 0
RTJ DP DOUBLE PRECISION

JMP* (*-3)
NUM 0
RTJ DECI DECIMAL CONVERSION

M9700141
M9700142
M9700143
M9700144
M9700145
M9700146
M9700147
M9700148
M9700149
M9700150
M9700151

M9700152

M9700153

M9700154

M9700155

M9700156
M9700157
M9700158
M9700159
M9700160

M9700161
M9700162
M9700163

M9700164
M9700165
M9700166

M9700167
M9700168
M9700169

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0170 P00D2 1CFC      JMP* (*-3)
0171 P00D3 0000      NUM 0
0172 P00D4 5800      RTJ SP          SINGLE PRECISION
0173 P00D6 1CFC      JMP* (*-3)
0174
0175 *
0176 * THE FOLLOWING ROUTINE WRITES THE OUTPUT BUFFER OUT.
0177 *
0177 P00D7 0000      WRITE NUM 0
0178 P00D8 C808      LDA* OBIX
0179 P00D9 09FE      INA -1
0180 P00DA 6806      STA* OBIX
0181 P00DB 54F4      RTJ- ($=4)      EMPTY THE BUFFER
0182 P00DC 4C00      NUM $4000,0,0
0183 P00DD 0000
0184 P00DE 0000
0185 P00DF 0000      LU NUM 0
0186 P00E0 0000      OBIX NUM 0
0187 P00E1 0000      ESS NUM 0
0188 *
0189 P00E2 C8FB      WRITE1 LDA* LU-1      THREAD TO A
0190 P00E3 0101      SAZ WRITE2-* -1    SKIP WHEN OUTPUT DONE
0191 P00E4 18FD      JMP* WRITE1          WAIT
0192 P00E5 1CF1      WRITE2 JMP* (WRITE)   DONE
0193 *
0194 * THIS ROUTINE MOVES DATA FROM MEMORY TO THE OUTPUT BUFFER.
0195 * THIS IS THE SO-CALLED ASCII CONVERSION WHICH REQUIRES NO WORK.
0196 *
0197 ASCII NUM 0
0198 LDA* (START)      GET A DATA WORD
0199 LDQ* OBIX           INDEX TO CURRENT BUFFER POSITION
0200 STA* OUTBUF,Q      STORE IN BUFFER
0201 JMP* (ASCII)        THATS ALL THERE IS TO IT
0202 *
0203 * THIS ROUTINE CONVERTS ONE VALUE TO FOUR
0204 * ASCII HEX VALUES AND STORES THEM IN THE OUTPUT BUFFER.
0205 *
0206 HEX0 NUM 0
0207 LDA* (START)      GET A VALUE
0208 ENQ 1              HEXM1
0209 STQ* NUM          LOOP INITIALIZER
0210 CLR Q              HEX01
0211 LLS 4              CLR Q
0212 LDQ* HEXCON,Q     GET 1 HEX DIGIT
0213 QLS 8              LOOK UP ASCII
0214 STQ* NUM+1        PACK IT
0215 CLR Q              CLR Q
0216 LLS 4              GET NEXT HEX DIGIT
0217 LDQ* HEXCON,Q     LOOK UP ASCII
0218 ADQ* NUM+1        ADQ* NUM+1
0219 STQ* NUM+1        PACK WITH OTHER
0220 LDQ* NUM           LDQ* NUM
0221 INQ -1            INQ -1

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M9700170
M9700171
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M9700173
M9700174
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M9700219

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0220 P00FB 0179 SQM HEX02-*--1 SKIP IF 4 DIGITS CONVERTED M9700220
0221 P00FC 4800 STQ NUM M9700221
      P00FD FF7D
0222 P00FE E900 LDQ NUM+1 M9700222
      P00FF FF7C
0223 P0100 4800 STQ NUM+2 MOVW M9700223
      P0101 FF7B
0224 P0102 4800 STQ NUM+2 MOVE CONVERTED PAIR TO SAFETY M9700224
      P0103 FF79
0225 P0104 18EA JMP* HEX01 CONTINUE M9700225
0226 *
0227 P0105 C800 * HEX02 LDA NUM+2 GET MOST SIGNIFICANT PAIR M9700226
      P0106 FF76 M9700227
0228 P0107 E8D8 LDQ* OBIX BUFFER INDEX M9700228
0229 P0108 6AC0 STA OUTBUF,Q STORE IN BUFFER M9700229
      P0109 FF7C
0230 P010A C800 LDA NUM+1 LEAST SIGNIFICANT PAIR M9700230
      P010B FF70
0231 P010C 6A00 STA OUTBUF+1,Q STORE THOSE IN BUFFER TOO M9700231
      P010D FF79
0232 P010E 1CDC JMP* (HEX0) ALL DONE M9700232
0233 *
0234 P010F 0000 * HEXM NUM 0 SPECIAL ENTRY FOR LINE START ETC. M9700233
0235 P0110 E8FE LDQ* HEXM M9700234
0236 P0111 48D9 STQ* HEX0 SET FOR NORMAL HEX0 EXIT M9700235
0237 P0112 18DA JMP* HEXM1 M9700236
0238 * M9700237
0239 * * HEX-ASCII CONVERSION TABLE M9700238
0240 * * HEX TABLE LOOK-UP GIVES ASCII VALUE M9700239
0241 * M9700240
0242 P0113 0030 * M9700241
      P0114 0031 * M9700242
      P0115 0032
      P0116 0033
      P0117 0034
      P0118 0035
      P0119 0036
      P011A 0037
      P011B 0038
      P011C 0039
0243 P011D 0041 NUM $41,$42,$43,$44,$45,$46 M9700243
      P011E 0042
      P011F 0043
      P0120 0044
      P0121 0045
      P0122 0046
0244 * M9700244
0245 * * THIS ROUTINE CONVERTS ONE VALUE TO FIVE ASCII M9700245
0246 * * DECIMAL DIGITS AND STORES THEM WITH SIGN IN THE OUTPUT BUFFER. M9700246
0247 * M9700247
0248 P0123 0000 * M9700248
0249 P0124 CC00 * M9700249
      P0125 FF53

```

0250	P0126	E000	LDQ	=N\$2030	SET FOR BLANK (PLUS)	M97J0250
	P0127	2030				
0251	P0128	0123	SAP	DECI1--*-1	SKIP IF NUMBER IS POSITIVE	M9700251
0252	P0129	E000	LDQ	=N\$2030	MINUS	M9700252
	P012A	2030				
0253	P012B	0864	TCA	A	SET VALUE POSITIVE FOR PROCESSING	M9700253
0254	P012C	482B	STQ*	DECNUM	STORE MINUS SIGN OR BLANK	M9700254
0255	P012D	E000	LDQ	=N\$3030		M9700255
	P012E	3030				
0256	P012F	4829	STQ*	DECNUM+1	SET ALL DIGITS TO ZERO	M9700256
0257	P0130	4829	STQ*	DECNUM+2		M9700257
0258	P0131	0842	CLR	Q		M9700258
0259	P0132	3000	DVI	=N10000		M9700259
	P0133	2710				
0260	P0134	8823	ADD*	DECNUM	NUMBER OF TEN THOUSANDS IS PACKED	M9700260
0261	P0135	6822	STA*	DECNUM		M9700261
0262	P0136	0814	TRQ	A		M9700262
0263	P0137	0842	CLR	Q		M9700263
0264	P0138	3000	DVI	=N1000		M9700264
	P0139	03E8				
0265	P013A	881E	ADD*	DECNUM+1		M9700265
0266	P013B	0FC8	ALS	8	NUMBER OF THOUSANDS IS PACKED	M9700266
0267	P013C	681C	STA*	DECNUM+1		M9700267
0268	P013D	0814	TRQ	A		M9700268
0269	P013E	0842	CLR	Q		M9700269
0270	P013F	3000	DVI	=N100		M9700270
	P0140	0064				
0271	P0141	8817	ADD*	DECNUM+1	NUMBER OF HUNDREDS IS PACKED	M9700271
0272	P0142	6816	STA*	DECNUM+1		M9700272
0273	P0143	0814	TRQ	A		M9700273
0274	P0144	0842	CLR	Q		M9700274
0275	P0145	3000	DVI	=N10		M9700275
	P0146	000A				
0276	P0147	8812	ADD*	DECNUM+2	NUMBER OF TENS PACKED	M9700276
0277	P0148	0FC8	ALS	8	NUMBER OF ONES PACKED	M9700277
0278	P0149	0834	AAQ	A		M9700278
0279	P014A	680F	STA*	DECNUM+2		M9700279
0280			*			M9700280
0281	P014B	E800	LDQ	OBIX	BUFFER INDEX	M9700281
	P014C	FF93				
0282	P014D	40FF	STQ-	I		M97J0282
0283	P014E	0C02	ENQ	2		M9700283
0284	P014F	CA00	LDA	DECNUM,Q	STORE RESULTS IN OUTPUT BUFFER	M9700284
	P0150	0007				
0285	P0151	6800	STA	OUTBUF,B		M9700285
	P0152	FF33				
0286	P0153	0DFE	INQ	-1		M9700286
0287	P0154	0171	SQM	DECI3--*-1	SKIP WHEN TRANSFER COMPLETE	M9700287
0288	P0155	18F9	JMP*	DECI2	CONTINUE	M97J0288
0289	P0156	1CCC	JMP*	(DECI)	ALL DONE	M9700289
0290			DECI3			M9700290
0291	P0157	6003	* DECNUM	BSS DECNUM(3)	SCRATCH FOR DECI	M9700291
0292			*			M9700292

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0293          * THIS ROUTINE CONVERTS A HEX (ASCII) FIELD TO BINARY.
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0339 P018A 1CF4      JMP* (BACK)
0340 P018B 0844      BACK1 CLR A
0341 P018C 6800      STA CHAR          SET TO LEFT CHARACTER
0342 P018D FEE9
0343 P018E 1CF0      JMP* (BACK)
0344 *
0345 * THIS SUBROUTINE UNPACKS ONE CHARACTER FROM THE INPUT BUFFER
0346 * AND RETURNS IT IN A.
0347 *
0347 P018F 0000      GET  NUM 0
0348 P0190 C000      LDA (WDIX),I      GET CHARACTER WORD
0349 P0191 FEE4
0349 P0192 E800      LDQ CHAR          CHARACTER FLAG 0=LEFT 1=RIGHT
0350 P0193 FEE3
0350 P0194 C151      SQN GET1--1      SKIP ON RIGHT CHARACTER
0351 P0195 0FC8      ALS 8
0352 P0196 A00A      GET1 AND- $A      UNPACK CHARACTER
0353 P0197 0146      SQZ GET2--1      SKIP ON LEFT
0354 P0198 0842      CLR Q
0355 P0199 4800      STQ CHAR          UPDATE CHARACTER FLAG
0356 P019A FEDC
0356 P019B D800      RAO WDIX          UPDATE WORD INDEX
0357 P019C FED9
0357 P019D 1CF1      GET2 JMP* (GET)    RETURN
0358 P019E D800      RAO CHAR          UPDATE CHARACTER FLAG
0359 P019F FED7
0359 P01A0 E800      LDQ WDIX          TEST FOR BUFFER END
0360 P01A1 FED4
0360 P01A2 0DDA      INQ -37
0361 P01A3 0141      SQZ OFLOW--1     SKIP ON INPUT BUFFER END - ERROR
0362 P01A4 1CEA      OFLOW JMP* (GET)
0363 P01A5 0A00      ENA 0
0364 P01A6 1128      JMP- 40,I        BACK TO BRKPTD
0365 *
0366 P01A7 18FD      DP JMP* OFLOW     *****HOOK FOR DOUBLE PRECISION OUTPUT
0367 P01A8 18FC      SP JMP* OFLOW     *****HOOK FOR SINGLE PRECISION OUTPUT
0368 END

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M9700339
M9700340
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M9700364
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M9700368

```

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0011, 0282

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0009	COR	0000	0114
0026	COR03	0010	0030
0032	COR04	0016	0028
0047	COR1	0028	0043
0052	COR15	002F	0063
0055	COR2	0031	0051
0063	TRYFF	003B	0061
0067	COR3	003F	0059
0073	COR35	0040	0062, 0064
0079	COR4	0048	0075, 0082
0085	COR5	0052	0120
0086	COR6	0053	0090
0092	COR8	0059	0089
0101	COR10	0062	0122
0111	COR1CA	006F	0112
0122	COR11	0075	0118
0126	WDIX	0076	0015, 0296, 0336, 0338, 0348, 0356, 0359
0127	CHAR	0077	0013, 0333, 0335, 0341, 0349, 0355, 0358
0128	TYPE	0078	0020, 0027
0129	START	0079	0048, 0068, 0069, 0074, 0095, 0107, 0109, 0111, 0190, 0205, 0249
0130	END	007A	0050, 0070, 0072, 0073, 0110
0131	NUM	007B	0071, 0207, 0212, 0216, 0217, 0218, 0221, 0222, 0223, 0224, 0227, 0230, 0327
0132	VPL	0080	0035, 0117
0133	INCREM	0081	0033, 0108
0134	CONVRT	0082	0037, 0101
0135	CV	0083	0094, 0115, 0116
0136	JBUF	0084	0039, 0104
0137	FSTRT	0085	0052, 0297, 0322
0139	OUTBUF	0086	0082, 0087, 0198, 0229, 0231, 0285
0151	DMP TAB	00AA	0026, 0032, 0034, 0036, 0038
0159	CONTBL	00C3	0102
0177	WRITE	00D7	0113, 0119, 0190
0183	LU	00DF	0023, 0187
0184	OBIX	00E0	0093, 0098, 0103, 0105, 0178, 0180, 0197, 0228, 0281
0185	ESS	00E1	0083
0187	WRITE1	00E2	0189
0190	WRITE2	00E5	0188
0195	ASCII	00E6	0160, 0199
0204	HEX0	00EB	0163, 0232, 0236
0206	HEXM1	00ED	0237
0208	HEX01	00EF	0225

0227 HEX02 0105
 0234 HEXM 010F
 0242 HEXCON 0113
 0248 DECI 0123
 0254 DECI1 012C
 0284 DECI2 014F
 0289 DECI3 0156
 0291 DECNUM 0157

0295 HEX 015A
 0303 HEX3 0163
 0307 HEX4 0167
 0315 HEX405 016F
 0324 HEX5 0179
 0325 HEX10 017A
 0332 BACK 017F
 0340 BACK1 018B
 0347 GET 018F
 0352 GET1 0196
 0358 GET2 019E
 0363 JFLOW 01A5
 0366 JJP 01A7
 0367 SP 01A8

0220
 0096, 0235
 0210, 0215
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 0254, 0256, 0257, 0260, 0261, 0265, 0267, 0271, 0272, 0276, 0279, 0284, 0299, 0301, 0315, 0318
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0053 P0029 9000 SUB =N$500J M9800053
      P002A 5000
0054 P002B 0102 SAZ JMP*-1 SKIP ON JMP M9800054
0055 P002C C000 LDA =N$400J M9800055
      P002D 4000
0056 P002E 8000 JMP ADD =N$140J M9800056
      P002F 1400
0057 P0030 680A STA* ADDR M9800057
0058 P0031 0844 CLR A M9800058
0059 P0032 6500 STA 74,I CLEAR FIRST TIME FLAG M9800059
      P0033 004A
0060 P0034 0C02 ENQ 2 M9800060
0061 P0035 0E08 LDA* (TADR),Q TO RESET I M9800061
0062 P0036 60FF STA- I M9800062
0063 P0037 0DFE INQ -1 M9800063
0064 P0038 0E05 LDA* (TADR),Q TO RESET A M9800064
0065 P0039 EC04 LDQ* (TADR) TO RESET Q M9800065
0066 P003A 0000 ADDR NUM 0,J M9800066
      P003B 0000
      P003C 10C3
0067 JMP* (JMPRTJ) RETURN FROM RTJ M9800067
0068 * M9800068
0069 * TADR BSS TADR(1) TABLE ORIGIN ADDRESS M9800069
0070 * WDIX BSS WDIX(1) BUFFER WORD INDEX M9800070
0071 * CHAR BSS CHAR(1) CHARACTER FLAG 0=LEFT 1=RIGHT M9800071
0072 * NUM BSS NUM(2) SCRATCH M9800072
0073 * M9800073
0074 * THIS SUBROUTINE CONVERTS ASCII-HEX VALUES TO BUNARY. M9800074
0075 * M9800075
0076 P0042 0000 HEX NUM 0 M9800076
0077 P0043 0844 HEX2 CLR A M9800077
0078 P0044 68FB STA* NUM M9800078
0079 P0045 0AFA ENA -5 INITIALIZE CONVERTED VALUE M9800079
0080 P0046 68FA STA* NUM+1 DIGIT COUNT INITIALIZED M9800080
0081 P0047 5818 HEX3 RTJ* GET GRT A CHARACTER M9800081
0082 P0048 09CF INA -$30 UNDER $30 CHECK M9800082
0083 P0049 0121 SAP HEX+*-1 SKIP ON OK NUMBER M9800083
0084 P004A 1812 JMP* HEX10 NON-NUMBER M9800084
0085 P004B 0822 HEX4 TRA Q M9800085
0086 P004C 0DF5 INQ -$A M9800086
0087 P004D 0175 SQM HEX405--*-1 DIGIT IS J THRU 9 AND IN A M9800087
0088 P004E 09F8 INA -7 M9800088
0089 P004F 0DF8 INQ -7 OVER $40 CHECK M9800089
0090 P0050 017B SQM HEX10--*-1 SKIP ON NON NUMBER M9800090
0091 P0051 0DF9 INQ -6 UNDER $47 CHECK M9800091
0092 P0052 0169 SQP HEX10--*-1 SKIP ON NON NUMBER M9800092
0093 P0053 28EC HEX-05 LDQ* NUM CONVERTED GDIGIT IN A M9800093
0094 P0054 0FA+ QLS + M9800094
0095 P0055 0874 EAQ A M9800095
0096 P0056 68E9 STA* NUM PACKED DIGIT IS STORED M9800096
0097 P0057 08E9 RAO* NUM+1 M9800097
0098 P0058 C8E8 LDA* NUM+1 M9800098
0099 P0059 0111 SAN HEX5--*-1 SKIP ON 5 OR LESS DIGITS M9800099
0100 P005A 18B9 JMP* JMP15 BAD DATA M9800100

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0101 P005B 18EB  HEX5  JMP*  HEX3      CONTINUE
0102 *
0103 P005C 5814  HEX10 RTJ*  BACK      BACK SCAN UP ONE
0104 P005D C8E2   LDA*  NUM
0105 P005E 1CE3   JMP*  (HEX)      DONE
0106 *
0107 * THIS SUBROUTINE JNPACKS A CHARACTER FROM THE INPUT BUFFER
0108 * AND RETURNS IT IN A.
0109 *
0110 P005F 0000  GET    NUM  0      GET CHARACTER WORD
0111 P0060 C0DD   LDA*  (WDIX),I    CHARACTER FLAG 0=LEFT 1=RIGHT
0112 P0061 E8DD   LDQ*  CHAR
0113 P0062 0151   SQN   GET1--1    SKIP ON RIGHT CHARACRER
0114 P0063 0FC8   ALS   8
0115 P0064 A0CA   GET1  AND-  $A    UNPACK IT
0116 P0065 0144   SQZ  GET2--1    SKIP ON LEFT
0117 P0066 0842   CLR   Q
0118 P0067 48D7   STQ* CHAR      UPDATE LEFT/RIGHT FLAG
0119 P0068 D8D5   RAO*  WDIX      UPDATE WORD INDEX
0120 P0069 1CF5   JMP*  (GET)     RETURN
0121 *
0122 P006A D8D4  GET2  RAO*  CHAR  UPDATE LRFT/RIGHT FLAG
0123 P006B E8D2   LDQ*  WDIX      TEST FOR BUFFER END
0124 P006C 0DDA   INQ   -37
0125 P006D 0141   SQZ  OFLOW--1  END OF BUFFER - ERROR
0126 P006E 1CF0   JMP*  (GET)     RETURN
0127 P006F 18A4  OFLOW JMP*  JMP15  TO PRINT DIAGNOSTIC
0128 *
0129 * THE FOLLOWING BACKS THE SCAN UP ONE CHARACTER.
0130 *
0131 P0070 0000  BACK  NUM  0
0132 P0071 C8CD   LDA*  CHAR
0133 P0072 0115   SAN  BACK1--1  SKIP ON RIGHT
0134 P0073 D8CB   RAO*  CHAR      SET TO RIGHT
0135 P0074 C8C9   LDA*  WDIX
0136 P0075 09FE   INA  -1
0137 P0076 68C7   STA*  WDIX      BACK UP ONE WORD
0138 P0077 1CF8   JMP*  (BACK)
0139 P0078 0844  BACK1 CLR   A
0140 P0079 68C5   STA*  CHAR      SET TO LEFT CHARACTER
0141 P007A 1CF5   JMP*  (BACK)

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M9800101
M9800102
M9800103
M9800104
M9800105
M9800106
M9800107
M9800108
M9800109
M9800110
M9800111
M9800112
M9800113
M9800114
M9800115
M9800116
M9800117
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M9800119
M9800120
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M9800128
M9800129
M9800130
M9800131
M9800132
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M9800135
M9800136
M9800137
M9800138
M9800139
M9800140
M9800141

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0143 *
0144 * ADDRESS COMPARE ROUTINE
0145 *
0146 * A.GT.Q DIFFERENCE RETURNED IN A
0147 * A.EQ.Q A EQUAL 0
0148 * A.LT.Q A EQUAL $FFFF
0149 *
0150 *
0151 P0076 0B00 CMPV4 NOP 0
0152 P007C C132 SAM AJPPER A IN UPPER BANK
0153 P007D 0165 SQP BTHSAM BOTH IN LOWER BANK
0154 P007E 1808 JMP* QBIGER A IN LOWER, Q IN UPPER
0155 P007F 0173 AUPPER SQM BTHSAM BOTH IN UPPER BANK
0156 P0080 0852 TCQ Q A IN UPPER, Q IN LOWER
0157 P0081 0834 AAQ A GET DIFFERENCE IN A
0158 P0082 1805 JMP* ABIGER
0159 P0083 0852 BTHSAM TCQ Q
0160 P0084 0834 AAQ A SUBTRACT Q FROM A
0161 P0085 0121 SAP ABIGER A IS BIGGER
0162 P0086 0804 QBIGER SET A Q IS BIGGER
0163 P0087 1CF3 ABIGER JMP* (CMPV4)
0164 END

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M9800143
M9800144
M9800145
M9800146
M9800147
M9800148
M9800149
M9800150
M9800151
M9800152
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M9800154
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M9800156
M9800157
M9800158
M9800159
M9800160
M9800161
M9800162
M9800163
M9800164

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PGM= 0088 (136) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0013, 0062

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	JMPRTJ	0000	0067
0020	JMP2	0009	
0028	TRYFF	0011	0026
0030	JMP15	0014	0100, 0127
0032	JMP3	0016	0024
0033	JMP4	0017	0027, 0029
0042	JMP42	001F	0039
0048	JMP5	0025	0041
0051	JMP6	0027	0045, 0047
0056	JMP	002E	0054
0066	ADDR	003A	0015, 0021, 0036, 0037, 0042, 0057
0069	TADR	003D	0011, 0061, 0064, 0065
0070	WDIX	003E	0018, 0111, 0119, 0123, 0135, 0137
0071	CHAR	003F	0016, 0112, 0118, 0122, 0132, 0134, 0140
0072	NUM	0040	0078, 0080, 0093, 0096, 0097, 0098, 0104
0076	HEX	0042	0020, 0032, 0105
0077	HEX2	0043	
0081	HEX3	0047	J101
0085	HEX4	004B	0083
0093	HEX405	0053	0087
0101	HEX5	005B	0099
0103	HEX10	005C	0084, 0090, 0092
0110	GET	005F	0022, 0081, 0120, 0126
0115	GET1	0064	J113
0122	GET2	006A	J116
0127	OFLOW	006F	0125
0131	BACK	0070	0103, 0138, 0141
0139	BACK1	0078	J133
0151	CMPV4	007B	0038, 0044, 0163
0155	AUPPER	007F	0152
0159	BTHSAM	0083	0153, 0155
0162	QBIGER	0086	J154
0163	ABIGER	0087	J158, 0161

*** ALPHABETICAL SORT OF SYMBOLS ***

ABIGER	0163	ADDR	0066	AUPPER	0155	BACK	0131	BACK1	0139	BTHSAM	0159	CHAR	0071	CMPV4	0151	GET	0110
GET1	0115	GET2	0122	HEX	0076	HEX10	0103	HEX2	0077	HEX3	0081	HEX4	0085	HEX405	0093	HEX5	0101
I	0000	JMP	0055	JMP15	0030	JMP2	0020	JMP3	0032	JMP4	0033	JMP42	0042	JMP5	0048	JMP6	0051
JMPRTJ	0010	NUM	0072	OFLOW	0127	QBIGER	0162	TADR	0069	TRYFF	0028	WDIX	0070				

NAM LUCHG1 DECK-ID M99 MSQS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

* THIS PROGRAM PROCESSES THE *LUI AND *LUO STATEMENTS FOR BREAKPOINT
 * THE VALUES PROVIDED BY A USER WILL NOT BE CHECKED FOR LEGALITY
 * DUE TO INABILITY OF BREAKPOINT TO ACCESS EQUIPMENT TABLES.

EXT LOG1A

* LUC

NUM 0
 INA 4
 STA* LINDEX LOC. OF LU STORAGE IN BRKPTD
 INA 8
 STA- I INPUT BUFFER ADDRESS
 ENA 1 INDEX TO 4TH CHARACTER

STA* WDIX
 STA* CHAR SET CHARACTER FLAG FOR 4TH
 RTJ* GET GET 4TH CHARACTER

INA -\$49
 SAZ LUC1-*--1 SKIP IF LUI
 XAO* LINDEX SET INDEX FOR LUO

LUC1

STA* FLAG SET I/O FLAG
 RTJ* GET GET DELIMITOR
 INA -\$20

SAZ LUC2-*--1 SKIP IF A COMMA

LUC15

ENA 0
 JMP- +0,I FORMAT ERROR - BACK TO CONTROL PROGRAM

* LUC2

RTJ* DEC CONVERT LOGICAL UNIT NUMBER FIELD
 TRA Q
 ADD =N\$1000 FOR ASCII MODE

STA* NUM SAVE LOGICAL UNIT

TRQ A
 SUB LOG1A

X X

SAM LUC25-*--1
 SAZ LUC25-*--1
 JMP* LUC15
 LDQ LOG1A,Q LU NUMBER TOO LARGE
 GET PHYSTAB ADDRESS IN Q

LUC25

LDA- 8,Q WORD 8 OF PHYSTAB ENTRY
 AND- 5 UNPACK AVAILABILITY BITS

LDQ* FLAG
 SQZ LUC3-*--1 SKIP ON LUI

LUC3

ENQ 2
 INQ 2
 LAQ A
 SAN LUC4-*--1 LU IS OK

LUC4

JMP* LUC15
 LDA* NJM

00001
 00002
 00003
 00004
 00005
 00006
 00007
 00008
 00009
 00010
 00011
 00012 P0000 0000
 00013 P0001 0904
 00014 P0002 6829
 00015 P0003 0908
 00016 P0004 60FF
 00017 P0005 0A01
 00018 P0006 6826
 00019 P0007 6826
 00020 P0008 5837
 00021 P0009 09B6
 00022 P000A 0101
 00023 P000B D820
 00024 P000C 6827
 00025 P000D 5832
 00026 P000E 09D3
 00027 P000F 6102
 00028 P0010 0A00
 00029 P0011 1128
 00030
 00031 P0012 583E
 00032 P0013 0822
 00033 P0014 8000
 00034 P0015 1000
 00035 P0016 6818
 00036 P0017 0814
 00037 P0018 9400
 00038 P0019 7FFF
 00039 P001A 0132
 00040 P001B 0101
 00041 P001C 18F3
 00042 P001D E600
 00043 P001E 0019
 00044 P001F C208
 00045 P0020 A005
 00046 P0021 E812
 00047 P0022 0141
 00048 P0023 0C02
 00049 P0024 0002
 00050 P0025 08B4
 00051 P0026 0111
 00052 P0027 18E8
 00053 P0028 C806

M9900001
 M9900002
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00051 P0029 6C02
00052 P002A 1CD5
00053
00054 P002B 0001
00055 P002C 0001
00056 P002D 0001
00057 P002E 0005
00058 P0033 0001
00059
00060
00061
00062
00063 P0034 0000
00064 P0035 C8F7
00065 P0036 0115
00066 P0037 D8F5
00067 P0038 C8F3
00068 P0039 99FE
00069 P003A 68F1
00070 P003B 1CF8
00071 P003C 0844
00072 P003D 68EF
00073 P003E 1CF5
00074
00075
00076
00077 P003F 0000
00078 P0040 CDEB
00079 P0041 E8EB
00080 P0042 0151
00081 P0043 0FC3
00082 P0044 A00A
00083 P0045 0144
00084 P0046 C842
00085 P0047 48F5
00086 P0048 D8F3
00087 P0049 1CF5
00088 P004A D8E2
00089 P004B FEED
00090 P004C 00DA
00091 P004D 0141
00092 P004E 1CF0
00093 P004F 18C0
00094
00095
00096
00097 P0050 0000
00098 P0051 0844
00099 P0052 68DB
01000 P0053 68DB
01001 P0054 68DB
01002 P0055 0AFB
01003 P0056 68DA

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STA* (LINDEX) STORE NEW LOGICAL UNIT
JMP* (LJC) DONE
*
LINDEX BSS LINDEX(1) ADDR. OF LOGICAL UNIT IN QUESTION
WDIX BSS WDIX(1) WORD INDEX OF CURRENT CHARACTER
CHAR BSS CHAR(1) CHARACTER FLAG 0=LEFT 1=RIGHT
NUM BSS NUM(5) SCRATCH
FLAG BSS FLAG(1) 0=INPUT NOT ZERO = OUTPUT
*
* THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER.
*
BACK NUM 0
LDA* CHAR
SAN BACK1--*--1 SKIP ON CHAR = RIGHT
RAO* CHAR
LDA* WDIX
INA -1
STA* WDIX
JMP* (BACK)
BACK1 CLR A SET CHAR TO LEFT
STA* CHAR
JMP* (BACK)
*
* THIS SUBROUTINE UNPACKS ONE CHARACTER FROM THE INPUT BUFFER
* AND RETURNS IT IN A.
*
GET NUM 0
LDA* (WDIX),I GET CHARACTER WORD
LDQ* CHAR CHARACTER FLAG 0=LEFT 1=RIGHT
SQN GET1--*--1 SKIP ON RIGHT CHARACTER
ALS 8
GET1 AND- $A UNPACK IT
SQZ GET2--*--1 SKIP ON LEFT
CLR 0
STQ* CHAR UPDATE CHARACTER FLAG
RAO* WDIX UPDATE WORD INDEX
JMP* (GET) RETURN
GET2 RAO* CHAR UPDATE CHARACTER FLAG
LDQ* WDIX TEST FOR BUFFER END
INQ -37
SQZ OFLOW--*--1 SKIP ON INPUT BUFFER END - ERROR
JMP* (GET) RETURN
OFLOW JMP* LUC15
*
* THIS SUBROUTINE CONVERTS SIGNED DECIMAL INTEGERS TO BINARY
*
DEC NUM 0
CLR A
STA* NUM CLEAR NUMBER
STA* NUM+1 SET SIGN POSITIVE
STA* NUM+2 SET 1ST CHARACTER FLAG TO 1ST
ENA -4
STA* NUM+3 SET DIGIT COUNT

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M9900051
M9900052
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M9900062
M9900063
M9900064
M9900065
M9900066
M9900067
M9900068
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M9900093
M9900094
M9900095
M9900096
M9900097
M9900098
M9900099
M9900100
M9900101
M9900102
M9900103

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EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0016

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0012	LUC	0000	0052
0027	LUC1	0000	0022
0028	LUC15	0010	0039, 0049, 0093, 0120, 0133, 0137, 0145
0031	LUC2	0012	0027
0040	LUC25	001D	0037, 0038
0046	LUC3	0024	0044
0050	LUC4	0028	0048
0054	LINDEX	002B	0014, 0023, 0051
0055	WDIX	002C	0018, 0066, 0068, 0078, 0086, 0089
0056	CHAR	002D	0019, 0063, 0065, 0071, 0079, 0085, 0088
0057	VUM	002E	0034, 0050, 0099, 0100, 0101, 0103, 0106, 0110, 0114, 0116, 0118, 0121, 0129, 0131, 0135, 0138
0058	FLAG	0033	0142, 0143
0062	BACK	0034	0024, 0043
0070	BACK1	003C	0069, 0072, 0141
0077	GET	003F	0064
0082	GET1	0044	0020, 0025, 0087, 0092, 0105
0088	GET2	004A	0080
0093	JFLOW	004F	0083
0097	JEC	0050	0091
0105	DEC1	0057	0031, 0145
0108	DEC2	005A	0111, 0139
0110	DEC3	005C	0115
0112	DEC5	005E	0109
0116	DEC6	0062	0113
0118	DEC8	0064	0107
0121	DEC9	0067	0119
0125	DEC10	006B	0123
0126	DEC11	006E	0126
0134	DEC12	0074	0132
0138	DEC13	0078	0135
0141	DEC30	007A	0124, 0127
0146	DEC31	007F	0144

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0010	LOG1A	001E	0036, 0040

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

BACK	0062	BACK1	0070	CHAR	0056	DEC	0097	DEC1	0105	DEC10	0125	DEC11	0128	DEC12	0134	DEC13	0138
DEC2	0106	DEC3	0110	DEC30	0141	DEC31	0140	DEC5	0112	DEC6	0116	DEC8	0118	DEC9	0121	FLAG	0058
GET	0077	GET1	0082	GET2	0088	I	0000	LINDEX	0054	LOG1A	0010	LUC	0012	LUC1	0024	LUC15	0028
LJC2	0031	LUC25	0040	LUC3	0046	LUC4	0050	NUM	0057	OFLOW	0093	WDIX	0055				

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0001          NAM BRKPT1          DECK-ID N01  MSOS 5.0          SUMMARY-110N0100001
0002          *          MASS STORAGE OPERATING SYSTEM VERSION 5.0          N01000002
0003          *          SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA          N01000003
0004          *          COPYRIGHT CONTROL DATA CORPORATION 1976          N01000004
0005          *          N01000005
0006          *          THIS IS THE CONTROL PROGRAM FOR BREAKPOINT..          N01000006
0007          *          ON INITIAL ENTRY FROM THE MONITOR, Q CONTAINS THE ENTRY LOCATION          N01000007
0008          *          TO THE USER PROGRAM. NORMAL ENTRIES FROM THE USER AS THE RESJLT          N01000008
0009          *          OF BREAKPOINTS ARE MADE AT BRKP.          N01000009
0010          *          IN RESPONSE TO USER COMMANDS BRKPTD WILL CALL, AS OVERLAYS,          N01000010
0011          *          THE APPROPRIATE PROCESSORS TO PROCESS THE COMMANDS.. THE PROCESSORS          N01000011
0012          *          ARE ACCESSED AS ABSOLUTE, LOAD ANYWHERE PROGRAMS FROM THE PROGRAM          N01000012
0013          *          LIBRARY VIA GTFILE REQUESTS.. THE PROGRAMS (OVERLAYS) ARE LOADED          N01000013
0014          *          INTO THE AREA DESIGNATED AS OLAY. EACH OVERLAY IS ENTERED AT          N01000014
0015          *          ITS LOWEST LOCATION AS A CLOSED SUBROUTINE. ON ENTRY, A WILL          N01000015
0016          *          CONTAIN THE CORE ADDRESS OF THE BLOCK OF TABLES AND DATA STARTING          N01000016
0017          *          AT QX IN THIS PROGRAM. THE BLOCK OF DATA FROM QX TO USERP SHOULD          N01000017
0018          *          NOT BE DISTURBED AS IT REPRESENTS THE COMMUNICATION BETWEEN THIS          N01000018
0019          *          PROGRAM AND THE OVERLAYS.          N01000019
0020          *          NBTS REPRESENTS THE MAXIMUM NUMBER OF BREAKPOINTS ALLOWED. IT MAY          N01000020
0021          *          BE CHANGED BY ASSEMBLY OF THOSE PROGRAMS IN WHICH IT IS AN ASSEMBLY          N01000021
0022          *          PARAMETER. NEW STATEMENTS AND PROCESSORS MAY BE ADDED BY SIMPLY          N01000022
0023          *          ADJING THEM TO THE BPTAB AND BPREL TABLES. STATEMENT PROCESSING          N01000023
0024          *          IS CONTAINED ENTIRELY WITHIN THE STATEMENT PROCESSOR (OVERLAY).          N01000024
0025          *          N01000025
0026          *          ENT BRKPTD          N01000026
0027          *          NBTS EQU NBTS(15)          N01000027
0028          *          BRKPTD RTJ* *+1          FIRST ENTRANCE TO BREAKPOINT          N01000028
0029          *          NOP 0          WILL HOLD ABS LOC OF BRKPTD+1          N01000029
0030          *          STQ USERP          SAVE ENTRY TO USER PROGRAM          N01000030
0031          *          N01000031
0032          *          N01000032
0033          *          LDA* BRKPTD+1          N01000033
0034          *          INA BRKP-BRKPTD-1          N01000034
0035          *          STA- $F3          SET ENTRY TO BREAKPOINT FROM THE USER          N01000035
0036          *          LDA* BRKPTD+1          COMPUTE BUFFER ADDRESS          N01000036
0037          *          INA BRKP1-BRKPTD-1          N01000037
0038          *          STA* ADDRESS          STORE BUFFER LOC. FOR OUTPUT          N01000038
0039          *          LDA* BRKPTD+1          COMPUTE ABS LOC OF BP FOR OUTPUT          N01000039
0040          *          INA BP-BRKPTD-1          N01000040
0041          *          STA* ADDRESS          STORE IN OUTPUT REQUEST          N01000041
0042          *          LDA* BRKPTD+1          COMPUTE INPUT BUFFER ADDRESS          N01000042
0043          *          ADD =XBJF-BRKPTD-1          N01000043
0044          *          STA* ADR1          STORE FOR INPUT REQUEST          N01000044
0045          *          JMP* READY          N01000045
0046          *          N01000046
0047          *          BRKP          ENTRY FROM USER PROGRAM          N01000047
0048          *          STA* AX          SAVE USER A          N01000048
0049          *          STQ* QX          SAVE USER Q          N01000049
0050          *          LDA- I          N01000050
0051          *          STA* IX          SAVE USER I          N01000051

