

0050	****	*****	N0700050
0051	*		N0700051
0052	*		N0700052

0055	*	E N T R Y	N A M E S	N0700055
0056		ENT	HANDLE	N0700056
0057		ENT	BRIPRI	N0700057
0058		ENT	ERROR	N0700058
0059		ENT	IOERR	N0700059
0060		ENT	SOMMOR	N0700060
0061		ENT	SOME	N0700061
0062		ENT	MMAJDR	N0700062
0063		ENT	MSG	N0700063
0064		ENT	OFF	N0700064

0066	*	E X T E R N A L S	N0700066	
0067		EXT	GETREQ	N0700067
0068	*		TO MATCH COMMAND	N0700068
0069			FOLLOWING EXTERNALS ARE FOR SUBROUTINES (AREA 3)	N0700069
0070		EXT	PRINT	N0700070
0071		EXT	GETFLD	N0700071
0072		EXT	ASCHEX	N0700072
0073		EXT	DMPBUF	N0700073
0074		EXT	ASCDEC	N0700074
0075		EXT	HEXASC	N0700075
0076		EXT	DECJMP	N0700076
0077		EXT	GETINT	N0700077
0078		EXT	FETMM	N0700078
0079		EXT	PNTMD	N0700079
0080		EXT	MASJT	N0700080
0081		EXT	CONFM	N0700081
0082		EXT	FLCVSG	N0700082
0083		EXT	FLCVDB	N0700083
0084	*		NAMEMS	N0700084
0085		EXT	ECONV	N0700085
0086		EXT	DCONV	N0700086

0088		EXT	ODEBUG	N0700088
0089		EXT	CHRSFG	N0700089
0090		EXT	NUMLU	N0700090

MSOS4.0

0092	*	' E Q U '	T A B L E	N0700092
------	---	-----------	-----------	----------


```

0093 00F4 EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N0700093
      000EA
      000G2
      00012
      00033
0094 0043 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N0700094
      00044
      00022
      00023
      00027
0095 002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N0700095
      0002F
      0002A
0096 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N0700096
      00045
      00004
      00003
      00024
0097 0046 EQU TEN($45) N0700097
  
```

```

0099 * EQU VARIABLE EQUUS N0700099
0100 0010 EQU MAXPAG(16) N0700100
0101 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0102 0028 EQU LBJFF(40) LENGTH OF OPER. INPUT BUFFER (2 CHAR./WORD) N0700102
  
```

```

0104 * EQU SIZED TO HOLD AREA 2 AND AREA3 PROGRAMS RESPECTIVELY N0700104
0105 0154 EQU LENGTH(340) LENGTH OF PROGIN(AREA 2) N0700105
0106 0120 EQU LAREA3(288) LENGTH OF AREA 3 N0700106
  
```

```

0108 * EQU EQUUS FOR LOGICAL UNITS N0700108
0109 18FC EQU COMOJT($18FC) TYPER OUTPUT LOGICAL UNIT N0700109
0110 18FD EQU COMLU($18FD) INPUT COMMENT MEDIUM N0700110
0111 08C2 EQU MASSLU($8C2) MASS MEMORY LOGICAL UNIT N0700111
  
```


0153	PG027	0A00	ENA	0	RESET SLASH FLAG	N0700153
0154	PG028	6877	STA*	SLASHF		N0700154
0155	PG029	6877	STA*	BJFEMT	AND BUFFER EMTY FLAG	N0700155

0157			*		READ ONE LINE FROM INPUT COMMENT DEVICE	N0700157
0158	PG02A	54F4	READLN	RTJ-	(AMONI)	N0700158
0159	PG02B	0907		ADC	\$900+CHRSLV	N0700159
0160	PG02C	0029		ADC	FIRSTF-READLN	N0700160
0161	PG02D	0000		NUM	0	N0700161
0162	PG02E	18FD		ADC	COMLU	N0700162
0163	PG02F	0028		ADC	LBUFF	N0700163
0164	PG030	00A2		ADC	BUFFER-READLN	N0700164
0165	PG031	14EA		JMP-	(AJISP)	N0700165

0167			*		BRING OVER PROGRAM SUBROUTINE	N0700167
0168			*		THIS ROUTINE PUT CORRECT PROGRAM IN AREA 3	N0700168
0169			*		ENTER HANDLE WITH SUBROUTINE NUMBER IN A AND Q WILL	N0700169
0170			*		BE PASSED. RETURN ADDRESS WILL BE SET IN FIRST WORD OF	N0700170
0171			*		SUBROUTINE WITH CONTROL GIVEN TO SECOND WORD.	N0700171
0172	PG032	0161	GOTOIT	SQP	GJT02	N0700172
0173	PG033	186F		JMP*	IOERR	N0700173
0174	PG034	C81F	GOTO2	LDA*	PRGTMP	N0700174
0175	PG035	6862		STA*	PRG1	N0700175
0176	PG036	1806		JMP*	GOTO3	N0700176
0177	PG037	0000	HANDLE	NUM	0	N0700177
0178	PG038	481A		STQ*	QTEMP	N0700178
0179	PG039	0822		TRA	Q	N0700179
0180	PG03A	B85D		EOR*	PRG1	N0700180
0181	PG03B	C117		SAN	NOPRG--1	N0700181
0182	PG03C	C8FA	GOTO3	LDA*	HANDLE	N0700182
0183	PG03D	5800		STA	AREA3	N0700183
0184	PG03E	020B		LDQ*	QTEMP	N0700184
0185	PG03F	E813		LDA*	BASE	N0700185
0186	PG040	C84F		JMP	AREA3+1	N0700186
0186	PG041	1800			GET PARAMETER BUFFER ADD. AND PASS TO SUB.	N0700186
0186	PG042	0208				N0700186

0188			*		GET PROGRAM INTO AREA 3	N0700188
------	--	--	---	--	-------------------------	----------

0190	P0043	CA6B	NOPRS	LDA*	PRJLOC,Q		N0700190
0191	P0044	480F		STQ*	PRGTMP	SET FOR NEW SUBROUTINE IN AREA 3	N0700191
0192	P0045	5838		RTJ*	MMAJDR	CALC. MM ADDRESS	N0700192
0193	P0046	4809		STQ*	MSBSR		N0700193
0194	P0047	5809		STA*	LSBSR		N0700194
0195	P0048	54F4		RTJ-	(AMONI)		N0700195
0196	P0049	0907	GETROU	ADC	\$300+CHRSLV+\$600		N0700196
0197	P004A	7FE8		ADC	GOTOIT-GETROU		N0700197
0198	P004B	0000		NUM	0		N0700198
0199	P004C	0802		ADC	MASSLU		N0700199
0200	P004D	0120		ADC	LAREA3		N0700200
0201	P004E	0200		ADC	AREA3-GETROU		N0700201
0202	P004F	0000	MSBSR	0	0		N0700202
0203	P0050	0000	LSBSR	0	0		N0700203
0204	P0051	14EA		JMP-	(ADISP)		N0700204

0206	P0052	0000	QTEMP	NUM	0		N0700206
0207	P0053	0000	PRGTMP	NUM	0		N0700207

0209	P0054	0161	FIRSTF	SQP	NOERR*-1	NO I/O ERROR	N0700209
0210	P0055	1940		JMP*	IOERR	**MSOS4.0**	N0700210
0211	P0056	C842	NOERR	LDA*	PROG2		N0700211
0212	P0057	0124		SAP	NOINYT*-1		N0700212
0213	P0058	C837	GETBAS	LDA*	BASE	GET PARAMETER LIST LOCATION	N0700213
0214	P0059	1800		JMP	PROGIN	PROGRAM IN CORE	N0700214
	P005A	009B					

0216	P005B	7FFF	X AGETRQ	ADC	GETREQ	RELATIVE ADDRESS TO GET REQUEST PROCESSOR	N0700216
0218	P005C	C8FE	NOINYT	LDA*	AGETRQ		N0700218
0219	P005D	5820		RTJ*	MMAJDR	CALC. MM ADDRESS	N0700219
0220	P005E	480B		STQ*	MSBPRC		N0700220
0221	P005F	680B		STA*	LSBPRC		N0700221
0222	P0060	0AFE		ENA	-1		N0700222

0224			*			BRING IN REQUESTED PROGRAM INTO AREA 2	N0700224
0225	P0061	6837	BRIPRO	STA*	PROG2		N0700225
0226	P0062	54F4	BRIPR1	RTJ-	(AMONI)		N0700226
0227	P0063	0907	GETPRG	ADC	\$300+CHRSLV+\$600		N0700227
0228	P0064	0009		ADC	NOWIN-GETPRG		N0700228
0229	P0065	0000		NUM	0		N0700229
0230	P0066	0802		ADC	MASSLU		N0700230
0231	P0067	0154		ADC	LENGTH		N0700231

```

0232 P0068 0092      ADC  PRGIN-GETPRG
0233 P0069 0000      MSBPRC 0
0234 P006A 0000      LSBPRC 0
0235 P006B 14EA      JMP- (AJISP)
0236 P006C 0171      NOWIN SQM IOERR1
0237 P006D 18EA      JMP* GETBAS      TO START EXECUTION
0238 P006E 1834      IOERR1 JMP* IOERR

```

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N0700232
N0700233
N0700234
N0700235
N0700236
N0700237
N0700238

```

```

0240 *          ERROR DETECTED IN I/O -RELEASE CORE

```

```

N0700240

```

```

0242 *          TURN OFF REQUEST
0243 P006F 0C01      OFF  ENQ  1
0244 P0070 0A01      ENA  1
0245 P0071 58C5      RTJ* HANDLE
0246 P0072 0072 P ERROR EQU  ERROR(*)

```

```

N0700242
N0700243
N0700244
N0700245
N0700246

```

```

0248 P0072 0844      CHREXT CLR  A
0249 P0073 6C8D      LCHRSF STA* (CHRIS)      CLEAR CHRSG
0250 P0074 54F4      GOWAY  RTJ- (AMONI)
0251 P0075 1901      NUM  $1901
0252 P0076 FF8A      ADC  (ODP-#+1)      RELEASE CORE

```

```

N0700248
N0700249
N0700250
N0700251
N0700252

```

```

0254 *          5 CARDS DELETED
0255 P0077 CC89      SOMMDR LDA* (CHRIS)      CHECK FLAG
0256 P0078 0110      SAN  SOME-*-1

```

```

N0700254
N0700255
N0700256

```

```

0258 *          LOG ANY MORE REQ MESSAGE
0259 P0079 0C03      SONE  ENQ  3
0260 P007A 0A01      ENA  1
0261 P007B 58BB      RTJ* HANDLE
0262 P007C 18A0      JMP* LOKMOR
*
*          SUBROUTINE TO CALC. MASS MEMORY ADDRESS OF SR
*          FROM MM ADDRESS OF ODP IN SYS. DIRECTORY
*          ENTRY AND ADDRESS OF SR RELATIVE TO ODP
*          (A-REG.=RELATIVE ADDRESS OF SUBROUTINE)
*

```

```

N0700258
N0700259
N0700260
N0700261
N0700262
N0700263
N0700264
N0700265
N0700266
N0700267
N0700268

```

0259	PG07D	0000	MMADDR	0	0				N0700259
0270	PG07E	0C00	ENQ	0	0				N0700270
0271	PG07F	3000	DVI	=N95					N0700271
0272	PG080	0000							
0272	PG081	680C	STA*	RELMMA					N0700272
0273	PG082	E0EB	LDQ-	\$EB	ADDRESS OF SYS. DIR.				N0700273
0274	PG083	F80B	ADQ*	ODPDEN	PLUS INDEX TO ODP ENTRY				N0700274
0275	PG084	C206	LDA-	6,2	LSB OF MM ADDRESS OF "ODP"				N0700275
0276	PG085	8808	ADD*	RELMMA	ADD RELATIVE ADDRESS OF SR				N0700276
0277	PG086	0D05	INQ	5	SET LOCATION TO MSB				N0700277
0278	PG087	4806	STQ*	RELMMA					N0700278
0279	PG088	0C00	ENQ	0					N0700279
0280	PG089	0FE1	LLS	1					N0700280
0281	PG08A	FC03	ADQ*	(RELMMA)	CALCULATE LSB				N0700281
0282	PG08B	CF0F	ALS	15					N0700282
0283	PG08C	1CF0	NOOVF	JMP*	(MMADDR)	Q=MSB,A=LSB			N0700283

0285	PG08D	0000	RELMMA	0	0				N0700285
0286	PG08E	7FFF	X ODPDEN	ADC	ODEBUG	DIRECTORY NAME OF THIS PACKAGE			N0700286

0288			*		PARAMETER	BUFFER			N0700288
0289	PG08F	0000	BASE	NUM	0	ABSOUTLIZED PARAMETER BUFFER ADD. (BE FILLED)			N0700289
0290	PG090	0031		ADC	HANDLE-SELF	"HANDLE" LOCATION (TO BE FILLED)	----	1	N0700290
0291	PG091	0075		ADC	MSG-HANDLE	"MSG" LOCATION (TO BE FILLED)	----	2	N0700291
0292	PG092	7FCA		ADC	SOMMOR-MSG	"SOMMOR" ENTRY	----	3	N0700292
0293	PG093	002B		ADC	IOERR-SOMMOR	"IOERR" ENTRY	----	4	N0700293
0294	PG094	0000	LISTLU	NUM	0	LOC. OF LIST OUTPUT L.U. NO.	----	5	N0700294
0295	PG095	0000	COMOLU	NUM	0	LOC. OF COMMENT OUTPUT L.U. NO.	----	6	N0700295
0296	PG096	0000	NEWMLU	NUM	0	NEW MASS MEMORY LOGICAL UNIT	----	7	N0700296
0297	PG097	0000	PROG1	NUM	0	SUBROUTINE IN AREA 3	----	8	N0700297
0298	PG098	0000	PROG2	NUM	0	PROGRAM IN AREA2 (PROGIN)	----	9	N0700298
0299	PG099	0000	BITFLG	NUM	0	BUFFER BIT POSITION NEXT	----	10	N0700299
0300	PG09A	0000	BUFCNT	NUM	0	BUFFER COUNTER	----	11	N0700300
0301	PG09B	0000	FIELD	NUM	0	CONTROL CHAR.	----	12	N0700301
0302	PG09C	0000		NUM	0	SIGN AND 1ST DEC. DIGIT	----	13	N0700302
0303	PG09D	0000		NUM	0	2 MOST SIGNIFICANT HEX CHARACTERS	----	14	N0700303
0304	PG09E	0000		NUM	0	LEAST SIGNIFICANT HEX CHARACTERS	----	15	N0700304
0305	PG09F	0000	SLASHF	0	0	SLASH FLAG	----	16	N0700305
0306	PG0A0	0000	BUFEMT	0	0	BUFFER ENTY FLAG	----	17	N0700306
0307	PG0A1	003E		ADC	BUFFER-BASE		----	18	N0700307

0309			*			LOG ILLEGAL MESSAGE			N0700309
0310	PG0A2	54F4	IOERR	RTJ-	(AMONI)				N0700310
0311	PG0A3	0507		ADC	\$500+CHRSLV				N0700311
0312	PG0A4	0007		ADC	ERCOMP-IOERR-1				N0700312
0313	PG0A5	0000		NUM	0				N0700313
0314	PG0A6	18FC		NUM	\$18FC				N0700314
0315	PG0A7	0008		NUM	8				N0700315
0316	PG0A8	001D		ADC	ERMESS-IOERR-1				N0700316


```

0353      00CD P      EQU  BUFFER(*)
0354      *
0355      00CD P START EQU  THIS BJFFER MUST MUST REMAIN JUST BEFOR AREA 2
                                START(*)      START -- ONE SHOT START-UP

```

```

N0700353
N0700354
N0700355

```

```

0357      *
0358      P00CD 0C00      CHRLJP ENQ 0      WRITE INTIAL MESSAGE
0359      P00CE 0A01      ENA 1
0350      P00CF 5800      RTJ HANDLE      PRINT START MESSAGE
0361      P00D0 FF66      JMP LOKMOR
0361      P00D1 1800
0361      P00D2 FF4A

```

```

N0700357
N0700358
N0700359
N0700360
N0700361

```

```

0363      0369      EQU  LCHRIS (BJFFER+LBUFF+LENGTH+LAREA3-ODP)
0364      00F5 P      EQU  PRGIN (BUFFER+LBUFF)
0365      0249 P      EQU  AREA3 (BUFFER+LBUFF+LENGTH)

```

```

N0700363
N0700364
N0700365

```

```

0368      *****
0369      *****AREA 2 PROGRAMS*****
0370      *****
0371      *
0372      0002 P      EQU  SA01 (* / 96)
0373      0003 P      EQU  SP01 (SA01 + 1)
0374      0120 P      EQU  DB01 (SP01 * 96)
0375      P00D3 004D      BSS  (DB01 - *)
0376      *
0377      END

```

```

N0700368
N0700369
N0700370
N0700371
N0700372
N0700373
N0700374
N0700375
N0700376
N0700377

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EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)
0093	AMONI	00F4	(000244) 0158, 0195, 0226, 0250, 0310
0093	ADISP	00EA	(000234) 0162, 0204, 0235, 0317
0093	LPMSK	0002	(000002)
0093	VZERO	0012	(000018)
0093	ZROBIT	0033	(000051)
0094	FIVE	0043	(000067)
0094	SIX	0044	(000058)
0094	ZERO	0022	(000034)
0094	ONEBIT	0023	(000035)
0094	SIXTEN	0027	(000039)
0095	COMMA	0020	(000044)
0095	SLASH	002F	(000047)
0095	ASTRIC	002A	(000042)
0096	EIGHT	0026	(000038)
0096	NINE	0045	(000069)
0096	THREE	0004	(000004)
0096	ONE	0003	(000003)
0096	TWO	0024	(000036)
0097	TEN	0046	(000070)
0100	MAXPAG	0010	(000016)
0101	CHRSLV	0007	(000007) 0159, 0196, 0227, 0311
0102	LBUFF	0028	(000040) 0143, 0163, 0363, 0364, 0365
0105	LENGTH	0154	(000340) 0231, 0363, 0365
0106	LAREA3	0120	(000288) 0200, 0363
0109	COMOUT	18FC	(006395)
0110	COMLU	18FD	(006397)
0111	MASSLU	08C2	(002242) 0162
0363	LCHRIS	0369	(000873) 0199, 0230

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0056	HANDLE	0037	0056, 0126, 0128, 0182, 0245, 0261, 0290, 0291, 0321, 0360
0057	BRIPRI	0062	0057
0058	ERROR	0072	0058, 0319
0059	IOERR	00A2	0059, 0132, 0134, 0173, 0210, 0238, 0293, 0312, 0316
0060	SOMMOR	0077	0060, 0130, 0132, 0292, 0293, 0322
0061	SOME	0079	0061, 0256
0062	MMADDR	0070	0062, 0192, 0219, 0283
0063	MSG	00AC	0063, 0128, 0130, 0291, 0292
0064	OFF	006F	0064
0118	ODP	0000	0118, 0252, 0363
0119	CHRIS	0001	0122, 0249, 0255
0122	SETFG	0004	0120
0124	SELF	0006	0123, 0125, 0126, 0290
0143	LOKMOR	001D	0262, 0361
0145	BUFLOP	001F	0148
0150	ALL1S	0024	0147
0159	READLN	0028	0160, 0164
0172	GOTOIT	0032	0197
0174	GOTO2	0034	0172
0182	GOTO3	003C	0175
0190	NOPRG	0043	0181
0196	GETROU	0049	0197, 0201
0202	MSBSR	004F	0193
0203	LSBSR	0050	0194
0206	QTEMP	0052	0178, 0184
0207	PRGTMP	0053	0174, 0191
0209	FIRSTF	0054	0160
0211	NOERR	0056	0209
0213	GETBAS	0058	0237
0216	AGETRQ	005B	0218
0218	NOINYT	005C	0212
0225	BRIPRO	0061	
0227	SETPRG	0063	0228, 0232
0233	MSBPRC	0069	0220
0234	LSBPRC	006A	0221
0236	NOWIN	006C	0228
0238	IOERR1	006E	0236
0243	CHREXT	0072	
0249	LCHRSF	0073	
0250	GOWAY	0074	0121
0283	NOOVF	008C	

0285	RELMMA	008D	0272, 0276, 0278, 0281
0286	ODPDEN	008E	0274
0289	BASE	008F	J127, 0129, 0131, 0133, 0134, 0135, 0185, 0213, 0307
0294	LISTLU	0094	0138
0295	COMOLU	0095	0137
0296	NEWMLU	0096	0140
0297	PROG1	0097	J175, 0180
0298	PROG2	0098	0211, 0225
0299	BITFLG	0099	0151
0300	BUFCNT	009A	0152
0301	FIELD	009B	
0305	SLASHF	009F	0154
0306	BUFEMT	00A0	0155
0318	ERCOMP	00AA	0312
0322	SOMMRR	00AE	J318
0324	PROLOC	00AF	0190
0329	A3	00AF	
0347	ERMESS	00C0	J316
0351	PATCH1	00C8	
0353	BUJFFER	00CD	0145, 0164, 0307, 0363, 0364, 0365
0355	START	00CD	0141
0358	CHRLOP	00CD	
0364	PROGIN	00F5	
0365	AREA3	0249	0214, 0232
0372	SA01	0002	0183, 0186, 0201
0373	SPO1	0003	0373
0374	DB01	0120	0374
			0375

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0067	GETREQ	005B	0216
0069	PRINT	00AF	0329
0070	GETFLD	00B0	0330
0071	ASCHEX	00B1	0331
0072	JMPBUF	00B2	0332
0073	ASCDEC	00B3	0333
0074	HEXASC	00B4	0334
0075	DECDMP	00B5	0335
0076	GETINT	00B6	0336
0077	FETMM	00B7	0337
0078	PNTMO	00B8	0338
0079	HASOT	00B9	0339
0080	CONFM	00BA	0340
0081	FLCVSG	00BB	0341
0082	FLCVDB	00BC	0342
0083	NAMEMS	00BD	0343
0085	ECONV	00BE	0344
0086	JCONV	00BF	0345
0088	00DEBUG	008E	0286
0089	CHRSFG	00G1	0118
0090	NUMLU	7FFF	

*** ALPHABETICAL SORT OF SYMBOLS ***

A3	0329	ADISP	0093	AGETRQ	0216	ALL1S	0150	AMONI	0093	AREA3	0365	ASCDEC	0073	ASCHEX	0071	ASTRIC	0095
BASE	0289	BITFLG	0299	BRIPR1	0057	BRIPRO	0225	BUFCNT	0300	BUFEMT	0306	BUFFER	0353	BUFLOP	0145	CHREXT	0248
CHRIS	0119	CHRLOP	0358	CHRSFG	0089	CHRSLV	0101	COMLU	0110	COMMA	0095	COMOLU	0295	COMOUT	0109	CONFM	0080
DB01	0374	DCONV	0086	DECDMP	0075	DMPBUF	0072	ECONV	0085	EIGHT	0096	ERCOMP	0313	ERMESS	0347	ERROR	0058
FETMM	0077	FIELD	0301	FIRSTF	0209	FIVE	0094	FLCVD B	0082	FLCVSG	0081	GETBAS	0213	GETFLD	0070	GETINT	0076
GETPRG	0227	GETREQ	0057	GETROU	0195	GOTO2	0174	GOTO3	0182	GOTOIT	0172	GOWAY	0250	HANDLE	0556	HEXASC	0074
I	0000	IOERR	0059	IOERR1	0238	LAREA3	0106	LBUFF	0102	LCHRIS	0363	LCHRSF	0249	LENGTH	0105	LISTLU	0294
LOCMOR	0143	LPMSK	0093	LSBPRC	0234	LSBSR	0203	MASOT	0079	MASSLU	0111	MAXPAG	0100	MMADDR	0062	MSBPRC	0233
MSBSR	0202	MSG	0063	NAMEYS	0083	NEWMLU	0296	NINE	0096	NOERR	0211	NOINYT	0218	NOOVF	0283	NOPRG	0190
NJWIN	0236	NUMLU	0090	NZERO	0093	ODEBUG	0088	ODP	0118	ODPDEN	0286	OFF	0364	ONE	0096	ONEBIT	0094
PATCH1	0331	PNTMD	0078	PRGTMF	0207	PRINT	0069	PROG1	0297	PROG2	0298	PROGIN	0364	PROLOC	0324	QTEMP	0206
READLN	0159	RELMM	0285	SA01	0372	SELF	0124	SETFG	0122	SIX	0094	SIXTEN	0094	SLASH	0095	SLASHF	0305
SOME	0061	SOMMOR	0060	SOMMR	0322	SP01	0373	START	0355	TEN	0097	THREE	0096	TWO	0096	ZERO	0094

NAM GETREQ DECK-ID N08 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

THIS PROGRAM FINDS THE REQUEST AND CALLS IN THE REQ.
 PROG. INTO PROGIN (AREA 2).

0001
 0002
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 0005
 0006
 0007
 0008

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N0800001
 N0800002
 N0800003
 N0800004
 N0800005
 N0800006
 N0800007
 N0800008

0010
 0011

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ENT GETREQ

N0800010
 N0800011

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E X T E R N A L S

01. LOAD HEXADECIMAL
 02. DUMP HEXADECIMAL
 03. SEARCH COR
 04. SET CORE TO PATTERN
 05. MOVE BLOCK OF CORE
 06. SCHEDULE PROGRAM
 07. SEARCH CORE FOR PARITY ERROR
 08. CLEAR PROTECT BITS
 09. SET PROTECT BITS
 10. ADD HEX. NUMBER
 11. SUBTRACT HEX. NUMBER
 12. ALLOCATE CORE
 13. RELEASE CORE
 14. LIST ALLOCATABLE CORE MAP
 15. PRINT THREAD
 16. ADVANCE FILE
 17. BACKSPACE FILE
 18. ADVANCE RECORD
 19. BACKSPACE RECORD
 20. WRITE END OF FILE
 21. REWIND TAPE
 22. MODIFY CORE IMAGE --- ASCII
 23. MODIFY ORDINAL ---HEX
 24. MODIFY MASS MEMORY --- HEX
 REQUEST CODE 25 IS SAME AS CODE 2 --- "DPC"
 25. DUMP DECIMAL (INTEGER)
 26. LIST MASS MEMORY
 27. CHANGE LIST UNIT
 28. LOAD DECIMAL (INTEGER)
 29. MODIFY MASS MEMORY (INTEGER)
 30. WRITE CORE TO MM
 31. READ TO CORE FROM MM
 32. LOAD ASCII
 33. DUMP ASCII
 34. CHANGE MASS MEMORY UNIT
 35. LIST PARTITION CORE MAP
 36. LOAD SINGLE PRECISION
 37. DUMP SINGLE PRECISION
 38. LOAD DOUBLE PRECISION

N0800013
 N0800014
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0053	EXT	DDPREQ	39.	DUMP DOUBLE PRECISION	N0800053
0054	EXT	WDKREQ	40.	WRITE TO DISK FROM CORE	N0800054
0055	EXT	RDKREQ	41.	READ FROM MASS MEMORY TO CORE	N0800055
0056	EXT	SMPREQ	42.	SET MASS MEMORY TO PATTERN	N0800056
0057	EXT	CCCREQ	43.	COMPARE CORE TO CORE	N0800057
0058	EXT	MMREQ	44.	MOVE MASS MEMORY	N0800058
0059	EXT	DMHREQ	45.	DUMP MASS MEMORY	N0800059
0060	EXT	DMIREQ	46.	DUMP MASS MEMORY --- DECIMAL	N0800060
0061	EXT	DMAREQ	47.	DUMP MASS MEMORY (ASCII)	N0800061
0062	EXT	DMSREQ	48.	DUMP MASS MEMORY --- SINGLE PRECISION	N0800062
0063	EXT	DMDREQ	49.	DUMP MASS MEMORY --- DOUBLE PRECISION	N0800063
0064	EXT	CWAREQ	50.	CONVERT WORD ADD. TO SECTOR/WORD ADD.	N0800064
0065	EXT	CCYREQ	51.	COMPARE CORE TO MASS MEMORY	N0800065
0066	EXT	CMMREQ	52.	COMPARE MASS MEMORY TO MM	N0800066
0067	EXT	SMNREQ	53.	SEARCH MM FOR PATTERN	N0800067
0068	EXT	UNLREQ	54.	UNLOAD TAPE	N0800068
0069		REQUEST	54	IS SAME AS CODE 55 ---- 'UNL'	N0800069
0070	EXT	SLJREQ	55.	SELECT DENSITY	N0800070
0071	EXT	LICREQ	56.	MODIFY CORE IMAGE (DECIMAL)	N0800071
0072	EXT	LACREQ	57.	MODIFY CORE IMAGE (ASCII)	N0800072
0073	EXT	LIOREQ	58.	MODIFY ORDINAL (DECIMAL)	N0800073
0074	EXT	LAOREQ	59.	MODIFY ORDINAL (ASCII)	N0800074
0075	EXT	LSOREQ	60.	MODIFY ORDINAL (SINGLE PRECISION)	N0800075
0076	EXT	LDOREQ	61.	MODIFY ORDINAL (DOUBLE PRECISION)	N0800076
0077	EXT	LAMREQ	62.	MODIFY MM (ASCII)	N0800077
0078	EXT	LSMREQ	63.	LOAD MM SINGLE PRECISION (SAME AS 60)	N0800078
0079	EXT	LDMREQ	64.	MODIFY MM (DOUBLE PRECISION)	N0800079
0080	EXT	LSTREQ	65.	LIST COMMAND	N0800080

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0082	EXT	HANDLE	"HANDLE"	N0800082
0083	EXT	BRIPR1	"BRIPR1"	N0800083
0084	EXT	MMA DDR	"MMA DDR"	N0800084
0085	EXT	OFF	"OFF"	N0800085
0086	EXT	MSG	"MSG"	N0800085

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0088			' E Q U ' T A B L E	N0800088
0089	EQU	AMONI (\$F4),ADISP (\$EA),LPMSK(2),NZERO (\$12),ZROBIT (\$33)		N0800089
0090	EQU	FIVE (\$43),SIX (\$44),ZERO (\$22),ONEBIT (\$23),SIXTEN (\$27)		N0800090
0091	EQU	COMMA (\$2C),SLASH (\$2F),ASTRIC (\$2A)		N0800091

00F4
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0043
0044
0022
0023
0027
002C
002F
002A

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0092      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N0800092
          0045
          0004
          0003
          0024
0093      0046      EQU      TEN($46)                                          **MSOS4.0**N0800093
0095      0007      EQU      MSBPRC(7)      OFF-COUNT FROM "BRIPR1" TO "MSBPRC"      N0800095
0096      0008      EQU      LSBPRC(8)      OFF-COUNT FROM "BRIPR1" TO "LSBPRC"      N0800096

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0098      *          PARAMETER LOCATION (OFFSET FROM BASE)      N0800098
0099      0001      EQU      BHANDLE(1)      "HANDLE"      N0800099
0100      0002      EQU      BMSG(2)      "MSG" ENTRY      N0800100
0101      0003      EQU      SOMMOR(3)      "SOMMOR" ENTRY      N0800101
0102      0004      EQU      IOERR(4)      "IOERR" ENTRY      N0800102
0103      0005      EQU      LISTLU(5)      LIST OUTPUT --- "LISTLU"      N0800103
0104      0006      EQU      COMOLU(6)      "COMOLU"      N0800104
0105      0007      EQU      NEWMLU(7)      "NEWMLU" --- NEW MM LU      N0800105
0106      0008      EQU      PROG1(8)      "PROG1"      N0800106
0107      0009      EQU      PROG2(9)      "PROG2"      N0800107
0108      000A      EQU      BITFLG(10)      "BITFLG"      N0800108
0109      000B      EQU      BUFCNT(11)      "BUFCNT"      N0800109
0110      000C      EQU      FIELD(12)      "FIELD"      N0800110
0111      0010      EQU      SLASHF(16)      "SLASHF"      N0800111
0112      0011      EQU      BUFEMT(17)      "BUFEMT"      N0800112

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0114      *          ***** PROGRAM START *****      N0800114
0115      *****      N0800115
0116      *          N0800116

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0118      *          SET JP ADDRESSES      N0800118
0119      GETREQ STA* BASE      SAVE PARAMETER BUFFER ADDRESS      N0800119
0120      TRA Q      N0800120
0121      LDA* OFTB+1      N0800121
0122      SUB* OFTB      CALCULATE OFF-COUNT FROM "BRIPR1" TO "HANDLE"      N0800122
0123      STA* EXTBR1      N0800123
0124      LDA* OFTB+2      N0800124
0125      SUB* OFTB+1      N0800125
0126      STA* EXTMMA      N0800126
0127      LDA- BHANDLE,Q      GET "HANDLE" ADDRESS      N0800127
0128      STA* EXTHAN      N0800128
0129      ADD* EXTBR1      SET TO "BRIPR1 " LOCATION      N0800129
0130      STA* EXTBR1      N0800130
0131      ADD* EXTMMA      SET TO MMADDR" ADDRESS      N0800131
0132      STA* EXTMMA      N0800132
0133      LDA- BMSG,Q      N0800133
0134      STA* EXTMSG      N0800134

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0135	P0010	C815		LDA*	OFTB+3	CALCULATE "OFF"		N0800135
0136	P0011	9811		SUB*	OFTB			N0800136
0137	P0012	8828		ADD*	EXTHAN			N0800137
0138	P0013	6828		STA*	EXTOFF			N0800138
0140			*		GO GET FIRST FIELD			N0800140
0141	P0014	GA02		ENA	2			N0800141
0142	P0015	GC03		ENQ	3	SET TO GET 3 CHAR. FIELD		N0800142
0143	P0016	5C24		RTJ*	(EXTHAN)			N0800143
0145			*		SEE IF VALID REQUEST			N0800145
0146	P0017	C822		LDA*	BASE			N0800146
0147	P0018	60FF		STA-	I	SET UP PARAMETER BUFFER ADDRESS		N0800147
0148	P0019	C10C		LDA-	FIELD,I	IS CONTROL CHARACTER LEGAL		N0800148
0149	P001A	010C		SAZ	REQOK-* -1	SKIP YES (ZERO)		N0800149
0150	P001B	900A		SUB-	LPMSK+8			N0800150
0151	P001C	010A		SAZ	REQOK-* -1	SKIP YES (\$FF)		N0800151
0152	P001D	800A		ADD-	LPMSK+8			N0800152
0153	P001E	0903		INA	-COMMA			N0800153
0154	P001F	0107		SAZ	REQOK-* -1	SKIP YES (COMMA)		N0800154
0155	P0020	0C04		ENQ	+	FORMAT INCORRECT MSG.		N0800155
0156	P0021	1C1B		JMP*	(EXTMSG)	NO COMMA		N0800156
0158	P0022	7FFF	X	OFTB	ADC	HANDLE	0. "HANDLE"	N0800158
0159	P0023	7FFF	X		ADC	BRIPR1	1. "BRIPR1"	N0800159
0160	P0024	7FFF	X		ADC	MMADDR	2. "MMADDR"	N0800160
0161	P0025	7FFF	X		ADC	OFF	3. "OFF"	N0800161
0162	P0026	7FFF	X		ADC	MSG	4. "MSG"	N0800162
0164	P0027	E000		REQOK	LDQ	=XLGNU-1	SCAN GNUTAB	N0800164
0165	P0028	0083						
0166	P0029	C10F		REQLOP	LDA-	FIELD+3,I		N0800165
0167	P002A	8A20			EOR*	GNJTAB,Q		N0800166
0168	P002B	0DFE			INQ	-1		N0800167
0169	P002C	0114			SAN	TRYOTH-* -1		N0800168
0170	P002D	C10E			LDA-	FIELD+2,I		N0800169
0171	P002E	BA1C			EOR*	GNJTAB,Q		N0800170
0172	P002F	AG09			AND-	LPMSK+7		N0800171
0173	P0030	C105			SAZ	FOUND-* -1	FOUND VALID FIELD	N0800172
0174	P0031	0DFE		TRYOTH	INQ	-1		N0800173
0175	P0032	0171			SQM	LOGILL-* -1		N0800174
0176	P0033	18F5			JMP*	REQLOP		N0800175
0177	P0034	0C05		LOGILL	ENQ	5	ILLEGAL REQUEST	N0800176
0177	P0035	1C07			JMP*	(EXTMSG)		N0800177

0179 * VALID REQUEST FOUND N0800179

0181 P0036 0F21 FOUND QRS 1 2 WORD PER MNUMONIC N0800181
 0182 P0037 0157 SQN BRING--*-1 GET CORRECT REQUEST N0800182

0184 P0038 1C03 GETOJT JMF* (EXTOFF) TURN OFF PACKAGE N0800184

0186 P0039 0000 BASE NUM 0 N0800186
 0187 P003A 0000 EXTHAN NUM 0 N0800187
 0188 P003B 0000 EXTOFF NUM 0 N0800188
 0189 P003C 0000 EXTMSG NUM 0 N0800189
 0190 P003D 0000 EXTMMA NUM 0 N0800190
 0191 P003E 0000 EXTBRI NUM 0 N0800191

0193 P003F CAG0 BRING LDA REQTAB,Q N0800193
 P0040 0080
 0194 P0041 4109 STQ- PROG2,I N0800194
 0195 P0042 5CFA RTJ* (EXTMMA) N0800195
 0196 P0043 68F5 STA* BASE SAVE DATA TEMPORARY N0800196
 0197 P0044 C8F9 LDA* EXTBRI GET "BRIPR1" LOCATION N0800197
 0198 P0045 60FF STA- I N0800198
 0199 P0046 4107 STQ- MSBPRC,I N0800199
 0200 P0047 C8F1 LDA* BASE RECALL DATA N0800200
 0201 P0048 6108 STA- LSBPRC,I SAVE LSB N0800201
 0202 P0049 1522 JMP- (ZERO),I GO PUT REQ. PROGRAM IN THIS AREA N0800202

0204 * MNEMONIC TABLE OF REQUESTS N0800204

0206 P004A 204F GNTAB ALF 2, OFF 0 N0800206
 P004B 4646
 0207 P004C 204C ALF 2, LHX 01. LOAD HEXADECIMAL N0800207
 P004D 4858
 0208 P004E 2044 ALF 2, DPC 02. DUMP HEXADECIMAL N0800208
 P004F 5043
 0209 P0050 2053 ALF 2, SCN 03. SEARCH COR N0800209
 P0051 434E
 0210 P0052 2053 ALF 2, SET 04. SET CORE TO PATTERN N0800210
 P0053 4554
 0211 P0054 204D ALF 2, MBC 05. MOVE BLOCK OF CORE N0800211
 P0055 4243

0212	P0056 P0057	2053 4348	ALF 2, SCH	06. SCHEDULE PROGRAM	N0800212
0213	P0058 P0059	2053 5045	ALF 2, SPE	07. SEARCH CORE FOR PARITY ERROR	N0800213
0214	P005A P005B	2043 5050	ALF 2, CPP	08. CLEAR PROTECT BITS	N0800214
0215	P005C P005D	2053 5050	ALF 2, SPP	09. SET PROTECT BITS	N0800215
0216	P005E P005F	2041 4448	ALF 2, ADH	10. ADD HEX. NUMBER	N0800216
0217	P0060 P0061	2053 4248	ALF 2, SBH	11. SUBTRACT HEX. NUMBER	N0800217
0218	P0062 P0063	2041 4043	ALF 2, ALC	12. ALLOCATE CORE	N0800218
0219	P0064 P0065	2052 454C	ALF 2, REL	13. RELEASE CORE	N0800219
0220	P0066 P0067	2044 4143	ALF 2, JAC	14. LIST ALLOCATABLE CORE MAP	N0800220
0221	P0068 P0069	2050 5448	ALF 2, PTH	15. PRINT THREAD	N0800221
0222	P006A P006B	2041 4446	ALF 2, ADF	16. ADVANCE FILE	N0800222
0223	P006C P006D	2042 5346	ALF 2, BSF	17. BACKSPACE FILE	N0800223
0224	P006E P006F	2041 4452	ALF 2, ADR	18. ADVANCE RECORD	N0800224
0225	P0070 P0071	2042 5352	ALF 2, BSR	19. BACKSPACE RECORD	N0800225
0226	P0072 P0073	2057 4546	ALF 2, WEF	20. WRITE END OF FILE	N0800226
0227	P0074 P0075	2052 4557	ALF 2, REW	21. REWIND TAPE	N0800227
0228	P0076 P0077	204C 4843	ALF 2, LHC	22. MODIFY CORE IMAGE --- ASCII	N0800228
0229	P0078 P0079	204C 484F	ALF 2, LHO	23. MODIFY ORDINAL ---HEX	N0800229
0230	P007A P007B	204C 4840	ALF 2, LHM	24. MODIFY MASS MEMORY --- HEX	N0800230
0231	P007C P007D	2044 4943	ALF 2, DIC	25. DUMP DECIMAL (INTEGER)	N0800231
0232	P007E P007F	204D 5344	ALF 2, MSD	26. LIST MASS MEMORY	N0800232
0233	P0080 P0081	2043 4C55	ALF 2, CLU	27. CHANGE LIST UNIT	N0800233
0234	P0082 P0083	204C 4954	ALF 2, LIT	28. LOAD DECIMAL (INTEGER)	N0800234
0235	P0084 P0085	204C 494D	ALF 2, LIM	29. MODIFY MASS MEMORY (INTEGER)	N0800235
0236	P0086 P0087	2057 4344	ALF 2, WCD	30. WRITE CORE TO MM	N0800236
0237	P0088 P0089	2052 4443	ALF 2, RDC	31. READ MM TO CORE	N0800237
0238	P008A P008B	204C 4153	ALF 2, LAS	32. LOAD ASCII	N0800238

0239	P008C 2044 P008D 4153	ALF 2, DAS	33. DUMP ASCII	N0800239
0240	P008E 204D P008F 4C55	ALF 2, MLU	34. CHANGE MASS MEMORY UNIT	N0800240
0241	P0090 2044 P0091 5054	ALF 2, DPT	35. LIST PARTITION CORE MAP	N0800241
0242	P0092 204C P0093 5350	ALF 2, LSP	36. LOAD SINGLE PRECISION	N0800242
0243	P0094 2044 P0095 5350	ALF 2, DSP	37. DUMP SINGLE PRECISION	N0800243
0244	P0096 204C P0097 4450	ALF 2, LJP	38. LOAD DOUBLE PRECISION	N0800244
0245	P0098 2044 P0099 4450	ALF 2, ODP	39. DUMP DOUBLE PRECISION	N0800245
0246	P009A 2057 P009B 444B	ALF 2, WDK	40. WRITE TO DISK FROM CORE	N0800246
0247	P009C 2052 P009D 444B	ALF 2, RDK	41. READ FROM MASS MEMORY TO CORE	N0800247
0248	P009E 2053 P009F 4D50	ALF 2, SMP	42. SET MASS MEMORY TO PATTERN	N0800248
0249	P00A0 2043 P00A1 4343	ALF 2, CCC	43. COMPARE CORE TO CORE	N0800249
0250	P00A2 204D P00A3 4D4D	ALF 2, MMM	44. MOVE MASS MEMORY	N0800250
0251	P00A4 2044 P00A5 4D48	ALF 2, JMH	45. DUMP MASS MEMORY	N0800251
0252	P00A6 2044 P00A7 4D49	ALF 2, JMI	46. DUMP MASS MEMORY --- DECIMAL	N0800252
0253	P00A8 2044 P00A9 4D41	ALF 2, DMA	47. DUMP MASS MEMORY (ASCII)	N0800253
0254	P00AA 2044 P00AB 4D53	ALF 2, JMS	48. DUMP MASS MEMORY --- SINGLE PRECISION	N0800254
0255	P00AC 2044 P00AD 4D44	ALF 2, DMD	49. DUMP MASS MEMORY --- DOUBLE PRECISION	N0800255
0256	P00AE 2043 P00AF 5741	ALF 2, CWA	50. CONVERT WORD ADD. TO SECTOR/WORD ADD.	N0800256
0257	P00B0 2043 P00B1 434D	ALF 2, CCM	51. COMPARE CORE TO MASS MEMORY	N0800257
0258	P00B2 2043 P00B3 4D4D	ALF 2, CMM	52. COMPARE MASS MEMORY TO MM	N0800258
0259	P00B4 2053 P00B5 4D4E	ALF 2, SMN	53. SEARCH MM FOR PATTERN	N0800259
0260	P00B6 2055 P00B7 4E4C	ALF 2, UNL	54. UNLOAD TAPE	N0800260
0261	P00B8 2053 P00B9 4C44	ALF 2, SLD	55. SELECT DENSITY	N0800261
0262	P00BA 204C P00BB 4943	ALF 2, LIC	56. MODIFY CORE IMAGE (DECIMAL)	N0800262
0263	P00BC 204C P00BD 4143	ALF 2, LAC	57. MODIFY CORE IMAGE (ASCII)	N0800263
0264	P00BE 204C P00BF 494F	ALF 2, LIO	58. MODIFY ORDINAL (DECIMAL)	N0800264
0265	P00C0 204C P00C1 414F	ALF 2, LAO	59. MODIFY ORDINAL (ASCII)	N0800265

0256	P00C2	204C	ALF	2, LSO	60. MODIFY ORDINAL (SINGLE PRECISION)	N0800256
	P00C3	534F				
0257	P00C4	204C	ALF	2, LDO	61. MODIFY ORDINAL (DOUBLE PRECISION)	N0800267
	P00C5	444F				
0258	P00C6	204C	ALF	2, LAM	62. MODIFY MM (ASCII)	N0800268
	P00C7	414D				
0259	P00C8	204C	ALF	2, LSM	63. MODIFY MM (SINGLE PRECISION)	N0800269
	P00C9	534D				
0270	P00CA	204C	ALF	2, LDM	64. MODIFY MM (DOUBLE PRECISION)	N0800270
	P00CB	444D				
0271	P00CC	204C	ALF	2, LST	65. LIST COMMAND	N0800271
	P00CD	5354				

0273	0084		EQU	LGNU(*-GNJTAB)	LENGTH OF TABLE	N0800273
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0275		*		PROGRAM TABLE - LOCATION ON M.M.		N0800275
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0277	00CD P		EQU	REQTAB(*-1)	PROGRAM LOCATIONS ON MASS MEMORY	N0800277
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0279	P00CE	7FFF	X	ADC	LHXREQ	01. LOAD HEXADECIMAL	N0800279
0280	P00CF	7FFF	X	ADC	DPCREQ	02. DUMP HEXADECIMAL	N0800280
0281	P00D0	7FFF	X	ADC	SCVREQ	03. SEARCH COR	N0800281
0282	P00D1	7FFF	X	ADC	SETREQ	04. SET CORE TO PATTERN	N0800282
0283	P00D2	7FFF	X	ADC	MBCREQ	05. MOVE BLOCK OF CORE	N0800283
0284	P00D3	7FFF	X	ADC	SCHREQ	06. SCHEDULE PROGRAM	N0800284
0285	P00D4	7FFF	X	ADC	SPERREQ	07. SEARCH CORE FOR PARITY ERROR	N0800285
0286	P00D5	7FFF	X	ADC	CPPREQ	08. CLEAR PROTECT BITS	N0800286
0287	P00D6	7FFF	X	ADC	SPPREQ	09. SET PROTECT BITS	N0800287
0288	P00D7	7FFF	X	ADC	ADHREQ	10. ADD HEX. NUMBER	N0800288
0289	P00D8	7FFF	X	ADC	SBHREQ	11. SUBTRACT HEX. NUMBER	N0800289
0290	P00D9	7FFF	X	ADC	ALCREQ	12. ALLOCATE CORE	N0800290
0291	P00DA	7FFF	X	ADC	RELREQ	13. RELEASE CORE	N0800291
0292	P00DB	7FFF	X	ADC	DACREQ	14. LIST ALLOCATABLE CORE MAP	N0800292
0293	P00DC	7FFF	X	ADC	PTHREQ	15. PRINT THREAD	N0800293
0294	P00DD	7FFF	X	ADC	ADREQ	16. ADVANCE FILE	N0800294
0295	P00DE	7FFF	X	ADC	BSFREQ	17. BACKSPACE FILE	N0800295
0296	P00DF	7FFF	X	ADC	ADRREQ	18. ADVANCE RECORD	N0800296
0297	P00E0	7FFF	X	ADC	BSRREQ	19. BACKSPACE RECORD	N0800297
0298	P00E1	7FFF	X	ADC	WEFREQ	20. WRITE END OF FILE	N0800298
0299	P00E2	7FFF	X	ADC	REWREQ	21. REWIND TAPE	N0800299
0300	P00E3	7FFF	X	ADC	LHCREQ	22. MODIFY CORE IMAGE --- ASCII	N0800300
0301	P00E4	7FFF	X	ADC	LHREQ	23. MODIFY ORDINAL ---HEX	N0800301
0302	P00E5	7FFF	X	ADC	LHMREQ	24. MODIFY MASS MEMORY --- HEX	N0800302
0303	P00E6	7FFF	X	ADC	DICREQ	25. DUMP DECIMAL (INTEGER)	N0800303
0304	P00E7	7FFF	X	ADC	MSDREQ	26. LIST MASS MEMORY	N0800304

0305	P00E8	7FFF	X	ADC	CLUREQ	27. CHANGE LIST UNIT	N0800305
0306	P00E9	7FFF	X	ADC	LITREQ	28. LOAD DECIMAL (INTEGER)	N0800306
0307	P00EAB	7FFF	X	ADC	LIMREQ	29. MODIFY MASS MEMORY (INTEGER)	N0800307
0308	P00EBA	7FFF	X	ADC	WCDREQ	30. WRITE CORE TO MM	N0800308
0309	P00EBC	7FFF	X	ADC	RCDREQ	31. READ TO CORE FROM MM	N0800309
0310	P00ED	7FFF	X	ADC	LASREQ	32. LOAD ASCII	N0800310
0311	P00EE	7FFF	X	ADC	DASREQ	33. DUMP ASCII	N0800311
0312	P00EEF	7FFF	X	ADC	MLUREQ	34. CHANGE MASS MEMORY UNIT	N0800312
0313	P00EF0	7FFF	X	ADC	DPTREQ	35. LIST PARTITION CORE MAP	N0800313
0314	P00EF1	7FFF	X	ADC	LSPREQ	36. LOAD SINGLE PRECISION	N0800314
0315	P00EF2	7FFF	X	ADC	DSPREQ	37. DUMP SINGLE PRECISION	N0800315
0316	P00EF3	7FFF	X	ADC	LDPREQ	38. LOAD DOUBLE PRECISION	N0800316
0317	P00EF4	7FFF	X	ADC	DOPREQ	39. DUMP DOUBLE PRECISION	N0800317
0318	P00EF5	7FFF	X	ADC	WDKREQ	40. WRITE TO DISK FROM CORE	N0800318
0319	P00EF6	7FFF	X	ADC	RDKREQ	41. READ FROM MASS MEMORY TO CORE	N0800319
0320	P00EF7	7FFF	X	ADC	SMPREQ	42. SET MASS MEMORY TO PATTERN	N0800320
0321	P00EF8	7FFF	X	ADC	CCCREQ	43. COMPARE CORE TO CORE	N0800321
0322	P00EF9	7FFF	X	ADC	MMREQ	44. MOVE MASS MEMORY	N0800322
0323	P00EFA	7FFF	X	ADC	DMHREQ	45. DUMP MASS MEMORY	N0800323
0324	P00EFB	7FFF	X	ADC	DMIREQ	46. DUMP MASS MEMORY --- DECIMAL	N0800324
0325	P00EFC	7FFF	X	ADC	DMAREQ	47. DUMP MASS MEMORY (ASCII)	N0800325
0326	P00EFD	7FFF	X	ADC	DMSREQ	48. DUMP MASS MEMORY --- SINGLE PRECISION	N0800326
0327	P00EFE	7FFF	X	ADC	DMJREQ	49. DUMP MASS MEMORY --- DOUBLE PRECISION	N0800327
0328	P00EFF	7FFF	X	ADC	CWAREQ	50. CONVERT WORD ADD. TO SECTOR/WORD ADD.	N0800328
0329	P0100	7FFF	X	ADC	CCYREQ	51. COMPARE CORE TO MASS MEMORY	N0800329
0330	P0101	7FFF	X	ADC	CMMREQ	52. COMPARE MASS MEMORY TO MM	N0800330
0331	P0102	7FFF	X	ADC	SMVREQ	53. SEARCH MM FOR PATTERN	N0800331
0332	P0103	7FFF	X	ADC	UNLREQ	54. UNLOAD TAPE	N0800332
0333	P0104	7FFF	X	ADC	SLDREQ	55. SELECT DENSITY	N0800333
0334	P0105	7FFF	X	ADC	LICREQ	56. MODIFY CORE IMAGE (DECIMAL)	N0800334
0335	P0106	7FFF	X	ADC	LACREQ	57. MODIFY CORE IMAGE (ASCII)	N0800335
0336	P0107	7FFF	X	ADC	LIOREQ	58. MODIFY ORDINAL (DECIMAL)	N0800336
0337	P0108	7FFF	X	ADC	LAOREQ	59. MODIFY ORDINAL (ASCII)	N0800337
0338	P0109	7FFF	X	ADC	LSOREQ	60. MODIFY ORDINAL (SINGLE PRECISION)	N0800338
0339	P010A	7FFF	X	ADC	LDOREQ	61. MODIFY ORDINAL (DOUBLE PRECISION)	N0800339
0340	P010B	7FFF	X	ADC	LAMREQ	62. MODIFY MM (ASCII)	N0800340
0341	P010C	7FFF	X	ADC	LSMREQ	63. LOAD MM SINGLE PRECISION (SAME AS 60)	N0800341
0342	P010D	7FFF	X	ADC	LDYREQ	64. MODIFY MM (DOUBLE PRECISION)	N0800342
0343	P010E	7FFF	X	ADC	LSIREQ	65. LIST COMMAND	N0800343
0344	P010F	0005		BZS	PATCH2(5) *****		N0800344

0346			*				N0800346
0347	0002	P		EQU	SA02(*196)		N0800347
0348	0003	P		EQU	SP02(SA02+1)		N0800348

GETREQ

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DATE: 01/27/99

0349 0120 P
0350 PG114 000C
0351

EQU DB02(SP02*96)
ESS (DB02-*)
END

N0800349
N0800350
N0800351

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0147, 0198
0089	AMONI	00F4	(000244)
0089	ADISP	00EA	(000234)
0089	LPMSK	0002	(000002) 0150, 0152, 0171
0089	NZERO	0012	(000018)
0089	ZROBIT	0033	(000051)
0090	FIVE	0043	(000067)
0090	SIX	0044	(000068)
0090	ZERO	0022	(000034) 0202
0090	ONEBIT	0023	(000035)
0090	SIXTEN	0027	(000039)
0091	COMMA	0020	(000044) 0153
0091	SLASH	002F	(000047)
0091	ASTRIC	002A	(000042)
0092	EIGHT	0026	(000038)
0092	NINE	0045	(000069)
0092	THREE	0004	(000004)
0092	ONE	0003	(000003)
0092	TWO	0024	(000036)
0093	TEN	0046	(000070)
0095	MSBPRC	0007	(000007) 0199
0096	LSBPRC	0008	(000008) 0201
0099	BHANDL	0001	(000001) 0127
0100	BMSG	0002	(000002) 0133
0101	SOMMOR	0003	(000003)
0102	IOERR	0004	(000004)
0103	LISTLU	0005	(000005)
0104	COMOLU	0006	(000006)
0105	NEWMLU	0007	(000007)
0106	PROG1	0008	(000008)
0107	PROG2	0009	(000009) 0194
0108	BITFLG	000A	(000010)
0109	BUFCNT	000B	(000011)
0110	FIELD	000C	(000012) 0148, 0165, 0169
0111	SLASHF	0010	(000016)
0112	BUFEMT	0011	(000017)
0273	LGNU	0084	(000132) 0164

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0011	GETREQ	0000	0011
0158	JFTB	0022	J121, 0122, 0124, 0125, 0135, 0136
0164	REQOK	0027	0149, 0151, 0154
0165	REQLOP	0029	0175
J173	TRYOTH	0031	0168
0176	LOGILL	0034	J174
0181	FOUND	0036	0172
0184	GETOUT	0038	
0186	BASE	0039	J119, 0146, 0196, 0200
0187	EXTHAN	003A	0128, 0137, 0143
0188	EXTOFF	003B	0138, 0184
0189	EXTMSG	003C	J134, 0156, 0177
0190	EXTMMA	003D	J126, 0131, 0132, 0195
0191	EXTERI	003E	J123, 0129, 0130, 0197
J193	WRING	003F	0182
0206	GNUTAB	004A	J166, 0170, 0273
0277	REQTAB	00CD	J193
J344	PATCH2	010F	
0347	SA02	0002	0348
J348	SP02	0003	0349
0349	DBC2	0120	0350

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0014	LHXREQ	00CE	0279
0015	OPPCREQ	00CF	0280
0016	SCNREQ	00D0	0281
0017	SETREQ	00D1	0282
0018	MBCREQ	00D2	0283
0019	SCHREQ	00D3	0284
0020	SPPEREQ	00D4	0285
0021	OPPPEREQ	00D5	0286
0022	VPPEREQ	00D6	0287
0023	ADHREQ	00D7	0288
0024	SBHREQ	00D8	0289
0025	ALCREQ	00D9	0290
0026	RELCREQ	00DA	0291
0027	JACREQ	00DB	0292
0028	PTHREQ	00DC	0293
0029	ADFRREQ	00DD	0294
0030	BSTREQ	00DE	0295
0031	ADRREQ	00DF	0296
0032	BSTRREQ	00E0	0297
0033	RETRREQ	00E1	0298
0034	REWRREQ	00E2	0299
0035	LHCREQ	00E3	0300
0036	LHOREQ	00E4	0301
0037	LHMREQ	00E5	0302
0039	DICREQ	00E6	0303
0040	YSOREQ	00E7	0304
0041	CLUREQ	00E8	0305
0042	LITREQ	00E9	0306
0043	LIMREQ	00EA	0307
0044	WCDREQ	00EB	0308
0045	RCDREQ	00EC	0309
0046	LASREQ	00ED	0310
0047	DASREQ	00EE	0311
0048	MLUREQ	00EF	0312
0049	UPTRREQ	00F0	0313
0050	LSPTRREQ	00F1	0314
0051	OSPTRREQ	00F2	0315
0052	LDPTRREQ	00F3	0316
0053	ODPTRREQ	00F4	0317
0054	WPKREQ	00F5	0318
0055	RDKREQ	00F6	0319

00050	SMPREQ	J0F7	J320
00057	CCCREQ	J0F8	J321
00058	MMMREQ	J0F9	J322
00059	JMHREQ	J0FA	J323
00060	DMIREQ	J0FB	J324
00061	JMAREQ	J0FC	J325
00062	JMSREQ	J0FD	J326
00063	JMDREQ	J0FE	J327
00064	CWAREQ	J0FF	J328
00065	CCMREQ	0100	J329
00066	SMMREQ	0101	J330
00067	SMMREQ	0102	J331
J068	UNLREQ	0103	J332
00070	SLDREQ	J104	J333
00071	LICREQ	0105	J334
00072	LACREQ	0106	J335
00073	LIOREQ	0107	J336
00074	LAREQ	0108	J337
00075	LSOREQ	0109	J338
00076	LDOREQ	01GA	J339
J077	LAMREQ	010B	J340
00078	LSMREQ	010C	J341
00079	LDMREQ	010D	J342
00080	LSTREQ	010E	J343
00082	HANDLER	0022	J348
J083	BRIPRI	0023	J349
00084	MMADD	0024	J350
00085	OFF	0025	J351
00086	MSG	0026	J352

0001
0002
0003
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0014
0015

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*

NAM LHXREQ DECK-ID N09 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110N0900001

N0900002
N0900003
N0900004
N0900005
N0900006
N0900007
N0900008
N0900009
N0900010
N0900011
N0900012
N0900013
N0900014
N0900015

THIS PROCESSOR LOADS WORDS FROM THE
INPUT COMMENT MEDIUM TO CORE.

REQUEST HAS FOLLOWING FORMAT.
LHX,CORE LOC.,BASE/DATA,OP CODE*ADDRESS(CR)
ALL FIELDS PRECEDING SLASH ARE ADDED TO
OBTAIN STARTING CORE LOCATION.
AN OP. CODE OF ZERO CAUSES 16 BIT RELATIVE
ADDRESS TO BE STORED.

0017
0018

*

ENT LHXREQ ENTRY NAME

N0900017
N0900018

0020
0021

*

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046
000C

EQU A'ONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N0900020
N0900021

0022

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N0900022

0023

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N0900023

0024

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N0900024

0025
0026

EQU TEN(\$46)
EQU CONFM(12) "CONFM" ENTRY

N0900025
N0900026

0028
0029
0030
0031
0032
0033

*

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"

N0900028
N0900029
N0900030
N0900031
N0900032
N0900033

0033	0006	EQU	COMOLU(6)	"COMOLU"		N0900034
0034	0007	EQU	NEWMLU(7)	"NEWMLU"	--- NEW MM LU	N0900035
0035	0008	EQU	PROG1(8)	"PROG1"		N0900036
0036	0009	EQU	PROG2(9)	"PROG2"		N0900037
0038	000A	EQU	BITFLG(10)	"BITFLG"		N0900038
0039	000B	EQU	BUFCNT(11)	"BUFCNT"		N0900039
0040	000C	EQU	FIELD(12)	"FIELD"		N0900040
0041	0010	EQU	SLASHF(16)	"SLASHF"		N0900041
0042	0011	EQU	BUFEMT(17)	"BUFEMT"		N0900042
0043	0012	EQU	BUFFER(18)	"BUFFER"		N0900043
0044		*				N0900044

0046	*					N0900046
0047	*****	*****	P R O G R A M	S T A R T	*****	N0900047
0048	*					N0900048

0050	P0000	6824	LHXREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N0900050
0051	P0001	80FF		STA- I		N0900051
0052	P0002	8112		ADD- BUFFER, I	CALCULATE "BUFFER" ADDRESS	N0900052
0053	P0003	6825		STA* BUFAJD		N0900053
0054	P0004	C101		LDA- HANDLE, I	GET "HANDLE" ROUTINE ADDRESS	N0900054
0055	P0005	6820		STA* EXTHAN		N0900055
0056	P0006	C102		LDA- MSG, I	FETCH "MSG" ADDRESS	N0900056
0057	P0007	681F		STA* EXTMSG		N0900057
0058	P0008	0844		CLR A		N0900058
0059	P0009	686B		STA* LHXSLH	RESET SLASH FLAG AND	N0900059
0060	P000A	686B		STA* LHXRLV	RELATIVE FLAG	N0900060
0061	P000B	686B		STA* CORNIX	SET CORE INDEX AND OPCODE	N0900061
0062	P000C	686B		STA* OPCODE	TO ZERO	N0900062
0063	P000D	681A		STA* COUNT		N0900063
0064	P000E	5C64	LHX001	ENQ +	SET TO GET 4 CHAR. FIELD	N0900064
0065	P000F	CA02		ENA 2	GET NEXT FIELD	N0900065
0066	P0010	5C15		RTJ* (EXTHAN)		N0900066
0067	P0011	CA03		ENA 3	CONVERT TO HEX	N0900067
0068	P0012	5C13		RTJ* (EXTHAN)		N0900068
0069	P0013	0000	LHXVAL	0		N0900069
0070	P0014	C10C		LDA- FIELD, I	CONTROL CHAR.=SLASH	N0900070
0071	P0015	09D0		INA -SLASH		N0900071
0072	P0016	0111		SAN LHX002-* -1	SKIP NO	N0900072
0073	P0017	183B		JMP* LHX009	YES	N0900073
0074	P0018	C905	LHX002	INA -ASTRIC+SLASH	CONTROL CHAR.=ASTERISK	N0900074
0075	P0019	011F		SAN LHX003-* -1	SKIP NO	N0900075
0076	P001A	C85A		LDA* LHXSLH	IS LHX SLASH FLAG SET	N0900076
0077	P001B	0111		SAN LHX02A-* -1	SKIP YES	N0900077
0078	P001C	183A		JMP* LHX09A	ILLEGAL	N0900078
0079	P001D	0804	LHX02A	SET A	YES, SET RELATIVE FLAG	N0900079
0080	P001E	6857		STA* LHXRLV		N0900080
0081	P001F	C8F3		LDA* LHXVAL	SAVE VALUE AS OP CODE	N0900081
0082	P0020	0FC8		ALS 8		N0900082
0083	P0021	A01A		AND- NZERO+8		N0900083
0084	P0022	6855		STA* OPCODE		N0900084

0085 P0023 18EA JMP* LHX001 RETURN FOR NEXT FIELD N0900085

0087 * N0900087
0088 P0024 0000 BASE NUM 0 N0900088
0089 P0025 0000 EXTHAN NUM 0 N0900089
0090 P0026 0000 EXTMSG NUM 0 N0900090
0091 P0027 0000 COUNT NUM 0 N0900091
0092 P0028 0000 BUFAJD NUM 0 N0900092

0094 P0029 09FD LHX003 INA -COMMA+ASTRIC CONTROL CHAR.=COMMA N0900094
0095 P002A 0119 SAN LHX006--*-1 SKIP NO N0900095
0096 P002B C849 LDA* LHXSLH LHX SLASH FLAG SET N0900096
0097 P002C 0115 SAN LHX004--*-1 SKIP YES N0900097
0098 P002D C849 LHX010 LDA* CORNDX ADD VALUE TO CORE INDEX N0900098
0099 P002E 88E4 ADD* LHXVAL N0900099
0100 P002F 6847 STA* CORNDX N0900100
0101 P0030 6849 STA* ORGADD SAVE ORIGINAL ADD. FOR PRINT + SAVE DATA N0900101
0102 P0031 1802 JMP* LHX005 **MSOS4.0** N0900102
0103 P0032 5829 LHX004 RTJ* LHXPRO GO PROCESS VALUE N0900103
0104 P0033 18DA LHX005 JMP* LHX001 RETURN TO GET NEXT FIELD N0900104
0105 * CONTROL CHARACTER MUST BE EOT N0900105
0106 P0034 C840 LHX006 LDA* LHXSLH IF END OF BUFFER CHECK IF *398 N0900106
0107 * SLASH HAS BEEN READ *398 N0900107
0108 P0035 0111 SAN LHX06A OK, STORE VALUE IN CORE *398 N0900108
0109 P0036 1820 JMP* LHX03A ILLEGAL - FORMAT INCORRECT *398 N0900109
0110 P0037 5824 LHX05A RTJ* LHXPRO GO PROCESS VALUE N0900110

0112 * N0900112
0113 ***** TO REQUEST CONFIRMATION N0900113
0114 * N0900114
0115 * N0900115
0116 P0038 C8EF LDA* BUFAJD TO MOVE OLD DATA TO BUFFER TO CONFIRMATION N0900116
0117 P0039 60FF STA- I N0900117
0118 P003A 0C00 ENQ 0 N0900118
0119 P003B CE3E MOVOLD LDA* (ORGADD),Q N0900119
0120 P003C 6722 STA- (ZERO),B N0900120
0121 P003D 0D01 INQ 1 N0900121
0122 P003E 0814 TRQ A N0900122
0123 P003F 98E7 SUB* COUNT CHECK IF DONE MOVING N0900123
0124 P0040 0101 SAZ ENDOLD N0900124
0125 P0041 18F9 JMP* MOVOLD TO REPEAT N0900125
0126 P0042 0ADC ENDOLD ENA CONFIRM TO PRINT DATA AND REQUEST CONFIRMATION N0900126
0127 P0043 5CE1 RTJ* (EXTHAN) N0900127
0128 P0044 0036 ADC NEWDAT-* N0900128
0129 P0045 CCE2 LDA* (BUFAJD) CHECK IF APPROVED N0900129
0130 P0046 0118 SAN LHX008 NO, SKIP N0900130
0131 P0047 0C00 SAVED ENQ 0 SET UP INDEX TO MOVE DATA TO CORE N0900131
0132 P0048 CA32 SAVE1 LDA* NEWDAT,Q N0900132
0133 P0049 6E30 STA* (ORGADD),Q N0900133
0134 P004A 0D01 INQ 1 N0900134
0135 P004B 0814 TRQ A N0900135

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0130 P004C 98DA SUB* COJNT CHECK IF DONE MOVING
0137 P004D 0101 SAZ LHXJ08 YES, SKIP
0138 P004E 18F9 JMP* SAVE1 TO REPEAT
0139 P004F E8D4 LHX008 LDQ* BASE
0140 P0050 E203 LDQ- SOMMOR,Q EXIT TO "SOMMOR"
0141 P0051 1622 JMP- (ZERO),Q
0142 * HERE IF CONTROL CHAR.=SLASH
0143 P0052 0844 LHX009 CLR A RESET SYSTEM SLASH FLAG
0144 P0053 0110 STA- SLASHF,I (NOTE,SEE GET FILLD SUB.)
0145 P0054 0820 LDA* LHXSLH LHX SLASH FLAG SET
0146 P0055 0102 SAZ LHX110 *- *-1 SKIP NO
0147 P0056 0C04 LHX09A ENQ + OUTPUT FORMAT INCORRECT
0148 P0057 1CCE JMP* (=XIMS3) MSG.
0149 P0058 0804 LHX110 SET A SET LHX SLASH FLAG
0150 P0059 681B STA* LHXSLH
0151 P005A 18D2 JMP* LHXJ10
0152 *
0153 * SUBROUTINE TO STORE VALUE INTO CORE
0154 LHXPRO 0 0
0155 P005B 0000 LDQ* LHXRLV RELATIVE FLAG SET
0156 P005C 08B9 LDA* LHXVAL (LOAD VALUE TO A)
0157 P005D 0151 SQN 1
0158 P005E 180E JMP* LHX100
0159 P0060 0137 SAM LHXPR2 OKAY IF THIS IS NEG ALL CASES
0160 P0061 0815 LDA* CORNDX
0161 P0062 0124 SAP LHXPR3 OKAY BOTH POSITIVE
0162 P0063 08AF LDA* LHXVAL NOT OKAY CASE VAL +, NDX -
0163 P0064 0867 TCA A USE OPPOSIT TO GET
0164 P0065 0811 ADD* CORNDX PROPER REL VALUE
0165 P0066 1803 JMP* LHXPR1
0166 P0067 08AB LHXPR3 LDA* LHXVAL
0167 P0068 980E LHXPR2 SUB* CORNDX
0168 P0069 E80E LHXPR1 LDQ* OPCODE
0169 P006A 0142 SQZ LHX100 *- *-1
0170 P006B A00A AND- LPM5K+B
0171 P006C 0874 EAQ A
0172 *
0173 P006D E8B9 LHX100 LDQ* COJNT SAVE NEW INPUT DATA TO TEMPORARY BUFFER
0174 P006E 6A0C STA* NEWDAT,Q
0175 P006F 0807 RAO* CORNDX BUMP CORE ADDRESS BY 1
0176 P0070 0886 RAO* COUNT UPDATE INDEX BY 1
0177 P0071 0844 CLR A RESET RELATIVE FLAG
0178 P0072 6803 STA* LHXRLV
0179 P0073 1CE7 JMP* (LHXPRO) RETURN TO CALLER
0180 *
0181 P0074 0000 LHXSLH 0 0
0182 P0075 0000 LHXRLV 0 0
0183 P0076 0000 CORNDX 0 0
0184 P0077 0000 OPCODE 0 0
0185 P0078 2020 LHXBLK ALF 1,
0186 P0079 0000 ORGADD NUM J
0187 P007A 0028 NEWDAT BZS NEWDAT(40)

```

```

**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c
**MSOS+.c.c.c.c

```

```

N0900136
N0900137
N0900138
N0900139
N0900140
N0900141
N0900142
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N0900179
N0900180
N0900181
N0900182
N0900183
N0900184
N0900185
N0900186
N0900187

```


0189 0001 P EQU SAG1(*96)
0190 0002 P EQU SPC1(SAJ1+1)
0191 0000 P EQU DBJ1(S>01*96)
0192 PGOA2 001E USS (DB01-*)
0193 END

N0900189
N0900190
N0900191
N0900192
N0900193

PGM= 0000 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DLF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(0000255) 0051, 0117
00021	AMONI	00F4	(0000244)
00021	ADISP	00EA	(0000234)
00021	LPMSK	0002	(0000002) 0170
00021	VZERO	0012	(0000018) 0083
00021	ZROBIT	0033	(0000051)
00022	FIVE	0043	(0000067)
00022	SIX	0044	(0000068)
00022	ZFRO	0022	(0000034) 0120, 0141
00022	ONEBIT	0023	(0000035)
00022	SIXTEN	0027	(0000039)
00022	COMMA	0020	(0000044) 0094
00023	SLASH	002F	(0000047) 0071, 0074
00023	ASTRIC	002A	(0000042) 0074, 0094
00023	EIGHT	0026	(0000038)
00023	NINE	0045	(0000069)
00023	THREE	0004	(0000004)
00023	ONE	0003	(0000003)
00023	TWO	0024	(0000036)
00023	TEN	0046	(0000070)
00023	CONFM	0000	(0000012) 0120
00023	HANDLE	0001	(0000001) 0054
00023	MSG	0002	(0000002) 0050
00023	SOMMOR	0003	(0000003) 0140
00023	IOERR	0004	(0000004)
00023	LISTLU	0005	(0000005)
00023	COMOLU	0006	(0000006)
00023	VEWMLU	0007	(0000007)
00023	PROG1	0008	(0000008)
00023	PROG2	0009	(0000009)
00023	BITFLG	000A	(0000010)
00023	BUFCNT	000B	(0000011)
00023	FIELD	000C	(0000012) 0070
00023	SLASHF	0010	(0000016) 0144
00023	BUFBENT	0011	(0000017)
00023	BUFFER	0012	(0000018) 0052

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0018	LHXREQ	0000	0018
0064	LHX001	000E	0085, 0104
0069	LHXVAL	0013	0081, 0099, 0156, 0162, 0166
0074	LHX002	0018	0072
0079	LHX02A	001D	0077
0088	BASE	0024	0050, 0139
0089	EXTHAN	0025	0055, 0066, 0068, 0127
0090	EXTMSG	0026	0057, 0148
0091	COUNT	0027	0053, 0123, 0136, 0173, 0176
0092	BUFADD	0028	0053, 0116, 0129
0094	LHX003	0029	0075
0098	LHX010	002D	0151
0104	LHX004	0032	0097
0104	LHX005	0033	0102
0106	LHX006	0034	0095
0110	LHX06A	0037	0108
0119	MOVOLD	0038	0125
0126	SENDQLD	0042	0124
0131	SAVE0	0047	
0132	SAVE1	0048	0138
0139	LHX008	004F	0130, 0137
0143	LHX009	0052	0073
0147	LHX09A	0056	0078, 0109
0149	LHX110	0058	0146
0154	LHXPRO	005B	0103, 0110, 0179
0166	LHXPR3	0067	0161
0167	LHXPR2	0068	0159
0168	LHXPR1	0069	0163
0170	LHX100	006D	0158, 0169
0181	LHXSLH	0074	0059, 0076, 0096, 0100, 0145, 0150
0182	LHXRLV	0075	0060, 0080, 0153, 0178
0183	CORNDX	0076	0061, 0098, 0100, 0180, 0181, 0161, 0167, 0173
0184	OPCODE	0077	0062, 0084, 0168
0185	LHXBLK	0078	
0186	JRGADD	0079	0101, 0119, 0133
0187	NEWDAT	007A	0128, 0132, 0174
0189	SA01	00C1	0190
0190	SP01	00C2	0191
0191	JF01	00C6	0192

SUMMARY-132*****

NAM DPCRQ DECK-ID N10 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 2.3
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1975
 THIS PROCESSOR DUMPS CORE CELLS ON THE
 OUTPUT COMMENT MEDIUM. THE REQUEST HAS THE
 FOLLOWING FORMAT.
 DPC, START CORE, END CORE, BASE (CR)

N1000002
 N1000003
 N1000004
 N1000005
 N1000006
 N1000007
 N1000008
 N1000009
 N1000010

ENT DPCRQ
 ENT DICREQ

N1000012
 N1000013
 N1000014

EXT COMPV+
 EXT COMPV+

N1000016
 N1000017

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1000019
 N1000020

EQU FIVE(\$-3),SIX(\$-4),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1000021

EQU COMMA(\$20),SLASH(\$2F),ASTRIC(\$2A)

N1000022

EQU EIGHT(\$26),NINE(\$45),THREE(+),ONE(3),TWO(\$24)

N1000023

EQU TEN(\$46)

MSOS4.0N1000024

PARAMETER LOCATION (OFFSET FROM BASE)
 EQU HANDLE(1) "HANDLE"
 EQU MSG(2) "MSG" ENTRY
 EQU SOMMOR(3) "SOMMOR" ENTRY
 EQU IOERR(4) "IOERR" ENTRY
 EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
 EQU COMOLU(6) "COMOLU"
 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU

N1000026
 N1000027
 N1000028
 N1000029
 N1000030
 N1000031
 N1000032
 N1000033

0001
 0002
 0003
 0004
 0005
 0006
 0007
 0008
 0009
 0010

0012
 0013
 0014

0016
 0017

0019
 0020

0021

0022

0023

0024

0026
 0027
 0028
 0029
 0030
 0031
 0032
 0033

0004
 0005
 0006
 0007
 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
 0033

00008	00008	EQU	PROG1(8)	"PROG1"	N1000034
00009	00009	EQU	PROG2(9)	"PROG2"	N1000035
00010	00010	EQU	BITFLG(10)	"BITFLG"	N1000036
00011	00011	EQU	BUFCNT(11)	"BUFCNT"	N1000037
00012	00012	EQU	FIELD(12)	"FIELD"	N1000038
00013	00013	EQU	SLASHF(16)	"SLASHF"	N1000039
00014	00014	EQU	BUFEFT(17)	"BUFEFT"	N1000040
00015	00015	EQU	BUFFER(18)	"BUFFER"	N1000041

00043 ***** PROGRAM START ***** N1000043
 00044 * N1000044
 00045 * N1000045

00047	P00000	683D	DPCREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N1000047
00048		0000		EQU DICREQ(DPCREQ)		N1000048
00049	P00001	00FF		STA- I		N1000049
00050	P00002	C101		LDA- HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1000050
00051	P00003	683B		STA* EXTHAN		N1000051
00052	P00004	C102		LDA- HSG,I	FETCH "HSG" ADDRESS	N1000052
00053	P00005	683A		STA* EXTMSS		N1000053

00054	P00006	CA03		ENA 3	INITIALIZE FIELD INDEX	N1000055
00055	P00007	C85B		STA* DPCFLX	TO 3	N1000056
00056	P00008	C844		CLR A	INITIALIZE BASE ADDRESS	N1000057
00057	P00009	685A		STA* DPCBSE		N1000058
00058	P0000A	C109		LDA- PROG2,I		N1000059
00059	P0000B	09FA		INA -5		N1000060
00060	P0000C	685A		STA* DPCFLG	DPC IS MINUS, DPC IS PLUS	**MSOS+.0** N1000061
00061	P0000D	0004	DPC001	ENQ +	SET TO GET + CHAR. FIELD	**MSOS+.0** N1000062
00062	P0000E	CAB2		ENA 2		N1000063
00063	P0000F	5C2F		RTJ* (EXTHAN)	GET FIELD	N1000064
00064	P00010	C10C		LDA- FIELD,I	CONTROL CHAR.=NONE	N1000065
00065	P00011	0107		SAZ DPC002-*--1	SKIP YES	N1000066
00066	P00012	900A		SUB- LPMASK+8	CONTROL CHAR.=\$FF	N1000067
00067	P00013	C105		SAZ DPC002-*--1	SKIP YES	N1000068
00068	P00014	800A		ADD- LPMASK+8	CONTROL CHAR.=COMMA	N1000069
00069	P00015	0903		INA -COMMA		N1000070
00070	P00016	0102		SAZ DPC002-*--1	SKIP YES	N1000071
00071	P00017	0C04	DPC008	ENQ +	INITIATE FORMAT INCORRECT	N1000072
00072	P00018	1C27		JMP* (EXTMSS)	MESSAGE	N1000073
00073	P00019	0AC3	DPC002	ENA 3	CONVERT ASCII TO HEX	N1000074
00074	P0001A	5C24		RTJ* (EXTHAN)		N1000075
00075	P0001B	0000	DPCVAL	C 0		N1000076
00076	P0001C	C8FE		LDA* DPCVAL	STORE VALUE	N1000077
00077	P0001D	E345		LDA* DPCFLX		N1000078
00078	P0001E	0A44		STA* DPCBSE-1,Q		N1000079
00079	P0001F	00FF		INQ -1	DECREMENT FIELD INDEX	N1000080
00080	P00020	0842		STQ* DPCFLX		N1000081
00081	P00021	0141		SQZ DPC003-*--1	SKIP IF ALL FIELD DONE	N1000082
00082	P00022	18EA		JMP* DPC001	GET NEXT FIELD	N1000083
00083	P00023	C842	DPC003	LDA* DPCSTA	ADD START AND BASE	N1000084

```

000335 P00024 883F
000336 P00025 683B
000337 P00026 6836
000338 P00027 C83D
000339 P00028 U103
000340 P00029 883A
000341 P0002A 1803
000342 P0002B 18FE
000343 P0002C C834
000344 P0002D 8837
000345 P0002E C836
000346 P0002F 8831
000347 P00030 7FFF
000348 P00031 7FFF
000349 P00032 1121
000350 P00033 1820
000351 P00034 C001
000352 P00035 C10A
000353 P00036 0900
000354 P00037 0108
000355 P00038 0836
000356 P00039 09F7
000357 P0003A 0135
000358 P0003B 0104
000359 P0003C 1817

```

X

DPC007

DPC009

UPC004

DPC005

DPC006

POSLEN

DPCLST

UL01

DDCST2

DPC010

DPCST2

DPC010

DPCST2

```

ADD* DPCBSE
STA* DPCSTR
STA* DDCSTR
LDA* DPCFIN
SAZ DPC004 *-1
ADD* DPCBSE
JMP* DPC005
JMP* DPC008
LDA* DPCSTR
STA* DPCFIN
LDA* DPCFIN
LDQ* DPCSTR
RTJ COMPV-

SAT POSLEN
JMP* DPCCON
ENQ 1
SAZ DPCLST
INA 0
SAZ DPCLST
AAQ A,Q
INA -3
SAZ DPCLST
SAZ DPCLST
JMP* DPCCON

*
BASE NUM 0
EXTHAN NUM 0
EXTMSG NUM 0

LDA* DPCSTR
STA* DPCST2
STA* DDCST2
LDA* DDCFLG
SAP DLG1
ENA +
JMP* DPC010
STQ* DDCQTP
ENQ -1
ENA +
RTJ* (EXTHAN)
NUM 0
LDQ* DDCQTP
ENA 7
RTJ* (EXTHAN)
LDQ* BASE
LDQ- SQ1MOR,Q
JMP- (ZERO),Q
ENQ 8
LDA* DDCFLG

```

STORE AS START

```

LAST=0
SKIP IF 0
ADD LAST AND BASE

```

```

STORE LAST
SET UP FOR ADDRESS COMPARE
START TO 0
COMPARE UM

```

```

DIFFERENCE LESS THAN 32K, SKIP
GO TO PRINT 8 WORDS FOR MORE THAN 32K
ASSUME LAST TIME, SET 1 WORD
FIRST = LAST, 1 WORD DUMP
TEST FOR -U
FIRST GREATER THAN LAST/ 1 WORD WRITE
TOTAL WORDS TO PRINT TO 0
DECREMENT FOR 8 WORDS TEST
LESS THAN 8 WORDS, LAST LINE
8 WORDS LAST TIME
MORE THAN 8 WORDS, DO 8 WORDS, CONTINUE

```

```

LAST TIME, NO. TO Q, MOVE START ADDRESS
TO THIS CALL)

```

OUTPUT IN HEXADECIMAL FORMAT

OUTPUT ADDRESS TAG

```

OUTPUT IN DECIMAL FORMAT
OUTPUT ONE LINE OR LESS

```

EXIT TO "SOMMOR"

NOT LAST LINE

MSOS4.0

```

132*4029*****
132*4029*****
132*4029*****

```

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

MSOS4.0

```

N1000085
N1000086
N1000087
N1000088
N1000089
N1000090
N1000091
N1000092
N1000093
N1000094
N1000095
N1000096
N1000097
N1000108
N1000109
N1000110
N1000111
N1000112
N1000114
N1000115
N1000116
N1000117
N1000118
N1000119
N1000120
N1000121
N1000122
N1000123
N1000124
N1000125
N1000126
N1000127
N1000128
N1000129
N1000130
N1000131
N1000132
N1000133
N1000134

```

```

0137 P0055 0122 SAP DL02
0138 P0056 0A04 ENA 4
0139 P0057 1808 JMP* DPC011
0140 P0058 480F DL02 STQ* DDCQTP
0141 P0059 0CFE ENQ -1
0142 P005A 0A04 ENA 4
0143 P005B 50E2 RTJ* (EXTHAN)
0144 P005C 0000 DDCSTR NUM 0
0145 P005D E80A LDQ* DDCQTP
0146 P005F 0A07 ENA 7
0147 P005F 50DE DPCL11 RTJ* (EXTHAN)
0148 P005E 0000 DPCSTR C 0
0149 P0061 18CC JMP* DPC000
0150 * STORAGE
0151 P0062 0000 DPCF_X 0 0
0152 P0063 0000 DPCBSE C 0
0153 P0064 0000 DPCFIN C 0
0154 P0065 0000 DPCSTA C 0
0155 P0066 0000 DDCF_G NUM 0
0156 P0067 0000 DDCQTP NUM 0

```

OUTPUT IN HEXADECIMAL FORMAT

OUTPUT ADDRESS TAG

OUTPUT IN DECIMAL FORMAT

OUTPUT ONE LINE

GO TO OUTPUT ANOTHER LINE

NO. OF REMAINING FIELDS TO GET

BASE CORE ADDRESS

LAST CORE ADDRESS

START CORE ADDRESS

DPC/DDC FLAG

DDC Q TEMP STORAGE

```

**MSOS+.0** N1000135
**MSOS+.0** N1000136
**MSOS+.0** N1000137
**MSOS+.0** N1000138
**MSOS+.0** N1000139
**MSOS+.0** N1000140
**MSOS+.0** N1000141
**MSOS+.0** N1000142
**MSOS+.0** N1000143
**MSOS+.0** N1000144
**MSOS+.0** N1000145
**MSOS+.0** N1000146
**MSOS+.0** N1000147
**MSOS+.0** N1000148
**MSOS+.0** N1000149
**MSOS+.0** N1000150
**MSOS+.0** N1000151
**MSOS+.0** N1000152
**MSOS+.0** N1000153
**MSOS+.0** N1000154

```

```

0158 *
0159 0001 P EQU SAC2(* /96)
015A 0002 P EQU SPD2(SAC2+1)
015B 0000 P EQU DB02(SPD2*96)
015C P0068 0058 BSS (DB02-*)
015E END

```

```

N1000156
N1000157
N1000158
N1000159
N1000160
N1000161

```

PGM= 0000 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0049
0020	AMONI	00F4	(000244)
0021	ADISP	00EA	(000234)
0022	LPMSK	0002	(000302) 0067, 0069
0023	VZERO	0012	(000318)
0024	ZROBIT	0033	(000351)
0025	FIVE	0043	(000357)
0026	SIX	0044	(000358)
0027	ZERO	0022	(000334) 0134
0028	ONEBIT	0023	(000335)
0029	SIXTEN	0027	(000339)
0030	COMMA	002C	(000344) 0070
0031	SLASH	002F	(000347)
0032	ASTRIC	002A	(000342)
0033	EIGHT	0028	(000338)
0034	NINE	0045	(000359)
0035	THREE	0004	(000304)
0036	ONE	0003	(000303)
0037	TWO	0021	(000336)
0038	TEN	0040	(000370)
0039	HANDLE	0001	(000301) 0050
0040	MSG	0002	(000302) 0052
0041	SOMMR	0003	(000303) 0133
0042	IOERR	0004	(000304)
0043	LISTLU	0005	(000305)
0044	COMOLU	0006	(000306)
0045	VEWMLU	0007	(000307)
0046	PROG1	0008	(000308)
0047	PROG2	0009	(000309) 0059
0048	BITFLG	000A	(000310)
0049	RUFcnt	000B	(000311)
0050	FIELD	000C	(000312) 0065
0051	SLASHF	0010	(000316)
0052	BUFEMT	0011	(000317)
0053	BUFFER	0012	(000318)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0013	JPCREQ	0000	0013, 0048
0014	DICREQ	0000	0014
0062	DPC001	000D	0083
0072	DPC008	0017	0092
0074	DPC002	0019	0065, 0068, 0071
0076	JPCVAL	001B	0077
0084	DPC003	0023	0082
0088	JPC007	0027	
0092	DPC009	002B	
0093	DPC004	002C	0089
0094	DPC005	002D	0091
0095	JPC006	002E	0149
0100	POSLEN	0034	0098
0111	BASE	003D	0047, 0132
0112	EXTHAN	003E	0051, 0064, 0075, 0126, 0130, 0143, 0147
0113	EXTMSG	003F	0053, 0073
0116	DPCCLST	0040	0101, 0103, 0106, 0107
0123	DL01	0047	0120
0127	DDCST2	004B	0118
0130	DPCJ1J	004E	0122
0131	DPCST2	004F	0117
0135	DPCCON	0053	0099, 0108
0140	DL02	0058	0137
0144	DDCSTR	005C	0087
0147	DPC011	005F	0139
0148	DPCSTR	0060	0086, 0093, 0096, 0116
0151	DPCFLX	0062	0056, 0078, 0081
0152	JPCBSE	0063	0058, 0079, 0085, 0090
0153	JPCFIN	0064	0068, 0094, 0095
0154	DPCSTA	0065	0084
0155	JDCFLG	0066	0061, 0119, 0135
0156	DDCQTP	0067	0123, 0128, 0140, 0145
0159	SA02	0001	0160
0160	SP02	0002	0161
0161	DB02	0000	0162

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0017	COMPV4	0031	0097

SUMMARY-116*****

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011

*
*
*
*
*
*
*
*
*
*
*

NAM SCNREQ DECK-ID N11 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

THIS PROCESSOR SEARCHES CORE FOR THE (PARTIAL)
FIELD AS SPECIFIED IN THE REQUEST.
THE REQUEST HAS FOLLOWING FORMAT.
SCN, START CORE, END CORE, NUMBER, MASK, INCREMENT (CR)

N1100002
N1100003
N1100004
N1100005
N1100006
N1100007
N1100008
N1100009
N1100010
N1100011

0013
0014

*

ENT SCNREQ

N1100013
N1100014

0015
0017
0018
0019

*

EXT CHRSG
EXT OFF
EXT HANDLE

N1100016
N1100017
N1100018
N1100019

0021
0022

*

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$I2),ZROBIT(\$33)

N1100021
N1100022

0023

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1100023

0024

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1100024

0025

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1100025

0026

EQU TEN(\$46)

N1100026

0028
0029
0030
0031
0032
0033
0034

*

PARAMETER LOCATION (OFFSET FROM BASE)
EQU BHAN(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"

N1100028
N1100029
N1100030
N1100031
N1100032
N1100033
N1100034

```

0035      0007      EQU  NEWMLU(7)      "NEWMLU" --- NEW MM LU      N1100035
0036      0008      EQU  PROG1(8)      "PROG1"      N1100036
0037      0009      EQU  PROG2(9)      "PROG2"      N1100037
0038      000A      EQU  BITFLG(10)     "BITFLG"     N1100038
0039      000B      EQU  BUFCNT(11)    "BUFCNT"     N1100039
0040      000C      EQU  FIELD(12)     "FIELD"      N1100040
0041      0010      EQU  SLASHF(16)    "SLASHF"     N1100041
0042      0011      EQU  BUFEMT(17)    "BUFEMT"     N1100042
0043      0012      EQU  BUFFER(18)    "BUFFER"     N1100043

```

```

0045      0007      *      EQU  CHRSLV(7)  VARIABLE EQUUS      N1100045
0046      *      EQU  CHRSLV(7)  LEVEL OF THIS PROGRAM  116*4360*****

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0048      08FC      *      EQU  COMOUT($8FC)  EQUUS FOR LOGICAL UNITS      N1100048
0049      08FD      EQU  COMOUT($8FC)  TYPE OUTPUT LOGICAL UNIT      N1100049
0050      08FD      EQU  COMLU($8FD)  INPUT COMMENT LOGICAL UNIT      N1100050
0051      08C2      EQU  MASSLU($8C2)  MASS MEMORY LOGICAL UNIT      N1100051
0052      1000      EQU  ASMOD($1000)  ASCII MODE OUTPUT      N1100052

```

```

0054      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
0055      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *
0056      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *      *

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0058      P0000      685B      SCNREQ  STA*  BASE      SAVE PARAMETER BUFFER ADDRESS      N1100058
0059      P0001      60FF      STA-  I      N1100059
0060      P0002      C101      LDA-  BHAN,I  GET "HANDLE" ADDRESS      N1100060
0061      P0003      6859      STA*  EXTHAN      N1100061
0062      P0004      C102      LDA-  MSG,I  FETCH "MSG" ADDRESS      N1100062
0063      P0005      6858      STA*  EXTMSG      N1100063
0064      P0006      C105      LDA-  LISTLU,I  GET LIST LOGICAL UNIT      N1100064
0065      P0007      8843      ADD*  MODE      + MODE (ASCII) CODE      N1100065
0066      P0008      683E      STA*  OTLU      N1100066
0067      P0009      0A05      ENA   5      SET INDEX TO GET 5 FIELDS      N1100067
0068      P000A      6854      STA*  SCNFLD      N1100068
0069      P000B      0844      CLR   A      RESET HEADING FLAG      N1100069
0070      P000C      6853      STA*  SCNHG      N1100070
0071      P000D      0C04      SCN001 ENQ   4      SET TO GET 4 CHAR. FIELD      N1100071
0072      P000E      0A02      ENA   2      N1100072
0073      P000F      5C4D      RTJ*  (EXTHAN)  GET FIELD      N1100073
0074      P0010      C10C      LDA-  FIELD,I  IS CONTROL CHAR.= COMMA,      N1100074
0075      P0011      0107      SAZ   SCN002-*--1  $FF CR NONE      N1100075
0076      P0012      900A      SUB-  LPMSK+8      N1100076
0077      P0013      0105      SAZ   SCN002-*--1  SKIP YES      N1100077
0078      P0014      800A      ADD-  LPMSK+8      N1100078
0079      P0015      0903      INA   -COMMA      N1100079
0080      P0016      0102      SAZ   SCN002-*--1  SKIP YES      N1100080
0081      P0017      0C04      SCN012 ENQ   4      OUTPUT FORMAT INCORRECT MSG.      N1100081
0082      P0018      1C45      JMP*  (EXTMSG)  AND EXIT PROCESSOR      N1100082
0083      P0019      0A03      SCN002 ENA   3      CONVERT TO HEX      N1100083

```

MSOS4.0N1100083

0084	P001A	5C42	RTJ*	(EXTHAN)			N1100084	
0085	P001B	0000	SCNVAL	0			N1100085	
0086	P001C	C8FE	LDA*	SCNVAL	STORE FIELD		N1100086	
0087	P001D	E841	LDQ*	SCNFLD			N1100087	
0088	P001E	6A4B	SCN004	STA*	SCNINC-1,Q		N1100088	
0089	P001F	0DFE	INQ	-1	DECREMENT FIELD INDEX		N1100089	
0090	P0020	483E	STQ*	SCNFLD			N1130090	
0091	P0021	C141	SQZ	SCN005--*-1	SKIP IF INDEX =0 (NO MORE FIELDS)		N1100091	
0092	P0022	18EA	JMP*	SCN001			N1100092	
0093	P0023	C847	SCN005	LDA*	SCNINC	**MSOS4.0**	N1100093	
0094	P0024	0112	SAN	2		**MSOS4.0**	N1100094	
0095	P0025	0A01	ENA	1	MINIMUM INCREMENT IS ONE	**MSOS4.0**	N1100095	
0096	P0026	6844	STA*	SCNINC		**MSOS4.0**	N1100096	
0097	P0027	C844	LDA*	SCNMSK		**MSOS4.0**	N1100097	
0098	P0028	0112	SAN	SCN011		**MSOS4.0**	N1100098	
0099	P0029	0804	SET	A	NO MASK GIVEN MEANS MASK OF \$FFFF	**MSOS4.0**	N1100099	
0100	P002A	6841	STA*	SCNMSK		**MSOS4.0**	N1100100	
0101	P002B	CC43	SCN011	LDA*	(SCNSTR)	GET WORD FROM CORE	N1100101	
0102	P002C	B840	EOR*	SCNNUM	COMPARE WITH DESIRED NUMBER		N1100102	
0103	P002D	A83E	AND*	SCNMSK	AND MASK RESULT		N1100103	
0104	P002E	0111	SAN	SCN006	SKIP NOT FOUND	**MSOS4.0**	N1100104	
0105	P002F	180F	JMP*	SCN008	FOUND	**MSOS4.0**	N1100105	
0106	P0030	C83E	SCN006	LDA*	SCNSTR	INCREMENT CORE STORAGE	N1100106	
0107	P0031	8839	ADD*	SCNINC			N1100107	
0108	P0032	683C	STA*	SCNSTR			N1100108	
0109			*		1 CARD DELETED		N1100109	
0110	P0033	C83A	LDA*	SCNEND	END ADDR IN H B	**MSOS4.0**	N1100110	
0111	P0034	0123	SAP	SCN099			N1100111	
0112	P0035	C839	LDA*	SCNSTR	IS BEG ADDR IN H.B. TOO	**MSOS4.0**	N1100112	
0113	P0036	0131	SAM	SCN099	YES BOTH IN H B OK	**MSOS4.0**	N1100113	
0114			*		3 CARDS DELETED		N1130114	
0115	P0037	18F3	JMP*	SCN011	NOT FINISHED	**MSOS4.0**	N1100115	
0116	P0038	C835	SCN099	LDA*	SCNEND	IS SEARCH FINISHED	**MSOS4.0**	N1100116
0117	P0039	9835	SUB*	SCNSTR		**MSOS4.0**	N1100117	
0118	P003A	0131	SAM	SCN007--*-1	SKIP YES		N1100118	
0119	P003B	18EF	JMP*	SCN011	GO CHECK NEXT WORD		N1100119	
0120	P003C	0C07	SCN007	ENQ	7	OUTPUT SEARCH FINISHED	N1100120	
0121	P003D	1C20	JMP*	(EXTMSG)	MESSAGE AND EXIT PROCESSOR		N1100121	
0122	P003E	C821	SCN008	LDA*	SCNHDG	IS HEADING FLAG SET	N1130122	
0123	P003F	011B	SAN	SCN009--*-1	SKIP YES		N1100123	
0124	P0040	0A01	ENA	1	OTHERWISE, SET HEADING FLAG	69*1567	N1100124	
0125	P0041	681E	STA*	SCNHDG			N1100125	
0126	P0042	54F4	RTJ-	(AMONI)	AND OUTPUT HEADING TO LISTLU	69*1567	N1100126	
0127	P0043	0507	SCNMSP	ADC	\$500+CHRSLV	69*1567	N1100127	
0128	P0044	0008	ADC	SCN009-SCNMSP		69*1567	N1100128	
0129	P0045	0000	NUM	0		69*1567	N1130129	
0130	P0046	0000	OTLU	NUM	0	LOGICAL UNIT (TO 80 FILLED)	N1100130	
0131	P0047	000A	NUM	\$A		69*1567	N1100131	
0132	P0048	001D	ADC	SCNMSG-SCNMSP		69*1567	N1100132	
0133	P0049	14EA	JMP-	(ADISP)		69*1567	N1100133	
0134	P004A	1000	MODE	ADC	ASMOD		N1130134	
0135	P004B	C823	SCN009	LDA*	SCNSTR	OUTPUT ONE LINE CONTAINING	N1100135	
0136	P004C	6804	STA*	SCN111	LOCATION AND CONTENTS OF		N1100136	

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0137 PG04D 0C01 ENQ 1 ONE CELL . N1100137
0138 P004E 0A04 ENA 4 N1100138
0139 P004F 5C0D RTJ* (EXTHAN) N1100139
0140 P0050 0000 SCN111 0 (LOCATION OF CELL) N1100140
0141 P0051 C400 X LDA CHRSFG CHECK IF "DX" N1100141
      P0052 7FFF X
0142 P0053 0101 SAZ TOOFF "DX" TO OFF, SKIP N1100142
0143 P0054 18DB JMP* SCN006 TO REPEAT IF NOT DONE N1100143
      *
0144 P0055 E806 TOOFF LDQ* BASE GENERATE "OFF" ADD. N1100144
0145 P0056 C81B LDA* OOT+1 N1100145
0146 P0057 9819 SUB* OOT N1100146
0147 P0058 8201 ADD- BHAN,Q N1100147
0148 P0059 0822 TRA Q N1100148
0149 P005A 1622 JMP- (ZERO),Q TO "OFF" N1100149
0150 P005A 1622 N1100150

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0152 * N1100152
0153 P005B 0000 BASE NUM 0 N1100153
0154 P005C 0000 EXTHAN NUM 0 N1100154
0155 P005D C000 EXTMSG NUM 0 N1100155
0156 * CONSTANTS AND STORAGE N1100156
0157 P005E 0000 SCNFLD 0 0 NO. OF REMAINING FIELD TO GET N1100157
0158 P005F 0000 SCNHGD 0 0 HEADING FLAG N1100158
0159 P0060 0A0D SCNMSG NUM $ADD 69*1567 N1100159
0160 P0061 4345 ALF 8,CELL CONTENTS 69*1567 N1100160
      P0062 4C4C
      P0063 2020
      P0064 2043
      P0065 4F4E
      P0066 5445
      P0067 4E54
      P0068 5320
      P0069 0A0D

```

```

0151 NUM $ADD 69*1567 N1100161
0152 * TABLE FOR STORAGE OF FIELDS N1100162
0163 P006A 0000 SCNINC 0 0 1 N1100163
0164 P006B 0000 SCNMSK 0 0 2 N1100164
0165 P006C 0000 SCNNJM 0 0 3 N1100165
0166 P006D 0000 SCNEND 0 0 4 N1100166
0167 P006E 0000 SCNSTR 0 0 5 N1100167
0168 P006F 0000 SCNCEL 0 0 CONTENTS OF PRESENT CELL N1100168
0169 P0070 7FFF X OOT ADC HANDLE 0. "HANDLE" N1100169
0170 P0071 7FFF X OOT ADC OFF 1. "OFF" N1100170

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```

0172 * N1100172
0173 0001 P EQU SA03(* /96) N1100173
0174 0002 P EQU SP03(SA03+1) N1100174
0175 00C0 P EQU DB03(SP03*96) N1100175
0176 P0072 004E BSS (DB03-*) N1100176
0177 END N1100177

```

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0059
0022	AMONI	00F4	(000244) 0126
0022	ADISP	00EA	(000234) 0133
0022	LPMSK	0002	(000002) 0076, 0078
0022	NZERO	0012	(000018)
0022	ZROBIT	0033	(000051)
0023	FIVE	0043	(000057)
0023	SIX	0044	(000068) 0150
0023	ZERO	0022	(000034)
0023	ONEBIT	0023	(000035)
0023	SIXTEN	0027	(000039)
0024	COMMA	002C	(000044) 0079
0024	SLASH	002F	(000047)
0024	ASTRIC	002A	(000042)
0025	EIGHT	0026	(000038)
0025	NINE	0045	(000069)
0025	THREE	0004	(000004)
0025	ONE	0003	(000003)
0025	TWO	0024	(000036)
0025	TEN	0046	(000070)
0029	BHAN	0001	(000001) 0060, 0148
0030	MSG	0002	(000002) 0062
0031	SCMMOR	0003	(000003)
0032	ICERR	0004	(000004)
0033	LISTLU	0005	(000005) 0064
0034	COMOLU	0006	(000006)
0035	NEWMLU	0007	(000007)
0036	PROG1	0008	(000008)
0037	PROG2	0009	(000009)
0038	BITFLG	000A	(000010)
0039	BUFCNT	000B	(000011)
0040	FIELD	000C	(000012) 0074
0041	SLASHF	0010	(000016)
0042	BUFEMT	0011	(000017)
0043	BUFFER	0012	(000018)
0046	CHRSLV	0007	(000007) 0127
0049	COMOUT	08FC	(002300)
0050	COMLU	08FD	(002301)