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00052 P0017 080C
00053 P0018 686F
00054 P0019 C8F8
00055 P001A 09FE
00056 P001B 6870
00057 P001C 6860
      P001D 009D
      P001E 686E
      P001F 0C03
00058
00059
00060
00061
00062
00063 P0020 A006
00064 P0021 09F5
00065 P0022 0131
00066 P0023 0907
00067 P0024 093A
00068 P0025 6A67
00069 P0026 0145
00070 P0027 00FE
00071 P0028 C864
00072 P0029 0F44
00073 P002A 6862
00074 P002B 18F4
00075 P002C 0FC8
00076 P002D 8860
00077 P002E E860
00078 P002F 0FA8
00079 P0030 F85F
00080
00081 P0031 681F
00082 P0032 481F
00083 P0033 C856
00084 P0034 6805
00085 P0035 54F4
00086 P0036 4C00
      P0037 0000
00087 P0038 0000
00088 P0039 18FC
00089 P003A 0005
00090 P003B 0000
00091
00092 P003C C8FB
00093 P003D 0101
00094 P003E 18FD
00095 P003F 0C0E
00096
00097
00098
00099 P0040 CAG0
      P0041 007A
0100 P0042 9878
0101 P0043 0106

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TRM A
STA* MX SAVE M
LDA* BRKP BREAKPOINT LOC. TO A
INA -1
STA* BPL0C SAVE BREAKPOINT LOCATION
STA SPC SAVE IT HERE ALSO

STA* W1
ENQ 3

*
* THE FOLLOWING CONVERTS BREAKPOINT ADDRESS TO 4 ASCII CHARACTERS
*
RPT AND- 6 CONTAINS $F - UNPACKS 1 HEX DIGIT
INA -$A
SAM LT10--*-1 SKIP IF DIGIT LESS THAN $A
INA 7
LT10 STORE STA* W1,Q SAVE A CONVERTED DIGIT
SQZ FIN--*-1 SKIP IF CONVERSION COMPLETE
INA -1
LDA* W1
ARS 4
STA* W1
JMP* RPT
FIN ALS 8
ADD* W2
LDQ* W3
QLS 8
ADQ* W4 ADDRESS NOW IN ASCII IN A AND Q

*
STA* BRKP1+2 STORE FOR OUTPUT
STQ* BRKP1+3
LDA* LU0
STA* LU01 SET OUTPUT DEVICE
RTJ- ($F4) WRITE BP,HHHH
NUM $4C00,0

NUM 0
LU01 NUM $18FC
NUM 5
ADDRES NUM 0

*
WAIT LDA* LU01-1
SAZ THOK
JMP* WAIT
THOK ENQ NBTS-1

*
* THE FOLLOWING TRIES TO LOCATE THE BREAKPOINT IN THE TABLE
*
BRKP2 LDA BPL,Q BREAKPOINT LOC. TABLE SEARCH

SUB* SPC
SAZ BRKP4--*-1 SKIP IF LOCATION FOUND

```

```

N0100052
N0100053
N0100054
N0100055
N0100056
N0100057
N0100058
N0100059
N0100060
N0100061
N0100062
N0100063
N0100064
N0100065
N0100066
N0100067
N0100068
N0100069
N0100070
N0100071
N0100072
N0100073
N0100074
N0100075
N0100076
N0100077
N0100078
N0100079
N0100080
N0100081
N0100082
N0100083
N0100084
N0100085
N0100086
N0100087
N0100088
N0100089
N0100090
N0100091
N0100092
N0100093
N0100094
N0100095
N0100096
N0100097
N0100098
N0100099
N0100100
N0100101

```


0146	P0070	18FD		JMP*	STAT	WAIT SOME MORE		N0100146
0147	P0071	C8F9	CONT	LDA*	LUI1			N0100147
0148	P0072	0121		SAP	TDEF--*-1	SKIP IF NO READ ERRORS		N0100148
0149	P0073	18E1		JMP*	READY	GO BACK AND TRY IT AGAIN FROM THE START		N0100149
0150	P0074	1800	TDEF	JMP	DEFINE			N0100150
	P0075	012E						
0151			*					N0100151
0152	P0076	464F	ERRMSG	ALF	7,FORMAT ERROR			N0100152
	P0077	5240						
	P0078	4154						
	P0079	2045						
	P007A	5252						
	P007B	4F52						
0153	P007C	2020	ERRM2	ALF	7,PROTECT ERROR			N0100153
	P007D	5052						
	P007E	4F54						
	P007F	4543						
	P0080	5420						
	P0081	4552						
	P0082	524F						
	P0083	5220						

```

0155 *
0156 * THE FOLLOWING TABLES BUFFERS ETC. ARE USED IN OVERLAYS OF
0157 * BREAKPOINT. THE LOCATION {ABSOLUTE} OF QX IS TRANSFERRED IN
0158 * THE A REGISTER TO ALL CALLED OVERLAYS.
0159 *
0150 P0084 0001 QX BSS QX(1) USERS Q
0151 P0085 0001 AX BSS AX(1) USERS A
0152 P0086 0001 IX BSS IX(1) USERS I
0153 P0087 0001 MX BSS MX(1) MASK REGISTER CONTENTS
0154 P0088 18FD LUI NUM $18FD LOGICAL UNIT FOR INPUT (WHOLE WORD)
0155 P0089 18FC LUO NUM $18FC LOGICAL UNIT FOR OUTPUT (WHOLE WORD)
0156 P008A 0001 PASS BZS PASS(1) FIRST PASS FLAG
0157 P008B 0001 BPLOC BSS BPLOC(1) STORAGE FOR BREAKPOINT ADDRESS
0158 P008C 0001 BSS W1(1),W2(1),W3(1),W4(1)
      P008D 0001
      P008E 0001
      P008F 0001
0159 P0090 0028 BUF BSS BUF(40) INPUT BUFFER
0170 P00B8 1823 JMP* B01
0171 P00B9 1836 JMP* B02
0172 P00BA 0001 SPC BZS SPC(1) CURRENT BREAKPOINT LOCATION
0173 P00B3 000F BPL BZS BPL(NBTS) BREAKPOINT TABLE
0174 P00CA 0001 SPC1 BZS SPC1(1) INSTRUCTION AT CURRENT BREAKPOINT
0175 P00CB 000F INST BZS INST(NBTS) INSTRUCTION TABLE
0176 P00DA 7FFF USERP NUM $7FFF USER PROGRAM INITIAL ENTRY LOCATION
0177 *
0178 * THE FOLLOWING ARE ERROR TYPEOUTS
0179 *
0180 P00DR 0101 B01 SAZ B01A--1 SKIP ON BAD STATEMENT
0181 P00DC 5819 RTJ* FIELD PROCESS BAD FIELD
0182 P00DD C800 B01A LDA BRKPTD+1 COMPUTE ADDRESS OF BAD STATEMENT ERROR MESS.
      P00DE FF22
0183 P00DF 0975 INA ERRMSG-BRKPTD-1
0184 P00E0 6809 BZ1 STA* ADR3
0185 P00E1 C8A7 LDA* LUO
0186 P00E2 6805 STA* B01B SET OUTPUT DEVICE
0187 P00E3 54F4 RTJ- ($F4) ERROR MESSAGE OUTPUT
0188 P00E4 4C00 NUM $4C00,0,0
      P00E5 0000
      P00E6 0000
0189 P00E7 18FC B01B NUM $18FC,7
      P00E8 0007
0190 P00E9 0000 ADR3 NUM 0
0191 P00EA C8FB STAT1 LDA* B01B-1 WAIT FOR COMPLETION
0192 P00EB 0101 SAZ CONT1--*-1 SKIP IF DONE
0193 P00EC 18FD JMP* STAT1 WAIT SOME MORE
0194 P00ED 1800 CONT1 JMP READY
      P00EE FF66
0195 *
0196 P00EF 0101 B02 SAZ B02A--*-1 SKIP ON BAD STATEMENT
0197 P00FG 5805 RTJ* FIELD PROCESS BAD FIELD
0198 P00F1 C800 B02A LDA BRKPTD+1 COMPUTE ADDRESS OF PROTECT ERROR MESSAGE
      P00F2 FF6E

```

N0100155
 N0100156
 N0100157
 N0100158
 N0100159
 N0100160
 N0100161
 N0100162
 N0100163
 N0100164
 N0100165
 N0100166
 N0100167
 N0100168

N0100169
 N0100170
 N0100171
 N0100172
 N0100173
 N0100174
 N0100175
 N0100176
 N0100177
 N0100178
 N0100179
 N0100180
 N0100181
 N0100182

N0100183
 N0100184
 N0100185
 N0100186
 N0100187
 N0100188

N0100189

N0100190
 N0100191
 N0100192
 N0100193
 N0100194

N0100195
 N0100196
 N0100197
 N0100198

```

02199 P00F3 097C
02200 P00F4 18EB
02201
02202
02203
02204
02205
02206 P00F5 0000
02207 P00F6 60FF
02208 P00F7 6844
02209 P00F8 CA01
02210 P00F9 6843
02211 P00FA C995
02212 P00FB A01A
02213 P00FC 9000
02214 P00FD 2C00
02215 P00FE 0114
02216 P00FF 0990
02217 P0100 A00A
02218 P0101 B01A
02219 P0102 698D
02220 P0103 E838
02221 P0104 CA8B
02222 P0105 E837
02223 P0106 C151
02224 P0107 0FC8
02225
02226 P0108 A00A
02227 P0109 09DF
02228 P010A 010E
02229 P010B 09F3
02230 P010C 010C
02231 P010D 09FC
02232 P010E 010A
02233 P010F 9000
02234 P0110 0000
02235 P0111 0107
02236 P0112 0144
02237 P0113 0842
02238 P0114 4828
02239 P0115 0826
02240 P0116 18EC
02241 P0117 0825
02242 P0118 18EA
02243 P0119 E822
02244 P011A C822
02245 P011B 0113
02246 P011C 0000
02247 P011D 3FFF
02248 P011E 1805
02249 P011F CA00
02250 P0120 FF6F

```

```

INA ERRM2-BRKPTD-1
JMP* 021
*
* THIS ROUTINE PRINTS THE CONTENTS OF A BAD FIELD.
* THE INDEX TO THE FIELD START IS IN A ON ENTRY.
* FIELD IS TERMINATED BY A COMMA OR STATEMENT END.
*
FIELD NUM 0
STA- I SAVE INDEX TO FIELD START
STA* WDIX SAVE AS INDEX FOR FIELD SCAN
ENA 1
STA* CHAR SET CHARACTER FLAG FOR RIGHT
LDA* BUF,I GET 1ST WORD
AND- $1A CONTAINS $FFF0
SUB =N$2C00
SAN F1-*--1 SKIP IF 1ST CHAR IS NOT A COMMA
LDA* BUF,I
AND- $A SAVE RIGHT CHARACTER
EOR- $1A SET COMMA TO RUBOUT
STA* BU*,I RESTORE TO BUFFER
*
F1 LDQ* WDIX SET INDEX FOR CURRENT WORD
LDA* BU*,Q GET WORD WITH NEXT CHARACTER
LDQ* CHAR
SQN F2-*--1 SKIP ON RIGHT CHARACTER
ALS 8
*
F2 AND- $A UNPACK THE CHARACTER
INA -$20
SAZ F4 SKIP IF BLANK
INA -$C
SAZ F4-*--1 SKIP IF A COMMA
INA -3
SAZ F4-*--1 SKIP IF A SLASH
SUB =N$D0
SAZ F4-*--1 SKIP IF END OF STATEMENT
SQZ F3-*--1 SKIP ON LEFT CHARACTER
CLR Q
STQ* CHAR
RAO* WDIX
JMP* F1
RAO* CHAR
JMP* F1
*
F3
*
F4 LDQ* WDIX
LDA* CHAR
SAN F5-*--1 SKIP IF IT WAS RIGHT CHARACTER
LDA =N$3FF= QUESTION MARK AND RUBOUT
JMP* F6
F5 LDA BUF,Q

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```

N0100199
N0100200
N0100201
N0100202
N0100203
N0100204
N0100205
N0100206
N0100207
N0100208
N0100209
N0100210
N0100211
N0100212
N0100213
N0100214
N0100215
N0100216
N0100217
N0100218
N0100219
N0100220
N0100221
N0100222
N0100223
N0100224
N0100225
N0100226
N0100227
N0100228
N0100229
N0100230
N0100231
N0100232
N0100233
N0100234
N0100235
N0100236
N0100237
N0100238
N0100239
N0100240
N0100241
N0100242
N0100243
N0100244
N0100245
N0100246
N0100247
N0100248

```

0249	P0121	A01A	AND-	\$1A	REMOVE RIGHT CHARACTER	N0100249
0250	P0122	093F	INA	\$3F	REPLACE WITH A QUESTION MARK	N0100250
0251	P0123	6A00	STA	BUF,Q	RESTORE WORD TO BUFFER	N0100251
	P0124	FF68				
0252	P0125	C800	LDA	ADR1		N0100252
	P0126	FF46				
0253	P0127	80FF	ADD-	I	STARTING ADDRESS FOR OUTPUT	N0100253
0254	P0128	680E	STA*	STRT		N0100254
0255	P0129	C812	LDA*	WDIX		N0100255
0256	P012A	90FF	SUB-	I		N0100256
0257	P012B	0901	INA	1		N0100257
0258	P012C	6809	STA*	FWORDS	NUMBER OF WORDS TO OUTPUT	N0100258
0259	P012D	C860	LDA	LUO	OUTPUT UNIT	N0100259
	P012E	FF5A				
0260	P012F	6805	STA*	FOUT		N0100260
0261			*			N0100261
0262	P0130	54F4	RTJ-	(\$F4)	PRINT THE BAD FIELD	N0100262
0263	P0131	4C00	NUM	\$4C00,0,0		N0100263
	P0132	0000				
	P0133	0000				
0264	P0134	0000	FOUT	NUM 0		N0100264
0265	P0135	0000	FWORDS	NUM 0		N0100265
0266	P0136	0000	STRT	NUM 0		N0100266
0267	P0137	C8FB	WAIT3	LDA* FOUT-1		N0100267
0268	P0138	0101	SAZ	1		N0100268
0269	P0139	18FD	JMP*	WAIT3		N0100269
0270	P013A	1CBA	JMP*	(FIELD)	EXIT	N0100270
0271			*			N0100271
0272	P013B	0001	WDIX	BSS WDIX(1)	WORD INDEX FOR BUFFER SCAN	N0100272
0273	P013C	0001	CHAR	BSS CHAR(1)	CHARACTER FLAG FOR BUFFER SCAN	N0100273
0274			*			N0100274

0276
0277
0278
0279
0280
0281 PG13D 2A53
PG13E 4148
0282 PG13F 0000
0283 PG140 2A53
PG141 5148
0284 PG142 0000
0285 PG143 2A53
PG144 4948
0286 PG145 0000
0287 PG146 2A45
PG147 4E44
0288 PG148 0006
0289 PG149 2A4C
PG14A 5247
0290 PG14B 0003
0291 PG14C 2A4C
PG14D 4858
0292 PG14E 0009
0293 PG14F 2A4C
PG150 4954
0294 PG151 0009
0295 PG152 2A4C
PG153 4153
0296 PG154 0009
0297 PG155 2A4C
PG156 5350
0298 PG157 0009
0299 PG158 2A4C
PG159 4450
0300 PG15A 0009
0301 PG15B 2A44
PG15C 5043
0302 PG15D 000C
0303 PG15E 2A44
PG15F 4943
0304 PG160 000C
0305 PG161 2A44
PG162 4153
0306 PG163 000C
0307 PG164 2A44
PG165 5350
0308 PG166 000C
0309 PG167 2A44
PG168 4450
0310 PG169 000C
0311 PG16A 2A4A
PG16B 502C
0312 PG16C 000F

*
* THE FOLLOWING IS A TABLE OF ALL POSSIBLE STATEMENTS WHICH ARE
* LEGAL TO BREAKPOINT TOGAETHER WITH AN INDEX TO AN ASCII
* NAME USED TO ACCESS THE ASSOCIATED PROCESSOR.
*
BPTAB ALF 2,*SAH SET A
NUM 0
ALF 2,*SQH SET Q
NUM 0
ALF 2,*SIH SET I
NUM 0
ALF 2,*END RESUME
NUM 6
ALF 2,*LRG LIST REGISTERS
NUM 3
ALF 2,*LHX LOAD HEX
NUM 9
ALF 2,*LIT LOAD DECIMAL
NUM 9
ALF 2,*LAS LOAD ASCII
NUM 9
ALF 2,*LSP LOAD SINGLE PRECISION FLOATING POINT
NUM 9
ALF 2,*LJP LOAD DOUBLE PRECISION FLOATING POINT
NUM 9
ALF 2,*DPC CORE HEX DUMP
NUM 12
ALF 2,*DIC CORE DECIMAL DUMP
NUM 12
ALF 2,*DAS CORE ASCII DUMP
NUM 12
ALF 2,*JSP CORE SINGLE PRECISION FLOATING DUMP
NUM 12
ALF 2,*DDP CORE DOUBLE PRECISION FLOATING DUMP
NUM 12
ALF 2,*JP, JUMP
NUM 15

N0100276
N0100277
N0100278
N0100279
N0100280
N0100281
N0100282
N0100283
N0100284
N0100285
N0100286
N0100287
N0100288
N0100289
N0100290
N0100291
N0100292
N0100293
N0100294
N0100295
N0100296
N0100297
N0100298
N0100299
N0100300
N0100301
N0100302
N0100303
N0100304
N0100305
N0100306
N0100307
N0100308
N0100309
N0100310
N0100311
N0100312

0313	P016D 2A52 P016E 4A2C	ALF	2,*RJ,	RETURN JUMP	N0100313
0314	P016F 000F	NUM	15		N0100314
J315	P0170 2A53	ALF	2,*SET	SET BREAKPOINT	N0100315
	P0171 4554				
0316	P0172 0012	NUM	18		N0100316
0317	P0173 2A54 P0174 524D	ALF	2,*TRM	TERMINATE A BREAKPOINT(S)	N0100317
0318	P0175 0015	NUM	21		N0100318
0319	P0176 2A44 P0177 4048	ALF	2,*JMH	MASS STORAGE HEX DUMP	N0100319
0320	P0178 0018	NUM	24		N0100320
0321	P0179 2A44 P017A 4049	ALF	2,*JMI	MASS STORAGE DECIMAL DUMP	N0100321
0322	P017B 0018	NUM	24		N0100322
0323	P017C 2A44 P017D 4041	ALF	2,*DMA	MASS STORAGE ASCII DUMP	N0100323
0324	P017E 0018	NUM	24		N0100324
0325	P017F 2A44 P0180 4053	ALF	2,*JMS	MASS STORAGE SINGLE PRECISION FP DUMP	N0100325
0326	P0181 0018	NUM	24		N0100326
0327	P0182 2A44 P0183 4044	ALF	2,*JMD	MASS STORAGE DOUBLE PRECISION FP DJMP	N0100327
0328	P0184 0018	NUM	24		N0100328
0329	PC185 2A4C PC186 5549	ALF	2,*LUI	CHANGE INPUT LOGICAL UNIT	N0100329
0330	P0187 001B	NUM	27		N0100330
0331	P0188 2A4C P0189 554F	ALF	2,*LUO	CHANGE OUTPUT LOGICAL UNIT	N0100331
0332	PC18A 001B	NUM	27		N0100332
0333	P018B 2A41 P018C 4446	ALF	2,*AJF	SKIP FILE(S)	N0100333
0334	P018D 001E	NUM	30		N0100334
0335	P018E 2A42 P018F 5346	ALF	2,*BSF	BACKSPACE FILE	N0100335
0336	P0190 001E	NUM	30		N0100336
0337	P0191 2A41 P0192 4452	ALF	2,*ADR	SKIP RECORD	N0100337
0338	P0193 001E	NUM	30		N0100338
0339	P0194 2A42 P0195 5352	ALF	2,*BSR	BACKSPACE RECORD	N0100339
0340	P0196 001E	NUM	30		N0100340
0341	P0197 2A57 P0198 4546	ALF	2,*WEF	WRITE EOF	N0100341
0342	P0199 001E	NUM	30		N0100342
0343	P019A 2A52 P019B 4557	ALF	2,*REW	REWIND	N0100343
0344	P019C 001E	NUM	30		N0100344
0345	P019D 2A55 P019E 4E4C	ALF	2,*UNL	REWIND AND UNLOAD	N0100345
0346	P019F 001E	NUM	30		N0100346
0347	P01A0 2A53 P01A1 4C44	ALF	2,*SLD	SET DENSITY	N0100347

```

0348 P01A2 001E          NUM 30
0349
0350
0351
0352 P01A3 0000
0353
0354
0355
0356 P01A3 0C65
0357 P01A4 CA00
      P01A5 FF96
0358 P01A6 9800
      P01A7 FEE9
0359 P01A8 0101
0360 P01A9 1806
0361 P01AA CA00
      P01AB FF8F
0362 P01AC 9800
      P01AD FEE2
0363 P01AE 0106
0364 P01AF 0DFC
0365 P01B0 0171
0366 P01B1 18F2
0367 P01B2 GA00
0368 P01E3 1800
      P01B4 FF26

0369
0370 P01B5 EA00
      P01B6 FF86
0371 P01B7 0D17
0372 P01B8 4812
0373 P01B9 C800
      P01BA FE46
0374 P01B8 8000
      P01BC 01FA
0375 P01BD 680B
0376 P01BE 0A00
0377 P01BF 680C
0378 P01C0 680C
0379 P01C1 6808
0380 P01C2 54F4
0381 P01C3 5A00
      P01C4 0000
0382 P01C5 0000
0383 P01C6 08C2
      P01C7 0000
0384 P01C8 0000
      P01C9 0000
0385 P01CA 0000
0386 P01CB 0000
      P01CC 0000
0387 P01CD C8F7
0388 P01CE 0101

```

```

*
* OTHER BREAKPOINT FUNCTIONS MAY BE INSERTED HERE.
*
LASTAB BSS LASTAB(0)   DEFINES END OF BPTAB
*
* THE FOLLOWING CODE CODE SEARCHES BPTAB FOR A MATCHING STATEMENT
*
DEFINE ENQ LASTAB-BPTAB-1
      LDA BPTAB-1,Q     GET 1ST TABLE WORD
      SUB BUF+1
      SAZ DEF01-*--1    SKIP ON 1ST 2 CHARACTERS MATCH
      JMP* DEF02
DEF01 LDA BPTAB-2,Q     GET OTHER ENTRY WORD
      SUB BUF
      SAZ DEF2-*--1    SKIP IF WE HAVE A MATCH
      INQ -3            SET INDEX FOR NEXT TABLE ENTRY
      SQM DEF1-*--1    SKIP IF NO MATCH CAN BE FOUND
      JMP* DEFINE+1
DEF1 ENA 0
      JMP B01           GO PRINT DIAGNOSYIC
*
DEF2 LDQ BPTAB,Q       GET BPREL INDEX
      INQ BPREL-FIRST  COMPUTE DISPLACEMENT FOR GTFILE
      STQ* EYE
      LDA BRKPTD+1     COMPUTE OVERLAY BUFFER ADDRESS
      ADD =XCLAY-BRKPTD-1
      STA* ESS         STORE FOR GTFILE
      ENA 0
      STA* SECTOR      RE-INITIALIZE SECTOR NUMBER
      STA* SECTOR+1
      STA* ESS+1
GETOLA RTJ- ($F4)     GTFILE REQUEST FOR AN OVERLAY
FIRST NUM $5A00,0
      THUD NUM 0
      VEE NUM $8C2,0
      ESS NUM 0,0
      EYE NUM 0
      SECTOR NUM 0,0
CHK LDA* THUD         WAIT FOR COMPLETION
      SAZ PAR-*--1    SKIP IF COMPLETE

```

```

NO100348
NO100349
NO100350
NO100351
NO100352
NO100353
NO100354
NO100355
NO100356
NO100357
NO100358
NO100359
NO100360
NO100361
NO100362
NO100363
NO100364
NO100365
NO100366
NO100367
NO100368
NO100369
NO100370
NO100371
NO100372
NO100373
NO100374
NO100375
NO100376
NO100377
NO100378
NO100379
NO100380
NO100381
NO100382
NO100383
NO100384
NO100385
NO100386
NO100387
NO100388

```


0389	P01CF	18FD	JMP*	CHK		N0100389
0390	P01D0	C8F5	PAR	LDA*	VEE	N0100390
0391	P01D1	0121		SAP	GO--1	N0100391
0392	P01D2	18EF		JMP*	GETOLA	N0100392
0393	P01D3	C800	GO	LDA	BRKPTD+1	N0100393
	P01D4	FE2C				
0394	P01D5	8000		ADD	=XDX-BRKPTD-1	N0100394
	P01D6	0083				
0395	P01D7	5824		RTJ*	OLAY	N0100395
0396	P01D8	1800		JMP	READY	N0100396
	P01D9	FE7B				

*
 * THE FOLLOWING TABLE IS THE ONE REFERRED TO ABOVE IN THE
 * DESCRIPTION OF BPTAB. IT REPRESENTS ALPHABETIC NAMES
 * USED IN GFILE REQUESTS TO OBTAIN OVERLAYS ASSOCIATED WITH
 * THE PROCESSING OF EACH CONTROL STATEMENT.
 *

0400						N0100400
0401						N0100401
0402						N0100402
0403	P01DA	4250	BPREL	ALF	3,BPRSET	N0100403
	P01DB	5253				
	P01DC	4554				
0404	P01DD	4250		ALF	3,BPRLST	N0100404
	P01DE	524C				
	P01DF	5354				
0405	P01EG	4250		ALF	3,BPENJ	N0100405
	P01E1	454E				
	P01E2	4420				
0406	P01E3	4250		ALF	3,BPLOAD	N0100406
	P01E4	4C4F				
	P01E5	4144				
0407	P01E6	4250		ALF	3,BPDWPC	N0100407
	P01E7	444D				
	P01E8	5043				
0408	P01E9	4250		ALF	3,BPJMP	N0100408
	P01EA	4A4D				
	P01EB	5020				
0409	P01EC	4250		ALF	3,BPST	N0100409
	P01ED	5354				
	P01EE	2020				
0410	P01EF	4250		ALF	3,BPCLR	N0100410
	P01F0	434C				
	P01F1	5220				
0411	P01F2	4250		ALF	3,BPMAS	N0100411
	P01F3	4D41				
	P01F4	5353				
0412	P01F5	4250		ALF	3,BPBPLU	N0100412
	P01F6	4250				
	P01F7	4055				
0413	P01F8	4250		ALF	3,BPTAPC	N0100413
	P01F9	5441				
	P01FA	5043				

*
 *
 * BELOW IS THE AREA RESERVED FOR OVERLAYS. THIS AREA CAN

0414						N0100414
0415						N0100415
0416						N0100416

0417 * BE CHANGED BY SIMPLY CHANGING THE BSS VALUE. IT IS CURRENTLY
0418 * SET FOR THE LARGEST OVERLAY PLUS TEN PERCENT.
0419 *
0420 PG1FB 02A0 OLAY BSS OLAY(\$2A0) 7 SECTORS
0421 *
0422 END BRKPTD

NO100417
NO100418
NO100419
NO100420
NO100421
NO100422

PSM= 049B (1179) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0050, 0207, 0253, 0256
0028	NBTS	00UF	(000015) 0095, 0173, 0175

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0026	BRKPTD	0000	0026, 0033, 0034, 0036, 0037, 0039, 0040, 0042, 0043, 0182, 0183, 0198, 0199, 0373, 0374, 0393
0047	BRKP	0012	0394
0063	RPT	0020	0034, 0054
0067	LT10	0024	0074
0068	STORE	0025	0065
0075	FIN	0020	0059
0088	LUO1	0039	0084, 0092
0090	ADDRES	003B	0038
0092	WAIT	003C	0094
0095	THOK	003F	0093
0099	BRKP2	0040	0104
0106	BRKP3	0047	0103
0109	BRKP4	004A	0101
0110	BRKP5	004C	0107
0113	BRKP1	004E	0037, 0081, 0082
0116	BP	0053	0040
0118	READY	0055	0043, 0149, 0194, 0396
0121	LUO2	0059	0123
0123	ADDRSS	005B	0041
0125	WAIT2	005C	0127
0128	READ1	005F	0111, 0126
0130	READY1	0061	0133
0135	READ	0065	0132
0140	THREAD	006A	0144
0141	LUI1	006B	0136, 0147
0142	ADR1	006D	0044, 0252
0144	STAT	006E	0146
0147	CONT	0071	0145
0150	TDEF	0074	0148
0152	ERRMSG	0076	0183
0153	ERRM2	007D	0199
0160	QX	0084	0049, 0394
0161	AX	0085	0048
0162	IX	0086	0051
0163	MX	0087	0053
0164	LUI	0088	0135
0165	LUO	0089	0083, 0185, 0259
0166	PASS	008A	
0167	BPLOC	008B	0056
0168	W1	008C	0058, 0068, 0071, 0073

SUMMARY-110

NAM BPTAP1 DECK-ID N02 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

* THIS PROGRAM PERFORMS ALL TAPE FUNCTIONS FOR BREAKPOINT.
 * NO LEGALITY CHECK IS MADE ON LOGICAL UNIT NUMBER.

EXT LOG1A

* TAPE NUM 0
 INA 12 INPUT BUFFER LOCATION
 STA- I
 ENA 2 SET FOR 5TH CHARACTER
 STA* WDIX
 CLR A SET FOR LEFT CHARACTER
 STA* CHAR GET 2ND AND 3RD CHARACTERS
 LDA- 1,I
 STA* NUM

* TAPE1 ENQ CTEND-CTABLE-2
 LDA* CTABLE,Q SEARCH TABLE FOR NEEDED COMMAND
 SUB* NUM
 SAZ TAPE2--*--1 SKIP IF OPERATION FOUND
 INQ -2
 SQM TAPE25
 JMP* TAPE1 SEARCH SOME MORE

* TAPE2 LDA* CTABLE+1,Q GET COMMAND TYPE FLAG
 STA* OP
 RTJ* GET GET DELIMITOR
 INA -32C
 SAZ TAPE3--*--1 SKIP IF A COMMA
 TAPE25 ENA 0
 JMP- 40,I FORMAT ERROR - RETURN TO BRKPTD

* TAPE3 RTJ* DEC DECODE LOGICAL UNIT NUMBER
 TRA Q
 STA* LU STORE FOR REQUEST
 SAZ TAPE31-1
 SUB LOG1A

X X
 SAM TAPE31--*--1
 SAZ TAPE31--*--1
 JMP* TAPE25
 TAPE31 LDQ+ LOG1A,Q GET PHYSTAB ADDRESS IN Q

X X
 LDQ- 8,Q WORD 8 OF PHYSTAB
 LRS 1
 SAP TAPE36--*--1 SKIP IF OK TO ADDRESS FROM BACKGROUND
 JMP* TAPE25

* TAPE36 LDA* OP

00001
 00002
 00003
 00004
 00005
 00006
 00007
 00008
 00009
 00010
 00011 P0000 0000
 00012 P0001 090C
 00013 P0002 60FF
 00014 P0003 CA02
 00015 P0004 684D
 00016 P0005 0844
 00017 P0006 684C
 00018 P0007 C101
 00019 P0008 684B
 00020
 00021 P0009 000E
 00022 P000A CA52
 00023 P000B 9848
 00024 P000C 0103
 00025 P000D 00FD
 00026 P000E 0176
 00027 P000F 18FA
 00028
 00029 P0010 CA4J
 00030 P0011 683E
 00031 P0012 5865
 00032 P0013 09D3
 00033 P0014 0102
 00034 P0015 CA00
 00035 P0016 1128
 00036
 00037 P0017 5871
 00038 P0018 0822
 00039 P0019 6835
 00040 P001A 0104
 00041 P001B 9400
 00042 P001C 7FFF
 00043 P001D 0132
 00044 P001E 0101
 00045 P001F 18F5
 00046 P0020 E600
 00047 P0021 001C
 00048 P0022 E208
 00049 P0023 0F61
 00050 P0024 0121
 00051 P0025 18EF
 00052 P0026 C829

N0200001
 N0200002
 N0200003
 N0200004
 N0200005
 N0200006
 N0200007
 N0200008
 N0200009
 N0200010
 N0200011
 N0200012
 N0200013
 N0200014
 N0200015
 N0200016
 N0200017
 N0200018
 N0200019
 N0200020
 N0200021
 N0200022
 N0200023
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 N0200046
 N0200047
 N0200048
 N0200049
 N0200050
 N0200051

00052	P0027	0137	SAM	TAPE5--1	SKIP ON ALL BUT REW, UNL, SLD	N0200052
00053	P0028	09FE	INA	-1		N0200053
00054	P0029	0105	SAZ	TAPE5--1	SKIP ON SLD	N0200054
00055	P002A	584D	RTJ*	GET	GET DELIMITOR	N0200055
00056	P002B	900A	SUB-	\$A		N0200056
00057	P002C	0101	SAZ	TAPE4--1	SKIP ON STATEMENT END	N0200057
00058	P002D	18E7	JMP*	TAPE25	FORMAT ERROR - BACK TO BRKPTD	N0200058
00059	P002E	181C	JMP*	MOTION	TO EXECUTE	N0200059
00060			*TAPE4			N0200060
00061	P002F	5848	TAPE5	RTJ* GET	GET DELIMITOR	N0200061
00062	P0030	09D3	INA	-\$2C		N0200062
00063	P0031	0108	SAZ	TAPE7--1	SKIP IF A COMMA	N0200063
00064	P0032	C90C	INA	\$C	IS IT A BLANK	N0200064
00065	P0033	0111	SAN	TRYFF		N0200065
00066	P0034	1805	JMP*	TAPE6		N0200066
00067	P0035	9000	SUB	=N\$DF	IS IT A FF	N0200067
00068	P0036	00DF				N0200068
00069	P0037	0101	SAZ	TAPE6--1	SKIP IF STATEMENT END	N0200069
00070	P0038	18DC	JMP*	TAPE25	FORMAT ERROR - BACK TO BRKPTD	N0200070
00071	P0039	1811	JMP*	MOTION	TO EXECUTE	N0200071
00072			*TAPE5			N0200072
00073	P003A	584E	TAPE7	RTJ* DEC	GET REPEAT CODE OR DENSITY FLAG	N0200073
00074	P003B	C814	LDA*	OP		N0200074
00075	P003C	0139	SAM	TAPE9--1	SKIP IF NOT SLD	N0200075
00076	P003D	C816	LDA*	NUM	GET DENSITY FLAG	N0200076
00077	P003E	0822	TRA	Q	DENSITY REQUESTED CODE TO Q	N0200077
00078	P003F	0121	SAP	TAPE8--1	SKIP IF PLUS	N0200078
00079	P0040	18D4	JMP*	TAPE25	FORMAT ERROR - BACK TO BRKPTD	N0200079
00080			*TAPE8			N0200080
00081	P0041	09FB	INA	-4	FLAG IN PROPER RANGE 0-3	N0200081
00082	P0042	J131	SAM	TAPE8A		N0200082
00083	P0043	18D1	JMP*	TAPE25	FORMAT ERROR - BACK TO BRKPTD	N0200083
00084			*TAPE8A			N0200084
00085	P0044	CA14	LDA*	DENCD,Q	SAVE DENSITY CODE FROM TABLE	N0200085
00086	P0045	680E	STA*	NUM		N0200086
00087			*TAPE9			N0200087
00088	P0046	C809	LDA*	OP		N0200088
00089	P0047	A01A	AND-	\$1A	PUT REPEAT COUNT OR DENSITY IN REQUEST	N0200089
00090	P0048	B80B	EOR*	NUM		N0200090
00091	P0049	6806	STA*	OP		N0200091
00092			*MOTION			N0200092
00093	P004A	54F4	RTJ-	(\$F4)	THIS IS THE PLUGGED MOTION REQUEST	N0200093
	P004B	5C00	NUM	\$5C00,0,0		N0200094
	P004C	0000				N0200095
	P004D	0000				N0200096
00094	P004E	1000	LU	NUM \$1000	LOGICAL UNIT GOES HERE	N0200097
00095	P004F	0000	OP	NUM 0	OPERATION GOES HERE	N0200098
00096			*JMP*	(TAPE)	DONE - EXIT	N0200099
00097	P0050	1CAF				N0200100
00098			*WDIX			N0200101
00099	P0051	0001	BSS	WDIX(1)	WORD INDEX TO BUFFER	N0200102
01000	P0052	0001	CHAR	BSS CHAR(1)	CHARACTER FLAG 0=LEFT 1=RIGHT	N0200103
01001	P0053	0005	NUM	BSS NUM(5)	SCRATCH	N0200104


```

0102
0103
0104 P0053 0003
0105 P0059 0002
0106 P005A 0001
0107 P005B 0004
0108
0109
0110
0111
0112
0113
0114 P005C 4446
0115 P005D 0001
0116 P005E 5346
0117 P005F 0001
0118 P0060 4432
0119 P0061 F001
0120 P0062 5352
0121 P0063 9001
0122 P0064 4546
0123 P0065 A001
0124 P0066 4557
0125 P0067 3000
0126 P0068 4E4C
0127 P0069 4000
0128 P006A 4C44
0129 P006B 0001
0130 P006C 0000
0131
0132
0133
0134 P006C C000
0135 P006D C8E4
0136 P006E 0115
0137 P006F D8FE2
0138 P0070 C8E0
0139 P0071 09FE
0140 P0072 68DE
0141 P0073 1CF8
0142 P0074 0844
0143 P0075 68DC
0144 P0076 1CF5
0145
0146
0147
0148
0149 P0077 0000
0150 P0078 CDD8
0151 P0079 E8D8
0152 P007A 0151
0153 P007B 0FC8
0154 P007C A0CA

```

```

*
* DENSITY CODES
DENCJ NUM 3
      NUM 2
      NUM 1
      NUM 4
*
* THIS TABLE CONTAINS TWO WORD ENTRIES. THE FIRST CONTAINS
* THE 2ND AND 3RD CHARACTERS FROM EACH POSSIBLE STATEMENT CODE.
* THE 2ND CONTAINS THE ASSOCIATED MOTION REQUEST CODE
* ALONG WITH A DEFAULT PARAMETER.
*
CTABLE ALF 1,DF ADVANCE FILE
        NUM $D001
        ALF 1,SF BACKSPACE FILE
        NUM $E001
        ALF 1,DR ADVANCE RECORD
        NUM $F001
        ALF 1,SR BACKSPACE RECORD
        NUM $9001
        ALF 1,EF WRITE END OF FILE
        NUM $A001
        ALF 1,EW REWIND
        NUM $3000
        ALF 1,NL UNLOAD
UNLOAD NUM $4000
        ALF 1,LJ SET DENSITY
        NUM 1
CTENDJ BSS CTEND(0)
*
* THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER.
*
BACK NUM 0
      LDA* CHAR
      SAN BACK1--*-1 SKIP ON CHAR > RIGHT
      RAO* CHAR
      LDA* WDIX
      INA -1
      STA* WDIX
      JMP* (BACK)
BACK1 CLR A
      STA* CHAR SET CHAR TO LEFT
      JMP* (BACK)
*
* THIS SUBROUTINE UNPACKS ONE CHARACTER FROM THE INPUT BUFFER
* AND RETURNS IT IN A.
*
GET NUM 0
  LDA* (WDIX),I GET CHARACTER WORD
  LDQ* CHAR CHARACTER FLAG 0=LEFT 1=RIGHT
  SQN GET1--*-1 SKIP ON RIGHT CHARACTER
  ALS 8
GET1 AND- $A UNPACK IT

```

```

N0200102
N0200103
N0200104
N0200105
N0200106
N0200107
N0200108
N0200109
N0200110
N0200111
N0200112
N0200113
N0200114
N0200115
N0200116
N0200117
N0200118
N0200119
N0200120
N0200121
N0200122
N0200123
N0200124
N0200125
N0200126
N0200127
N0200128
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N0200147
N0200148
N0200149
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N0200151
N0200152
N0200153
N0200154

```

0155 P007D 0144
 0156 P007E 0842
 0157 P007F 48D2
 0158 P0080 08D0
 0159 P0081 1CF5
 0160 P0082 08CF
 0151 P0083 E8CD
 0162 P0084 0DDA
 0153 P0085 0141
 0164 P0086 1CF0
 0165 P0087 188D
 0166
 0167
 0168
 0169 P0088 0000
 0170 P0089 0844
 0171 P008A 68C8
 0172 P008B 68C8
 0173 P008C 68C8
 0174 P008D 0AFB
 0175 P008E 08C7
 0176
 0177 P008F 58E7
 0178 P0090 E8C4
 0179 P0091 015A
 0180 P0092 09D4
 0181 P0093 0112
 0182 P0094 08C0
 0183 P0095 18F9
 0184 P0096 09FD
 0185 P0097 0112
 0186 P0098 08BB
 0187 P0099 18FA
 0188 P009A 08BA
 0189 P009B 092D
 0190 P009C E8B9
 0191 P009D 0151
 0192 P009E 1810
 0193 P009F 0806
 0194 P00A0 09CF
 0195 P00A1 0121
 0196 P00A2 1810
 0197 P00A3 09F5
 0198 P00A4 0131
 0199 P00A5 180D
 0200 P00A6 090A
 0201 P00A7 68AF
 0202 P00A8 0A0A
 0203 P00A9 28A9
 0204 P00AA 0141
 0205 P00AB 1803
 0206 P00AC 88AA
 0207 P00AD 01B2

GET2 SQZ GET2--*-1
 CLR Q
 STQ* CHAR
 RAO* WDIX
 JMP* (GET)
 RAO* CHAR
 LDQ* WDIX
 INQ -37
 SQZ OFLOW--*-1
 JMP* (GET)
 OFLOW JMP* TAPE25

SKIP ON LEFT
 UPDATE CHARACTER FLAG
 UPDATE WORD INDEX
 RETURN
 UPDATE CHARACTER FLAG
 TEST FOR BUFFER END
 SKIP ON INPUT BUFFER END - ERROR
 RETURN
 * THIS SUBROUTINE CONVERTS SIGNED DECIMAL INTEGERS TO BINARY
 *
 DEC NUM 0
 CLR A
 STA* NUM
 STA* NUM+1
 STA* NUM+2
 ENA -4
 STA* NUM+3
 *
 DEC1 RTJ* GET
 LDQ* NUM+2
 SQN DEC3--*-1
 INA -82B
 SAN DEC5--*-1
 RAO* NUM+2
 JMP* DEC1
 INA -2
 SAN DEC6--*-1
 RAO* NUM+1
 JMP* DEC3
 RAO* NUM+2
 INA \$2D
 LDQ* NUM+3
 SQN DEC9--*-1
 JMP* DEC125
 RAO* NUM+3
 INA -830
 SAP DEC10--*-1
 JMP* DEC30
 INA -\$A
 SAM DEC11--*-1
 JMP* DEC30
 INA \$A
 STA* NUM+4
 ENA 10
 MUI* NUM
 SQZ DEC12--*-1
 JMP* DEC125
 ADD* NUM+4
 SNO DEC13--*-1

CLEAR NUMBER
 SET SIGN POSITIVE
 SET 1ST CHARACTER FLAG TO 1ST
 SET DIGIT COUNT
 GET A CHARACTER
 SKIP ON NOT 1ST CHARACTER
 SKIP IF NOT A PLUS
 TURN OFF 1ST CHARACTER FLAG
 SKIP IF NOT A MINUS
 SET SIGN NEGATIVE
 TURN OFF 1ST CHARACTER FLAG
 SKIP IF LESS THAN 5 DIGITS
 TOO MANY DIGITS
 UPDATE DIGIT COUNT
 SKIP ON OK SO FAR
 NOT A DECIMAL DIGIT
 SKIP ON DECIMAL DIGIT
 HERE IS THE ACTUAL CONVERSION
 SKIP IF NUMBER LESS THAN 32768
 NUMBER TOO LARGE
 SKIP IF NUMBER LESS THAN 32768

N0200155
 N0200156
 N0200157
 N0200158
 N0200159
 N0200160
 N0200161
 N0200162
 N0200163
 N0200164
 N0200165
 N0200166
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 N0200200
 N0200201
 N0200202
 N0200203
 N0200204
 N0200205
 N0200206
 N0200207

```

0208 P00AE 0A0C DEC125 ENA 0
0209 P00AF 1128 JMP- 40,I
0210 P00B0 68A2 DEC13 STA* NUM
0211 P00B1 18DD JMP* DEC1
0212 *
0213 P00B2 58B9 DEC30 RTJ* BACK
0214 P00B3 C89F LDA* NUM
0215 P00B4 E89F LDQ* NUM+1
0216 P00B5 0141 SQZ DEC31-* -1
0217 P00B6 18F7 JMP* DEC125
0218 P00B7 1CDD DEC31 JMP* (DEC)
0219 END

```

```

NUMBER TOO LARGE
SAVE CURRENT PROCEEDS
GO GET NEXT DIGIT

BACK UP SCAN BY ONE

SKIP ON POSITIVE NUMBER
NO NEGATIVE NUMBERS ALLOWED
DONE

```

```

NO200 208
NO200 209
NO200 210
NO200 211
NO200 212
NO200 213
NO200 214
NO200 215
NO200 216
NO200 217
NO200 218
NO200 219

```

PSM= 00B8 (184) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0013

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	TAPE	0000	0097
0022	TAPE1	000A	0027
0029	TAPE2	0010	0024
0034	TAPE25	0015	0026, 0044, 0049, 0058, 0069, 0078, 0082, 0165
0037	TAPE3	0017	0033
0045	TAPE31	0020	0040, 0042, 0043
0051	TAPE35	0026	0048
0059	TAPE4	002E	0057
0061	TAPE5	002F	0052, 0054
0067	TRYFF	0035	0065
0070	TAPE6	0039	0066, 0068
0072	TAPE7	003A	0063
0080	TAPE8	0041	0077
0084	TAPE8A	0044	0081
0087	TAPE9	004C	0074
0092	MOTION	004A	0059, 0070
0094	LU	004E	0039
0095	JP	004F	0030, 0051, 0073, 0087, 0090
0099	WDIX	0051	0013, 0138, 0140, 0150, 0158, 0161
0100	CHAR	0052	0017, 0135, 0137, 0143, 0151, 0157, 0160
0101	NUM	0053	0019, 0023, 0075, 0085, 0089, 0171, 0172, 0173, 0175, 0178, 0182, 0186, 0188, 0190, 0193, 0201
			0203, 0206, 0210, 0214, 0215
0104	JENCD	0058	0084
0114	STABLE	005C	0021, 0022, 0029
0127	JNLOAD	0069	
0130	CTEND	006C	0021
0134	BACK	006C	0141, 0144, 0213
0142	BACK1	0074	0136
0149	SET	0077	0031, 0055, 0061, 0159, 0164, 0177
0154	GET1	007C	0152
0160	GET2	0082	0155
0165	OFLOW	0087	0163
0169	DEC	0088	0037, 0072, 0218
0177	DEC1	008F	0183, 0211
0180	DEC2	0092	
0182	DEC3	0094	0187
0184	DEC5	0096	0181
0188	DEC6	009A	0185
0190	JEG8	009C	0179
0193	DEC9	009F	0191
0197	DEC10	00A3	0195

0200	DEC11	00A6
0206	DEC12	00AC
0208	DEC125	00AE
0210	DEC13	00B0
0213	DEC30	00B2
0218	DEC31	00B7

0198
0204
0192, 0205, 0217
0207
0196, 0199
0216

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0009	LOG1A	0021	0041, 0045


```

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010 P0000 0000
0011 P0001 090C
0012 P0002 50FF
0013 P0003 0844
0014 P0004 6800
      P0005 00B4
0015 P0006 0A02
0016 P0007 6800
      P0008 00B2
0017 P0009 6800
      P000A 00BF
0018 P000B C101
0019 P000C A00A
0020 P000D 6800
      P000E 00AD
0021 P000F 0CF8
0022 P0010 C722
0023 P0011 6800
      P0012 0102
0024
0025 P0013 0C14
0026 P0014 CA00
      P0015 00B5
0027 P0016 9800
      P0017 00A4
0028 P0018 0102
0029 P0019 0DFA
0030 P001A 18F9
0031
0032 P001B CA00
      P001C 00AF
0033 P001D 6800
      P001E 009F
0034 P001F CA00
      P0020 00AC
0035 P0021 6800
      P0022 009A
0036 P0023 CA00
      P0024 00A9
0037 P0025 6800
      P0026 009E
0038 P0027 CA00
      P0028 00A6
0039 P0029 6800
      P002A 009C

```

```

*      NAM MASDM1          DECK-ID NJ3  MSOS 5.0
*      MASS STORAGE OPERATING SYSTEM VERSION 5.0
*      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
*      COPYRIGHT CONTROL DATA CORPORATION 1976
*
* THIS PROGRAM PROCESSES ALL REQUESTS TO DUMP
* MASS STORAGE FOR BREAKPOINT. THE LOCATION OF
* QX IN BRKPTD IS IN A ON ENTRY.
*
MAS  NUM 0
      INA 12
      STA- I          SAVE INPUT BUFFER ADDRESS
      CLR A
      STA CHAR        SET TO UNPACK LEFT CHARACTER
      ENA 2
      STA WDIJ        SET TO UNPACK 5TH CHARACTER IN GET ROUTINE
      STA FSTRT       SAVE FIELD START INDEX
      LDA- 1,I        GET 2ND BUFFER WORD
      AND- $A         UNPACK 4TH CHARACTER
      STA TYPE        DEFINES FORM OF DESIRED OUTPUT
      ENQ -7
      LDA- ($22),B   GET OUTPUT UNIT
      STA LU          STORE IN WRITE REQUEST
*
MAS1 ENQ 20
      LDA DMPTAB,Q   SEARCH FOR DATA ON THIS OUTPUT FORM
      SUB TYPE
      SAZ MAS2-* -1  SKIP WHEN RIGHT SET OF DATA FOUND
      INQ -5
      JMP* MAS1
*
MAS2 LDA DMPTAB+1,Q
      STA INCREM     SET NUMBER OF WORDS PER VALUE
      LDA DMPTAB+2,Q
      STA VPL        SET VALUES PER LINE
      LDA DMPTAB+3,Q
      STA CONVRT     SET CONVERSION ROUTINE INDEX
      LDA DMPTAB+4,Q
      STA DBUF       SET NUMBER OF POSITIONS PER FIELD

```

```

SUMMARY-115 N0300001
N0300002
N0300003
N0300004
N0300005
N0300006
N0300007
N0300008
N0300009
N0300010
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N0300037
N0300038
N0300039

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0040		*				N0300040
0041	PG002B	5800	RTJ	COMCHK	CHECK 1ST DELIMITER	N0300041
	PG002C	000CB				
0042	PG002D	5800	RTJ	HEX	GET SECTOR MOST SIGNIFICANT BITS	N0300042
	PG002E	000ED				
0043	PG002F	6800	STA	MSB		N0300043
	PG0030	00006				
0044	PG0031	5800	RTJ	COMCHK	CHECK DELIMITER FOR COMMA	N0300044
	PG0032	00005				
0045	PG0033	5800	RTJ	HEX	GET SECTOR LEAST SIGNIFICANT BITS	N0300045
	PG0034	000E7				
0046	PG0035	6800	STA	LSB		N0300046
	PG0036	000D1				
0047	PG0037	5800	RTJ	COMCHK	CHECK FOR COMMA DELIMITER	N0300047
	PG0038	000BF				
0048	PG0039	5800	RTJ	HEX	GET STARTING WORD NUMBER	N0300048
	PG003A	000E1				
0049	PG003B	0842	CLR	Q		N0300049
0050	PG003C	3000	DVI	=N95		N0300050
	PG003D	00060				
0051	PG003E	8800	ADD	LSB		N0300051
	PG003F	000C8				
0052	PG0040	01B3	SNO	MAS201-*--1		N0300052
0053	PG0041	0800	RAO	MSB		N0300053
	PG0042	000C4				
0054	PG0043	A011	AND-	\$11		N0300054
0055	PG0044	5800	MAS211 STA	LSB		N0300055
	PG0045	000C2				
0056	PG0046	4800	STQ	START	SET STARTING WORD NUMBER IN SECTOR	N0300056
	PG0047	00080				
0057	PG0048	5800	MAS25 RTJ	COMCHK	CHECK DELIMITER FOR COMMA	N0300057
	PG0049	000AE				
0058	PG004A	5800	RTJ	HEX	GET NUMBER OF WORDS TO DUMP	N0300058
	PG004B	000D0				
0059	PG004C	5800	STA	NWDS		N0300059
	PG004D	0007B				
0050	PG004E	0123	SAP	MAS26-*--1	SKIP ON POSITIVE NUMBER OF WORDS	N0300060
0051	PG004F	C800	MAS22 LDA	FSTR		N0300061
	PG0050	00079				
0052	PG0051	1128	JMP-	+0,I	FORMAT ERROR - BACK TO BRKPTD	N0300062
0053	PG0052	5800	MAS25 RTJ	GET	GET NEXT CHARACTER - SHOULD BE END	N0300063
	PG0053	000F8				
0054	PG0054	900A	SUB-	\$A	CONTAINS \$FF	N0300064
0055	PG0055	J101	SAZ	MAS3-*--1	SKIP IF STATEMENT END	N0300065
0056	PG0056	18F8	JMP*	MAS22	FORMAT ERROR - BACK TO BRKPTD	N0300066
0057			*			N0300067
0058	PG0057	5801	MAS3 RTJ*	*+1		N0300068
0059	PG0058	0000	NUM	0		N0300069
0070	PG0059	C8FE	LDA*	*-1		N0300070
0071	PG005A	8000	ADD	=XOJTBJF-MAS3-1		N0300071
	PG005B	0170				
0072	PG005C	5800	STA	ESS	STORE ABS LOCATION OF OUTPUT BUFFER	N0300072
	PG005D	000B9				

0073	P005E	C8F9	LDA*	MAS3+1		N0300073	
0074	P005F	80C0	ADD	=XINBUF-MAS3-1		N0300074	
	P0060	01A1					
0075	P0061	6800	STA	INLOC	STORE ABS LOCATION OF INPUT BUFFER	N0300075	
	P0062	00A3					
0076			*			N0300076	
0077	P0063	C000	MAS4	LDA	=N\$2020	BLANKS	N0300077
	P0064	2020					
0078	P0065	6800	STA	OUTBUF		N0300078	
	P0066	016F					
0079	P0067	0A01	ENA	1		N0300079	
0080	P0068	6800	STA	OBIX		N0300080	
	P0069	00AC					
0081	P006A	5800	RTJ	WRITE	WRITE A BLANK LINE	N0300081	
	P006B	00A4					
0082	P006C	5800	RTJ	WRITE	ANOTHER BLANK LINE	N0300082	
	P006D	00A2					
0083			*			N0300083	
0084	P006E	0A00	ENA	0	THE FOLLOWING PUTS SECTOR NUMBER IN OUTBUF	N0300084	
0085	P006F	5800	STA	OBIX		N0300085	
	P0070	00A5					
0086	P0071	C800	LDA	MSB		N0300086	
	P0072	0094					
0087	P0073	5800	RTJ	HEXM	SPECIAL ENTRY TO HEXO	N0300087	
	P0074	0117					
0088	P0075	0A02	ENA	2		N0300088	
0089	P0076	6800	STA	OBIX		N0300089	
	P0077	009E					
0090	P0078	C800	LDA	LSB		N0300090	
	P0079	008E					
0091	P007A	5800	RTJ	HEXM	SPECIAL ENTRY TO HEXO	N0300091	
	P007B	0110					
0092			*			N0300092	
0093	P007C	0A04	ENA	4		N0300093	
0094	P007D	6800	STA	OBIX		N0300094	
	P007E	0097					
0095	P007F	5800	RTJ	WRITE	OUTPUT SECTOR NUMBER	N0300095	
	P0080	008F					
0096	P0081	5800	RTJ	READ	READ A SECTOR	N0300096	
	P0082	007C					
0097			*			N0300097	
0098	P0083	0C23	MAS5	ENQ	35	N0300098	
0099	P0084	C000	LDA	=N\$2020	BLANKS	N0300099	
	P0085	2020					
0100	P0086	5A00	MAS6	STA	OUTBUF,0	BLANK OUTPUT BUFFER	N0300100
	P0087	014E					
0101	P0088	0DFE	INQ	-1		N0300101	
0102	P0089	0171	SQM	MAS7--*-1	SKIP WHEN DONE	N0300102	
0103	P008A	18FB	JMP*	MAS6		N0300103	
0104			*			N0300104	
0105	P008B	0A00	MAS7	ENA	0	N0300105	
0106	P008C	6800	STA	OBIX	INITILIZE OUTPUT BUFFER INDEX	N0300106	
	P008D	0088					

0107	P008E	C82E	LDA*	VPL			N0300107
0108	P008F	09FE	INA	-1	MASK FOR COLUMN POSITION IN A		N0300108
0109	P0090	A837	AND*	START			N0300109
0110	P0091	6834	STA*	CV	GIVES CURRENT NUMBER OF VALUES IN THE LINE		N0300110
0111			*				N0300111
0112	P0092	C835	MAS8	LDA*	START		N0300112
0113	P0093	5800		RTJ	HEXM	SPECIAL ENTRY TO HEXO FOR LINE START ETC.	N0300113
	P0094	00F7					
0114	P0095	0A04		ENA	4		N0300114
0115	P0096	6800		STA	OBIX	SET INDEX FOR STORING OUTPUT DATA	N0300115
	P0097	007E					
0116			*				N0300116
0117	P0098	E82C	MAS9	LDQ*	CONVRT		N0300117
0118	P0099	5A4A		RTJ*	CONTBL,Q	CONVERT AND STORE DATA IN BUFFER	N0300118
0119			*				N0300119
0120	P009A	D82B		RAO*	CV	INCREMENT NO. OF VALUES ON THE LINE	N0300120
0121	P009B	C82C		LDA*	START		N0300121
0122	P009C	8821		ADD*	INCREM		N0300122
0123	P009D	682A		STA*	START	SET INPUT BUFFER INDEX FOR NEXT VALUE	N0300123
0124			*				N0300124
0125	P009E	C877		LDA*	OBIX	UPDATE BUFFER INDEX	N0300125
0126	P009F	8827		ADD*	DBJF		N0300126
0127	P00A0	6875		STA*	OBIX		N0300127
0128	P00A1	C827		LDA*	NWDS		N0300128
0129	P00A2	09FE		INA	-1		N0300129
0130	P00A3	6825		STA*	NWDS		N0300130
0131	P00A4	0116		SAN	MAS11-*--1	SKIP IF MORE OUTPUT NEEDED	N0300131
0132	P00A5	C820		LDA*	CV		N0300132
0133	P00A6	0111		SAN	MAS10-*--1	SKIP IF PARTIAL LINE WAITING FOR OUTPUT	N0300133
0134	P00A7	1802		JMP*	MASBY	DONE - EXIT	N0300134
0135	P00A8	5867	MAS10	RTJ*	WRITE	EMPTY THE BUFFER	N0300135
0136	P00A9	1C00	MASBY	JMP	(MAS)	DONE - EXIT	N0300136
	P00AA	FF55					
0137			*				N0300137
0138	P00AB	C81C	MAS11	LDA*	START		N0300138
0139	P00AC	099E		INA	-97		N0300139
0140	P00AD	0135		SAN	MAS12-*--1	SKIP IF MORE DATA IN THIS SECTOR	N0300140
0141	P00AE	5861		RTJ*	WRITE	EMPTY BUFFER	N0300141
0142	P00AF	D858		RAO*	LSB	UPDATE SECTOR NUMBER	N0300142
0143	P00B0	0844		CLR	A		N0300143
0144	P00B1	6816		STA*	START	REINITIALIZE INBUT BUFFER INDEX	N0300144
0145	P00B2	1800		JMP*	MAS4		N0300145
0146			*				N0300146
0147	P00B3	C812	MAS12	LDA*	CV		N0300147
0148	P00B4	9808		SUB*	VPL		N0300148
0149	P00B5	01J1		SAZ	MAS13-*--1	SKIP IF AT END OF LINE	N0300149
0150	P00B6	18E1		JMP*	MAS9		N0300150
0151			*				N0300151
0152	P00B7	5858	MAS13	RTJ*	WRITE	EMPTY BUFFER	N0300152
0153	P00B8	18CA		JMP*	MAS5		N0300153
0154			*				N0300154
0155			*				N0300155
0156	P00B9	0001	CHAR	BSS	CHAR(1)	CHARACTER FLAG 0=LEFT 1=RIGHT	N0300156

0157	P00BA	0001	WDIX	BSS	WDIX(1)	WORD INDEX TO INPUT BUFFER - USER	N0300157
0158	P00BB	0001	TYPE	BSS	TYPE(1)	DUMP TYPE	N0300158
0159	P00BC	0001	VPL	BSS	VPL(1)	NUMBER OF VALUES PER LINE	N0300159
0160	P00BD	0001	INCREM	BSS	INCREM(1)	INCREMENT BETWEEN SUCCESSIVE VALUE LOCATIONS	N0300160
0161	P00BE	0006	NUM	BSS	NUM(6)	SCRATCH	N0300161
0162	P00C4	0001	CONVRT	BSS	CONVRT(1)	INDEX TO CONVERSION ROUTINE ENTRY	N0300162
0153	P00C5	0001	CV	BSS	CV(1)	CURRENT NUMBER OF VALUES ON A LINE	N0300163
0164	P00C6	0001	DBUF	BSS	DBUF(1)	NUMBER OF POSITIONS PER FIELD	N0300164
0165	P00C7	0001	START	BSS	START(1)	INDEX TO DISK INPUT BUFFER	N0300165
0165	P00C8	0001	NWDS	BSS	NWDS(1)	NUMBER OF WORDS LEFT TO DUMP	N0300166
0167	P00C9	0001	FSTRF	BSS	FSTRF(1)	FIELD START INDEX	N0300167
0158			*				N0300168
0159			* THE FOLLOWING TABLE CONTAINS DATA FOR EACH TYPE OF DUMP.				N0300169
0170			* EACH ENTRY CONSISTS OF 5 FIVE WORDS AS FOLLOWS,				N0300170
0171			*				N0300171
0172			* WORD 1		ASCII CHARACTER IDENTIFYING THE DUMP		N0300172
0173			* WORD 2		NUMBER OF WORDS PER VALUE BEFORE CONVERSION		N0300173
0174			* WORD 3		NUMBER OF VALUES PER LINE OF OUTPUT		N0300174
0175			* WORD 4		INDEX TO THE CONVERSION ROUTINE TABLE (CONTBL)		N0300175
0176			* WORD 5		NUMBER OF BUFFER WORDS PER FIELD		N0300176
0177			*				N0300177
0178	P00CA	0041	DMPTAB	NUM	\$41,1,3,0,2	ASCII	N0300178
	P00CB	0001					
	P00CC	0008					
	P00CD	0003					
	P00CE	0002					
0179	P00CF	0048		NUM	\$48,1,8,4,4	HEX	N0300179
	P00D0	0001					
	P00D1	0008					
	P00D2	0004					
	P00D3	0004					
0180	P00D4	0044		NUM	\$44,3,2,8,13	DOUBLE PRECISION	N0300180
	P00D5	0003					
	P00D6	0002					
	P00D7	0008					
	P00D8	0000					
0181	P00D9	0049		NUM	\$49,1,8,12,4	DECIMAL	N0300181
	P00DA	0001					
	P00DB	0008					
	P00DC	000C					
	P00DD	0004					
0182	P00DE	0053		NUM	\$53,2,2,16,13	SINGLE PRECISION	N0300182
	P00DF	0002					
	P00E0	0002					
	P00E1	0010					
	P00E2	0000					
0183			*				N0300183
0184			* ENTRY TABLE TO CONVERSION ROUTINES				N0300184
0185			*				N0300185
0186	P00E3	0000	CONTBL	NUM	0		N0300186
0187	P00E4	5800	RTJ	ASCII	ASCII		N0300187
	P00E5	007E					
0188	P00E6	1CFC	JMP*	(* - 3)			N0300188

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0189 P00E7 0000 NUM 0 NO300189
0190 P00E8 5800 RTJ HEXD HEX NO300190
0191 P00E9 0083 JMP* (*-3) NO300191
0192 P00EA 1CFD NUM 0 NO300192
0193 P00EB 0000 RTJ DP DOUBLE PRECISION NO300193
0194 P00EC 5800 JMP* (*-3) NO300194
0195 P00ED 016C NUM 0 NO300195
0196 P00EE 1CFD RTJ DECI DECIMAL NO300196
0197 P00EF 0000 JMP* (*-3) NO300197
0198 P00F0 5800 NUM 0 NO300198
0199 P00F1 00B1 RTJ SP SINGLE PRECISION NO300199
0200 P00F2 1CFD JMP* (*-3) NO300200
0201 P00F3 0000 * NO300201
0202 * CHECKS FOR A COMMA NO300202
0203 * NO300203
0204 P00F7 0000 COMCHK NUM 0 GET NEXT INPUT BUFFER CHARACTER NO300204
0205 P00F8 5853 RTJ* GET NO300205
0206 P00F9 09D3 INA -$2C SKIP IF IT IS A COMMA NO300206
0207 P00FA 0102 SAZ COMEX-*--1 NO300207
0208 P00FB C8CD LDA* FSTRT NO300208
0209 P00FC 1128 JMP- 40,I FORMAT ERROR - BACK TO BRKPTD NO300209
0210 P00FD 1CF9 COMEX JMP* (COMCHK) RETURN NO300210
0211 * MASS STORAGE READ NO300211
0212 * NO300212
0213 * NO300213
0214 P00FE 0000 READ NUM 0 NO300214
0215 P00FF 54F4 RTJ- ($F4) NO300215
0216 P0100 4800 NUM $4800,0 NO300216
0217 P0101 0000 THUD NUM 0 NO300217
0218 P0102 0000 LOGU NUM $18B3 NO300218
0219 P0103 18B3 NOWDS NUM 96 NO300219
0220 P0104 0060 INLOC NUM 0 NO300220
0221 P0105 C0C0 MSB NUM 0 NO300221
0222 P0106 0000 LSB NUM 0 NO300222
0223 * NO300223
0224 P0108 C8F9 READ1 LDA* THUD NO300224
0225 P0109 0101 SAZ READ?-*--1 SKIP IF INPUT COMPLETE NO300225
0226 P010A 18FD JMP* READ1 WAIT NO300226
0227 P010B C8F7 READ2 LDA* LOGJ NO300227
0228 P010C 0121 SAP READ3-*--1 SKIP IF NO ERROR NO300228
0229 P010D 18F1 JMP* READ+1 TRY AGAIN NO300229
0230 P010E 1CFE READ3 JMP* (READ) DONE NO300230
0231 * NO300231
0232 * THE FOLLOWING EMPTIES THE OUTPUT BUFFER NO300232
0233 * NO300233
0234 P010F 0000 WRITE NUM 0 NO300234
0235 P0110 54F4 RTJ- ($F4) NO300235
0236 P0111 4C00 NUM $4C00,0,0 NO300236
0237 P0112 0000 NO300237

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0237  P0113 0000
0238  P0114 0000
0239  P0115 0000
0240  P0116 0000
0241  P0117 C8FB
0242  P0118 0101
0243  P0119 18FD
0244  P011A 1CF4
0245
0246
0247
0248  P011B 0000
0249  P011C C89D
0250  P011D 68AB
0251  P011E 0844
0252  P011F 689E
0253  P0120 0AFA
0254  P0121 689D
0255
0256  P0122 5829
0257  P0123 09CF
0258  P0124 0121
0259  P0125 1813
0260  P0126 C822
0261  P0127 0DF5
0262  P0128 0175
0263  P0129 09F8
0264  P012A 0DF8
0265  P012B 017C
0266  P012C 0DF9
0267  P012D 016A
0268  P012E E88F
0269  P012F 0FA4
0270  P0130 0874
0271  P0131 688C
0272  P0132 D88C
0273  P0133 C88B
0274  P0134 0112
0275  P0135 C893
0276  P0136 1123
0277  P0137 18EA
0278  P0138 5803
0279  P0139 C884
0280  P013A 1CE0
0281
0282
0283
0284  P013B 0000
0285  P013C C800
0286  P013D FF7B
0287  P013E 0118
0288  P013F 0800
0289  P0140 FF78

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```

LU      NUM 0
OBIX    NUM 0
ESS     NUM 0
*
WRITE1  LDA* LU-1
        SAZ WRITE2--*-1
        JMP* WRITE1
WRITE2  JMP* (WRITE)
*
* THIS ROUTINE CONVERTS A HEX (ASCII) FIELD TO BINARY.
*
HEX     NUM 0
        LDA* WDIX
        STA* FSTRT
        CLR A
        STA* NUM
        ENA -5
        STA* NUM+1
*
HEX3    RTJ* GET
        INA -$30
        SAP HEX+--*-1
        JMP* HEX10
*
HEX4    TRA Q
        INQ -$A
        SQM HEX+05--*-1
        INA -7
        INQ -7
        SQM HEX10--*-1
        INQ -6
        SQP HEX10--*-1
HEX+05  LDQ* NUM
        QLS +
        EAQ A
        STA* NJM
        RAO* NUM+1
        LDA* NUM+1
        SAN HEX5--*-1
        LDA* FSTRT
        JMP- +0,I
HEX5    JMP* HEX3
HEX10   RTJ* BACK
        LDA* NJM
        JMP* (HEX)
*
* THE FOLLOWING BACKS UP THE STATEMENT SCAN BY ONE CHARACTER.
*
BACK    NUM 0
        LDA CHAR
*
        SAN BACK1--*-1
        RAO CHAR

```

OUTPUT BUFFER INDEX

GET THREAD
SKIP WHEN DONE
WAIT
EXIT

SAVE FIELD START INDEX

INITIALIZE CONVERTED VALUE

INITIALIZE DIGIT COUNT

GET A CHARACTER
UNDER \$30 CHECK
SKIP ON NUMERIC - MAYBE
NOT NUMERIC

SKIP ON DIGIT 0 THRU 9

SKIP IF NON-NUMERIC
UNDER \$47 CHECK
SKIP IF NON-NUMERIC
CONVERTED DIGIT IN A

PACKED DIGIT IS STORED

SKIP IF 4 OR LESS DIGITS

FORMAT ERROR - BACK TO CONTROL PROGRAM
CONTINUE
BACK UP SCAN BY ONE

RETURN

SKIP ON CHARACTER = RIGHT

```

N0300 237
N0300 238
N0300 239
N0300 240
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N0300 245
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N0300 287

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0288 P0141 C800
 P0142 FF77
 0289 P0143 09FE
 0290 P0144 6800
 P0145 FF74
 0291 P0146 1CF4
 0292 P0147 0844
 0293 P0148 6800
 P0149 FF6F
 P014A 1CF0
 0294
 0295
 0296
 0297
 0298
 0299 P014B 0000
 0300 P014C CD00
 P014D FF6C
 0301 P014E E800
 P014F FF69
 0302 P0150 0151
 0303 P0151 0FC8
 0304 P0152 A00A
 0305 P0153 0146
 0306 P0154 0842
 0307 P0155 4800
 P0156 FF62
 0308 P0157 D800
 P0158 FF61
 0309 P0159 1CF1
 0310 P015A D800
 P015B FF5D
 0311 P015C E800
 P015D FF5C
 0312 P015E 0DDA
 0313 P015F 0141
 0314 P0160 1CEA
 0315 P0161 0A00
 0316 P0162 1128
 0317
 0318
 0319
 0320
 0321 P0163 0000
 0322 P0164 E800
 P0165 FF61
 0323 P0166 CA00
 P0167 0092
 0324 P0168 E800
 P0169 FFAB
 0325 P016A 6A6B
 0326 P016B 1CF7
 0327
 0328

```

LDA  WDX
INA  -1
STA  WDX

BACK1 JMP* (BACK)
      CLR  A
      STA  CHAR      SET TO LEFT CHARACTER
      JMP* (BACK)

*
* THIS SUBROUTINE JNPACKS ONE CHARACTER FROM THE INPUT BUFFER
* AND RETURNS IT IN A.
*
GET   NUM  0
      LDA  (WDX),I   GET CHARACTER WORD
      LDQ  CHAR      CHARACTER FLAG 0=LEFT 1=RIGHT
      SQN  GET1--1   SKIP ON RIGHT CHARACTER
      ALS  8
      GET1 AND- $A   UNPACK CHARACTER
      SQZ  GET2--1   SKIP ON LEFT
      CLR  Q
      STQ  CHAR      UPDATE CHARACTER FLAG
      RAO  WDX       UPDATE WORD INDEX

      JMP* (GET)     RETURN
GET2  RAO  CHAR      UPDATE CHARACTER FLAG
      LDQ  WDX       TEST FOR BUFFER END

      INQ  -37
      SQZ  OFLOW--1  SKIP ON INPUT BUFFER END - ERROR
      JMP* (GET)
OFLOW ENA  0
      JMP- 40,I     BACK TO BRKPTD

*
* THIS ROUTINE MOVES DATA FROM A WORD DIRECTLY TO
* THE OUTPUT BUFFER. NO CONVERSION IS NECESSARY.
*
ASCII NUM  0
      LDQ  START

      LDA  INBUF,Q   GET A VALUE FOR OUTPUT
      LDQ  OBIX      INDEX TO CURRENT OUTPUT BUFFER LOCATION

      STA* OUTBUF,Q  STORE IN BUFFER
      JMP* (ASCII)   THATS ALL

*
* THIS ROUTINE CONVERTS THE CONTENTS OF AN INPUT BUFFER VALUE

```

N0300288
 N0300289
 N0300290
 N0300291
 N0300292
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0329          * TO 4 ASCII HEX DIGITS AND STORES THEM IN THE OUTPUT BUFFER.
0330          *
0331 PG16C 0000  HEXO  NUM 0
0332 PG16D E800  LDQ  START
0333 PG16E FF58
0334 PG16F CA00  LDA  INBUF,Q      GET VALUE FOR CONVERSION
0335 PG17J 0089
0336 PG17K 0C01  HEXM1 ENQ 1
0337 PG17L 4810  STQ* HNUM          INITIALIZE COUNT
0338 PG17M 0842  HEXO1 CLR  Q
0339 PG17N 0FE4  LLS  +            GET 1 HEX DIGIT
0340 PG17O EA10  LDQ* HEXCON,Q     LOOK UP ASCII
0341 PG17P 0FA8  QLS  8
0342 PG17Q 4819  STQ* HNUM+1
0343 PG17R 0842  CLR  Q
0344 PG17S 0FE4  LLS  +            GET 2ND HEX DIGIT
0345 PG17T EA18  LDQ* HEXCON,Q     LOOK UP ASCII
0346 PG17U 0815  ADQ* HNUM+1       PACK
0347 PG17V 4814  STQ* HNUM+1
0348 PG17W E812  LDQ* HNUM
0349 PG17X 0174  INQ  -1
0350 PG17Y 480F  SQM  HEXO2-*--1  SKIP IF DONE WITH ALL 4 DIGITS
0351 PG180 080F  STQ* HNUM
0352 PG181 E80F  LDQ* HNUM+1
0353 PG182 480F  STQ* HNUM+2
0354 PG183 18FF  JMP* HEXO1
0355          *
0356 PG184 C80D  HEXO2 LDA* HNUM+2  GET MOST SIGNIFICANT PAIR
0357 PG185 E800  LDQ  OBIX
0358 PG186 FF8E
0359 PG187 0A4E  STA* OUTBUF,Q     STORE IN OUTPUT BUFFER
0360 PG188 C80D  LDA* HNUM+1       GET LEAST SIGNIFICANT PAIR
0361 PG189 6A4D  STA* OUTBUF+1,Q  STORE IN BUFFER
0362 PG18A 1CE1  JMP* (HEXO)
0363          *
0364 PG18B 0000  HEXM  NUM 0       SPECIAL ENTRY FOR LINE HEADERS ETC.
0365 PG18C E8FE  LDQ* HEXM
0366 PG18D 48DE  STQ* HEXO        SET FOR NORMAL HEXO EXIT
0367 PG18E 18E2  JMP* HEXM1
0368          *
0369 PG18F 0003  HNUM  BSS HNUM(3) SCRATCH FOR HEXO AND DECI
0370          *
0371          * HEX-ASCII CONVERSION TABLE
0372          *
0373          *
0374          *
0375          *
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0371 P019C 0041
P019D 0042
P019E 0043
P019F 0044
P01A0 0045
P01A1 0046

NUM \$41,\$42,\$43,\$44,\$45,\$46

N0300371

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0373          *
0374          * THIS ROUTINE CONVERTS AN INPUT BUFFER VALUE TO 5 ASCII
0375          * DECIMAL DIGITS AND STORES IT IN THE OUTPUT BUFFER.
0376          *
0377          DECI  NUM 0
0378          LDQ  START

0379          LDA* INBUF,Q      GET VALUE FOR CONVERSION
0380          LDQ  =N$2030      SET FOR BLANK

0381          SAP  DECI1--*-1   SKIP ON POSITIVE NUMBER
0382          LDQ  =N$2030

0383          DECI1 TCA  A      SET NUMBER POSITIVE FOR PROCESSING
0384          STQ* HNUM        STORE MINUS SIGN OR BLANK
0385          LDQ  =N$3030

0386          STQ* HNJM+1      SET ALL DIGITS TO ZERO
0387          STQ* HNUM+2
0388          CLR  Q
0389          DVI  =N10000