SCNREQ

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DATE: 01/27/99

0051	MASSLU	08C2	(002242)	
0052	ASMOD	1000	(004096)	0134

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	SCNREQ	0000	0014
0071	SCN001	0000	0092
0081	SCN012	0017	
0083	SCN002	0019	0075, 0077, 0080
0085	SCNVAL	001B	0086
0088	SCN004	001E	
0093	SCN005	0023	0091
0101	SCN011	002B	0098, 0115, 0119
0106	SCN006	0030	0104, 0143
0116	SCN099	0038	0111, 0113
0120	SCN007	003C	0118
0122	SCN008	003E	0105
0127	SCNMS P	0043	0128, 0132
0130	OTLU	0046	0066
0134	MODE	004A	0065
0135	SCN009	004B	0123, 0128
0140	SCN111	0050	0136
0145	TOOFF	0055	0142
0153	BASE	005B	0058, 0145
0154	EXTHAN	005C	0061, 0073, 0084, 0139
0155	EXTMSG	005D	0063, 0082, 0121
0157	SCNFLD	005E	0068, 0087, 0090
0158	SCNHOG	005F	0070, 0122, 0125
0159	SCNMSG	0060	0132
0163	SCNINC	006A	0088, 0093, 0096, 0107
0164	SCNMSK	006B	0097, 0100, 0103
0165	SCNNUM	006C	0102
0166	SCNEND	006D	0110, 0116
0167	SCNSTR	006E	0101, 0106, 0108, 0112, 0117, 0135
0168	SCNCEL	006F	
0169	OOT	0070	0146, 0147
0173	SA03	0001	0174
0174	SPO3	0002	0175
0175	DB03	00C0	0176

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0017	CHRSFG	0052	0141
0018	OFF	0071	0170
0019	HANDLE	0070	0169

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012

*
*
*
*
*
*
*
*
*
*
*

NAM SETREQ DECK-ID N12 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110N1200001
N1200002
N1200003
N1200004
N1200005
N1200006
N1200007
N1200008
N1200009
N1200010
N1200011
N1200012

THIS PROCESSOR FILLS THE SPECIFIED CORE WITH
THE SPECIFIED VALUE.
THE REQUEST HAS THE FOLLOWING FORMAT.
SET, START CORE, END CORE, PATTERN(CR)

0014
0015

*

ENT SETREQ
ENTRY NAME

N1200014
N1200015

0017
0018

*

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1200017
N1200018

0019

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1200019

0020

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1200020

0021

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1200021

0022

EQU TEN(\$46)

MSOS4.0N1200022

0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034

*

0001
0002
0003
0004
0005
0006
0007
0008
0009
000A

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"
EQU BITFLG(10) "BITFLG"

N1200024
N1200025
N1200026
N1200027
N1200028
N1200029
N1200030
N1200031
N1200032
N1200033
N1200034

0035	000B	EQU	BUFCNT(11)	"BUFCNT"	N1200035
0036	000C	EQU	FIELD(12)	"FIELD"	N1200036
0037	0010	EQU	SLASHF(16)	"SLASHF"	N1200037
0038	0011	EQU	BUFEFT(17)	"BUFEFT"	N1200038
0039	0012	EQU	BUFFER(18)	"BUFFER"	N1200039

0041	*				N1200041
0042	*****	*****	PROGRAM	START	N1200042
0043	*				N1200043

0045	P0000	682E	SETREQ	STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N1200045
0046	P0001	60FF		STA-	I		N1200046
0047	P0002	C101		LDA-	HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1200047
0048	P0003	682C		STA*	EXTHAN		N1200048
0049	P0004	C102		LDA-	MSG,I	FETCH "MSG" ADDRESS	N1200049
0050	P0005	682B		STA*	EXTMSG		N1200050
0051	P0006	0A03		ENA	3	INITIALIZE TO GET 3 FIELDS	N1200051
0052	P0007	682A		STA*	SETFLD		N1200052
0053	P0008	0C04	SET001	ENQ	4	SET TO GET 4 CHAR FIELD	N1200053
0054	P0009	0A02		ENA	2		N1200054
0055	P000A	5C25		RTJ*	(EXTHAN)	GET FIELD	N1200055
0056	P000B	C10C		LDA-	FIELD,I	IS CONTROL CHAR.= COMMA,	N1200056
0057	P000C	0107		SAZ	SET002-*--1	\$FF OR NONE	N1200057
0058	P000D	900A		SUB-	LPMSK+8		N1200058
0059	P000E	0105		SAZ	SET002-*--1	SKIP YES	N1200059
0060	P000F	800A		ADD-	LPMSK+8		N1200060
0061	P0010	09D3		INA	-COMMA		N1200061
0062	P0011	0102		SAZ	SET002-*--1	SKIP YES	N1200062
0063	P0012	0C04	SET01A	ENQ	4	PRINT FORMAT	N1200063
0064	P0013	1C1D		JMP*	(EXTMSG)	INCORRECT MESSAGE AND EXIT PROCES OR	N1200064
0065	P0014	0A03	SET002	ENA	3	CONVERT TO HEX	N1200065
0066	P0015	5C1A		RTJ*	(EXTHAN)		N1200066
0067	P0016	0000	SETVAL	0	0		N1200067
0068	P0017	C8FE		LDA*	SETVAL	SAVE FIELD	N1200068
0069	P0018	E819		LDQ*	SETFLD		N1200069
0070	P0019	6A18		STA*	SETPAT-1,Q		N1200070
0071	P001A	0DFE		INQ	-1	DECREMENT FIELD NO.	N1200071
0072	P001B	4816		STQ*	SETFLD		N1200072
0073	P001C	0141		SQZ	SET003-*--1	SKIP IF ALL FIELDS OBTAINED	N1200073
0074	P001D	18EA		JMP*	SET001		N1200074
0075	P001E	C816	SET003	LDA*	SETISTR	CHECK FOR LEGAL ADD.	N1200075
0076	P001F	E813	SET03B	LDQ*	SETPAT	STORE PATTERN INTO CORE	N1200076
0077	P0020	4C14	SET004	STQ*	(SETSTR)		N1200077
0078	P0021	D813		RAO*	SETSTR		N1200078
0079			*			1 CARD DELETED	N1200079
0080	P0022	C811	*	LDA*	SETEND	1 CARD DELETED	**MSOS4.0**N1200080
0081							N1200081
0082	P0023	0123		SAP	SET099		**MSOS4.0**N1200082
0083	P0024	C810		LDA*	SETISTR		N1200083
0084	P0025	0131		SAM	SET099		N1200084
0085	P0026	18F9		JMP*	SET004		**MSOS4.0**N1200085

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0086 P0027 C80C SETC99 LDA* SETEND
0087 P0028 980C SUB* SETSTR
0088 P0029 0131 SAM SET005--*-1
0089 P002A 18F5 JMP* SET004
0090 P002B F803 SET005 LDQ* BASE
0091 P002C E203 LDQ- SOMMOR,Q
0092 P002D 1622 JMP- (ZERO),Q

```

```

SKIP IF DONE
EXIT (TO "SOMMOR")
EXIT TO "SOMMOR"

```

```

**MSOS4.0**N1200086
N1200087
N1200088
N1200089
N1200090
N1200091
N1200092

```

```

0094 *
0095 P002E 0000 BASE NUM 0
0096 P002F 0000 EXTHAN NUM 0
0097 P0030 0000 EXTMSG NUM 0
0098 *
0099 * STORAGE
0100 *
0101 P0031 0000 SETFLD 0 0
0102 P0032 0000 SETPAT 0 0
0103 P0033 0000 SETEND 0 0
0104 P0034 0000 SETSTR 0 0

```

```

NO. OF REMAINING FIELD TO GET
PATTERN USED TO FILL CORE
LAST CORE LOCATION TO RE FILLED
FIRST CORE LOCATION TO BE FILLED

```

```

N1200094
N1200095
N1200096
N1200097
N1200098
N1200099
N1200100
N1200101
N1200102
N1200103
N1200104

```

```

0106 *
0107 0000 P EQU SA04(* /96)
0108 0001 P EQU SP04(SA04+1)
0109 0060 P EQU DB04(SP04*96)
0110 P0035 C02B BSS (DB04-*)
0111 END

```

```

N1200106
N1200107
N1200108
N1200109
N1200110
N1200111

```

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0046
0018	AMONI	00F4	(000244)
0018	ADISP	00EA	(000234)
0018	LPMSK	0002	(000002) 0058, 0060
0018	NZERO	0012	(000018)
0018	ZROBIT	0033	(000051)
0019	FIVE	0043	(000067)
0019	SIX	0044	(000068)
0019	ZERO	0022	(000034) 0092
0019	ONEBIT	0023	(000035)
0019	SIXTEN	0027	(000039)
0020	COMMA	002C	(000044) 0061
0020	SLASH	002F	(000047)
0020	ASTRIC	002A	(000042)
0021	EIGHT	0026	(000038)
0021	NINE	0045	(000069)
0021	THREE	0004	(000004)
0021	ONE	0003	(000003)
0021	TWO	0024	(000036)
0022	TEN	0046	(000070)
0025	HANDLE	0001	(000001) 0047
0026	MSG	0002	(000002) 0049
0027	SOMMOR	0003	(000003) 0091
0028	IOERR	0004	(000004)
0029	LISTLU	0005	(000005)
0030	COMOLU	0006	(000006)
0031	NEWMLU	0007	(000007)
0032	PROG1	0008	(000008)
0033	PROG2	0009	(000009)
0034	BITFLG	000A	(000010)
0035	BUFCNT	000B	(000011)
0036	FIELD	000C	(000012) 0056
0037	SLASHF	0010	(000016)
0038	BUFEMT	0011	(000017)
0039	BUFFER	0012	(000018)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	SETREQ	0000	0015
0053	SET001	0008	0074
0063	SET01A	0012	
0065	SET002	0014	0057, 0059, 0062
0067	SETVAL	0016	0068
0075	SET003	001E	0073
0076	SET03D	001F	
0077	SET004	0020	0085, 0089
0086	SET099	0027	0082, 0084
0090	SET005	0028	0088
0095	BASE	002E	0045, 0090
0096	EXTHAN	002F	0048, 0055, 0066
0097	EXTMSG	0030	0050, 0064
0101	SETFLD	0031	0052, 0069, 0072
0102	SETPAT	0032	0070, 0076
0103	SETEND	0033	0080, 0086
0104	SETSTR	0034	0075, 0077, 0078, 0083, 0087
0107	SAG4	0000	0108
0108	SPO4	0001	0109
0109	DB04	0060	0110


```

0001      NAM MBCREQ          DECK-ID N13  MSOS 5.0          SUMMARY-11 0N1300001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N1300002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N1300003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976          N1300004
0005      *      N1300005
0006      *      N1300006
0007      *      THIS PROCESSOR MOVES A BLOCK OF CORE TO          N1300007
0008      *      ANOTHER LOCATION IN CORE.                          N1300008
0009      *      THE REQUEST HAS THE FOLLOWING FORMAT              N1300009
0010      *      MBC,START CORE,END CORE,NEW LOCATION(CR)         N1300010
0011      *      N1300011
0012      *      N1300012

0014      *      E N T R Y          N A M E          N1300014
0015      ENT MBCREQ          N1300015

0017      *      ' E Q U '          T A B L E          N1300017
0018      00F4 EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N1300018
0019      0043 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N1300019
0020      002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A)          N1300020
0021      0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)    N1300021
0022      0046 EQU TEN($46)          **MSOS4.0**N1300022

0024      *      PARAMETER LOCATION (OFFSET FROM BASE)          N1300024
0025      0001 EQU HANDLE(1)          "HANDLE"          N1300025
0026      0002 EQU MSG(2)          "MSG" ENTRY          N1300026
0027      0003 EQU SOMMOR(3)          "SOMMOR" ENTRY          N1300027
0028      0004 EQU IOERR(4)          "IOERR" ENTRY          N1300028
0029      0005 EQU LISTLU(5)          LIST OUTPUT --- "LISTLU" N1300029
0030      0006 EQU COMOLU(6)          "COMOLU"          N1300030
0031      0007 EQU NEWMLU(7)          "NEWMLU" --- NEW MM LU N1300031
0032      0008 EQU PROG1(8)          "PROG1"          N1300032
0033      0009 EQU PROG2(9)          "PROG2"          N1300033
0034      000A EQU BITFLG(10)          "BITFLG"          N1300034

```

0035	000B	EQU	BUFCNT(11)	"BUFCNT"	N1300035
0036	000C	EQU	FIELD(12)	"FIELD"	N1300036
0037	0010	EQU	SLASHF(16)	"SLASHF"	N1300037
0038	0011	EQU	BUFEMT(17)	"BUFEMT"	N1300038
0039	0012	EQU	BUFFER(18)	"BUFFER"	N1300039
0040	000C	EQU	CONFM(12)	"CONFM"--PRINT NEW + OLD DATA FOR CONFIRM	N1300040

0042	*				N1300042
0043	*****	*****	PROGRAM	START	N1300043
0044	*				N1300044

0046	P0000	686E	MBCREQ	STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N1300046
0047	P0001	60FF		STA-	I		N1300047
0048	P0002	8112		ADD-	BUFFER,I	CALCULATE "BUFFER" ADD.	N1300048
0049	P0003	681D		STA*	BUFADD		N1300049
0050	P0004	C101		LDA-	HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1300050
0051	P0005	686A		STA*	EXTHAN		N1300051
0052	P0006	C102		LDA-	MSG,I	FETCH "MSG" ADDRESS	N1300052
0053	P0007	6869		STA*	EXTMSG		N1300053

0055	P0008	0A03		ENA	3	INITIALIZE TO GET 3 FIELDS	N1300055
0056	P0009	6868		STA*	MBCFLD		N1300056
0057	P000A	0C04	MBC001	ENQ	4	SET TO GET 4 CHAR. FIELD	N1300057
0058	P000B	0A02		ENA	2		N1300058
0059	P000C	5C63		RTJ*	(EXTHAN)	GET FIELD	N1300059
0060	P000D	C10C		LDA-	FIELD,I	IS CONTROL CHAR.= COMMA,	N1300060
0061	P000E	0107		SAZ	MBC002-*--1	\$FF OR NONE	N1300061
0062	P000F	900A		SUB-	LPMSK+8		N1300062
0063	P0010	0105		SAZ	MBC002-*--1	SKIP YES	N1300063
0064	P0011	810A		ADD-	LPMSK+8		N1300064
0065	P0012	0903		INA	-COMMA		N1300065
0066	P0013	0102		SAZ	MBC002-*--1	SKIP YES	N1300066
0067	P0014	0C04	MBC01A	ENQ	4	PRINT FORMAT	N1300067
0068	P0015	1C5B		JMP*	(EXTMSG)	INCORRECT MSG. AND EXIT PROCESSOR	N1300068
0069	P0016	0A03	MBC002	ENA	3	CONVERT TO HEX	N1300069
0070	P0017	5C58		RTJ*	(EXTHAN)		N1300070
0071	P0018	0000	MBCVAL	0			N1300071
0072	P0019	C8FE		LDA*	MBCVAL		N1300072
0073	P001A	E857		LDQ*	MBCFLD		N1300073
0074	P001B	6A56		STA*	MBCNEW-1,Q		N1300074
0075	P001C	0DFE		INQ	-1	DECREMENT FIELD NO.	N1300075
0076	P001D	4854		STQ*	MBCFLD		N1300076
0077	P001E	0142		SQZ	MBC003-*--1	SKIP IF ALL FIELDS OBTAINED	N1300077
0078	P001F	18EA		JMP*	MBC001		N1300078
0079	P0020	0000	BUFADD	NUM	0		N1300079
0080	P0021	CC53	MBC003	LDA*	(MBCSTR)	MOVE OLD DATA (FIRST WORD) AND NEW DATA,	N1300080
0081	P0022	6836		STA*	INPDAT	REQUEST CONFIRM	N1300081
0082	P0023	CC4F		LDA*	(MBCNEW)		N1300082
0083	P0024	6CFB		STA*	(BUFADD)		N1300083
0084	P0025	0A0C		ENA	CONFM		N1300084
0085	P0026	0C01		ENQ	1	SET FOR ASCII DATA AND 1 WORD	N1300085

```

0086 P0027 5C48 RTJ* (EXTHAN)
0087 P0028 0030 ADC INPDAT-*
0088 P0029 CCF6 LDA* (BUFADD)
0089 P002A 0101 SAZ MBCXX3
0090 P002B 182A JMP* MBC005
0091 P002C C848 MBCXX3 LDA* MBCSTR
0092 P002D 0123 SAP MBC03B
0093 P002E C844 LDA* MBCNEW
0094 P002F 0133 SAM MBC03A
0095 P0030 1818 JMP* MBC004
0096 P0031 C841 MBC03B LDA* MBCNEW
0097 P0032 0134 SAM MBC03C
0098 P0033 C841 MBC03A LDA* MBCSTR
0099 P0034 983E SUB* MBCNEW
0100 P0035 0131 SAM MBC03C
0101 P0036 1812 JMP* MBC004
0102 P0037 C83B MBC03C LDA* MBCNEW
0103 P0038 0122 SAP MBC03D
0104 P0039 C83A LDA* MBCEND
0105 P003A 0133 SAM MBC03E
0106 P003B C838 MBC03D LDA* MBCEND
0107 P003C 0121 SAP MBC03E
0108 P003D 181C JMP* MBC006
0109 P003E C834 MBC03E LDA* MBCNEW
0110 P003F 9834 SUB* MBCEND
0111 P0040 0127 SAP MBC004
0112 P0041 1818 JMP* MBC006
0113 P0042 9830 SUB* MBCNEW
0114 P0043 0124 SAP MBC004--1
0115 P0044 C82E LDA* MBCNEW
0116 P0045 982E SUB* MBCEND
0117 P0046 0121 SAP MBC004--1
0118 P0047 1812 JMP* MBC006
0119 P0048 C82C MBC004 LDA* (MBCSTR)
0120 P0049 6C29 STA* (MBCNEW)
0121 P004A C829 LDA* MBCEND
0122 P004B 0122 SAP MBC04A
0123 P004C C828 LDA* MBCSTR
0124 P004D 0124 SAP MBC04B
0125 P004E C825 MBC04A LDA* MBCEND
0126 P004F 9825 SUB* MBCSTR
0127 P0050 0104 SAZ MBC005--1
0128 P0051 0133 SAM MBC005--1
0129 P0052 0822 MBC04B RAO* MBCSTR
0130 P0053 D81F RAO* MBCNEW
0131 P0054 18F3 JMP* MBC004
0132 P0055 E819 MBC005 LDQ* BASE
0133 P0056 E203 LDQ- SOMMOR,Q
0134 P0057 1622 JMP- (ZERO),Q
0135 P0058 0000 INPDAT NUM 0
0136 * BACKWARDS MOVE
0137 P0059 C81A MBC006 LDA* MBCEND
0138 P005A 981A SUB* MBCSTR

```

```

CHECK IF APPROVED
YES
NO, EXIT TO "SOMMOR"
DETERMINE IF BACKWARD MOVE REQUIRED

```

```

STR -, NEW PLUS
STR + NEW -

```

```

SKIP IF NO
SKIP IF NO
GO TO BACKWARD MOVE
MOVE THE BLOCK

```

```

END POS
END NEG
STR POS

```

```

EXIT (TO "SOMMOR")

```

```

CALC. END OF NEW BLOCK

```

```

N1300086
N1300087
N1300088
N1300089
N1300090
N1300091
**MSOS4.0**N1300092
**MSOS4.0**N1300093
**MSOS4.0**N1300094
**MSOS4.0**N1300095
**MSOS4.0**N1300096
**MSOS4.0**N1300097
**MSOS4.0**N1300098
**MSOS4.0**N1300099
**MSOS4.0**N1300100
**MSOS4.0**N1300101
**MSOS4.0**N1300102
**MSOS4.0**N1300103
**MSOS4.0**N1300104
**MSOS4.0**N1300105
**MSOS4.0**N1300106
**MSOS4.0**N1300107
**MSOS4.0**N1300108
**MSOS4.0**N1300109
**MSOS4.0**N1300110
**MSOS4.0**N1300111
**MSOS4.0**N1300112
N1300113
N1300114
N1300115
N1300116
N1300117
N1300118
N1300119
N1300120
**MSOS4.0**N1300121
**MSOS4.0**N1300122
**MSOS4.0**N1300123
**MSOS4.0**N1300124
**MSOS4.0**N1300125
**MSOS4.0**N1300126
**MSOS4.0**N1300127
**MSOS4.0**N1300128
**MSOS4.0**N1300129
**MSOS4.0**N1300130
N1300131
N1300132
N1300133
N1300134
N1300135
N1300136
N1300137
N1300138

```

```

0139 P005B 8817 ADD* MBCNEW N1300139
0140 P005C 6816 STA* MBCNEW N1300140
0141 P005D CC16 MBC008 LDA* (MBCEND) MOVE THE BLOCK N1300141
0142 P005E C814 STA* (MBCNEW) N1300142
0143 P005F C813 LDA* MBCNEW N1300143
0144 P0060 09FE INA -1 N1300144
0145 P0061 6811 STA* MBCNEW N1300145
0146 P0062 C811 LDA* MBCEND N1300146
0147 P0063 09FE INA -1 N1300147
0148 P0064 680F STA* MBCEND N1300148
0149 P0065 0123 SAP MBC08A END ADDR POS N1300149
0150 P0066 C80E LDA* MBCSTR NO BEG **MSOS4.0** N1300150
0151 P0067 0131 SAM MBC08A **MSOS4.0** N1300151
0152 P0068 18F4 JMP* MBC008 END NEG, BEG POS **MSOS4.0** N1300152
0153 P0069 C80A MBC08A LDA* MBCEND **MSOS4.0** N1300153
0154 P006A 980A SUB* MBCSTR N1300154
0155 P006B 0131 SAM MBC007-*--1 SKIP IF DONE N1300155
0156 P006C 18F0 JMP* MBC008 N1300156
0157 P006D 18E7 MBC007 JMP* MBC005 EXIT PROCESSOR N1300157

```

```

0159 * N1300159
0160 P006E 0000 BASE NUM 0 N1300160
0161 P006F 0000 EXTHAN NUM 0 N1300161
0162 P0070 0000 EXTMSG NUM 0 N1300162
0163 * N1300163
0164 * STORAGE N1300164
0165 * N1300165
0166 P0071 0000 MBCFLD 0 0 NO. OF REMAINING FIELD TO GET N1300166
0167 P0072 0000 MBCNEW 0 0 NEW LOCATION OF BLOCK N1300167
0168 P0073 0000 MBCEND 0 0 END OF PRESENT LOCATION N1300168
0169 P0074 0000 MBCSTR 0 0 START OF PRESENT LOCATION N1300169

```

```

0171 * N1300171
0172 * N1300171
0173 0001 P EQU SA05(* /96) N1300172
0174 0002 P EQU SP05(SA05+1) N1300173
0175 00C0 P EQU DB05(SP05*96) N1300174
0176 P0075 C04B BSS (DB05-*) N1300175
0177 END N1300176

```

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

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0047
0018	AMONI	00F4	(000244)
0018	ADISP	00EA	(000234)
0018	LPMSK	0002	(000002) 0062, 0064
0018	NZERO	0012	(000018)
0018	ZROBIT	0033	(000051)
0019	FIVE	0043	(000067)
0019	SIX	0044	(000068)
0019	ZERO	0022	(000034) 0134
0019	ONEBIT	0023	(000035)
0019	SIXTEN	0027	(000039)
0020	COMMA	0020	(000044) 0065
0020	SLASH	002F	(000047)
0020	ASTRIC	002A	(000042)
0021	EIGHT	0026	(000038)
0021	NINE	0045	(000069)
0021	THREE	0004	(000004)
0021	ONE	0003	(000003)
0021	TWO	0024	(000036)
0022	TEN	0046	(000070)
0025	HANDLE	0001	(000001) 0050
0025	MSG	0002	(000002) 0052
0027	SOMMOR	0003	(000003) 0133
0028	IOERR	0004	(000004)
0029	LISTLU	0005	(000005)
0030	COMOLU	0006	(000006)
0031	NEWMLU	0007	(000007)
0032	PROG1	0008	(000008)
0033	PROG2	0009	(000009)
0034	BITFLG	000A	(000010)
0035	BUFCNT	000B	(000011)
0036	FIELD	000C	(000012) 0060
0037	SLASHF	0010	(000016)
0038	BUFEMT	0011	(000017)
0039	BUFFER	0012	(000018) 0048
0040	CONFM	000C	(000012) 0084

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	MBCREQ	0000	0015
0057	MBC001	000A	0078
0067	MBC01A	0014	
0069	MBC002	0016	0061, 0063, 0066
0071	MBCVAL	0018	0072
0079	BUFADD	0020	0049, 0083, 0088
0080	MBC003	0021	0077
0091	MBCXX3	002C	0089
0096	MBC033	0031	0092
0098	MBC03A	0033	0094
0102	MBC03C	0037	0097, 0100
0106	MBC03D	003B	0103
0109	MBC03E	003E	0105, 0107
0119	MBC004	0048	0095, 0101, 0111, 0114, 0117, 0131
0125	MBC04A	004E	0122
0129	MBC04B	0052	0124
0132	MBC005	0055	0090, 0127, 0128, 0157
0135	INPDAT	0058	0081, 0087
0137	MBC006	0059	0108, 0112, 0118
0141	MBC008	005D	0152, 0156
0153	MBC08A	0069	0149, 0151
0157	MBC007	006D	0155
0160	BASE	006E	0046, 0132
0161	EXTHAN	006F	0051, 0059, 0070, 0086
0162	EXTMSG	0070	0053, 0068
0166	MBCFLD	0071	0056, 0073, 0076
0167	MBCNEW	0072	0074, 0082, 0093, 0096, 0099, 0102, 0109, 0113, 0115, 0120, 0130, 0139, 0140, 0142, 0143, 0145
0168	MBCEND	0073	0104, 0106, 0110, 0116, 0121, 0125, 0137, 0141, 0146, 0148, 0153
0169	MBCSTR	0074	0080, 0091, 0098, 0119, 0123, 0126, 0129, 0138, 0150, 0154
0173	SA05	0001	0174
0174	SP05	0002	0175
0175	DB05	00C0	0176

SUMMARY-116*****

NAM SCHREQ DECK-ID N14 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

N1400002
N1400003
N1400004
N1400005
N1400006
N1400007
N1400008
N1400009
N1400010
N1400011
N1400012

THIS PROCESSOR CREATES A SCHEDULER REQUEST.
THE FORMAT OF THE REQUEST FOLLOWS.
SCH,CORE LOCATION,Q-REG.,COMPLETION PRIORITY LEVEL,
PART 1 REQUEST INDICATOR(CR)

ENT SCHREQ ENTRY NAME

N1400014
N1400015

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1400017
N1400018

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1400019

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1400020

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1400021

EQU TEN(\$46)
EQU COMLU(\$18FD) INPUT COMMENT MEDIUM

N1400022
N1400023

EQU CHRSLV(7) SYSTEM "EQU"
EQU ASMOD(\$1000) LEVEL OF THIS PROGRAM

116*4360*****
N1400025
N1400027

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"

N1400029
N1400030
N1400031
N1400032
N1400033
N1400034

0035 0006
 0036 0007
 0037 0008
 0038 0009
 0039 000A
 0040 000B
 0041 000C
 0042 0010
 0043 0011
 0044 0012

EQU COMOLU(6)
 EQU NEWMLU(7)
 EQU PROG1(8)
 EQU PROG2(9)
 EQU BITFLG(10)
 EQU BUFCNT(11)
 EQU FIELD(12)
 EQU SLASHF(16)
 EQU BUFEMT(17)
 EQU BUFFER(18)

""COMOLU""
 ""NEWMLU"" --- NEW MM LU
 ""PROG1""
 ""PROG2""
 ""BITFLG""
 ""BUFCNT""
 ""FIELD""
 ""SLASHF""
 ""BUFEMT""
 ""BUFFER""

N1400035
 N1400036
 N1400037
 N1400038
 N1400039
 N1400040
 N1400041
 N1400042
 N1400043
 N1400044

0046
 0047
 0048

*
 ***** PROGRAM START *****
 *

N1400046
 N1400047
 N1400048

0050 P0000 685C
 0051 P0001 60FF
 0052 P0002 C101
 0053 P0003 685A
 0054 P0004 C102
 0055 P0005 6859
 0056 P0006 C106
 0057 P0007 8829
 0058 P0008 6820

SCHREQ STA* BASE SAVE PARAMETER BUFFER ADDRESS
 STA- I GET "HANDLE" ROUTINE ADDRESS
 LDA- HANDLE, I
 STA* EXTHAN
 LDA- MSG, I FETCH "MSG" ADDRESS
 STA* EXTMSG
 LDA- COMOLU, I
 ADD* MODE
 STA* OTLU

N1400050
 N1400051
 N1400052
 N1400053
 N1400054
 N1400055
 N1400056
 N1400057
 N1400058

0059 P0009 0A04
 0060 P000A 6857
 0061 P000B CC04
 0062 P000C 0A02
 0063 P000D 5C50
 0064 P000E C10C
 0065 P000F 0107
 0066 P0010 900A
 0067 P0011 0105
 0068 P0012 800A
 0069 P0013 0903
 0070 P0014 0102
 0071 P0015 0C04
 0072 P0016 1C48
 0073 P0017 0A03
 0074 P0018 5C45
 0075 P0019 0000
 0076 P001A C8FE
 0077 P001B E846
 0078 P001C 6A45
 0079 P001D 0DFE
 0080 P001E 4843
 0081 P001F 0141
 0082 P0020 18EA
 0083 P0021 C844

SCH001 ENA 4 INITIALIZE TO GET 4 FIELDS
 STA* SCHFLD
 ENQ 4 SET TO GET 4 CHAR. FIELD
 ENA 2
 RTJ* (EXTHAN) GET FIELD
 LDA- FIELD, I IS CONTROL CHAR.= COMMA,
 SAZ SCH002-* -1 \$FF OR NONE
 SUB- LPMSK+8
 SAZ SCH002-* -1 SKIP YES
 ADD- LPMSK+8
 INA -COMMA
 SAZ SCH002-* -1 SKIP YES
 ENQ 4 ILLEGAL CHAR. PRINT FORMAT INCORRECT
 JMP* (EXTMSG) MESSAGE AND EXIT PROCESSOR
 SCH002 ENA 3 CONVERT TO HEX
 RTJ* (EXTHAN)
 SCHVAL 0
 LDA* SCHVAL SAVE VALUE
 LDQ* SCHFLD
 STA* SCHFLD, Q
 INQ -1 DECREMENT FIELD NO.
 STQ* SCHFLD
 SQZ SCH003-* -1 SKIP IF ALL FIELDS OBTAINED
 JMP* SCH001
 * REQUEST CONFIRMATION
 SCH003 LDA* SCHCOM INSERT LOC.

N1400060
 N1400061
 N1400062
 N1400063
 N1400064
 N1400065
 N1400066
 N1400067
 N1400068
 N1400069
 N1400070
 N1400071
 N1400072
 N1400073
 N1400074
 N1400075
 N1400076
 N1400077
 N1400078
 N1400079
 N1400080
 N1400081
 N1400082
 N1400083
 N1400084
 N1400085

```

0086 P0022 5864 RTJ* ASMASC
0087 P0023 004D ADC MES1-*
0088 *
0089 P0024 54F4 OUT RTJ- (AMONI)
0090 P0025 0507 WRTCD ADC $500+CHRSLV WRITE CODE
0091 P0026 0007 WRTEX ADC WRTRN-WRTCD RETURN
0092 P0027 0000 NUM 0 THREAD
0093 P0028 0000 O TLU NUM 0 LU.
0094 P0029 0017 WRTSZ ADC LMES0 SIZE
0095 P002A 0041 WRTBF ADC MESQ-WRTCD BUFFER ADD.
0096 P002B 14EA JMP- (ADISP)
0097 *
0098 P002C 0164 WRTRN SQP WRTOK
0099 P002D E82F ERI0 LDQ* BASE I/O ERROR
0100 P002E E204 LDQ- IOERR,Q
0101 P002F 1622 JMP- (ZERO),Q
0102 P0030 1000 MODE ADC ASMOD
0103 *
0104 F0031 54F4 WRTOK RTJ- (AMONI) READ IN CONFIRMATION
0105 P0032 0907 REDCD ADC $900+CHRSLV F-READ
0106 P0033 000A ADC GETRT-REDCD RETURN
0107 P0034 0000 NUM 0
0108 P0035 18FD ADC COMLU
0109 P0036 0001 NUM 1 1WORD
0110 P0037 0009 ADC OKWD-REDCD
0111 P0038 14EA JMP- (ADISP)
0112 P0039 0058 EXME ADC MESX-WRTCD 0. BUFFER ADD.
0113 P003A 0034 ADC GONE-WRTCD 1. EXIT ADD.
0114 P003B 0000 OKWD NUM 0
0115 *
0116 P003C 0161 GETRT SQP REDOK
0117 P003D 18FF JMP* ERI0
0118 P003E C8FC REDOK LDA* OKWD CHECK IF CONFIRM --- 'OK'
0119 P003F 9000 SUB =AOK
0120 P0040 4F48
0121 P0041 0107 SAZ SCHXX3 YES, SKIP
0122 P0042 0A09 ENA LMESX SET-UP WRITE DATA TO PRINT ABORT MESSAGE AND
0123 P0043 68E5 STA* WRTSZ EXIT
0124 P0044 C8F4 LDA* EXME
0125 P0045 68E4 STA* WRTBF
0126 P0046 C8F3 LDA* EXME+1
0127 P0047 68DE STA* WRTEX
0128 P0048 18DB JMP* OUT
0129 *
0129 P0049 C81A SCHXX3 LDA* SCHCPL SET-UP COMPLETION
0130 P004A A006 AND- LPMSK+4 PRIORITY LEVEL
0131 P004B 6818 STA* SCHCPL
0132 P004C C814 LDA* SCHPR1 GET PART 0 OR PART 1 SCHEDULER REQUEST
0133 P004D E815 LDQ* SCHPRT
0134 P004E 0151 SQN SCHXX4
0135 P004F C810 LDA* SCHPRO
0136 P0050 A016 SCHXX4 AND- NZERO+4
0137 P0051 8812 ADD* SCHCPL

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N1400086
N1400087
N1400088
N1400089
N1400090
N1400091
N1400092
N1400093
N1400094
N1400095
N1400096
N1400097
N1400098
N1400099
N1400100
N1400101
N1400102
N1400103
N1400104
N1400105
N1400106
N1400107
N1400108
N1400109
N1400110
N1400111
N1400112
N1400113
N1400114
N1400115
N1400116
N1400117
N1400118
N1400119
N1400120
N1400121
N1400122
N1400123
N1400124
N1400125
N1400126
N1400127
N1400128
N1400129
N1400130
N1400131
N1400132
N1400133
N1400134
N1400135
N1400136
N1400137

```

0138 P0052 6805
 0139 P0053 0812
 0140 P0054 6804
 0141 P0055 80F
 0142 P0056 54F4
 0143 P0057 1200
 0144 P0058 0000
 0145 P0059 803
 0146 P005A E203
 0147 P005B 1622

STA* SCHPAR
 LDA* SCHCOM
 STA* SCHPAR+1
 LDQ* SCHQRG
 RTJ- (AMONI)
 SCHPAR NUM \$1200
 0
 GONE LDQ* BASE
 LDQ- SOMMOR,Q
 JMP- (ZERO),Q

SET-UP COMPLETION LOCATION
 PASS DESIRED CONTENTS OF Q
 SCHEDULER REQUEST

EXIT (TO "SOMMOR")

N1400138
 N1400139
 N1400140
 N1400141
 N1400142
 N1400143
 N1400144
 N1400145
 N1400146
 N1400147

0149
 0150 P005C 0000
 0151 P005D 0000
 0152 P005E 0000
 0153 P005F 1200
 0154 P0060 5200
 0155
 0156
 0157
 0158 P0061 0000
 0159 P0062 0000
 0160 P0063 0000
 0161 P0064 0000
 0162 P0065 0000

*
 BASE NUM 0
 EXTHAN NUM 0
 EXTMSG NUM 0
 SCHPRG NUM \$1200
 SCHPR1 NUM \$5200
 *
 * STORAGE
 *
 SCHFLD 0 0
 SCHPRT 0 0
 SCHCPL 0 0
 SCHQRG 0 0
 SCHCOM 0 0

PART 0 SCHEDULER REQUEST
 PART 1 SCHEDULER REQUEST

NO. OF REMAINING FIELDS TO GET
 PART 1 REQUEST INDICATOR
 COMPLETION PRIORITY LEVEL
 CONTENTS OF Q-REG.
 COMPLETION LOCATION

N1400149
 N1400150
 N1400151
 N1400152
 N1400153
 N1400154
 N1400155
 N1400156
 N1400157
 N1400158
 N1400159
 N1400160
 N1400161
 N1400162

0164
 0165
 0166
 0167 P0066 0A00
 0168 P0067 2046
 P0068 4952
 P0069 5354
 P006A 2057
 P006B 4F52
 P006C 4420
 P006D 4441
 P006E 5441
 0169 P006F 0A00
 0170 P0070 2020
 P0071 2020
 0171 P0072 2020
 P0073 2028
 0172 P0074 2020
 P0075 2020
 0173 P0076 2920
 0174 P0077 0A00
 0175 P0078 2043
 P0079 4F4E
 P007A 4649
 P007B 5240
 P007C 2020

*
 ***** MESSAGE
 *
 MES0 NUM \$A00
 ALF 8, FIRST WORD DATA
 *
 MES1 NUM \$A00
 ALF 2,
 *
 MES2 ALF 2,
 *
 ALF 1,)
 NUM \$A00
 ALF 5, CONFIRM

N1400164
 N1400165
 N1400166
 N1400167
 N1400168

N1400169
 N1400170
 N1400171
 N1400172
 N1400173
 N1400174
 N1400175

0176		0017	EQU	LMESO (*-MES0)		N1400176
0177	P007D	0A00	NUM	\$A0D		N1400177
0178	P007E	4442	ALF	8,DB REQUEST ABORT		N1400178
	P007F	2052				
	P0080	4551				
	P0081	5545				
	P0082	5354				
	P0083	2041				
	P0084	424F				
	P0085	5254				
0179		0009	EQU	LMESX (*-MESX)		N1400179
0181			*			N1400181
0182			*****	ASSEMBLE LOCATION AND CONTENT INTO ASCII		N1400182
0183			*			N1400183
0184	P0086	0B00	ASMAS	NOP 0	ENTRY	N1400184
0185	P0087	680C	STA*	A0	SAVE LOCATION	N1400185
0186	P0088	ECFD	LDQ*	(ASMAS)		N1400186
0187	P0089	F8FC	ADQ*	ASMAS		N1400187
0188	P008A	480A	STQ*	A1	SAVE DATA CONTENT ADD.	N1400188
0189	P008B	580A	RTJ*	TW	ASSEMBLE INTO ASCII	N1400189
0190	P008C	C808	LDA*	A1		N1400190
0191	P008D	0904	INA	4		N1400191
0192	P008E	6806	STA*	A1		N1400192
0193	P008F	CC04	LDA*	(A0)	GET CONTENT	N1400193
0194	P0090	5805	RTJ*	TW	ASSEMBLE INTO ASCII	N1400194
0195	P0091	D8F4	RAO*	ASMAS	SET EXIT	N1400195
0196	P0092	1CF3	JMP*	(ASMAS)	EXIT	N1400196
0198			*			N1400198
0199	P0093	0000	A0	NUM 0		N1400199
0200	P0094	0000	A1	NUM 0		N1400200
0202			*			N1400202
0203	P0095	0B00	TW	NOP 0	ENTRY	N1400203
0204	P0096	0C00	ENQ	0		N1400204
0205	P0097	4811	STQ*	TW1	ZERO COUNT	N1400205
0206	P0098	0FE4	LLS	4	EXTRACT 4-BIT BYTE	N1400206
0207	P0099	6810	STA*	TW2		N1400207
0208	P009A	0DF5	INQ	-10	ASSEMBLE INTO ASCII ACCORDING TO NO. OR A-F	N1400208
0209	P009B	0171	SQM	TWX		N1400209
0210	P009C	0D07	INQ	7		N1400210
0211	P009D	0D3A	INQ	\$3A		N1400211
0212	P009E	0FF0	LLS	16	TO A-REG.	N1400212
0213	P009F	E809	LDQ*	TW1		N1400213
0214	P00A0	6A0A	STA*	TW3,Q	SAVE ACCORDINGLY	N1400214
0215	P00A1	0D01	INQ	1		N1400215
0216	P00A2	4806	STQ*	TW1		N1400216
0217	P00A3	0DF8	INQ	-4		N1400217
0218	P00A4	0149	SQZ	TWAS	DONE, ALL 4 BYTE BEEN PROCESSED	N1400218
0219	P00A5	C804	LDA*	TW2		N1400219

0220	P00A6	0C00		ENQ	0		N1400220
0221	P00A7	18F0		JMP*	TW0		N1400221
0222			*				N1400222
0223	P00A8	0000	TW1	NUM	0		N1400223
0224	P00A9	0000	TW2	NUM	0		N1400224
0225	P00AA	0004	TW3	BZS	TW3(4)		N1400225
0226	P00AE	E8E5	TWAS	LDQ*	A1	ASSEMBLE INTO 2-WORD AND SAVE	N1400226
0227	P00AF	C8FA		LDA*	TW3		N1400227
0228	P00B0	0FC8		ALS	8		N1400228
0229	P00B1	88F9		ADD*	TW3+1		N1400229
0230	P00B2	6622		STA-	(ZERO),Q		N1400230
0231	P00B3	C8F8		LDA*	TW3+2		N1400231
0232	P00B4	0FC8		ALS	8		N1400232
0233	P00B5	88F7		ADD*	TW3+3		N1400233
0234	P00B6	0001		INQ	1		N1400234
0235	P00B7	6622		STA-	(ZERO),Q		N1400235
0236	P00B8	1C0C		JMP*	(TW)	RETURN	N1400236

0238			*				N1400238
0239		0001	P	EQU	SA06(*'96)		N1400239
0240		0002	P	EQU	SP06(SA06+1)		N1400240
0241		00C0	P	EQU	DB06(SP06*96)		N1400241
0242	P00B9	0007		BSS	(DB06-*)		N1400242
0243				END			N1400243

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0051
0018	AMONI	00F4 (000244)	0089, 0104, 0142
0018	ADISP	00EA (000234)	0096, 0111
0018	LPMSK	0002 (000002)	0067, 0069, 0130
0018	NZERO	0012 (000018)	0136
0018	ZROBIT	0033 (000051)	
0019	FIVE	0043 (000067)	
0019	SIX	0044 (000068)	
0019	ZERO	0022 (000034)	0101, 0147, 0230, 0235
0019	ONEBIT	0023 (000035)	
0019	SIXTEN	0027 (000039)	
0020	COMMA	002C (000044)	0070
0020	SLASH	002F (000047)	
0020	ASTRIC	002A (000042)	
0021	EIGHT	0026 (000038)	
0021	NINE	0045 (000069)	
0021	THREE	0004 (000004)	
0021	ONE	0003 (000003)	
0021	TWO	0024 (000036)	
0022	TEN	0046 (000070)	
0023	COMLU	18FD (006397)	0108
0026	CHRSLV	0007 (000007)	0090, 0105
0027	ASMOD	100C (004096)	0102
0030	HANDLE	0001 (000001)	0052
0031	MSG	0002 (000002)	0054
0032	SOMMOR	0003 (000003)	0146
0033	IOERR	0004 (000004)	0100
0034	LISTLU	0005 (000005)	
0035	COMOLU	0006 (000006)	0056
0036	VEWMLU	0007 (000007)	
0037	PROG1	0008 (000008)	
0038	PROG2	0009 (000009)	
0039	BITFLG	000A (000010)	
0040	BUFCNT	000B (000011)	
0041	FIELD	000C (000012)	0065
0042	SLASHF	0010 (000016)	
0043	BUFENT	0011 (000017)	
0044	BUFFER	0012 (000018)	

0176	LMESO	0017	(000023)	0094
0179	LMESX	0009	(000009)	0121

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	SCHREQ	0000	0015
0062	SCH001	0008	0083
0074	SCH002	0017	0066, 0068, 0071
0076	SCHVAL	0019	0077
0085	SCH003	0021	0082
0089	OUT	0024	0127
0090	WRICD	0025	0091, 0095, 0112, 0113
0091	WRTEX	0026	0126
0093	OTLU	0028	0058
0094	WRISZ	0029	0122
0095	WRIBF	002A	0124
0098	WRTRN	002C	0091
0099	ERIO	002D	0117
0102	MODE	0030	0057
0104	WRTOK	0031	0098
0105	REDCD	0032	0106, 0110
0112	EXME	0039	0123, 0125
0114	OKWD	003B	0110, 0118
0116	GETRT	003C	0106
0118	REDOK	003E	0116
0129	SCHXX3	0049	0120
0136	SCHXX4	0050	0134
0143	SCHPAR	0057	0138, 0140
0145	GONE	0059	0113
0150	BASE	005C	0050, 0099, 0145
0151	EXTHAN	005D	0053, 0064, 0075
0152	EXTMSG	005E	0055, 0073
0153	SCHPRO	005F	0133
0154	SCHPR1	0060	0132
0158	SCHFLD	0061	0061, 0078, 0079, 0081
0159	SCHPRT	0062	0133
0160	SCHCPL	0063	0129, 0131, 0137
0161	SCHQRGM	0064	0141
0162	SCHCOM	0065	0085, 0139
0167	MES0	0066	0095, 0176
0170	MES1	0070	0087
0172	MES2	0074	
0177	MESX	007D	0112, 0179
0184	ASMASC	0086	0086, 0186, 0187, 0195, 0196
0199	AD	0093	0185, 0193
0200	A1	0094	0188, 0190, 0192, 0226

0203	TW	0095
0206	TW0	0098
0211	TWX	009D
0223	TW1	00A8
0224	TW2	00A9
0225	TW3	00AA
0226	TWAS	00AE
0239	SA06	0001
0240	SP06	0002
0241	DR06	00C0

0189, 0194, 0236
0221
0209
0205, 0213, 0216
0207, 0219
0214, 0227, 0229, 0231, 0233
0218
0240
0241
0242


```

0001          *      NAM SPEREQ      DECK-ID N15  MSOS 5.0      SUMMARY-113*****
0002          *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N1500002
0003          *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N1500003
0004          *      COPYRIGHT CONTROL DATA CORPORATION 1976      N1500004
0005          *      N1500J05
0006          *      N1500006
0007          *      THIS PROCESSOR SEARCHS CORE FOR PARITY.      N1500J07
0008          *      THE REQUEST HAS THE FOLLOWING FORMAT.      N1500008
0009          *      SPE, LAST LOCATION IN CORE(CR)      N1500009
0010          *      N1500010
0011          *      N1500011

0013          *      E N T R Y      N A M E      N1500013
0014          *      ENT SPEREQ      N1500014

0016          *      ' E Q U '      T A B L E      N1500016
0017          *      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)      N1500017
00F4
00EA
0002
0012
0033
0018          *      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N1500018
0043
0044
0022
0023
0027
0019          *      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)      N1500019
002C
002F
002A
0020          *      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N1500020
0026
0045
0004
0003
0024
0021          *      EQU TEN($46)      **MSOS4.0**N1500021
0046

0023          *      PARAMETER LOCATION (OFFSET FROM BASE)      N1500023
0024          *      EQU HANDLE(1)      "HANDLE"      N1500024
0025          *      EQU MSG(2)      "MSG" ENTRY      N1500025
0026          *      EQU SOMMOR(3)      "SOMMOR" ENTRY      N1500026
0027          *      EQU IOERR(4)      "IOERR" ENTRY      N1500027
0028          *      EQU LISTLU(5)      LIST OUTPUT --- "LISTLU"      N1500028
0029          *      EQU COMOLU(6)      "COMOLU"      N1500029
0030          *      EQU NEWMLU(7)      "NEWMLU" --- NEW MM LU      N1500030
0031          *      EQU PROG1(8)      "PROG1"      N1500031
0032          *      EQU PROG2(9)      "PROG2"      N1500032
0033          *      EQU BITFLG(10)      "BITFLG"      N1500033
0034          *      EQU BUFCNT(11)      "BUFCNT"      N1500034

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0035	000C	EQU	FIELD(12)	"FIELD"	N1500035
0036	0010	EQU	SLASHF(16)	"SLASHF"	N1500036
0037	0011	EQU	BUFEMT(17)	"BUFEMT"	N1500037
0038	0012	EQU	BUFFER(18)	"BUFFER"	N1500038

0040	*				N1500040
0041	*****	*****	PROGRAM	START	N1500041
0042	*				N1500042

0044	P0000	683E	SPEREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N1500044
0045	P0001	60FF		STA- I		N1500045
0046	P0002	C101		LDA- HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1500046
0047	P0003	683C		STA* EXTHAN		N1500047
0048	P0004	C102		LDA- MSG,I	FETCH "MSG" ADDRESS	N1500048
0049	P0005	683B		STA* EXTMSG		N1500049

0051	P0006	0C04		ENQ 4	SET TO GET 4 CHAR. FIELD	N1500051
0052	P0007	0A02		ENA 2		N1500052
0053	P0008	5C37		RTJ* (EXTHAN)	GET FIELD	N1500053
0054	P0009	C10C		LDA- FIELD,I	IS CONTROL CHAR.= COMMA,	N1500054
0055	P000A	0107		SAZ SPE001-* -1	\$FF OR NONE	N1500055
0056	P000B	9J0A		SUB- LPMSK+8		N1500056
0057	P000C	0105		SAZ SPE001-* -1	SKIP YES	N1500057
0058	P000D	800A		ADD- LPMSK+8		N1500058
0059	P000E	09D3		INA -COMMA		N1500059
0060	P000F	0102		SAZ SPE001-* -1	SKIP YES	N1500060
0061	P0010	0C04	SPE000	ENQ 4	ILLEGAL CONTROL CHAR. OUTPUT FORMAT	N1500061
0062	P0011	1C2F	S001	JMP* (EXTMSG)	INCORRECT MSG. AND EXIT PROCESSOR	N1500062
0063	P0012	6C02	SPE001	ENQ 2	IS FIELD BLANK	N1500063
0064	P0013	C300		LDA- FIELD+1,B		N1500064
0065	P0014	R000		EOR =N\$2020		N1500065