0390          ADD* HNUM
0391          STA* HNJM        NUMBER OF TEN THOUSANDS PACKED
0392          TRQ  A
0393          CLR  Q
0394          DVI  =N1000

0395          ADD* HNJM+1      NUMBER OF ONE THOUSANDS PACKED
0396          ALS  8
0397          STA* HNUM+1
0398          TRQ  A
0399          CLR  Q
0400          DVI  =N100

0401          ADD* HNUM+1      NUMBER OF ONE HUNDREDS PACKED
0402          STA* HNJM+1
0403          TRQ  A
0404          CLR  Q
0405          DVI  =N10

0406          ADD* HNUM+2
0407          ALS  8          NUMBER OF TENS PACKED
0408          AAQ  A          NUMBER OF ONES PACKED
0409          STA* HNJM+2

0410          *
0411          LDQ  OBIX

0412          STQ- I
0413          ENQ  2
0414          LDA* HNUM,Q      STORE RESULTS IN OUTPUT BUFFER
0415          STA* OJTBUF,B
0416          INQ  -1
    
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0417	P01D2	0171		SQM	DECI3--1	SKIP WHEN MOVE COMPLETE	N0300417
0418	P01D3	18FB		JMP*	DECI2		N0300418
0419	P01D4	1CCD	DECI3	JMP*	(DECI)	DONE	N0300419
0420			*				N0300420
0421	P01D5	0024	OUTBJF	BSS	OUTBJF(36)	OUTPUT BUFFER	N0300421
0422	P01F9	0060	INBUF	BSS	INBJF(96)	INPUT BUFFER - DISK	N0300422
0423			*				N0300423
0424	P0259	0A30	DP	ENA	0	*****HOOK FOR DOUBLE PRECISION OUTPUT	N0300424
0425	P025A	1128		JMP-	40,I		N0300425
0426	P025B	18FD	SP	JMP*	DP	*****HOOK FOR SINGLE PRECISION OUTPUT	N0300426
0427				END			N0310427

PGM= 025C (604) COM = 0000 (0) DAT = 0000 (0)

E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0012, 0412

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	MAS	0000	0136
0026	MAS1	0014	0030
0032	MAS2	001B	0028
0055	MAS201	0044	0052
0057	MAS25	0048	
0061	MAS22	004F	0066
0063	MAS26	0052	0069
0068	MAS3	0057	0065, 0071, 0073, 0074
0077	MAS4	0063	0145
0098	MAS5	0083	0153
0100	MAS6	0086	0103
0105	MAS7	0088	0102
0112	MAS8	0092	
0117	MAS9	0098	0150
0135	MAS10	00A8	0133
0136	MASBY	00A9	0134
0138	MAS11	00AB	0131
0147	MAS12	00B3	0140
0152	MAS13	00B7	0149
0156	CHAR	00B9	0014, 0285, 0287, 0293, 0301, 0307, 0310
0157	ADIX	00BA	0016, 0249, 0288, 0290, 0300, 0308, 0311
0158	TYPE	00BE	0020, 0027
0159	VPL	00BC	0035, 0107, 0148
0160	INCREM	00BD	0033, 0122
0161	NUM	00BE	0252, 0254, 0268, 0271, 0272, 0273, 0279
0162	CONVRT	00C4	0037, 0117
0163	CV	00C5	0110, 0120, 0132, 0147
0164	JBUF	00C6	0039, 0126
0165	START	00C7	0056, 0109, 0112, 0121, 0123, 0138, 0144, 0322, 0332, 0378
0166	VWDS	00C8	0059, 0128, 0130
0167	FSTRT	00C9	0017, 0061, 0208, 0250, 0275
0178	DMPTAB	00CA	0026, 0032, 0034, 0036, 0038
0186	CONTBL	00E3	0118
0204	COMCHK	00F7	0041, 0044, 0047, 0057, 0210
0210	COMEX	00FD	0207
0214	READ	00FE	0096, 0229, 0230
0217	THUD	0102	0224
0218	LOGU	0103	0227
0219	NOWDS	0104	
0220	INLOC	0105	0075
0221	MSB	0106	0043, 0053, 0086

0222	LSB	0107	0046, 0051, 0055, 0090, 0142
0224	READ1	0108	0226
0227	READ2	0108	0225
0230	READ3	010E	0228
0234	WRITE	010F	0081, 0082, 0095, 0135, 0141, 0152, 0244
0237	LU	0114	0023, 0241
0238	OBIX	0115	0080, 0085, 0089, 0094, 0106, 0115, 0125, 0127, 0324, 0355, 0411
0239	ESS	0116	0072
0241	WRITE1	0117	0243
0244	WRITE2	011A	0242
0248	HEX	011B	0042, 0045, 0048, 0058, 0280
0256	HEX3	0122	0277
0260	HEX4	0126	0258
0268	HEX405	012E	0262
0277	HEX5	0137	0274
0279	HEX10	0138	0259, 0265, 0267
0281	BACK	013B	0278, 0291, 0294
0292	BACK1	0147	0286
0299	GET	014B	0063, 0205, 0256, 0309, 0314
0304	GET1	0152	0302
0310	GET2	015A	0305
0315	OFLOW	0161	0313
0321	ASCII	0163	0187, 0326
0331	HEX0	016C	0190, 0359, 0363
0334	HEXM1	0171	0364
0336	HEX01	0173	0352
0354	HEX02	0184	0348
0361	HEXM	018B	0087, 0091, 0113, 0362
0366	HNUM	018F	0335, 0340, 0344, 0345, 0346, 0349, 0350, 0351, 0354, 0357, 0384, 0386, 0387, 0390, 0391, 0395
			0397, 0401, 0402, 0406, 0409, 0414
0370	HEXCON	0192	0338, 0343
0377	DECI	01A2	0196, 0419
0384	DECI1	01AC	0381
0414	DECI2	01CF	0418
0419	DECI3	01D4	0417
0421	OUTBUF	01D5	0071, 0078, 0100, 0325, 0356, 0358, 0415
0422	INBUF	01F9	0074, 0323, 0333, 0379
0424	JP	0259	0193, 0426
0426	SP	025B	0199

*** ALPHABETICAL SORT OF SYMBOLS ***

ASCII	0321	BACK	0284	BACK1	0292	CHAR	0156	COMCHK	0204	COMEX	0210	CONTBL	0186	CONVRT	0162	CV	0163
DBJF	0164	DECI	0377	DECI1	0384	DECI2	0414	DECI3	0419	DMPTAB	0178	DP	0424	ESS	0239	FSTR	0167
GET	0299	GET1	0304	GET2	0310	HEX	0248	HEX10	0278	HEX3	0256	HEX4	0260	HEX405	0268	HEX5	0277
HEXCON	0370	HEXM	0361	HEXM1	0334	HEX0	0331	HEX01	0336	HEX02	0354	HNUM	0366	I	0000	INBUF	0422
INCREM	0160	INLOC	0220	LOGU	0218	LSB	0222	LU	0237	MAS	0010	MAS1	0026	MAS10	0135	MAS11	0138
MAS12	0147	MAS13	0152	MAS2	0032	MAS201	0055	MAS22	0051	MAS25	0057	MAS26	0053	MAS3	0068	MAS4	0077
MAS5	0098	MAS5	0100	MAS7	0105	MAS8	0112	MAS9	0117	MASBY	0136	MSB	0221	NOWCS	0219	NUM	0161
NWJS	0166	OBIX	0238	OFLOW	0315	OUTBUF	0421	READ	0214	READ1	0224	READ2	0227	READ3	0230	SP	0426
START	0165	THUD	0217	TYPE	0158	VPL	0159	WDIX	0157	WRITE	0234	WRITE1	0241	WRITE2	0244		

00001
00002
00003
00004
00005

```

*      NAM EFSTOR          DECK-ID N04  MSOS 5.0          SUMMARY-110 N0400001
*      PROGRAM TO MOVE DATA TO MASS MEMORY ENGINEERING FILE *N0400002
*      MASS STORAGE OPERATING SYSTEM VERSION 5.0          N0400003
*      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N0400004
*      COPYRIGHT CONTROL DATA CORPORATION 1978         N0400005

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00007
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00012
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00014
00015

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*****
*      THIS PROGRAM IS SCHEDULED BY EFDATA TO CAUSE RECORDATION OF *N0400007
*      DEVICE ERRORS IN THE ENGINEERING FILE DATA AREA. THIS SEQUENCE *N0400008
*      APPLIES TO NON-MASS MEMORY DEVICES ONLY SINCE DATA FOR MASS *N0400009
*      MEMORY DEVICES IS SAVED IN EFMM. (EXCEPT FLOPPY DISK - 1833-5) N0400010
*      HOWEVER, EACH TIME THIS *N0400011
*      PROGRAM RUNS, IT WILL RECORD NEW MASS MEMORY ERRORS ON MASS *N0400012
*      MEMORY. *N0400013
***** *N0400014
***** *N0400015

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*****
*      THE ENGINEERING FILE EXISTS ON MASS MEMORY IN AN AREA DEFINED *N0400017
*      THROUGH THE EXTENDED CORE TABLE. THE INITIALIZER ZEROS A 99 *N0400018
*      SECTOR AREA ON MASS MEMORY, ONE SECTOR PER POSSIBLE SYSTEM *N0400019
*      LOGICAL UNIT. EACH SECTOR CAN HOLD UP TO 24 4 WORD ERROR DATA *N0400020
*      BLOCKS IN A PUSH DOWN STACK. EACH FOUR WORD BLOCK IS DEFINED *N0400021
*      AS FOLLOWS... *N0400022
*      WORD 1--BITS 0-6 YEAR OF ERROR *N0400023
*      BITS 7-10 MONTH OF ERROR *N0400024
*      BITS 11-15 DAY OF ERROR *N0400025
*      WORD 2--MILITARY TIME OF ERROR *N0400026
*      WORD 3--BITS 0-7 ERROR CODE *N0400027
*      BITS 8-15 SECONDS OF ERROR *N0400028
*      WORD 4--HARDWARE STATUS FOR ERROR *N0400029
***** *N0400030
***** *N0400031

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00033
00034
00035
00036
00037
00038

```

*      PROGRAM EXTERNALS
EXT MMEF          MASS MEMORY ENGINEERING FILE DATA          N0400033
EXT EFJATA       TEMPORARY EF DATA STACK                    N0400034
EXT CEFDTA       QUANTITY OF ENTRIES IN EF DATA STACK      N0400035
EXT BSYEFS       EFSTOR BUSY FLAG                            N0400036
EXT EFCJVL       EFDATA STACK OVERFLOW COUNTER              N0400037

```

00040
00041
00042
00043
00044
00045
00046
00047

00043
000EA
00004
00002
000FC
000E9
000F4

```

*      PROGRAM EQUIVALENCES
EQU FIVE($43)    NUMBER FIVE                                N0400040
EQU ADISP($EA)  ADDRESS OF DISPATCHER                       N0400041
EQU P(4)        PROGRAM PRIORITY                            N0400042
EQU LUMM($32)   ADDRESS OF LIBRARY LU                        N0400043
EQU LUCMNT($FC) ADDRESS OF COMMENT LU                       N0400044
EQU EXTBV4($E9) ADDRESS OF EXTENDED CORE TABLE           N0400045
EQU AMONI($F4)  ADDRESS OF MONITOR                          N0400046

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00349
00350
00351
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00354
00355
00356
00357

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*****
* THIS SECTION OF THE PROGRAM WILL MOVE THE TEMPORARY ERROR
* STACK DATA FROM EFDATA INTO A TEMPORARY ARRAY. THE DATA
* ENTRIES ARE THEN MOVED TO MASS MEMORY SINGLY FOR EACH OF THE
* MAXIMUM OF FIVE DATA BLOCKS. WHEN THIS IS DONE, THE STACK ENTRY
* COUNTER IS EXAMINED TO SEE IF MORE ENTRIES HAVE ACCUMULATED
* SINCE IT WAS MOVED. IF MORE HAVE BEEN ENTERED, THE PROCESS IS
* REPEATED UNTIL THE COUNTER IS ZERO.
*****

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```

*N0400049
*N0400050
*N0400051
*N0400052
*N0400053
*N0400054
*N0400055
*N0400056
*N0400057

```

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00359 P0000 C8FE
00360 P0001 6800
00361 P0002 00CE
00362 P0003 0500
00363 P0004 C400
00364 P0005 7FFF
00365 P0006 684B
00366 P0007 0C18
00367 P0008 C600
00368 P0009 7FFF
00369 P000A 6A00
00370 P000B 00F8
00371 P000C 0DFE
00372 P000D 0171
00373 P000E 18F9
00374 P000F 0844
00375 P0010 6400
00376 P0011 0005
00377 P0012 0400
00378 P0013 60FF
00379 P0014 C900
00380 P0015 00EE
00381 P0016 0104
00382 P0017 0133
00383 P0018 099B
00384 P0019 0121
00385 P001A 1809
00386 P001B 54F4
00387 P001C 0D44
00388 P001D 0038
00389 P001E 0000
00390 P001F 18FC
00391 P0020 0008
00392 P0021 0179
00393 P0022 14EA
00394 P0023 0C14
00395 P0024 C6E9
00396 P0025 3900
00397 P0026 0000

```

```

EFSTOR NUM $C8FE FIND OUT PROGRAM LOCATION N0400059
STA PLOC SAVE IN RELEASE REQUEST N0400060

IIN 0 N0400061
LDA+ CEFDTA SAVE NUMBER OF ENTRIES IN STACK N0400062

BLOOP STA* TCEF N0400063
ENQ 24 N0400064
MTT LDA+ EFDATA,Q SAVE FULL STACK N0400065

STA TEFD,Q N0400066

INQ -1 N0400067
SQM ALLMOV N0400068
JMP* MTT N0400069
ALLMOV CLR A CLEAR STACK ENTRY FLAG N0400070
STA+ CEFDTA N0400071

EIN 0 N0400072
STA- I N0400073
LOOPS LDA TEFD,I CHECK FOR PROPER LOGICAL UNIT RANGE N0400074

SAZ LUERR ZERO IS ILLEGAL N0400075
SAM LUERR MINUS IS ILLEGAL N0400076
INA -100 N0400077
SAP LUERR GREATER THAN 99 IS ILLEGAL N0400078
JMP* LOOPSA LOGICAL UNIT OK N0400079

* LOGICAL UNIT ILLEGAL---OUTSIDE RANGE 1-99 N0400080
* LUERR FWRITE LUCMNT,NOE-LUERR-1,MLUERR-LUERR-1,8,A,P,P,I,1,0 N0400081
N0400082
N0400083

P001B 54F4
P001C 0D44
P001D 0038
P001E 0000
P001F 18FC
P0020 0008
P0021 0179
P0022 14EA
P0023 0C14
P0024 C6E9
P0025 3900
P0026 0000

LOOPSA JMP- (ADISP) N0400084
ENQ 20 N0400085
LDA- (EXTBV4),Q GET SECTOR OF MM EF N0400086
ADD TEFD,I ADD LU INCREMENT N0400087

```

0088 P0027 09FE
0089 P0028 0813
0090 P0029 0825
0091 P002A 0C03
0092 P002B 00FF
0093 P002C 0B00
0094 P002D 00D6
0095 P002E 6A00
0096 P002F 00ED
0097 P0030 00FE
0098 P0031 0171
0099 P0032 18F9
0099 P0033 54F4
0099 P0034 0944
0099 P0035 0009
0099 P0036 0000
0099 P0037 08C2
0099 P0038 0060
0099 P0039 00EC
0100 P003A 0000
0101 P003B 0000
0102 P003C 14EA
0103 P003D 0168
0104 P003E 54F4
0104 P003F 0044
0104 P0040 008F
0104 P0041 0000
0104 P0042 18FC
0104 P0043 000C
0104 P0044 0141
0105 P0045 14EA
0107 P0046 54F4
0107 P0047 0044
0107 P0048 0008
0107 P0049 0000
0107 P004A 08C2
0107 P004B 0060
0107 P004C 00D5
0107 P004D 0000
0109 P004E 0000
0110 P004F 14EA
0111 P0050 0000
0112 P0051 0000
0113 P0052 C161
0114 P0053 18EA
0115 P0054 C8FC
0116 P0055 09FE
0117 P0056 0111

INA -1
STA* MMLSBA SAVE IN DISK I/O REQUESTS
STA* MMLSBB MOVE FIRST ENTRY TO FRONT OF BUFFER
ENQ 3
RAO- I
MOVETW LDA TEFD,B
STA WEFD,Q
INQ -1
SQM DT
JMP* MOVETW
* READ DATA SECTOR
DT FREAD LUMM,CDT-DT-1,SEFD-DT-1,96,B,P,P,I,1,0

MMLSBA NUM 0
NUM 0
JMP- (ADISP)
CDT SQP WDT SKIP IF NO ERROR
ERROR FWRITE LUCMNT,DONE-ERROR-1,MERROR-ERROR-1,12,A,P,P,I,1,0

* JMP- (ADISP) WAIT FOR COMPLETION
WRITE DATA BACK ON MASS MEMORY
WDT FWRITE LUMM,CWDT-WDT-1,WEFD-WDT-1,96,B,P,P,I,1,0

MMLSBB NUM 0
NUM 0
JMP- (ADISP) WAIT FOR COMPLETION
SCTR NUM 0
TCEF NUM 0
CWDT SQP NOE SKIP IF NO ERROR
NOE LDA* TCEF CHECK IF MORE STACK ENTRIES
INA -1
SAN MORE ZERO SAYS ALL DONE

N0400088
N0400089
N0400090
N0400091
N0400092
N0400093
N0400094
N0400095
N0400096
N0400097
N0400098
N0400099
N0400100
N0400101
N0400102
N0400103
N0400104
N0400105
N0400106
N0400107
N0400108
N0400109
N0400110
N0400111
N0400112
N0400113
N0400114
N0400115
N0400116
N0400117

```

0118 P0057 1807 JMP* ENDCHK
0119 P0058 08F7 MORE RAO* SCTR
0120 P0059 68F7 STA* TCEF
0121 P005A C8F5 LDA* SCTR
0122 P005B 2043 MUI- FIVE
0123 P005C 60FF STA- I
0124 P005D 18B6 JMP* LOOPS
0125 P005E 0500 ENDCHK IIN 0
0126 P005F 0400 LDA+ CEFJTA
0127 P0060 0J11 X
0128 P0061 0103 X
0129 P0062 0842 SAZ NOMORE
0130 P0063 48EC CLR 0
0131 P0064 18A1 STQ* SCTR
0132 P0065 0400 JMP* BLOOP
0133 P0066 7FFF X NOMORE STA+ 3SYEFS

```

```

BUMP LOOP COUNTER
RESTORE NEW STACK SIZE
COMPUTE INDEX

GO TO TRANSFER NEXT ENTRY
SEE IF MORE STACK ENTRIES NOW

CLEAR ENTRY
INDEX COUNTER
MORE ENTRIES SO LOOP BACK THROUGH
CLEAR BUSY FLAG

```

```

N0400118
N0400119
N0400120
N0400121
N0400122
N0400123
N0400124
N0400125
N0400126
N0400127
N0400128
N0400129
N0400130
N0400131

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```

0133 *****N0400133
0134 * THIS SECTION TAKES THE NEW MASS MEMORY TABLE ENTRIES THAT *N0400134
0135 * HAVE ACCUMULATED SINCE THIS PROGRAM RAN LAST AND PUTS THEM *N0400135
0136 * IN THE MASS MEMORY EF DATA AREA. *N0400136
0137 *****N0400137

```

```

0139 P0067 0C31 ENQ 49 MOVE MASS MEMORY ENTRIES INTO TEMP AREA N0400139
0140 P0068 C600 X NRMM LDA+ MMEF,Q N0400140
0141 P0069 7FFF X STA* TMMEF,Q N0400141
0142 P006A 6A67 INQ -1 N0400142
0143 P006B 0DFE SQM MMM N0400143
0144 P006C 0171 JMP* NRMM N0400144
0145 P006D 18FA MMM EIN 0 N0400145
0146 P006E 0400 CLR A INITIALIZE MM LOOP COUNTER N0400146
0147 P006F 0844 STA* SCTR N0400147
0148 P0070 68DF ZLOOP MUI- FIVE N0400148
0149 P0071 2043 STA I USE I-REG AS TABLE INDEX N0400149
0150 P0072 60FF LDA* TMMEF,I IS SLOT FILLED N0400150
0151 P0073 C95E SAN ACTIVE YES IF NON-ZERO N0400151
0152 P0074 0111 JMP* DONE NO MORE ENTRIES N0400152
0153 P0075 1859 ACTIVE ENQ 20 POINTS TO LSB OF MM DATA BLOCK N0400153
0154 P0076 0C14 LDA- (EXT2V4),Q N0400154
0155 P0077 08E9 ADD* TMMEF,I COMPUTE MASS MEMORY DATA ADDRESS N0400155
0156 P0078 8959 INA -1 N0400156
0157 P0079 09FE STA* MMLSBC SAVE IN REQUESTS N0400157
0158 P007A 680D STA* MMLSBD N0400158
0159 P007B 683A RAO- I INCREMENT INDEX N0400159
0160 P007C 00FF LDA- I N0400160
0161 P007D C0FF STA* ISAVE SAVE INDEX N0400161
0162 * READ DATA FROM MASS MEMORY N0400162
0163 MMR PREAD LUMM,CMMR-MMR-1,SEFD-MMR-1,96,B,P,P,I,1,0 N0400163
0164 P007F 54F4
0165 P0080 0944
0166 P0081 000C
0167 P0082 0000
0168 P0083 08C2
0169 P0084 0060
0170 P0085 00A0
0171 P0086 0000 MMLSBC NUM 0 N0400164
0172 P0087 0000 MMLSBC NUM 0 N0400165
0173 P0088 14EA JMP- (ADISP) WAIT FOR COMPLETION N0400166
0174 P0089 0000 ISAVE NUM 0 N0400167
0175 P008A C000 MMFL0P NUM 0 N0400168
0176 P008B 0000 QSAVE NUM 0 N0400169
0177 P008C 0161 CMMR SQP MMR0K SKIP IF NO ERROR N0400170
0178 P008D 18B0 JMP* ERROR N0400171
0179 P008E C8FA MMROK LDA* ISAVE RESTORE INDEX TO MM TABLE N0400172
0180 P008F 60FF STA- I N0400173
0181 P0090 0C00 ENQ 0 N0400174
0182 P0091 0AFB YLOOP ENA -4 SMALL LOOP COUNTER N0400175
0183 P0092 68F7 STA* MMFL0P N0400176

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0177	P0093	48F7	STO*	QSAVE	SAVE Q	N0400177
0178	P0094	CA00	XLOOP	LDA SEFD,Q	LOOK AT MASS MEMORY BLOCK	N0400178
	P0095	008B				
0179	P0096	893B		EOR* TMMEF,I	COMPARE TO CORE BLOCK	N0400179
0180	P0097	0117		SAN NXENTY	SKIP IF NOT THE SAME	N0400180
0181	P0098	D8F1		RAO* MMFLOP	INCREMENT BLOCK ENTRY COUNTER	N0400181
0182	P0099	C8F0		LDA* MMFLOP		N0400182
0183	P009A	0111		SAN BUMPX	SKIP IF BLOCK NOT DONE	N0400183
0184	P009B	1825		JMP* ADJNE	4 WORD BLOCK IS SAME SO ALL NEW ENTRIES DONE	N0400184
0185	P009C	0D01	BUMPX	INQ 1	INCREMENT BLOCK POINTERS	N0400185
0186	P009D	00FF		RAO- I		N0400186
0187	P009E	18F5		JMP* XLOOP	LOOK AT NEXT ENTRY IN 4 WORD BLOCK	N0400187
0188	P009F	E8EB	NXENTY	LDQ* QSAVE	RESTORE BLOCK POINTERS--BLOCKS NOT SAME	N0400188
0189	P00A0	C8E8		LDA* ISAVE		N0400189
0190	P00A1	60FF		STA- I		N0400190
0191	P00A2	0D04		INQ 4	INCREMENT INTO NEXT MM BLOCK	N0400191
0192	P00A3	CAA0		ENA -95	CHECK IF ALL 24 MM ENTRIES CHECKED	N0400192
0193	P00A4	0834		AAQ A		N0400193
0194	P00A5	0121		SAP NOSAME	ALL MM BLOCKS CHECKED AND NONE MATCH CORE	N0400194
0195	P00A6	18EA		JMP* YLOOP	MORE 4 WORD BLOCKS TO CHECK	N0400195
0196	P00A7	0C03	NOSAME	ENQ 3	SETUP AND MOVE NEW DATA TO MM	N0400196
0197	P00A8	C829	MDTFR	LDA* TMMEF,B		N0400197
0198	P00A9	6A73		STA* WEFD,Q		N0400198
0199	P00AA	0DFE		INQ -1		N0400199
0200	P00AB	0171		SQM MMW		N0400200
0201	P00AC	18FB		JMP* MDTFR		N0400201
0202			*	WRITE NEW ENTRY TO MASS MEMORY		N0400202
0203			MMW	FWRITE LUMM,CMMW-MMW-1,WEFD-MMW-1,95,B,P,P,I,1,0		N0400203
0203	P00AD	54F4				
0203	P00AE	0D44				
0203	P00AF	0009				
	P00B0	0000				
0203	P00B1	08C2				
0203	P00B2	0060				
	P00B3	006E				
0204	P00B4	0000				N0400204
0205	P00B5	0000	MMLSBD	NUM 0		N0400205
0206	P00B6	14EA		JMP- (ADISP)	WAIT FOR COMPLETION	N0400206
0207	P00B7	0161	CMMW	SQP MMWJK		N0400207
0208	P00B8	1885		JMP* ERROR	EXIT ON MASS MEMORY ERROR	N0400208
0209	P00B9	D896	MMWOK	RAO* SCTR	SEE IF ALL ENTRIES IN CORE PROCESSED	N0400209
0210	P00BA	E895		LDQ* SCTR		N0400210
0211	P00BB	0AF5		ENA -10		N0400211
0212	P00BC	0834		AAQ A		N0400212
0213	P00BD	0102		SAZ ADJNE	SKIP IF ALL NEW ENTRIES MOVED	N0400213
0214	P00BE	0814		TRQ A	PUT BLOCK INDEX INTO A	N0400214
0215	P00BF	18B1		JMP* ZLOOP	GO CHECK NEXT CORE BLOCK	N0400215

```

0217 *****NO400217
0218 * THIS SECTION CHECKS TO DETERMINE IF THE TEMPORARY HOLDING STACK *NO400218
0219 * FOR NON-MASS MEMORY ERRORS HAS OVERFLOWED SINCE THIS PROGRAM *NO400219
0220 * RAN , ANJ IF SO, PRINTS AN ERROR INDICATION. *NO400220
0221 *****NO400221

0223 P00C0 C400 X ADONE LDA+ EFCOVL LOOK AT STACK HOLDING OVERFLOW COUNTER NO400223
      P00C1 7FFF X
0224 P00C2 010B SAZ DONE SKIP IF NO OVERFLOW NO400224
0225 * INDICATE STACK OVERFLOW NO400225
0226 SERR FWRITE LUCMNT,CSERR-SERR-1,MSERR-SERR-1,9,A,P,P,I,1,0 NO400226
0226 P00C3 54F4
0226 P00C4 0044
0226 P00C5 0J07
      P00C6 0000
0225 P00C7 18FC
0226 P00C8 0009
      P00C9 00C8
0227 P00CA 14EA CSERR JMP- (ADISP) WAIT FOR COMPLETION NO400227
0228 P00CB 0844 CLR A CLEAR OVERFLOW FLAG NO400228
0229 P00CC 6400 X STA+ EFCOVL NO400229
      P00CD 00C1 X
0230 P00CE 54F4 DONE RTJ- (AMONI) RELEASE MEMORY NG400230
0231 P00CF 1801 NUM $1801 NO400231
0232 P00D0 0000 PLOC NUM 0 NO400232

```

0234
0235
0236

* DATA AND MESSAGE BUFFERS *

*NO400234
*NO400235
*NO400236

0238
0239
0240
0241
0242
0243
0244
0245
0246
0247
0248
0249
0250
0251
0252
0253
0254

PG001 0032

P0103 0019

P011C 0004

P012C 0060

P0180 4546

P0181 5354

P0182 4F52

P0183 204D

P0184 4153

P0185 5320

P0186 4D45

P0187 4D4F

P0188 5259

P0189 2045

P018A 5252

P018B 4F52

P018C 4546

P018D 2053

P018E 5441

P018F 4348

P0190 204F

P0191 5645

P0192 5246

P0193 4C4F

P0194 5720

P0195 4546

P0196 5354

P0197 4F52

P0198 204C

P0199 5520

P019A 4552

P019B 524F

P019C 5220

*
* TEMPORARY AREA FOR MASS MEMORY ERROR ARRAY
*
* TMMEF BZS TMMEF(50)
*
* TEMPORARY AREA FOR NON-MASS MEMORY HOLDING STACK
*
* TEFD BZS TEFD(25)
*
* BUFFER FOR NEWEST ERROR TABLE ENTRY
*
* WEFD BZS WEFD(4)
*
* CURRENT MASS MEMORY EF ARRAY FOR A LU
*
* SEFD BZS SEFD(96)
* MERROR ALF 12,EFSTOR MASS MEMORY ERROR

NO400238
NO400239
NO400240
NO400241
NO400242
NO400243
NO400244
NO400245
NO400246
NO400247
NO400248
NO400249
NO400250
NO400251
NO400252
NO400253
NO400254

0255

MSERR ALF 09,EF STACK OVERFLOW

NO400255

0256

MLUERR ALF 8,EFSTOR LU ERROR

NO400256

0257

END

NO400257

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0073, 0092, 0123, 0149, 0159, 0160, 0173, 0186, 0190
0041	FIVE	0043	(000067) 0122, 0148
0042	ADISP	00EA	(000234) 0084, 0102, 0105, 0110, 0166, 0206, 0227
0043	P	0004	(000004) 0083, 0083, 0099, 0099, 0104, 0104, 0107, 0107, 0163, 0163, 0203, 0203, 0226, 0226
0044	LUMM	00C2	(000194) 0099, 0107, 0163, 0203
0045	LUCMNT	00FC	(000252) 0083, 0104, 0226
0046	EXTBV4	00E9	(000233) 0086, 0154
0047	AMONI	00F4	(000244) 0230

 S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0059	EFSTOR	0000	
0063	BLOOP	0006	0130
0065	MTT	0008	0069
0070	ALLMOV	000F	0068
0074	LOOPS	0014	0124
0083	LUERR	001B	0075, 0076, 0078, 0083, 0083
0085	LOOPSA	0023	0073
0093	MOVETW	002C	0097
0099	DT	0033	0096, 0099, 0099
0101	MMLSBA	003E	0089
0103	CDT	003D	0099
0104	ERROR	003E	0104, 0104, 0111, 0171, 0208
0107	WDT	0046	0103, 0107, 0107
0109	MMLSBB	004E	0090
0111	SCTR	0050	0119, 0121, 0129, 0147, 0209, 0210
0112	TCEF	0051	0063, 0115, 0120
0113	CWDT	0052	0107
0115	VOE	0054	0083, 0113
0119	MORE	0058	0117
0125	ENDCHK	005E	0118
0131	NOMORE	0065	0127
0140	MRMM	0068	0144
0145	MMM	006E	0143
0148	ZLOOP	0071	0215
0153	ACTIVE	0076	0151
0163	MMR	007F	0163, 0163
0165	MMLSBC	0087	0157
0167	ISAVE	0089	0161, 0172, 0189
0168	MMFLOP	008A	0176, 0181, 0182
0169	QSAVE	008E	0177, 0188
0170	MMR	008C	0163
0172	MMROK	008E	0170
0175	YLOOP	0091	0195
0178	XLOOP	0094	0187
0185	BUMPX	009C	0183
0188	VXENTY	009F	0180
0196	NOSAME	00A7	0194
0197	MDTFR	00A8	0201
0203	MMW	00AD	0200, 0203, 0203
0205	MMLSBD	00B5	0158
0207	CMMW	00B7	0203

J209 MMWOK 00B9
 0223 ADONE 00C0
 J226 SERR 00C3
 J228 CSERR 00CB
 J230 DONE 00CE
 0232 PLOC 00D0
 J241 TMMEF 00D1
 0245 TEFD 0103
 0249 WFFD 0110
 0253 SEFD 0120
 0254 MEKRRR 0180
 0255 MSERR 018C
 0256 MLUERR 0195

J207
 0184, 0213
 J226, 0226
 0226
 0104, 0152, 022+
 0350
 0141, 0150, 0155, 0179, 0197
 0066, 0074, 0087, 0093
 0094, 0107, 0198, 0203
 0099, 0163, 0178
 J10+
 0226
 0083

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0034	MMEF	0069	0140
0035	FFDATA	0009	0065
0036	CEFDIA	0060	0062, 0071, 0126
0037	BSYEFS	0066	0131
0038	EFCOVL	00CD	0223, 0229


```

0001 * NAM EFLIST DECK-ID N05 MSOS 5.0
0002 * PROGRAM TO LIST INFORMATION FROM ENGINEERING FILE
0003 * MASS STORAGE OPERATING SYSTEM VERSION 5.0
0004 * SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
0005 * COPYRIGHT CONTROL DATA CORPORATION 1976

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0007 * PROGRAM WILL PRINT DATA FROM THE ENGINEERING FILE IN 3 MODES...
0008 * ALL SYSTEM LOGICAL UNITS (Q-REG. = 0)
0009 * A SPECIFIED LOGICAL UNIT (Q-REG. = 1)
0010 * ALL MASS MEMORY UNITS (Q-REG. = 2)
0011 * THE Q-REGISTER ON ENTRY SPECIFIES THE OPERATION

```

```

0013 * PROGRAM EXTERNALS
0014 * EXT LOG1A TABLE OF LOGICAL UNIT PDT ADDRESSES
0015 * EXT MMEF MASS MEMORY ERROR STORAGE

```

```

0017 * PROGRAM EQUIVALENCES
0018 EQU TEN($45) CELL CONTAINING 10
0019 EQU M00FF($A) $00FF MASK
0020 EQU ZERO($22) CELL CONTAINING ZERO
0021 EQU AMONI($F4) ADDRESS OF DISPATCHER
0022 EQU LUCMNT($FC) COMMENT LOGICAL UNIT
0023 EQU LUMM($C2) LIBRARY MASS MEMORY UNIT
0024 EQU M000F(6) $000F MASK
0025 EQU EXT3V4($E9) ADDRESS OF EXTENDED CORE TABLE
0026 EQU M007F($9) $007F MASK
0027 EQU LISTLU($FB) STANDARD PRINT OUTPUT UNIT
0028 EQU ADISP($EA) ADDRESS OF DISPATCHER
0029 EQU P(4) PROGRAM PRIORITY
0030 EQU M0007(5) $0007 MASK
0031 EQU EREQST(8) PDT REQUEST STATUS

```

```

0033 P0000 C8FE EFLIST NUM $C8FE DETERMINE PROGRAM LOCATION
0034 P0001 6800 STA PGMADR AND STORE IN RELEASE REQUEST

```

```

0035 P0003 CFA1 QLS 1 VECTOR IS TABLE OF TWO WORD INSTRUCTIONS
0036 P0004 1A01 JMP# VECTOR,Q BRANCH TO PROCESSOR FOR SPECIFIED TASK

```

```

0038 P0005 1800 VECTOR JMP ALLU ALL LOGICAL UNITS
0039 P0006 0000 JMP ONELU ONE LOGICAL UNIT
0040 P0009 1800 JMP MMLU ALL MASS MEMORY LOGICAL UNITS

```

```

0041 * THIS ROUTINE DETERMINES IF THE MASS MEMORY LU IS A FLOPPY DISK
0042 *

```

```

0046 *
0047 * IF SO, THEN A IS SET NON-ZERO AND THE EROR STATUSES ARE READ
0048 * FROM MASS MEMORY AS IF THE LU WASN'T A MASS MEMORY DEVICE
0049 *
0050 P000B 6B00 FLOPPY NOP 0
0051 P000C E108 LDQ- EREQST,I SEE IF 1833-5 FLOPPY DISK
0052 P000D 0F24 QRS +
0053 P000E A009 AND- M007F
0054 P000F 0DBB INQ -68 1833-5 TYPE CODE
0055 P0010 0151 SQN FLOP1 NOT A 1833-5
0056 P0011 0A01 ENA 1
0057 P0012 1CF8 FLOP1 JMP* (FLOPPY)

```

```

NJ500043
NJ500044
NJ500045
NJ500046
NJ500047
NJ500048
NJ500049
NJ500050
NJ500051
NJ500052
NJ500053

```

0005
0006
0007
0008
0009

```

*****
*
*   PRINT DATA FOR ALL LOGICAL UNITS
*
*****

```

```

*N0500055
*N0500056
*N0500057
*N0500058
*N0500059

```

0051	P0013	C400	X	ALLLJ	LDA+ LOG1A	MAXIMUM SYSTEM UNITS	N0500061
	P0014	7FFF	X				
0052	P0015	6809			STA* MAXLU	SAVE MAX LU NUMBER	N0500062
0053				*	PRINT LISTING HEADER		N0500063
0054				BIGHDR	FWRITE LISTLU,ALOP-BIGHDR-1,HDR1-BIGHDR-1,29,A,P,P,I,1,0		N0500064
0055	P0016	54F4					
0056	P0017	0044					
0057	P0018	0009					
0058	P0019	0000					
0059	P001A	18FB					
0060	P001B	0010					
0061	P001C	01E7					
0062	P001D	14EA					
0063	P001E	0000		MAXLU	JMP- (ADISP)	WAIT FOR COMPLETION	N0500065
0064	P001F	0010		NUM	NUM 0	QUANTITY OF SYSTEM LOGICAL UNITS	N0500066
0065	P0020	E854		N28	NUM 28		N0500067
0066	P0021	C600		ALOP	LDQ* CURRLU	GET CURRENT LU NUMBER	N0500068
0067	P0022	0014	X		LDA+ LOG1A,Q	GET PDT ADDRESS FOR INDEXING	N0500069
0068	P0023	60FF					
0069	P0024	C108			STA- I		N0500070
0070	P0025	6834			LDA- EREQST,I	SAVE CLASS/TYPE CODES	N0500071
0071	P0026	0F4B			STA* RQ		N0500072
0072	P0027	A005			ARS 11	ISOLATE CLASS CODE	N0500073
0073	P0028	09FD			AND- M007		N0500074
0074	P0029	58E1			INA -2	CHECK FOR MASS MEMORY	N0500075
0075	P002A	682E			RTJ* FLJPPY	DETERMINE IF DEVICE IS A FLOPPY DISK	N0500076
0076	P002B	E800			STA* MMFLAG	SET MASS MEMORY FLAG	N0500077
0077	P002C	00F8			LDQ MMLUS	MASS MEMORY REQUEST	N0500078
0078	P002D	0143					
0079	P002E	5102			SQZ NOTMMP	SKIP IF NOT	N0500079
0080	P002F	1800			SAZ NOTMMP	SKIP IF MM LU	N0500080
0081	P0030	C071			JMP MANYLU	GO TO BUMP COUNTER	N0500081
0082	P0031	C828		NOTMMP	LDA* RQ	GET REQUEST STATUS	N0500082
0083	P0032	0F44			ARS 4	ISOLATE TYPE CODE	N0500083
0084	P0033	A009			AND- M007F		N0500084
0085	P0034	0822			TRA Q	SAVE TYPE CODE	N0500085
0086	P0035	09B1			INA -NLU		N0500086
0087	P0036	J131			SAH OKTYPE	LESS THAN MAX TYPE CODE	N0500087
0088	P0037	004E			ENQ NLU	SET UP FOR MAX TYPE CODE	N0500088
0089	P0038	0814		OKTYPE	TRQ A	RESTORE INDEX TO TYPE	N0500089
0090	P0039	28E5			MUI* N28	COMPUTE INDEX INTO LU MESSAGES	N0500090
0091	P003A	60FF			STA- I		N0500091
0092	P003B	0C1B			ENQ 27	MOVE 28 WORD BLOCK	N0500092
0093	P003C	0B00		MOVMDR	LDA LUDESC,B	MOVE MESSAGE INTO OUTPUT BUFFER	N0500093
0094	P003D	0249					
0095	P003E	6A00			STA HDR2+13,Q		N0500094
0096	P003F	01E9					