0066	P0016	0113		SAN SPE01A-* -1	SKIP NO	N1500066
0067	P0017	0DFE		INQ -1		N1500067
0068	P0018	0175		SQM SPE002-* -1	SKIP YES	N1500068
0069	P0019	18F9		JMP* SPE001+1		N1500069
0070	P001A	0A03	SPE01A	ENA 3	NO, CONVERT TO HEX	N1500070
0071	P001B	5C24		RTJ* (EXTHAN)		N1500071
0072	P001C	0000	SPEVAL	0		N1500072
0073	P001D	1803		JMP* SPE008		N1500073
0074	P001E	C011	SPE002	LDA- LPMSK+15		N1500074
0075	P001F	68FC		STA* SPEVAL		N1500075
0076	P0020	0844	SPE008	CLR A	INITIALIZE CORE READ INDEX	N1500076
0077	P0021	6820		STA* SPELOC	**MSOS4.0**	N1500077
0078	P0022	0500	SPE003	IIN 0	INHIBIT INTERRUPTS DURING CHECK	N1500078
0079	P0023	CC1E		LDA* (SPELOC)	READ FROM CORE	N1500079
0080	P0024	01D1		SNP SPE007		N1500080
0081	P0025	1811		JMP* SPE005	PARITY ERROR	N1500081
0082	P0026	0400	SPE007	EIN 0	ENABLE INTERRUPTS	N1500082
0083	P0027	C81B		LDA* FFFFFFFF	CHECK IF THIS WAS \$FFFF ADDRESS	N1500083
0084	P0028	013B		SAM SPE004	SKIP TO END IF =\$FFFF	N1500084

```

0085 P0029 C8F2 LDA* SPEVAL
0086 P002A 9817 SUB* SPELOC
0087 P002B 0108 SAZ SPE004--*-1
0088 P002C B033 LDA* SPELOC
0089 P002D B033 EOR- ZROBIT
0090 P002E 0113 SAN BMPIDX
0091 P002F 0804 SET A
0092 P0030 6812 STA* FFFFFFFF
0093 P0031 E810 STA* SPELOC
0094 P0032 D80F BMPIDX RAO* SPELOC
0095 P0033 18EE JMP* SPE003
0096 P0034 C007 SPE004 ENQ 7
0097 P0035 18DB JMP* S001
0098 P0036 0400 SPE005 EIN 0
0099 P0037 C80A LDA* SPELOC
0100 P0038 6804 STA* SPE006
0101 P0039 0CFE ENQ -1
0102 P003A 0A04 ENA 4
0103 P003B 5C04 RTJ* (EXTHAN)
0104 P003C 0000 SPE006 0
0105 P003D 18E8 JMP* SPE007

```

```

CHECK FINISHED
SKIP YES
CHECK IF NOW $FFFF
SKIP IF NOT $FFFE
SET $FFFF (RAO TO $FFFE=+0, NOT -0)
BUMP INDEX
DO NEXT CHECK
OUTPUT SEARCH FINISHED
MSG AND EXIT PROCESSOR
OUTPUT LOCATION OF PARITY
(NEG. INDICATES ADDRESS ONLY)
COTINUE SEARCH

```

```

113*4246*****
113*4246*****

```

```

N1500085
N1500086
N1500087
N1500088
N1500089
N1500090
N1500091
N1500092
N1500093
N1500096
N1500097
N1500098
N1500099
N1500100
N1500101
N1500102
N1500103
N1500104
N1500105

```

```

0107 *
0108 P003E 0000 BASE NUM 0
0109 P003F 0000 EXTHAN NUM 0
0110 P0040 0000 EXTMSG NUM 0
0111 P0041 0000 SPELOC 0
0112 P0042 0000 FFFFFFFF NUM 0

```

```

LOC. OF PRESENT CELL BEING CHECKED
LAST PASS FLAG

```

```

N1500107
N1500108
N1500109
N1500110
N1500111
N1500112

```

```

0114 *
0115 0000 P EQU SA07(*96)
0116 0001 P EQU SP07(SA07+1)
0117 0060 P EQU DB07(SP07*96)
0118 P0043 0010 BSS (DB07-*)
0119 END

```

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N1500114
N1500115
N1500116
N1500117
N1500118
N1500119

```

```

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

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EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0045
0017	AMONI	00F4	(000244)
0017	ADISP	00EA	(000234)
0017	LPMSK	0002	(000002) 0056, 0058, 0074
0017	NZERO	0012	(000018)
0017	ZROBIT	0033	(000051) 0089
0018	FIVE	0043	(000067)
0018	SIX	0044	(000058)
0018	ZERO	0022	(000034)
0018	ONEBIT	0023	(000035)
0018	SIXTEN	0027	(000039)
0019	COMMA	002C	(000044) 0059
0019	SLASH	002F	(000047)
0019	ASTRIC	002A	(000042)
0020	EIGHT	0026	(000038)
0020	NINE	0045	(000069)
0020	THREE	0004	(000004)
0020	ONE	0003	(000003)
0020	TWO	0024	(000036)
0021	TEN	0046	(000070)
0024	HANDLE	0001	(000001) 0046
0025	MSG	0002	(000002) 0048
0026	SOMMOR	0003	(000003)
0027	IOERR	0004	(000004)
0028	LISTLU	0005	(000005)
0029	COMOLU	0006	(000006)
0030	NEWMLU	0007	(000007)
0031	PROG1	0008	(000008)
0032	PROG2	0009	(000009)
0033	BITFLG	000A	(000010)
0034	BUFCNT	000B	(000011)
0035	FIELD	000C	(000012) 0054, 0064
0036	SLASHF	0010	(000016)
0037	BUFEMT	0011	(000017)
0038	BUFFER	0012	(000018)

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	SPEREQ	0000	0014
0061	SPE000	0010	
0062	S001	0011	
0063	SPE001	0012	0097
0070	SPE01A	001A	0055, 0057, 0060, 0069
0072	SPEVAL	001C	0066
0074	SPE0G2	001E	0075, 0085
0076	SPE008	0020	0068
0078	SPE003	0022	0073
0082	SPE007	0026	0095
0094	BMPIDX	0032	0080, 0105
0096	SPE0C4	0034	0090
0098	SPE005	0036	0084, 0087
0104	SPE006	003C	0081
0108	BASE	003E	0100
0109	EXTHAN	003F	0044
0110	EXTMSG	0040	0047, 0053, 0071, 0103
0111	SPELOC	0041	0049, 0062
0112	FAFFF	0042	0077, 0079, 0086, 0088, 0093, 0094, 0099
0115	SA07	0000	0083, 0092
0116	SPO7	0001	0116
0117	DB07	0060	0117
			0118

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012

*
*
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*
*
*
*
*
*
*
*
*

NAM CPPREQ DECK-ID N16 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110N1600001
N1600002
N1600003
N1600004
N1600005
N1600006
N1600007
N1600008
N1600009
N1600010
N1600011
N1600012

THIS PROCESSOR CLEARS THE PROGRAM PROTECT BIT
FOR THE CELLS SPECIFIED.
THE FORMAT FOR THE REQUEST IS AS FOLLOWS.
CPP,START CORE,END CORE(CR)

0014
0015

*

ENT CPPREQ ENTRY NAME

N1600014
N1600015

0017
0018

*

00F4
00EA
0002
0012
0033

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1600017
N1600018

0019

0043
0044
0022
0023
0027

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1600019

0020

002C
002F
002A
0026

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1600020

0021

0045
0004
0003
0024

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1600021

0022

0046

EQU TEN(\$46)

MSOS4.0N1600022

0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034

*

0001
0002
0003
0004
0005
0006
0007
0008
0009
000A

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"
EQU BITFLG(10) "BITFLG"

N1600024
N1600025
N1600026
N1600027
N1600028
N1600029
N1600030
N1600031
N1600032
N1600033
N1600034

0035	000B	EQU	BUFCNT(11)	"BUFCNT"	N1600035
0036	000C	EQU	FIELD(12)	"FIELD"	N1600036
0037	0010	EQU	SLASHF(16)	"SLASHF"	N1600037
0038	0011	EQU	BUFEMT(17)	"BUFEMT"	N1600038
0039	0012	EQU	BUFFER(18)	"BUFFER"	N1600039

0041	*				N1600041
0042	*****	*****	PROGRAM	START	N1600042
0043	*				N1600043

0045	P0000	682C	CPPREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N1600045
0046	P0001	60FF		STA- I		N1600046
0047	P0002	C101		LDA- HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1600047
0048	P0003	682A		STA* EXTHAN		N1600048
0049	P0004	C102		LDA- MSG,I	FETCH "MSG" ADDRESS	N1600049
0050	P0005	6829		STA* EXTMSG		N1600050

0052	P0006	CA02		ENA 2	INITIALIZE TO GET 2 FIELDS	N1600052
0053	P0007	6828		STA* CPPFLD		N1600053
0054	P0008	0C04	CPP001	ENQ 4	SET TO GET 4 CHAR. FIELDS	N1600054
0055	P0009	CA02		ENA 2		N1600055
0056	P000A	5C23		RTJ* (EXTHAN)	GET FIELD	N1600056
0057	P000B	C10C		LDA- FIELD,I	IS CONTROL CHAR.= COMMA,	N1600057
0058	P000C	0107		SAZ CPP002-* -1	\$FF OR NONE	N1600058
0059	P000D	900A		SUB- LPMSK+8		N1600059
0060	P000E	0105		SAZ CPP002-* -1	SKIP YES	N1600060
0061	P000F	800A		ADD- LPMSK+8		N1600061
0062	P0010	09D3		INA -COMMA		N1600062
0063	P0011	0103		SAZ CPP002-* -1	SKIP YES	N1600063

0064	P0012	0C04	CPP01A	ENQ 4	OUTPUT FORMAT INCORRECT	N1600064
0065	P0013	1C1B		JMP* (EXTMSG)	MESSAGE AND EXIT PROCESSOR.	N1600065
0066	P0014	0A03	CPP002	ENA 3	CONVERT FIELD TO HEX	N1600066
0067	P0015	5C18		RTJ* (EXTHAN)		N1600067

0068	P0016	0000	CPPVAL	0		N1600068
0069	P0017	C8FE		LDA* CPPVAL	SAVE FIELD	N1600069
0070	P0018	E817		LDQ* CPPFLD		N1600070
0071	P0019	6A16		STA* CPPEND-1,Q		N1600071
0072	P001A	0DFE		INQ -1	DECREMENT FIELD NO.	N1600072
0073	P001B	4814		STQ* CPPFLD		N1600073
0074	P001C	0141		SQZ CPP003-* -1	SKIP IF ALL FIELD OBTAINED	N1600074

0075	P001D	18EA		JMP* CPP001		N1600075
0076	P001E	E813	CPP003	LDQ* CPPSTR	CLEAR PROTECT BIT FROM	N1600076
0077	P001F	0700		CPB 0	START TO LAST	N1600077
0078	P0020	0811		RAO* CPPSTR		N1600078
0079	P0021	C80F		LDA* CPPEND		N1600079
0080	P0022	0122		SAP CPP03A	**MSOS4.0**	N1600080
0081	P0023	C80E		LDA* CPPSTR	**MSOS4.0**	N1600081
0082	P0024	0123		SAP CPP03B	**MSOS4.0**	N1600082
0083	P0025	C80B	CPP03A	LDA* CPPEND	**MSOS4.0**	N1600083
0084	P0026	980B		SUB* CPPSTR		N1600084
0085	P0027	0131		SAM CPP004-* -1	SKIP IF DONE	N1600085

```

0086 PG028 18F5 CPP03B JMP* CPP003
0087 P0029 E803 CPP004 LDQ* BASE
0088 P002A E203 LDQ- SOMMOR,Q
0089 P002B 1522 JMP- (ZERO),Q

```

EXIT (TO "SOMMOR")

MSOS4.0

```

N1600085
N1600087
N1600088
N1600089

```

```

0091 *
0092 P002C 0000 BASE NUM 0
0093 P002D 0000 EXTHAN NUM 0
0094 P002E 0000 EXTMSG NUM 0
0095 * STORAGE
0096 P002F 0000 CPPFLD 0 0
0097 P0030 0000 CPPEND 0 0
0098 P0031 0000 CPPSTR 0 0

```

```

NO. OF REMAINING FIELDS
LAST CELL TO BE CLEARED
FIRST CELL TO BE CLEARED

```

```

N1600091
N1600092
N1600093
N1600094
N1600095
N1600096
N1600097
N1600098

```

```

0100 *
0101 0000 P EQU SA08(*96)
0102 0001 P EQU SP08(SA08+1)
0103 0060 P EQU DB08(SP08*96)
0104 PG032 002E BSS (DB08-*)
0105 END

```

```

N1600100
N1600101
N1600102
N1600103
N1600104
N1600105

```

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

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0046
0018	AMONI	00F4	(000244)
0018	ADISP	00EA	(000234)
0018	LPMSK	0002	(000002) 0059, 0061
0018	NZERO	0012	(000018)
0018	ZROBIT	0033	(000051)
0019	FIVE	0043	(000067)
0019	SIX	0044	(000068)
0019	ZERO	0022	(000034) 0089
0019	ONEBIT	0023	(000035)
0019	SIXTEN	0027	(000039)
0020	COMMA	002C	(000044) 0062
0020	SLASH	002F	(000047)
0020	ASTRIC	002A	(000042)
0021	EIGHT	0026	(000038)
0021	NINE	0045	(000069)
0021	THREE	0004	(000004)
0021	ONE	0003	(000003)
0021	TWO	0024	(000036)
0022	TEN	0046	(000070)
0025	HANDLE	0001	(000001) 0047
0026	MSG	0002	(000002) 0049
0027	SOMMOR	0003	(000003) 0088
0028	IOERR	0004	(000004)
0029	LISTLU	0005	(000005)
0030	COMOLU	0006	(000006)
0031	NEWMLU	0007	(000007)
0032	PROG1	0008	(000008)
0033	PROG2	0009	(000009)
0034	BITFLG	000A	(000010)
0035	BUFCNT	000B	(000011)
0036	FIELD	000C	(000012) 0057
0037	SLASHF	0010	(000016)
0038	BUFEMT	0011	(000017)
0039	BUFFER	0012	(000018)

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	CPPREQ	0000	0015
0054	CPP001	0008	0075
0064	CPP01A	0012	
0066	CPP002	0014	0058, 0060, 0063
0068	CPPVAL	0016	0069
0076	CPP003	001E	0074, 0086
0083	CPP03A	0025	0080
0086	CPP03B	0028	0082
0087	CPP004	0029	0085
0092	BASE	002C	0045, 0087
0093	EXTHAN	002D	0048, 0056, 0067
0094	EXTMSG	002E	0050, 0065
0096	CPPFLD	002F	0053, 0070, 0073
0097	CPPEND	0030	0071, 0079, 0083
0098	CPPSTR	0031	0076, 0078, 0081, 0084
0101	SAD8	0000	
0102	SP08	0001	0102
0103	DB08	0060	0103
			0104

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0018	AMONI	0018	ASTRIC	0020	BASE	0092	BITFLG	0034	BUFCNT	0035	BUFEMT	0038	BUFFER	0039	COMMA	0020
COMOLU	0030	CPP001	0054	CPP002	0066	CPP003	0076	CPP004	0087	CPP01A	0064	CPP03A	0083	CPP03B	0086	CPPEND	0097
CPPFLD	0096	CPPREQ	0015	CPPSTR	0098	CPPVAL	0068	DB08	0103	EIGHT	0021	EXTHAN	0093	EXTMSG	0094	FIELD	0036
FIVE	0019	HANDLE	0025	I	0000	IOERR	0028	LISTLU	0029	LPMSK	0018	MSG	0026	NEWMLU	0031	NINE	0021
NZERO	0018	ONE	0021	ONEBIT	0019	PROG1	0032	PROG2	0033	SA08	0101	SIX	0019	SIXTEN	0019	SLASH	0020
SLASHF	0037	SOMMOR	0027	SP08	0102	TEN	0022	THREE	0021	TWO	0021	ZERO	0019	ZROBIT	0018		

END OF TAPE 1

0001***NN 000C
0002 0010
0003 0011
0004 0012

EQU FIELD(12)
EQU SLASHF(16)
EQU BUFEMT(17)
EQU BUFFER(18)

"FIELD"
"SLASHF"
"BUFEMT"
"BUFFER"

N1600035
N1600037
N1600038
N1600039

0006
0007
0008

*

*

PROGRAM START

N1600041
N1600042
N1600043

0010 P0000 682C
0011 P0001 60FF
*****UD*****
0012 P0002 C100
0013 P0003 682A
*****UD*****
0014 P0004 C100
0015 P0005 6829

CPPREQ STA* BASE
STA- I

SAVE PARAMETER BUFFER ADDRESS

N1600045
N1600046

0017 P0006 0A02
0018 P0007 6828
0019 P0008 0C04
0020 P0009 0A02
0021 P000A 5C23
0022 P000B C10C
0023 P000C 0107
*****UD*****
0024 P000D 9000
0025 P000E 0105
*****UD*****
0026 P000F 8300
*****UD*****

CPP001

EN A 2
STA* CPPFLD
EN Q 4
EN A 2
RTJ* (EXTHAN)
LDA- FIELD,I
SAZ CPP002-* -1

INITIALIZE TO GET 2 FIELDS

SET TO GET 4 CHAR. FIELDS

GET FIELD
IS CONTROL CHAR.= COMMA,
\$FF CR NONE

N1600052
N1600053
N1600054
N1600055
N1600056
N1600057
N1600058

SUB- LPMSK+8
SAZ CPP002-* -1

SKIP YES

N1600059
N1600060

ADD- LPMSK+8

N1600061

0027 P0010 0900
0028 P0011 0102
0029 P0012 0C04
0030 P0013 1C1B
0031 P0014 0A03
0032 P0015 5C18
0033 P0016 0000
0034 P0017 C8FE
0035 P0018 E817
0036 P0019 5A16
0037 P001A 0DFE
0038 P001B 4814
0039 P001C 0141
0040 P001D 18EA
0041 P001E E813
0042 P001F 0700
0043 P0020 D811
0044 P0021 C80F
0045 P0022 0122
0046 P0023 C80E

CPP01A

CPP002

CPPVAL

CPP003

INA -COMMA
SAZ CPP002-* -1
EN Q 4
JMP* (EXTMSG)
EN A 3
RTJ* (EXTHAN)
Q 0
LDA* CPPVAL
LDQ* CPPFLD
STA* CPPEND-1,Q
INQ -1
STQ* CPPFLD
SQZ CPP003-* -1
JMP* CPP001
LDQ* CPPSTR
CPB 0
RAO* CPPSTR
LDA* CPPEND
SAP CPP03A
LDA* CPPSTR

SKIP YES
OUTPUT FORMAT INCORRECT
MESSAGE AND EXIT PROCESSOR.
CONVERT FIELD TO HEX

SAVE FIELD

DECREMENT FIELD NO.

SKIP IF ALL FIELD OBTAINED

CLEAR PROTECT BIT FROM
START TO LAST

MSOS4.0

MSOS4.0

MSOS4.0

N1600062
N1600063
N1600064
N1600065
N1600066
N1600067
N1600068
N1600069
N1600070
N1600071
N1600072
N1600073
N1600074
N1600075
N1600076
N1600077
N1600078
N1600079
N1600080
N1600081

```

0047 P0024 0123      SAP  CPP03B
0048 P0025 C80B      CPP03A LDA* CPPEND
0049 P0026 980B      SUB* CPPSTR
0050 P0027 0131      SAM  CPP034--*-1
0051 P0028 18F5      CPP03B JMP* CPP003
0052 P0029 E803      CPP004 LDQ* BASE
*****UD*****
0053 P002A E200      LDQ- SOMMOR,Q
*****UD*****
0054 P002B 1600      JMP- (ZERO),Q

```

SKIP IF DONE
EXIT (TO "SOMMOR")

```

**MSOS4.0**N1600082
**MSOS4.0**N1600083
N1600084
N1600085
**MSOS4.0**N1600086
N1600087
N1600088
N1600089
N1600091
N1600092
N1600093
N1600094
N1600095
N1600096
N1600097
N1600098

```

```

0056 *
0057 P002C 0000      BASE  NUM  0
0058 P002D 0000      EXTHAN NUM  0
0059 P002E 0000      EXTMSG NUM  0
0060 *                STORAGE
0061 P002F 0000      CPPFLD 0    0
0062 P0030 0000      CPPEND 0    0
0063 P0031 0000      CPPSTR 0    0

```

NO. OF REMAINING FIELDS
LAST CELL TO BE CLEARED
FIRST CELL TO BE CLEARED

```

0065 *
0066      0000 P      EQU  SA08(*96)
0067      0001 P      EQU  SPC8(SA08+1)
0068      0060 P      EQU  DB08(SP08*96)
0069 PG032 002E      BSS  (DB08-*)
0070      END

```

```

N1600100
N1600101
N1600102
N1600103
N1600104
N1600105

```

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0011
0001	FIELD	000C	(000012) 0022
0002	SLASHF	0010	(000016)
0003	BUFEMT	0011	(000017)
0004	BUFFER	0012	(000018)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	CPPREQ	0000	
0019	CPP001	0008	0040
0029	CPP01A	0012	
0031	CPP002	0014	0023, 0025, 0028
0033	CPPVAL	0016	0034
0041	CPP003	001E	0039, 0051
0048	CPP03A	0025	0045
0051	CPP03B	0028	0047
0052	CPP004	0029	0050
0057	BASE	002C	0010, 0052
0058	EXTHAN	002D	0013, 0021, 0032
0059	EXTMSG	002E	0015, 0030
0061	CPPFLD	002F	0018, 0035, 0038
0062	CPPEND	0030	0036, 0044, 0048
0063	CPPSTR	0031	0041, 0043, 0046, 0049
0066	SA08	0000	0067
0067	SP08	0001	0068
0068	DB08	0060	0069

*** ALPHABETICAL SORT OF SYMBOLS ***

BASE	0057	BUFEMT	0003	BUFFER	0004	CPP001	0019	CPP002	0031	CPP003	0041	CPP004	0052	CPP01A	0029	CPP03A	0048
CPP03B	0051	CPPEND	0062	CPPFLD	0061	CPPREQ	0010	CPPSTR	0063	CPPVAL	0033	DB08	0068	EXTHAN	0058	EXTMSG	0059
FIELD	0001	I	0000	SA08	0066	SLASHF	0002	SP08	0067								

0007 ERRORS

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012

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NAM SPPREQ DECK-ID N17 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110 N1700001
N1700002
N1700003
N1700004
N1700005
N1700006
N1700007
N1700008
N1700009
N1700010
N1700011
N1700012

THIS PROCESSOR SETS THE PROGRAM PROTECT BIT
FOR THE CELLS SPECIFIED.
THE REQUEST HAS THE FOLLOWING FORMAT.
SPP,START CORE,END CORE(CR)

0014
0015

*

ENT SPPREQ
ENT SPPREQ

N1700014
N1700015

0017
0018

*

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1700017
N1700018

0019

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1700019

0020

002C
002F
002A

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1700020

0021

0026
0045
0004
0003
0024

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1700021

0022

0046

EQU TEN(\$46)

MSOS4.0N1700022

0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034

*

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"
EQU BITFLG(10) "BITFLG"

N1700024
N1700025
N1700026
N1700027
N1700028
N1700029
N1700030
N1700031
N1700032
N1700033
N1700034

0035	0008	EQU	BUFCNT(11)	"BUFCNT"	N1700035
0036	000C	EQU	FIELD(12)	"FIELD"	N1700036
0037	0010	EQU	SLASHF(16)	"SLASHF"	N1700037
0038	0011	EQU	BUFEMT(17)	"BUFEMT"	N1700038
0039	0012	EQU	BUFFER(18)	"BUFFER"	N1700039

0041		*			N1700041
0042		*****	*****	PROGRAM START	N1700042
0043		*			N1700043

0045	P0000	682C	SPPREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N1700045
0046	P0001	60FF		STA- I		N1700046
0047	P0002	C101		LDA- HANDLE, I	GET "HANDLE" ROUTINE ADDRESS	N1700047
0048	P0003	632A		STA* EXTHAN		N1700048
0049	P0004	C102		LDA- MSG, I	FETCH "MSG" ADDRESS	N1700049
0050	P0005	6829		STA* EXTMSG		N1700050

0052	P0006	0A02		ENA 2	INITIALIZE TO GET 2 FIELDS	N1700052
0053	P0007	6828		STA* SPPFLD		N1700053
0054	P0008	0C04	SPP001	ENQ 4	SET TO GET 4 CHAR.	N1700054
0055	P0009	CA02		ENA 2		N1700055

0056	P000A	5C23		RTJ* (EXTHAN)	GET FIELD	N1700056
0057	P000B	C10C		LDA- FIELD, I	IS CONTROL CHAR.= COMMA,	N1700057
0058	P000C	0107		SAZ SPP002-* -1	\$FF OR NONE	N1700058
0059	P000D	900A		SUB- LPMSK+8		N1700059
0060	P000E	0105		SAZ SPP002-* -1	SKIP YES	N1700060
0061	P000F	800A		ADD- LPMSK+8		N1700061

0062	P0010	09D3		INA -COMMA		N1700062
0063	P0011	0102		SAZ SPP002-* -1	SKIP YES	N1700063
0064	P0012	0C04	SPP01A	ENQ 4	OUTPUT FORMAT	N1700064
0065	P0013	1C1B		JMP* (EXTMSG)	INCORRECT MSG. AND EXIT PROCESSOR	N1700065
0066	P0014	0A03	SPP002	ENA 3	CONVERT FIELD TO HEX	N1700066
0067	P0015	5C18		RTJ* (EXTHAN)		N1700067

0068	P0016	0000	SPPVAL	0		N1700068
0069	P0017	C8FE		LDA* SPPVAL	SAVE FIELD	N1700069
0070	P0018	E817		LDQ* SPPFLD		N1700070
0071	P0019	6A16		STA* SPPEND-1, Q		N1700071
0072	P001A	00FF		INQ -1	DECREMENT FIELD NO.	N1700072
0073	P001B	4814		STQ* SPPFLD		N1700073

0074	P001C	0141		SQZ SPP003-* -1	SKIP IF ALL FIELDS OBTAINED	N1700074
0075	P001D	18EA		JMP* SPP001		N1700075
0076	P001E	E813	SPP003	LDQ* SPPSTR	SET PROTECT BIT FROM	N1700076
0077	P001F	0600		SPB 0	START TO END	N1700077
0078	P0020	0811		RAO* SPPSTR		N1700078
0079	P0021	C80F		LDA* SPPEND		N1700079

0080	P0022	0122		SAP SPP03A		N1700080
0081	P0023	C80E		LDA* SPPSTR		N1700081
0082	P0024	0123		SAP SPP03B		N1700082
0083	P0025	C80B	SPP03A	LDA* SPPEND		N1700083
0084	P0026	980B		SUB* SPPSTR		N1700084
0085	P0027	0131		SAM SPP004-* -1	SKIP IF DONE	N1700085

MSOS4.0
 MSOS4.0
 MSOS4.0
 MSOS4.0


```

0086 P0028 18F5 SPP03B JMP* SPP003
0087 P0029 E803 SPP004 LDQ* BASE
0088 P002A E203 LDQ- SOMMOR,Q
0089 P002B 1622 JMP- (ZERO),Q

```

EXIT (TO "SOMMOR")

```

**MSOS4.0**N1700086
N1700087
N1700088
N1700089

```

```

0091 *
0092 P002C 0000 BASE NUM 0
0093 P002D 0000 EXTHAN NUM 0
0094 P002E 0000 EXTMSG NUM 0
0095 * STORAGE
0096 P002F 0000 SPPFLD 0 0
0097 P0030 0000 SPPEND 0 0
0098 P0031 0000 SPPSTR 0 0

```

```

NO. OF REMAINING FIELDS TO GET
LAST CORE LOC. TO PROTECT
FIRST CORE LOC. TO PROTECT

```

```

N1700091
N1700092
N1700093
N1700094
N1700095
N1700096
N1700097
N1700098

```

```

0100 *
0101 0000 P EQU SA09(* /96)
0102 0001 P EQU SPC9(SA09+1)
0103 0060 P EQU DB09(SPC9*96)
0104 P0032 002E BSS (DB09-*)
0105 END

```

```

N1700100
N1700101
N1700102
N1700103
N1700104
N1700105

```

PGM= 0060 (96) COM = 0030 (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)	0046
0018	AMONI	00F4 (000244)	
0018	ADISP	00EA (000234)	
0018	LPMSK	0002 (000002)	0059, 0061
0018	NZERO	0012 (000018)	
0018	ZROBIT	0033 (000051)	
0019	FIVE	0043 (000067)	
0019	SIX	0044 (000068)	
0019	ZERO	0022 (000034)	0089
0019	ONEBIT	0023 (000035)	
0019	SIXTEN	0027 (000039)	
0020	COMMA	002C (000044)	0062
0020	SLASH	002F (000047)	
0020	ASTRIC	002A (000042)	
0021	EIGHT	0026 (000038)	
0021	NINE	0045 (000069)	
0021	THREE	0004 (000004)	
0021	ONE	0003 (000003)	
0021	TWO	0024 (000036)	
0022	TEN	0046 (000070)	
0025	HANDLE	0001 (000001)	0047
0026	MSG	0002 (000002)	0049
0027	SOMMOR	0003 (000003)	0088
0028	IOERR	0004 (000004)	
0029	LISTLU	0005 (000005)	
0030	COMOLU	0006 (000006)	
0031	NEWMLU	0007 (000007)	
0032	PROG1	0008 (000008)	
0033	PROG2	0009 (000009)	
0034	BITFLG	000A (000010)	
0035	BUFCNT	000B (000011)	
0036	FIELD	000C (000012)	0057
0037	SLASHF	0010 (000016)	
0038	BUFEHT	0011 (000017)	
0039	BUFFER	0012 (000018)	

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	SPPREQ	0000	0015
0054	SPP001	0008	0075
0064	SPP01A	0012	
0066	SPP002	0014	0058, 0060, 0063
0068	SPPVAL	0016	0069
0076	SPP003	001E	0074, 0086
0083	SPPJ3A	0025	0080
0086	SPP03B	0028	0082
0087	SPP004	0029	0085
0092	BASE	002C	0045, 0087
0093	EXTHAN	002D	0048, 0056, 0067
0094	EXTMSG	002F	0050, 0065
0095	SPPFLD	002F	0053, 0070, 0073
0097	SPPEND	0030	0071, 0079, 0083
0098	SPPSTR	0031	0076, 0078, 0081, 0084
0101	SAC9	0000	0102
0102	SP09	0001	0103
0103	DB09	0060	0104

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0018	AMONI	0018	ASTRIC	0020	BASE	0092	BITFLG	0034	BUFCNT	0035	BUFEMT	0038	BUFFER	0039	COMMA	0020
COMOLU	0030	DB09	0103	EIGHT	0021	EXTHAN	0093	EXTMSG	0094	FIELD	0036	FIVE	0019	HANDLE	0025	I	0000
IOERR	0028	LISTLU	0029	LPMSK	0018	MSG	0026	NEWMLU	0031	NINE	0021	NZERO	0018	ONE	0021	ONEBIT	0019
PROG1	0032	PROG2	0033	SA09	0101	SIX	0019	SIXTEN	0019	SLASH	0020	SLASHF	0037	SOMMOR	0027	SP09	0102
SPP0C1	0054	SPP002	0066	SPP003	0076	SPP004	0087	SPP01A	0064	SPP03A	0083	SPP03B	0086	SPPEND	0097	SPPFLD	0096
SPPREQ	0015	SPPSTR	0098	SPPVAL	0068	TEN	0022	THREE	0021	TWO	0021	ZERO	0019	ZROBIT	0018		

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012

*
*
*
*
*
*
*
*
*
*
*

NAM ADHREQ DECK-ID N18 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-11 0N180000C1
N180000C2
N180000C3
N180000C4
N180000C5
N180000C6
N180000C7
N180000C8
N180000C9
N180000D0
N180000D1
N180000D2

THIS PROCESSOR ADDS A MAXIMUM OF 8
HEXADECIMAL NUMBERS.
THE REQUEST HAS THE FOLLOWING FORMAT.
ADH,NUMBER 1,NUMBER 2,...NUMBER 8(CR)

0014
0015

*

ENT ADHREQ ENTRY NAME

N1800014
N1800015

0017
0018

*

00F4
00EA
0002

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N1800017
N1800018

0019

0033
0043
0044
0022

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N1800019

0020

0023
0027
002C
002F

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N1800020

0021

002A
0026
0045
0004

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N1800021

0022

0003
0024
0046

EQU TEN(\$46)

MSOS4.0N1800022

0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034

*

0001
0002
0003
0004
0005
0006
0007
0008
0009
000A

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"
EQU BITFLG(10) "BITFLG"

N1800024
N1800025
N1800026
N1800027
N1800028
N1800029
N1800030
N1800031
N1800032
N1800033
N1800034

0035	000B	EQU	BUFCNT(11)	"BUFCNT"	N1800035	
0036	000C	EQU	FIELD(12)	"FIELD"	N1800036	
0037	0010	EQU	SLASHF(16)	"SLASHF"	N1800037	
0038	0011	EQU	BUFEMT(17)	"BUFEMT"	N1800038	
0039	0012	EQU	BUFFER(18)	"BUFFER"	N1800039	
0041	*				N1800041	
0042	*****	*****	P R O G R A M	S T A R T	N1800042	
0043	*				N1800043	
0045	P0000	6828	ADHREQ STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N1800045
0046	P0001	60FF	STA-	I		N1800046
0047	P0002	C101	LDA-	HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N1800047
0048	P0003	6826	STA*	EXTHAN		N1800048
0049	P0004	C102	LDA-	MSG,I	FETCH "MSG" ADDRESS	N1800049
0050	P0005	6825	STA*	EXTMSG		N1800050
0052	P0006	0A00	ENA	0	INITIALIZE ACCUMULATION	N1800052
0053	P0007	681D	STA*	ADHNUM		N1800053
0054	P0008	0A08	ENA	8	INITIALIZE TO GET 8 FIELDS	N1800054
0055	P0009	6822	STA*	ADHFLD		N1800055
0056	P000A	0C04	ADH001 ENQ	4	SET TO GET 4 CHAR. FIELD	N1800056
0057	P000B	0A02	ENA	2		N1800057
0058	P000C	5C1D	RTJ*	(EXTHAN)	GET FIELD	N1800058
0059	P000D	C10C	LDA-	FIELD,I	IS CONTROL CHAR.= COMMA,	N1800059
0060	P000E	0107	SAZ	ADH002-*--1	\$FF OR NONE	N1800060
0061	P000F	900A	SUR-	LPMSK+8		N1800061
0062	P0010	0105	SAZ	ADH002-*--1	SKIP YES	N1800062
0063	P0011	800A	ADD-	LPMSK+8		N1800063
0064	P0012	09D3	INA	-COMMA		N1800064
0065	P0013	0102	SAZ	ADH002-*--1	SKIP YES	N1800065
0066	P0014	0C04	ENQ	4	NO, PRINT FORMAT INCORRECT	N1800066
0067	P0015	1C15	JMP*	(EXTMSG)	MESSAGE AND EXIT PROCESSOR.	N1800067
0068	P0016	0A03	ADH002 ENA	3	CONVERT FIELD TO HEX	N1800068
0069	P0017	5C12	RTJ*	(EXTHAN)		N1800069
0070	P0018	0000	ADHVAL	0		N1800070
0071	P0019	C80B	LDA*	ADHNUM		N1800071
0072	P001A	88FD	ADD*	ADHVAL		N1800072
0073	P001B	6809	STA*	ADHNUM		N1800073
0074	P001C	E80F	LDQ*	ADHFLD		N1800074
0075	P001D	0DFE	INQ	-1	DECREMENT FIELD NO.	N1800075
0076	P001E	480D	STQ*	ADHFLD		N1800076
0077	P001F	0141	SQZ	ADH003-*--1	SKIP IF ALL FIELDS OBTAINED	N1800077
0078	P0020	18E9	JMP*	ADH001		N1800078
0079	P0021	0CFE	ADH003 ENQ	-1	PRINT THE RESULT	N1800079
0080	P0022	0A04	ENA	4	(NEG. Q = PRINT ONE HEX. NO.)	N1800080
0081	P0023	5C06	RTJ*	(EXTHAN)		N1800081
0082	P0024	0000	ADHNUM	0		N1800082
0083	P0025	E803	LDQ*	BASE	EXIT (TO "SOMMOR")	N1800083
0084	P0026	E203	LDQ-	SOMMOR,Q		N1800084
0085	P0027	1622	JMP-	(ZERO),Q		N1800085

```

0087
0088 P0028 0000 *
0089 P0029 0000 BASE NUM 0
0090 P002A 0000 EXTHAN NUM 0
0091 * EXTMSG NUM 0
0092 P002B 0000 ADHFLD 0 STORAGE 0

```

NO. OF REMAINING FIELD TO GET

```

N1800087
N1800088
N1800089
N1800090
N1800091
N1800092

```

```

0094
0095 0000 P *
0096 0001 P EQU SA10(*96)
0097 0060 P EQU SP10(SA10+1)
0098 P002C 0034 EQU DB10(SP10*96)
0099 BSS (DB10-*)
END

```

```

N1800094
N1800095
N1800096
N1800097
N1800098
N1800099

```

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0046
0018	AMONI	00F4 (000244)	
0018	ADISP	00EA (000234)	
0018	LPMSK	0002 (000002)	0061, 0063
0018	NZERO	0012 (000018)	
0018	ZROBIT	0033 (000051)	
0019	FIVE	0043 (000067)	
0019	SIX	0044 (000068)	
0019	ZERO	0022 (000034)	0085
0019	ONEBIT	0023 (000035)	
0019	SIXTEN	0027 (000039)	
0020	COMMA	002C (000044)	0064
0020	SLASH	002F (000047)	
0020	ASTRIC	002A (000042)	
0021	EIGHT	0026 (000038)	
0021	NINE	0045 (000069)	
0021	THREE	0004 (000004)	
0021	ONE	0003 (000003)	
0021	TWO	0024 (000036)	
0022	TEN	0046 (000070)	
0025	HANDLE	0001 (000001)	0047
0026	MSG	0002 (000002)	0049
0027	SOMMOR	0003 (000003)	0084
0028	IOERR	0004 (000004)	
0029	LISTLU	0005 (000005)	
0030	COMOLU	0006 (000006)	
0031	NEWMLU	0007 (000007)	
0032	PROG1	0008 (000008)	
0033	PROG2	0009 (000009)	
0034	BITFLG	000A (000010)	
0035	BUFCNT	000B (000011)	
0036	FIELD	000C (000012)	0059
0037	SLASHF	0010 (000016)	
0038	BUFEMT	0011 (000017)	
0039	BUFFER	0012 (000018)	

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	ADHREQ	0000	0015
0056	ADH001	000A	0078
0068	ADH002	0016	0060, 0062, 0065
0070	ADHVAL	0018	0072
0079	ADH003	0021	0077
0082	ADHNUM	0024	0053, 0071, 0073
0088	BASE	0028	0045, 0083
0089	EXTHAN	0029	0048, 0058, 0069, 0081
0090	EXTMSG	002A	0050, 0067
0092	ADHFLD	002B	0055, 0074, 0076
0095	SA10	0000	0095
0096	SP10	0001	0097
0097	DB10	0060	0098


```

0001      *      NAM SBHREQ          DECK-ID N19  MSOS 5.0          SUMMARY-110N1900001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N1900002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    N1900003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976       N1900004
0005      *      N1900005
0006      *      N1900006
0007      *      THIS PROCESSOR SUBTRACTS TWO HEXADECIMAL NUMBERS. N1900007
0008      *      THE REQUEST HAS THE FOLLOWING FORMAT.           N1900008
0009      *      SBH,NUMBER 1,NUMBER 2(CR)                       N1900009
0010      *      N1900010
0011      *      N1900011

```

```

0013      *      E N T R Y      N A M E      N1900013
0014      *      ENT SBHREQ      N1900014

```

```

0016      *      ' E Q U '      T A B L E      N1900016
0017      *      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N1900017

```

```

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

```

```

0018      *      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N1900018

```

```

0019      *      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)          N1900019

```

```

0020      *      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N1900020

```

```

0021      *      EQU TEN($46)                                     **MSOS4.0**N1900021

```

```

0023      *      PARAMETER LOCATION (OFFSET FROM BASE)          N1900023
0024      *      EQU HANDLE(1)      "HANDLE"                    N1900024
0025      *      EQU MSG(2)         "MSG" ENTRY                  N1900025
0026      *      EQU SOMMOR(3)      "SOMMOR" ENTRY              N1900026
0027      *      EQU IOERR(4)       "IOERR" ENTRY               N1900027
0028      *      EQU LISTLU(5)      LIST OUTPUT --- "LISTLU"    N1900028
0029      *      EQU COMOLU(6)      "COMOLU"                     N1900029
0030      *      EQU NEWMLU(7)      "NEWMLU" --- NEW MM LU      N1900030
0031      *      EQU PROG1(8)       "PROG1"                     N1900031
0032      *      EQU PROG2(9)       "PROG2"                     N1900032
0033      *      EQU BITFLG(10)     "BITFLG"                    N1900033
0034      *      EQU BUFCNT(11)     "BUFCNT"                    N1900034

```

0035	000C	EQU	FIELD(12)	"FIELD"	N1900035
0036	0010	EQU	SLASHF(16)	"SLASHF"	N1900036
0037	0011	EQU	BUFEMT(17)	"BUFEMT"	N1900037
0038	0012	EQU	BUFFER(18)	"BUFFER"	N1900038

0040	*				N1900040
0041	*****	*****	P R O G R A M	S T A R T	N1900041
0042	*				N1900042

0044	P0000	6828	SBHREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N1900044
0045	P0001	60FF		STA- I		N1900045
0046	P0002	C101		LDA- HANDLE, I	GET "HANDLE" ROUTINE ADDRESS	N1900046
0047	P0003	6826		STA* EXTHAN		N1900047
0048	P0004	C102		LDA- MSG, I	FETCH "MSG" ADDRESS	N1900048
0049	P0005	6825		STA* EXTMSG		N1900049

0051	P0006	0A02		ENA 2	INITIALIZE TO GET 2 FIELDS	N1900051
0052	P0007	6824		STA* SBHFLD		N1900052
0053	P0008	0C04	SBH001	ENQ 4	SET TO GET 4 CHAR. FIELD	N1900053
0054	P0009	0A02		ENA 2		N1900054
0055	P000A	5C1F		RTJ* (EXTHAN)	GET FIELD	N1900055
0056	P000B	C10C		LDA- FIELD, I	IS CONTROL CHAR.= COMMA,	N1900056
0057	P000C	0107		SAZ SBH002-* -1	\$FF OR NONE	N1900057
0058	P000D	900A		SUB- LPMSK+8		N1900058
0059	P000E	0105		SAZ SBH002-* -1	SKIP YES	N1900059
0060	P000F	800A		ADD- LPMSK+8		N1900060
0061	P0010	0903		INA -COMMA		N1900061
0062	P0011	0102		SAZ SBH002-* -1	SKIP YES	N1900062
0063	P0012	0C04		ENQ 4	ILLEGAL CHAR. PRINT FORMAT INCORRECT	N1900063
0064	P0013	1C17		JMP* (EXTMSG)	MESSAGE AND EXIT PROCESSOR	N1900064
0065	P0014	0A03	SBH002	ENA 3	CONVERT TO HEX	N1900065

0066	P0015	5C14		RTJ* (EXTHAN)		N1900066
0067	P0016	0000	SBHVAL	0		N1900067
0068	P0017	C8FE		LDA* SBHVAL	SAVE FIELD	N1900068
0069	P0018	E813		LDQ* SBHFLD		N1900069
0070	P0019	6A12		STA* SBHNUM-1, Q		N1900070
0071	P001A	0DFF		INQ -1	DECREMENT FIELD NO.	N1900071
0072	P001B	4810		STQ* SBHFLD		N1900072
0073	P001C	0141		SQZ SBH003-* -1	SKIP IF ALL FIELDS OBTAINED	N1900073

0074	P001D	18EA		JMP* SBH001		N1900074
0075	P001E	C80F	SBH003	LDA* SBHNUM+1	SUBTRACT FIELDS AND SAVE	N1900075
0076	P001F	980D		SUB* SBHNUM	FOR TYPE-OUT	N1900076
0077	P0020	6804		STA* SBH004		N1900077
0078	P0021	0CFF		ENQ -1		N1900078
0079	P0022	0A04		ENA 4		N1900079
0080	P0023	5C06		RTJ* (EXTHAN)	TYPE VALUE	N1900080
0081	P0024	0000	SBH004	0		N1900081
0082	P0025	E803		LDQ* BASE	EXIT (TO "SOMMOR")	N1900082
0083	P0026	E203		LDQ- SOMMOR, Q		N1900083
0084	P0027	1622		JMP- (ZERO), Q		N1900084

```

0086
0087 P0028 0000 *
0088 P0029 0000 BASE NUM 0
0089 P002A 0000 EXTHAN NUM 0
0090 P002B 0000 EXTMSG NUM 0
0091 P002C 0002 SBHFLD 0 0
          SBHNUM BZS SBHNUM(2)

```

NO. OF REMAINING FIELDS TO GET STORAGE FOR THE TWO FIELDS

```

N1900086
N1900087
N1900088
N1900089
N1900090
N1900091

```

```

0093
0094          0000 P *
0095          0001 P EQU SA11(* / 96)
0096          0060 P EQU SP11(SA11+1)
0097 P002E 0032 EQU DB11(SP11*96)
0098          END BSS (DB11-*)

```

```

N1900093
N1900094
N1900095
N1900096
N1900097
N1900098

```

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0045
0017	AMONI	00F4	(000244)
0017	ADISP	00EA	(000234)
0017	LPMSK	0002	(000002) 0058, 0060
0017	NZERO	0012	(000018)
0017	ZROBIT	0033	(000051)
0018	FIVE	0043	(000067)
0018	SIX	0044	(000058)
0018	ZERO	0022	(000034) 0084
0018	ONERIT	0023	(000035)
0018	SIXTEN	0027	(000039)
0019	COMMA	002C	(000044) 0061
0019	SLASH	002F	(000047)
0019	ASTRIC	002A	(000042)
0020	EIGHT	0026	(000038)
0020	NINE	0045	(000069)
0020	THREE	0004	(000004)
0020	ONE	0003	(000003)
0020	TWO	0024	(000036)
0021	TEN	0046	(000070)
0024	HANDLE	0001	(000001) 0045
0025	MSG	0002	(000002) 0048
0026	SOMMOR	0003	(000003) 0083
0027	IOERR	0004	(000004)
0028	LISTLU	0005	(000005)
0029	COMOLU	0006	(000006)
0030	NEWMLU	0007	(000007)
0031	PROG1	0008	(000008)
0032	PROG2	0009	(000009)
0033	BITFLG	000A	(000010)
0034	BUFCNT	000B	(000011)
0035	FIELD	000C	(000012) 0056
0036	SLASHF	0010	(000016)
0037	BUFEMT	0011	(000017)
0038	BUFFER	0012	(000018)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	SBHREQ	0000	0014
0053	SBHQ01	0008	0074
0065	SBHQ02	0014	0057, 0059, 0062
0067	SBHVAL	0016	0068
0075	SBHQ03	001E	0073
0081	SBHQ04	0024	0077
0087	BASE	0028	0044, 0082
0088	EXTHAN	0029	0047, 0055, 0066, 0080
0089	EXTMSG	002A	0049, 0064
0090	SBHFLD	002B	0052, 0069, 0072
0091	SRHNUM	002C	0070, 0075, 0076
0094	SA11	0000	0095
0095	SP11	0001	0096
0096	DB11	0060	0097


```

0001  NAM  ALCREQ      DECK-ID N20  MSOS 5.0      SUMMARY-116*****
0002  MASS STORAGE OPERATING SYSTEM VERSION 5.0      N2000002
0003  SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    N2000003
0004  COPYRIGHT CONTROL DATA CORPORATION 1976        N2000004
0005  THIS PROCESSOR ALLOCATES SCRATCH AREA IN        N2000005
0006  ALLOCATABLE CORE. THE REQUEST PRIORITY HAS THE  N2000006
0007  FOLLOWING FORMAT.                                N2000007
0008  ALC,LENGTH,REQUEST PRIORITY(CR)                N2000008
0009  N2000009
0010  N2000010
0011  N2000011

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0013  *          E N T R Y      N A M E      N2000013
0014  ENT  ALCREQ      N2000014

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0016  *          ' E Q U '      T A B L E      N2000016
0017  EQU  AMONI($F4),ADISP($EA),LPMSK(2),NZERO($I2),ZROBIT($J3)  N2000017

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0018  EQU  FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)  N2000018

```

```

0019  EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)      N2000019

```

```

0020  EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)        N2000020

```

```

0021  EQU  TEN($46)      **MSOS4.0**N2000021

```

```

0023  *          PARAMETER LOCATION (OFFSET FROM BASE)      N2000023
0024  EQU  HANDLE(1)      "HANDLE"      N2000024
0025  EQU  MSG(2)        "MSG" ENTRY    N2000025
0026  EQU  SOMMOR(3)     "SOMMOR" ENTRY  N2000026
0027  EQU  IOERR(4)     "IOERR" ENTRY   N2000027
0028  EQU  LISTLU(5)    LIST OUTPUT --- "LISTLU"  N2000028
0029  EQU  COMOLU(6)    "COMOLU"      N2000029
0030  EQU  NEWMLU(7)    "NEWMLU" --- NEW MM LU  N2000030
0031  EQU  PROG1(8)     "PROG1"      N2000031
0032  EQU  PROG2(9)     "PROG2"      N2000032
0033  EQU  BITFLG(10)  "BITFLG"     N2000033
0034  EQU  BUFCNT(11)  "BUFCNT"     N2000034

```

0035	000C	EQU	FIELD(12)	"FIELD"	
0036	0010	EQU	SLASHF(16)	"SLASHF"	N2000035
0037	0011	EQU	BUFEMT(17)	"BUFEMT"	N2000036
0038	0012	EQU	BUFFER(18)	"BUFFER"	N2000037

0040		*			
0041	0007	EQU	CHRSLV(7)	VARIABLE EQU LEVEL OF THIS PROGRAM	N2000040
					116*4360*****

0043		*			
0044	08FC	EQU	COMOUT(\$8FC)	EQU FOR LOGICAL UNITS TYPE OUTPUT LOGICAL UNIT	N2000043
0045	08FD	EQU	COMLU(\$8FD)	INPUT COMMENT LOGICAL UNIT	N2000044
0046	08C2	EQU	MASSLU(\$8C2)	MASS MEMORY LOGICAL UNIT	N2000045
0047	1000	EQU	ASMOD(\$1000)	ASCII MODE OUTPUT	N2000046

0049		*			
0050		*****		P R O G R A M S T A R T	N2000049
0051		*			N2000050

0053	P0000	684F	ALCREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N2000053
0054	P0001	69FF		STA- I		N2000054
0055	P0002	C101		LDA- HANDLE, I	GET "HANDLE" ROUTINE ADDRESS	N2000055
0056	P0003	684D		STA* EXTHAN		N2000056
0057	P0004	C102		LDA- MSG, I	FETCH "MSG" ADDRESS	N2000057
0058	P0005	684C		STA* EXTMSG		N2000058
0059	P0006	C105		LDA- LISTLU, I	GET LIST LOGICAL UNIT	N2000059
0060	P0007	8844		ADD* MODE	+ MODE (ASCII) CODE	N2000060
0061	P0008	683F		STA* OTLU		N2000061

0063	P0009	0A02		ENA 2		N2000063
0064	P000A	6848		STA* GENFLD		N2000064
0065	P000B	0C04		ENO 4	SET TO GET 4 CHAR. FIELD	N2000065
0066	P000C	0A02	GEN001	ENA 2		N2000066
0067	P000D	5C43		RTJ* (EXTHAN)	GET FIELD	N2000067
0068	P000E	C10C		LDA- FIELD, I	IS CONTROL CHAR.= COMMA,	N2000068
0069	P000F	0107		SAZ GEN002-*--1	\$FF OR NONE	N2000069
0070	P0010	9C0A		SUB- LPMSK+8		N2000070
0071	P0011	0105		SAZ GEN002-*--1	SKIP YES	N2000071
0072	P0012	800A		ADD- LPMSK+8		N2000072
0073	P0013	09D3		INA -COMMA		N2000073
0074	P0014	0102		SAZ GEN002-*--1	SKIP YES	N2000074
0075	P0015	0C04	GEN004	ENQ 4	OUTPUT FORMAT INCORRECT MSG.	N2000075
0076	P0016	1C3B	GENX04	JMP* (EXTMSG)	AND EXIT PROCESSOR	N2000076
0077	P0017	0A03	GEN002	ENA 3	CONVERT TO HEX	N2000077
0078	P0018	5C38		RTJ* (EXTHAN)		N2000078
0079	P0019	0000	GENVAL	0		N2000079
0080	P001A	C8FE		LDA* GENVAL	STORE FIELD	N2000080
0081	P001B	E837		LDO* GENFLD		N2000081
0082	P001C	6A36		STA* GENRPL-1,Q		N2000082
0083	P001D	0DFE		INQ -1		N2000083

0084	P001E	4834	STQ*	GENFLD		N2000084
0085	P001F	0142	SQZ	GEN003- *-1		N2000085
0086	P0020	0C01	ENQ	1	SET TO GET 1 CHAR. FIELD	N2000086
0087	P0021	18EA	JMP*	GEN001		N2000087
0088	P0022	C831	GEN003	LDA* GENRPL	IS REQUEST PL GREATER THAN	N2000088
0089	P0023	9004		SUB- THREE	TWO (TO AVOID ANY DIFFICULTIES)	N2000089
0090	P0024	0121	SAP	GEN005- *-1	SKIP YES	N2000090
0091	P0025	18EF	JMP*	GEN004	GO TO OUTPUT MSG.	N2000091
0092	P0026	C80A	GEN005	LDA* GENPAR	PUT REQUEST PRIORITY	N2000092
0093	P0027	A000		AND =N\$FFF	INTO CALL	N2000093
	P0028	FF0F				
0094	P0029	0FCC	ALS	12		N2000094
0095	P002A	B829	FOR*	GENRPL		N2000095
0096	P002B	0FC4	ALS	4		N2000096
0097	P002C	6804	STA*	GENPAR		N2000097
0098	P002D	C827	LDA*	GENLTH	PUT LENGTH INTO CALL	N2000098
0099	P002E	6806	STA*	GENPAR+4		N2000099
0100	P002F	54F4	RTJ-	(AMONI)	ALLOCATE CORE	N2000100
0101	P0030	1507	GENPAR	ADC \$1500+CHRSLV		N2000101
0102	P0031	0006		ADC GEN006-GENPAR		N2000102
0103	P0032	0000		0		N2000103
0104	P0033	0000		0		N2000104
0105	P0034	0000		0		N2000105
0106	P0035	14EA	JMP-	(ADISP)		N2000106
0107	P0036	0162	GEN006	SQP GEN007- *-1	SKIP IF ALLOCATION MADE	N2000107
0108	P0037	0C08		ENQ 8	OUTPUT NO CORE AVAILABLE	N2000108
0109	P0038	18DD	JMP*	GENX04		N2000109
0110	P0039	481B	GEN007	STQ* GENLTH	SAVE STARTING LOCATION	N2000110
0111	P003A	F8F9		ADQ* GENPAR+4		N2000111
0112	P003B	0DFE		INQ -1	DECREASE BY 1 FOR CORRECT ADDRESS	N2000112
0113	P003C	0A06		ENA 6	CONVERT LAST LOCATION	N2000113
0114	P003D	5C13	RTJ*	(EXTHAN)	TO ASCII	N2000114
0115	P003E	0028		ADC GENLST-*		N2000115
0116	P003F	E815		LDQ* GENLTH		N2000116
0117	P0040	0A06		ENA 6	CONVERT STARTING LOCATION	N2000117
0118	P0041	5C0F	RTJ*	(EXTHAN)	TO ASS	N2000118
0119	P0042	0020		ADC GENSTR-*		N2000119
0120	P0043	54F4	GENPR1	RTJ- (AMONI)	OUTPUT MSG.	N2000120
0121	P0044	0507		ADC \$500+CHRSLV		N2000121
0122	P0045	0008		ADC GEN008-GENPR1		N2000122
0123	P0046	0000		0		N2000123
0124	P0047	0000	OTLU	NUM 0	LOGICAL UNIT (TO 80 FILLED)	N2000124
0125	P0048	0012		ADC GENMLG		N2000125
0126	P0049	0013		ADC GENMSG-GENPR1		N2000126
0127	P004A	14EA		JMP- (ADISP)		N2000127
0128	P004B	1000	MODE	ADC ASMOD		N2000128
0129	P004C	E803	GEN008	LDQ* BASE	EXIT (TO "SMMOR")	N2000129
0130	P004D	E203		LDQ- SOMMOR,Q		N2000130
0131	P004E	1622		JMP- (ZERO),Q		N2000131
0133			*			N2000133
0134	P004F	0000		BASE NUM 0		N2000134
0135	P0050	0000		EXTHAN NUM 0		N2000135

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0136 P0051 0000 EXTMSG NUM 0
0137 * STORAGE
0138 P0052 0000 GENFLD 0 0 NO. OF REMAINING FIELDS TO GET
0139 P0053 0000 GENRPL 0 0 REQUEST PRIORITY LEVEL
0140 P0054 0000 GENLTH 0 0 LENGTH OF REQUEST
0141 P0055 0000 GENRP? 0 0 REQUEST PRIORITY LEVEL
0142 * MESSAGE SKELETON
0143 P0056 0000 0 0 (FOR BUFFERING)
0144 P0057 0A0D GENMSG NUM $A0D (CARRIAGE RETURN)
0145 P0058 434F ALF 10,CORE ALLOCATED FROM
      P0059 5245
      P005A 2041
      P005B 4C4C
      P005C 4F43
      P005D 4154
      P005E 4544
      P005F 2046
      P0060 524F
      P0061 4D20
0146 P0062 0000 GENSTR 0 0 STARTING LOCATION
0147 P0063 0000 0 0
0148 P0064 2054 ALF 2, TO
      P0065 4F20
0149 P0066 0000 GENLST 0 0 LAST LOCATION
0150 P0067 0000 0 0
0151 P0068 0A0D NUM $A0D (CR)
0152 0012 EQU GENMLG(*-GENMSG)

0154 *
0155 0001 P EQU SA12(* /96)
0156 0002 P EQU SP12(SA12+1)
0157 0000 P EQU DB12(SP12*96)
0158 P0069 0057 BSS (DB12-*)
0159 END

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N2000136
N2000137
N2000138
N2000139
N2000140
N2000141
N2000142
N2000143
N2000144
N2000145

N2000146
N2000147
N2000148

N2000149
N2000150
N2000151
N2000152

N2000154
N2000155
N2000156
N2000157
N2000158
N2000159

```

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0054
0017	AMONI	00F4	(000244) 0100, 0120
0017	ADISP	00EA	(000234) 0106, 0127
0017	LPMSK	0002	(000002) 0070, 0072
0017	NZERO	0012	(000018)
0017	ZROBIT	0033	(000051)
0018	FIVE	0043	(000067)
0018	SIX	0044	(000068)
0018	ZERO	0022	(000034) 0131
0018	ONEBIT	0023	(000035)
0018	SIXTEN	0027	(000039)
0019	COMMA	002C	(000044) 0073
0019	SLASH	002F	(000047)
0019	ASTRIC	002A	(000042)
0020	EIGHT	0026	(000038)
0020	NINE	0045	(000069)
0020	THREE	0004	(000004) 0089
0020	ONE	0003	(000003)
0020	TWO	0024	(000036)
0021	TEN	0046	(000070)
0024	HANDLE	0001	(000001) 0055
0025	MSG	0002	(000002) 0057
0026	SOMMOR	0003	(000003) 0130
0027	IOERR	0004	(000004)
0028	LISTLU	0005	(000035) 0059
0029	COMOLU	0006	(000006)
0030	NEWMLU	0007	(000007)
0031	PROG1	0008	(000008)
0032	PROG2	0009	(000009)
0033	BITFLG	000A	(000010)
0034	BUFCNT	000B	(000011)
0035	FIELD	000C	(000012) 0068
0036	SLASHF	0010	(000016)
0037	BUFEMT	0011	(000017)
0038	BUFFER	0012	(000018)
0041	CHRSLV	0007	(000007) 0101, 0121
0044	COMOUT	08FC	(002300)
0045	COMLU	08FD	(002301)

0046	MASSLU	08C2	(002242)	
0047	ASMOD	1000	(004095)	0128
0152	GENMLG	0012	(000018)	0125

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	ALCREQ	0000	0014
0066	GEN001	000C	0087
0075	GENC04	0015	0091
0076	GENX04	001E	0109
0077	GEN002	0017	0069, 0071, 0074
0079	GENVAL	0019	0080
0088	GEN003	0022	0085
0092	GEN005	0026	0090
0101	GENPAR	0030	0092, 0097, 0099, 0102, 0111
0107	GEN006	0036	0102
0110	GENC07	0039	0107
0121	GENPR1	0044	0122, 0126
0124	OTLU	0047	0061
0128	MODE	0048	0060
0129	GEN003	004C	0122
0134	BASE	004F	0053, 0129
0135	EXTHAN	0050	0055, 0067, 0078, 0114, 0118
0136	EXTMSG	0051	0058, 0076
0138	GENFLD	0052	0064, 0081, 0084
0139	GENRPL	0053	0082, 0088, 0095
0140	GENLTH	0054	0098, 0110, 0116
0141	GENRP2	0055	
0144	GENMSG	0057	0126, 0152
0146	GENSTR	0062	0119
0149	GENLST	0066	0115
0155	SA12	0001	0156
0156	SP12	0002	0157
0157	DB12	00C0	0158

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0017	ALCREQ	0014	AMONI	0017	ASMOD	0047	ASTRIC	0019	BASE	0134	BITFLG	0033	BUFCNT	0034	BUFEMT	0037
BUFFER	0038	CHPSLV	0041	COMLU	0045	COMMA	0019	COMOLU	0029	COMOUT	0044	DB12	0157	EIGHT	0020	EXTHAN	0135
EXTMSG	0136	FIELD	0035	FIVE	0018	GEN001	0066	GEN002	0077	GEN003	0088	GEN004	0075	GEN005	0092	GEN006	0107
GEN007	0110	GEN008	0129	GENFLD	0138	GENLST	0149	GENLTH	0140	GENMLG	0152	GENMSG	0144	GENPAR	0101	GENPR1	0121
GENRP2	0141	GENRPL	0139	GENSTR	0146	GENVAL	0079	GENX04	0076	HANDLE	0024	I	0000	IOERR	0027	LISTLU	0028
LPMASK	0017	MASSLU	0046	MODE	0128	MSG	0025	NEWMLU	0030	NINE	0020	NZERO	0017	ONE	0020	ONEBIT	0018
OTLU	0124	PROG1	0031	PROG2	0032	SA12	0155	SIX	0018	SIXTEN	0018	SLASH	0019	SLASHF	0036	SOMMOR	0026
SP12	0156	TEN	0021	THREE	0020	TWO	0020	ZERO	0018	ZROBIT	0017						

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012

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*
*
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*
*
*
*
*
*
*
*

NAM RELREQ DECK-ID N21 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VFRSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110N2100001
N2100002
N2100003
N2100004
N2100005
N2100006
N2100007
N2100008
N2100009
N2100010
N2100011
N2100012

THIS PROCESSOR RELEASES CORE STARTING AT THE
LOCATION SPECIFIED. THE REQUEST HAS THE
FOLLOWING FORMAT.
REL, START OF CORE TO BE RELEASED

0014
0015

*

ENT RELREQ ENTRY NAME

N2100014
N2100015

0017
0018

*

00F4
00EA
0002
0012
0033

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N2100017
N2100018

0019

0043
0044
0022
0023
0027

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N2100019

0020

002C
002F
002A
0026
0045

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N2100020

0021

0004
0003
0024
0046

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N2100021

0022

EQU TEN(\$46)

MSOS4.0N2100022

0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034

*

0001
0002
0003
0004
0005
0006
0007
0008
0009
000A

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"
EQU BITFLG(10) "BITFLG"

N2100024
N2100025
N2100026
N2100027
N2100028
N2100029
N2100030
N2100031
N2100032
N2100033
N2100034

0035	000B	EQU	BUFCNT(11)	"BUFCNT"	N2100035
0036	000C	EQU	FIELD(12)	"FIELD"	N2100036
0037	0010	EQU	SLASHF(16)	"SLASHF"	N2100037
0038	0011	EQU	BUFEMT(17)	"BUFEMT"	N2100038
0039	0012	EQU	BUFFER(18)	"BUFFER"	N2100039

0041		*			N2100041
0042		*****	*****	PROGRAM START	N2100042
0043		*			N2100043

0045	P0000	6816	RELREQ	STA* BASE	SAVE PARAMETER BUFFER ADDRESS	N2100045
0046	P0001	60FF		STA- I		N2100046
0047	P0002	C101		LDA- HANDLE, I	GET "HANDLE" ROUTINE ADDRESS	N2100047
0048	P0003	6814		STA* EXTHAN		N2100048
0049	P0004	C102		LDA- MSG, I	FETCH "MSG" ADDRESS	N2100049
0050	P0005	6813		STA* EXTMSG		N2100050

0052	P0006	0C04		ENQ 4	GET ONLY FIELD	N2100052
0053	P0007	0A02		ENA 2		N2100053
0054	P0008	5C0F		RTJ* (EXTHAN)		N2100054
0055	P0009	0A03		ENA 3	CONVERT TO HEX	N2100055
0056	P000A	5C0D		RTJ* (EXTHAN)		N2100056
0057	P000B	0000	RELVAL	0		N2100057
0058	P000C	C8FE		LDA* RELVAL	STORE LOCATION FOR	N2100058
0059	P000D	0136		SAM REL001-* -1	SKIP ILLEGAL ADD.	N2100059
0060	P000E	6803		STA* RELSTR	RELEASE	N2100060
0061	P000F	54F4		RTJ- (AMONI)		N2100061
0062	P0010	1800		NUM \$1800		N2100062
0063	P0011	0000	RELSTR	0		N2100063
0064	P0012	0C02		ENQ 2		N2100064
0065	P0013	1E05		JMP* (EXTMSG), Q		N2100065
0066	P0014	0C04	REL001	ENQ 4	OUTPUT MSG AND	N2100066
0067	P0015	1C03		JMP* (EXTMSG)	EXIT PROCESSOR	N2100067

0069			*			N2100069
0070	P0016	0000	BASE	NUM 0		N2100070
0071	P0017	0000	EXTHAN	NUM 0		N2100071
0072	P0018	0000	EXTMSG	NUM 0		N2100072

0074			*			N2100074
0075		0000	PP	EQU SA13(* /96)		N2100075
0076		0001	PP	EQU SP13(SA13+1)		N2100076
0077		0060	PP	EQU DB13(SP13*96)		N2100077
0078	P0019	0047		BSS (DB13-*)		N2100078
0079				END		N2100079

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0046
0018	AMONI	00F4	(000244) 0061
0018	ADISP	00EA	(000234)
0018	LPMSK	0002	(000002)
0018	NZERO	0012	(000018)
0018	ZROBIT	0033	(000051)
0019	FIVE	0043	(000067)
0019	SIX	0044	(000068)
0019	ZERO	0022	(000034)
0019	ONEBIT	0023	(000035)
0019	SIXTEN	0027	(000039)
0020	COMMA	002C	(000044)
0020	SLASH	002F	(000047)
0020	ASTRIC	002A	(000042)
0021	EIGHT	0026	(000038)
0021	NINE	0045	(000059)
0021	THREE	0004	(000004)
0021	ONE	0003	(000003)
0021	TWO	0024	(000036)
0022	TEN	0046	(000070)
0025	HANDLE	0001	(000001) 0047
0026	MSG	0002	(000002) 0049
0027	SOMMOR	0003	(000003)
0028	IOERR	0004	(000004)
0029	LISTLU	0005	(000005)
0030	COMOLU	0006	(000006)
0031	NEWMLU	0007	(000007)
0032	PROG1	0008	(000008)
0033	PROG2	0009	(000009)
0034	BITFLG	000A	(000010)
0035	BUFCNT	000B	(000011)
0036	FIELD	000C	(000012)
0037	SLASHF	0010	(000016)
0038	BUFEFT	0011	(000017)
0039	BUFFER	0012	(000018)

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	RELREQ	0000	0015
0057	RELVAL	0008	0058
0063	RELSTR	0011	0060
0066	REL001	0014	0059
0070	BASE	0016	0045
0071	EXTHAN	0017	0048, 0054, 0056
0072	EXTMSG	0018	0050, 0065, 0067
0075	SA13	0000	0076
0076	SP13	0001	0077
0077	DB13	0060	0078

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0018	AMONI	0018	ASTRIC	0020	BASE	0070	BITFLG	0034	BUFCNT	0035	BUFEMT	0038	BUFFER	0039	COMMA	0020
COMOLU	0030	DB13	0077	EIGHT	0021	EXTHAN	0071	EXTMSG	0072	FIELD	0036	FIVE	0019	HANDLE	0025	I	0000
IOERR	0028	LISTLU	0029	LPMSK	0018	MSG	0026	NEWMLU	0031	NINE	0021	NZERO	0018	ONE	0021	ONEBIT	0019
PROG1	0032	PROG2	0033	REL001	0066	RELREQ	0015	RELSTR	0063	RELVAL	0057	SA13	0075	SIX	0019	SIXTEN	0019
SLASH	0020	SLASHF	0037	SOMMOR	0027	SP13	0076	TEN	0022	THREE	0021	TWO	0021	ZERO	0019	ZROBIT	0018

SUMMARY-116*****

NAM DACREQ DECK-ID N22 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

N2200002
N2200003
N2200004
N2200005
N2200006
N2200007
N2200008
N2200009
N2200010
N2200011
N2200012
N2200013

THIS PROCESSOR DUMPS A MAP OF ALLOCATABLE CORE.
THE MAP IS OBTAINED UNDER INTERRUPT LOCK-OUT
AT THE PRIORITY LEVEL OF ODP. THE REQUEST HAS
THE FOLLOWING FORMAT.
DAC(CR)

ENT DACREQ ENTRY NAME

N2200015
N2200016

EXT LVLSTR EXTERNAL
EXT LEND

N2200018
N2200019
N2200020

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N2200022
N2200023

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N2200024

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N2200025

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N2200026

EQU TEN(\$46)

MSOS4.0N2200027

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"

N2200029
N2200030
N2200031
N2200032
N2200033
N2200034

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0015
0016

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0018
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0020

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0022
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00F4
00EA
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0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
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0046

0024

0025

0026

0027

0029

0030

0031

0032

0033

0034

0001
0002
0003
0004
0005

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0035	0006	EQU	COMOLU(6)	"COMOLU"		N2200035
0036	0007	EQU	NEWMLU(7)	"NEWMLU"	--- NEW MM LU	N2200036
0037	0008	EQU	PROG1(8)	"PROG1"		N2200037
0038	0009	EQU	PROG2(9)	"PROG2"		N2200038
0039	000A	EQU	BITFLG(10)	"BITFLG"		N2200039
0040	000B	EQU	BUFCNT(11)	"BUFCNT"		N2200040
0041	000C	EQU	FIELD(12)	"FIELD"		N2200041
0042	0010	EQU	SLASHF(16)	"SLASHF"		N2200042
0043	0011	EQU	BUFEMT(17)	"BUFEMT"		N2200043
0044	0012	EQU	BUFFER(18)	"BUFFER"		N2200044

0046		*		VARIABLE EQU		N2200046
0047	0007	EQU	CHRSLV(7)	LEVEL OF THIS PROGRAM		116*4360*****

0049		*		EQU	FOR LOGICAL UNITS	N2200049
0050	08FC	EQU	COMOUT(\$8FC)	TYPE OUTPUT LOGICAL UNIT		N2200050
0051	08FD	EQU	COMLU(\$8FD)	INPUT COMMENT LOGICAL UNIT		N2200051
0052	C8C2	EQU	MASLU(\$8C2)	MASS MEMORY LOGICAL UNIT		N2200052
0053	1000	EQU	ASMOD(\$1000)	ASCII MODE OUTPUT		N2200053

0055		*				N2200055
0056		*****	*****	P R O G R A M	S T A R T	N2200056
0057		*				N2200057

0059	P0000	687C	DACREQ	STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N2200059
0060	P0001	C822		TRA	Q		N2200060
0061	P0002	C201		LDA-	HANDLE,Q	GET "HANDLE" ROUTINE ADDRESS	N2200061
0062	P0003	687A		STA*	EXTHAN		N2200062
0063	P0004	C205		LDA-	LISTLU,Q	GET LIST LOGICAL UNIT	N2200063
0064	P0005	8876		ADD*	MODE	+ MODE (ASCII) CODE	N2200064
0065	P0006	6867		STA*	OTLU		N2200065
0066	P0007	682A		STA*	OTLU1		N2200066

0068	P0008	0C0F		ENQ	15	SET CORE INDEX TO START OF	N2200068
0069	P0009	C600	X	LDA+	LVLSTR,Q	AVAILABLE CORE	N2200069

0070	P000B	60FF	X	STA-	I		N2200070
0071	P000C	C400	X	LDA+	LEND	GET LAST AVAILABLE CORE LOC.	N2200071

0072	P000E	6871	X	STA*	DACLPI		N2200072
0073	P000F	C842		CLR	Q	INITIALIZE PIECE STORE INDEX	N2200073
0074	P0010	0500		IIN	0	INHIBIT INTERRUPTS DURING SNAP SHOT	N2200074
0075	P0011	C0FF	DAC001	LDA-	I	STORE CORE INDEX AS START	N2200075
0076	P0012	6A74		STA*	DACTBL,Q	OF PIECE	N2200076
0077	P0013	C503		LDA-	(ONE),I	IS THIS PIECE OF CORE BEING USED	N2200077
0078	P0014	90FF		SUB-	I		N2200078
0079	P0015	09FD		INA	-2		N2200079
0080	P0016	C112		SAN	DAC002- *-1	SKIP NO	N2200080

0081	P0017	C522	LDA-	(ZERO),I	GET LENGTH OF PIECE	N2200081
0082	P0018	1802	JMP*	DAC003		N2200082
0083	P0019	0AFE	DAC002	ENA -1	GET * FLAG TO INDICATE PIECE EMPTY	N2200083
0084	P001A	6A6D	DAC003	STA* DACTBL+1,Q	STORE LENGTH OR FLAG FOR MSG.	N2200084
0085	P001B	0D02	INQ	2	INCREMENT PIECE STORE INDEX BY 2	N2200085
0086	P001C	C869	LDA*	DACMXP	IS PIECE INDEX=MAX.	N2200086
0087	P001D	0834	AAQ	A	(STORAGE FOR SNAP SHOT FULL)	N2200087
0088	P001E	012C	SAP	DAC005-*--1	SKIP YES	N2200088
0089	P001F	C0FF	LDA-	I	ADD LENGTH OF PIECE TO CORE	N2200089
0090	P0020	8522	ADD-	(ZERO),I	INDEX	N2200090
0091	P0021	60FF	STA-	I		N2200091
0092	P0022	985D	SUB*	DACLPI	IS THIS END OF ALLOCATABLE CORE	N2200092
0093	P0023	0121	SAP	DAC004-*--1	SKIP YES	N2200093
0094	P0024	18FC	JMP*	DAC001		N2200094
0095	P0025	C0FF	DAC004	LDA- I	STORE END OF ALLOCATABLE CORE	N2200095
0096	P0026	09FE	INA	-1	FOR MSG.	N2200096
0097	P0027	6A5F	STA*	DACTBL,Q		N2200097
0098	P0028	CAFD	ENA	-2	STORE END FLAG	N2200098
0099	P0029	6A5E	STA*	DACTBL+1,Q		N2200099
0100	P002A	0D02	INQ	2	BUMP PIECE STORE INDEX	N2200100
0101	P002B	4855	DAC005	STQ* DACSTO	SAVE IT	N2200101
0102	P002C	0400	EIN	0	RESTORE INTERRUPTS	N2200102
0103			*	BUILD MESSAGE TO PRINT MAP		N2200103
0104	P002D	54F4	DACPR1	RTJ- (AMONI)	OUTPUT HEADER MESSAGE	N2200104
0105	P002E	0507	ADC	\$500+CHRSLV		N2200105
0106	P002F	0007	ADC	DAC020-DACPR1		N2200106
0107	P0030	0000	OTLU1	NUM 0		N2200107
0108	P0031	0000	NUM	0		N2200108
0109	P0032	000C	NUM	12		N2200109
0110	P0033	008D	ADC	DACSKL-DACPR1		N2200110
0111	P0034	14EA	JMP-	(ADISP)		N2200111
0112	P0035	C842	DAC020	CLR Q	INITIALIZE MESSAGE STORE INDEX	N2200112
0113	P0036	484D	STQ*	DACMSX	AND PIECE REMOVAL INDEX	N2200113
0114	P0037	484A	STQ*	DACREM		N2200114
0115	P0038	C848	DAC006	LDA* DACMSX	CALC. RELATIVE ADDRESS FOR	N2200115
0116	P0039	8849	ADD*	DACMR1	HEXASC CALL	N2200116
0117	P003A	6804	STA*	DAC007		N2200117
0118	P003B	EA4B	LDQ*	DACTBL,Q	GET START OF PIECE	N2200118
0119	P003C	0A06	ENA	6		N2200119
0120	P003D	5C40	RTJ*	(EXTHAN)	CONVERT ASC AND STORE	N2200120
0121	P003E	0000	DAC007	0	IN MSG.	N2200121
0122	P003F	D844	RAO*	DACMSX	BUMP MSG. STORE BY 2	N2200122
0123	P0040	D843	RAO*	DACMSX		N2200123
0124	P0041	E840	LDQ*	DACREM	IS NEXT WORD LENGTH OF PIECE	N2200124
0125	P0042	EA45	LDO*	DACTBL+1,Q		N2200125
0126	P0043	016D	SQP	DAC009-*--1	SKIP YES	N2200126
0127	P0044	0D01	INQ	1	IS IT * FLAG	N2200127
0128	P0045	C141	SQZ	DAC008-*--1	SKIP YES	N2200128
0129	P0046	181A	JMP*	DAC011		N2200129
0130	P0047	C000	DAC008	LDA =N\$A00	PUT CR AND ASTERISK INTO	N2200130
	P0048	0A0D				
0131	P0049	E83A	LDQ*	DACMSX	MSG.	N2200131
0132	P004A	6A7D	STA*	DACMSG,Q		N2200132

0133	P004B	GD01	INQ	1			N2200133
0134	P004C	0A2A	ENA	\$2A	(ASTERISK=\$2A)		N2200134
0135	P004D	6A7A	STA*	DACMSG,Q			N2200135
0136	P004E	0D01	INQ	1			N2200136
0137	P004F	4834	STQ*	DACMSX			N2200137
0138	P0050	1810	JMP*	DAC011			N2200138
0139	P0051	C000	DAC009	LDA	=N\$2020	PUT SPACE INTO MSG.	N2200139
	P0052	2020					
0140	P0053	E830	LDQ*	DACMSX			N2200140
0141	P0054	6A73	STA*	DACMSG,Q			N2200141
0142	P0055	D82E	RAO*	DACMSX			N2200142
0143	P0056	C82D	LDA*	DACMSX	CALC. RELATIVE ADDRESS FOR		N2200143
0144	P0057	882D	ADD*	DACMR2	HEXASC CALL		N2200144
0145	P0058	6805	STA*	DAC010			N2200145
0146	P0059	E828	LDQ*	DACREM	GET LENGTH		N2200146
0147	P005A	EA2D	LDQ*	DACTBL+1,Q			N2200147
0148	P005B	0A06	ENA	6	CONVERT LENGTH TO ASCII		N2200148
0149	P005C	5C21	RTJ*	(EXTHAN)			N2200149
0150	P005D	0000	DAC010	0			N2200150
0151	P005E	D825	RAO*	DACMSX			N2200151
0152	P005F	D824	RAO*	DACMSX			N2200152
0153	P0060	C8E7	DAC011	LDA*	DAC008+1	PUT CR RETURN INTO MSG.	N2200153
0154	P0061	E822	LDQ*	DACMSX			N2200154
0155	P0062	6A65	STA*	DACMSG,Q			N2200155
0156	P0063	D820	RAO*	DACMSX			N2200156
0157	P0064	C81D	LDA*	DACREM	INCREASE REMOVE INDEX		N2200157
0158	P0065	J902	INA	2	BY 2		N2200158
0159	P0066	681B	STA*	DACREM			N2200159
0160			*		4 CARDS DELETED		N2200160
0161	P0067	C81C	DAC012	LDA*	DACMSX	CALC. LENGTH OF MSG.	N2200161
0162			*		1 CARD DELETED		N2200162
0163	P0068	6806	STA*	DACPAR+4			N2200163
0164	P0069	54F4	RTJ-	(AMONI)	OUTPUT MSG.		N2200164
0165	P006A	0507	DACPAR	ADC	\$500+CHRSLV		N2200165
0166	P006B	G007	ADC	DAC014-DACPAR			N2200166
0167	P006C	0000	0	0			N2200167
0168	P006D	0000	OTLU	NUM	0	LOGICAL UNIT (TO B0 FILLED)	N2200168
0169	P006E	0000	0	0			N2200169
0170	P006F	005D	ADC	DACMSG-DACPAR			N2200170
0171	P0070	14EA	JMP-	(ADISP)			N2200171
0172	P0071	E810	DAC014	LDQ*	DACREM		N2200172
0173	P0072	0814	TRQ	A			N2200173
0174	P0073	980D	SUB*	DACSTO	IS REMOVE INDEX = PIECE INDEX		N2200174
0175	P0074	0103	SAZ	DAC013--*-1	YES, DONE		N2200175
0176	P0075	0844	CLR	A			N2200176
0177	P0076	680D	STA*	DACMSX	NO, RESET MESSAGE LENGTH TO ZERO		N2200177
0178	P0077	18C0	JMP*	DAC006	SET UP TO OUTPUT NEXT BLOCK		N2200178
0179	P0078	E804	DAC013	LDQ*	BASE	EXIT (TO "SOMMOR")	N2200179
0180	P0079	F203	LDQ-	SOMMOR,Q			N2200180
0181	P007A	1622	JMP-	(ZERO),Q			N2200181
0182	P007B	1000	MODE	ADC	ASMOD		N2200182
0184			*				N2200184

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0185 P007C 0000 BASE NUM 0
0186 P007D 0000 EXTHAN NUM 0
0187 P007E 0000 EXTMSG NUM 0
0188 *
0189 *
0190 P007F 0000 DACLP1 0 0
0191 *
0192 P0080 0000 DACSTO 0 0
0193 P0081 0000 DACREM 0 0
0194 P0082 0089 DACMR1 ADC DACMSG-DAC007
0195 P0083 0000 DACMSX 0 0
0196 P0084 006A DACMR2 ADC DACMSG-DAC010
0197 P0085 FFCB DACMXP NUM -52
0198 P0086 0034 DACTBL BZS DACTBL(52)
0199 *
0200 *
0201 P008A 0000 MESSAGE SKELETON
0202 P008R 0A0D DACSKL NUM $ADD (FOR BUFFERING)
0203 P008C 414C ALF 10,ALLOCATABLE CORE MAP (CR)
      P008D 4C4F
      P008E 4341
      P008F 5441
      P0090 424C
      P0091 4520
      P0092 434F
      P0093 5245
      P0094 204D
      P0095 4150
0204 P0096 0A0D DACMSG NUM $ADD
0205 P0097 0000 DACMSG 0 0

0207 *
0208 0002 P EQU SA14(* / 96)
0209 0003 P EQU SP14(SA14+1)
0210 0120 P EQU DB14(SP14*96)
0211 P00C8 0058 BSS (DB14-*)
0212 END

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N2200185
N2200186
N2200187
N2200188
N2200189
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N2200191
N2200192
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N2200202
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N2200204
N2200205

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N2200207
N2200208
N2200209
N2200210
N2200211
N2200212

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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) 0070, 0075, 0078, 0089, 0091, 0095
0023	AMONI	00F4	(000244) 0104, 0164
0023	ADISP	00EA	(000234) 0111, 0171
0023	LPMSK	0002	(000202)
0023	NZERO	0012	(000018)
0023	ZROBIT	0033	(000051)
0024	FIVE	0043	(000067)
0024	SIX	0044	(000068)
0024	ZERO	0022	(000034) 0081, 0090, 0181
0024	ONEBIT	0023	(000035)
0024	SIXTEN	0027	(000039)
0025	COMMA	0020	(000044)
0025	SLASH	002F	(000047)
0025	ASTRIC	002A	(000042)
0026	EIGHT	0026	(000038)
0026	NINE	0045	(000069)
0026	THREE	0004	(000004)
0026	ONE	0003	(000003) 0077
0026	TWO	0024	(000036)
0027	TEN	0046	(000070)
0030	HANDLE	0001	(000001) 0061
0031	MSG	0002	(000002)
0032	SOMMOR	0003	(000003) 0180
0033	IOERR	0004	(000004)
0034	LISTLU	0005	(000005) 0063
0035	COMOLU	0006	(000006)
0036	NEWMLU	0007	(000007)
0037	PROG1	0008	(000008)
0038	PROG2	0009	(000009)
0039	BITFLG	000A	(000010)
0040	BUFCNT	000B	(000011)
0041	FIELD	000C	(000012)
0042	SLASHF	0010	(000016)
0043	BUFEMT	0011	(000017)
0044	BUFFER	0012	(000018)
0047	CHRSLV	0007	(000007) 0105, 0165
0050	COMOUT	08FC	(002300)
0051	COMLU	08FD	(002301)

0052	MASLU	0802	(002242)	
0053	ASMOD	1000	(004095)	0182

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	DACREQ	0000	0016
0075	DAC001	0011	0094
0083	DAC002	0019	0080
0084	DAC003	001A	0082
0095	DAC004	0025	0093
0101	DAC005	002B	0088
0105	DACPR1	002E	0106, 0110
0108	OTLU1	0031	0066
0112	DAC020	0035	0106
0115	DAC006	0038	0178
0121	DAC007	003E	0117, 0194
0130	DAC008	0047	0128, 0153
0139	DAC009	0051	0126
0150	DAC010	005D	0145, 0196
0153	DAC011	0060	0129, 0138
0161	DAC012	0067	
0165	DACPAR	006A	0163, 0166, 0170
0168	OTLU	006D	0065
0172	DAC014	0071	0165
0179	DAC013	0078	0175
0182	MODE	007B	0064
0185	BASE	007C	0059, 0179
0186	EXTHAN	007D	0062, 0120, 0149
0187	EXTMSG	007E	
0190	DACLPI	007F	0072, 0092
0192	DACSTO	0080	0101, 0174
0193	DACREH	0081	0114, 0124, 0146, 0157, 0159, 0172
0194	DACMR1	0082	0116
0195	DACMSX	0083	0113, 0115, 0122, 0123, 0131, 0137, 0140, 0142, 0143, 0151, 0152, 0154, 0156, 0161, 0177
0196	DACMR2	0084	0144
0197	DACMXP	0085	0086
0198	DACTBL	0086	0076, 0084, 0097, 0099, 0118, 0125, 0147
0202	DACSKL	008B	0110
0205	DACMSG	00C7	0132, 0135, 0141, 0155, 0170, 0194, 0196
0208	SA14	0002	0209
0209	SP14	0003	0210
0210	DB14	0120	0211

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0019	LVLSTR	000A	0069
0020	LEND	0000	0071

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0023	AMONI	0023	ASMOD	0053	ASTRIC	0025	BASE	0185	BITFLG	0039	BUFCNT	0040	BUFEMT	0043	BUFFER	0044
CHRSLV	0047	COMLU	0051	COMMA	0025	COMOLU	0035	COMOUT	0050	DAC001	0075	DAC002	0083	DAC003	0084	DAC004	0095
DAC005	0101	DAC006	0115	DAC007	0121	DAC008	0130	DAC009	0139	DAC010	0150	DAC011	0153	DAC012	0161	DAC013	0179
DAC014	0172	DAC020	0112	DACLp1	0190	DACMR1	0194	DACMR2	0196	DACMSG	0205	DACMSX	0195	DACMP	0197	DACPAR	0165
DACPR1	0105	DACREM	0193	DACREQ	0016	DACSKL	0202	DACSTO	0192	DACTBL	0198	DB14	0210	EIGHT	0026	EXTHAN	0186
EXTMSG	0187	FIELD	0041	FIVE	0024	HANDLE	0030	I	0000	IOERR	0033	LEND	0020	LISTLU	0034	LPMSK	0023
LVLSTR	0019	MASSLU	0052	MODE	0182	MSG	0031	NEWMLU	0036	NINE	0026	NZERO	0023	ONE	0026	ONERIT	0024
OTLU	0168	OTLU1	0108	PROG1	0037	PROG2	0038	SA1+	0208	SIX	0024	SIXTEN	0024	SLASH	0025	SLASHF	0042
SOMMOR	0032	SP14	0209	TEN	0027	THREE	0026	TWO	0026	ZERO	0024	ZROBIT	0023				

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NAM PTHREQ DECK-ID N23 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-116*****

N2300002
N2300003
N2300004
N2300005
N2300006
N2300007
N2300008
N2300009
N2300010
N2300011
N2300012
N2300013

THIS PROCESSOR PRINTS THE LOCATION AND THE
FIRST 2 WORDS OF THE REQUESTS ON A THREAD,
UP TO 10 REQUESTS, AT THE LEVEL OF ODP.
THE REQUEST HAS THE FOLLOWING FORMAT,
PTH, LOCATION OF TOP OF THREAD, BASE(CR)

0015
0016

*

ENT PTHREQ ENTRY NAME

N2300015
N2300016

0018
0019

*

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$I2),ZROBIT(\$33)

N2300018
N2300019

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

0020

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N2300020

0021

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N2300021

0022

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N2300022

0023

EQU TEN(\$46)

**MSOS4.0*N2300023

0025
0026
0027
0028
0029
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0034

*

PARAMETER LOCATION (OFFSET FROM BASE)
EQU HANDLE(1) "HANDLE"
EQU MSG(2) "MSG" ENTRY
EQU SOMMOR(3) "SOMMOR" ENTRY
EQU IOERR(4) "IOERR" ENTRY
EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
EQU COMOLU(6) "COMOLU"
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
EQU PROG1(8) "PROG1"
EQU PROG2(9) "PROG2"

N2300025
N2300026
N2300027
N2300028
N2300029
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N2300031
N2300032
N2300033
N2300034

0035	000A	EQU	BITFLG(10)	"BITFLG"	
0036	000B	EQU	BUFCNT(11)	"BUFCNT"	N2300035
0037	000C	EQU	FIELD(12)	"FIELD"	N2300036
0038	0010	EQU	SLASHF(16)	"SLASHF"	N2300037
0039	0011	EQU	BUFEMT(17)	"BUFEMT"	N2300038
0040	0012	EQU	BUFFER(18)	"BUFFER"	N2300039
					N2300040

0042		*		VARIABLE EQU	
0043	0007	EQU	CHRSLV(7)	LEVEL OF THIS PROGRAM	N2300042
					116*4350*****

0045		*		EQU	FOR LOGICAL UNITS
0046	08FC	EQU	COMOUT(\$8FC)	TYPE OUTPUT LOGICAL UNIT	N2300045
0047	08FD	EQU	COMLU(\$8FD)	INPUT COMMENT LOGICAL UNIT	N2300046
0048	08C2	EQU	MASSLU(\$8C2)	MASS MEMORY LOGICAL UNIT	N2300047
0049	1000	EQU	ASMOD(\$1000)	ASCII MODE OUTPUT	N2300048
					N2300049

0051		*			
0052		*****	*****	P R O G R A M	N2300051
0053		*		S T A R T	N2300052
					N2300053

0055	P0000	687C	PTHREQ	STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N2300055
0056	P0001	60FF		STA-	I		N2300056
0057	P0002	C101		LDA-	HANDLE,I	GET "HANDLE" ROUTINE ADDRESS	N2300057
0058	P0003	687A		STA*	EXTHAN		N2300058
0059	P0004	C102		LDA-	MSG,I	FETCH "MSG" ADDRESS	N2300059
0060	P0005	6879		STA*	EXTMSG		N2300060
0061	P0006	C105		LDA-	LISTLU,I	GET LIST LOGICAL UNIT	N2300061
0062	P0007	8965		ADD*	MODE	+ MODE (ASCII) CODE	N2300062
0063	P0008	683F		STA*	OTLU1		N2300063
0064	P0009	686E		STA*	OTLU2		N2300064

0066	P000A	0840		CLR	0	INITIALIZE BASE TO ZERO	N2300066
0067	P000B	6874		STA*	PTHBSE		N2300067
0068	P000C	0A02		ENA	2	SET TO GET 2 FIELDS	N2300068
0069	P000D	6874		STA*	PTHFLD		N2300069
0070	P000E	0C04	PTH001	ENQ	4	SET TO GET 4 CHAR. FIELD	N2300070
0071	P000F	0A02		ENA	2		N2300071
0072	P0010	5C6D		RTJ*	(EXTHAN)	GET FIELD	N2300072
0073	P0011	C10C		LDA-	FIELD,I	IS CONTROL CHAR.= COMMA,	N2300073
0074	P0012	0107		SAZ	PTH002--1	SKIP YES (ZERO)	N2300074
0075	P0013	900A		SUB-	LPMSK+8		N2300075
0076	P0014	0105		SAZ	PTH002--1	SKIP YES (\$FF)	N2300076
0077	P0015	800A		ADD-	LPMSK+8		N2300077
0078	P0016	09D3		INA	-COMMA		N2300078
0079	P0017	G102		SAZ	PTH002--1	SKIP YES (COMMA)	N2300079
0080	P0018	0C04	PTH01A	ENQ	4	NO,OUTPUT FORMAT INCORRECT	N2300080
0081	P0019	1C65		JMP*	(EXTMSG)	MSG.	N2300081
0082	P001A	0A03	PTH002	ENA	3	CONVERT TO HEX	N2300082
0083	P001B	5C62		RTJ*	(EXTHAN)		N2300083

0084	PG01C	0000	PTHVAL	0	0		
0085	PG01D	C8FE	LDA*	PTHVAL		SAVE FIELD	
0086	PG01E	E863	LDQ*	PTHFLD			
0087	PG01F	6A5F	STA*	PTHBSE-1,Q			
0088	PG020	0DFE	INQ	-1		DECREMENT FIELD COUNTER	
0089	PG021	4860	STQ*	PTHFLD			
0090	PG022	0141	SQZ	PTH003-*--1		SKIP IF DONE (GOT 2 FIELDS)	
0091	PG023	18FA	JMP*	PTH001			
0092	PG024	C85B	PTH003	LDA*	PTHBSE	ADD FIELDS TO GET FINAL	
0093	PG025	885B		ADD*	PTHTOP	ABS. LOC. OF TOP OF THREAD	
0094	PG026	60FF	PTH03A	STA-	I		
0095	PG027	0C00		ENQ	0	INITIALIZE THREAD ENTRY COUNTER	
0096	PG028	0500		IIN	0	INHIBIT FOR SNAP SHOT	
0097	PG029	C4FF		LDA-	(I)	IS TOP OF THREAD = END OF	
0098	PG02A	0900		INA	0	THREAD	
0099	PG02B	0111		SAN	PTH004-*--1	SKIP NO	
0100	PG02C	1812		JMP*	PTH006	YES, GO TO TERMINATE	
0101	PG02D	C522	PTH004	LDA-	(ZERO),I	GET LOC. OF FIRST ENTRY	
0102	PG02E	60FF		STA-	I		
0103	PG02F	C0FF	PTH005	LDA-	I	GET LOCATION OF ENTRY	
0104	PG030	6A56		STA*	PTHTBL,Q		
0105	PG031	C522		LDA-	(ZERO),I	STORE WDS 1 AND 2 AND THREAD	
0106	PG032	6A55		STA*	PTHTBL+1,Q		
0107	PG033	C503		LDA-	(ONE),I		
0108	PG034	6A54		STA*	PTHTBL+2,Q		
0109	PG035	C524		LDA-	(TWO),I		
0110	PG036	60FF		STA-	I	UPDATE FOR NEXT ENTRY, IF ANY	
0111	PG037	0D03		INQ	3	BUMP THREAD ENTRY COUNTER	
0112	PG038	0900		INA	0	IS THIS END OF THREAD	
0113	PG039	0104		SAZ	PTH006-*--1	SKIP YES	
0114	PG03A	0AE1		ENA	-30	HAVE TEN ENTRIES BEEN FOUND	
0115	PG03B	0834		AAQ	A	(MAX. ALLOWED)	
0116	PG03C	0104		SAZ	PTH007-*--1	SKIP YES	
0117	PG03D	18F1		JMP*	PTH005	GO GET NEXT ENTRY	
0118	PG03E	0AFF	PTH006	ENA	-0	STORE EOT FLAG	
0119	PG03F	6A47		STA*	PTHTBL,Q		
0120	PG040	0D01		INQ	1	BUMP ENTRY COUNTER	
0121	PG041	0400	PTH007	EIN	0	END OF SNAP SHOT	
0122	PG042	4840		STQ*	PTHCTR	SAVE ENTRY COUNTER	
0123	PG043	54F4		RTJ-	(AMONI)	OUTPUT HEADING	
0124	PG044	0507	PTHPRM	ADC	\$500+CHRSLV		
0125	PG045	0007		ADC	PTH013-PTHPRM		
0126	PG046	0000		0	0		
0127	PG047	0000	OTLU1	NUM	0	LIST LOGICAL UNIT (TO BE FILLED)	
0128	PG048	0009		ADC	LHEADG		
0129	PG049	0062		ADC	PTHSKH-PTHPRM		
0130	PG04A	14FA		JMP-	(ADISP)		
0131	PG04B	0A00	PTH013	ENA	0	INITIALIZE INDEX TO SNAP	
0132	PG04C	6837		STA*	PTHTCT	SHOT TBL.	
0133	PG04D	C844	PTH014	CLR	A	INITIALIZE MSG. INDEX	
0134	PG04E	6836		STA*	PTHMSX		
0135	PG04F	C835	PTH008	LDA*	PTHMSX	SET-UP REL. LOC. IN HEXASC	
0136	PG050	8835		ADD*	PTHFML	CALL FOR ENTRY OF DATA	

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0137 P0051 6805 STA* PTH009 INTO MSG. SKELETON
0138 P0052 F831 LDQ* PTHCT GET VALUE
0139 P0053 EA33 LDQ* PTHBL,Q
0140 P0054 0A06 ENA 6
0141 P0055 5C28 RTJ* (EXTHAN) CONVERT TO ASCII AND STORE IN SKEL.
0142 P0056 0000 PTH009 0
0143 P0057 082D RAO* PTHMSX BUMP MSG. INDEX BY 2
0144 P0058 082C RAO* PTHMSX
0145 P0059 082A RAO* PTHCT BUMP SNAP SHOT INDEX
0146 P005A 0A20 ENA $20 PUT SPACE INTO MSG.
0147 P005B E829 LDQ* PTHMSX
0148 P005C 6A53 STA* PTHMSG,Q
0149 P005D 0827 RAO* PTHMSX BUMP MSG INDEX BY 1
0150 P005E C825 LDA* PTHCT HAVE ALL VALUES BEEN ASSEM.
0151 P005F 9823 SUB* PTHCTR
0152 P0060 0115 SAN PTH010-*--1 SKIP NO
0153 P0061 580C RTJ* PTHSR ADD CR AND OUTPUT LINE
0154 P0062 F81A LDQ* BASE EXIT TO "SOMMOR"
0155 P0063 E203 LDQ- SOMMOR,Q
0156 P0064 1622 JMP- (ZERO),Q
0157 P0065 0000 OTLU NUM 0 LOGICAL UNIT (TO BE FILLED)
0158 P0066 C81E PTH010 LDA* PTHMSX HAS ONE LINE BEEN ASSEM.
0159 P0067 09F6 INA -9
0160 P0068 C112 SAN PTH011-*--1 SKIP NO
0161 P0069 5804 RTJ* PTHSR ADD CR AND OUTPUT LINE
0162 P006A 18E2 JMP* PTH014 RETURN FOR ANOTHER LINE
0163 P006B 18E3 PTH011 JMP* PTH008 CONTINUE LINE
0164 P006C 1C00 MODE ADC ASMOD
0165 *
0166 * SR TO ADD CR AND OUTPUT
0167 * ONE LINE
0168 *
0169 P006D 0000 PTHSR 0 0
0170 P006E C838 LDA* PTHSKH ADD CR
0171 P006F E815 LDQ* PTHMSX
0172 P0070 6A3F STA* PTHMSG,Q
0173 P0071 0D01 INQ 1
0174 P0072 4806 STQ* PTHPAR+4 STORE MSG. LENGTH
0175 P0073 54F4 RTJ- (AMONI) OUTPUT MSG.
0176 P0074 0507 PTHPAR ADC $500+CHRSLV
0177 P0075 0007 ADC PTH012-PTHPAR
0178 P0076 0000 0 0
0179 P0077 0000 OTLU2 NUM 0 LIST LOGICAL UNIT (TO BE FILLED)
0180 P0078 0000 0 0
0181 P0079 003B ADC PTHMSG-PTHPAR
0182 P007A 14EA JMP- (ADISF)
0183 P007B 1CF1 PTH012 JMP* (PTHSR) RETURN TO CALLER

0185 *
0186 P007C 0000 BASE NUM 0
0187 P007D 0000 EXTHAN NUM 0
0188 P007E 0000 EXTMSG NUM 0
0189 *

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N2300137
N2300138
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N2300140
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N2300189

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0190 *          CONSTANTS
0191 P007F 0000 PTHBSE 0 0 BASE
0192 P0080 0000 PTHTOP 0 0 RELATIVE ADDRESS OF TOP OF THREAD
0193 P0081 0000 PTHFLD 0 0 NO. OF REMAINING FIELDS TO GET
0194 P0082 0000 PTHCTR 0 0 TABLE ENTRY COUNTER
0195 P0083 0000 PTHTCT 0 0 TABLE REMOVE COUNTER
0196 P0084 0000 PTHMSX 0 0 MSG. INDEX
0197 P0085 0059 PTHRML ADC PTHMSG-PTH009 RELATIVE BASE FOR HEXASC CALL
0198 P0086 001F PHTHBL BZS PHTHBL(31) TABLE TO STORE ENTRIES ON THREAD
0199 *          MESSAGE SKELETONS
0200 P00A5 0000 0 (FOR BUFFERING)
0201 P00A6 0A0D PTHSKH NUM $A0D MSG. SKELETON FOR HEADING
0202 P00A7 4C4F ALF 7,LOC. WD1 WD2
      P00A8 432E
      P00A9 2057
      P00AA 4431
      P00AB 2020
      P00AC 5744
      P00AD 3220
0203 P00AE CA0D
0204 EQU LHEADG(*-PTHSKH)
0205 *
0206 PTHMSG BZS PTHMSG(10) MSG. FOR DATA TO BE ASSEM. BY PROG.
0207 P00B9 0014 BZS (20)

0209 *
0210 EQU SA15(* / 96)
0211 EQU SP15(SA15+1)
0212 EQU DB15(SP15*96)
0213 P00CD 0053 BSS (DB15-*)
0214 END

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N2300206
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N2300209
N2300210
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N2300214

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PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0056, 0094, 0097, 0102, 0103, 0110
0019	AMONI	00F4 (000244)	0123, 0175
0019	ADISP	00EA (000234)	0130, 0182
0019	LPMSK	0002 (000002)	0075, 0077
0019	NZERO	0012 (000018)	
0019	ZROBIT	0033 (000051)	
0020	FIVE	0043 (000067)	
0020	SIX	0044 (000068)	
0020	ZERO	0022 (000034)	0101, 0105, 0156
0020	ONEBIT	0023 (000035)	
0020	SIXTEN	0027 (000039)	
0021	COMMA	002C (000044)	0078
0021	SLASH	002F (000047)	
0021	ASTRIC	002A (000042)	
0022	EIGHT	0026 (000038)	
0022	NINE	0045 (000069)	
0022	THREE	0004 (000004)	
0022	ONE	0003 (000003)	0107
0022	TWO	0024 (000036)	0109
0023	TEN	0046 (000070)	
0026	HANDLE	0001 (000001)	0057
0027	MSG	0002 (000002)	0059
0028	SOMMOR	0003 (000003)	0155
0029	IOERR	0004 (000004)	
0030	LISTLU	0005 (000005)	0061
0031	COMOLU	0006 (000006)	
0032	NEWMLU	0007 (000007)	
0033	PROG1	0008 (000008)	
0034	PROG2	0009 (000009)	
0035	BITFLG	000A (000010)	
0036	BUFCNT	000B (000011)	
0037	FIELD	000C (000012)	0073
0038	SLASHF	0010 (000016)	
0039	BUFEMT	0011 (000017)	
0040	BUFFER	0012 (000018)	
0043	CHRSLV	0007 (000007)	0124, 0176
0046	COMOUT	08FC (002300)	
0047	COMLU	08FD (002301)	

0048	MASLU	08C2	(002242)	
0049	ASMOD	1000	(004096)	0164
0204	LHEADG	0009	(000009)	C128

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	PTHREQ	0000	0016
0070	PTH001	000E	0091
0080	PTH01A	0018	
0082	PTH002	001A	0074, 0076, 0079
0084	PTHVAL	001C	0085
0092	PTH003	0024	0090
0094	PTH03A	J026	
0101	PTH004	002D	0099
0103	PTH005	002F	0117
0118	PTH006	003E	0100, 0113
0121	PTH007	0041	0116
0124	PTHPRM	0044	0125, 0129
0127	OTLU1	0047	0063
0131	PTH013	004B	0125
0133	PTH014	004D	0162
0135	PTH008	004F	0163
0142	PTH009	0056	0137, 0197
0157	OTLU	0065	
0158	PTHG10	0066	0152
0163	PTH011	006B	0160
0164	MODE	006C	0062
0169	PTHSR	006D	0153, 0161, 0183
0176	PTHPAR	0074	0174, 0177, 0181
0179	OTLU2	0077	0064
0183	PTHG12	007B	0177
0186	BASE	007C	0055, 0154
0187	EXTHAN	007D	0058, 0072, 0083, 0141
0188	EXTMSG	007E	0060, 0081
0191	PTHBSE	007F	0067, 0087, 0092
0192	PTHTOP	0080	0093
0193	PTHFLD	J081	0069, 0086, 0089
0194	PTHCTR	0082	0122, 0151
0195	PTHTCT	0083	0132, 0138, 0145, 0150
0196	PTHMSX	0084	0134, 0135, 0143, 0144, 0147, 0149, 0158, 0171
0197	PTHML	0085	0136
0198	PTHTEL	0086	0104, 0106, 0108, 0119, 0139
0201	PTHSKH	00A6	0129, 0170, 0204
0206	PTHMSG	00AF	0148, 0172, 0181, 0197
0210	SA15	00G2	0211
0211	SP15	0003	0212
0212	DB15	0120	0213

SUMMARY-116*****

NAM MTRREQ DECK-ID N24 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

THIS PROCESSOR HANDLES ALL MAG TAPE MOTION REQUESTS.
THE FOLLOWING REQUESTS ARE PROCESSED BY THIS
PROCESSOR.

ALL VALUES IN THESE REQUESTS ARE IN DECIMAL

- ADF,LU,NO. OF FILES(CR)
- BSF,LU,NO. OF FILES(CR)
- ADR,LU,NO. OF RECORDS(CR)
- BSR,LU,NO. OF RECORDS(CR)
- WEF,LU,NO. OF FILES(CR)
- REW,LU(CR)

- N2400002
- N2400003
- N2400004
- N2400005
- N2400006
- N2400007
- N2400008
- N2400009
- N2400010
- N2400011
- N2400012
- N2400013
- N2400014
- N2400015
- N2400016
- N2400017

E N T R Y N A M E S

- ENT MTRREQ
- ENT ADFREQ 16. ADVANCE FILE
- ENT BSFREQ 17. BACKSPACE FILE
- ENT ADRREQ 18. ADVANCE RECORD
- ENT BSRREQ 19. BACKSPACE RECORD
- ENT WEFREQ 20. WRITE END OF FILE
- ENT REWREQ 21. REWIND TAPE

- N2400019
- N2400020
- N2400021
- N2400022
- N2400023
- N2400024
- N2400025
- N2400026

E X T E R N A L S

- EXT NUMLU
- EXT CHRSG
- EXT HANDLE
- EXT OFF

- N2400028
- N2400029
- N2400030
- N2400031
- N2400032

' E Q U ' T A B L E

- EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)
- EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)
- EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)
- EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

- N2400034
- N2400035
- N2400036
- N2400037
- N2400038

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0039      0003
          0024
          0046      EQU   TEN($46)                                N2400039

0041      *
0042      0001      EQU   BHAN(1)                                N2400041
0043      0002      EQU   MSG(2)                                N2400042
0044      0003      EQU   SOMMOR(3)                            N2400043
0045      0004      EQU   IOERR(4)                             N2400044
0046      0005      EQU   LISTLU(5)                            N2400045
0047      0006      EQU   COMOLU(6)                             N2400046
0048      0007      EQU   NEWMLU(7)                             N2400047
0049      0008      EQU   PROG1(8)                             N2400048
0050      0009      EQU   PROG2(9)                             N2400049
0051      000A      EQU   BITFLG(10)                            N2400050
0052      000B      EQU   BUFCNT(11)                            N2400051
0053      000C      EQU   FIELD(12)                             N2400052
0054      0010      EQU   SLASHF(16)                            N2400053
0055      0011      EQU   BUFEFT(17)                            N2400054
0056      0012      EQU   BUFFER(18)                            N2400055
          *
          *          PARAMETER LOCATION (OFFSET FROM BASE)
          *
0058      *
0059      0007      EQU   CHRSLV(7)                             N2400058
          *          VARIABLE EQUUS
          *          LEVEL OF THIS PROGRAM                      11b*4360*****

0061      *
0062      08FC      EQU   COMOUT($8FC)                          N2400061
0063      08FD      EQU   COMLU($8FD)                           N2400062
0064      08C2      EQU   MASSLU($8C2)                          N2400063
0065      0001      EQU   MTCLAS(1)                             N2400064

0067      *
0068      *****      *****      P R O G R A M      S T A R T      *****      N2400067
0069      *
          *
0071      P0000  684E  MTRREQ STA* BASE          SAVE PARAMETER BUFFER ADDRESS      N2400071
0072      0000      EQU   ADFREQ(MTRREQ)                       N2400072
0073      0000      EQU   BSFREQ(MTRREQ)                       N2400073
0074      0000      EQU   ADRREQ(MTRREQ)                       N2400074
0075      0000      EQU   BSRREQ(MTRREQ)                       N2400075
0076      0000      EQU   WEFREQ(MTRREQ)                       N2400076
0077      0000      EQU   REWREQ(MTRREQ)                       N2400077
0078      P0001  60FF  STA- I                                  N2400078
0079      P0002  C101  LDA- BHAN,I          GET "HANDLE" ROUTINE ADDRESS      N2400079
0080      P0003  684C  STA* EXTHAN
0081      P0004  C102  LDA- MSG,I          FETCH "MSG" ADDRESS                N2400080
0082      P0005  684B  STA* EXTMSG
0083      *

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0085 P0006 0C02 ENQ 2 GET L.U. FIELD N2400085
0086 P0007 0A02 ENA 2 N2400086
0087 P0008 5C47 RTJ* (EXTHAN) N2400087
0088 P0009 5837 RTJ* CCOCK N2400088
0089 P000A 681D STA* MTRPR1+3 N2400089
0090 P000B 981F SUB* MAXLU N2400090
0091 P000C 09FE INA -1 **MSOS4.0**N2400091
0092 P000D 0132 SAM MTR000 **MSOS4.0**N2400092
0093 P000E 0C09 ENQ 9 **MSOS4.0**N2400093
0094 P000F 1C41 JMP* (EXTMSG) OUTPUT ILLEGAL LU MSG. N2400094
0095 P0010 0C04 MTR000 ENQ 4 GET NO. OF FILES(RECORDS) FIELD N2400095
0096 P0011 0A02 ENA 2 N2400096
0097 P0012 5C3D RTJ* (EXTHAN) N2400097
0098 P0013 582D RTJ* CCOCK N2400098
0099 P0014 900E SUB- $E $OFFF. CHECK FOR MAXIMUN TIMES **MSOS4.0**N2400099
0100 P0015 0102 SAZ MTR00A SKIP IF TIMES=MAXIMUM. **MSOS4.0**N2400100
0101 P0016 0131 SAM MTR00A SKIP IF TIMES IS LT MAXIMUM. **MSOS4.0**N2400101
0102 P0017 1831 JMP* MTRERR N2400102
0103 P0018 C839 MTR00A LDA* MTRN IF NO. OF TIMES = 0, SET TO ONE. **MSOS4.0**N2400103
0104 P0019 0111 SAN MTR001 **MSOS4.0**N2400104
0105 P001A 0A01 ENA 1 N2400105
0106 P001B 6836 MTR001 STA* MTRN N2400106
0107 P001C C832 LDA* BASE N2400107
0108 P001D 60FF STA- I N2400108
0109 P001E E109 MTR005 LDQ- PROG2,I GET INDEX TO MOTION CONTROL CODE N2400109
0110 P001F 0DFF INQ -16 FROM MNEMONIC INDEX-16 N2400110
0111 P0020 480B STQ* PROTOP SAVE COMMAND TYPE (-16) INDEX N2400111
0112 P0021 CA31 MTREP LDA* MTRGTW,Q PICK UP MOTION CONTROL CHARACTER. **MSOS4.0**N2400112
0113 P0022 6806 STA* MTRPR1+4 STORE IN TAPE MOTION REQUEST N2400113
0114 P0023 54F4 RTJ- (AMONI) TAPE MOTION REQUEST FOR N2400114
0115 P0024 1D77 MTRPR1 ADC $1000+CHRSLV*$10+CHRSLV 3 OR LESS EXECUTIONS N2400115
0116 P0025 0008 ADC MTR006-MTRPR1 N2400116
0117 P0026 0000 ADC 0,0,0 N2400117
0118 P0027 0000 N2400118
0118 P0028 0000 N2400118
0118 P0029 14EA JMP- (ADISP) N2400118

0120 * N2400120
0121 P002A 7FFF X MAXLJ ADC NUMLU N2400121
0122 P002B 0000 PROTOP NUM 0 N2400122

0124 P002C C825 MTR006 LDA* MTRN CHECK IF ALL RECORD/FILE BEEN DONE N2400124
0125 P002D 09FE INA -1 N2400125
0126 P002E 0107 SAZ TOEXIT DONE, SKIP N2400126
0127 P002F 0136 SAM TOEXIT DONE, SKIP N2400127
0128 P0030 6821 STA* MTRN N2400128
0129 P0031 C400 X LDA CHRSG N2400129
0129 P0032 7FFF X N2400129
0130 P0033 0105 SAZ TOOFF N2400130
0131 P0034 F8F6 LDQ* PROTOP RECALL COMMAND TYPE N2400131
0132 P0035 18EB JMP* MTREP TO REPEAT N2400132
0133 P0036 F818 TOEXIT LDQ* BASE EXIT TO 'SOMMOR' N2400133