```

0095 P0040 00FE      INQ  -1
0096 P0041 0171      SQM  MDESC
0097 P0042 18F9      JMP* NOV MOR
0098 P0043 C831      MDESC LDA* CURRLU      GET LU NUMBER
0099 P0044 5800      RTJ  HXDCU      CONVERT TO ASCII
      P0045 0183
0100 P0046 680C      STA  HDR2+11     SAVE IN MESSAGE
      P0047 C1DF
0101 *              PRINT LU NO. AND DESCRIPTION
0102 PHDR2 FWRITE LISTLU,0,HDR2-PHDR2-1,38,A,P,P,I,1,0
      P0048 54F4
0102 P0049 0044
0102 P004A 0000
      P004B 0000
0102 P004C 18FB
0102 P004D 0026
      P004E 0102
0103 *              PRINT INFO HEADINGS
0104 PHDR3 FWRITE LISTLU,CPHDR3-PHDR3-1,HDR3-PHDR3-1,31,A,P,P,I,1,0
      P004F 54F4
0104 P0050 0044
0104 P0051 000A
      P0052 0000
0104 P0053 18FB
0104 P0054 001F
      P0055 01F4
0105 P0056 14EA      JMP- (ADISP)      WAIT FOR COMPLETION
0106 P0057 0000      MMCTR NUM 0
0107 P0058 0000      MMFLAG NUM 0
0108 P0059 0000      RQ NUM 0
0109 P005A C8J0      CPHDR3 LDA MMLJS      LOOK AT MASS MEMORY MODE
      P005B 00CC
0110 P005C 0111      SAN MM
0111 P005D 1818      JMP* NCM
0112 P005E 0CF5      MM ENQ -10
0113 P005F 48F7      STQ* MMCTR
0114 P0060 C000      LDA =XMMEF      SET UP MASS MEMORY ERROR COUNTER
      P0061 7FFF      GET BASE ADDRESS OF TABLE
      P0062 60FF
0115 P0063 C522      LOOKMM STA- I
0117 P0064 9810      LDA- (ZERO),I
0118 P0065 0104      SUB* CURRLU
0119 P0066 C0FF      SAZ CURR
0120 P0067 0904      LDA- I
0121 P0068 60FF      INA 4
0122 P0069 1804      STA- I
0123 P006A 00FF      JMP* NCCURR      GO BACK AND LOOK AT NEXT ENTRY
0124 P006B 5800      CARR RAO- I      BUMP TABLE POINTER
      P006C 00F3      RTJ PDATA      PRINT DATA
      P006D 08E9
0125 P006E C8E8      NUCURR RAO* MMCTR
0126 P006F 0102      LDA* MMCTR
0127 P0070 00FF      SAZ ALLMM
      RAO- I      TFN MM ENTRIES
      ARE ALL CHECKED
      SKIP IF YES
      ADJUST INDEX

```

```

N0500095
N0500096
N0500097
N0500098
N0500099
N0500100
N0500101
N0500102
N0500103
N0500104
N0500105
N0500106
N0500107
N0500108
N0500109
N0500110
N0500111
N0500112
N0500113
N0500114
N0500115
N0500116
N0500117
N0500118
N0500119
N0500120
N0500121
N0500122
N0500123
N0500124
N0500125
N0500126
N0500127
N0500128

```

0129	P0071	18F1	JMP*	LOOKMM	LOOK AT NEXT MM	N0500129	
0130	P0072	1800	ALLM1	JMP	NXTLU	LOOK FOR NEXT LU	N0500130
	P0073	002A					
0131	P0074	0001	CURRLU	NUM	1	N0500131	
0132	P0075	0C14	NOMM	ENQ	20	POINTS TO LSB OF MM DATA BLOCK	N0500132
0133	P0076	C6E9		LDA-	(EXT8V4),Q	GET SECTOR OF DATA ON MM	N0500133
0134	P0077	88FC		ADD*	CURRLU	COMPUTE SECTOR ADDRESS FOR CURRENT BLOCK	N0500134
0135	P0078	09FE		INA	-1		N0500135
0136	P0079	5809		STA*	MMLSB	SAVE IN REQUEST	N0500136
0137			*	READ	DATA FROM MASS MEMORY		N0500137
0138			MMDTA	FREAD	LJMM,CMMDTA-MMDTA-1,CDATA-MMDTA-1,96,B,P,P,I,1,0		N0500138
0138	P007A	54F4					
0138	P007B	0944					
0138	P007C	0009					
	P007D	0000					
0138	P007E	0802					
0138	P007F	0060					
	P0080	0037					
0139	P0081	0000	MMLSB	NUM	0	N0500139	
0140	P0082	0000		NUM	0	N0500140	
0141	P0083	14EA		JMP-	(ADISP)	WAIT FOR COMPLETION	N0500141
0142	P0084	0169	CMMDTA	SQP	LX	SKIP ON NO ERROR	N0500142
0143			*	MASS	MEMORY ERROR		N0500143
0144			ERRMM	FWRITE	LUCINT,FINISH-ERRMM-1,MERRMM-ERRMM-1,11,A,P,P,I,1,0		N0500144
0144	P0085	54F4					
0144	P0086	0D44					
0144	P0087	008C					
	P0088	0000					
0144	P0089	18FC					
0144	P008A	000B					
	P008B	01DD					
0145	P008C	14EA		JMP-	(ADISP)	WAIT FOR COMPLETION	N0500145
0146	P008D	0000	MCTR	NUM	0	N0500146	
0147	P008E	5801	LX	RTJ*	FOWWA	COMPUTE ABSOLUTE ADDRESS	N0500147
0148	P008F	0000	FOWWA	NUM	0	N0500148	
0149	P0090	C8FE		LDA*	FOWWA		N0500149
0150	P0091	8000		ADD	=XCDATA-FOWWA		N0500150
	P0092	0023					
0151	P0093	60FF		STA-	I	SAVE ADDRESS BASE	N0500151
0152	P0094	0CE7		ENQ	-24	24 ENTRIES	N0500152
0153	P0095	48F7		STQ*	MCTR		N0500153
0154	P0096	5800	GPDATA	RTJ	PDATA	WRITE DATA LINE	N0500154
	P0097	00C8					
0155	P0098	D0FF		RAO-	I	ADJUST INDEX	N0500155
0156	P0099	D8F3		RAO*	MCTR	SEE IF ALL 24 ENTRIES DONE	N0500156
0157	P009A	C8F2		LDA*	MCTR		N0500157
0158	P009B	0101		SAZ	NXTLU	ALL DONE IF ZERO	N0500158
0159	P009C	18F9		JMP*	GPDATA	DO NEXT ENTRY	N0500159
0160	P009D	C800	NXTLJ	LDA	ONELUF	WAS REQUEST FOR ONE LU ONLY	N0500160
	P009E	0088					
0161	P009F	0101		SAZ	MANYLU		N0500161
0162	P00A0	18GA		JMP*	FINFRM	ALL DONE	N0500162
0163	P00A1	D800	MANYLU	RAO	CURRLU	LOOK IF ALL DONE	N0500163
	P00A2	FFD1					

0154	P00A3	C800	LDA	MAXLU		N0500164
	P00A4	FF79				
0160	P00A5	9800	SUB	CURRLU		N0500165
	P00A6	FFCD				
0166	P00A7	C132	SAM	FINFRM		N0500166
0157	P00A8	1800	JMP	ALOOP	MORE TO DO	N0500167
	P00A9	FF76				
0158			*	END OUTPUT WITH TOP OF FORM		N0500168
0159			FINFRM	FWRITE LISTLU,FINISH-FINFRM-1,HDR1-FINFRM-1,1,A,P,P,I,1,0		N0500169
0169	P00AA	54F4				
0159	P00AB	0044				
0159	P00AC	3067				
	P00AD	0000				
0159	P00AE	18FB				
0159	P00AF	0001				
	P00B0	0153				
0170	P00B1	14EA	JMP-	(ADISF)	WAIT FOR COMPLETION	N0500170
0171	P00B2	0060	CDATA	BZS	CDATA(96)	N0500171
0172			*	PRINT COMMENT TO OPERATOR ON COMPLETION		N0500172
0173			FINISH	FWRITE LJCmnt,MEND-FINISH-1,MSGEND-FINISH-1,9,A,P,P,I,1,0		N0500173
0173	P0112	54F4				
0173	P0113	0044				
0173	P0114	0010				
	P0115	0000				
0173	P0116	18FC				
0173	P0117	0009				
	P0118	0007				
0174	P0119	14EA	JMP-	(ADISP)	WAIT FOR COMPLETION	N0500174
0175	P011A	4C49	MSGEND	ALF	9,LISTING COMPLETED	N0500175
	P011B	5354				
	P011C	+94E				
	P011D	4720				
	P011E	434F				
	P011F	4050				
	P0120	4C45				
	P0121	5445				
	P0122	4420				
0176	P0123	54F4	MEND	RTJ-	(AMONI)	N0500176
0177	P0124	1801		NUM	\$1801	N0500177
0178	P0125	0000	PGMAJR	NUM	0	N0500178
0179	P0126	0000	ONELJF	NUM	0	N0500179
0180	P0127	0000	MMLUS	NUM	0	N0500180

```

0182 *****NO5J0182
0183 *NO500183
0184 * PRINT DATA FOR ONE LOGICAL UNIT *NO500184
0185 *NO500185
0186 *****NO5J0186

```

```

0188 P0128 D3FD ONELJ RAO* ONELJF SET ONE LU FLAG NO500188
0189 GETLJ FWRITE LUCMNT,ASKC-GETLU-1,ASKMSG-GETLU-1,12,A,P,P,I,1,0 NO500189

```

```

0189 P0129 54F4
0189 P012A 0D44
0189 P012B 0013
0189 P012C 0000
0189 P012D 18FC
0189 PG12E 000C
0189 P012F 0007
0190 P0130 14EA JMP- (ADISP) NO500190
0191 P0131 454E ASKMSG ALF 12,ENTER LOGICAL UNIT (XX) NO500191
P0132 5445
P0133 5220
P0134 4C4F
P0135 4749
PG136 4341
P0137 4C20
P0138 554E
P0139 495+
P013A 2028
P013B 5858
P013C 2920

```

```

0192 ASKC FREAD LUCMNT,READLU-ASKC-1,LUBUF-ASKC-1,1,A,P,P,I,1,0 NO500192

```

```

0192 PG13D 54F4
0192 P013E 0944
0192 P013F 0009
P0140 0000
0192 P0141 18FC
0192 P0142 0001
P0143 0007
0193 P0144 14EA JMP- (ADISP) NO500193
0194 P0145 0000 LUBUF NUM 0 NO500194
0195 P0146 0000 UNIT NUM 0 NO500195
0196 P0147 0161 READLU SQP LURDOK SKIP IF NO ERROR NO500196
U197 PG148 18E0 JMP* GETLJ TRY AGAIN NO500197
0198 P0149 C8FB LURDOK LDA* LUBUF NO500198
0199 P014A 987B SUB* N3030 REMOVE ASCII BASE NO500199
0200 P014B 0842 CLR Q NO500200
0201 P014C 0FE8 LLS 8 NO500201
0202 P014D 0FC8 ALS 3 NO500202
0203 P014E 68F7 STA* UNIT SAVE UNITS NO500203
0204 P014F 1814 TRQ A NO500204
0205 P0150 2046 MUI- TEN NO500205
0206 P0151 88F4 ADD* UNIT COMPOSE LU NO. NO500206
0207 P0152 6800 STA CURRLU NO500207
P0153 FF20

```

0208	P0154	E460	X	LDQ+	LOG1A
	P0155	0022	X		
0209	P0156	0864		TCA	A
0210	P0157	0832		AAQ	Q
0211	P0158	0161		SQP	GOODLU
0212	P0159	18CF		JMP*	GETLU
0213	P015A	18GG		JMP	BIGHDR
	P015B	FEBA			

GOODLU

CHECK FOR A VALID LU NUMBER

REQUEST INPUT AGAIN
GET DATA

N0500208

N0500209
 N0500210
 N0500211
 N0500212
 N0500213

0215
0216
0217
0218
0219

```

*****
*
*   PRINT DATA FOR MASS MEMORY UNITS
*
*****

```

*N0500215
*N0500216
*N0500217
*N0500218
*N0500219

0221 P015C D8CA
0222 P015D 1800
P015E FEB4

MNLU RAO* MMLJS
JMP ALLLU

SET MASS MEMORY FLAG

N0500221
N0500222

002221
002222
002223
002224
002225
002226
002227
002228

```

*****
*                                     *N0500224
*                                     *N0500225
*   DATA PRINTING SUBROUTINE      *N0500226
*                                     *N0500227
*****                                 *N0500228

```

```

02300 PC15F 0000
02301 PC163 0522
02302 PC161 0154
02303 PC162 C0FF
02304 PC163 0903
02305 PC164 00FF
02306 PC165 1CF9
02307 PC166 0814
02308 PC167 0FFE5
02309 PC168 5860
0240 PC169 0000
0241 PC16A 2020
0242 PC16B 0FFE8
0243 PC16C 483F
0244 PC16D 683F
0245 PC16E 5222
0246 PC16F 0844
0247 PC170 0FE9
0248 PC171 A006
0249 PC172 09FE
0250 PC173 0FC1
0251 PC174 0822
0252 PC175 C000
0253 PC176 00F8
0254 PC177 0836
0255 PC178 0D01
0256 PC179 C000
0257 PC17A 00F4
0258 PC17B 6833
0259 PC17C 0522
0260 PC17D A009
0261 PC17E 584A
0262 PC17F 6830
0263 PC180 00FF
0264 PC181 0522
0265 PC182 584D
0266 PC183 6844
0267 PC184 0814
0268 PC185 0020
0269 PC186 0FE8
0270 PC187 482A
0271 PC188 003A
0272 PC189 0FE8
0273 PC18A C83D
0274 PC18B 0FE8
0275 PC18C 4826

```

```

PDATA NUM 0
LDQ- (ZERO), I GET FIRST TABLE ELEMENT (DAY/MONTH/YEAR)
SQN ISJATA ZERO INDICATES NO DATA
LDA- I ADJUST INDEX
INA 3
STA- I
JMP* (PDATA) PRINT NO DATA
ISDATA CLR A
LLS 5 ISOLATE DAY
RTJ* HXJCU CONVERT DAY TO ASCII
LDQ =N$202 RE-FORMAT FOR MESSAGE

LLS 8
STQ* OBUFF+4 SAVE IN MESSAGE
STA* OBUFF+5
LDQ- (ZERO), I
CLR A ISOLATE MONTH INDEX
LLS 9
AND- M000F
INA -1
ALS 1
TRA Q INDEX INTO MONTH ASCII ARRAY
LDA MONTH, 2

STA* OBUFF+5 SAVE ASCII MONTH
INQ 1
LDA MONTH, 2

STA* OBUFF+7
LDA- (ZERO), I ISOLATE YEAR
AND- M007F
RTJ* HXJCU CONVERT TO ASCII
STA* OBUFF+8 SAVE IN MESSAGE
RAO- I
LDA- (ZERO), I GET 2ND TABLE ELEMENT (MILITARY TIME)
RTJ* HXJCU CONVERT TO ASCII
STA* TEMP RE-FORMAT SHUFFLE
TRQ A
ENQ $20
LLS 8
STQ* OBUFF+10
ENQ $3A
LLS 8
LDA* TEMP
LLS 8
STQ* OBUFF+11 SAVE IN MESSAGE

```

```

N0500230
N0500231
N0500232
N0500233
N0500234
N0500235
N0500236
N0500237
N0500238
N0500239
N0500240
N0500241
N0500242
N0500243
N0500244
N0500245
N0500246
N0500247
N0500248
N0500249
N0500250
N0500251
N0500252
N0500253
N0500254
N0500255
N0500256
N0500257
N0500258
N0500259
N0500260
N0500261
N0500262
N0500263
N0500264
N0500265
N0500266
N0500267
N0500268
N0500269
N0500270
N0500271
N0500272

```

0273 P018D 68226
 0274 P018E D0FFF
 0275 P018F C5222
 0276 P0190 0F48
 0277 P0191 A00A
 0278 P0192 5836
 0279 P0193 6821
 0280 P0194 C522
 0281 P0195 A00A
 0282 P0196 5832
 0283 P0197 6822
 0284 P0198 D0FFF
 0285 P0199 C5222
 0286 P019A 5848
 0287 P019B 4825
 0288 P019C 6825
 0289 P019D C0FFF
 0290 P019E 6828
 0291
 0292
 0292 P019F 54F4
 0292 P01A0 6044
 0292 P01A1 6022
 0292 P01A2 6000
 0292 P01A3 18FB
 0292 P01A4 601B
 0292 P01A5 6007
 0293 P01A6 14EA
 0294 P01A7 2020
 P01A8 2020
 P01A9 2020
 P01AA 2020
 P01AB 2020
 P01AC 2020
 P01AD 2020
 P01AE 2020
 P01AF 2020
 P01B0 2020
 P01B1 2020
 P01B2 2020
 P01B3 2020
 P01B4 2020
 P01B5 2020
 P01B6 2020
 P01B7 2020
 P01B8 2020
 P01B9 2020
 P01BA 2020
 P01BB 2020
 P01BC 2020
 P01BD 2020
 P01BE 2020
 P01BF 2020
 P01C0 2020

STA* OBJFF+12
 RAO- I
 LDA- (ZERO), I GET 3RD TABLE ELEMENT (SECONDS/ERROR CODE)
 ARS 8
 AND- M00FF ISOLATE SECONDS
 RTJ* HXJCU CONVERT TO ASCII
 STA* OBJFF+13 SAVE IN MESSAGE
 LDA- (ZERO), I
 AND- M00FF ISOLATE ERROR CODE
 RTJ* HXJCU CONVERT TO ASCII
 STA* OBJFF+18 SAVE IN MESSAGE
 RAO- I
 LDA- (ZERO), I GET 4TH TABLE ELEMENT (HARDWARE STATUS)
 RTJ* HEXASC CONVERT TO ASCII
 STQ* OBJFF+25 STORE IN MESSAGE
 STA* OBJFF+26
 LDA- I
 STA* ISAVE SAVE INDEX TO TABLE
 * PRINT OUTPUT BUFFER
 W0BUFF FWRITE LISTLU,COBUFF-W0BUFF-1,0BUFF-W0BUFF-1,27,A,P,P,I,1,0
 OBUFF JMP- (ADISP) WAIT FOR COMPLETION
 ALF 27,

N0500273
 N0500274
 N0500275
 N0500276
 N0500277
 N0500278
 N0500279
 N0500280
 N0500281
 N0500282
 N0500283
 N0500284
 N0500285
 N0500286
 N0500287
 N0500288
 N0500289
 N0500290
 N0500291
 N0500292
 N0500293
 N0500294

0295	P01C1	2020			
0296	P01C2	C804	CORUFF	LDA*	ISAVE
0297	P01C3	60FF		STA-	I
0298	P01C4	1C9A		JMP*	(PDATA)
0299	P01C5	3030	N3030	NUM	\$3030
0300	P01C6	0000	ISAVE	NUM	0
	P01C7	0000	TEMP	NUM	0

RESTORE POINTER TO TABLE
RETURN

NJ500	0295
NJ500	0296
NJ500	0297
NJ500	0298
NJ500	0299
NJ500	0300

0302
0303
0304
0305
0306

```

*****
*                                     *N0500302
*                                     *N0500303
*   H E X   T O   D E C I M A L   A S C I I   C O N V E R S I O N   *N0500304
*                                     *N0500305
*                                     *N0500306
*****

```

```

0308 PG108 0000
0309 PG109 0842
0310 PG10A 3040
0311 PG10B 0FC8
0312 PG10C 0834
0313 PG10D 88F7
0314 PG10E 1CF9
0315 PG10F 0000
0316 PG10J 0842
0317 PG101 380F
0318 PG102 680D
0319 PG103 0814
0320 PG104 0812
0321 PG105 380C
0322 PG106 0FC8
0323 PG107 8808
0324 PG108 0FC8
0325 PG109 88EB
0326 PG10A 6805
0327 PG10B 0814
0328 PG10C 58E3
0329 PG10D F802
0330 PG10E 1CF0
0331 PG10F 0000
0332 PG1EC 03E8
0333 PG1E1 0064

```

```

HXDCJ  NUM 0
        CLR Q
        DVI- TEN
        ALS 8
        AAQ A
        ADD* N3030
        JMP* (HXDCU)
HXDC   NUM 0
        CLR Q
        DVI* N1000
        STA* S1000
        TRQ A
        CLR Q
        DVI* N100
        ALS 8
        ADD* S1000
        ALS 8
        ADD* N3030
        STA* S1000
        TRQ A
        RTJ* HXDCU
        LDQ* S1000
        JMP* (HXDC)
S100J  NUM 0
N1000  NUM 1000
N100   NUM 100

```

```

HEX-DECIMAL 2 DIGIT CONVERSION
(A)=TENS (Q)=UNITS
FORMAT ASCII OF DECIMAL
ADD ASCII NUMBER BASE
RETURN
HEX-DECIMAL 4 DIGIT CONVERSION
(A)=THOUSANDS (Q)=REM
SAVE THOUSANDS
(A)=HUNDREDS (Q)=REM
FORMAT THOUSAND/HUNDRED
ADD ASCII NUMBER BASE
SAVE
DO TENS/UNITS
RETURN (Q)=THOU/HUND (A)=TEN/UNIT

```

```

N0500308
N0500309
N0500310
N0500311
N0500312
N0500313
N0500314
N0500315
N0500316
N0500317
N0500318
N0500319
N0500320
N0500321
N0500322
N0500323
N0500324
N0500325
N0500326
N0500327
N0500328
N0500329
N0500330
N0500331
N0500332
N0500333

```

03335
03336
03337
03338
03339

```

*****
*                                     *NO500335
*                                     *NO500336
*   H E X   T O   A S C I I   C O N V E R S I O N   *NO500337
*                                     *NO500338
*****                                     *NO500339

```

```

03341 P01E2 0000
03342 P01E3 0822
03343 P01E4 3810
03344 P01E5 6800
03345 P01E6 580E
03346 P01E7 0FC8
03347 P01E8 880A
03348 P01E9 6809
03349 P01EA 580A
03350 P01EB 6808
03351 P01EC 5808
03352 P01ED 0FC8
03353 P01EE 8805
03354 P01EF E803
03355 P01F0 0FF0
03356 P01F1 1CF0
03357 P01F2 0000
03358 P01F3 0000
03359 P01F4 0000
03360 P01F5 0844
03361 P01F6 0F64
03362 P01F7 0FC4
03363 P01F8 09F5
03364 P01F9 C122
03365 P01FA 093A
03366 P01FB 1CF8
03367 P01FC 0941
03368 P01FD 1CF6

```

```

HEXASC NUM 0
      TRA Q
      RTJ* CHAR
      STA* C01
      RTJ* CHAR
      ALS 8
      ADD* C01
      STA* C01
      RTJ* CHAR
      STA* C02
      RTJ* CHAR
      ALS 8
      ADD* C02
      LDQ* C01
      LLS 16
      JMP* (HEXASC)
C01 NUM 0
C02 NUM 0
CHAR NUM 0
      CLR A
      LRS 4
      ALS 4
      INA -10
      SAP ATHRUF
      INA $3A
      JMP* (CHAR)
ATHRUF INA $41
      JMP* (CHAR)

```

HEX-ASCII NUMBER CONVERSION

MAKE LOWER BYTES

MAKE UPPER BYTES

RETURN (Q)=UPPER BYTES (A)=LOWER BYTES

SUBROUTINE TO CONVERT A BYTE

```

NO500341
NO500342
NO500343
NO500344
NO500345
NO500346
NO500347
NO500348
NO500349
NO500350
NO500351
NO500352
NO500353
NO500354
NO500355
NO500356
NO500357
NO500358
NO500359
NO500360
NO500361
NO500362
NO500363
NO500364
NO500365
NO500366
NO500367
NO500368

```


P022D 5454
 P022E 5454
 P022F 5454
 P0230 5454
 P0231 5454
 P0232 5454
 P0233 5454
 P0234 5454
 P0235 5454
 P0236 5454
 P0237 5454
 P0238 5454
 P0239 5454
 P023A 5454
 P023B 5454
 P023C 5454
 P023D 5454
 P023E 5454
 P023F 5454
 P0240 5454
 P0241 5454
 P0242 5454
 P0243 5454
 P0244 2020
 P0245 2020
 P0246 2020
 P0247 2020
 P0248 2020
 P0249 2044
 P024A 4154
 P024B 4520
 P024C 2020
 P024D 2020
 P024E 2020
 P024F 5449
 P0250 4045
 P0251 2020
 P0252 2020
 P0253 2046
 P0254 4149
 P0255 4055
 P0256 5245
 P0257 2043
 P0258 4F44
 P0259 4520
 P025A 2020
 P025B 4841
 P025C 5244
 P025D 5741
 P025E 5245
 P025F 2053
 P0260 5441
 P0261 5455
 P0262 5320

0331

ALF 12,TTTTTTTTTTTTTTTTTTTTTTTTTT

NJ500381

0332

HDR3 ALF 27,

DATE

TIME

FAILURE CODE

HARDWARE

N0500382

0333

ALF 4, STATUS

NJ500383

0384 PG263 4D41 MERRMH ALF 11, MASS MEMORY READ ERROR N0500384

PG264 5353
PG265 204D
PG266 454D
PG267 4F52
PG268 592Q
PG269 5245
PG26A 4144
PG26B 2045
PG26C 5252
PG26D 4F52

0385 PG26E 4A41 MONTH ALF 24, JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC N0500385

PG26F 4E20
PG270 4645
PG271 4220
PG272 4D41
PG273 522U
PG274 +150
PG275 5220
PG276 4D41
PG277 592Q
PG278 4A55
PG279 4E20
PG27A 4A55
PG27B 4C2C
PG27C +155
PG27D 4720
PG27E 3345
PG27F 502Q
PG280 4F43
PG281 5420
PG282 4E4F
PJ283 562Q
PG284 4445
PG285 432C

0387
0388
0389
0390
0391

```

*****
*                               *N0500387
*                               *N0500388
*   D E V I C E   T Y P E   M E S S A G E   S K E L E T O N S   *N0500389
*                               *N0500390
*****                               *N0500391

```

0393

P0286 3137
P0287 3131
P0288 2054
P0289 454C
P028A 4554
P028B 5950
P028C 4557
P028D 5249
P028E 5445
P028F 5220
P0290 2020
P0291 2020
P0292 2020
P0293 2020
P0294 2020
P0295 2020
P0296 2020
P0297 2020
P0298 2020
P0299 2020
P029A 2020
P029B 2020
P029C 2020
P029D 2020
P029E 2020
P029F 2020
P02A0 2020
P02A1 2020
P02A2 3137
P02A3 3231
P02A4 2F31
P02A5 3732
P02A6 3220
P02A7 3041
P02A8 5045
P02A9 5220
P02AA 5441
P02AB 5045
P02AC 2052
P02AD 4541
P02AE 4445
P02AF 5220
P02BG 2020
P02B1 2020
P02B2 2020
P02B3 2020
P02B4 2020

LUDESC ALF 28,1711 TELETYPEWRITER

N0500393

0394

ALF 28,1721/1722 PAPER TAPE READER

N0500394

P02B5 2020
 P02B6 2020
 P02B7 2020
 P02B8 2020
 P02B9 2020
 P02BA 2020
 P02BB 2020
 P02BC 2020
 P02BD 2020
 P02BE 3137
 P02BF 3233
 P02CG 2F31
 P02C1 3732
 P02C2 3420
 P02C3 5041
 P02C4 5045
 P02C5 5220
 P02C6 5441
 P02C7 5045
 P02C8 2050
 P02C9 554E
 P02CA 4348
 P02CB 2020
 P02CC 2020
 P02CD 2020
 P02CE 2020
 P02CF 2020
 P02D0 2020
 P02D1 2020
 P02D2 2020
 P02D3 2020
 P02D4 2020
 P02D5 2020
 P02D6 2020
 P02D7 2020
 P02D8 2020
 P02D9 2020
 P02DA 3137
 P02DB 3532
 P02DC 2044
 P02DD 5255
 P02DE 4020
 P02DF 2020
 P02E0 2020
 P02E1 2020
 P02E2 2020
 P02E3 2020
 P02E4 2020
 P02E5 2020
 P02E6 2020
 P02E7 2020
 P02E8 2020
 P02E9 2020
 P02EA 2020

0395

ALF 28,1723/1724 PAPER TAPE PUNCH

N0500395

0396

ALF 28,1752 DRUM

N0500396

P02EB 2020
 P02EC 2020
 P02ED 2020
 P02EE 2020
 P02EF 2020
 P02FG 2020
 P02F1 2020
 P02F2 2020
 P02F3 2020
 P02F4 2020
 P02F5 2020
 P02F6 3731
 P02F7 3320
 P02F8 3130
 P02F9 2F37
 P02FA 3131
 P02FB 2031
 P02FC 3030
 P02FD 2F37
 P02FE 3133
 P02FF 2031
 P0300 3230
 P0301 2043
 P0302 5254
 P0303 2F53
 P0304 4041
 P0305 5645
 P0306 2050
 P0307 5249
 P0308 4F54
 P0309 4552
 P030A 2020
 P030B 2020
 P030C 2020
 P030D 2020
 P030E 2020
 P030F 2020
 P0310 2020
 P0311 2020
 P0312 5137
 P0313 3338
 P0314 2F38
 P0315 3533
 P0316 2044
 P0317 4953
 P0318 4B20
 P0319 4452
 P031A 4956
 P031B 4520
 P031C 2020
 P031D 2020
 P031E 2020
 P031F 2020
 P0320 2020

0397

ALF 28,713-10/711-100/713-120 CRT/SLAVE PRINTER

N0500397

0398

ALF 28,1733/853 DISK DRIVE

N0500398

P0321 2020
 P0322 2020
 P0323 2020
 P0324 2020
 P0325 2020
 P0326 2020
 P0327 2020
 P0328 2020
 P0329 2020
 P032A 2020
 P032B 2020
 P032C 2020
 P032D 2020
 P032E 3137
 P032F 3531
 P0330 2044
 P0331 5255
 P0332 4020
 P0333 2020
 P0334 2020
 P0335 2020
 P0336 2020
 P0337 2020
 P0338 2020
 P0339 2020
 P033A 2020
 P033B 2020
 P033C 2020
 P033D 2020
 P033E 2020
 P033F 2020
 P0340 2020
 P0341 2020
 P0342 2020
 P0343 2020
 P0344 2020
 P0345 2020
 P0346 2020
 P0347 2020
 P0348 2020
 P0349 2020
 P034A 3137
 P034B 3339
 P034C 2031
 P034D 2043
 P034E 4152
 P034F 4452
 P0350 4944
 P0351 4745
 P0352 2044
 P0353 4953
 P0354 4820
 P0355 4452
 P0356 4956

0339

ALF 28,1751 DRUM

N0530399

0400

ALF 28,1739-1 CARTRIDGE DISK DRIVE

N0500400

P0357 4520
 P0358 2020
 P0359 2020
 P035A 2020
 P035B 2020
 P035C 2020
 P035D 2020
 P035E 2020
 P035F 2020
 P0360 2020
 P0361 2020
 P0362 2020
 P0363 2020
 P0364 2020
 P0365 2020
 P0366 3137
 P0367 3338
 P0368 2F38
 P0369 3534
 P036A 2044
 P036B 4953
 P036C 4B20
 P036D 4452
 P036E 4956
 P036F 4520
 P0370 2020
 P0371 2020
 P0372 2020
 P0373 2020
 P0374 2020
 P0375 2020
 P0376 2020
 P0377 2020
 P0378 2020
 P0379 2020
 P037A 2020
 P037B 2020
 P037C 2020
 P037D 2020
 P037E 2020
 P037F 2020
 P0380 2020
 P0381 2020
 P0382 3137
 P0383 3331
 P0384 2F36
 P0385 3031
 P0386 2040
 P0387 4147
 P0388 4E45
 P0389 5449
 P038A 4320
 P038B 5441
 P038C 5045

0+01

ALF 28,1738/854 DISK DRIVE

NJ500401

0+02

ALF 28,1731/691 MAGNETIC TAPE DRIVE

NJ500402

P038D 2044
 P038E 5249
 P038F 5645
 P0390 2020
 P0391 2020
 P0392 2020
 P0393 2020
 P0394 2020
 P0395 2020
 P0396 2020
 P0397 2020
 P0398 2020
 P0399 2020
 P039A 2020
 P039B 2020
 P039C 2020
 P039D 2020
 P039E 534F
 P039F 4654
 P03A0 5741
 P03A1 5245
 P03A2 2042
 P03A3 5546
 P03A4 4645
 P03A5 5249
 P03A6 4F47
 P03A7 2044
 P03A8 4556
 P03A9 4943
 P03AA 4520
 P03AB 2020
 P03AC 2020
 P03AD 2020
 P03AE 2020
 P03AF 2020
 P03B0 2020
 P03B1 2020
 P03B2 2020
 P03B3 2020
 P03B4 2020
 P03B5 2020
 P03B6 2020
 P03B7 2020
 P03B8 2020
 P03B9 2020
 P03BA 434F
 P03BB 5359
 P03BC 2044
 P03BD 5249
 P03BE 5645
 P03BF 5220
 P03C0 554F
 P03C1 4954
 P03C2 2020

0403

ALF 28, SOFTWARE BUFFERING DEVICE

N0500403

0404

ALF 28, COSY DRIVER UNIT

N0500404

P03C3 2020
 P03C4 2020
 P03C5 2020
 P03C6 2020
 P03C7 2020
 P03C8 2020
 P03C9 2020
 P03CA 2020
 P03CB 2020
 P03CC 2020
 P03CD 2020
 P03CE 2020
 P03CF 2020
 P03D0 2020
 P03D1 2020
 P03D2 2020
 P03D3 2020
 P03D4 2020
 P03D5 2020
 P03D6 3137
 P03D7 3238
 P03D8 2F34
 P03D9 3330
 P03DA 2043
 P03DB 4152
 P03DC 4420
 P03DD 5245
 P03DE 4144
 P03DF 4552
 P03E0 2F50
 P03E1 554E
 P03E2 4348
 P03E3 2020
 P03E4 2020
 P03E5 2020
 P03E6 2020
 P03E7 2020
 P03E8 2020
 P03E9 2020
 P03EA 2020
 P03EB 2020
 P03EC 2020
 P03ED 2020
 P03EE 2020
 P03EF 2020
 P03F0 2020
 P03F1 2020
 P03F2 434F
 P03F3 5245
 P03F4 2041
 P03F5 404C
 P03F6 4F43
 P03F7 +154
 P03F8 4F52

0405

ALF 28,1728/430 CARD READER/PUNCH

N0500+05

0406

ALF 28,CORE ALLOCATOR

N0500+06

P03F9 2020
 P03FA 2020
 P03FB 2020
 P03FC 2020
 P03FD 2020
 P03FE 2020
 P03FF 2020
 P0400 2020
 P0401 2020
 P0402 2020
 P0403 2020
 P0404 2020
 P0405 2020
 P0406 2020
 P0407 2020
 P0408 2020
 P0409 2020
 P040A 2020
 P040B 2020
 P040C 2020
 P040D 2020
 P040E 3137
 P040F 3333
 P0410 2031
 P0411 2F38
 P0412 3534
 P0413 2044
 P0414 4953
 P0415 4B20
 P0416 4452
 P0417 4936
 P0418 4520
 P0419 2020
 P041A 2020
 P041B 2020
 P041C 2020
 P041D 2020
 P041E 2020
 P041F 2020
 P0420 2020
 P0421 2020
 P0422 2020
 P0423 2020
 P0424 2020
 P0425 2020
 P0426 2020
 P0427 2020
 P0428 2020
 P0429 2020
 P042A 3137
 P042B 3333
 P042C 2032
 P042D 2F38
 P042E 3536

0407

ALF 28,1733-1/854 DISK DRIVE

N0500407

0408

ALF 28,1733-2/856-2 CARTRIDGE DISK DRIVE

N0500408

P 042F 2032
 P 0430 2043
 P 0431 1522
 P 0432 5452
 P 0433 4944
 P 0434 4745
 P 0435 2044
 P 0436 4953
 P 0437 4820
 P 0438 4452
 P 0439 4956
 P 043A 4520
 P 043B 2020
 P 043C 2020
 P 043D 2020
 P 043E 2020
 P 043F 2020
 P 0440 2020
 P 0441 2020
 P 0442 2020
 P 0443 2020
 P 0444 2020
 P 0445 2020
 P 0446 2020
 P 0447 3337
 P 0448 2032
 P 0449 2738
 P 044A 3536
 P 044B 2034
 P 044C 2043
 P 044D 4152
 P 044E 5452
 P 044F 4944
 P 0450 4745
 P 0451 2044
 P 0452 4953
 P 0453 4820
 P 0454 4452
 P 0455 4956
 P 0456 4520
 P 0457 2020
 P 0458 2020
 P 0459 2020
 P 045A 2020
 P 045B 2020
 P 045C 2020
 P 045D 2020
 P 045E 2020
 P 045F 2020
 P 0460 2020
 P 0461 2020
 P 0462 3137
 P 0463 3432
 P 0464 2033

0409

ALF 28,1733-2/856-4 CARTRIDGE DISK DRIVE

N0500409

0410

ALF 28,1742-30 LINE PRINTER

N0500410

PG 465 3020
 PG 466 4C49
 PG 467 4E45
 PG 468 5250
 PG 469 5249
 PG 46A 4E54
 PG 46B 4452
 PG 46C 2220
 PG 46D 2220
 PG 46E 2220
 PG 46F 2220
 PG 470 2220
 PG 471 2220
 PG 472 2220
 PG 473 2220
 PG 474 2220
 PG 475 2220
 PG 476 2220
 PG 477 2220
 PG 478 2220
 PG 479 2220
 PG 47A 2220
 PG 47B 2220
 PG 47C 2220
 PG 47D 2220
 PG 47E 3137
 PG 47F 3432
 PG 48J 2231
 PG 481 3230
 PG 482 2040
 PG 483 494E
 PG 484 4520
 PG 485 5052
 PG 486 494E
 PG 487 5445
 PG 488 3220
 PG 489 2020
 PG 48A 2020
 PG 48B 2020
 PG 48C 2020
 PG 48D 2020
 PG 48E 2020
 PG 48F 2020
 PG 490 2020
 PG 491 2020
 PG 492 2020
 PG 493 2020
 PG 494 2020
 PG 495 2020
 PG 496 2020
 PG 497 2020
 PG 498 2020
 PG 499 2020

U-11

ALF 28,1742-120 LINE PRINTER

NJ500-11

0-12

ALF 28,1740/501 LINE PRINTER

N0500-12

P049A 3137
 P049B 3430
 P049C 2F35
 P049D 3031
 P049E 2040
 P049F 494E
 P04A0 4520
 P04A1 5052
 P04A2 494E
 P04A3 5445
 P04A4 5220
 P04A5 2020
 P04A6 2020
 P04A7 2020
 P04A8 2020
 P04A9 2020
 P04AA 2020
 P04AB 2020
 P04AC 2020
 P04AD 2020
 P04AE 2020
 P04AF 2020
 P04B0 2020
 P04B1 2020
 P04B2 2020
 P04B3 2020
 P04B4 2020
 P04B5 2020
 P04B6 3137
 P04B7 3332
 P04B8 2032
 P04B9 2F36
 P04BA 3135
 P04BB 2037
 P04BC 3320
 P04BD 4041
 P04BE 474E
 P04BF 4334
 P04C0 4943
 P04C1 2054
 P04C2 4150
 P04C3 4520
 P04C4 4452
 P04C5 4956
 P04C6 4520
 P04C7 2020
 P04C8 2020
 P04C9 2020
 P04CA 2020
 P04CB 2020
 P04CC 2020
 P04CD 2020
 P04CE 2020
 P04CF 2020

0-13

ALF 28,1732-2/615-73 MAGNETIC TAPE DRIVE

N0500-13

0+14

P0400 2020
 P0401 2020
 P0402 3137
 P0403 3332
 P0404 2032
 P0405 2F36
 P0406 3135
 P0407 2039
 P0408 3320
 P0409 4041
 P040A 474E
 P040B 4554
 P040C 4943
 P040D 2054
 P040E 4150
 P040F 4520
 P040G 4452
 P040H 4956
 P040I 4520
 P040J 2020
 P040K 2020
 P040L 2020
 P040M 2020
 P040N 2020
 P040O 2020
 P040P 2020
 P040Q 2020
 P040R 2020
 P040S 2020
 P040T 2020
 P040U 2020
 P040V 2020
 P040W 2020
 P040X 2020
 P040Y 2020
 P040Z 2020
 P040A 2020
 P040B 2020
 P040C 2020
 P040D 2020
 P040E 3137
 P040F 3332
 P040G 2031
 P040H 2F31
 P040I 3730
 P040J 3627
 P040K 3630
 P040L 3820
 P040M 4255
 P040N 4046
 P040O 4552
 P040P 4544
 P040Q 2040
 P040R 4147
 P040S 4445
 P040T 5449
 P040U 5441
 P040V 5441
 P0500 5045
 P0501 2044
 P0502 5249
 P0503 5645
 P0504 2020
 P0505 2020

ALF 28,1732-2/615-93 MAGNETIC TAPE DRIVE

N0500+14

0+15

ALF 28,1732-1/1706/608 BUFFERED MAGNETIC TAPE DRIVE

N0500+15

0+16

P0506 2020
 P0507 2020
 P0508 2020
 P0509 2020
 P050A 3137
 P050B 3236
 P050C 2F34
 P050D 3035
 P050E 2043
 P050F 4152
 P0510 4420
 P0511 5245
 P0512 4144
 P0513 4552
 P0514 2020
 P0515 2020
 P0516 2020
 P0517 2020
 P0518 2020
 P0519 2020
 P051A 2020
 P051B 2020
 P051C 2020
 P051D 2020
 P051E 2020
 P051F 2020
 P0520 2020
 P0521 2020
 P0522 2020
 P0523 2020
 P0524 2020
 P0525 2020
 P0526 3137
 P0527 3332
 P0528 2031
 P0529 2736
 P052A 3038
 P052B 2040
 P052C 4147
 P052D 4445
 P052E 5449
 P052F 4320
 P0530 5441
 P0531 5045
 P0532 2044
 P0533 5249
 P0534 5645
 P0535 2020
 P0536 2020
 P0537 2020
 P0538 2020
 P0539 2020
 P053A 2020
 P053B 2020

ALF 28,1725/405 CARD READER

N0500416

0+17

ALF 28,1732-1/608 MAGNETIC TAPE DRIVE

N0500417

0418
 P053C 2020
 P053D 2020
 P053E 2020
 P053F 2020
 P0540 2020
 P0541 2020
 P0542 3137
 P0543 3332
 P0544 2031
 P0545 2F36
 P0546 3039
 P0547 2040
 P0548 4147
 P0549 4E45
 P054A 5449
 P054B 4320
 P054C 5441
 P054D 5045
 P054E 2044
 P054F 3249
 P0550 3643
 P0551 2020
 P0552 2020
 P0553 2020
 P0554 2020
 P0555 2020
 P0556 2020
 P0557 2020
 P0558 2020
 P0559 2020
 P055A 2020
 P055B 2020
 P055C 2020
 P055D 2020
 P055E 3137
 P055F 3133
 P0560 2054
 P0561 4540
 P0562 4554
 P0563 3950
 P0564 4557
 P0565 5249
 P0566 5445
 P0567 5220
 P0568 4B45
 P0569 5942
 P056A 4F41
 P056B 5244
 P056C 2020
 P056D 2020
 P056E 2020
 P056F 2020
 P0570 2020
 P0571 2020

ALF 28,1732-1/609 MAGNETIC TAPE DRIVE

NO500418

ALF 28,1713 TELETYPEWRITER KEYBOARD

NO500419

P0572 2020
 P0573 2020
 P0574 2020
 P0575 2020
 P0576 2020
 P0577 2020
 P0578 2020
 P0579 2020
 P057A 3137
 P057B 3133
 P057C 2054
 P057D 454C
 P057E 4554
 P057F 5550
 P0580 4557
 P0581 5524
 P0582 5555
 P0583 5522
 P0584 5541
 P0585 5504
 P0586 5522
 P0587 5541
 P0588 5545
 P0589 2050
 P058A 554E
 P058B 4348
 P058C 2020
 P058D 2020
 P058E 2020
 P058F 2020
 P0590 2020
 P0591 2020
 P0592 2020
 P0593 2020
 P0594 2020
 P0595 2020
 P0596 3137
 P0597 3133
 P0598 2054
 P0599 454C
 P059A 4554
 P059B 5550
 P059C 4557
 P059D 5524
 P059E 5545
 P059F 5520
 P05A0 5541
 P05A1 5504
 P05A2 5520
 P05A3 5541
 P05A4 5545
 P05A5 2052
 P05A6 4541
 P05A7 4445

0420

ALF 28,1713 TELETYPEWRITER PAPER TAPE PUNCH

NJ530420

0421

ALF 28,1713 TELETYPEWRITER PAPER TAPE READER

NJ500421

PG5A8 5220
 P05A9 2020
 P05AA 2020
 P05AB 2020
 P05AC 2020
 P05AD 2020
 P05AE 2020
 P05AF 2020
 P05B0 2020
 P05B1 2020
 P05B2 3137
 P05B3 3239
 P05B4 2032
 P05B5 2043
 P05B6 4152
 P05B7 4420
 P05B8 5245
 P05B9 4144
 P05BA 4552
 P05BB 2020
 P05BC 2020
 P05BD 2020
 P05BE 2020
 P05BF 2020
 P05C0 2020
 P05C1 2020
 P05C2 2020
 P05C3 2020
 P05C4 2020
 P05C5 2020
 P05C6 2020
 P05C7 2020
 P05C8 2020
 P05C9 2020
 P05CA 2020
 P05CB 2020
 P05CC 2020
 P05CD 2020
 P05CE 3137
 P05CF 3332
 P05D0 2031
 P05D1 2731
 P05D2 3730
 P05D3 362F
 P05D4 3630
 P05D5 3920
 P05D6 4239
 P05D7 4646
 P05D8 4532
 P05D9 4544
 P05DA 2040
 P05DB 4147
 P05DC 4E45
 P05DD 5449

0422

ALF 28,1729-2 CARD READER

N0500422

0423

ALF 28,1732-1/1706/609 BUFFERED MAGNETIC TAPE DRIVE

N0500423

P0614 4E20
 P0615 4445
 P0616 55649
 P0617 4345
 P0618 2020
 P0619 2020
 P061A 2020
 P061B 2020
 P061C 2020
 P061D 2020
 P061E 2020
 P061F 2020
 P0620 2020
 P0621 2020
 P0622 3336
 P0623 3420
 P0624 3420
 P0625 3336
 P0626 33120
 P0627 3420
 P0628 44644
 P0629 5820
 P062A 4340
 P062B 4040
 P062C 5540
 P062D 4943
 P062E 4154
 P062F 4040
 P0630 4E20
 P0631 4445
 P0632 5649
 P0633 4345
 P0634 2020
 P0635 2020
 P0636 2020
 P0637 2020
 P0638 2020
 P0639 2020
 P063A 2020
 P063B 2020
 P063C 2020
 P063D 3137
 P063E 3432
 P0640 2031
 P0641 2040
 P0642 4940
 P0643 5520
 P0644 5052
 P0645 4940
 P0646 5745
 P0647 5520
 P0648 2020
 P0649 2020

0426

ALF 28,364-4/361-4 FDX COMMUNICATION DEVICE

N0500426

0427

ALF 28,1742-1 LINE PRINTER

N0500427

PG64A 2020
 PG64B 2020
 PG64C 2020
 PG64D 2020
 PG64E 2020
 PG64F 2020
 PG650 2020
 PG651 2020
 PG652 2020
 PG653 2020
 PG654 2020
 PG655 2020
 PG656 2020
 PG657 2020
 PG658 2020
 PG659 2020
 PG65A 3137
 PG65B 3737
 PG65C 2050
 PG65D 4150
 PG65E 4552
 PG65F 2054
 PG660 4150
 PG661 4520
 PG662 5245
 PG663 4144
 PG664 4552
 PG665 2020
 PG666 2020
 PG667 2020
 PG668 2020
 PG669 2020
 PG66A 2020
 PG66B 2020
 PG66C 2020
 PG66D 2020
 PG66E 2020
 PG66F 2020
 PG670 2020
 PG671 2020
 PG672 2020
 PG673 2020
 PG674 2020
 PG675 2020
 PG676 5053
 PG677 4555
 PG678 444F
 PG679 2054
 PG67A 4150
 PG67B 4520
 PG67C 554E
 PG67D 4954
 PG67E 2020
 PG67F 2020

0428

ALF 28,1777 PAPER TAPE READER

N0500428

0429

ALF 28,PSEUDO TAPE UNIT

N0500429

P0680 2020
 P0681 2020
 P0682 2020
 P0683 2020
 P0684 2020
 P0685 2020
 P0686 2020
 P0687 2020
 P0688 2020
 P0689 2020
 P068A 2020
 P068B 2020
 P068C 2020
 P068D 2020
 P068E 2020
 P068F 2020
 P069J 2020
 P0691 2020
 P0692 3137
 P0693 3737
 P0694 2050
 P0695 4150
 P0696 4552
 P0697 2054
 P0698 4150
 P0699 4520
 P069A 5055
 P069B 4843
 P069C 4820
 P069D 2020
 P069E 2020
 P069F 2020
 P06A0 2020
 P06A1 2020
 P06A2 2020
 P06A3 2020
 P06A4 2020
 P06A5 2020
 P06A6 2020
 P06A7 2020
 P06A8 2020
 P06A9 2020
 P06AA 2020
 P06AB 2020
 P06AC 2020
 P06AD 2020
 P06AE 3137
 P06AF 3239
 P06B0 2033
 P06B1 2043
 P06B2 4152
 P06B3 4420
 P06B4 5245
 P06B5 4144

0+30

ALF 28,1777 PAPER TAPE PUNCH

N0500430

0+31

ALF 28,1729-3 CARD READER

N0500431

P06B6 4552
 P06B7 2020
 P06B8 2020
 P06B9 2020
 P06BA 2020
 P06BB 2020
 P06BC 2020
 P06BD 2020
 P06BE 2020
 P06BF 2020
 P06C0 2020
 P06C1 2020
 P06C2 2020
 P06C3 2020
 P06C4 2020
 P06C5 2020
 P06C6 2020
 P06C7 2020
 P06C8 2020
 P06C9 2020
 P06CA 3137
 P06CB 3333
 P06CC 2031
 P06CD 2738
 P06CE 3533
 P06CF 2044
 P06DJ 4953
 P06D1 4820
 P06D2 4452
 P06D3 4956
 P06D4 4520
 P06D5 2020
 P06D6 2020
 P06D7 2020
 P06D8 2020
 P06D9 2020
 P06DA 2020
 P06DB 2020
 P06DC 2020
 P06DD 2020
 P06DE 2020
 P06DF 2020
 P06E0 2020
 P06E1 2020
 P06E2 2020
 P06E3 2020
 P06E4 2020
 P06E5 3137
 P06E6 3331
 P06E7 2731
 P06E8 3730
 P06EA 3627
 P06EB 3630

0+32

ALF 28,1733-1/853 DISK DRIVE

N0500432

0+33

ALF 28,1731/1706/601 BUFFERED MAGNETIC TAPE UNIT

N0500433

P06EC 3120
 P06ED 4225
 P06EE 4646
 P06EF 4552
 P06F0 4544
 P06F1 2040
 P06F2 4147
 P06F3 4445
 P06F4 4449
 P06F5 4320
 P06F6 4441
 P06F7 5045
 P06F8 2055
 P06F9 4449
 P06FA 5420
 P06FB 2020
 P06FC 2020
 P06FD 2020
 P06FE 2020
 P06FF 2020
 P070J 2020
 P070K 2020
 P070L 3137
 P070M 3236
 P070N 2731
 P070O 3730
 P070P 362F
 P070Q 3430
 P070R 3520
 P070S 4255
 P070T 446
 P070U 4552
 P070V 4544
 P070W 2043
 P070X 4152
 P070Y 4420
 P0710 5245
 P0711 4144
 P0712 4552
 P0713 2020
 P0714 2020
 P0715 2020
 P0716 2020
 P0717 2020
 P0718 2020
 P0719 2020
 P071A 2020
 P071B 2020
 P071C 2020
 P071D 2020
 P071E 3137
 P071F 3437
 P0720 2044
 P0721 4154

0+34

ALF 28,1725/1706/405 BUFFERED CARD READER

N0500+34

0+35

ALF 28,1747 DATA SET INTERFACE

N0500435

P0722 4120
 P0723 5345
 P0724 5420
 P0725 494E
 P0726 5445
 P0727 5246
 P0728 4143
 P0729 4520
 P072A 2020
 P072B 2020
 P072C 2020
 P072D 2020
 P072E 2020
 P072F 2020
 P0730 2020
 P0731 2020
 P0732 2020
 P0733 2020
 P0734 2020
 P0735 2020
 P0736 2020
 P0737 2020
 P0738 2020
 P0739 2020
 P073A 3137
 P073B 3434
 P073C 2F32
 P073D 3734
 P073E 2044
 P073F 4947
 P0740 4947
 P0741 5241
 P0742 5048
 P0743 4943
 P0744 2043
 P0745 4F4E
 P0746 534F
 P0747 4045
 P0748 2020
 P0749 2020
 P074A 2020
 P074B 2020
 P074C 2020
 P074D 2020
 P074E 2020
 P074F 2020
 P0750 2020
 P0751 2020
 P0752 2020
 P0753 2020
 P0754 2020
 P0755 2020
 P0756 3135
 P0757 3336

0436

ALF 28,1744/274 DIGIGRAPHIC CONSOLE

N0500436

0+37

ALF 23,1536 LOW LEVEL ANALOG INPUT

N0500437

P0758 204C
 P0759 4F57
 P075A 204C
 P075B 4556
 P075C 454C
 P075D 2041
 P075E 4E41
 P075F 4C4F
 P0760 4720
 P0761 494E
 P0762 5055
 P0763 5420
 P0764 2020
 P0765 2020
 P0766 2020
 P0767 2020
 P0768 2020
 P0769 2020
 P076A 2020
 P076B 2020
 P076C 2020
 P076D 2020
 P076E 2020
 P076F 2020
 P0770 2020
 P0771 2020
 P0772 3135
 P0773 3031
 P0774 2048
 P0775 4947
 P0776 4820
 P0777 4C45
 P0778 5645
 P0779 4C20
 P077A 414E
 P077B 414C
 P077C 4F47
 P077D 2049
 P077E 4E50
 P077F 5554
 P0780 2020
 P0781 2020
 P0782 2020
 P0783 2020
 P0784 2020
 P0785 2020
 P0786 2020
 P0787 2020
 P0788 2020
 P0789 2020
 P078A 2020
 P078B 2020
 P078C 2020
 P078D 2020

0+38

ALF 28,1501 HIGH LEVEL ANALOG INPUT

N0500438

0439 P078E 3135
 PG78F 3336
 PG790 2052
 P0791 +54D
 PG792 +F54
 P0793 4520
 P0794 +C4F
 P0795 5720
 P0796 +C45
 P0797 5645
 PG798 4020
 P0799 414E
 PG79A 414C
 P079B +F47
 PG79C 2049
 P079D 4E50
 P079E 5554
 P079F 2020
 P07A0 2020
 P07A1 2020
 PG7A2 2020
 P07A3 2020
 P07A4 2020
 P07A5 2020
 PG7A6 2020
 PG7A7 2020
 P07A8 2020
 P07A9 2020
 0440 P07AA 3135
 PG7AB 3434
 P07AC 2044
 P07AD 4947
 P07AE 4954
 PG7AF 414C
 P07BJ 2049
 P07B1 +E50
 P07B2 5554
 P07B3 2055
 P07B4 4E49
 PG7B5 5420
 P07B6 2020
 PG7B7 2020
 P07B8 2020
 P07B9 2020
 P07BA 2020
 P07BB 2020
 P07BC 2020
 P07BD 2020
 P07BE 2020
 PG7BF 2020
 P07C0 2020
 P07C1 2020
 P07C2 2020
 P07C3 2020

ALF 28,1536 REMOTE LOW LEVEL ANALOG INPUT

N0500439

ALF 28,15-4 DIGITAL INPUT UNIT

N0500440

0441

P07C4 2020
 P07C5 2020
 P07C6 3135
 P07C7 3533
 P07C8 2044
 P07C9 4947
 P07CA 4954
 P07CB 414C
 P07CC 204F
 P07CD 5554
 P07CE 5555
 P07CF 5542
 P07D0 554E
 P07D1 4954
 P07D2 2020
 P07D3 2020
 P07D4 2020
 P07D5 2020
 P07D6 2020
 P07D7 2020
 P07D8 2020
 P07D9 2020
 P07DA 2020
 P07DB 2020
 P07DC 2020
 P07DD 2020
 P07DE 2020
 P07DF 2020
 P07E0 2020
 P07E1 2020
 P07E2 3135
 P07E3 3535
 P07E4 2052
 P07E5 454C
 P07E6 4139
 P07E7 204F
 P07E8 5554
 P07E9 5055
 P07EA 5420
 P07EB 554E
 P07EC 4954
 P07ED 2020
 P07EE 2020
 P07EF 2020
 P07F0 2020
 P07F1 2020
 P07F2 2020
 P07F3 2020
 P07F4 2020
 P07F5 2020
 P07F6 2020
 P07F7 2020
 P07F8 2020
 P07F9 2020

ALF 28,1553 DIGITAL OUTPUT UNIT

N0500441

0442

ALF 28,1555 RELAY OUTPUT UNIT

N0530442

0443 P07FA 2020
 P07FB 2020
 P07FC 2020
 P07FD 2020
 P07FE 3135
 P07FF 3636
 P0800 2044
 P0801 4947
 P0802 4954
 P0803 414C
 P0804 2054
 P0805 4F2D
 P0806 414E
 P0807 414C
 P0808 4F47
 P0809 2043
 P080A 4F4E
 P080B 5645
 P080C 5254
 P080D 4552
 P080E 2020
 P080F 2020
 P0810 2020
 P0811 2020
 PC812 2020
 P0813 2020
 P0814 2020
 P0815 2020
 PC816 2020
 P0817 2020
 P0818 2020
 P0819 2020
 0444 P081A 3135
 P081B 3437
 P081C 2045
 P081D 5645
 P081E 4E54
 P081F 5320
 P0820 434F
 P0821 554E
 P0822 5445
 P0823 5220
 P0824 2020
 P0825 2020
 P0826 2020
 P0827 2020
 P0828 2020
 P0829 2020
 P082A 2020
 P082B 2020
 P082C 2020
 P082D 2020
 P082E 2020
 P082F 2020

ALF 28,1565 DIGITAL-TO-ANALOG CONVERTER

N0500443

ALF 28,1547 EVENTS COUNTER

N0500444

0+45

P0830 2020
 P0831 2020
 P0832 2020
 P0833 2020
 P0834 2020
 P0835 2020
 P0836 3135
 P0837 3935
 P0838 2053
 P0839 4552
 P083A 4941
 P083B 4020
 P083C 492F
 P083D 4F20
 P083E 2020
 P083F 2020
 P0840 2020
 P0841 2020
 P0842 2020
 P0843 2020
 P0844 2020
 P0845 2020
 P0846 2020
 P0847 2020
 P0848 2020
 P0849 2020
 P084A 2020
 P084B 2020
 P084C 2020
 P084D 2020
 P084E 2020
 P084F 2020
 P0850 2020
 P0851 2020
 P0852 3137
 P0853 3332
 P0854 2033
 P0855 2F36
 P0856 3136
 P0857 2037
 P0858 3220
 P0859 4041
 P085A 4720
 P085B 5441
 P085C 5045
 P085D 2020
 P085E 2020
 P085F 2020
 P0860 2020
 P0861 2020
 P0862 2020
 P0863 2020
 P0864 2020
 P0865 2020

ALF 28,1595 SERIAL I/O

N0500 445

0+46

ALF 28,1732-3/616-72 MAG TAPE

N0500 +46

P0866 2020
 P0867 2020
 P0868 2020
 P0869 2020
 P086A 2020
 P086B 2020
 P086C 2020
 P086D 2020
 0+47 P086E 3137
 P086F 3332
 P0870 2033
 P0871 2F36
 P0872 3136
 P0873 2039
 P0874 3220
 P0875 4041
 P0876 4720
 P0877 5441
 P0878 5045
 P0879 2020
 P087A 2020
 P087B 2020
 P087C 2020
 P087D 2020
 P087E 2020
 P087F 2020
 P0880 2020
 P0881 2020
 P0882 2020
 P0883 2020
 P0884 2020
 P0885 2020
 P0886 2020
 P0887 2020
 P0888 2020
 0+48 P0889 2020
 P088A 3137
 P088B 3433
 P088C 2032
 P088D 2041
 P088E 5359
 P088F 4E20
 P0890 434F
 P0891 4040
 P0892 2043
 P0893 4F4E
 P0894 5452
 P0895 2020
 P0896 2020
 P0897 2020
 P0898 2020
 P0899 2020
 P089A 2020
 P089B 2020

ALF 28,1732-3/616-92 MAG TAPE

N0500447

ALF 28,1743-2 ASYN COMM CONTR

N0500448

P089C 2020
 P089D 2020
 P089E 2020
 P089F 2020
 P08A0 2020
 P08A1 2020
 P08A2 2020
 P08A3 2020
 P08A4 2020
 P08A5 2020
 P08A6 3137
 P08A7 3435
 P08A8 2F32
 P08A9 3131
 P08AA 2043
 P08AB 5254
 P08AC 2020
 P08AD 2020
 P08AE 2020
 P08AF 2020
 P08B0 2020
 P08B1 2020
 P08B2 2020
 P08B3 2020
 P08B4 2020
 P08B5 2020
 P08B6 2020
 P08B7 2020
 P08B8 2020
 P08B9 2020
 P08BA 2020
 P08BB 2020
 P08BC 2020
 P08BD 2020
 P08BE 2020
 P08BF 2020
 P08C0 2020
 P08C1 2020
 P08C2 3137
 P08C3 3235
 P08C4 2031
 P08C5 2043
 P08C6 4152
 P08C7 4420
 P08C8 5055
 P08C9 4E43
 P08CA 4820
 P08CB 2020
 P08CC 2020
 P08CD 2020
 P08CE 2020
 P08CF 2020
 P08D0 2020
 P08D1 2020

0449

ALF 28,1745/211 CRT

N0500449

0450

ALF 28,1725-1 CARD PUNCH

N0500450

P0802 2020
 P0803 2020
 P0804 2020
 P0805 2020
 P0806 2020
 P0807 2020
 P0808 2020
 P0809 2020
 P080A 2020
 P080B 2020
 P080C 2020
 P080D 2020
 P080E 3137
 P080F 3230
 P080G 2031
 P080H 2050
 P080I 4150
 P080J 4552
 P080K 2054
 P080L 4150
 P080M 4520
 P080N 5245
 P080O 4144
 P080P 4552
 P080Q 2020
 P080R 2020
 P080S 2020
 P080T 2020
 P080U 2020
 P080V 2020
 P080W 2020
 P080X 2020
 P080Y 2020
 P080Z 2020
 P080A 2020
 P080B 2020
 P080C 2020
 P080D 2020
 P080E 2020
 P080F 2020
 P080G 2020
 P080H 2020
 P080I 2020
 P080J 2020
 P080K 2020
 P080L 2020
 P080M 2020
 P080N 2020
 P080O 2020
 P080P 2020
 P080Q 2020
 P080R 2020
 P080S 2020
 P080T 2020
 P080U 2020
 P080V 2020
 P080W 2020
 P080X 2020
 P080Y 2020
 P080Z 2020
 P0900 2054
 P0901 4150
 P0902 4520
 P0903 5055
 P0904 4E43
 P0905 4820
 P0906 2020
 P0907 2020

0451

ALF 28,1720-1 PAPER TAPE READER

N0500451

0452

ALF 28,1720-1 PAPER TAPE PUNCH

N0500452

PG908 2020
 PG909 2020
 PG90A 2020
 PG90B 2020
 PG90C 2020
 PG90D 2020
 PG90E 2020
 PG90F 2020
 PG910 2020
 PG911 2020
 PG912 2020
 PG913 2020
 PG914 2020
 PG915 2020
 PG916 4041
 PG917 474E
 PG918 4554
 PG919 4943
 PG91A 2054
 PG91B 4150
 PG91C 4520
 PG91D 5349
 PG91E 4055
 PG91F 4041
 PG920 544F
 PG921 5220
 PG922 2020
 PG923 2020
 PG924 2020
 PG925 2020
 PG926 2020
 PG927 2020
 PG928 2020
 PG929 2020
 PG92A 2020
 PG92B 2020
 PG92C 2020
 PG92D 2020
 PG92E 2020
 PG92F 2020
 PG930 2020
 PG931 2020
 PG932 3137
 PG933 3332
 PG934 2033
 PG935 204C
 PG936 4F4E
 PG937 4720
 PG938 5245
 PG939 434F
 PG93A 5244
 PG93B 204D
 PG93C 4147
 PG93D 2054

0453

ALF 28,MAGNETIC TAPE SIMULATOR

N0500453

0454

ALF 28,1732-3 LONG RECORD MAG TAPE 7TRK

N0500454

P00933 4150
 P00933FE 4520
 P00940 3754
 P00941 5248
 P00942 2020
 P00943 2020
 P00944 2020
 P00945 2020
 P00946 2020
 P00947 2020
 P00948 2020
 P00949 2020
 P0094A 2020
 P0094B 2020
 P0094C 2020
 P0094D 2020
 P0094E 3138
 P0094FE 3130
 P00950 2031
 P00951 2040
 P00952 4941
 P00953 5420
 P00954 4352
 P00955 5420
 P00956 5052
 P00957 4945
 P00958 5445
 P00959 5220
 P0095A 2020
 P0095B 2020
 P0095C 2020
 P0095D 2020
 P0095E 2020
 P0095FE 2020
 P00960 2020
 P00961 2020
 P00962 2020
 P00963 2020
 P00964 2020
 P00965 2020
 P00966 2020
 P00967 2020
 P00968 2020
 P00969 2020
 P0096A 3138
 P0096B 3239
 P0096C 2033
 P0096D 3022
 P0096E 3630
 P0096FE 2043
 P00970 4152
 P00971 4420
 P00972 5245
 P00973 4144

0+55

ALF 28,1813-1 LIAT CRT/PRINTER

N0500455

0+56

ALF 28,1829-33/60 CARD READER

NJ500456

P0974 4552
 P0975 2020
 P0976 2020
 P0977 2020
 P0978 2020
 P0979 2020
 P097A 2020
 P097B 2020
 P097C 2020
 P097D 2020
 P097E 2020
 P097F 2020
 P0980 2020
 P0981 2020
 P0982 2020
 P0983 2020
 P0984 2020
 P0985 2020
 P0986 3138
 P0987 3237
 P0988 2033
 P0989 302F
 P098A 3630
 P098B 204C
 P098C 494E
 P098D 4520
 P098E 5052
 P098F 494E
 P0990 5445
 P0991 5220
 P0992 2020
 P0993 2020
 P0994 2020
 P0995 2020
 P0996 2020
 P0997 2020
 P0998 2020
 P0999 2020
 P099A 2020
 P099B 2020
 P099C 2020
 P099D 2020
 P099E 2020
 P099F 2020
 P09A0 2020
 P09A1 2020
 P09A2 3138
 P09A3 3630
 P09A4 2037
 P09A5 3220
 P09A6 4C43
 P09A7 5454
 P09A8 2037
 P09A9 544B

0457

ALF 28,1827-30/60 LINE PRINTER

N0500457

0458

ALF 28,1860-72 LCTT 7TK MAG TAPE

N0500458

P09AA 2040
 P09AB 4147
 P09AC 2054
 P09AD 4150
 P09AE 4520
 P09AF 2020
 P09BG 2020
 P09B1 2020
 P09B2 2020
 P09B3 2020
 P09B4 2020
 P09B5 2020
 P09B6 2020
 P09B7 2020
 P09B8 2020
 P09B9 2020
 P09BA 2020
 P09BB 2020
 P09BC 2020
 P09BD 2020
 P09BE 3138
 P09BF 3630
 P09CJ 2039
 P09C1 3220
 P09C2 4043
 P09C3 5454
 P09C4 2039
 P09C5 5448
 P09C6 2040
 P09C7 4147
 P09C8 2054
 P09C9 4150
 P09CA 4520
 P09CB 2020
 P09CC 2020
 P09CD 2020
 P09CE 2020
 P09CF 2020
 P09DG 2020
 P09D1 2020
 P09D2 2020
 P09D3 2020
 P09D4 2020
 P09D5 2020
 P09D6 2020
 P09D7 2020
 P09D8 2020
 P09D9 2020
 P09DA 3138
 P09DB 3332
 P09DC 2035
 P09DD 2043
 P09DE 4153
 P09DF 5345

0459

ALF 28,1860-92 LCTT 9TK MAG TAPE

N0500459

0456

ALF 28,1832-5 CASSETTE MAG TAPE

N0500460

P09E0 5454
 P09E1 4520
 P09E2 4041
 P09E3 4720
 P09E4 5441
 P09E5 5045
 P09E6 2020
 P09E7 2020
 P09E8 2020
 P09E9 2020
 P09EA 2020
 P09EB 2020
 P09EC 2020
 P09ED 2020
 P09EE 2020
 P09EF 2020
 P09F0 2020
 P09F1 2020
 P09F2 2020
 P09F3 2020
 P09F4 2020
 P09F5 2020
 P09F6 3138
 P09F7 3333
 P09F8 2035
 P09F9 2046
 P09FA 404F
 P09FB 5050
 P09FC 5920
 P09FD 4449
 P09FE 5348
 P09FF 2020
 P0A00 2020
 P0A01 2020
 P0A02 2020
 P0A03 2020
 P0A04 2020
 P0A05 2020
 P0A06 2020
 P0A07 2020
 P0A08 2020
 P0A09 2020
 P0A0A 2020
 P0A0B 2020
 P0A0C 2020
 P0A0D 2020
 P0A0E 2020
 P0A0F 2020
 P0A10 2020
 P0A11 2020
 P0A12 3138
 P0A13 3333
 P0A14 2031
 P0A15 2053

0-51

ALF 28,1833-5 FLOPPY DISK

N0500461

0452

ALF 28,1833-1 STORAGE MODULE DRIVE 25MB

N0500462

P0A16 544F
 P0A17 5241
 P0A18 4745
 P0A19 204D
 P0A1A 4F44
 P0A1B 554C
 P0A1C 4520
 P0A1D 4452
 P0A1E 4956
 P0A1F 4520
 P0A20 3235
 P0A21 4D42
 P0A22 2020
 P0A23 2020
 P0A24 2020
 P0A25 2020
 P0A26 2020
 P0A27 2020
 P0A28 2020
 P0A29 2020
 P0A2A 2020
 P0A2B 2020
 P0A2C 2020
 P0A2D 2020
 P0A2E 3138
 P0A2F 3333
 P0A30 2031
 P0A31 2053
 P0A32 544F
 P0A33 5241
 P0A34 4745
 P0A35 204D
 P0A36 4F44
 P0A37 554C
 P0A38 4520
 P0A39 4452
 P0A3A 4956
 P0A3B 4520
 P0A3C 3530
 P0A3D 4D42
 P0A3E 2020
 P0A3F 2020
 P0A40 2320
 P0A41 2020
 P0A42 2020
 P0A43 2020
 P0A44 2020
 P0A45 2020
 P0A46 2020
 P0A47 2020
 P0A48 2020
 P0A49 2020
 P0A4A 4431
 P0A4B 3845

0463

ALF 28,1833-1 STORAGE MODULE DRIVE 50MB

N0500463

0464

ALF 28,018EGM EXTENDED CORE DRIVER

N0500464

P0A4C 434D
 P0A4D 2045
 P0A4E 5854
 P0A4F 454E
 P0A50 4445
 P0A51 4420
 P0A52 434F
 P0A53 5245
 P0A54 2044
 P0A55 5249
 P0A56 5555
 P0A57 5220
 P0A58 2020
 P0A59 2020
 P0A5A 2020
 P0A5B 2020
 P0A5C 2020
 P0A5D 2020
 P0A5E 2020
 P0A5F 2020
 P0A60 2020
 P0A61 2020
 P0A62 2020
 P0A63 2020
 P0A64 2020
 P0A65 2020
 P0A66 5053
 P0A67 4555
 P0A68 444F
 P0A69 2044
 P0A6A 4953
 P0A6B 4620
 P0A6C 4452
 P0A6D 4956
 P0A6E 4552
 P0A6F 2020
 P0A70 2020
 P0A71 2020
 P0A72 3020
 P0A73 2020
 P0A74 2020
 P0A75 2020
 P0A76 2020
 P0A77 2020
 P0A78 2020
 P0A79 2020
 P0A7A 2020
 P0A7B 2020
 P0A7C 2020
 P0A7D 2020
 P0A7E 2020
 P0A7F 2020
 P0A80 2020
 P0A81 2020

C465

ALF 28,PSEUDO DISK DRIVER

N0500465

0456
 P0A82 5053
 P0A83 4555
 P0A84 444F
 P0A85 2044
 P0A86 5249
 P0A87 5645
 P0A88 5220
 P0A89 464F
 P0A8A 5220
 P0A8B 4352
 P0A8C 5420
 P0A8D 2020
 P0A8E 2020
 P0A8F 2020
 P0A90 2020
 P0A91 2020
 P0A92 2020
 P0A93 2020
 P0A94 2020
 P0A95 2020
 P0A96 2020
 P0A97 2020
 P0A98 2020
 P0A99 2020
 P0A9A 2031
 P0A9B 3233
 P0A9C 2A34
 P0A9D 3936
 0457 P0A9E 4341
 P0A9F 5254
 P0AA0 5249
 P0AA1 4447
 P0AA2 4520
 P0AA3 4449
 P0AA4 534B
 P0AA5 2044
 P0AA6 5249
 P0AA7 5645
 P0AA8 5220
 P0AA9 342E
 P0AAA 344D
 P0AAB 2020
 P0AAC 2020
 P0AAD 2020
 P0AAE 2020
 P0AAF 2020
 P0AB0 2020
 P0AB1 2020
 P0AB2 2020
 P0AB3 2020
 P0AB4 2020
 P0AB5 2020
 P0AB6 2031
 P0AB7 3233

ALF 28,PSEUDO DRIVER FOR CRT

123*4961*****

ALF 28,CARTRIDGE DISK DRIVER 4.4M

123*4961*****

0+58 POAB8 2A34
 POAB9 3936
 PGABA 4341
 PJABB 5254
 POABC 5249
 POABD 4447
 POABE 4520
 POABF 4449
 POAC0 5348
 POAC1 2044
 PGAC2 5249
 POAC3 55645
 POAC4 5220
 PGAC5 322E
 POAC6 3240
 POAC7 2020
 POAC8 2020
 PGAC9 2020
 POACA 2020
 POACE 2020
 PGACC 2020
 PJACD 2020
 POACE 2020
 POACF 2020
 POADJ 2020
 POAD1 2020
 POAD2 2031
 POAD3 3233
 POAD4 2A34
 POAD5 3936
 0+69 POAD6 5053
 POAD7 4555
 POAD8 444F
 POAD9 2044
 PJADA 5249
 POADB 5645
 POADC 5220
 POADD 464F
 POADE 5220
 POADF 4041
 POAEG 5452
 POAE1 4958
 POAE2 2050
 POAE3 5249
 POAE4 4E54
 POAE5 4552
 POAE6 2020
 POAE7 2020
 POAE8 2020
 POAE9 2020
 POAEA 2020
 POAEB 2020
 POAEC 2020
 POAED 2020

ALF 28,CARTRIDGE DISK DRIVER 2.2M

123*4961*****

ALF 28,PSEUDO DRIVER FOR MATRIX PRINTER

123*4961*****

0470

POAEE 2031
 POAEFF 3233
 POAF0 2A34
 POAF1 3936
 POAF2 5441
 POAF3 4220
 POAF4 4341
 POAF5 5244
 POAF6 2650
 POAF7 554E
 POAF8 4348
 POAF9 2044
 POAFA 5249
 POAFB 5645
 POAFC 5220
 POAFD 2020
 POAFE 2020
 POAFF 2020
 POB00 2020
 POB01 2020
 POB02 2020
 POB03 2020
 POB04 2020
 POB05 2020
 POB06 2020
 POB07 2020
 POB08 2020
 POB09 2020
 POB0A 2031
 POB0B 3233
 POB0C 2A34
 POB0D 3936

ALF 28,TAB CARD PUNCH DRIVER

123*4951*****

0471

0472

0473

0888
 004E
 POB0E 554E
 POB0F 4445
 POB10 4649
 POB11 4E45
 POB12 4420
 POB13 4445
 POB14 5649
 POB15 4345
 POB16 2020
 POB17 2020
 POB18 2020
 POB19 2020
 POB1A 2020
 POB1B 2020
 POB1C 2020
 POB1D 2020
 POB1E 2020
 POB1F 2020
 POB20 2020

* NEW ENTRIES SHOULD BE ADDED IN FRONT OF THIS RECORD
 EQU NLJLGT(*-LUDESC),NLU(NLJLGT/28)

ALF 28,UNDEFINED DEVICE

N0500466

N0500467

N0500468

PG821 2020
PG822 2020
PG823 2020
PG824 2020
PG825 2020
PG826 2020
PG827 2020
PG828 2020
PG829 2020

0474

END

NU500469

PGM= 062A (2858) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0070, 0091, 0115, 0119, 0121, 0123, 0128, 0151, 0155, 0233, 0235, 0260, 0274, 0284, 0289, 0296
0018	TEN	0046 (000070)	0205, 0310
0019	M00FF	000A (000010)	0277, 0281
0020	ZERO	0022 (00003+)	0115, 0231, 0244, 0256, 0261, 0275, 0280, 0285
0021	AMONI	00F4 (00024+)	0176
0022	LUCMNT	00FC (000252)	0144, 0173, 0189, 0192
0023	LUMM	00C2 (000194)	0133
0024	Y00GF	0006 (000006)	0247
0025	EXTBV4	00E9 (000233)	0133
0026	M007F	0009 (000009)	0049, 0084, 0257
0027	LISTLU	00FB (000251)	0064, 0102, 0104, 0169, 0292
0028	ADISP	00EA (000234)	0065, 0105, 0141, 0145, 0170, 0174, 0190, 0193, 0293
0029	P	0004 (000004)	0064, 0064, 0102, 0102, 0104, 0104, 0138, 0138, 0144, 0144, 0169, 0169, 0173, 0173, 0189, 0189
			0192, 0192, 0292, 0292
0030	Y0007	0005 (000005)	0074
0031	EREQST	0008 (000008)	0047, 0071
0472	NLULGT	0888 (002184)	0472
0472	NLU	004E (000078)	0086, 0088

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	EFLIST	0000	
0038	VECTOR	0005	0036
0046	FLOPPY	000B	0053, 0076
0053	FLOP1	0012	0051
0061	ALLLU	0013	0038, 0222
0064	BIGHDR	0016	0064, 0064, 0213
0066	MAXLU	001E	0062, 0164
0067	V28	001F	0090
0068	ALOOP	0020	0064, 0167
0082	VOTMMP	0031	0073, 0080
0089	OKTYPE	0038	0087
0093	MCVMOR	003C	0097
0098	MDESC	0043	0096
0102	PHDR2	0048	0102
0104	PHDR3	004F	0104, 0104
0106	YMCTR	0057	0113, 0125, 0126
0107	MMFLAG	0058	0077
0108	RQ	0059	0072, 0082
0109	CPHDR3	005A	0104
0112	MM	005E	0110
0116	LOOKHM	0063	0129
0123	CURR	006A	0118
0125	VOCURR	006D	0122
0130	ALLMM	0072	0127
0131	CURRLU	0074	0068, 0098, 0117, 0134, 0163, 0165, 0207
0132	VOMM	0075	0111
0138	YMDTA	007A	0138, 0138
0140	MMLSB	0082	0136
0142	CMMDTA	0084	0138
0144	ERRMM	0085	0144, 0144
0146	YCTR	008D	0153, 0156, 0157
0147	LX	008E	0142
0148	OWWA	008F	0147, 0149, 0150
0154	GPDATA	0096	0159
0160	NXTLU	009D	0130, 0158
0163	YANYLU	00A1	0081, 0161
0169	FINFRM	00AA	0162, 0166, 0169, 0169
0171	CDATA	00B2	0138, 0150
0173	FINISH	0112	0144, 0169, 0173, 0173
0175	MSGEND	011A	0173
0176	MEND	0123	0173

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0014	LOG1A	0155	0061, 0069, 0208
0015	MMEF	0061	0114

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0028	ALLLU	0061	ALLMM	0130	ALOOP	0068	AMONI	0021	ASKC	0192	ASKMSG	0191	ATHRUF	0367	BIGHDR	0064
CO1	0357	CO2	0358	CDATA	0171	CHAR	0359	CMMDTA	0142	COBUFF	0295	CPHDR3	0109	CURR	0123	CURRLU	0131
EFLIST	0033	EREQST	0031	ERRMM	0144	EXTBV4	0025	FINFRM	0169	FINISH	0173	FLOP1	0053	FLOPPY	0046	FOWWA	0148
GETLU	0189	GOODLU	0213	GPDATA	0154	HDR1	0376	HDR2	0379	HDR3	0382	HEXASC	0341	HXDC	0315	HXDCU	0308
I	0000	ISAVE	0299	ISDATA	0237	LISTLU	0027	LOG1A	0014	LOOKMM	0116	LUBUF	0194	LUCMNT	0022	LUDESC	0393
LJMY	0023	LURDOK	0198	LX	0147	M0007	0030	M000F	0024	M007F	0026	M00FF	0019	MANYLU	0163	MAXLU	0066
MCTR	0146	MDESC	0098	MENJ	0176	MERRMM	0384	MM	0112	MMCTR	0106	MMDTA	0138	MMEF	0015	MMFLAG	0107
MM_SB	0140	MMLU	0221	MMLUS	0180	MONTH	0385	MOV MOR	0093	MSGEND	0175	N100	0333	N1000	0332	N28	0067
N3030	0238	NLU	0472	NLULGT	0472	NOCURR	0125	NOMM	0132	NOTMHP	0082	NXTLU	0160	OBUFF	0294	OKTYPE	0089
ONELU	0188	ONELUF	0179	P	0029	PDATA	0230	PGMADR	0178	PHDR2	0102	PHJR3	0104	READLU	0196	RQ	0108
S1000	0331	TEMP	0300	TEN	0018	UNIT	0195	VECTOR	0038	WOBUFF	0292	ZERO	0020				