```

0134	P0037	E203		LDQ-	SOMMOR,Q			N2400134
0135	P0038	1622		JMP-	(ZERO),Q			N2400135
0137			*			EXIT	TO 'OFF'	N2400137
0138	P0039	C805		TOOFF	LDA* OTB		GENERATE 'OFF' ADDRESS	N2400138
0139	P003A	9805			SUB* OTB+1			N2400139
0140	P003B	8814			ADD* EXTHAN			N2400140
0141	P003C	C822			TRA Q			N2400141
0142	P003D	1622			JMP- (ZERO),Q		TO 'OFF'	N2400142
0143	P003E	7FFF	X	OTB	ADC OFF		0. 'OFF' ENTRY	N2400143
0144	P003F	7FFF	X		ADC HANDLE		1. 'HANDLE' ENTRY	N2400144
0145			*					N2400145
0146			*			SR TO CHECK FOR ACCEPTABLE CONTROL CHARACTER		N2400146
0147			*			AND CONVERT TO DECIMAL.		N2400147
0148			*					N2400148
0149	P0040	0000		CCCK	C 0			N2400149
0150	P0041	C10C			LDA- FIELD,I		IS CONTROL CHAR.= COMMA,	N2400150
0151	P0042	0107			SAZ CCCK01-* -1		\$FF OR NONE	N2400151
0152	P0043	900A			SUB- LPMSK+8			N2400152
0153	P0044	0105			SAZ CCCK01-* -1		SKIP YES	N2400153
0154	P0045	800A			ADD- LPMSK+8			N2400154
0155	P0046	09D3			INA -COMMA			N2400155
0156	P0047	0102			SAZ CCCK01-* -1		SKIP YES	N2400156
0157	P0048	0C04		MTRERR	ENQ 4		OUTPUT ERROR MSG.	N2400157
0158	P0049	1C07			JMP* (EXTMSG)			N2400158
0159	P004A	0A05		CCCK01	ENA 5		CONVERT ASCII DEC. TO BINARY	N2400159
0160	P004B	5C04			RTJ* (EXTHAN)			N2400160
0161	P004C	6805			STA* MTRN			N2400161
0162	P004D	1CF2			JMP* (CCCK)			N2400162
0164			*					N2400164
0165	P004E	0000		BASE	NUM 0			N2400165
0166	P004F	0000		EXTHAN	NUM 0			N2400166
0167	P0050	0000		EXTMSG	NUM 0			N2400167
0168			*		CONSTANTS			N2400168
0169	P0051	0000		MTRN	0 0		NO. OF FILES OR RECORDS	N2400169
0170			*		TABLE OF MOTION CONTROL CODES.			N2400170
0171	P0052	5000		MTRCTW	NUM \$5000	0	ADVANCE FILE.	N2400171
0172	P0053	6000			NUM \$6000	1	BACKSPACE FILE.	N2400172
0173	P0054	7000			NUM \$7000	2	ADVANCE RECORD.	N2400173
0174	P0055	1000			NUM \$1000	3	BACKSPACE RECORD.	N2400174
0175	P0056	2000			NUM \$2000	4	END OF FILE.	N2400175
0176	P0057	3000			NUM \$3000	5	REWIND TAPE.	N2400176
0178			*					N2400178
0179		0000	P	EQU	SA16(* / 96)			N2400179
0180		0001	P	EQU	SP16(SA16+1)			N2400180
0181		0060	P	EQU	DB16(SP16*96)			N2400181

MSOS4.0

MSOS4.0

MTRREQ

PAGE 5

DATE: 01/27/99

0182 P0058 0008
0183

BSS (DB16-*)
END

N2400182
N2400183

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0078, 0108
0035	AMONI	00F4	(000244) 0114
0035	ADISP	00EA	(000234) 0118
0035	LPMSK	0002	(000002) 0152, 0154
0035	NZERO	0012	(000018)
0035	ZROBIT	0033	(000051)
0036	FIVE	0043	(000067)
0036	SIX	0044	(000068)
0036	ZERO	0022	(000034) 0135, 0142
0036	ONEBIT	0023	(000035)
0036	SIXTEN	0027	(000039)
0037	COMMA	002C	(000044) 0155
0037	SLASH	002F	(000047)
0037	ASTRIC	002A	(000042)
0038	EIGHT	0026	(000038)
0038	NINE	0045	(000069)
0038	THREE	0004	(000004)
0038	ONE	0003	(000003)
0038	TWO	0024	(000036)
0039	TEN	0046	(000070)
0042	BHAN	0001	(000001) 0079
0043	MSG	0002	(000002) 0081
0044	SOMMOR	0003	(000003) 0134
0045	IOERR	0004	(000004)
0046	LISTLU	0005	(000005)
0047	COMOLU	0006	(000006)
0048	NEWMLU	0007	(000007)
0049	PROG1	0008	(000008)
0050	PROG2	0009	(000009) 0109
0051	BITFLG	000A	(000010)
0052	BUFCNT	000B	(000011)
0053	FIELD	000C	(000012) 0150
0054	SLASHF	0010	(000016)
0055	BUFFMT	0011	(000017)
0056	BUFFER	0012	(000018)
0059	CHRSLV	0007	(000007) 0115, 0115
0062	COMOUT	08FC	(002300)
0063	COMLU	08FD	(002301)

0064	MASSLU	0802	(002242)
0065	MTCLAS	0001	(000001)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0020	MTRREQ	0000	0020, 0072, 0073, 0074, 0075, 0076, 0077
0021	ANFREQ	0000	0021
0022	BSFREQ	0000	0022
0023	ADRREQ	0000	0023
0024	SSRREQ	0000	0024
0025	WEFREQ	0000	0025
0026	REWREQ	0000	0026
0095	MTR000	J010	0092
0103	MTR00A	0018	0100, 0101
0106	MTR001	001B	0104
0109	MTR005	001E	
0112	MTR00	0021	0132
0115	MTRPR1	0024	0089, 0113, 0116
0121	MAXLU	002A	0090
0122	PROTYP	002B	0111, 0131
0124	MTR005	002C	0116
0133	TOEXIT	0036	0126, 0127
0138	TOOFF	0039	0130
0143	OTB	J03E	0138, 0139
0149	CCCK	0040	0088, 0098, 0162
0157	MTRERR	0048	0102
0159	CCCK01	004A	0151, 0153, 0156
0165	BASE	004E	0071, 0107, 0133
0165	EXTHAN	004F	0080, 0087, 0097, 0140, 0160
0167	EXTMSG	0050	0082, 0094, 0158
0169	MTRN	0051	0103, 0106, 0124, 0128, 0161
0171	MTRCTW	0052	0112
0179	SA16	0000	0180
0180	SP16	0001	0181
0181	DB16	0060	0182

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0029	NUMLU	002A	0121
0030	CHRSFG	0032	0129
0031	HANDLE	003F	0144
0032	OFF	003E	0143

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012
0013
0014

NAM MSDREQ DECK-ID N25 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-116*****

N2500002
N2500003
N2500004
MSOS4.0N2500005
MSOS4.0N2500006
MSOS4.0N2500007
MSOS4.0N2500008
MSOS4.0N2500009
MSOS4.0N2500010
MSOS4.0N2500011
MSOS4.0N2500012
MSOS4.0N2500013
MSOS4.0N2500014

MSD

THIS PROCESSOR PRINTS DATA FROM THE DISK
IN HEX, ASCII, OR DECIMAL FORMAT

0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029

*

*
*
*
*
*
*
*
*
*
*
*
*

INPUT FORMAT :

MSD,SSMSB,SSLSB,ESMSB,ESLSB,M

SSMSB = START SECTOR (HEX) MSB
SSLSB = START SECTOR (HEX) LSB
ESMSB = END SECTOR (HEX) MSB
ESLSB = END SECTOR (HEX) LSB
M = MODE --- A FOR ASCII
H FOR HEX.
I DECIMAL.

N2500016
N2500017
N2500018
N2500019
N2500020
N2500021
N2500022
N2500023
N2500024
N2500025
N2500026
N2500027
N2500028
N2500029

0031
0032

*

ENT MSDREQ

N2500031
N2500032

0034
0035
0036
0037

*

EXT OFF
EXT HANDLE
EXT CHRSG

N2500034
N2500035
N2500036
N2500037

0039
0040

*

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N2500039
N2500040

0041

00F4
00FA
0002
0012
0033
0043
0044
0022
0023
0027

FQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N2500041

```

0042 002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N2500042
      002F
      002A
0043 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N2500043
      0045
      0004
      0003
      0024
0044 0046 EQU TEN($46) N2500044
0046 *
0047 EQU GETFLD(2) SYSTEM SUBROUTINE INDEX N2500046
0048 C003 EQU ASCHEX(3) "GETFLD" -- GET A FIELD N2500047
      EQU "ASCHEX" -- ASC TO HEX. CONVERSION N2500048

```

```

0050 *
0051 0001 EQU BHAN(1) "HANDLE" N2500050
0052 0002 EQU MSG(2) "MSG" ENTRY N2500051
0053 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N2500052
0054 0004 EQU IOERR(4) "IOERR" ENTRY N2500053
0055 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N2500054
0056 0006 EQU COMOLU(6) "COMOLU" N2500055
0057 0007 EQU NEWMLU(7) "NEWMLU" --- NEW NM LU N2500056
0058 0008 EQU PROG1(8) "PROG1" N2500057
0059 0009 EQU PROG2(9) "PROG2" N2500058
0060 000A EQU BITFLG(10) "BITFLG" N2500059
0061 000B EQU BUFCNT(11) "BUFCNT" N2500060
0062 000C EQU FIELD(12) "FIELD" N2500061
0063 0010 EQU SLASHF(16) "SLASHF" N2500062
0064 0011 EQU BUFEMT(17) "BUFEMT" N2500063
0065 0012 EQU BUFFER(18) "BUFFER" N2500064

```

```

0067 *
0068 0007 EQU CHRSLV(7) VARIABLE EQUUS N2500067
0069 0041 EQU KCHARA($41) LEVEL OF THIS PROGRAM 116*4360*****
0070 0048 EQU KCHARH($48) CHARACTER A N2500069
0071 0049 EQU KCHARI($49) H I N2500070
      N2500071

```

```

0073 *
0074 08FC EQU COMOUT($8FC) EQUUS FOR LOGICAL UNITS N2500073
0075 08FD EQU COMLU($8FD) TYPE OUTPUT LOGICAL UNIT N2500074
0076 C8C2 EQU COMLU($8FD) INPUT COMMENT LOGICAL UNIT N2500075
0077 1000 EQU MASSLU($8C2) MASS MEMORY LOGICAL UNIT N2500076
      EQU ASMOD($1000) ASCII MODE OUTPUT N2500077

```

```

0079 *
0080 ***** P R O G R A M S T A R T ***** N2500079
0081 * N2500080
      N2500081

```

```

0083 P0000 687C MSDREQ STA* BASE SAVE PARAMETER BUFFER ADDRESS N2500083

```

```

0084 P0001 60FF STA- I N2500084
0085 P0002 C101 LDA- BHAN,I GET "HANDLE" ADDRESS N2500085
0086 P0003 687A STA* EXTHAN N2500086
0087 P0004 C102 LDA- MSG,I FETCH "MSG" ADDRESS N2500087
0088 P0005 6879 STA* EXTMSG N2500088
0089 P0006 C105 LDA- LISTLU,I GET LIST LOGICAL UNIT N2500089
0090 P0007 883E ADD* MODE + MODE (ASCII) CODE N2500090
0091 P0008 6857 STA* OTLU N2500091
0092 P0009 C107 LDA- NEWMLU,I SET UP MM LU N2500092
0093 P000A 680E STA* MSLU N2500093

```

```

0095 P000B 1876 JMP* MSDITL JUMP TO INITIALIZE REQUEST N2500095
0096 P000C C831 MSD007 LDA* STRSEC SET UP MM ADD. FOR I/O CALL N2500096
0097 P000D 680E STA* MMSADR-1 N2500097
0098 P000E C830 LDA* STRLSB N2500098
0099 P000F 680D STA* MMSADR N2500099

```

```

*
**** CHECK FOR LSB LESS THAN/EQUAL TO $7FFF
*

```

```

0103 P0010 C132 SAM HILSB SKIP ON ERROR N2500103
0104 P0011 C82F LDA* LSTLSB CHECK THE ENDING LSB N2500104
0105 P0012 0121 SAP 1 OK, SKIP N2500105
0106 P0013 187D HILSB JMP* MSDFI TO PRINT FORMAT ERROR N2500106
0107 P0014 54F4 RTJ- (AMONI) READ ONE SECTOR

```

```

0108 P0015 0907 MSD008 ADC $900+CHRSLV **MSOS4.0**N2500107
0109 P0016 0009 ADC MSD009-MSD008 **MSOS4.0**N2500108
0110 P0017 0600 NUM 0 **MSOS4.0**N2500109
0111 P0018 08C2 MSLU ADC MASSLU **MSOS4.0**N2500110
0112 P0019 0060 NUM 96 **MSOS4.0**N2500111
0113 P001A 006C ADC MMSBUF-MSD008 **MSOS4.0**N2500112

```

```

0114 P001B 0000 MMSADR NUM 0 **MSOS4.0**N2500113
0115 P001C 0000 JMP- (ADISP) **MSOS4.0**N2500114
0116 P001D 14EA MSD009 SQP MSD010 SKIP IF NO I/O ERROR **MSOS4.0**N2500115
0117 P001E 0163 X LDQ* BASE EXIT (TO "IOERR") **MSOS4.0**N2500116
0118 P001F E85D LDQ- IOERR,Q N2500117
0119 P0020 E204 JMP- (ZERO),Q N2500118
0120 P0021 1622 N2500119

```

```

0122 * N2500122
0123 P0022 0A16 MSD010 ENA STRSEC-ASECML N2500123
0124 P0023 6804 STA* ASECML N2500124
0125 P0024 0C12 ENQ 16+2 SETUP FOR 2 WORDS (AND + BIAS OF 16) N2500125
0126 P0025 0A04 ENA 4 DUMP SECTOR ADDRESS **MSOS4.0**N2500126
0127 P0026 5C57 RTJ* (FXTHAN) N2500127

```

```

0128 P0027 0016 ASECML ADC STRSEC-* N2500128
0129 P0028 C819 LDA* AHDFLG CHECK FOR TYPE OF DUMP N2500129
0130 P0029 0121 SAP MSD011 **MSOS4.0**N2500130
0131 P002A 182C JMP* ASCDMP **MSOS4.0**N2500131

```

```

0132 P002B 0A0C MSD011 ENA 12 SET LINE INDEX **MSOS4.0**N2500132
0133 P002C 6816 STA* MSDLN **MSOS4.0**N2500133
0134 P002D C80F LDA* MSBADR **MSOS4.0**N2500134
0135 P002F 6808 STA* MSD013 **MSOS4.0**N2500135

```

```

0136 P002F C812 MSD012 LDA* AHDFLG **MSOS4.0**N2500136
0137 P0030 0C18 ENQ 24 Q BIASED BY 16 TO INDICATE RELATIVE **MSOS4.0**N2500137
0138 P0031 0102 SAZ M01 N2500138
0139 P0032 0A07 ENA 7 OUTPUT IN DECIMAL FORMAT **MSOS4.0**N2500139
0140 P0033 1802 JMP* MSD030 **MSOS4.0**N2500140
0141 P0034 0A04 M01 ENA 4 OUTPUT IN HEX FORMAT **MSOS4.0**N2500141
0142 P0035 5C48 MSD030 RTJ* (EXTHAN) N2500142
0143 P0036 004B MSD013 ADC MMSBUF-* **MSOS4.0**N2500143
0144 P0037 C80B LDA* MSDLN CHECK IF LAST 8 WORDS **MSOS4.0**N2500144
0145 P0038 09FE INA -1 **MSOS4.0**N2500145
0146 P0039 010C SAZ MSD015 SKIP IF YES **MSOS4.0**N2500146
0147 P003A 6808 STA* MSDLN **MSOS4.0**N2500147
0148 P003B 18F3 JMP* MSD012 PRINT ANOTHER LINE **MSOS4.0**N2500148

```

```

0150 * N2500150
0151 P003C 004B MSBADR ADC MMSBUF-MSD013 **MSOS4.0**N2500151
0152 P003D 0000 STRSEC NUM 0,0,0,0 N2500152
P003E 0000
P003F 0000
P0040 0000
0153 003E P EQU STRLSB(STRSEC+1) N2500153
0154 003F P EQU LSTMSB(STRSEC+2) N2500154
0155 0040 P EQU LSTLSB(STRSEC+3) N2500155
0156 P0041 0000 AHDFLG 0 0 TYPE OF DUMP FLAG **MSOS4.0**N2500156
0157 P0042 0000 MSDLN 0 0 **MSOS4.0**N2500157
0158 P0043 0000 DMPFLG 0 0 **MSOS4.0**N2500158
0159 P0044 0023 DMPADR ADC ASCBUF-MSD018 **MSOS4.0**N2500159
0160 P0045 1000 MODE ADC ASMOD N2500160

```

```

0162 P0046 C8F9 MSD015 LDA* LSTLSB CHECK IF LAST SECTOR PRINTED N2500162
0163 P0047 98F6 SUB* STRLSB N2500163
0164 P0048 0116 SAN MSD016 SKIP IF NO **MSOS4.0**N2500164
0165 P0049 C8F5 LDA* LSTMSB LSB SECTORS DONE, CHECK IF MSB DEFINED N2500165
0166 P004A 98F2 SUB* STRSEC N2500166
0167 P004B 0113 SAN MSD016 SKIP MORE TO DO N2500167
0168 P004C E830 MSDEXT LDQ* BASE EXIT N2500168
0169 P004D E203 LDQ- SOMMOR,Q TO "SOMMOR" N2500169
0170 P004E 1622 JMP- (ZERO),Q N2500170
0171 P004F D8EE MSD016 RAO* STRLSB INCREMENT SECTOR ADDRESS N2500171
0172 P0050 C8ED LDA* STRLSB N2500172
0173 P0051 0123 SAP MSDX16 SKIP, MORE ON LSB N2500173
0174 P0052 A011 AND- LPMSK+15 N2500174
0175 P0053 68EA STA* STRLSB RESET LSB AND INCREMENT MSB N2500175
0176 P0054 D8E8 RAO* STRSEC N2500176
0177 P0055 18B6 MSDX16 JMP* MSD007 **MSOS4.0**N2500177

```

```

0179 * N2500179
0180 P0056 0A00 ASCDMP ENA 0 ZERO OUT LINE COUNT N2500180
0181 P0057 68EA STA* MSDLN N2500181
0182 P0058 C8EB LDA* DMPADR **MSOS4.0**N2500182

```

```

0183 P0059 68E9 STA* DMPFLG
0184 P005A 6807 MSD017 STA* MSD019 SET ADDRESS OF BUFFER
0185 P005B 54F4 RTJ- (AMONI)
0186 P005C 0D07 MSD018 ADC $D00+CHRSLV
0187 P005D 0C07 ADC MSD020-MSD018
0188 P005E 0000 NUM 0
0189 P005F 0000 OTLU NUM 0 LOGICAL UNIT (TO B0 FILLED)
0190 P0060 0012 NUM 18 NO. OF WORDS
0191 P0061 0023 MSD019 ADC ASCBUF-MSD018
0192 P0062 14FA JMP- (ADISF)
0193 P0063 0161 MSD020 SQP MSD021 SKIP IF NO I/O ERROR
0194 P0064 18BA JMP* X
0195 *
0196 P0065 C400 X MSD021 LDA CHRSGF CHECK IF "DX"
PG066 7FFF X NO, SKIP
0197 P0067 0117 SAN MSD21X
0198 P0068 C806 LDA* OFTB+1
0199 P0069 9804 SUB* OFTB CALCULATE "OFF" ADDRESS
0200 P006A 8813 ADD* EXTHAN
0201 P006B C822 TRA Q
0202 P006C 1622 JMP- (ZERO),Q TO "OFF"

0204 P006D 7FFF X OFTB ADC HANDLE 0. "HANDLE" ENTRY
0205 PG06E 7FFF X ADC OFF 1. "OFF" ENTRY

0207 *
0208 P006F D802 MSD21X RAO* MSDLN INCREMENT LINE COUNT BY 1
0209 P0070 C8D1 LDA* MSDLN CHECK IF ALL 6 LINES BEEN PRINT
0210 P0071 09F9 INA -6
0211 PG072 0108 SAZ CHDON YES, SKIP
0212 P0073 E8CE LDQ* MSDLN CALCULATE CURRENT POSITION
0213 P0074 0FA4 QLS 4 AND INSERT 2-SPCE
0214 P0075 C80A LDA* ASCBUF (GET SPACE CODE)
0215 P0076 6A09 STA* ASCBUF,Q
0216 P0077 6A09 STA* ASCBUF+1,Q
0217 P0078 C8E8 LDA* MSD019 ADJUST TO NEXT LINE
0218 P0079 0910 INA 16
0219 P007A 18DF JMP* MSD017 TO REPEAT PRINTING
0220 P007B 18CA CHDON JMP* MSD015 TO CHECK IF ALL SECTORS BEEN DONE

0222 *
0223 P007C 0000 BASE NUM 0
0224 P007D 0000 EXTHAN NUM 0
0225 P007E 0000 EXTMSG NUM 0

0227 *
0228 P007F 2020 ASCBUF ALF 2,
P0080 2020
0229 P0081 F EQU MMSBUF(*)

0231 *

```

```

**MSOS4.0**N2500183
**MSOS4.0**N2500184
**MSOS4.0**N2500185
**MSOS4.0**N2500186
**MSOS4.0**N2500187
**MSOS4.0**N2500188
N2500189
N2500190
**MSOS4.0**N2500191
**MSOS4.0**N2500192
**MSOS4.0**N2500193
N2500194
N2500195
N2500196
N2500197
N2500198
N2500199
N2500200
N2500201
N2500202
N2500204
N2500205
N2500207
N2500208
N2500209
N2500210
N2500211
N2500212
N2500213
N2500214
N2500215
N2500216
N2500217
N2500218
N2500219
N2500220
N2500222
N2500223
N2500224
N2500225
N2500227
N2500228
**MSOS4.0**N2500229
**MSOS4.0**N2500231

```



```

0232 * THIS CODE WILL BE OVERLAYED WHEN INITIALIZING IS DONE **MSOS4.0**N2500232
0233 P0081 0A00 MSDITL ENA 0 ZERO OUT SECTOR PARAMETER COUNT N2500233
0234 P0082 681B STA* COUNT N2500234
0235 P0083 0C04 MSDPAR ENQ 4 GET MM ADD. N2500235
0236 * GET ONE FIELD FROM REQUEST AND CONVERT TO HEX **MSOS4.0**N2500236
0237 * **MSOS4.0**N2500237
0238 P0084 0A02 ENA 2 **MSOS4.0**N2500238
0239 P0085 5CF7 RTJ* (EXTHAN) N2500239
0240 P0086 C10C LDA- FIELD,I CONTROL CHAR. = NONE N2500240
0241 P0087 900A SUB- LPMSK+8 N2500241
0242 P0088 0114 SAN NOFF NO, SKIP N2500242
0243 P0089 C814 LDA* COUNT MAKE SURE ALL MM ADD. ARE IN N2500243
0244 P008A 09FC INA -3 N2500244
0245 P008B 0114 SAN MSDFI FORMAT ERROR, GO N2500245
0246 P008C 1806 JMP* CHR001 TO CONVERT LAST PARAMETER N2500246
0247 P008D C10C NOFF LDA- FIELD,I N2500247
0248 P008E 09D3 INA -COMMA CONTROL CHAR. = COMMA **MSOS4.0**N2500248
0249 P008F 0102 SAZ CHR001 SKIP YES **MSOS4.0**N2500249
0250 P0090 0C04 MSDFI ENQ + **MSOS4.0**N2500250
0251 P0091 1CFE JMP* (EXTMSG) FORMAT INCORRECT N2500251
0252 P0092 0A03 CHR001 ENA 3 **MSOS4.0**N2500252
0253 P0093 5CF9 RTJ* (EXTHAN) CONVET FIELD TO HEX N2500253
0254 P0094 0000 MSDVAL NUM 0 **MSOS4.0**N2500254
0255 P0095 C8FE LDA* MSDVAL **MSOS4.0**N2500255
0256 P0096 E807 LDQ* COUNT SAVE IT ACCORDINGLY N2500256
0257 P0097 6AA5 STA* STRSEC,Q N2500257
0258 P0098 0D01 INQ +1 UPDATE INPUT COUNT AND CHECK IF ALL 4 PAR. IN N2500258
0259 P0099 4804 STQ* COUNT N2500259
0260 P009A 0DFB INQ -4 N2500260
0261 P009B 0142 SQZ MSD003 YES, SKIP N2500261
0262 P009C 18E6 MSDREP JMP* MSDPAR N2500262

0264 P009D 0000 COUNT NUM 0 N2500264

0266 * N2500266
0267 P009F C10C MSD003 LDA- FIELD,I CHECK IF TERMINATOR =$FF N2500267
0268 P009F 900A SUB- LPMSK+8 N2500268
0269 P00A0 0111 SAN 1 NO, SKIP N2500269
0270 P00A1 1815 JMP* MSJIX TO SET DEFAULT MODE = H N2500270
0271 P00A2 0C01 ENQ 1 N2500271
0272 P00A3 0A02 ENA GETFLD GET MODE CHARACTER N2500272
0273 P00A4 5CD8 RTJ* (EXTHAN) N2500273
0274 P00A5 C10F LDA- FIELD+3,I N2500274
0275 P00A6 A00A AND- LPMSK+8 N2500275
0276 P00A7 0CFE ENQ -1 N2500276
0277 P00A8 09BE INA -KCHARA CHECK IF IT IS 'A' N2500277
0278 P00A9 0107 SAZ MSD03A YES, SKIP N2500278
0279 P00AA 09F8 INA -KCHARH+KCHARA N2500279
0280 P00AB 0D01 INQ 1 CHECK FOR 'H' N2500280
0281 P00AC 0104 SAZ MSD03A YES, SKIP N2500281
0282 P00AD 0D01 INQ 1 CHECK FOR 'I' N2500282

```

```

0283 P00AE 09FE      INA -KCHARI+KCHARH
0284 P00AF 0101      SAZ  MS003A
0285 P00B0 18DF      JMP* MSDFI      YES, SKIP
0286 P00B1 488F      MSD03A STQ* AHDFLG  TO PRINT FORMAT ERROR
0287 P00B2 C10C      LDA- FIELD,I   -1 = ASCII, 0 = HEX, 1 = DECIMAL
0288 P00B3 900A      SUB- LPMSK+8   MAKE SURE NO MORE DATA
0289 P00B4 0101      SAZ  MSDIX
0290 P00B5 18DA      JMP* MSDFI      FORMAT ERROR
0291 P00B6 0A00      MSDIX ENA 0     SET NUMBER OF WORDS TO SKIP
0292 P00B7 610C      STA- FIELD,I   ON OUTPUT BUFFER
0293 P00B8 1800      JMP  MSD007
0294 P00B9 FF52      *

```

```

N2500283
N2500284
N2500285
**MSOS4.0**N2500286
N2500287
N2500288
N2500289
**MSOS4.0**N2500290
**MSOS4.0**N2500291
N2500292
**MSOS4.0**N2500293
**MSOS4.0**N2500294

```

```

0296 *
0297      0001 P      EQU SA26(*96)
0298      0002 P      EQU SP26(SA26+1)
0299      00C0 P      EQU DB26(SP26*96)
0300 P00PA 0006      BSS (DB26-*)
0301      END

```

```

**MSOS4.0**N2500296
**MSOS4.0**N2500297
**MSOS4.0**N2500298
**MSOS4.0**N2500299
**MSOS4.0**N2500300
N2500301

```

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0084
0040	AMONI	00F4 (000244)	0107, 0185
0040	ADISP	00EA (000234)	0116, 0192
0040	LPMSK	0002 (000002)	0174, 0241, 0268, 0275, 0288
0040	NZERO	0012 (000018)	
0040	ZROBIT	0033 (000051)	
0041	FIVE	0043 (000067)	
0041	SIX	0044 (000068)	
0041	ZERO	0022 (000034)	0120, 0170, 0202
0041	ONEBIT	0023 (000035)	
0041	SIXTEN	0027 (000039)	
0042	COMMA	002C (000044)	0248
0042	SLASH	002F (000047)	
0042	ASTRIC	002A (000042)	
0043	EIGHT	0026 (000038)	
0043	NINE	0045 (000069)	
0043	THREE	0004 (000004)	
0043	ONE	0003 (000003)	
0043	TWO	0024 (000036)	
0044	TEN	0046 (000070)	
0047	GETFLD	0002 (000002)	0272
0048	ASCHEX	0003 (000003)	
0051	BHAN	0001 (000001)	0085
0052	YSG	0002 (000002)	0087
0053	SOMMOR	0003 (000003)	0169
0054	IOERR	0004 (000004)	0119
0055	LISTLU	0005 (000005)	0089
0056	COMOLU	0006 (000006)	
0057	NEWMLU	0007 (000007)	0092
0058	PROG1	0008 (000008)	
0059	PROG2	0009 (000009)	
0060	BITFLG	000A (000010)	
0061	BUFCNT	000B (000011)	
0062	FIELD	000C (000012)	0240, 0247, 0267, 0274, 0287, 0292
0063	SLASHF	0010 (000016)	
0064	BUFEMT	0011 (000017)	
0065	BUFFER	0012 (000018)	
0068	CHRSLV	0007 (000007)	0108, 018E

0069	KCHARA	0041	(000065)	0277, 0279
0070	KCHARH	0048	(000072)	0279, 0283
0071	KCHARI	0049	(000073)	0283
0074	COMOUT	08FC	(002300)	
0075	COMLU	08FD	(002301)	
0076	MASSLU	08C2	(002242)	0111
0077	ASMOD	1000	(004096)	0160

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0032	MSDREQ	0060	0032
0096	MSD007	000C	0177, 0293
0106	HILSB	0013	0103
0108	MSD008	0015	0109, 0113
0111	MSLU	0018	0093
0115	NMSADR	001C	0097, 0099
0117	MSD009	001E	0109
0118	X	001F	0194
0123	MSD010	0022	0117
0128	ASECML	0027	0123, 0124
0132	MSD011	002B	0130
0136	MSD012	002F	0148
0141	M01	0034	0138
0142	MSD030	0035	0140
0143	MSD013	0036	0135, 0151
0151	MSBADR	003C	0134
0152	STRSEC	003D	0096, 0123, 0128, 0153, 0154, 0155, 0166, 0176, 0257
0153	STRLSB	003F	0098, 0163, 0171, 0172, 0175
0154	LSTMSB	003F	0165
0155	LSTLSB	0040	0104, 0162
0156	AHDFLG	0041	0129, 0136, 0286
0157	MSDLN	0042	0133, 0144, 0147, 0181, 0208, 0209, 0212
0158	DMPFLG	0043	0183
0159	DMPADR	0044	0182
0160	MODE	0045	0090
0162	MSD015	0046	0146, 0220
0168	MSDEXT	004C	
0171	MSD016	004F	0164, 0167
0177	MSDX16	0055	0173
0180	ASCDMP	0056	0131
0184	MSD017	005A	0219
0186	MSD018	005C	0159, 0187, 0191
0189	OTLU	005F	0091
0191	MSD019	0061	0184, 0217
0193	MSD020	0063	0187
0196	MSD021	0065	0193
0204	OFTB	006D	0198, 0199
0208	MSD21X	006F	0197
0220	CHDON	007B	0211
0223	BASE	007C	0083, 0118, 0168
0224	EXTHAN	007D	0086, 0127, 0142, 0200, 0239, 0253, 0273

0225	EXTMSG	007E	0088, 0251
0228	ASCPUF	007F	0159, 0191, 0214, 0215, 0216
0229	MMSBUF	0081	0113, 0143, 0151
0233	MSDITL	0031	0095
0235	MSDPAR	0083	0262
0247	NOFF	008D	0242
0250	MSDFI	0090	0106, 0245, 0285, 0290
0252	CHR001	0092	0246, 0249
0254	MSDVAL	0094	0255
0262	MSDREP	009C	
0264	COUNT	009D	0234, 0243, 0250, 0259
0267	MSD003	009E	0261
0286	MSD03A	00B1	0278, 0281, 0284
0291	MSDIX	00B6	0270, 0289
0297	SA26	0001	0298
0298	SP26	0002	0299
0299	DB26	00C0	0300

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0035	OFF	006E	0205
0036	HANDLE	006D	0204
0037	CHRSFG	0066	0196

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0040	AHDFLG	0156	AMONI	0040	ASCBUF	0228	ASCOMP	0180	ASCHEX	0048	ASECML	0128	ASMOD	0077	ASTRIC	0042
BASE	0223	BHAN	0051	BITFLG	0060	BUFCNT	0061	BUFEMT	0064	BUFFER	0065	CHDON	0220	CHRO01	0252	CHRSFG	0037
CHRSLV	0068	COMLU	0075	COMMA	0042	COMOLU	0056	COMOUT	0074	COUNT	0264	DB25	0299	DMPADR	0159	DMPFLG	0158
EIGHT	0043	EXTHAN	0224	EXTMSG	0225	FIELD	0062	FIVE	0041	GETFLD	0047	HANDLE	0030	HILSB	0106	I	0000
IOERR	0054	KCHARA	0069	KCHARH	0070	KCHARI	0071	LISTLU	0055	LPMSK	0040	LSTLSB	0155	LSTMSB	0154	M01	0141
MASSLU	0076	MMSADR	0115	MMSBUF	0229	MODE	0160	MSBADR	0151	MSDC03	0267	MSD007	0096	MSD008	0108	MSD009	0117
MSDC10	0123	MSD011	0132	MSD012	0136	MSD013	0143	MSD015	0162	MSD016	0171	MSD017	0184	MSD018	0186	MSD019	0191
MSDC20	0193	MSD021	0196	MSD030	0142	MSD03A	0286	MSD21X	0208	MSDEXT	0168	MSDFI	0250	MSDITL	0233	MSDIX	0291
MSDLN	0157	MSUPAR	0235	MSDREP	0262	MSDREQ	0032	MSDVAL	0254	MSDX16	0177	MSG	0052	MSLU	0111	NEWMLU	0057
NINE	0043	NOFF	0247	NZERO	0040	OFF	0035	OFTB	0204	ONE	0043	ONEBIT	0041	OTLU	0189	PROG1	0058
PROG2	0059	SA26	0297	SIX	0041	SIXTEN	0041	SLASH	0042	SLASHF	0063	SOMMOR	0053	SP26	0298	STRLSR	0153
STRSEC	0152	TEN	0044	THREE	0043	TWO	0043	X	0118	ZERO	0041	ZROBIT	0040				

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0015
0016
0017
0018

0020
0021

0023
0024
0025

0027
0028

0029

0030

0031

0032

COF4
GOEA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

* NAM CLUREQ DECK-ID N26 MSOS 5.0
* MASS STORAGE OPERATING SYSTEM VERSION 5.0
* SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
* COPYRIGHT CONTROL DATA CORPORATION 1976
*
* *****
* CLU
* THIS PROCESSOR CHANGES THE LOGICAL UNIT NUMBER OF
* LISTABLE OUTPUT
* THE REQUEST HAS THE FOLLOWING FORMAT
* CLU,LU(CR) LU = LOGICAL UNIT NUMBER OF NEW
* LISTABLE OUTPUT TO BE USED
* BY ODEBUG
* *****
*

SUMMARY-110N2600001
N2600002
N2600003
N2600004
MSOS4.0N2600005
MSOS4.0N2600006
MSOS4.0N2600007
MSOS4.0N2600008
MSOS4.0N2600009
MSOS4.0N2600010
MSOS4.0N2600011
MSOS4.0N2600012
MSOS4.0N2600013
MSOS4.0N2600014
MSOS4.0N2600015
MSOS4.0N2600016
MSOS4.0N2600017
MSOS4.0N2600018

* ENT CLUREQ ENTRY NAME N2600020
N2600021

* EXT LOG1A EXTERNALS N2600023
EXT NUMLU N2600024
N2600025

* EQU AMONT('EQU',TABLE) N2600027
AMONT(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33) N2600028

* EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27) N2600029

* EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A) N2600030

* EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24) N2600031

* EQU TEN(\$46) **MSOS4.0**N2600032

Address	Offset	Label	Parameter	Location (Offset from Base)	Hex Value
0034		*		PARAMETER LOCATION (OFFSET FROM BASE)	N2600034
0035	0001	EQU	HANDLE(1)	"HANDLE"	N2600035
0036	0002	EQU	MSG(2)	"MSG" ENTRY	N2600036
0037	0003	EQU	SOMMOR(3)	"SOMMOR" ENTRY	N2600037
0038	0004	EQU	IOERR(4)	"IOERR" ENTRY	N2600038
0039	0005	EQU	LISTLU(5)	LIST OUTPUT --- "LISTLU"	N2600039
0040	0006	EQU	COMOLU(6)	"COMOLU"	N2600040
0041	0007	EQU	NEWMLU(7)	"NEWMLU" --- NEW MM LU	N2600041
0042	0008	EQU	PROG1(8)	"PROG1"	N2600042
0043	0009	EQU	PROG2(9)	"PROG2"	N2600043
0044	000A	EQU	BITFLG(10)	"BITFLG"	N2600044
0045	000B	EQU	BUFCNT(11)	"BUFCNT"	N2600045
0046	000C	EQU	FIELD(12)	"FIELD"	N2600046
0047	0010	EQU	SLASHF(16)	"SLASHF"	N2600047
0048	0011	EQU	BUFEMT(17)	"BUFEMT"	N2600048
0049	0012	EQU	BUFFER(18)	"BUFFER"	N2600049

0051 ***** PROGRAM START ***** N2600051
 0052 ***** N2600052
 0053 ***** N2600053

0055 P0000 6826 CLUREQ STA* BASE SAVE PARAMETER BUFFER ADDRESS N2600055
 0056 P0001 60FF STA- I GET "HANDLE" ROUTINE ADDRESS N2600056
 0057 P0002 C101 LDA- HANDLE, I N2600057
 0058 P0003 6824 STA* EXTHAN N2600058
 0059 P0004 C102 LDA- MSG, I FETCH "MSG" ADDRESS N2600059
 0060 P0005 6823 STA* EXTMSG N2600060

0062 P0006 DC02 ENQ 2 **MSOS4.0** N2600062
 0063 P0007 0A02 ENA 2 **MSOS4.0** N2600063
 0064 P0008 5C1F RTJ* (EXTHAN) GET 2 CHAR. FIELD N2600064
 0065 P0009 0A05 ENA 5 **MSOS4.0** N2600065
 0066 P000A 5C1D RTJ* (EXTHAN) CONVERT ASCII DEC. TO BINARY N2600066
 0067 P000B 010B SAZ CLUERR--1 SKIP IF ZERO (ILLEGAL LU) **MSOS4.0** N2600067
 0068 P000C 6818 STA* CLU **MSOS4.0** N2600068
 0069 P000D 0822 TRA Q **MSOS4.0** N2600069
 0070 P000E E600 LDQ+ LOG1A, Q Q = ADDRESS OF PHYS. DEV. TABLE **MSOS4.0** N2600070

0071 P0010 0146 SQZ CLUERR NO PHYS. DEV. TABLE **MSOS4.0** N2600071
 0072 P0011 C208 LDA- 8, Q GET LU CLASS **MSOS4.0** N2600072
 0073 P0012 0F48 ARS 11 **MSOS4.0** N2600073
 0074 P0013 A306 AND- LPMSK+4 **MSOS4.0** N2600074
 0075 P0014 0104 SAZ CLU001 SKIP IF CLASS NOT DEFINED **MSOS4.0** N2600075
 0076 P0015 09FD INA -2 CLASS 2 = MASS MEMORY **MSOS4.0** N2600076
 0077 P0016 0112 SAN CLU001 SKIP IF LU OK **MSOS4.0** N2600077
 0078 P0017 0C09 CLUERR ENQ 9 **MSOS4.0** N2600078
 0079 P0018 1C10 JMP* (EXTMSG) ILLEGAL LU N2600079
 0080 P0019 C80B CLU001 LDA* CLU **MSOS4.0** N2600080
 0081 P001A 980B SUB* MAXLU CHECK IF LU EXCEEDS MAX N2600081
 0082 P001B 09FE INA -1 **MSOS4.0** N2600082
 0083 P001C 0131 SAM CLU002 SKIP IF NO **MSOS4.0** N2600083

```

0084 P001D 18F9 JMP* CLUERR ILLEGAL LU
0085 P001E C806 CLUC02 LDA* CLU
0086 P001F 0C05 ENQ LISTLU
0087 P0020 6E06 STA* (BASE),Q SET NEW LIST LU
0088 P0021 E805 LDQ* BASE EXIT TO "SOMMOR"
0089 P0022 F203 LDQ- SOMMOR,Q
0090 P0023 1622 JMP- (ZERO),Q
0091 P0024 0000 CLU NUM 0 NEW LIST LU
0092 P0025 7FFF X MAXLU ADC NUMLU

```

```

**MSOS4.0**N2600084
**MSOS4.0**N2600085
N2600086
N2600087
N2600088
N2600089
N2600090
**MSOS4.0**N2600091
N2600092

```

```

0094 *
0095 P0026 0000 BASE NUM 0
0096 P0027 0000 EXTHAN NUM 0
0097 P0028 0000 EXTMSG NUM 0

```

```

N2600094
N2600095
N2600096
N2600097

```

```

0099 *
0100 0000 P EQU SA27(* /96)
0101 0001 P EQU SP27(SA27+1)
0102 0060 P EQU DB27(SP27*96)
0103 P0029 0037 BSS (DB27-*)
0104 END

```

```

**MSOS4.0**N2600099
N2600100
N2600101
N2600102
N2600103
N2600104

```

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

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0056
0028	AMONI	00F4	(000244)
0028	ADISP	00EA	(000234)
0028	LPMSK	0002	(000302) 0074
0028	NZERO	0012	(000018)
0028	ZROBIT	0033	(000051)
0029	FIVE	0043	(000067)
0029	SIX	0044	(000068)
0029	ZERO	0022	(000034) 0090
0029	ONEFRIT	0023	(000035)
0029	SIXTEN	0027	(000039)
0030	COMMA	002C	(000044)
0030	SLASH	002F	(000047)
0030	ASTRIC	002A	(000042)
0031	EIGHT	0026	(000038)
0031	NINE	0045	(000069)
0031	THREE	0004	(000004)
0031	ONE	0003	(000003)
0031	TWO	0024	(000036)
0032	TEN	0046	(000070)
0035	HANDLE	0001	(000001) 0057
0035	MSG	0002	(000002) 0059
0037	SOMMOR	0003	(000003) 0089
0038	IOERR	0004	(000004)
0039	LISTLU	0005	(000005) 0086
0040	COMOLU	0006	(000006)
0041	NEWMLU	0007	(000007)
0042	PROG1	0008	(000008)
0043	PROG2	0009	(000009)
0044	BITFLG	000A	(000010)
0045	BUFCNT	000B	(000011)
0046	FIELD	000C	(000012)
0047	SLASHF	0010	(000016)
0048	BUFEFT	0011	(000017)
0049	BUFFER	0012	(000018)

S Y M B O L S

DEF. LINE	NAMF	ADDRESS	REFERENCED AT LINE NUMBER
0021	CLUREQ	0000	0021
0078	CLUERR	0017	0067, 0071, 0084
0080	CLU001	0019	0075, 0077
0085	CLUG02	001E	0083
0091	CLU	0024	0068, 0080, 0085
0092	MAXLU	0025	0081
0095	BASE	0026	0055, 0087, 0088
0096	EXTHAN	0027	0058, 0064, 0066
0097	EXTMSG	0028	0060, 0079
0100	SA27	0000	0101
0101	SP27	0001	0102
0102	DB27	0060	0103

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0024	LOG1A	000F	0070
0025	NUMLU	0025	0092

0001
0002
0003
0004
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0008
0009
0010
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026

0028
0029
0030

```

NAM WCDREQ DECK-ID N27 MSOS 5.0 SUMMARY-116*****
MASS STORAGE OPERATING SYSTEM VERSION 5.0 N2700002
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA N2700003
COPYRIGHT CONTROL DATA CORPORATION 1976 N2700004
*****MSOS4.0**N2700005
**MSOS4.0**N2700006
WCD RDC N2700007
**MSOS4.0**N2700008
THIS PROCESSOR TRANSFERS DATA FROM CORE TO DISK (WCD) N2700009
OR DISK TO CORE (RDC) **MSOS4.0**N2700010
**MSOS4.0**N2700011
BOTH HAVE THE SAME FORMAT **MSOS4.0**N2700012
WCD,SSMSB,SSLSB,SW,SC,NW N2700013
RDC,SSMSB,SSLSB,SW,SC,NW N2700014
N2700015
N2700016
WHERE SSMSB = START SECTOR (HEX.) MSB N2700017
SSLSB = START SECTOR (HEX.) LSB N2700018
SW = START WORD (HEX.) N2700019
SC = STARTING CORE (HEX.) N2700020
NW = NO. OF WORDS (HEX.) N2700021
*****MSOS4.0**N2700022
**MSOS4.0**N2700023
**MSOS4.0**N2700024
**MSOS4.0**N2700025
**MSOS4.0**N2700026
*
ENT WCDREQ ENTRY NAMES N2700028
ENT RCDREQ N2700029
N2700030

```

0032
0033

0034

0035

0036

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024

```

*
EQU AMONI('EQU',TABLE) N2700032
AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N2700033
EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N2700034
EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N2700035
EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N2700036

```


0037 0046 EQU TEN(\$46) N2700037

```

0039 *          PARAMETER LOCATION (OFFSET FROM BASE)
0040 0001 EQU HANDLE(1) "HANDLE"
0041 0002 EQU MSG(2) "MSG" ENTRY
0042 0003 EQU SOMMOR(3) "SOMMOR" ENTRY
0043 0004 EQU IOERR(4) "IOERR" ENTRY
0044 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU"
0045 0006 EQU COMOLU(6) "COMOLU"
0046 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU
0047 0008 EQU PROG1(8) "PROG1"
0048 0009 EQU PROG2(9) "PROG2"
0049 000A EQU BITFLG(10) "BITFLG"
0050 000B EQU BUFCNT(11) "BUFCNT"
0051 000C EQU FIELD(12) "FIELD"
0052 0010 EQU SLASHF(16) "SLASHF"
0053 0011 EQU BUFEMT(17) "BUFEMT"
0054 0012 EQU BUFFER(18) "BUFFER"

```

```

0056 *          VARIABLE EQU
0057 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM
0058 0009 EQU FETMM(9) "FETMM"--GET MM ADD. SUB. INDEX 116*4360*****

```

```

0060 *          EQU FOR LOGICAL UNITS
0061 08FC EQU COMOUT($8FC) TYPE OUTPUT LOGICAL UNIT
0062 08FD EQU COMLU($8FD) INPUT COMMENT LOGICAL UNIT
0063 08C2 EQU MASSLU($8C2) MASS MEMORY LOGICAL UNIT

```

```

0065 *
0066 ***** PROGRAM START *****
0067 *

```

```

0069 P0000 6851 P WCDREQ STA* BASE SAVE PARAMETER BUFFER ADDRESS
0070 0000 EQU RCDREQ(WCDREQ)
0071 P0001 60FF STA- I
0072 P0002 C101 LDA- HANDLE, I GET "HANDLE" ROUTINE ADDRESS
0073 P0003 684F STA* EXTHAN
0074 P0004 C102 LDA- MSG, I FETCH "MSG" ADDRESS
0075 P0005 684E STA* EXTMSG

0077 P0006 C107 LDA- NEWMLU, I GET LU
0078 P0007 683A STA* OTLU
0079 P0008 684C STA* MSB
0080 P0009 0A09 ENA FETMM
0081 P000A 0C01 ENQ 1
0082 P000B 5C47 RTJ* (EXTHAN) TO EXTRACT MM ADD. AND CONVERT
0083 P000C 0048 ADC MSB-*
0084 P000D C10C LDA- FIELD, I GET "FIELD"

```

```

0085 P000E 09D3 INA -COMMA
0086 P000F 0102 SAZ RCDOK1
0087 P0010 0C04 RCDFI ENQ + FORMAT INCORRECT
0088 P0011 1C42 JMP* (EXTMSG)
0089 P0012 F842 RCDOK1 LDA* MSB SET UP MM ADDRESS FOR READ/WRITE
0090 P0013 C842 LDA* LSB
0091 P0014 6831 STA* RCDLSB
0092 P0015 482F STQ* RCDMSB
0093 P0016 JC04 ENQ + GET CORE LOCATION
0094 P0017 0A02 ENA 2
0095 P0018 5C3A RTJ* (EXTHAN)
0096 P0019 0A03 ENA 3
0097 P001A 5C38 RTJ* (EXTHAN)
0098 P001B 0000 RCDTMP NUM 0
0099 P001C C10C LDA- FIELD,I GET "FIELD"
0100 P001D 09D3 INA -COMMA
0101 P001E 0101 SAZ RCDOK3
0102 P001F 18F0 JMP* RCDFI
0103 P0020 C8FA RCDOK3 LDA* RCDTMP
0104 P0021 6822 STA* RCDCOR
0105 P0022 0C04 ENQ 4 GET NUMBER OF WORDS
0106 P0023 0A02 ENA 2
0107 P0024 5C2E RTJ* (EXTHAN)
0108 P0025 0A03 ENA 3 CONVERT TO HEX. FROM ASCII
0109 P0026 5C2C RTJ* (EXTHAN)
0110 P0027 0000 NW NUM 0
0111 P0028 C8FE LDA* NW
0112 P0029 0121 SAP RC02 MUST BE POSITIVE
0113 P002A 18F5 JMP* RCDFI
0114 P002B 6817 RC02 STA* RCDNUM GET "FIELD"
0115 P002C C10C LDA- FIELD,I
0116 P002D 09D3 INA -COMMA
0117 P002E C111 SAN RC03
0118 P002F 18E0 JMP* RCDFI
0119 P0030 5801 RC03 RTJ* RCDABS
0120 P0031 0B00 RCDABS NOP 0
0121 P0032 C8FE LDA* RCDABS
0122 P0033 8810 ADD* RCDIF
0123 P0034 680B STA* RCDAL+1
0124 P0035 C109 LDA- PROG2,I GET "PROG2"
0125 P0036 09F1 INA -30 RCD = 0, RDC = 1 NOW
0126 P0037 0113 SAN RDCPRO
0127 P0038 C816 LDA* RCDWC WRITE ON DISK
0128 P0039 6805 STA* RCDAL
0129 P003A 1803 JMP* RCD001
0130 P003B C814 RDCPRO LDA* RDCRC READ FROM DISK
0131 P003C 6802 STA* RCDAL
0132 P003D 54F4 RCD001 RTJ- (AMONI)
0133 P003E 0000 RCDAL NUM 0
0134 P003F 0000 NUM 0
0135 P0040 0000 NUM 0
0136 P0041 0000 OTLU NUM 0 LU (TO BE FILLED)
0137 P0042 0000 RCDNUM NUM 0

```

```

**MSOS4.0**N2700085
**MSOS4.0**N2700086
**MSOS4.0**N2700087
N2700088
N2700089
N2700090
**MSOS4.0**N2700091
**MSOS4.0**N2700092
**MSOS4.0**N2700093
**MSOS4.0**N2700094
N2700095
**MSOS4.0**N2700096
N2700097
**MSOS4.0**N2700098
N2700099
**MSOS4.0**N2700100
**MSOS4.0**N2700101
**MSOS4.0**N2700102
**MSOS4.0**N2700103
**MSOS4.0**N2700104
N2700105
**MSOS4.0**N2700106
N2700107
N2700108
N2700109
N2700110
N2700111
N2700112
**MSOS4.0**N2700113
**MSOS4.0**N2700114
N2700115
**MSOS4.0**N2700116
N2700117
**MSOS4.0**N2700118
**MSOS4.0**N2700119
**MSOS4.0**N2700120
**MSOS4.0**N2700121
**MSOS4.0**N2700122
**MSOS4.0**N2700123
N2700124
**MSOS4.0**N2700125
**MSOS4.0**N2700126
**MSOS4.0**N2700127
**MSOS4.0**N2700128
**MSOS4.0**N2700129
**MSOS4.0**N2700130
**MSOS4.0**N2700131
**MSOS4.0**N2700132
**MSOS4.0**N2700133
**MSOS4.0**N2700134
**MSOS4.0**N2700135
N2700136
**MSOS4.0**N2700137

```

```

0138 P0043 0000 RDCOR NUM 0
0139 P0044 0000 RCDMSB NUM 0
0140 P0045 0000 RCDLSB NUM 0
0141 P0046 14EA JMP- (ADISP)
0142 P0047 0163 RCDEXT SQP RCDOK5 SKIP IF NO I/O ERROR
0143 P0048 F809 LDQ* BASE EXIT (TO "IOERR")
0144 P0049 E204 LDQ- IOERR,Q
0145 P004A 1622 JMP- (ZERO),0
0146 P004B E806 RCDOK5 LDQ* BASE EXIT (TO "SOMMOR")
0147 P004C E203 LDQ- SOMMOR,Q
0148 P004D 1622 JMP- (ZERO),0
0149 *
0150 P004E 4407 RCDWC ADC $4400+CHRSLV
0151 P004F 4207 RDCRC ADC $4200+CHRSLV
0152 P0050 0016 RCDDIF ADC RCDEXT-RCDABS

```

```

0154 *
0155 P0051 0000 BASE NUM 0
0156 P0052 0000 EXTHAN NUM 0
0157 P0053 0000 EXTMSG NUM 0
0158 P0054 0005 MSB BZS MSB(5)
0159 P 0055 EQU LSB(MSB+1)

```

```

0161 *
0162 0000 P EQU SA30(* / 96)
0163 0001 P EQU SP30(SA30+1)
0164 0060 P EQU DB30(SP30*96)
0165 P0059 0007 BSS (DB30-*)
0166 END

```

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

```

**MSOS4.0**N2700138
**MSOS4.0**N2700139
**MSOS4.0**N2700140
**MSOS4.0**N2700141
**MSOS4.0**N2700142
N2700143
N2700144
N2700145
N2700146
N2700147
**MSOS4.0**N2700148
**MSOS4.0**N2700149
**MSOS4.0**N2700150
**MSOS4.0**N2700151
**MSOS4.0**N2700152

```

```

N2700154
N2700155
N2700156
N2700157
N2700158
N2700159

```

```

**MSOS4.0**N2700161
**MSOS4.0**N2700162
**MSOS4.0**N2700163
**MSOS4.0**N2700164
**MSOS4.0**N2700165
N2700166

```

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0071
0033	AMONI	00F4 (000244)	0132
0033	ADISP	00EA (000234)	0141
0033	LPMSK	0002 (000002)	
0033	NZERO	0012 (000018)	
0033	ZROBIT	0033 (000051)	
0034	FIVE	0043 (000067)	
0034	SIX	0044 (000068)	
0034	ZERO	0022 (000034)	0145, 0148
0034	ONERIT	0023 (000035)	
0034	SIXTEN	0027 (000039)	
0035	COMMA	002C (000044)	0085, 0100, 0116
0035	SLASH	002F (000047)	
0035	ASTRIC	002A (000042)	
0036	EIGHT	0026 (000038)	
0036	NINE	0045 (000069)	
0036	THREF	0004 (000004)	
0036	ONE	0003 (000003)	
0036	TWO	0024 (000036)	
0037	TEN	0046 (000070)	
0040	HANDLE	0001 (000001)	0072
0041	MSG	0002 (000002)	0074
0042	SOMMOR	0003 (000003)	0147
0043	IOERR	0004 (000004)	0144
0044	LISTLU	0005 (000005)	
0045	COMOLU	0006 (000006)	
0046	NEWMLU	0007 (000007)	0077
0047	PROG1	0008 (000008)	
0048	PROG2	0009 (000009)	0124
0049	BITFLG	000A (000010)	
0050	BUFCNT	000B (000011)	
0051	FIELD	000C (000012)	0084, 0099, 0115
0052	SLASHF	0010 (000016)	
0053	BUFFMT	0011 (000017)	
0054	BUFFER	0012 (000018)	
0057	CHRSLV	0007 (000007)	0150, 0151
0058	FETMM	0009 (000009)	0080
0061	COMOUT	08FC (002300)	

WCDREQ

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DATE: 01/27/99

0062	COMLU	08FD	(002301)
0063	MASSLU	08C2	(002242)

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0029	WCDREQ	0000	0029, 0070
0030	RCDREQ	0000	0030
0087	RCDFI	0010	0102, 0113, 0118
0089	RCDOK1	0012	0086
0098	RCDTMP	0018	0103
0103	RCDOK3	0020	0101
0110	NW	0027	0111
0114	RCD2	0028	0112
0119	RCD3	0030	0117
0120	RCDABS	0031	0119, 0121, 0152
0130	RDCPRO	003B	0126
0132	RCDG01	003D	0129
0133	RCDGAL	003E	0123, 0128, 0131
0136	OTLU	0041	0078
0137	RCDNUM	0042	0114
0138	RDCCOR	0043	0104
0139	RCDMSB	0044	0092
0147	RCDLSB	0045	0091
0142	RCDXT	0047	0152
0146	RCDOK5	0048	0142
0150	RCDWC	004E	0127
0151	RDCRC	004F	0130
0152	RCDIF	0050	0122
0155	BASE	0051	0069, 0143, 0146
0156	EXTHAN	0052	0073, 0082, 0095, 0097, 0107, 0109
0157	EXTMSG	0053	0075, 0088
0158	MSB	0054	0079, 0083, 0089, 0159
0159	LSB	0055	0090
0162	SA30	0000	0163
0163	SP30	0001	0164
0164	DB30	0000	0165

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0033	AMONI	0033	ASTRIC	0035	BASE	0155	BITFLG	0049	BUFCNT	0050	BUFENT	0053	BUFFER	0054	CHRSLV	0057
COMLU	0062	COMMA	0035	COMOLU	0045	COMOUT	0061	DB30	0164	EIGHT	0036	EXTHAN	0156	EXTMSG	0157	FETMM	0058
FIELD	0051	FIVE	0034	HANDLE	0040	I	0000	IOERR	0043	LISTLU	0044	LPMSK	0033	LSB	0159	MASSLU	0063
MSB	0158	MSG	0041	NEWMLU	0046	NINE	0036	NW	0110	NZERO	0033	ONE	0036	ONEBIT	0034	OTLU	0136
PROG1	0047	PROG2	0048	RC02	0114	RC03	0119	RCDJ1	0132	RCDABS	0120	RCDCAL	0133	RCDCOR	0138	RCDDIF	0152
RCDEXT	0142	RCDFI	0087	RCDLSB	0140	RCDMSB	0139	RCDNUM	0137	RCDOK1	0089	RCDOK3	0103	RCDOK5	0146	RCDREQ	0030
RCDTMP	0098	RCDWC	0150	RDCPRO	0130	RDCRC	0151	SA30	0162	SIX	0034	SIXTEN	0034	SLASH	0035	SLASHF	0032
SOMMOR	0042	SP30	0163	TEN	0037	THREE	0036	TWO	0036	WCDREQ	0029	ZERO	0034	ZROBIT	0033		


```

0042      002A      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N2800042
          0026
          0045
          0004
          0003
          0024
0043      0046      EQU      TEN($46)      **MSOS4.0**N2800043
0044      00E9      EQU      EXTBV4($E9)      LOCATION CONTAINS EXTENDED CORE TABLE      N2800044
0045      001C      EQU      COMLIT(28)      COMMAND "LIT" INDEX      N2800045
0046      0028      EQU      NO40(40)      LOCAL INPUT BUFFER SIZE      N2800046

          *
          *          PARAMETER LOCATION (OFFSET FROM BASE)
          *
0048      0001      EQU      BHAN(1)      N2800048
0049      0002      EQU      MSG(2)      "MSG" ENTRY      N2800049
0050      0003      EQU      SOMMOR(3)      "SOMMOR" ENTRY      N2800050
0051      0004      EQU      IOERR(4)      "IOERR" ENTRY      N2800051
0052      0005      EQU      LISTLU(5)      LIST OUTPUT --- "LISTLU"      N2800052
0053      0006      EQU      COMOLU(6)      "COMOLU"      N2800053
0054      0007      EQU      NEWMLU(7)      "NEWMLU" --- NEW MM LU      N2800054
0055      0008      EQU      PROG1(8)      "PROG1"      N2800055
0056      0009      EQU      PROG2(9)      "PROG2"      N2800056
0057      000A      EQU      BITFLG(10)      "BITFLG"      N2800057
0058      000B      EQU      BUFCNT(11)      "BUFCNT"      N2800058
0059      000C      EQU      FIELD(12)      "FIELD"      N2800059
0060      0010      EQU      SLASHF(16)      "SLASHF"      N2800060
0061      0011      EQU      BUFEMT(17)      "BUFEMT"      N2800061
0062      0012      EQU      BUFFER(18)      "BUFFER"      N2800062
0063

          *
          *          SUBROUTINE "EQU" POINTERS
          *
0065      0002      EQU      GETFLD(2)      "GETFLD"      N2800065
0066      0003      EQU      ASCHEX(3)      "ASCHEX"      N2800066
0067      0005      EQU      ASCDEC(5)      "ASCDEC"      N2800067
0068      000C      EQU      CONFM(12)      "CONFM" ENTRY      N2800068
0069

          *
          *          *****          P R O G R A M          S T A R T          *****
          *
0071
0072
0073

          *
          *          *****          P R O G R A M          S T A R T          *****
          *
0075      P0000      687A      LASREQ      STA*      BASE      N2800075
0076      00C0      P          EQU      LITREQ(LASREQ)      N2800076
0077      P0001      60FF      STA-     I      N2800077
0078      P0002      8112      ADD-     BUFFER,I      CALCULATE 'BUFFER' ADD. AND SAVE      N2800078
0079      P0003      5872      STA*     BUFADD      N2800079
0080      P0004      C102      LDA-     MSG,I      FETCH "MSG" ADDRESS      N2800080
0081      P0005      6877      STA*     EXTMSG      N2800081
0082      P0006      E101      LDQ-     BHAN,I      GET "HANDLE" ADDRESS      N2800082
0083      P0007      4874      STQ*     EXTHAN      N2800083
0084      P0008      C80F      LDA*     OTB+1      CALCULATE "OFF" ADDRESS      N2800084
0085      P0009      9800      SUB*     OTB      N2800085
0086      P000A      0834      AAQ     A      N2800086
    
```

```

0087 P000B 6874          STA* EXTOFF                                N2800087

0089 P000C 0A02          ENA  GETFLD          TO GET STARTING CORE LOC.
0090 P000D 0C04          ENQ  +              SET 4 CHAR. IS MAX.
0091 P000E 5C6D          RTJ* (EXTHAN)
0092 P000F 0A03          ENA  ASCHEX          CONVERT FROM ASC TO HEX
0093 P0010 5C6B          RTJ* (EXTHAN)
0094 P0011 0000          LASLOC NUM 0        STARTING LOCATION (TO BE FILLED)
                                N2800089
                                N2800090
                                N2800091
                                N2800092
                                N2800093
                                N2800094

0096 *                      * CHECK IF BASE ADD. USED.
0097 *                      * SLASH IS NEXT CHAR. WHEN BASE IS UNUSED.
0098 P0012 C10C          LDA- FIELD,I
0099 P0013 0900          INA  -SLASH          IS CONTROL CHAR.= SLASH
0100 P0014 0113          SAN  LAS2
0101 P0015 1811          JMP* LAS10           NO BASE ADDRESS USED, GO
0102 P0016 7FFF X      OTB  ADC  HANDLE          0. "HANDLE" ENTRY ADDRESS
0103 P0017 7FFF X      ADC  OFF              1. "OFF" ENTRY ADDRESS
0104 *
0105 P0018 0A02          LAS2 ENA  GETFLD          GET BASE LOCATION
0106 P0019 0C04          ENQ  +
0107 P001A 5C61          RTJ* (EXTHAN)
0108 P001B 0A03          ENA  ASCHEX          CONVERT TO HEX.
0109 P001C 5C5F          RTJ* (EXTHAN)
0110 P001D 0000          LASBAS NUM 0
0111 P001E C8FE          LDA* LASBAS          BASE + STARTING = CORE LOCATION
0112 P001F 88F1          ADD* LASLOC
0113 P0020 68F0          STA* LASLOC
                                N2800096
                                N2800097
                                N2800098
                                N2800099
                                N2800100
                                N2800101
                                N2800102
                                N2800103
                                N2800104
                                N2800105
                                N2800106
                                N2800107
                                N2800108
                                N2800109
                                N2800110
                                N2800111
                                N2800112
                                N2800113

0115 *                      * CHECK FOR FORMAT ---- SLASH
0116 P0021 C10C          LDA- FIELD,I
0117 P0022 0900          INA  -SLASH
0118 P0023 0102          SAZ  LAS10
0119 P0024 0004          LAS7 ENQ  +
0120 P0025 1C57          JMP* (EXTMSG)          OUTPUT FORMAT INCORRECT
                                N2800115
                                N2800116
                                N2800117
                                N2800118
                                N2800119
                                N2800120

0122 *
0123 *****              * GET ASCII CHARACTERS
0124 P0026 6110          LAS10 STA- SLASHF,I
0125 P0027 684F          STA* UPDOWN
0126 P0028 6856          STA* COUNT
0127 P0029 00F5          LDA- $F5             HIGHEST CORE LOCATION USED BY SYSTEM
0128 P002A 6853          STA* MAX
0129 P002B C8F5          LDA* LASLOC          TO CHECK CORE ADD. LEGALITY
0130 P002C 5870          RTJ* CORADK
0131 P002D 18F6          JMP* LAS7           ADDRESS ERROR, GO
0132 P002E C109          LDA- PROG2,I        CHECK FOR "LIT"
0133 P002F 09E3          INA  -COMLIT
0134 P0030 0111          SAN  LASX
0135 P0031 1850          JMP* DECDAT          NO, SKIP
0136 P0032 D84E          LASX RAO* PROTYP    TO DECIMAL DATA PROCESSING
                                SET TO ASCII DATA TYPE
                                N2800122
                                N2800123
                                N2800124
                                N2800125
                                N2800126
                                N2800127
                                N2800128
                                N2800129
                                N2800130
                                N2800131
                                N2800132
                                N2800133
                                N2800134
                                N2800135
                                N2800136

```

0137	P0033	E10A		LDQ-	BITFLG,I	GET BUFFER COUNTER AND BYTE POSITION	N2800137
0138	P0034	4843		STQ*	HILO	FLAG AND SAVE	N2800138
0139	P0035	C10B		LDA-	BUFCNT,I		N2800139
0140	P0036	60FF		STA-	I		N2800140
0141	P0037	0142	LAS15	SQZ	LAS21	SKIP IF NO CHANGE OF CHAR. POSITION IS NEEDED	N2800141
0142	P0038	0CFE		ENQ	-1		N2800142
0143	P0039	00FF		RAO-	I		N2800143
0144	P003A	0D01	LAS21	INQ	1		N2800144
0145	P003B	CD3A		LDA*	(BUFADD),I	GET INPUT TEXT WORD	N2800145
0146	P003C	483B		STQ*	HILO	SAVE HI-LO FLAG	N2800146
0147	P003D	0151		SQN	LAS22		N2800147
0148	P003E	0F48		ARS	8		N2800148
0149	P003F	A00A	LAS22	AND-	LPMSK+8	ISOLATE CHAR.	N2800149
0150	P0040	6838		STA*	TEMP		N2800150
0151	P0041	800A		EOR-	LPMSK+8	CHECK FOR END OF TEXT (\$FF)	N2800151
0152	P0042	0111		SAN	LAS25		N2800152
0153	P0043	180F		JMP*	LAS32		N2800153
0155			*			ASSEMBLE DATA WORD AND SAVE IF NEEDED	N2800155
0156	P0044	E832	LAS25	LDQ*	UPDOW	GET POSITION FLAG	N2800156
0157	P0045	C833		LDA*	TEMP	RECALL INPUT TEXT CHAR.	N2800157
0158	P0046	0153		SQN	LAS26		N2800158
0159	P0047	0FC8		ALS	8	POSITION TO HI-8-BIT	N2800159
0160	P0048	0C01		ENQ	1		N2800160
0161	P0049	1803		JMP*	LAS27		N2800161
0162	P004A	B82F	LAS26	EOR*	CHAR	INSERT WITH HI-8-BIT	N2800162
0163	P004B	0C00		ENQ	0	ADJUST POSITION FLAG AND SAVE	N2800163
0164	P004C	482A	LAS27	STQ*	UPDOW		N2800164
0165	P004D	682C		STA*	CHAR		N2800165
0166	P004E	0151		SQN	LAS30	SKIP IF ON HI-8-BIT	N2800166
0167	P004F	5844		RTJ*	SAVCHK	TO SAVE DATA IN INPUT BUFFER	N2800167
0168	P0050	E827	LAS30	LDQ*	HILO	RECALL HI-LO FLAG AND REPEAT	N2800168
0169	P0051	18E5		JMP*	LAS15		N2800169
0171			*				N2800171
0172			****			CLOSE OUT BEFORE EXIT	N2800172
0173			*				N2800173
0174	P0052	C824	LAS32	LDA*	UPDOW	ANY CHAR (HALF WORD) NOT YET STORE	N2800174
0175	P0053	0103		SAZ	LAS34		N2800175
0176	P0054	C825		LDA*	CHAR		N2800176
0177	P0055	0920		INA	\$20	INSERT SPACE INTO LO-8-BIT	N2800177
0178	P0056	583D		RTJ*	SAVCHK	TO SAVE DATA IN INPUT BUFFER	N2800178
0179	P0057	C81E	LAS34	LDA*	BUFADD	MOVE CURRENT DATA TO "BUFFER" FOR PRINTING	N2800179
0180		0057	P	EQU	CONFIRM(LAS34)		N2800180
0181	P0058	60FF		STA-	I		N2800181
0182	P0059	0C00		ENQ	0		N2800182
0183	P005A	CEB6	LAS40	LDA*	(LASLOC),Q		N2800183
0184	P005B	6722		STA-	(ZERO),B		N2800184
0185	P005C	0D01		INQ	1		N2800185
0186	P005D	0814		TRQ	A	CHECK IF ALL DATA BEEN MOVED	N2800186
0187	P005E	9820		SUB*	COUNT		N2800187

0188	P005F	0101	SAZ	LAS44		N2800188
0189	P006G	18F9	JMP*	LAS40	REPEAT, NOT DONE	N2800189
0190			*			N2800190
0191	P0061	E81D	LAS+4	LDQ*	COUNT	N2800191
0192	P0062	C81E		LDA*	PROTYP	N2800192
0193	P0063	0FC8		ALS	8	N2800193
0194	P0064	0832		AAQ	Q	N2800194
0195	P0065	0A0C		ENA	CONFM	N2800195
0196	P0066	5C15		RTJ*	(EXTHAN)	N2800196
0197	P0067	0045		ADC	NEWDAT-*	N2800197
0198	P0068	CC0D		LDA*	{BUFADD}	N2800198
0199	P0069	0118		SAN	LAS51	N2800199
0200	P006A	0C00		ENQ	0	N2800200
0201	P006R	CA41	LAS48	LDA*	NEWDAT,Q	N2800201
0202	P006C	6EA4		STA*	{LASLOC},Q	N2800202
0203	P006D	0D01		INQ	1	N2800203
0204	P006E	0814		TRO	A	N2800204
0205	P006F	980F		SUB*	COUNT	N2800205
0206	P0070	0101		SAZ	LAS51	N2800206
0207	P0071	18F9		JMP*	LAS48	N2800207
0208	P0072	E808	LAS51	LDQ*	BASE	N2800208
0209	P0073	E203		LDQ-	SOMMOR,Q	N2800209
0210	P0074	1622		JMP-	{ZERO},Q	N2800210

0212			*		COUNTERS, FLAGS, ETC.	N2800212
0213	P0075	0000	BUFADD	NUM	0	N2800213
0214	P0076	0000	UPDOW	NUM	0	N2800214
0215	P0077	0000	HILO	NUM	0	N2800215
0216	P0078	0000	TEMP	NUM	0	N2800216
0217	P0079	0000	CHAR	NUM	0	N2800217
0218	P007A	0000	BASE	NUM	0	N2800218
0219	P007B	0000	EXTHAN	NUM	0	N2800219
0220	P007C	0000	EXTMSG	NUM	0	N2800220
0221	P007D	0000	MAX	NUM	0	N2800221
0222	P007E	0000	COUNT	NUM	0	N2800222
0223	P007F	0000	EXTOFF	NUM	0	N2800223
0224	P0080	0001	PROTYP	NUM	1	N2800224

TEXT BUFFER ADD. (TO BE FILLED)
 HI-8/LO-8 FLAG (0=HI)
 INPUT TEXT POSITION (0 = HI-8)
 TEMPORARY STORAGE
 DATA
 PARAMETER BASE ADDRESS
 "HANDLE" ADDRESS
 "MSG" ADDRESS
 "OFF" ADDRESS
 SET FOR DECIMAL TYPE DATA

0226			*		1. DECIMAL DATA	N2800226
0227	P0081	0A02	DECDAT	ENA	GETFLD	N2800227
0228	P0082	0C06		ENQ	6	N2800228
0229	P0083	5CF7		RTJ*	(EXTHAN)	N2800229
0230	P0084	0A05		ENA	ASCDEC	N2800230
0231	P0085	5CF5		RTJ*	(EXTHAN)	N2800231
0232	P0086	E8F7		LDQ*	COUNT	N2800232
0233	P0087	6A25		STA*	INPDAT,Q	N2800233
0234	P0088	D8F5		RAO*	COUNT	N2800234
0235	P0089	E8F0		LDQ*	BASE	N2800235
0236	P008A	C20C		LDA-	FIELD,Q	N2800236
0237	P008B	B00A		EOR-	LPMSK+8	N2800237

GET INPUT DATA
 CONVERT TO DEC.
 SAVE INPUT DATA
 BUMP STORAGE INDEX BY 1
 CHECK IF END OF TEXT

0238	P008C	0111	SAN	DEC3			N2800238
0239	P008D	18C9	JMP*	CONFRM		NO MORE DATA, TO PRINT	N2800239
0240	P008E	C20C	DEC3	LDA-	FIELD, Q	CHECK FOR COMMA	N2800240
0241	P008F	09D3		INA	-COMMA		N2800241
0242	P0090	0101		SAZ	DEC7		N2800242
0243	P0091	1892	DEC5	JMP*	LAS7	FORMAT ERROR, GO	N2800243
0244	P0092	18EE	DEC7	JMP*	DECJAT	TO REPEAT	N2800244

0246			*				N2800246
0247			*****			SAVE NEW DATA IN TEMPORARY BUFFER AND MAKE SURE	N2800247
0248			*****			LESS THAN OR EQUAL TO 40 WORDS IN INPUT	N2800248
0249			*				N2800249
0250	P0093	6B00	SAVCHK	NOP	0	ENTRY	N2800250
0251	P0094	E8E9		LDQ*	COUNT	CHECK NO. OF INPUT DATA	N2800251
0252	P0095	0DD6		INQ	-41		N2800252
0253	P0096	0171		SQM	SAV1	OK, SKIP	N2800253
0254	P0097	188C		JMP*	LAS7	TO PRINT FORMAT ERROR	N2800254
0255	P0098	E8E5	SAV1	LDQ*	COUNT	SET INDEX TO SAVE INPUT DATA	N2800255
0256	P0099	6A13		STA*	NEWDAT, Q		N2800256
0257	P009A	D8F3		RAO*	COUNT	UP DATE INPUT COUNT	N2800257
0258	P009B	1CF7		JMP*	(SAVCHK)	RETURN	N2800258

0260			***			CHECK ADDRESSES TO BE WITHIN 32K	N2800260
0261			*				N2800261
0262	P009C	0B00	CORADK	NOP	0	ENTRY	N2800262
0263	P009D	E0F9		LDQ-	EXTBV4	GET 32K/65K FLAG (32K=0, 65K=1)	N2800263
0264	P009E	E622		LDQ-	(ZERO), Q		N2800264
0265	P009F	0155		SQN	AD65	SKIP ON 65K	N2800265
0266	P00A0	0133		SAM	AD32EX	ERROR, OVER 32K	N2800266
0267	P00A1	98DB		SUB*	MAX		N2800267
0268	P00A2	0137		SAM	AD65EX		N2800268
0269	P00A3	0106		SAZ	AD65EX		N2800269
0270	P00A4	1CF7	AD32EX	JMP*	(CORADK)	RETURN	N2800270

0272			***			CHECK TO BE WITHIN 65K OR LESS	N2800272
0273	P00A5	0124	AD65	SAP	AD65EX	SKIP FOR 32K OR SO	N2800273
0274	P00A6	98D6		SUB*	MAX		N2800274
0275	P00A7	0132		SAM	AD65EX	OK, SKIP	N2800275
0276	P00A8	0101		SAZ	AD65EX	OK, SKIP	N2800276
0277	P00A9	18FA		JMP*	AD32EX	ERROR, GO	N2800277
0278	P00AA	D8F1	AD65EX	RAO*	CORADK	SET NORMAL EXIT	N2800278
0279	P00AB	1CF0		JMP*	(CORADK)	NORMAL RETURN	N2800279

0281			*				N2800281
0282	P00AC	0028	NEWDAT	BZS	NEWDAT(NO40)		N2800282
0283		30AC	P	EOU	INPDAT(NEWDAT)		N2800283

0285
0286 0002 P *
0287 0003 P
0288 0120 P
0289 P00D4 004C
0290

EQU SA32(*96)
EQU SP32(SA32+1)
EQU DB32(SP32*96)
BSS (DB32-*)
END

N2800285
N2800286
N2800287
N2800288
N2800289
N2800290

PGM= 0120 (288) 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)	0077, 0140, 0143, 0181
0039	AMONI	00F4 (000244)	
0039	ADISP	00EA (000234)	
0039	LPMSK	0002 (000002)	0149, 0151, 0237
0039	NZERO	0012 (000018)	
0039	ZROBIT	0033 (000051)	
0040	FIVE	0043 (000067)	
0040	SIX	0044 (000068)	
0040	ZERO	0022 (000034)	0184, 0210, 0264
0040	ONEBIT	0023 (000035)	
0040	SIXTEN	0027 (000039)	
0041	COMMA	002C (000044)	0241
0041	SLASH	002F (000047)	0099, 0117
0041	ASTRIC	002A (000042)	
0042	EIGHT	0026 (000038)	
0042	NINE	0045 (000069)	
0042	THREE	0004 (000004)	
0042	ONE	0003 (000003)	
0042	TWO	0024 (000036)	
0043	TEN	0046 (000070)	
0044	EXTRV4	00E9 (000233)	0263
0045	COMLIT	001C (000028)	0133
0045	NO40	0028 (000040)	0282
0049	BHAN	0001 (000001)	0082
0050	MSG	0002 (000002)	0080
0051	SOMMOR	0003 (000003)	0209
0052	IOERR	0004 (000004)	
0053	LISTLU	0005 (000005)	
0054	COMOLU	0006 (000006)	
0055	NEWMLU	0007 (000007)	
0056	PROG1	0008 (000008)	
0057	PROG2	0009 (000009)	0132
0058	BITFLG	000A (000010)	0137
0059	BUFCNT	000B (000011)	0139
0060	FIELD	000C (000012)	0098, 0116, 0236, 0240
0061	SLASHF	0010 (000016)	0124
0062	BUFEFT	0011 (000017)	
0063	BUFFER	0012 (000018)	0078

0066	GETFLD	0002	(000002)	0089, 0105, 0227
0067	ASCHFX	0003	(000003)	0092, 0108
0068	ASCDEC	0005	(000005)	0230
0069	CONFM	000C	(000012)	0195

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0030	LASREQ	0000	0030, 0076
0031	LITREQ	0000	0031
0094	LASLOC	0011	0112, 0113, 0129, 0183, 0202
0102	OTB	0016	0084, 0085
0105	LAS?	0018	0100
0110	LASBAS	0010	0111
0119	LAS7	0024	0131, 0243, 0254
0124	LAS10	0026	0101, 0118
0136	LASX	0032	0134
0141	LAS15	0037	0169
0144	LAS21	003A	0141
0149	LAS22	003F	0147
0156	LAS25	0044	0152
0162	LAS26	004A	0158
0164	LAS27	004C	0161
0168	LAS30	0050	0166
0174	LAS32	0052	0153
0179	LAS34	0057	0175, 0180
0180	CCNFRM	0057	0239
0183	LAS40	005A	0189
0191	LAS44	0061	0188
0201	LAS48	006B	0207
0208	LAS51	0072	0199, 0206
0213	BUFADD	0075	0079, 0145, 0179, 0198
0214	UPDOW	0076	0125, 0156, 0164, 0174
0215	HILO	0077	0138, 0146, 0168
0216	TEMP	0078	0150, 0157
0217	CHAR	0079	0162, 0165, 0176
0218	BASE	007A	0075, 0208, 0235
0219	EXTHAN	007B	0083, 0091, 0093, 0107, 0109, 0196, 0229, 0231
0220	EXTMSG	007C	0081, 0120
0221	MAX	007D	0128, 0267, 0274
0222	COUNT	007E	0126, 0187, 0191, 0205, 0232, 0234, 0251, 0255, 0257
0223	EXTOFF	007F	0087
0224	PROTYP	0080	0136, 0192
0227	DECDAT	0081	0135, 0244
0240	DEC3	008E	0238
0243	DEC5	0091	
0244	DEC7	0092	0242
0250	SAVCHK	0093	0167, 0178, 0258
0255	SAV1	0098	0253

0262 CORADK 009C
0270 AN32EX 00A4
0273 AD65 00A5
0278 AD65EX 00AA
0282 NEWDAT 00AC
0283 INPDAT 00AC
0286 SA32 0002
0287 SP32 0003
0288 DB32 0120

0130, 0270, 0278, 0279
0266, 0277
0265
0268, 0269, 0273, 0275, 0276
J197, 0201, 0255, 0283
0233
0287
0288
0289

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0035	HANDLE	0016	0102
0036	OFF	0017	0103


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0001      NAM DASREQ          DECK-ID N29  MSOS 5.0          SUMMARY-116*****
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0          N29000002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA          N29000003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976          N29000004
0005      *      N29000005
0006      *      N29000006
0007      *      *****          N29000007
0008      *      *          N29000008
0009      *      *      THIS PROCESSOR DUMPS CORE CELLS ONTO          *      N29000009
0010      *      *      THE LIST COMMENT MEDIUM IN ASC FORM          *      N29000010
0011      *      *          *      N29000011
0012      *      *      *****          *      N29000012
0013      *      *      N29000013
0014      *      *      N29000014
0015      *      *      N29000015
0016      *      *      *****          *      N29000016
0017      *      *      N29000017
0018      *      *      DAS, START CORE, END CORE, BASE (CR)          *      N29000018
0019      *      *      N29000019
0020      *      *      WHERE (CR) = CAPRAGE RETURN          *      N29000020
0021      *      *      N29000021
0022      *      *      N29000022
0023      *      *      N29000023
0024      *      *      *****          *      N29000024
0025      *      *      N29000025
0026      *      *      LLLL AA BB CC DD EE FF GG HH II JJ KK LL MM NN          *      N29000026
0027      *      *      N29000027
0028      *      *      WHERE LLLL = CORE LOCATION          *      N29000028
0029      *      *      N29000029
0030      *      *      N29000030

0032      *      *      E N T R Y          N A M E          N29000032
0033      *      *      ENT DASREQ          N29000033

0035      *      *      E X T E R N A L          N29000035
0036      *      *      1 CARD DELETED          N29000036
0037      *      *      "HANDLE" ENTRY          N29000037
0038      *      *      "OFF" ENTRY          N29000038
0039      *      *      EXT HANDLE          N29000039
0040      *      *      EXT OFF          N29000039
0041      *      *      EXT CHRSG          N29000039

0041      *      *      ' E Q U '          T A B L E          N29000041
0042      *      *      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)          N29000042
0043      *      *      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)          N29000043

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COF4
COEA
0002
0012
0033
0043
0044
0022

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0023
0027
0044 002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N2900044
002F
002A
0045 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N2900045
0045 0045
0004
0003
0024
0046 0046 EQU TEN($46) **MSOS4.0**N2900046
0047 0003 EQU MASK(3) ONE BIT MASK N2900047
0048 00E9 EQU EXTBV4($E9) N2900048

0050 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0051 001C EQU LNWD28(28) MAX. NO. OF WORDS USED BY 1 LINE N2900051
0052 0010 EQU LNCH16(16) MAX. NO. OF DATA IN LINE N2900052
0053 1000 EQU ASM0D($1000) OUTPUT ASC MODE N2900053

0055 * PARAMETER LOCATION (OFFSET FROM BASE) N2900055
0056 0001 EQU BHAN(1) "HANDLE" N2900056
0057 0002 EQU MSG(2) "MSG" ENTRY N2900057
0058 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N2900058
0059 0004 EQU IOERR(4) "IOERR" ENTRY N2900059
0050 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N2900060
0051 0006 EQU COMOLU(6) "COMOLU" N2900061
0062 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N2900062
0063 0008 EQU PROG1(8) "PROG1" N2900063
0064 0009 EQU PROG2(9) "PROG2" N2900064
0065 000A EQU BITFLG(10) "BITFLG" N2900065
0066 000B EQU BUF CNT(11) "BUF CNT" N2900066
0067 000C EQU FIELD(12) "FIELD" N2900067
0068 0010 EQU SLASHF(16) "SLASHF" N2900068
0069 0011 EQU BUFEMT(17) "BUFEMT" N2900069
0070 0012 EQU BUFFER(18) "BUFFER" N2900070

0072 * SUBROUTINE "EQU" POINTERS N2900072
0073 0002 EQU GETFLD(2) "GETFLD" N2900073
0074 0003 EQU ASCHEX(3) "ASCHEX" N2900074
0075 0005 EQU ASCJEC(5) "ASCJEC" N2900075

0077 * ***** PROGRAM START ***** N2900077
0078 * N2900078
0079 * N2900079

0081 P0000 687E DASREQ STA* BASE N2900081
0082 P0001 60FF STA- I N2900082
0083 P0002 8112 ADD- BUFFER,I N2900083
0084 P0003 6800 STA BUFADD N2900084
0084 P0004 008D

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0085	P0005	687C	STA*	DATLOC		N2900085
0086	P0006	C105	LDA-	LISTLU,I	GET LIST UNIT	N2900086
0087	P0007	887E	ADD*	MODE		N2900087
0088	P0008	6800	STA	OTLU		N2900088
	P0009	0086				
0089	P000A	E101	LDQ-	BHAN,I	GET "HANDLE" ADDRESS	N2900089
0090	P000B	+874	STQ*	EXTHAN		N2900090
0091	P000C	C842	LDA*	OTB+1	CALCULATE "OFF" ADDRESS	N2900091
0092	P000D	9840	SUB*	OTB		N2900092
0093	P000E	0834	AAQ	A		N2900093
0094	P000F	6840	STA*	EXTOFF	SAVE "OFF" ADDRESS	N2900094
0095	P0010	C102	LDA-	MSG,I	FETCH "MSG" ADDRESS	N2900095
0096	P0011	686F	STA*	EXTMSG		N2900096
0097	P0012	00F5	LDA-	\$F5	HIGHEST CORE LOCATION USED BY SYSTEM	N2900097
0098	P0013	6871	STA*	MAX		N2900098
0100			*		GET ADDRESSING DATA	N2900100
0101	P0014	0A00	ENA	0		N2900101
0102	P0015	681B	STA*	DASLOC+2		N2900102
0103	P0016	686C	STA*	COUNT		N2900103
0104	P0017	0A02	DAS1	ENA	GETFLD	N2900104
0105	P0018	0C04	ENQ	4	TO EXTRACT A FIELD --- ADDRESS	N2900105
0106	P0019	5C66	RTJ*	(EXTHAN)	SET TO GET 4 CHAR. FIELD	N2900106
0107	P001A	C10C	LDA-	FIELD,I	IF EMPTY	N2900107
0108	P001B	0107	SAZ	DAS5		N2900108
0109	P001C	900A	SUB-	LPMSK+8	CHECK FOR END OF TEXT	N2900109
0110	P001D	0105	SAZ	DAS5	YES, SKIP	N2900110
0111	P001E	800A	ADD-	LPMSK+8		N2900111
0112	P001F	09D3	INA	-COMMA	CHECK FOR COMMA	N2900112
0113	P0020	0102	SAZ	DAS5	YES, SKIP	N2900113
0114			*			N2900114
0115	P0021	0C04	DAS3	ENQ	4	N2900115
0116	P0022	1C5E	JMP*	(EXTMSG)	INCORRECT FORMAT AND GO PRINT MESSAGE	N2900116
0118	P0023	0A03	DAS5	ENA	ASCHEX	N2900118
0119	P0024	5C5B	RTJ*	(EXTHAN)	CONVERT TO HEX.	N2900119
0120	P0025	0000	DASVA	NUM	0	N2900120
0121	P0026	E85C	LDQ*	COUNT	SET-UP STORAGE INDEX	N2900121
0122	P0027	C8FD	LDA*	DASVA		N2900122
0123	P0028	6A06	STA*	DASLOC,Q	SAVE ADD. ACCORDING TO FIELD INDEX	N2900123
0124	P0029	0001	INQ	1	BUMP FIELD COUNT BY 1 AND CHECK IF ALL FIELDS	N2900124
0125	P002A	4858	STQ*	COUNT	BEEN EXTRACTED	N2900125
0126	P002B	00FC	INQ	-3		N2900126
0127	P002C	0144	SQZ	DAS10	SKIP, DONE	N2900127
0128	P002D	18F9	JMP*	DAS1		N2900128
0130			*			N2900130
0131			****		ADDRESSES ARE OBTAINED, ADJUST IF NEEDED	N2900131
0132			*			N2900132
0133	P002E	0003	DASLOC	BZS	DASLOC(3)	N2900133
0134	P0031	C111	DAS10	LDA-	BUFEMT,I	N2900134
					MAKE SURE BUFFER IS EMPTY	

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0135 P0032 B012 EOR- LPMSK+16
0136 P0033 0101 SAZ DAS11
0137 P0034 18EC JMP* DAS3
0138 P0035 C8F9 DAS11 LDA* DASLOC+1 END - START
0139 P0036 98F7 SUB* DASLOC
0140 P0037 0121 SAP DAS12
0141 P0038 18E8 JMP* DAS3 ADDRESS ERROR, GO PRINT MESSAGE
0142 *
0143 P0039 C8F4 DAS12 LDA* DASLOC START AND END ADDRESS + BASE
0144 P003A 88F5 ADD* DASLOC+2
0145 P003B 68F2 STA* DASLOC
0146 P003C 5857 RTJ* CORADK TO CHECK IF CORE LOC. WITHIN LIMIT
0147 P003D 18E3 JMP* DAS3 ADDRESS ERROR, GO
0148 P003F C8F0 LDA* DASLOC+1
0149 P003F 88F0 ADD* DASLOC+2
0150 P0040 68FE STA* DASLOC+1
0151 P0041 5852 RTJ* CORADK TO CHECK IF CORE LOC. WITHIN LIMIT
0152 P0042 18DE JMP* DAS3 ADDRESS ERROR, GO
0153 *

*
0155 *** INSERT ASCII INTO OUTPUT LINE
0156 ***
0157 *
0158 P0043 0A00 DAS19 ENA 0
0159 P0044 683E STA* COUNT
0160 P0045 683E STA* HILO
0161 *
0162 * FILL OUTPUT BUFFER WITH SPACE CODE
0163 P0046 0C1C ENQ LNWD28
0164 P0047 C000 LDA =A
0165 P0048 2020
0165 P0049 6E48 DAS20 STA* (BUFA0D),Q
0166 P004A 0DFE INQ -1
0167 P004B 0144 SQZ DAS22
0168 P004C 18FC JMP* DAS20

*
0170 *
0171 P004D 7FFF X OTB ADC HANDLE 0. "HANDLE" ENTRY
0172 P004E 7FFF X ADC OFF 1. "OFF" ENTRY
0173 *
0174 P004F 0000 EXTOFF NUM 0
0175 *
0176 ***** ASSEMBLE CORE LOCATION TAG
0177 *
0177 P0050 C8DD DAS22 LDA* DASLOC ASSEMBLE HI-2-DIGIT OF LOC.
0179 P0051 0F4C ARS 12
0180 P0052 5863 RTJ* CONASC
0181 P0053 0822 TRA Q
0182 P0054 0FA8 QLS 8
0183 P0055 C8D8 LDA* DASLOC

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N2900135
N2900136
N2900137
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N2900182
N2900183