```

0001      NAM MIPRO          DECK-ID N06  MSOS 5.0          SUMMARY-110N0600001
0002      *      MANUAL INTERRUPT RESPONSE HANDLER FOR INPUTS OTHER THAN *      N06000002
0003      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N06000003
0004      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N06000004
0005      *      COPYRIGHT CONTROL DATA CORPORATION 1976      N06000005

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0007      *      THE PROGRAM BASICALLY INVOLVES ENTRY FROM MINT (IN      **MSOS 4.1**N06000007
0008      *      MONITOR) WHEN THE FIRST CHARACTER INPUT AFTER A MANUAL **MSOS 4.1**N06000008
0009      *      INTERRUPT IS NOT AN *. IF THE INPUT CHARACTER STRING **MSOS 4.1**N06000009
0010      *      IS MATCHED IN TABLE -FUNCTN-, THE REQUESTED ACTION IS **MSOS 4.1**N06000010
0011      *      TAKEN. IF THE ACTION INVOLVES STARTING OR STOPPING A **MSOS 4.1**N06000011
0012      *      TIMER AND A REJECT IS FOUND, THE MESSAGE -TIMER REJECT- **MSOS 4.1**N06000012
0013      *      UNLINKED, OR THE INPUT IS OTHERWISE IN ERROR, THE **MSOS 4.1**N06000013
0014      *      MESSAGE, -MI INPJT ERROR IS PRINTED. THE FOLLOWING **MSOS 4.1**N06000014
0015      *      LIST OF INPJT CODES IS CONSIDERED BASIC TO THE PROGRAM. **MSOS 4.1**N06000015
0016      *      ADDITIONS TO THIS LIST MAY BE MADE BY USERS AS REQUIRED **MSOS 4.1**N06000016

```

```

0018      *      INPUT      FUNCTION      **MSOS 4.1**N06000018
0020      *      =S      FOR SCHEDULING SYSTEM LIBRARY ORDINAL WITH **MSOS 4.1**N06000020
0021      *      THE INPUT FORMAT =SXXX,Y,ZZZZ WHERE XXX IS **MSOS 4.1**N06000021
0022      *      THE 3-DIGIT DECIMAL ORDINAL NUMBER (NUMBER **MSOS 4.1**N06000022
0023      *      CORRESPONDS TO DIRECTORY POSITION), Y IS **MSOS 4.1**N06000023
0024      *      THE HEX PRIORITY FOR EXECUTION, AND ZZZZ **MSOS 4.1**N06000024
0025      *      IS A HEX PARAMETER PASSED TO THE PROGRAM **MSOS 4.1**N06000025
0026      *      IN THE Q-REGISTER. **MSOS 4.1**N06000026

0028      *      SCMM      SCHEDULES ON-LINE SMALL COMPUTER MAINTENANCE **MSOS 4.1**N06000028
0029      *      MONITOR (SCMM-17) LOADED UNDER ORDINAL **MSOS 4.1**N06000029
0030      *      NAME SCMM17 **MSOS 4.1**N06000030

0032      *      EF      SCHEDULES ORDINAL EFLIST TO PRINT **MSOS 4.1**N06000032
0033      *      ENGINEERING FILE DATA FOR ALL LOGICAL **MSOS 4.1**N06000033
0034      *      UNITS **MSOS 4.1**N06000034

0036      *      EFMM      SCHEDULES ORDINAL EFLIST TO PRINT **MSOS 4.1**N06000036
0037      *      ENGINEERING FILE DATA FOR MASS MEMORY **MSOS 4.1**N06000037
0038      *      UNITS **MSOS 4.1**N06000038

0040      *      EFLU      SCHEDULES ORDINAL EFLIST TO PRINT **MSOS 4.1**N06000040
0041      *      ENGINEERING FILE DATA FOR SPECIFIED **MSOS 4.1**N06000041
0042      *      LOGICAL UNIT **MSOS 4.1**N06000042

0044      *      TON      STARTS SYSTEM HARDWARE TIME BASE AS DEFINED **MSOS 4.1**N06000044
0045      *      IN SYSDAT **MSOS 4.1**N06000045

0047      *      TOFF      STOPS SYSTEM HARDWARE TIME BASE AS DEFINED **MSOS 4.1**N06000047
0048      *      IN SYSDAT **MSOS 4.1**N06000048

```

0050	*	SYSCOP	SCHEDULES SYSTEM CHECKOUT PACKAGE LOADED	**MSOS	4.1**N0600050
0051	*		JNDER ORDINAL NAME SYSCOP	**MSOS	4.1**N0600051
0053	*	DB	STARTS ON-LINE DEBUG PACKAGE, ODEBEG, LOADED	**MSOS	4.1**N0600053
0054	*		JNDER ORDINAL NAME ODEBEG.	**MSOS	4.1**N0600054
0056	*	DX	STOPS ON-LINE DEBUG PACKAGE BY CLEARING	**MSOS	4.1**N0600056
0057	*		CHRSFG IN SYSDAT	**MSOS	4.1**N0600057
0059	*	DATE	ALLOWS THE USER TO ENTER A NEW DATE AND	**MSOS	4.1**N0600059
0060	*		TIME. ROUTINE IS A SUB-FUNCTION OF TDFUNC	**MSOS	4.1**N0600060
0061	*		LOADED UNDER ORDINAL NAME TDFUNC.	**MSOS	4.1**N0600061
0063	*	TIME	CAUSES THE CURRENT DATE AND TIME TO BE	**MSOS	4.1**N0600063
0064	*		PRINTED ON THE COMMENT UNIT. ROUTINE IS A	**MSOS	4.1**N0600064
0065	*		SUB-FUNCTION OF TDFUNC LOADED UNDER	**MSOS	4.1**N0600065
0066	*		ORDINAL NAME TDFUNC.	**MSOS	4.1**N0600066
0068	*	VERIFY	SCHEDULES THE MSOS VERIFICATION PACKAGE LOADED		N0600068
0069	*		JNDER ORDINAL NAME VERIFY.		N0600069
0071	*	TSUT	SCHEDULES THE TIMESHARE UTILITY PACKAGE	**MSOS	4.1**N0600071
0072	*		LOADED UNDER ORDINAL NAME TSUTIL. THIS IS	**MSOS	4.1**N0600072
0073	*		A PART OF THE TIMESHARE 1.0 PRODUCT.	**MSOS	4.1**N0600073
0075	*	DACS	SCHEDULES THE DATA ACQUISITION AND CONTROL	**MSOS	4.1**N0600075
0076	*		SUBSYSTEM LOADED UNDER ORDINAL NAME INDACS	**MSOS	4.1**N0600076
0077	*		THIS IS A PART OF THE AUTRAN 2.0 PRODUCT.	**MSOS	4.1**N0600077
0079	*	WRON,LU	ENABLE THE WRITE RING FEATURE ON THE MAG TAPE		N0600079
0080	*		SIMULATOR SPECIFIED BY LU.		N0600080
0082	*	WROF,LU	DISABLE THE WRITE RING FEATURE ON THE MAG TAPE		N0600082
0083	*		SIMULATOR SPECIFIED BY LU.		N0600083
0085	*	QUESTION MARK-----	SCHEDULES CORE RESIDENT PROGRAM CRIMPT		N0600085
0086	*		TO INITATE IMPORT PACKAGE THIS IS A		N0600086
0087	*		PART OF THE IMPORT PRODUCT		N0600087

```

0089 * THE TABLE -FUNCTN- CONTAINS A 6-WORD DATA BLOCK FOR EACH **MSOS 4.1**N0600089
0090 * PARAMETERIZED INPUT MNEMONIC. THE DATA BLOCK IS **MSOS 4.1**N0600090
0091 * DEFINED AS FOLLOWS... **MSOS 4.1**N0600091

0093 * WORDS 0-1 A MNEMONIC CODE WHICH MAY CONTAIN **MSOS 4.1**N0600093
0094 * 2-4 CHARACTERS. UNUSED CHARACTERS **MSOS 4.1**N0600094
0095 * MUST BE SPACES. ANY LEGAL ASCII **MSOS 4.1**N0600095
0096 * CODE MAY BE USED BUT A SPACE. **MSOS 4.1**N0600096

0098 * WORD 2 THE RELATIVE DISTANCE BETWEEN THE **MSOS 4.1**N0600098
0099 * LABEL JMP AND ANY DESIRED FUNCTION **MSOS 4.1**N0600099
0100 * PRE-PROCESSOR. IF A DATA STRING **MSOS 4.1**N0600100
0101 * FOLLOWS THE MNEMONIC, THE PRE- **MSOS 4.1**N0600101
0102 * PROCESSOR MAY BE USED FOR ITS **MSOS 4.1**N0600102
0103 * ANALYSIS. IN THIS CASE, THE **MSOS 4.1**N0600103
0104 * ADDRESS OF THE INPUT BUFFER IS **MSOS 4.1**N0600104
0105 * CONTAINED IN LOCATION, QSAVE. IF **MSOS 4.1**N0600105
0106 * NO PRE-PROCESSING IS REQUIRED, **MSOS 4.1**N0600106
0107 * CONTROL SHOULD BE PASSED TO LABEL, **MSOS 4.1**N0600107
0108 * GETIND. **MSOS 4.1**N0600108

0110 * WORD 3 A SCHEDULER CALL (SYSCHD TYPE) FOR THE **MSOS 4.1**N0600110
0111 * DESIRED PROCESSOR **MSOS 4.1**N0600111

0113 * WORD 4 AN INDEX TO THE ORDINAL TABLE (ORDTBL) **MSOS 4.1**N0600113
0114 * SET TO $FFFF IF NO ORDINAL **MSOS 4.1**N0600114

0116 * WORD 5 THE PARAMETER TO BE PASSED TO THE **MSOS 4.1**N0600116
0117 * PROCESSOR PROGRAM IN THE Q- **MSOS 4.1**N0600117
0118 * REGISTER. **MSOS 4.1**N0600118

0120 * EACH ENTRY IN THIS TABLE MUST CONTAIN SIX WORDS EVEN IF **MSOS 4.1**N0600120
0121 * LESS ARE USED. A SAMPLE ENTRY FOLLOWS... **MSOS 4.1**N0600121

0123 * ALF 2,SAMPLE MNEMONIC NAME **MSOS 4.1**N0600123
0124 * ADC PREPRO-JMP INCREMENT FROM PRE-PROCESSOR TO **MSOS 4.1**N0600124
0125 * JMP LABEL **MSOS 4.1**N0600125
0126 * NUM $240X SYSTEM SCHEDULER CALL AT PRIORITY **MSOS 4.1**N0600126
0127 * X. **MSOS 4.1**N0600127
0128 * NUM X OR $FFFF WHERE X IS THE INDEX TO TABLE ORDTBL **MSOS 4.1**N0600128
0129 * $FFFF IS USED IF NO ORDINAL REQUIRED **MSOS 4.1**N0600129
0130 * NUM XXXX PARAMETER TO BE PASSED IN THE Q- **MSOS 4.1**N0600130
0131 * REGISTER. **MSOS 4.1**N0600131

```


0133		* PROGRAM ENTRY POINTS		**MSOS 4.1**N0600133
0134		ENT MIPROC	TRANSFER ADDRESS	**MSOS 4.1**N0600134
0136		* PROGRAM EXTERNAL POINTS		**MSOS 4.1**N0600136
0137		EXT LOG1A	TABLE OF P.D.T. ADDRESSES	**MSOS 4.1**N0600137
0138		EXT MIBX	MANUAL INTERRUPT BUSY FLAG	**MSOS 4.1**N0600138
0139		EXT CHRSG	ODEBUG ACTIVE FLAG	**MSOS 4.1**N0600139
0140		EXT SCMLC	SCMM-17 ACTIVE FLAG	N0600140
0141		EXT SYSCOP	SYSTEM CHECKOUT ORDINAL	**MSOS 4.1**N0600141
0142		EXT ODEBUD	ON-LINE DEBUG ORDINAL	**MSOS 4.1**N0600142
0143		EXT ODBSIZ	ON-LINE DEBUG OVERLAY SIZE	N0600143
0144		EXT EFLIST	ENGINEERING FILE LIST ORDINAL	**MSOS 4.1**N0600144
0145		EXT IDFJNC	TIME/DATE FUNCTION ORDINAL	**MSOS 4.1**N0600145
0146		EXT VERIFY	MSOS VERIFICATION ORDINAL	N0600146
0147		EXT TSUTIL	TIMESHARE UTILITIES ORDINAL	**MSOS 4.1**N0600147
0148		EXT INDACS	DACS ORDINAL	**MSOS 4.1**N0600148
0149		EXT SCMM17	SCMM ORDINAL NAME	**MSOS 4.1**N0600149
0150		EXT IMRTYP	TIMER TYPE DESIGNATOR	**MSOS 4.1**N0600150
0151		EXT TMCODE	TIMER TYPE CODE	**MSOS 4.1**N0600151
0152		EXT H15721	1572-1 HISTORY WORD	**MSOS 4.1**N0600152
0153		EXT E1572	1572 BASIC W,E,S WORD	**MSOS 4.1**N0600153
0154		EXT E1572F	FUNCTION CODE TO ENABLE 1572	**MSOS 4.1**N0600154
0155		EXT O1572	1572 OSCILLATOR FREQ./CLOCK FREQ.	**MSOS 4.1**N0600155
0156		EXT E1573	1573 BASIC W,E,S WORD	**MSOS 4.1**N0600156
0157		EXT E15721	1572-1 BASIC W,E,S WORD - FUNCTION	**MSOS 4.1**N0600157
0158		EXT O15721	1572-1 BASIC W,E,S WORD - DATA	**MSOS 4.1**N0600158
0159		EXT O15721	SRG TIME BASE/CLOCK FREQ.	**MSOS 4.1**N0600159
0160		EXT EQ3644	FUNCTION CODE FOR COMM. MUX	**MSOS 4.1**N0600160
0161		EXT E10336	10336-1 BASIC W,E,S WORD	N0600161
0162		EXT O10336	10336-1 CLOCK REGISTER VALUE	N0600162
0163		EXT F10336	ENABLE 10335-1	N0600163
0164		EXT CRIMPT	IMPORT INPUT ENTRY	N0600164
0166		* PROGRAM EQUIVALENCES		**MSOS 4.1**N0600166
0167	0002	EQU LPMASK(\$2)	RIGHT JUSTIFIED MASKS	**MSOS 4.1**N0600167
0168	0012	EQU NZERO(\$12)	LEFT JUSTIFIED MASKS	**MSOS 4.1**N0600168
0169	0023	EQU ONEBIT(\$23)	SINGLE BIT MASKS	**MSOS 4.1**N0600169
0170	0022	EQU ZERO(\$22)	CELL CONTAINING ZERO	**MSOS 4.1**N0600170
0171	0025	EQU FOUR(\$25)	CELL CONTAINING FOUR	**MSOS 4.1**N0600171
0172	0044	EQU SIX(\$44)	CELL CONTAINING SIX	**MSOS 4.1**N0600172
0173	00EA	EQU ADISP(\$EA)	ADDRESS OF DISPATCHER	**MSOS 4.1**N0600173
0174	00F4	EQU AMONI(\$F4)	ADDRESS OF MONITOR	**MSOS 4.1**N0600174

```

0176 P0000 0A00 MIPRO ENA 0 INITIALIZE INDEX **MSOS 4.1**N0600176
0177 P0001 60FF STA- I **MSOS 4.1**N0600177
0178 P0002 684E STA* ISAVE **MSOS 4.1**N0600178
0179 P0003 4849 STQ* QSAVE SAVE LOCATION OF INPUT CHAR BUFFER **MSOS 4.1**N0600179
0180 P0004 4800 STQ QDACS SAVE INPUT BUFFER LOC IF DACS ENT **MSOS 4.1**N0600180
      P0005 00A2

0182 * CHECK FOR QJESTION MARK ENTRY FOR IMPORT N0600182
0183 P0006 C622 LDA- (ZERO),Q LOOK AT FIRST CHARACTER N0600183
0184 P0007 A01A AND- NZERO+8 N0600184
0185 P0008 B000 EOR =N$3F00 CHECK FOR QUESTION MARK N0600185
      P0009 3F00

0186 P000A 0119 SAN REPEAT SKIP IF NOT N0600186
0187 P000B C806 LDA* IMPT CHECK IF IMPORT HANDLER LINKED N0600187
0188 P000C BC11 EOR- LPMSK+15 N0600188
0189 P000D 0111 SAN QSKED N0600189
0190 P000E 1829 JMP* JMP NOT LINKED-ERROR N0600190
0191 P000F 54F4 QSKED RTJ- (A0NI) SCHEDULE IMPORT HANDLER N0600191
0192 P0010 5206 NUM $5206 PASS BUFFER ADDRESS IN Q-REG. N0600192
0193 P0011 7FFF X IMPT ADC CRIMPT N0600193
0194 P0012 1800 JMP MIDONE EXIT MIPRO N0600194
      P0013 0111

0196 REPEAT LDQ* QSAVE **MSOS 4.1**N0600196
0197 P0015 C622 LDA- (ZERO),Q PICKUP FIRST 2 CHAR INPUT **MSOS 4.1**N0600197
0198 P0016 9938 SUB* FUNCTN,I DO THEY MATCH **MSOS 4.1**N0600198
0199 P0017 0101 SAZ CHAR2 YES **MSOS 4.1**N0600199
0200 P0018 1821 JMP* NEXT NO, TRY AGAIN **MSOS 4.1**N0600200

0202 CHAR2 LDA* FUNCTN+1,I **MSOS 4.1**N0600202
0203 P001A 9000 SUB =A IS THIS A 2 CHARACTER INPUT **MSOS 4.1**N0600203
      P001B 2020

0204 P001C 0113 SAN NOT2 NO **MSOS 4.1**N0600204
0205 P001D C0FF LDA- I SAVE INDEX TO 2 CHAR INPUT MATCH **MSOS 4.1**N0600205
0206 P001E 682D STA* FOUND2 **MSOS 4.1**N0600206
0207 P001F 181A JMP* NEXT CONTINUE TO SEE IF 3 OR 4 CHAR **MSOS 4.1**N0600207
0208 P0020 C92F NOT2 LDA* FUNCTN+1,I **MSOS 4.1**N0600208
0209 P0021 A00A AND- LPMSK+3 NO, IS IT 3 CHARACTERS **MSOS 4.1**N0600209
0210 P0022 09DF INA -$20 **MSOS 4.1**N0600210
0211 P0023 011D SAN CHAR4 NO, IT IS 4 CHAR. **MSOS 4.1**N0600211
0212 P0024 C201 LDA- 1,Q 3 CHARACTER INPUT **MSOS 4.1**N0600212
0213 P0025 0FC8 ALS 8 MERGE THE 4TH CHAR OF THE INPUT **MSOS 4.1**N0600213
0214 P0026 E929 LDQ* FUNCTN+1,I WITH THE 3RD CHAR OF THE FUNCTION **MSOS 4.1**N0600214
0215 P0027 0F28 QRS 8 **MSOS 4.1**N0600215
0216 P0028 0F68 LRS 8 **MSOS 4.1**N0600216
0217 P0029 6926 STA* FUNCTN+1,I **MSOS 4.1**N0600217
0218 P002A E822 LDQ* QSAVE **MSOS 4.1**N0600218
0219 P002B C924 LDA* FUNCTN+1,I SEE IF THREE CHAR MATCH **MSOS 4.1**N0600219
0220 P002C 9201 SUB- 1,3 **MSOS 4.1**N0600220
0221 P002D 011B SAN NEXT SKIP IF NO MATCH **MSOS 4.1**N0600221
0222 P002E C0FF LDA- I SAVE INDEX TO 3 CHAR MATCH **MSOS 4.1**N0600222
0223 P002F 681B STA* FOJND3 **MSOS 4.1**N0600223

```

0224 P0030 18C9
 0225 P0031 C91E
 0226 P0032 9201
 0227 P0033 0115

 0229 P0034 C91C
 0230 P0035 09FE
 0231 P0036 6802
 0232 P0037 1800
 P0038 0164

CHAR4

FOUND

JMP

JMP* NEXT
 LDA* FUNCTN+1,I
 SUB- 1,2
 SAN NEXT

 LDA* FJUNCTN+2,I
 INA -1
 STA* JMP+1
 JMP ERROR

SEE IF SIMILAR 4 CHAR MATCH
 DO THE SECOND SET OF CHAR MATCH
 NO

YES, PROCESS THE REQUEST

MSOS 4.1N0600224
 MSOS 4.1N0600225
 MSOS 4.1N0600226
 MSOS 4.1N0600227

 MSOS 4.1N0600229
 MSOS 4.1N0600230
 MSOS 4.1N0600231
 MSOS 4.1N0600232

```

0235 P0039 D814
0236 P003A C813
0237 P003B 2044
0238 P003C 60FF
0239 P003D 9877
0240 P003E 0121
0241 P003F 18D4

```

```

NEXT RAO* ISAVE
LDA* ISAVE
MUI- SIX
STA- I
SUB* MAX
SAP FINI
JMP* REPEAT

```

```

SET UP FOR NEXT GROUP
ARE WE THROUGH
YES
NO, TRY AGAIN

```

```

**MSOS 4.1**N0600235
**MSOS 4.1**N0600236
**MSOS 4.1**N0600237
**MSOS 4.1**N0600238
**MSOS 4.1**N0600239
**MSOS 4.1**N0600240
**MSOS 4.1**N0600241

```

```

0243 P0040 E80C
0244 P0041 C809
0245 P0042 0132
0246 P0043 60FF
0247 P0044 18EF
0248 P0045 C806
0249 P0046 0131
0250 P0047 18FB
0251 P0048 1800
P0049 0153

```

```

FINI LDQ* QSAVE
LDA* FOUND3
SMALL SAM TRY2
STA- I
JMP* FOUND
TRY2 LDA* FOUND2
SAM GERROR
JMP* SMALL
GERROR JMP ERROR

```

```

SEE IF 3 CHAR MATCH FOUND
SKIP IF NOT
SETUP MATCH INDEX
PROCESS INPUT
SEE IF 2 CHAR MATCH
SKIP IF NO
PROCESS INPUT
ILLEGAL REQUEST

```

```

**MSOS 4.1**N0600243
**MSOS 4.1**N0600244
**MSOS 4.1**N0600245
**MSOS 4.1**N0600246
**MSOS 4.1**N0600247
**MSOS 4.1**N0600248
**MSOS 4.1**N0600249
**MSOS 4.1**N0600250
**MSOS 4.1**N0600251

```

```

0253 P004A FFFE FOUND3 NUM -1
0254 P004B FFFE FOUND2 NUM -1
0255 P004C 0000 QSAVE NUM 0
0256 P004D 0000 ISAVE NUM 0

```

```

**MSOS 4.1**N0600253
**MSOS 4.1**N0600254
**MSOS 4.1**N0600255
**MSOS 4.1**N0600256

```

0258	P004E 3053	FUNCTN ALF	2,=S	=S SCHEDULE ORDINAL	**MSOS 4.1**N0600258
	P004F 2020				
0259	P0050 019F	ADC	EQJALS-JMP		**MSOS 4.1**N0600259
0250	P0051 2404	NUM	\$2404		N0600250
0251	P0052 FFFF	NUM	FFFF		**MSOS 4.1**N0600261
0262	P0053 0000	NUM	0		**MSOS 4.1**N0600252
0264	P0054 5343	ALF	2,SCMM	SMALL COMPUTER MAINTENANCE MONITOR	**MSOS 4.1**N0600264
	P0055 4040				
0265	P0056 0185	ADC	SCMM-JMP		**MSOS 4.1**N0600265
0266	P0057 2404	NUM	\$2404		N0600266
0267	P0058 0000	NUM	0	SCMM17	N0600267
0268	P0059 0000	NUM	0		**MSOS 4.1**N0600268
0270	P005A 4546	ALF	2,EF	EF LIST ALL UNITS	**MSOS 4.1**N0600270
	P005B 2020				
0271	P005C 0004	ADC	GETIND-JMP		**MSOS 4.1**N0600271
0272	P005D 2404	NUM	\$2404		N0600272
0273	P005E 0001	NUM	1	EFLIST	N0600273
0274	P005F 0000	NUM	0		**MSOS 4.1**N0600274
0276	P0060 4546	ALF	2,EFMM	EF LIST MASS MEMORY	**MSOS 4.1**N0600276
	P0061 4040				
0277	P0062 0004	ADC	GETIND-JMP		**MSOS 4.1**N0600277
0278	P0063 2404	NUM	\$2404		N0600278
0279	P0064 0001	NUM	1	EFLIST	N0600279
0280	P0065 0002	NUM	2		**MSOS 4.1**N0600280
0282	P0066 4546	ALF	2,EFLU	EF LIST SPECIFIED LU	**MSOS 4.1**N0600282
	P0067 4055				
0283	P0068 0004	ADC	GETIND-JMP		**MSOS 4.1**N0600283
0284	P0069 2404	NUM	\$2404		N0600284
0285	P006A 0001	NUM	1	EFLIST	N0600285
0286	P006B 0001	NUM	1		**MSOS 4.1**N0600286
0288	P006C 544F	ALF	2,TON	START TIMER	**MSOS 4.1**N0600288
	P006D 4E20				
0289	P006E 0086	ADC	TIMER-JMP		**MSOS 4.1**N0600289
0290	P006F 2404	NUM	\$2404		N0600290
0291	P0070 FFFF	NUM	FFFF		**MSOS 4.1**N0600291
0292	P0071 0000	NUM	0		**MSOS 4.1**N0600292
0294	P0072 544F	ALF	2,TOFF	STOP TIMER	**MSOS 4.1**N0600294
	P0073 4646				
0295	P0074 00FA	ADC	MOTIME-JMP		**MSOS 4.1**N0600295
0296	P0075 2404	NUM	\$2404		N0600296
0297	P0076 FFFF	NUM	FFFF		**MSOS 4.1**N0600297

0298	PG077	0000	NUM	0		**MSOS 4.1**N0600298
0300	P0078	5359	ALF	2,SYSCJP	SYSTEM CHECKOUT	**MSOS 4.1**N0600300
	P0079	5343				
0301	P007A	0004	ADC	GETIND-JMP		**MSOS 4.1**N0600301
0302	P007B	2404	NUM	\$2404		N0600302
0303	P007C	0002	NUM	2	SYSCOP	N0600303
0304	P007D	0000	NUM	0		**MSOS 4.1**N0600304
0306	P007E	4442	ALF	2,DB	START ODEBUG	**MSOS 4.1**N0600306
	P007F	2020				
0307	P0080	018F	ADC	DB-JMP		**MSOS 4.1**N0600307
0308	PG081	2404	NUM	\$2404		N0600308
0309	PJ082	0003	NUM	3	ODEBUG	N0600309
0310	P0083	0000	NUM	0		**MSOS 4.1**N0600310
0312	P0084	4458	ALF	2,JX	STOP ODEBUG	**MSOS 4.1**N0600312
	P0085	2020				
0313	P0086	019A	ADC	DX-JMP		**MSOS 4.1**N0600313
0314	P0087	2404	NUM	\$2404		N0600314
0315	P0088	FFFF	NUM	FFFF		**MSOS 4.1**N0600315
0316	P0089	0000	NUM	0		**MSOS 4.1**N0600316
0318	P008A	4441	ALF	2,DATE	ENTER DATE/TIME	**MSOS 4.1**N0600318
	P008B	5445				
0319	P008C	0004	ADC	GETIND-JMP		**MSOS 4.1**N0600319
0320	P008D	2404	NUM	\$2404		N0600320
0321	P008E	0004	NUM	4	TDFUNC	N0600321
0322	P008F	0001	NUM	1		**MSOS 4.1**N0600322
0324	P0090	5645	ALF	2,VERIFY	MSOS VERIFICATION	N0600324
	P0091	5249				
0325	P0092	0004	ADC	GETIND-JMP		N0600325
0326	P0093	2404	NUM	\$2404		N0600326
0327	P0094	0005	NUM	5	VERIFY	N0600327
0328	P0095	0000	NUM	0		N0600328
0330	P0096	5449	ALF	2,TIME	PRINT CURRENT DATE AND TIME	**MSOS 4.1**N0600330
	P0097	4045				
0331	P0098	0004	ADC	GETIND-JMP		**MSOS 4.1**N0600331
0332	P0099	2404	NUM	\$2404		N0600332
0333	PG09A	0004	NUM	4	TDFUNC	N0600333
0334	P009B	0002	NUM	2		**MSOS 4.1**N0600334
0336	P009C	5453	ALF	2,TSUT	TIMESHARE UTILITIES	**MSOS 4.1**N0600336
	P009D	5554				

0337 P009E 0004 ADC GETIND-JMP
 0338 P009F 2404 NUM \$2404
 0339 P00A0 0006 NUM 6
 0340 P00A1 0000 NUM 0

TSUTIL

MSOS 4.1N0600337
 N0600338
 N0600339
 MSOS 4.1N0600340

0342 P00A2 4441 ALF 2,JACS
 P00A3 +353
 0343 P00A4 0004 ADC GETIND-JMP
 0344 P00A5 2407 NUM \$2407
 0345 P00A6 0007 NUM 7
 0346 P00A7 0000 NUM 0

QDACS

DACS

INDACS

MSOS 4.1N0600342
 MSOS 4.1N0600343
 N0600344
 N0600345
 MSOS 4.1N0600346

0348 P00A8 5752 ALF 2,WRON
 P00A9 4F4E
 0349 P00AA 0130 ADC WRNGON-JMP
 0350 P00AB 2402 NUM \$2402
 0351 P00AC FFFF NUM \$FFFF
 0352 P00AD 0000 NUM 0

ENABLE WRITE RING

N0600348
 N0600349
 N0600350
 N0600351
 N0600352

0354 P00AE 5752 ALF 2,WROF
 P00AF 4F4E
 0355 P00B0 0132 ADC WRNGOF-JMP
 0356 P00B1 2402 NUM \$2402
 0357 P00B2 FFFF NUM \$FFFF
 0358 P00B3 0000 NUM 0

DISABLE WRITE RING

N0600354
 N0600355
 N0600356
 N0600357
 N0600358

0350 P00B4 0066 MAX ADC *-FJNCTN
 0361 P00B5 7FFF X ORDT3L ADC SCMM17
 0352 P00B6 7FFF X ADC EFLIST
 0353 P00B7 7FFF X ADC SYSCOP
 0354 P00B8 7FFF X ADC ODEBUG
 0355 P00B9 7FFF X ADC TDFUNC
 0366 P00BA 7FFF X ADC VERIFY
 0357 P00BB 7FFF X ADC TSUTIL
 0358 P00BC 7FFF X ADC INDACS

FUNCTION TABLE SIZE
ORDINAL TABLE FOR MNEMONICS

MSOS 4.1N0600360
 N0600361
 N0600362
 N0600363
 N0600364
 N0600365
 N0600366
 N0600367
 N0600368

```

0370 *
0371 *
0372 *
0373 *
0374 *
0375 *
0376 *
0377 *
0378 *
0379 *
0380 *
0381 *
0382 *
0383 *
0384 *
0385 *
0386 *
0387 *
0388 *
0389 *
0390 *
0391 *
0392 *
0393 *
0394 *
0395 *
0396 *
0397 *
0398 *
0399 *
0400 *
0401 *
0402 *
0403 *
0404 *
0405 *
0406 *
0407 *
0408 *
0409 *
0410 *
0411 *
0412 *
0413 *
0414 *
0415 *
0416 *

```

TIMER INITIATION CODING

TIMER STARTING SEQUENCE IS BASED ON THE TIMER TYPE

PG00B0	E0000	X	TIMER	LDQ	=XLOG1A		
PG00BE	7FFF	X					
PG00BF	E201			LDQ-	1,Q		
PG00C0	C20D			LDA-	13,Q		
PG00C1	0901			INA	1	IS THERE A SWAP TIME DEFINED	
PG00C2	0103			SAZ	TIMER1	NO	
PG00C3	C20D			LDA-	13,Q		
PG00C4	A311			AND-	LPMSK+15	RE-ENABLE CORE SWAP DELAYS	
PG00C5	6200			STA-	13,Q		
PG00C6	E0000	X	TIMER1	LDQ	=XTMCODE		
PG00C7	7FFF	X					
PG00C8	4400	X		STQ+	TMRTYP	RESTORE THE TIMER TYPE CODE	
PG00C9	7FFF	X					
PG00CA	1A01			JMP*	TIMVCT,Q	GO TO VECTOR FOR JUMP	

TIMER PROCESSOR VECTOR TABLE

TIMVCT	JMP*	VCTTIM	0 = NO TIMER
JMP*	T1572		1 = 1572
JMP*	T1573		2 = 1573
JMP*	T72LST		3 = 1572-1 LST
JMP*	T72SRG		4 = 1572-1 SRG
JMP*	T3644		5 = 364-4 COMM. MUX.
JMP*	PSEUDO		6 = PSEUDO TIMER
JMP*	T10336		7 = 10336-1

1572 TIMER STARTING CODE

T1572	LDQ+	E1572	FUNCTION CODE
LDA+	E1572F	ENABLE 1572	
OUT	REJ-*		
INQ	-1	DATA CODE	
LDA+	01572	REGISTER COUNTS	

TOUT

OUT	REJ-*		
JMP*	NIDONE	EXIT	

```

**MSOS 4.1**N0600370
**MSOS 4.1**N0600371
**MSOS 4.1**N0600372
**MSOS 4.1**N0600373
**MSOS 4.1**N0600374
**MSOS 4.1**N0600375
**MSOS 4.1**N0600376
**MSOS 4.1**N0600377
**MSOS 4.1**N0600378
**MSOS 4.1**N0600379
**MSOS 4.1**N0600380
**MSOS 4.1**N0600381
**MSOS 4.1**N0600382
**MSOS 4.1**N0600383
**MSOS 4.1**N0600384
**MSOS 4.1**N0600385
**MSOS 4.1**N0600386
**MSOS 4.1**N0600387
**MSOS 4.1**N0600388
**MSOS 4.1**N0600389
**MSOS 4.1**N0600390
**MSOS 4.1**N0600391
**MSOS 4.1**N0600392
**MSOS 4.1**N0600393
**MSOS 4.1**N0600394
**MSOS 4.1**N0600395
**MSOS 4.1**N0600396
**MSOS 4.1**N0600397
**MSOS 4.1**N0600398
**MSOS 4.1**N0600399
**MSOS 4.1**N0600400
**MSOS 4.1**N0600401
**MSOS 4.1**N0600402
**MSOS 4.1**N0600403
**MSOS 4.1**N0600404
**MSOS 4.1**N0600405
**MSOS 4.1**N0600406
**MSOS 4.1**N0600407
**MSOS 4.1**N0600408
**MSOS 4.1**N0600409
**MSOS 4.1**N0600410
**MSOS 4.1**N0600411
**MSOS 4.1**N0600412
**MSOS 4.1**N0600413
**MSOS 4.1**N0600414
**MSOS 4.1**N0600415
**MSOS 4.1**N0600416

```



```

0417 * 1573 TIMER STARTING CODE **MSOS 4.1**N0600417
0418 * **MSOS 4.1**N0600418
0419 P00DD E400 X T1573 LDQ+ E1573 FUNCTION CODE **MSOS 4.1**N0600419
P00DE 7FFF X
0420 P00DF 0DFE INQ -1 N0600420
0421 P00E0 C032 LDA- ONEBIT+15 $8000 = ENABLE **MSOS 4.1**N0600421
0422 P00E1 18F9 JMP* TOUT GO TO OUTPUT **MSOS 4.1**N0600422
0423 * **MSOS 4.1**N0600423
0424 * 1572-1 LST STARTING CODE **MSOS 4.1**N0600424
0425 * **MSOS 4.1**N0600425
0426 P00E2 E400 X T72LST LDQ+ E15721 FUNCTION CODE **MSOS 4.1**N0600426
P00E3 7FFF X
0427 P00E4 0A3C ENA $3C AND MASK FOR SRG FUNCTION BITS N0600427
0428 P00E5 0500 IIN 0 **MSOS 4.1**N0600428
0429 P00E6 A400 X AND+ H15721 **MSOS 4.1**N0600429
P00E7 7FFF X
0430 P00E8 0902 INA 2 2 = ENABLE INTERRUPT **MSOS 4.1**N0600430
0431 P00E9 6400 X STA+ H15721 RESTORE HISTORY WORD **MSOS 4.1**N0600431
P00EA 00E7 X
0432 P00EB 0400 EIN 0 **MSOS 4.1**N0600432
0433 P00EC 18EE JMP* TOUT GO TO OUTPUT **MSOS 4.1**N0600433
0434 * **MSOS 4.1**N0600434
0435 * 1572-1 SRG STARTING CODE **MSOS 4.1**N0600435
0436 * **MSOS 4.1**N0600436
0437 P00ED E400 X T72SRG LDQ+ E15721 FUNCTION CODE **MSOS 4.1**N0600437
P00EE 00E3 X
0438 P00EF 0A27 ENA $27 AND MASK FOR LST FUNCTION BITS N0600438
0439 P00F0 0500 IIN 0 **MSOS 4.1**N0600439
0440 P00F1 A400 X AND+ H15721 **MSOS 4.1**N0600440
P00F2 00EA X
0441 P00F3 0910 INA $10 $10 = ENABLE INTERRUPT **MSOS 4.1**N0600441
0442 P00F4 6400 X STA+ H15721 RESTORE HISTORY WORD **MSOS 4.1**N0600442
P00F5 00F2 X
0443 P00F6 0400 EIN 0 **MSOS 4.1**N0600443
0444 P00F7 0333 OUT REJ-* **MSOS 4.1**N0600444
0445 P00F8 E400 X LDQ+ D15721 DATA CODE **MSOS 4.1**N0600445
P00F9 7FFF X
0446 P00FA C400 X LDA+ 015721 REGISTER COUNTS **MSOS 4.1**N0600446
P00FB 7FFF X
0447 P00FC 18DE JMP* TOUT GO TO OUTPUT **MSOS 4.1**N0600447
0448 * **MSOS 4.1**N0600448
0449 * 364-4 COMMUNICATIONS MUX. TIMER N0600449
0450 * **MSOS 4.1**N0600450
0451 P00FD E400 X T3644 LDQ+ EQ3644 FUNCTION CODE **MSOS 4.1**N0600451
P00FE 7FFF X
0452 P00FF 0A06 ENA 6 6 = ENABLE INTERRUPT **MSOS 4.1**N0600452
0453 P0100 18DA JMP* TOUT GO TO OUTPUT **MSOS 4.1**N0600453
0454 * **MSOS 4.1**N0600454
0455 * PSEUDO TIMER **MSOS 4.1**N0600455
0456 * **MSOS 4.1**N0600456
0457 P0101 1820 PSEUDO JMP* REJ1 **MSOS 4.1**N0600457
0458 * N0600458
0459 * 10336-1 TIMER START CODE N0600459

```



```

0458      *      MAKE SYSTEM DIRECTORY SCHEDULER CALL IF PROGRAM SUPPLIED      N0600468

0470  PG10B E900  GETIND LDQ  FUNCTN+4,I      GET ORDINAL INDEX      N0600470
      PC10C FF45
0471  PG10D CAGG      LDA  ORDTBL,Q      GET ORDINAL      N0600471
      PC10E FFA6
0472  PG10F B011      EOR- LPMSK+15
0473  PG110 0112      SAN  GET1      SKIP IF ENTRY PRESENT  N0600472
0474  PG111 1800      JMP  ERROR      N0600473
      PC112 008A      N0600474
0475  PG113 CAGG      GET1  LDA  ORDTBL,Q      GET ORDINAL      N0600475
      PC114 FFA0
0476  PG115 630E      STA* CALL+1      STORE ORDINAL IN SCHEDULER CALL  N0600476
0477  PG116 0822      TRA  Q      N0600477
0478  PC117 FOEB      ADQ- $E3      N0600478
0479  PG118 C204      LDA- 4,Q      HAS THE ORDINAL BEEN LOADED  N0600479
0480  PG119 0112      SAN  GET2      YES      N0600480
0481  PG11A 1800      GETERR JMP  ERROR      PROGRAM IS UNLINKED OR NOT LOADED  N0600481
      PC11B 0081
0482  PG11C C900      GET2  LDA  FUNCTN+3,I      N0600482
      PC11D FF33
0483  PG11E 6804      STA* CALL      SET THE LEVEL OF THE PROGRAM      **MSOS 4.1**N0600483
0484  PG11F E900      LDQ  FUNCTN+5,I      OBTAIN THE PARAMETER TO PASS      **MSOS 4.1**N0600484
      PC120 FF32
0485  PG121 54F4      SCHDRP RTJ- (AMONI)      SCHEDULE REQUESTED PROGRAM      *MSOS V4.0 N0600485
0486  PG122 5204      CALL  NUM  $5204      N0600486
0487  PG123 0000      ADC  0      **MSOS 4.1**N0600487

```

```

0489      *      EXIT PATH FROM MIPRO      N0600489

0491  PG124 0A00      MIDONE ENA  0      N0600491
0492  PG125 6400      STA+ MIBX      CLEAR BUSY FLAG IN MANINT PROGRAM  N0600492
      PC126 7FFF      X
0493  PG127 54F4      RTJ- (AMONI)      RELEASE CORE AND EXIT      N0600493
0494  PG128 1901      LIST  NUM  $1901      N0600494
0495  PG129 FED7      ADC  (MIPRO-LIST)      N0600495
0496  *      REJECT EXIT      N0600496
0497  PG12A 0B00      REJ  NOP  0      N0600497
0498  PC12B 0A00      ENA  0      N0600498
0499  PG12C 6400      STA+ TMRTYP      INDICATE NO TIMER      N0600499
      PC12D 00C9      X
0500  PG12E C000      REJ1  LDA  =XMSG2-REF      TO PRINT -TIMER REJECT-      N0600500
      PC12F 000E
0501  PG130 186E      JMP* STDRIT      N0600501

```

```

050004 *
050005 *
050006 *
050007 *
050008 *
050009 *
0510 PG131 E000 X MOTIME LDQ =XLOG1A
0511 PG132 00BE X
0512 PG133 E201 LDQ- 1,Q
0513 PG134 C20D LDA- 13,Q
0514 PG135 AC11 AND- LPMSK+15
0515 PG136 B032 EOR- ONEBIT+15 DISABLE DELAYED CORE SWAPS
0516 PG137 620D STA- 13,Q
0517 PG138 E000 X LDQ =XTMCODE
0518 PG139 00C7 X
0519 PG13A 0A00 ENA 0
0520 PG13B 6400 X STA+ TMRTYP INDICATE NO TIMER
0521 PG13C 012D X
0522 PG13D 1A01 JMP* VCTTIM,Q GO TO VECTOR FOR JUMP
0523 *
0524 *
0525 *
0526 *
0527 *
0528 *
0529 *
0530 *
0531 *
0532 *
0533 *
0534 PG146 E400 X N1572 LDQ+ E1572 FUNCTION CODE
0535 PG147 0004 X
0536 PG148 C031 LDA- ONEBIT+14 $4000 = DISABLE
0537 PG149 1891 JMP* TOJT GO TO OUTPUT
0538 *
0539 *
0540 *
0541 *
0542 *
0543 *
0544 *
0545 *
0546 PG14A E400 X N1573 LDQ+ E1573 FUNCTION CODE
0547 PG14B 00DE X
0548 PG14C 0DFE INQ -1
0549 PG14D C031 LDA- ONEBIT+14 $4000 = DISABLE
0550 PG14E 188C JMP* TOJT GO TO OUTPUT
0551 *
0552 *
0553 *
0554 *
0555 *
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0561 *
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0595 *
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0598 *
0599 *
0600 *

```

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**MSOS 4.1**N0600504
**MSOS 4.1**N0600505
**MSOS 4.1**N0600506
**MSOS 4.1**N0600507
**MSOS 4.1**N0600508
**MSOS 4.1**N0600509
**MSOS 4.1**N0600510
**MSOS 4.1**N0600511
**MSOS 4.1**N0600512
**MSOS 4.1**N0600513
**MSOS 4.1**N0600514
**MSOS 4.1**N0600515
**MSOS 4.1**N0600516
**MSOS 4.1**N0600517
**MSOS 4.1**N0600518
**MSOS 4.1**N0600519
**MSOS 4.1**N0600520
**MSOS 4.1**N0600521
**MSOS 4.1**N0600522
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**MSOS 4.1**N0600524
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**MSOS 4.1**N0600526
**MSOS 4.1**N0600527
**MSOS 4.1**N0600528
**MSOS 4.1**N0600529
**MSOS 4.1**N0600530
**MSOS 4.1**N0600531
**MSOS 4.1**N0600532
**MSOS 4.1**N0600533
**MSOS 4.1**N0600534
**MSOS 4.1**N0600535
**MSOS 4.1**N0600536
**MSOS 4.1**N0600537
**MSOS 4.1**N0600538
**MSOS 4.1**N0600539
**MSOS 4.1**N0600540
**MSOS 4.1**N0600541
**MSOS 4.1**N0600542
**MSOS 4.1**N0600543
**MSOS 4.1**N0600544
**MSOS 4.1**N0600545
**MSOS 4.1**N0600546
**MSOS 4.1**N0600547
**MSOS 4.1**N0600548

```

```

0549 P0153 A400 X AND+ H15721
      PC154 00F5 X
0550 P0155 6400 X STA+ H15721 RESTORE HISTORY
      P0156 0154 X
0551 P0157 C400 EIN 0
0552 P0158 1882 JMP* TOUT GO TO OUTPUT
0553 *
0554 * 1572-1 SRG STOP CODE
0555 *
0556 P0159 E400 X N72SRG LDQ+ E15721 FUNCTION CODE
      P015A 0150 X
0557 P015B 0A07 ENA 7 AND MASK FOR LST FUNCTION BITS
0558 PC15C 18F5 JMP* NJUT GO TO OUTPUT
0559 *
0560 * 10336-1 TIMER STOP CODE
0561 *
0562 P015D E400 X N10336 LDQ+ E10336 FUNCTION CODE
      P015E 0103 X
0563 P015F C031 LDA- ONEBIT+14 $4000 = DISALBE
0564 P0160 1800 JMP TOUT
      P0161 FF79
0565 *
0566 * 364-4 COMMUNICATION MUX. TIMER
0567 *
0568 P0162 E400 X N3644 LDQ+ EQ3644 FUNCTION CODE
      P0163 00FE X
0569 P0164 CA02 ENA 2 2 = DISABLE INTERRUPT
0570 P0165 1800 JMP TOUT GO TO OUTPUT
      P0166 FF74

```

```

**MSOS -.1**N0600549
**MSOS 4.1**N0600550
**MSOS 4.1**N0600551
**MSOS 4.1**N0600552
**MSOS 4.1**N0600553
**MSOS 4.1**N0600554
**MSOS 4.1**N0600555
**MSOS 4.1**N0600556
**MSOS 4.1**N0600557
**MSOS 4.1**N0600558
      N0600559
      N0600560
      N0600561
      N0600562
      N0600563
      N0600564
      N0600565
      N0600566
      N0600567
**MSOS 4.1**N0600568
**MSOS 4.1**N0600569
      N0600570

```

0572
0573
0574
0575
0576
0577
0578

*
*
*
*
*
*
*

MAG TAPE SIMULATOR WRITE RING PROCESSOR
THIS ROUTINE ENABLES OR DISABLES THE WRITE RING ON THE
SPECIFIED MAG TAPE SIMULATOR UNIT.
THE LOGICAL UNIT SPECIFIED MUST CONTAIN 2 DIGITS
EXAMPLE... WRON,09
 WROF,28

N0600572
N0600573
N0600574
N0600575
N0600576
N0600577
N0600578

0580
0581
0582
0583
0584

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0591
0592

0593
0594

0595
0596
0597

0598

0599

0600
0601
0602
0603

0604
0605

0606
0607
0608

0609
0610
0611
0612
0613
0614

PG167 C032
PG168 1802
PG169 6A00
PG16A 6831
PG16B E800
PG16C FEDF
PG16D C202
PG16E OFC8
PG16F A00A
PG170 0903
PG171 0101
PG172 1812
PG173 C202
PG174 5800
PG175 00A5
PG176 OFC4
PG177 6800
PG178 00A1
PG179 C203
PG17A OFC8
PG17B 5800
PG17C 009E
PG17D 8800
PG17E 009B
PG17F 5800
PG180 00A8
PG181 0822
PG182 09FE
PG183 0123
PG184 C000
PG185 0015
PG186 1818
PG187 9400
PG188 0132
PG189 0131
PG18A 18F9
PG18B E600
PG18C 0188
PG18D 40FF
PG18E C108
PG18F 0F44
PG190 A009
PG191 0903
PG192 0101

WRNGON LDA- ONEBIT+15
 JMP* TAPSIM
WRNGOF ENA 0
TAPSIM STA* FLAGPS
 LDQ QSAVE

 LDA- 2,Q
 ALS 8
 AND- LPMSK+8
 INA -\$2C
 SAZ NOERR
 JMP* TAPERR
NOERR LDA- 2,Q
 RTJ CK

 ALS 4
 STA HOLD

 LDA- 3,Q
 ALS 8
 RTJ CK

 ADD HOLD

 RTJ DEOCT

 TRA Q
 INA -1
 SAP OKTAP1
TAPERR LDA =XMSG3-REF

 JMP* STORIT
X OKTAP1 SUB+ LOG1A
X

 SAM OKTAP2
 JMP* TAPERR
X OKTAP2 LDQ+ LOG1A,Q
X

 STQ- I
 LDA- 8,I
 ARS +
 AND- LPMSK+7
 INA -60
 SAZ OKTAP3

SET ON FLAG
SET OFF FLAG

ISOLATE FIELD SEPARATOR

IS IT A COMMA
GET FIRST DIGIT
CONVERT TO HEX
GET SECOND DIGIT
CONVERT TO HEX
ADD HOLD
RTJ DEOCT

IS THE LU NEGATIVE
TO PRINT -TAPE SIM ERROR-
IS THE LU TOO LARGE
YES, ERROR
SAVE THE PHYSTAB ADDRESS
ISOLATE THE EQUIPMENT TYPE CODE
IS IT A MAG TAPE SIMULATOR

N0600580
N0600581
N0600582
N0600583
N0600584

N0600585
N0600586
N0600587
N0600588
N0600589
N0600590
N0600591
N0600592

N0600593
N0600594

N0600595
N0600596
N0600597

N0600598

N0600599

N0600600
N0600601
N0600602
N0600603

N0600604
N0600605

N0600606
N0600607
N0600608

N0600609
N0600610
N0600611
N0600612
N0600613
N0600614

0529 * ERROR EXIT N0600629

```

0531 P019C C000 ERROR LDA =XMSG1-REF TO PRINT -MI INPUT ERROR- **MSOS 4.1**N0600631
      P019D C007
0532 P019E 6807 STORIT STA* MSGLOC **MSOS 4.1**N0600632
0533 P019F 54F4 RTJ- (AMONI) N0600633
0534 P01A0 0D33 REF NUM $D33 N0600634
0535 P01A1 7F83 ADC MIDONE-REF N0600635
0536 P01A2 0000 ADC 0 N0600636
0537 P01A3 18FC ADC $18FC N0600637
0538 P01A4 0007 ADC 7 **MSOS 4.1**N0600638
0539 P01A5 0000 MSGLOC ADC 0 **MSOS 4.1**N0600639
0540 P01A6 14EA JMP- ($EA) N0600640

```

0642 P01A7 4D49 MSG1 ALF 7,MI INPUT ERROR **MSOS 4.1**N0600642

```

P01A8 2049
P01A9 4E50
P01AA 5554
P01AB 2045
P01AC 5252
P01AD 4F52

```

0543 P01AE 5449 MSG2 ALF 7,TIMER REJECT **MSOS 4.1**N0600643

```

P01AF 4D45
P01B0 5220
P01B1 5245
P01B2 4A45
P01B3 4354
P01B4 2020

```

0544 P01B5 5441 MSG3 ALF 7,TAPE SIM ERROR N0600644

```

P01B6 5045
P01B7 2053
P01B8 4940
P01B9 2045
P01BA 5252
P01BB 4F52

```

```

0546 * ON-LINE SCMM-17 HANDLER **MSOS 4.1**N0600646
0547 P01BC C400 X SCMM LDA+ SCMLC CHECK FLAG IN SYSDAT N0600647
      P01BD 7FFF X
0548 P01BE 0112 SAN R1 SKIP IF SCMM NOW IN CORE **MSOS 4.1**N0600648
0549 P01BF 1800 JMP GETIND FIRST TIME, SCHEDULE SCMM N0600649
      P01C0 FF4A
0550 P01C1 6800 R1 STA CALL+1 N0600650
      P01C2 FF60

```


0651	P01C3 1800 P01C4 FF5C		JMP SCHDRP			N0600651
0653		*	INITIATE DEBUG PACKAGE			N0600653
0655	P01C5 00B8 X	DBSYSD	ADC ODEBUG	REL. INCRFMNT TO DEBUG ENTRY IN SYS. DIR.		N0600655
0656	P01C6 E0EB	DB	LDQ- \$EB	STORE CORRECT LENGTH		N0600656
0657	P01C7 F8FD		ADQ* DBSYSD	IN SYS. DIR. ENTRY		N0600657
0658	P01C8 C000 X P01C9 7FFF X		LDA =X00BSIZ	CHANGE DIR. LENGTH		N0600658
0659	P01CA 6625		STA- (FOUR),Q			N0600659
0660	P01CB C400 X P01CC 7FFF X	DBCKIT	LDA+ CHRSFG	IS DEBUG IN		N0600660
0661	P01CD 0101		SAZ DBRQIT-*--1	SKIP NO		N0600661
0662	P01CE 18CD		JMP* ERROR	PRINT ERROR MSG.		N0600662
0663	P01CF 1800 P01D0 FF3A	DBRQIT	JMP GETIND	SCHEDULE ODEBUG		N0600663
0664		*	TURN OFF DEBUG PKG.			N0600664
0665	P01D1 0A00	DX	ENA 0			N0600665
0666	P01D2 6400 X P01D3 01CC X		STA+ CHRSFG			N0600666
0667	P01D4 1800 P01D5 FF4E		JMP MIDONE			N0600667

0570

* EQUAL S ROUTINE TO START SYSTEM DIRECTORY PROGRAMS.

N0600670

0572 P01D6 C201
 0573 P01D7 40FF
 0574 P01D8 5842
 0575 P01D9 6840
 0576 P01DA C201
 0577 P01DB 0FC8
 0578 P01DC 583E
 0579 P01DD 0FC4
 0580 P01DE 883B
 0581 P01DF 0FC4
 0582 P01E0 8839
 0583 P01E1 C202
 0584 P01E2 0FC8
 0585 P01E3 5837
 0586 P01E4 8835
 0587 P01E5 5843
 0588 P01E6 09FE
 0589 P01E7 2005
 0590 P01E8 80E7
 0591 P01E9 6800
 P01EA FF38
 0592 P01EB A042
 0593 P01EC E0EB
 0594 P01ED 0832
 0595 P01EE E204
 0596 P01EF 0151
 0597 P01F0 18A8
 0598 P01F1 90E6
 0599 P01F2 0131
 0700 P01F3 18A8

EQUALS

LDA- 1,Q
 STQ- I
 RTJ* CK
 STA* HOLD
 LDA- 1,Q
 ALS 8
 RTJ* CK
 ALS 4
 ADD* HOLD
 ALS 4
 STA* HOLD
 LDA- 2,Q
 ALS 8
 RTJ* CK
 ADD* HOLD
 RTJ* DECT
 INA -1
 MUI- \$5
 ADD- \$E7
 STA CALL+1

PICKUP TWO DIGITS OF DIRECTORY NUMBER
 SAVE BUFFER ADDRESS
 CHECK AND CONVERT TO HEX
 SAVE SECOND DIGIT

DO SECOND DIGIT FIRST
 NOW FIRST DIGIT
 X 16
 FORM COMPLETE DIRECTORY NUMBER

RIGHT JUSTIFY 3RD DIGIT

CONVERT FROM DECIMAL TO HEX
 REFERENCE TO ZERO
 X 7
 ADDRESS OF 1ST MASS STORAGE ENTRY
 STORE SCHEDULER CALL

REMOVE BIT 15

AND- \$42
 LDQ- \$EB
 AAQ Q
 LDQ- 4,Q
 SQN SPIC1
 JMP* ERROR
 SUB- \$E6
 SAM SPIC2
 JMP* ERROR

SPICI

CHECK FOR ZERO LENGTH ORDINAL
 SKIP IF OK
 CHECK IF WITHIN LIMITS
 SK-P IF WITHIN LIMITS
 TO ERROR ROUTINE

N0600692
 53*1069 N0600693
 53*1069 N0600694
 53*1069 N0600695
 53*1069 N0600696
 **MSOS 4.1* N0600697
 53*1069 N0600698
 N0600699
 **MSOS 4.1* N0600700

0702

* SET PRIORITY LEVEL

N0600702

0704 P01F4 C103
 0705 P01F5 0FC8
 0706 P01F6 5824
 0707 P01F7 A006
 0708 P01F8 8000
 P01F9 2400
 0709 P01FA 6800
 P01FB FF26

SPIC2

LDA- 3,I
 ALS 8
 RTJ* CK
 AND- LPMSK+4
 ADD =N\$2+CJ
 STA CALL

SCHEDULE PRIORITY/

N0600704
 N0600705
 N0600706
 **MSOS 4.1* N0600707
 N0600708
 **MSOS 4.1* N0600709

0711

* CHECK FOR A PARAMETER TO PASS

N0600711

0713 P01FC C103
0714 P01FD A00A
0715 P01FE B000
P01FF 002C
0716 P0200 0102
0717 P0201 1800
P0202 FF1E
0718 P0203 C104
0719 P0204 GFC8
0720 P0205 5815
0721 P0206 OFC4
0722 P0207 6812
0723 P0208 C104
0724 P0209 5811
0725 P020A 880F
0726 P020B OFC4
0727 P020C 6800
0728 P020D C105
0729 P020E OFC8
0730 P020F 5808
0731 P0210 8809
0732 P0211 OFC4
0733 P0212 6807
0734 P0213 C105
0735 P0214 5806
0736
0737 P0215 B804
0738 P0216 0822
0740
0742 P0217 1800
P0218 FF08
0743 P0219 0000
0745
0747 P021A 0000
0748 P021B A00A
0749 P021C 09CF
0750 P021D 0138
0751 P021E 09E8
0752 P021F 0126
0753 P0220 0906
0754 P0221 0122
0755 P0222 0907
0756 P0223 0122
0757 P0224 090A
0758 P0225 1CF4
0759 P0226 1800
P0227 FF74
0760 P0228 0000
0761 P0229 E01E

LDA- 3,I
AND- \$A FFMASK
EOR =N\$2C ,
SAZ SPIC3 SKIP IF NEXT CHARACTER COMMA
JMP SCHDRP SCHEDL. REQSED. PROGR.
SPIC3 LDA- 4,I
ALS 8
RTJ* CK
ALS 4
STA* HOLD SAVE DIGIT 1
LDA- +,I
RTJ* CK
ADD* HOLD
ALS 4
STA* HOLD SAVE DIGITS 1 AND 2
LDA- 5,I
ALS 8
RTJ* CK
ADD* HOLD
ALS 4
STA* HOLD SAVE DIGITS 1,2 AND 3
LDA- 5,I
RTJ* CK
* THIS INSTRUCTION ORS IN CASE OF NEGATIVE ZERO IS PASSED
EOR* HOLD FORM COMPLETE PARAMETER *629
TRA Q PUT IN Q TO PASS
* SCHEDULE THE PROGRAM
JMP SCHDRP SCHEDL. REQSED. PROGR.
HOLD 0 0 TEMPORARY STORAGE CELL
* INPUT DATA CHECK AND CONVERSION ROUTINE
CK 0 0
AND- \$A FF MASK
INA -\$30
SAM ER-* -1 SKIP IF LESS THAN \$30
INA -\$17 *629
SAP ER NOT 0 THRU \$F *629
INA 5 *629
SAP ATHRUF DO NOT ALLOW ASCII
INA 7 CODES *3A THRU *40
SAP ER TO PASS THRU THIS
ATHRJF INA 10 ROUTINE
JMP* (CK)
ER JMP ERROR ILLEGAL CHARACTER INPUT
DEOCT 0 0
LDQ- \$1E SET ALL THRU FLAG

N0600713
N0600714
N0600715
N0600716
N0600717
N0600718
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N0600751
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N0600756
N0600757
N0600758
N0600759
N0600760
N0600761

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0752 P022A 0FF4      LLS 20
0753 P022B 4810      STQ* BAKER
0754 P022C 881A      EOR* MINUS
0755 P022D 881A      STA* ABLE
0756 P022E C105      SAZ ADEOCT--1
0757 P022F B817      EOR* MINJS
0758 P0230 09F5      INA -10
0759 P0231 0131      SAM DDEOCT
0770 P0232 18F3      JMP* ER
0771 P0233 090A      DDEOCT INA 10
0772 P0234 2046      ADEOCT MUI- $45
0773 P0235 6814      STA* CHARLE
0774 P0236 0844      CLR A
0775 P0237 E811      LDQ* BAKER
0776 P0238 0FE4      LLS 4
0777 P0239 09F5      INA -10
0778 P023A 0131      SAM EDEOCT
0779 P023B 18EA      JMP* ER
0780 P023C 090A      EDEOCT INA 10
0781 P023D 880C      ADD* CHARLE
0782 P023E 430A      STQ* BAKER
0783 P023F F00E      ADQ- $E
0784 P0240 0141      SQZ BDEOCT--1
0785 P0241 18F2      JMP* ADEOCT
0786 P0242 E805      BDEOCT LDQ* ABLE
0787 P0243 0151      SQN CDEOCT--1
0788 P0244 0864      TCA A
0789 P0245 1CE2      CDEOCT JMP* (DEOCT)
0790 P0246 0000      MINUS NUM SD
0791 P0247 0000      ABLE 0
0792 P0248 0000      BAKER 0
0793 P0249 0000      CHARLE 0
0794 P0249 0000      EQU MIPROC(MIPRO)
0795 P0249 0000      END MIPROC

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```

FIRST DIGIT TO A, REST TO Q
SAVE REST
CHECK FOR MINUS SIGN
SET INDICATOR FOR LATER
START TO CONVERT
SET FIRST DIGIT BACK IF NOT -
DO NOT ALLOW INPUT OF
A THRU F TO THIS DECIMAL/HEX
CONVERSION ROUTINE

CONVERT THIS PART (TIMES 10)
PUT NEW VALUE TO TEMP
CLEAR A
GET SAVED NEXT PORTION
NEXT FOUR TO A
DO NOT ALLOW INPUT OF
A THRU F TO THIS DECIMAL/HEX
CONVERSION ROUTINE

ADD THE PREVIOUS
SAVE THE REST
CHECK FOR DONE
ZERO MEANS DONE
GO BACK FOR ANOTHER TRY
CHECK FOR MINUS SIGN
ZERO IS MINUS
COMPLEMENT THE ANSWER
GO BACK HOME
MINUS SIGN

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N06J0762
N0600763
N0600764
N06J0765
N06J0766
N0600767
N06J0768
N0600769
N0600770
N0600771
N0600772
N0600773
N0600774
N0600775
N06J0776
N0600777
N06J0778
N0600779
N0600780
N0600781
N0600782
N0600783
N0600784
N0600785
N06J0786
N0600787
N0600788
N06J0789
N0600790
N0600791
N0600792
N0600793
N06J0794
N0600795

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E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0177, 0205, 0222, 0238, 0246, 0609, 0673
0167	LPMSK	0002	(000002) 0188, 0209, 0390, 0472, 0512, 0587, 0612, 0618, 0707
0168	NZERO	0012	(000018) 0184
0169	ONEBIT	0023	(000035) 0421, 0513, 0534, 0541, 0563, 0580
0170	ZERO	0022	(000034) 0183, 0197
0171	FOUR	0025	(000037) 0559
0172	SIX	0044	(000068) 0237
0173	ADISP	00EA	(000234)
0174	AMONI	00F4	(000244) 0191, 0485, 0493, 0633

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0134	MIPROC	0000	0134
0176	MIPRO	0000	J495, 0794
0191	QSKED	000F	J189
J193	IMPT	0011	J187
0196	REPEAT	0014	0185, 0241
0202	CHAR2	0019	0199
J208	NOT2	0020	J204
J229	CHAR4	0031	0211
0229	FOUND	0034	0247
0232	JMP	0037	J190, 0231, 0259, 0265, 0271, 0277, 0283, 0289, 0295, 0301, 0307, 0313, 0319, 0325, 0331, 0337
J235	NEXT	0039	J343, 0349, 0355
0243	FINI	0040	0200, 0207, 0221, 0224, 0227
0246	SMALL	0043	0240
0248	TRY2	0045	0250
0251	3ERROR	0048	0245
0253	FOUND3	004A	0249
0254	FOUND2	004B	J223, 0244
0255	QSAVE	004C	0205, 0248
0256	ISAVE	004D	J173, 0196, 0218, 0243, 0584
0258	FUNCTN	004E	0178, 0235, 0236
0346	QDACS	00A7	J198, 0202, 0208, 0214, 0217, 0219, 0225, 0229, 0360, 0470, 0482, 0484
J360	MAX	00B4	J180
0361	ORDTBL	00B5	0239
0384	TIMER	00BD	J471, 0475
0392	TIMER1	00C6	0289
0398	TIMVCT	00CB	0388
0409	T1572	00D3	0394
0414	TOUT	00DB	0399
0419	T1573	00DD	0422, 0433, 0447, 0453, 0466, 0535, 0542, 0552, 0564, 0570
J426	T72LST	00E2	J400
0437	T72SRG	00ED	0401
0451	T3644	00FD	0402
0457	SEUDO	0101	0403
0461	T10336	0102	0404, 0528
0470	GETIND	010B	0405
0475	GET1	0113	0271, 0277, 0283, 0301, 0319, 0325, 0331, 0337, 0343, 0649, 0663
0481	GETERR	011A	0473
0482	GET2	C11C	
0485	SCHDRP	0121	0480
0486	CALL	0122	0651, 0717, 0742
			0475, 0483, 0650, 0691, 0709

0491 MIDONE 0124
 0494 LIST 0128
 0497 REJ 012A
 0500 REJ1 012E
 0509 MOTIME 0131
 0522 VCTTIM 013E
 0533 N1572 0146
 0539 N1573 014A
 0548 V72LST 014F
 0554 VJUT 0152
 0558 N72SRG 0159
 0562 V10336 015D
 0568 N3044 0162
 0580 WRNGON 0167
 0582 WRNGOF 0169
 0583 TAPSIM 016A
 0591 VOERR 0173
 0603 TAPERR 0184
 0605 OKTAP1 0187
 0608 OKTAP2 018B
 0616 OKTAP3 0194
 0624 FLAGPS 019B
 0631 ERROR 019C
 0632 STORIT 019E
 0634 REF 01A0
 0639 MSGLOC 01A5
 0642 MSG1 01A7
 0643 MSG2 01AE
 0644 MSG3 01B5
 0647 SCMM 01BC
 0650 R1 01C1
 0655 DBSYS 01C5
 0656 JB 01C6
 0660 JBCKIT 01CB
 0663 DBRQIT 01CF
 0665 DX 01D1
 0672 EQUALS 01D6
 0698 SPIC1 01F1
 0704 SPIC2 01F4
 0718 SPIC3 0203
 0743 HOLD 0219
 0747 CK 021A
 0757 ATHRUF 0224
 0759 ER 0226
 0760 DEOCT 0228
 0771 DDEOCT 0233
 0772 ADEOCT 0234
 0780 EDEOCT 023C
 0785 BDEOCT 0242
 0789 COEOCT 0245
 0790 MINUS 0246
 0791 ABLE 0247
 0792 BAKER 0248

0194, 0415, 0622, 0635, 0667
 0495
 0411, 0414, 0444, 0463, 0522
 0457
 0295
 0398, 0518
 0523
 0524
 0525
 0528
 0529
 0527
 0349
 0355
 0581
 0589
 0590, 0607, 0615
 0602
 0614
 0583, 0619
 0232, 0251, 0474, 0481, 0662, 0697, 0700, 0759
 0501, 0604
 0500, 0603, 0631, 0635
 0632
 0631
 0500
 0603
 0205
 0307
 0661
 0313
 0259
 0596
 0699
 0716
 0594, 0598, 0675, 0680, 0682, 0686, 0722, 0725, 0727, 0731, 0733, 0737
 0592, 0597, 0674, 0678, 0685, 0706, 0720, 0724, 0730, 0735, 0758
 0754
 0750, 0752, 0750, 0770, 0779
 0599, 0687, 0789
 0769
 0760, 0785
 0778
 0784
 0787
 0764, 0767
 0765, 0786
 0763, 0775, 0782

MIPRO

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DATE: 01/27/99

0793 CHARLE 0249

3773, 0781

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0137	LOG1A	018C	0384, 0509, 0605, 0608
0138	MIBX	0126	0492
0139	CHRSFG	0103	0664, 0666
0140	SCHMLC	01BD	0647
0141	SYSCOP	00B7	0363
0142	JDEDEBUG	01C5	0304, 0655
0143	ODBSIZ	01C9	0608
0144	EFLIST	00B6	0362
0145	TDFUNC	00B9	0365
0146	VERIFY	00BA	0365
0147	ISUTIL	00BB	0367
0148	INDACS	00BC	0368
0149	SCMM17	00B5	0361
0150	TMRTYP	013C	0393, 0499, 0517
0151	IMCODE	0139	0392, 0515
0152	H15721	0156	0429, 0431, 0440, 0442, 0549, 0550
0153	E1572	0147	0409, 0533
0154	E1572F	00D6	0410
0155	O1572	00DA	0413
0156	E1573	014B	0419, 0539
0157	E15721	015A	0426, 0437, 0540, 0556
0158	O15721	00F9	0445
0159	O15721	00FB	0446
0160	E03644	0163	0451, 0568
0161	E10336	015E	0461, 0562
0162	O10336	0109	0465
0163	F10336	0105	0462
0164	CRIMPT	0011	0193