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0184	P0056	0F48	ARS	8			N2900184
0185	P0057	585E	RTJ*	CONASC			N2900185
0186	P0058	0874	EAQ	A			N2900186
0187	P0059	6C38	STA*	(BUFADD)			N2900187
0188	P005A	C8D3	LDA*	DASLOC	ASSEMBLE LOW-2-DIGIT OF LOCATION		N2900188
0189	P005B	0F44	ARS	4			N2900189
0190	P005C	5859	RTJ*	CONASC			N2900190
0191	P005D	0822	TRA	Q			N2900191
0192	P005E	0FA8	QLS	8			N2900192
0193	P005F	C8CE	LDA*	DASLOC			N2900193
0194	P0060	5855	RTJ*	CONASC			N2900194
0195	P0061	0874	EAQ	A			N2900195
0196	P0062	0C01	ENQ	1			N2900196
0197	P0063	6E2E	STA*	(BUFADD),0			N2900197
0198			*				N2900198
0199	P0064	0A04	ENA	4	SET INDEX TO FIRST DATA WORD		N2900199
0200	P0065	881C	ADD*	DATLOC			N2900200
0201	P0066	681B	STA*	DATLOC			N2900201
0203			*		GET DATA AND INSERT		N2900203
0204	P0067	C0C6	DAS30	LDA* (DASLOC)	GET DATA FROM CORE		N2900204
0205	P0068	E816	LDQ*	HILO	FETCH STORAGE POSITION		N2900205
0206	P0069	0146	SQZ	DAS32	SKIP ON WHOLE WORD		N2900206
0207	P006A	E000	LDQ	=A			N2900207
0208	P006B	2020					
0208	P006C	0FE8	LLS	8	INSERT SPACE IN BOTH SIDES		N2900208
0209	P006D	+C14	STQ*	(DATLOC)	SAVE MSD		N2900209
0210	P006E	D813	RAO*	DATLOC			N2900210
0211	P006F	0CFF	FNQ	-1			N2900211
0212	P0070	6C11	DAS32	STA* (DATLOC)	SAVE DATA		N2900212
0213	P0071	D810	RAO*	DATLOC			N2900213
0214	P0072	0D01	INQ	1	UPDATE STORAGE POSITION		N2900214
0215	P0073	4810	STQ*	HILO			N2900215
0216	P0074	D8B9	RAO*	DASLOC	UPDATE CORE DATA LOCATION AND NO. OF WORDS		N2900216
0217	P0075	D80D	RAO*	COUNT	IN A LINE		N2900217
0218			*		CHECK IF ONE LINE		N2900218
0219	PC076	0A10	ENA	LNCH16			N2900219
0220	P0077	980B	SUB*	COUNT			N2900220
0221	P0078	010D	SAZ	DAS40	LINE BEEN FILLED, TO PRINT		N2900221
0222	P0079	C8B4	LDA*	DASLOC	CHECK IF ALL REQUEST LOC. BEEN DONE		N2900222
0223	P007A	98B4	SUB*	DASLOC+1			N2900223
0224	P007B	09FE	INA	-1			N2900224
0225	P007C	0109	SAZ	DAS40	DONE, SKIP		N2900225
0226	P007D	18E9	JMP*	DAS30	NO, TO PROCESS MORE		N2900226
0228			*		CONSTAND, BUFFER LOCATION,...ETC.		N2900228
0229	P007E	0000	BASE	NUM	0		N2900229
0230	P007F	0000	EXTHAN	NUM	0		N2900230
0231	PC080	0000	EXTMSG	NUM	0		N2900231
0232	P0081	0000	DATLOC	NUM	0		N2900232
0233	P0082	0000	COUNT	NUM	0		N2900233

0234 P0083 0000 HILO NUM 0
 0235 P0084 0000 MAX NUM 0
 0236 *
 0237 P0085 1000 MODE ADC ASMOD

N2900234
 N2900235
 N2900236
 N2900237

0239 *
 0240 *** PRINT DATA
 0241 *
 0242 P0086 5801 DAS40 RTJ* SELF
 0243 P0087 0B00 SELF NOP 0
 0244 P0088 C8FE LDA* SELF
 0245 P0089 091C INA DASRET-SELF
 0246 P008A 6803 STA* DASX
 0247 P008B 54F4 RTJ- (AMONI)
 0248 P008C 0C07 ADC \$C00+CHRSLV CALL CODE
 0249 P008D 0000 DASX NUM 0 EXIT ADD. (TO BE FILLED)
 0250 P008E 0000 NUM 0 THREAD
 0251 P008F 0000 OTLU NUM 0 LU (TO BE FILLED WITH LIST UNIT)
 0252 P0090 001C ADC LNWD28 LENGTH
 0253 P0091 0000 BUFADD NUM 0 "BUFFER" ADD. (TO BE FILLED)
 0254 P0092 14EA JMP- (ADISP)

N2900239
 N2900240
 N2900241
 N2900242
 N2900243
 N2900244
 N2900245
 N2900246
 N2900247
 N2900248
 N2900249
 N2900250
 N2900251
 N2900252
 N2900253
 N2900254

0256 *** CHECK ADDRESSES TO BE WITHIN 32K
 0257 *
 0258 P0093 0B00 CORADK NOP 0 ENTRY
 0259 P0094 E0E9 LDQ- EXTBV4 GET 32K/65K FLAG (32K=0, 65K=1)
 0260 P0095 E622 LDQ- (ZERO),Q
 0261 P0096 0155 SQN AD65 SKIP ON 65K
 0262 P0097 0133 SAM AD32EX ERROR, OVER 32K
 0263 P0098 98EB SUB* MAX
 0264 P0099 0137 SAM AD65EX
 0265 P009A 0106 SAZ AD65EX
 0266 P009B 1CF7 AD32EX JMP* (CORADK) RETURN

N2900256
 N2900257
 N2900258
 N2900259
 N2900260
 N2900261
 N2900262
 N2900263
 N2900264
 N2900265
 N2900266

0268 *** CHECK TO BE WITHIN 65K OR LESS
 0269 P009C 0124 AD65 SAP AD65EX SKIP FOR 32K OR SO
 0270 P009D 98E6 SUB* MAX
 0271 P009E 0132 SAM AD65EX OK, SKIP
 0272 P009F 0101 SAZ AD65EX OK, SKIP
 0273 P00A0 18FA JMP* AD32EX ERROR, GO
 0274 P00A1 D8F1 AD65EX RAO* CORADK SET NORMAL EXIT
 0275 P00A2 1CF0 JMP* (CORADK) NORMAL RETURN

N2900268
 N2900269
 N2900270
 N2900271
 N2900272
 N2900273
 N2900274
 N2900275

0277 *
 0278 * RETURN FROM OUTPUT
 0279 P00A3 0163 DASRET SQP DASOK SKIP WHEN NO ERROR ENCOUNTERED

N2900277
 N2900278
 N2900279

```

0280 PC0A4 E8D9      LDQ* BASE                N2900280
0281 P00A5 E204      LDQ- IOERR,Q           EXIT TO "IOERR"       N2900281
0282 P00A6 1622      JMP- (ZERO),Q         EXIT TO "IOERR"       N2900282
0283 *
0284 P00A7 C400 X     DASOK LDA CHRSG        CHECK FOR "DX"        N2900284
      P00A8 7FFF X
0285 P00A9 0111      SAN DASUP              OK, SKIP              N2900285
0286 P00AA 1CA4      JMP* (EXTOFF)         EXIT TO "OFF"         N2900286
0287 P00AB C882      DASUP LDA* DASLOC      N2900287
0288 P00AC 9882      SUB* DASLOC+1        N2900288
0289 P00AD 09FE      INA -1               N2900289
0290 P00AE 0103      SAZ DAS50            DONE, SKIP            N2900290
0291 P00AF C8E1      LDA* BUFADD          N2900291
0292 P00B0 68D0      STA* DATLOC          N2900292
0293 P00B1 1891      JMP* DAS19           N2900293

0295 *
0296 P00B2 E8CB      DAS50 LDQ* BASE        DONE ---- EXTI       N2900295
0297 P00B3 E203      LDQ- SOMMOR,Q        EXIT TO "SOMMOR"     N2900296
0298 P00B4 1622      JMP- (ZERO),Q       N2900297
                                N2900298

0300 *
0301 *****          SUBROUTINE FOR ASSEMBLE ASCII N2900300
0302 *
0303 P00B5 0B00      CONASC NOP 0          ENTRY                 N2900302
0304 P00B6 A006      AND- MASK+3         EXTRACT 4 BITS        N2900303
0305 P00E7 09F5      INA -10             CHECK FOR NUMBER      N2900304
0306 P00B8 0131      SAM DASNO           N2900305
0307 P00B9 0907      INA 7               SET FOR A-F           N2900306
0308 P00BA 093A      DASNO INA $3A       N2900307
0309 P00BB 1CF9      JMP* (CONASC)       EXIT                   N2900308
                                N2900309

0311 *
0312      0001 P         EQU SA33(*96)         N2900311
0313      0002 P         EQU SP33(SA33+1)       N2900312
0314      00C0 P         EQU DB33(SP33*96)       N2900313
0315 P00BC 0004      BSS (DB33-*)       N2900314
0316      END          N2900315
                                N2900316

```

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(0000255) 0082
0042	AMONI	00F4	(0000244) 0247
0042	ADISP	00EA	(0000234) 0254
0042	LPMSK	0002	(0000002) 0109, 0111, 0135
0042	NZERO	0012	(0000018)
0042	ZROBIT	0033	(0000051)
0043	FIVE	0043	(0000067)
0043	SIX	0044	(0000068)
0043	ZERO	0022	(0000034) 0260, 0282, 0298
0043	ONERIT	0023	(0000035)
0043	SIXTEN	0027	(0000039)
0044	COMMA	002C	(0000044) 0112
0044	SLASH	002F	(0000047)
0044	ASTRIC	002A	(0000042)
0045	EIGHT	0026	(0000038)
0045	NINE	0045	(0000069)
0045	THREE	0004	(0000004)
0045	ONE	0003	(0000003)
0045	TWO	0024	(0000036)
0046	TEN	0046	(0000070)
0047	MASK	0003	(0000003) 0304
0048	EXTBV4	00E9	(0000233) 0259
0050	CHRSLV	0007	(0000007) 0248
0051	LNWD28	001C	(0000028) 0163, 0252
0052	LNCH16	0010	(0000016) 0219
0053	ASMOD	1000	(0040096) 0237
0056	BHAN	0001	(0000001) 0089
0057	MSG	0002	(0000002) 0095
0058	SOMMOR	0003	(0000003) 0297
0059	IOERR	0004	(0000004) 0281
0060	LISTLU	0005	(0000005) 0086
0061	COMOLU	0006	(0000006)
0062	NEWMLU	0007	(0000007)
0063	PROG1	0008	(0000008)
0064	PROG2	0009	(0000009)
0065	RITFLG	000A	(0000010)
0066	BUFCNT	000B	(0000011)
0067	FIELD	000C	(0000012) 0107

0068	SLASHF	0010	(000016)	
0069	BUFEMT	0011	(000017)	0134
0070	BUFFER	0012	(000018)	0083
0073	GETFLD	0002	(000002)	0104
0074	ASCHEX	0003	(000003)	0118
0075	ASCDEC	0005	(000005)	

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	DASREQ	0000	0033
0104	DAS1	0017	0128
0115	DAS3	0021	0137, 0141, 0147, 0152
0118	DAS5	0023	0108, 0110, 0113
0120	DASVA	0025	0122
0133	DASLOC	002E	0102, 0123, 0138, 0139, 0143, 0144, 0145, 0148, 0149, 0150, 0178, 0183, 0188, 0193, 0204, 0216
			0222, 0223, 0287, 0288
0134	DAS10	0031	0127
0138	DAS11	0035	0136
0143	DAS12	0039	0140
0158	DAS19	0043	0293
0165	DAS20	0049	0168
0171	OTB	004D	0091, 0092
0174	EXTOFF	004F	0094, 0286
0178	DAS22	0050	0167
0204	DAS30	0067	0226
0212	DAS32	0070	0206
0229	BASF	007E	0081, 0280, 0296
0230	EXTHAN	007F	0090, 0106, 0119
0231	EXTMSG	0080	0095, 0116
0232	DATLOC	0081	0085, 0200, 0201, 0209, 0210, 0212, 0213, 0292
0233	COUNT	0082	0103, 0121, 0125, 0159, 0217, 0220
0234	HILO	0083	0160, 0205, 0215
0235	MAX	0084	0098, 0263, 0270
0237	MODE	0085	0087
0242	DAS40	0086	0221, 0225
0243	SELF	0087	0242, 0244, 0245
0249	DASX	008D	0246
0251	OTLU	008F	0088
0253	BUFADD	0091	0084, 0165, 0187, 0197, 0291
0258	CORADK	0093	0146, 0151, 0266, 0274, 0275
0266	AD32EX	009B	0262, 0273
0269	AD65	009C	0261
0274	AD65EX	00A1	0264, 0265, 0269, 0271, 0272
0279	DASRET	00A3	0245
0284	DASOK	00A7	0279
0287	DASUP	00AB	0285
0296	DAS50	00B2	0290
0303	CONASC	00B5	0180, 0185, 0190, 0194, 0309
0308	DASNO	00BA	0306
0312	SA33	0001	0313

DASREQ

PAGE 11

DATE: 01/27/99

0313	SP33	0002
0314	DB53	0000

0314
0315

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0037	HANDLE	004D	0171
0038	OFF	004E	0172
0039	CHRSFG	00A8	0284

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0266	AD65	0269	AD65EX	0274	ADISP	0042	AMONI	0042	ASCDEC	0075	ASCHEX	0074	ASMOD	0053	ASTRIC	0044
BASE	0229	BHAN	0056	BITFLG	0065	BUFADD	0253	BUFCNT	0066	BUFEMT	0069	BUFFER	0070	CHRSG	0039	CHRSLV	0050
COMMA	0044	COMOLU	0061	CONASC	0303	CORADK	0258	COUNT	0233	DAS1	0164	DAS10	0134	DAS11	0138	DAS12	0143
DAS19	0158	DAS20	0165	DAS22	0178	DAS3	0115	DAS30	0204	DAS32	0212	DAS40	0242	DAS5	0118	DAS50	0296
DASLOC	0133	DASNO	0308	DASOK	0284	DASREQ	0033	DASRET	0279	DASUP	0287	DASVA	0120	DASX	0249	DATLOC	0232
DB33	0314	EIGHT	0045	EXTBV4	0048	EXTHAN	0230	EXTMSG	0231	EXTOFF	0174	FIELD	0067	FIVE	0043	GETFLD	0073
HANDLE	0037	HILO	0234	I	0000	IOERR	0059	LISTLU	0060	LNCH16	0052	LNWD28	0051	LPMSK	0042	MASK	0047
MAX	0235	MODE	0237	MSG	0057	NEWMLU	0062	NINE	0045	NZERO	0042	OFF	0038	ONE	0045	ONEBIT	0043
OTB	0171	OTLU	0251	PROG1	0063	PROG2	0064	SA33	0312	SELF	0243	SIX	0043	SIXTEN	0043	SLASH	0044
SLASHF	0068	SOMMOR	0058	SP33	0313	TEN	0046	THREE	0045	TWO	0045	ZERO	0043	ZROBIT	0042		

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0023

0025
0026
0027

0029
0030

0031

0032

0033

0034
0035

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046
0003

NAM MLUREQ DECK-ID N30 MSOS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110

*
* THIS PROCESSOR IS USED TO CHANGE THE *
* MASS MEMORY LOGICAL UNIT *
*

INPUT FORMAT %
MLU,UNIT

ENT MLUREQ

EXT LOG1A
EXT NUMLU

EQU AMONI(\$F4),ADISF(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

EQU EIGHT(\$26),NINE(\$45),THREE(+),ONE(3),TWO(\$24)

EQU TEN(\$46)
EQU MASK(3) ONE BIT MASK

N3000001
N3000002
N3000003
N3000004
N3000005
N3000006
N3000007
N3000008
N3000009
N3000010
N3000011
N3000012
N3000013
N3000014
N3000015
N3000016
N3000017
N3000018
N3000019
N3000020

N3000022
N3000023

N3000025
N3000026
N3000027

N3000029
N3000030

N3000031

N3000032

N3000033

**MSOS4.0*
N3000034
N3000035

```

0037      *
0038      0001      EQU HANDLE(1)      "HANDLE"
0039      0002      EQU MSG(2)        "MSG" ENTRY
0040      0003      EQU SOMMOR(3)     "SOMMOR" ENTRY
0041      0004      EQU IOERR(4)     "IOERR" ENTRY
0042      0005      EQU LISTLU(5)    LIST OUTPUT --- "LISTLU"
0043      0006      EQU COMOLU(6)    "COMOLU"
0044      0007      EQU NEWMLU(7)    "NEWMLU" --- NEW MM LU
0045      0008      EQU PROG1(8)     "PROG1"
0046      0009      EQU PROG2(9)     "PROG2"
0047      000A      EQU BITFLG(10)   "BITFLG"
0048      000B      EQU BUFCNT(11)   "BUFCNT"
0049      000C      EQU FIELD(12)    "FIELD"
0050      0010      EQU SLASHF(16)   "SLASHF"
0051      0011      EQU BUFEMT(17)  "BUFEMT"
0052      0012      EQU BUFFER(18)   "BUFFER"

```

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N3000037
N3000038
N3000039
N3000040
N3000041
N3000042
N3000043
N3000044
N3000045
N3000046
N3000047
N3000048
N3000049
N3000050
N3000051
N3000052

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0054      *
0055      0002      EQU GETFLD(2)    "GETFLD" POINTERS
0056      0003      EQU ASCHEX(3)   "ASCHEX"
0057      0005      EQU ASCDEC(5)   "ASCDEC"

```

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N3000054
N3000055
N3000056
N3000057

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0059      *
0060      *****          PROGRAM START          *****
0061      *

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N3000059
N3000060
N3000061

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0063      P0000  6824      MLUREQ STA* BASE
0064      P0001  60FF      STA- I
0065      P0002  C101      LDA- HANDLE, I      GET "HANDLE" ADDRESS
0066      P0003  6822      STA* EXTHAN
0067      P0004  C102      LDA- MSG, I      FETCH "MSG" ADDRESS
0068      P0005  6821      STA* EXTMSG

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N3000063
N3000064
N3000065
N3000066
N3000067
N3000068

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0070      *
0071      P0006  0C02      ENQ 2      GET LOGICAL UNIT FROM TEXT
0072      P0007  0A02      ENA GETFLD
0073      P0008  5C10      RTJ* (EXTHAN)      GET 2 CHAR.
0074      P0009  0A05      ENA ASCDEC      CONVERT TO BINARY
0075      P000A  5C1B      RTJ* (EXTHAN)
0076      P000B  010E      SAZ MLUER      LU = 0, ERROR, SKIP
0077      P000C  6816      STA* LU
0078      P000D  0822      TRA Q
0079      P000E  C814      LUOK LDA* LU
0080      P000F  9814      SUB* MAXLU
0081      P0010  09FE      INA -1
0082      P0011  0128      SAP MLUER      ERROR, SKIP
0083      P0012  E600      LDQ LOG1A, Q      GET PHY. DEV. FROM PHY. TAB.
0083      P0013  7FFF      X

```

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N3000070
N3000071
N3000072
N3000073
N3000074
N3000075
N3000076
N3000077
N3000078
N3000079
N3000080
N3000081
N3000082
N3000083

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0084 P0014 0145 SQZ MLUER ERROR, UNDEFINED N3000084
0085 P0015 C208 LDA- 8,Q EXTRACT CLASS TYPE N3000085
0086 P0016 0F4B ARS 11 N3000086
0087 P0017 A005 AND- MASK+2 N3000087
0088 P0018 09FD INA -2 FOR MASS MEMORY, CLASS =2 N3000088
0089 P0019 0102 SAZ MLU10 N3000089
0090 P001A 0C09 ENQ 9 PRINT ERROR N3000090
0091 P001B 1C0B JMP* (EXTMSG) N3000091

0093 * LAST CHECK, MAKE SURE WITHIN MAX. N3000093

0095 *
0096 P001C C806 MLU10 LDA* LU RECALL NEW MM UNIT AND STORE N3000095
0097 P001D 0C07 ENQ NEWMLU N3000096
0098 P001E 6E06 STA* (BASE),Q N3000097
0099 P001F E805 LDQ* BASE N3000098
0100 P0020 E203 LDQ- SOMMOR,Q EXIT TO "SOMMOR" N3000099
0101 P0021 1622 JMP- (ZERO),Q N3000100
0102 * N3000101

0104 P0022 0000 LU NUM 0 N3000104
0105 P0023 7FFF X MAXLU ADC NUMLU MAX. NO. OF LU N3000105
0106 * N3000106
0107 P0024 0000 BASE NUM 0 N3000107
0108 P0025 0000 EXTHAN NUM 0 N3000108
0109 P0026 0000 EXTMSG NUM 0 N3000109

0111 * N3000111
0112 0000 P EQU SA34(*96) N3000112
0113 0001 P EQU SP34(SA34+1) N3000113
0114 0060 P EQU DB34(SP34*96) N3000114
0115 P0027 0039 BSS (DB34-*) N3000115
0116 END N3000116

```

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

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0064
0030	AMONI	00F4	(000244)
0030	ADISP	00EA	(000234)
0030	LPMSK	0002	(000002)
0030	NZERO	0012	(000018)
0030	ZROBIT	0033	(000051)
0031	FIVE	0043	(000067)
0031	SIX	0044	(000068)
0031	ZERO	0022	(000034) 0101
0031	ONEBIT	0023	(000035)
0031	SIXTEN	0027	(000039)
0032	COMMA	002C	(000044)
0032	SLASH	002F	(000047)
0032	ASTRIC	002A	(000042)
0033	EIGHT	0026	(000038)
0033	NINE	0045	(000069)
0033	THREE	0004	(000004)
0033	ONE	0003	(000003)
0033	TWO	0024	(000036)
0034	TEN	0046	(000070)
0035	MASK	0003	(000003) 0087
0038	HANDLE	0001	(000001) 0065
0039	MSG	0002	(000002) 0067
0040	SOMMOR	0003	(000003) 0100
0041	IOERR	0004	(000004)
0042	LISTLU	0005	(000005)
0043	COMOLU	0006	(000006)
0044	NEWMLU	0007	(000007) 0097
0045	PROG1	0008	(000008)
0046	PROG2	0009	(000009)
0047	BITFLG	000A	(000010)
0048	BUFCNT	000B	(000011)
0049	FIELD	000C	(000012)
0050	SLASHF	0010	(000016)
0051	BUFEFT	0011	(000017)
0052	BUFFER	0012	(000018)
0055	GFTFLO	0002	(000002) 0072
0056	ASCHEX	0003	(000003)

MLUREQ

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0057 ASCDEC 0005 (000005) 0074

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0023	MLUREQ	0000	0023
0079	LUOK	000E	
0090	MLUER	001A	0076, 0082, 0084
0096	MLU10	0010	0089
0104	LU	0022	0077, 0079, 0096
0105	MAXLU	0023	0080
0107	BASE	0024	0063, 0098, 0099
0108	EXTHAN	0025	0066, 0073, 0075
0109	EXTMSG	0026	0068, 0091
0112	SA34	0000	J113
0113	SP34	0001	0114
0114	DB34	0060	0115

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0026	LOG1A	0013	0083
0027	NUMLU	0023	0105

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0030	AMONI	0030	ASCDEC	0057	ASCHEX	0056	ASTRIC	0032	BASE	0107	BITFLG	0047	BUFCNT	0048	BUFEMT	0051
BUFFER	0052	COMMA	0032	COMOLJ	0043	DB34	0114	EIGHT	0033	EXTHAN	0108	EXTMSG	0109	FIELD	0049	FIVE	0031
GETFLD	0055	HANDLE	0038	I	0000	IOERR	0041	LISTLU	0042	LOG1A	0026	LPMSK	0030	LU	0104	LUOK	0079
MASK	0035	MAXLU	0105	MLU10	0096	MLUER	0090	MLUREQ	0023	MSG	0039	NEWMLU	0044	NINE	0033	NUMLU	0027
NZERO	0030	ONE	0033	ONEBIT	0031	PROG1	0045	PROG2	0046	SA34	0112	SIX	0031	SIXTEN	0031	SLASH	0032
SLASHF	0050	SOMMOR	0040	SP34	0113	TEN	0034	THREE	0033	TWO	0033	ZERO	0031	ZROBIT	0030		

NAM DPTREQ DECK-ID N31 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-116*****

N3100002
 N3100003
 N3100004
 N3100005
 N3100006
 N3100007
 N3100008
 N3100009
 N3100010
 N3100011
 N3100012
 N3100013
 N3100014
 N3100015
 N3100016
 N3100017
 N3100018
 N3100019
 N3100020
 N3100021
 N3100022
 N3100023
 N3100024
 N3100025
 N3100026
 N3100027
 N3100028
 N3100029
 N3100030

 * THIS PROCESSOR PRINT THE PARTITION *
 * CORE MAP *

INPUT FORMAT :

DPT

OUTPUT FORMAT :

PARTITION CORE MAP
 PARTITION NO. NN LLLL MMMM

WHERE NN = PARTITION NO.
 LLLL = CORE LOCATION
 MMMM = SIZE

ENT DPTREQ
 ENTRY NAME

EXT BUSY EXTERNALS
 EXT PARTBL BUSY INDICATORS FOR ALL PARTITIONS
 EXT LSTPRT PARTITION CORE TABLE
 EXT LSTLOC LAST PARTITION IN SYSTEM
 LAST ADDRESS OF LAST PARTITION

EQU AMONI('EQU'),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N3100032
 N3100033
 N3100035
 N3100036
 N3100037
 N3100038
 N3100039
 N3100041
 N3100042

N3100043

0001
 0002
 0003
 0004
 0005
 0006
 0007
 0008
 0009
 0010
 0011
 0012
 0013
 0014
 0015
 0016
 0017
 0018
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 0025
 0026
 0027
 0028
 0029
 0030

0032
0033

0035
 0036
 0037
 0038
 0039

0041
0042

0043

00F4
 00EA
 0002
 0012
 0033
 0043
 0044
 0022
 0023

```

0044 0027 EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N3100044
      002C
      002F
0045 002A EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N3100045
      0026
      0045
      0004
      0003
      0024
0046 0046 EQU TEN($46) **MSOS4.0**N3100046
0047 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0048 1000 EQU ASMOD($1000) ASCII OUTPUT MODE CODE N3100048
0049 00E9 EQU EXTBV4($E9) LOCATION CONTAINS EXTENDED CORE TABLE N3100049

0051 * SUBROUTINE POINTER N3100051
0052 0006 EQU HEXASC(6) "HEXASC" --- HEX. TO ASC N3100052

0054 * PARAMETER LOCATION (OFFSET FROM BASE) N3100054
0055 0001 EQU HANDLE(1) "HANDLE" N3100055
0056 0002 EQU MSG(2) "MSG" ENTRY N3100056
0057 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N3100057
0058 0004 EQU IOERR(4) "IOERR" ENTRY N3100058
0059 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N3100059
0060 0006 EQU COMOLU(6) "COMOLU" N3100060
0061 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N3100061
0062 0008 EQU PROG1(8) "PROG1" N3100062
0063 0009 EQU PROG2(9) "PROG2" N3100063
0064 000A EQU BITFLG(10) "BITFLG" N3100064
0065 000B EQU BUFCNT(11) "BUFCNT" N3100065
0066 000C EQU FIELD(12) "FIELD" N3100066
0067 0010 EQU SLASHF(16) "SLASHF" N3100067
0068 0011 EQU BUFEMT(17) "BUFEMT" N3100068
0069 0012 EQU BUFFER(18) "BUFFER" N3100069

0071 * N3100071
0072 ***** PROGRAM START ***** N3100072
0073 * N3100073

0075 OPTREQ STA* BASE N3100075
0076 PG0001 0822 TRA Q N3100076
0077 PG0002 C201 LDA- HANDLE,Q GET 'HANDLE' ADDRESS AND SAVED N3100077
0078 PG0003 686A STA* EXTHAN N3100078
0079 PG0004 C202 LDA- MSG,Q FETCH "MSG" ADDRESS N3100079
0080 PG0005 686E STA* EXTMSG N3100080
0081 PG0006 C205 LDA- LISTLU,Q GET LIST LOGICAL UNIT N3100081
0082 PG0007 8867 ADD* MODE N3100082
0083 PG0008 6845 STA* OTLU N3100083

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0085 P0009 E0E9 LDQ- EXTBV4 GET EXTENDED CORE TABLE ADDRESS N3100085
0086 P000A C622 LDA- (ZERO),Q OBTAIN 32K OR 65K FLAG N3100086
0087 P000B 0111 SAN DPT1 65K, SKIP N3100087
0088 P000C 1852 JMP* NOPART 32K, NO PARTITION CORE GO N3100088
0089 P000D 0842 DPT1 CLR Q N3100089
0090 P000E 4861 STQ* COUNT N3100090
0091 * I N T E R R U P T D I S A B L E N3100091
0092 P000F C500 IIN 0 N3100092
0093 P0010 E400 LDQ BUSY N3100093
P0011 7FFF X
0094 P0012 4860 STQ* BUSYFG N3100094
0095 P0013 0814 TRQ A BUSY INDICATOR TO A AND CHECK IF ANY ONE IS N3100095
0096 P0014 9012 SUB- NZERO IN BUSY STATUS N3100096
0097 P0015 0111 SAN DPT2 N3100097
0098 P0016 1848 JMP* NOPART NO, GO N3100098
0099 P0017 0844 DPT2 CLR A N3100099
0100 P0018 0F61 LRS 1 PUT THIS PARTITION BUSY BIT TO A-REGISTER N3100100
0101 P0019 4857 STQ* TEMP N3100101
0102 P001A 0107 SAZ DPT10 PARTITION IS NOT BUSY, SKIP N3100102
0103 * N3100103
0104 *** GET PARTITION CORE DATA N3100104
0105 P001B F854 DPT5 LDQ* COUNT N3100105
0106 P001C C600 LDA PARTBL,Q GET CORE LOC. OF THIS PARTITION AND SAVE N3100106
P001D 7FFF X
0107 P001E 6A56 STA* PATLOC,Q N3100107
0108 P001F 60FF STA- I N3100108
0109 P0020 C101 LDA- 1,I GET ITS SIZE AND SAVE N3100109
0110 P0021 6A63 STA* PATSIZ,Q N3100110
0111 P0022 D84D DPT10 RAO* COUNT BUMP COUNT BY 1 N3100111
0112 P0023 C84C LDA* COUNT CHECK IF ALL 16 PARTITION BEEN EXAMINED N3100112
0113 P0024 09EF INA -16 N3100113
0114 P0025 0102 SAZ DPT20 SKIP TO ASSEMBLE MESSAGE N3100114
0115 P0026 E84A LDQ* TEMP RECALL BUSY INDICATOR AND REPEAT N3100115
0116 P0027 18EF JMP* DPT2 N3100116

0118 * N3100118
0119 **** PARTITION DATA (LOC. + SIZE) BEEN FETCHED N3100119
0120 * N3100120
0121 **** ENABLE INTERRUPT AND GENERATE MESSAGE N3100121
0122 * N3100122
0123 P0028 0400 DPT20 EIN 0 N3100123
0124 P0029 0844 CLR A CLEAR HEADING INDICATOR N3100124
0125 P002A 6847 STA* HEADNG N3100125
0126 P002B C847 LDA* BUSYFG RECALL BUSY FLAG N3100126
0127 P002C 0842 DPT22 CLR Q N3100127
0128 P002D 0FE1 LLS 1 GET THIS PARTITION BUSY BIT TO Q-REG. N3100128
0129 P002E 6842 STA* TEMP N3100129
0130 P002F 0151 SQN DPT30 YES IT IS BUSY N3100130
0131 P0030 1825 JMP* DPT40 N3100131
0132 * N3100132
0133 P0031 E83E DPT30 LDQ* COUNT GET PARTITION NO. N3100133

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0134 P0032 EA41 LDQ* PATLOC-1,Q GET CORE LOCATION AND CONVERT TO ASCII FOR
0135 P0033 0A06 ENA HEXASC PRINT
0136 P0034 5C39 RTJ* (EXTHAN)
0137 P0035 006E ADC MES01-*
0138 P0036 E839 LDQ* COUNT
0139 P0037 EA4C LDQ* PATSIZ-1,Q GET SIZE AND CONVERT TO ASCII
0140 P0038 0A06 ENA HEXASC
0141 P0039 5C34 RTJ* (EXTHAN)
0142 P003A 006C ADC MES02-*
0143 P003B E834 LDQ* COUNT CONVERT PARTITION NO. TO ASCII
0144 P003C 0A06 ENA HEXASC
0145 P003D 5C30 RTJ* (EXTHAN)
0146 P003E 0062 ADC MES00-*
0147 P003F C000 LDA =APT
P0040 5054
P0041 E85E
0148 * STA* MES0
0149 * SET UP SIZE OF MESSAGE ACCORDINGLY
0150 P0042 E82F LDQ* HEADNG
0151 P0043 CA69 LDA* SIZE,Q GET MESSAGE AND SET UP
0152 P0044 EA66 LDQ* MESLOC,Q OBTAIN MESSAGE LOCATION
0153 P0045 480A DPT33 STQ* ADDRES
0154 P0046 6808 STA* SZ
0155 P0047 0A01 ENA 1 SET NO MORE HEADING
0156 P0048 6829 STA* HEADNG
0157 *
0158 P0049 54F4 RTJ- (AMONI)
0159 P004A 0D07 DPTCAL ADC $D00+CHRSLV CALL CODE
0160 P004B 0007 ADC DPTXT-DPTCAL EXIT
0161 P004C 0000 NUM 0 THREAD
0162 P004D 0000 OTLU NUM 0 COMMENT UNIT
0163 P004E 0000 SZ NUM 0 SIZE (TO BE FILLED)
0164 P004F 0000 ADDRES NUM 0
0165 P0050 14EA JMP- (ADISP)

0167 *
0168 *** CHECK IF ERROR ENCOUNTERED
0169 *
0170 P0051 0163 DPTXT SQP DPT40
0171 P0052 E81A LDQ* BASE
0172 P0053 E204 LDQ- IOERR,Q EXIT TO "IOERR"
0173 P0054 1622 JMP- (ZERO),Q
0174 *
0175 P0055 C81A DPT40 LDA* COUNT DECREMENT PARTITION CCUNT BY 1
0176 P0056 09FE INA -1
0177 P0057 0103 SAZ DPT50 SKIP WHEN ALL DONE
0178 P0058 6817 STA* COUNT
0179 P0059 C817 LDA* TEMP RECALL BUSY INDICATOR AND REPEAT
0180 P005A 18D1 JMP* DPT22

0182 *
0183 P005B E811 DPT50 LDQ* BASE E X I T --- A L L D O N E
0184 P005C E203 LDQ- SOMMOR,Q GET "SOMMOR" ADDRESS AND EXIT TO IT

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N3100134
N3100135
N3100136
N3100137
N3100138
N3100139
N3100140
N3100141
N3100142
N3100143
N3100144
N3100145
N3100146
N3100147
N3100148
N3100149
N3100150
N3100151
N3100152
N3100153
N3100154
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N3100156
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N3100158
N3100159
N3100160
N3100161
N3100162
N3100163
N3100164
N3100165
N3100167
N3100168
N3100169
N3100170
N3100171
N3100172
N3100173
N3100174
N3100175
N3100176
N3100177
N3100178
N3100179
N3100180
N3100182
N3100183
N3100184

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0185 P005D 1622

JMP- (ZERO),Q

N3100185

0187
0188
0189
0190 P005E 0A01
0191 P005F 6810
0192 P0060 C000
P0061 554E
0193 P0062 683D
0194 P0063 C000
P0064 5553
0195 P0065 683B
0196 P0066 C000
P0067 4544
0197 P0068 6839
0198 P0069 0A0E
0199 P006A E840
0200 P006B 18D9

*

*
NOPART ENA 1
STA* COUNT
LDA =AUN
SET UP TO PRINT ONE SHOT MESSAGE
STA* MES0
LDA =AUS
STA* MES00
LDA =AED
STA* MES00+1
ENA MES0X-MES
LDQ* MESLOC
JMP* DPT33

N3100187
N3100188
N3100189
N3100190
N3100191
N3100192
N3100193
N3100194
N3100195
N3100196
N3100197
N3100198
N3100199
N3100200

0202
0203 P006C 0000
0204 P006D 0000
0205 P006E 1000
0206 P006F 0000
0207 P0070 0000
0208 P0071 0000
0209 P0072 0000
0210 P0073 0000
0211 P0074 3010
0212 P0084 0010

*
CONSTANTS OR STORAGE LOCATIONS
BASE NUM 0
EXTHAN NUM 0
MODE ADC ASMOD
COUNT NUM 0
TEMP NUM 0
HEADNG NUM 0
BUSYFG NUM 0
EXTMSG NUM 0
PATLOC BZS PATLOC(16)
PATSIZ BZS PATSIZ(16)

PARAMETER ADD. (TO BE FILLED)
'HANDLE' ADDRESS (TO BE FILLED)
ASCII OUTPUT MODE CODE
PARTITION CORE LOC.
PARTITION CORE SZE.

N3100202
N3100203
N3100204
N3100205
N3100206
N3100207
N3100208
N3100209
N3100210
N3100211
N3100212

0214
0215
0216
0217 P0094 0A0D
0218 P0095 5041
P0096 5254
P0097 4954
P0098 494F
P0099 4E20
P009A 434F
P009B 5245
P009C 204D
P009D 415D
0219 P009E 0A0D
0220 P009F 5054

*

*
MESSAGE SKELTON
MES NUM \$A0D
ALF 9,PARTITION CORE MAP
MES0 NUM \$A0D
ALF 1,PT

N3100214
N3100215
N3100216
N3100217
N3100218
N3100219
N3100220

0221	P00A0	0000	MESG0	NUM	0,0	PARTITION NUMBER	N3100221
	P00A1	0000					
0222	P00A2	2020	MES 0X	ALF	1,		N3100222
0223	P00A3	0000	MES 01	NUM	0,0	CORE LOCATION	N3100223
	P00A4	0000					
0224	P00A5	2020		ALF	1,		N3100224
0225	P00A6	0000	MES 02	NUM	0,0	CORE SIZE	N3100225
	P00A7	0000					
0226	P00A8	0A00		NUM	\$A00		N3100226
0227	P00A9	0015	MES 03	ADC	*-MES		N3100227
0228	P00AA	004A	MESLOC	ADC	MES-DPTCAL	MESSAGE LOCATION	N3100228
0229	P00AB	0055		ADC	MES0-DPTCAL		N3100229
0230	P00AC	0015	SIZE	ADC	MES03-MES		N3100230
0231	P00AD	000A		ADC	MES03-MFS0		N3100231
0232			*				N3100232

0234		0001	P	EQU	SA35(*796)		N3100234
0235		0002	P	EQU	SP35(SA35+1)		N3100235
0236		00C0	P	EQU	DB35(SP35*96)		N3100236
0237	P00AE	0012		BSS	(DB35-*)		N3100237
0238				END			N3100238

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0108
0042	AMONI	00F4	(000244) 0158
0042	ADISP	00EA	(000234) 0165
0042	LPMSK	0002	(000002)
0042	NZERO	0012	(000018) 0096
0042	ZROBIT	0033	(000051)
0043	FIVE	0043	(000067)
0043	SIX	0044	(000068)
0043	ZERO	0022	(000034) 0086, 0173, 0185
0043	ONEBIT	0023	(000035)
0043	SIXTEN	0027	(000039)
0044	COMMA	002C	(000044)
0044	SLASH	002F	(000047)
0044	ASTRIC	002A	(000042)
0045	EIGHT	0026	(000038)
0045	NINE	0045	(000069)
0045	THREE	0004	(000004)
0045	ONE	0003	(000003)
0045	TWO	0024	(000036)
0046	TEN	0046	(000070)
0047	CHRSLV	0007	(000007) 0159
0048	ASMOD	1000	(004096) 0205
0049	EXTRV4	00E9	(000233) 0085
0052	HEXASC	0006	(000006) 0135, 0140, 0144
0055	HANDLE	0001	(000001) 0077
0056	MSG	0002	(000002) 0079
0057	SOMMOR	0003	(000003) 0184
0058	IOERR	0004	(000004) 0172
0059	LISTLU	0005	(000005) 0081
0060	COMOLU	0006	(000006)
0061	NEWMLU	0007	(000007)
0062	PROG1	0008	(000008)
0063	PROG2	0009	(000009)
0064	BITFLG	000A	(000010)
0065	BUFCNT	000B	(000011)
0066	FIELD	000C	(000012)
0067	SLASHF	0010	(000016)
0068	BUFEMT	0011	(000017)

DPTREQ

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0069 BUFFER 0012 (000018)

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	DPTREQ	0000	0033
0089	DPT1	000D	0087
0099	DPT2	0017	0097, 0116
0105	DPT5	001B	
0111	DPT10	0022	0102
0123	DPT20	0028	0114
0127	DPT22	002C	0180
0133	DPT30	0031	0130
0153	DPT33	0045	0200
0159	DPTCAL	004A	0160, 0228, 0229
0162	OTLU	004D	0083
0163	SZ	004E	0154
0164	ADDRES	004F	0153
0170	DPTXT	0051	0160
0175	DPT40	0055	0131, 0170
0183	DPT50	005B	0177
0190	NOPART	005E	0088, 0098
0203	BASE	006C	0075, 0171, 0183
0204	EXTHAN	006D	0078, 0136, 0141, 0145
0205	MODE	006E	0082
0206	COUNT	006F	0090, 0105, 0111, 0112, 0133, 0138, 0143, 0175, 0178, 0191
0207	TEMP	0070	0101, 0115, 0129, 0179
0208	HEADNG	0071	0125, 0150, 0156
0209	BUSYFG	0072	0094, 0126
0210	EXTMSG	0073	0080
0211	PATLOC	0074	0107, 0134
0212	PATSIZ	0084	0110, 0139
0217	MES	0094	0198, 0227, 0228, 0230
0220	MES0	009F	0148, 0193, 0229, 0231
0221	MES00	00A0	0146, 0195, 0197
0222	MES0X	00A2	0198
0223	MES01	00A3	0137
0225	MES02	00A6	0142
0227	MES03	00A9	0230, 0231
0228	MESLOC	00AA	0152, 0199
0230	SIZE	00AC	0151
0234	SA35	0001	0235
0235	SP35	0002	0236
0236	DB35	00C0	0237

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0036	BUSY	0011	0093
0037	PARTBL	001D	0106
0038	LSTPRT	7FFF	
0039	LSTLOC	7FFF	


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0012
0033
0049 0043 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N3200049
0044
0022
0023
0027
0050 002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N3200050
002F
002A
0051 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N3200051
0045
0004
0003
0024
0052 0046 EQU TEN($46) **MSOS4.0**N3200052
0053 0003 EQU MASK(3) ONE BIT MASK N3200053
0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0056 1000 EQU ASMDD($1000) OUTPUT ASC MODE N3200056
0057 0037 EQU COMSLD(55) "SLD" COMMAND INDEX N3200057
0059 * SUBROUTINE "EQU" POINTERS N3200059
0060 0002 EQU GETFLD(2) "GETFLD" N3200060
0061 0003 EQU ASCHEX(3) "ASCHEX" N3200061
0062 0005 EQU ASCDEC(5) "ASCDEC" N3200062
0064 * PARAMETER LOCATION (OFFSET FROM BASE) N3200064
0065 0001 EQU HANDLE(1) "HANDLE" N3200065
0066 0002 EQU MSG(2) "MSG" ENTRY N3200066
0067 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N3200067
0068 0004 EQU IOERR(4) "IOERR" ENTRY N3200068
0069 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N3200069
0070 0006 EQU COMOLU(6) "COMOLU" N3200070
0071 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N3200071
0072 0008 EQU PROG1(8) "PROG1" N3200072
0073 0009 EQU PROG2(9) "PROG2" N3200073
0074 000A EQU BITFLG(10) "BITFLG" N3200074
0075 000B EQU BUFCNT(11) "BUFCNT" N3200075
0076 000C EQU FIELD(12) "FIELD" N3200076
0077 0010 EQU SLASHF(16) "SLASHF" N3200077
0078 0011 EQU BUFEMT(17) "BUFEMT" N3200078
0079 0012 EQU BUFFER(18) "BUFFER" N3200079
0081 * N3200081
0082 ***** PROGRAM START ***** N3200082
0083 * N3200083
0085 P0000 6849 SLDREQ STA* BASE N3200085

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0086		0000	P	EQU	UNLREQ(SLDREQ)		N3200086
0087	P0001	60FF		STA-	I		N3200087
0088	P0002	C101		LDA-	HANDLE,I	OBTAIN AND SAVE "HANDLE" ADD.	N3200088
0089	P0003	6847		STA*	EXTHAN		N3200089
0090	P0004	C102		LDA-	MSG,I	GET "MSG" LOCATION AND KEEP	N3200090
0091	P0005	6846		STA*	EXTMSG		N3200091
0092	P0006	C031		LDA-	ONEBIT+14	SET FOR UNLOAD	N3200092
0093	P0007	683A		STA*	DENTY		N3200093
0095			*		GET LOGICAL UNIT AND CHECK FOR LEGILTY		N3200095
0096	P0008	0A02		ENA	GETFLD	GET AN INPUT FIELD	N3200096
0097	P0009	0C02		ENQ	2	(2 CHAR. MAX.)	N3200097
0098	P000A	5C40		RTJ*	(EXTHAN)		N3200098
0099	P000B	0A05		ENA	ASCDEC	CONVERT TO BINARY	N3200099
0100	P000C	5C3E		RTJ*	(EXTHAN)		N3200100
0101	P000D	0100		SAZ	LUER	LU=0, ERROR	N3200101
0102	P000E	6832		STA*	LU		N3200102
0103	P000F	0822		TRA	Q		N3200103
0104	P0010	983C		SUB*	MAXLU	CHECK FOR MAX. NO. OF LU	N3200104
0105	P0011	09FE		INA	-1		N3200105
0106	P0012	0128		SAP	LUER		N3200106
0107	P0013	E600	X	LDQ	LOG1A,Q	GET PHYSICAL DEVICE FROM PHY. TAB	N3200107
	P0014	7FFF	X				
0108	P0015	0145		SQZ	LUER	ERROR, UNDEFINED.	N3200108
0109	P0016	C208		LDA-	8,Q	GET CLASS TYPE	N3200109
0110	P0017	0F4B		ARS	11		N3200110
0111	P0018	A005		AND-	MASK+2		N3200111
0112	P0019	09FE		INA	-1	CLASS TYPE = 1 FOR MAG. TAPE	N3200112
0113	P001A	0102		SAZ	LUOK		N3200113
0114			*				N3200114
0115	P001B	0C09		LUER	ENQ 9	LU ERROR,	N3200115
0116	P001C	1C2F		JMP*	(EXTMSG)		N3200116
0117			*				N3200117
0119			*		LOGICAL UNIT OK, GET DENSITY IF IS "SLD"		N3200119
0120	P001D	C82C		LUOK	LDA* BASE		N3200120
0121	P001E	60FF		STA-	I		N3200121
0122	P001F	C109		LDA-	PROG2,I	CHECK IF 'SLD' REQUEST	N3200122
0123	P0020	09C8		INA	-COMSLD		N3200123
0124	P0021	0101		SAZ	SLD5		N3200124
0125	P0022	181A		JMP*	SLD15		N3200125
0126	P0023	C10C	SLD5	LDA-	FIELD,I	FORMAT CHECK ---- COMMA	N3200126
0127	P0024	900A		SUB-	LPMSK+8	CHECK IF 'NULL' FIRST	N3200127
0128	P0025	0113		SAN	SLD6		N3200128
0129	P0026	0A01		ENA	1		N3200129
0130	P0027	681A		STA*	DENTY		N3200130
0131	P0028	1814		JMP*	SLD15		N3200131
0132	P0029	800A	SLD6	ADD-	LPMSK+8		N3200132
0133	P002A	0903		INA	-COMMA	THEN CHECK FOR COMMA	N3200133
0134	P002B	0116		SAN	SLD9E		N3200134
0135			*				N3200135
0136	P002C	GA02	SLD7	ENA	GETFLD	GET FIELD --- DENSITY CODE	N3200136
0137	P002D	0C04		ENQ	4		N3200137

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0138 P002E 5C1C RTJ* (EXTHAN)
0139 P002F C111 LDA- BUFEMT,I MAKE SURE NO MORE DATA
0140 P0030 B012 EOR- LPMSK+16
0141 P0031 0102 SAZ SLD12
0142 P0032 0C04 SLD9E ENQ + FORMAT ERROR
0143 P0033 1C18 JMP* (EXTMSG)
0144 *
0145 P0034 0A05 SLD12 ENA ASCDEC CONVERT TO BINARY
0146 P0035 5C15 RTJ* (EXTHAN)
0147 P0036 0822 TRA Q DENSITY REQUESTED CODE TO Q
0148 P0037 09FB INA -4
0149 P0038 0131 SAM SLD14
0150 P0039 18F8 JMP* SLD9E
0151 P003A CA13 SLD14 LDA* DENCDC,Q
0152 P003B 68C6 STA* DENTY

0154 * OUTPUT
0155 P003C 54F4 SLD15 RTJ- (AMONI)
0156 P003D 1D07 SLDCD ADC $1D00+CHRSLV
0157 P003F 0006 ADC SLDEX-SLDCD
0158 P003F 0000 NUM 0
0159 P0040 0000 LU NUM 0
0160 P0041 0000 DENTY NUM 0
0161 P0042 14EA JMP- (ADISF)

0163 *
0164 P0043 0814 SLDEX TRQ A
0165 P0044 E805 LDQ* BASE EXIT TO "IOERR" (ERROR) OR "SOMMOR"
0166 P0045 0121 SAP SLD25
0167 P0046 0D01 INQ 1
0168 P0047 E203 SLD25 LDQ- SOMMOR,Q
0169 P0048 1622 JMP- (ZERO),0

0171 * STORAGE AND CONSTANTS
0172 P0049 0000 BASE NUM 0
0173 P004A 0000 EXTHAN NUM 0
0174 P004B 0000 EXTMSG NUM 0
0175 P004C 7FFF X MAXLU ADC NUMLU

0177 * DENSITY CODES
0178 P004D 0003 DENCDC NUM 3 0. 200 BPI
0179 P004E 0002 NUM 2 1. 556 BPI
0180 P004F 0001 NUM 1 2. 800 BPI
0181 P0050 0004 NUM 4 3. 1600 BPI

0183 *
0184 0000 P EQU SA55(*96)
0185 0001 P EQU SP55(SA55+1)
0186 0060 P EQU DB55(SP55*96)
0187 P0051 000F BSS (DB55-*)

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N3200138
N3200139
N3200140
N3200141
N3200142
N3200143
N3200144
N3200145
N3200146
N3200147
N3200148
N3200149
N3200150
N3200151
N3200152

N3200154
N3200155
N3200156
N3200157
N3200158
N3200159
N3200160
N3200161

N3200163
N3200164
N3200165
N3200166
N3200167
N3200168
N3200169

N3200171
N3200172
N3200173
N3200174
N3200175

N3200177
N3200178
N3200179
N3200180
N3200181

N3200183
N3200184
N3200185
N3200186
N3200187

SLDREQ

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0188

END

N3200188

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0087, 0121
0048	AMONI	00F4 (000244)	0155
0048	ADISP	00EA (000234)	0161
0048	LPMSK	0002 (000002)	0127, 0132, 0140
0048	NZERO	0012 (000018)	
0048	ZROBIT	0033 (000051)	
0049	FIVE	0043 (000067)	
0049	SIX	0044 (000068)	
0049	ZERO	0022 (000034)	0169
0049	ONEBIT	0023 (000035)	0092
0049	SIXTEN	0027 (000039)	
0050	CCMMA	002C (000044)	0133
0050	SLASH	002F (000047)	
0050	ASTRIC	002A (000042)	
0051	EIGHT	0026 (000038)	
0051	NINE	0045 (000059)	
0051	THREE	0004 (000004)	
0051	ONE	0003 (000003)	
0051	TWO	0024 (000036)	
0052	TEN	0046 (000070)	
0053	MASK	0003 (000003)	0111
0055	CHRSLV	0007 (000007)	0156
0056	ASMOD	1000 (004095)	
0057	COMSLD	0037 (000055)	0123
0060	GETFLD	0002 (000002)	0096, 0136
0061	ASCHEX	0003 (000003)	
0062	ASCDEC	0005 (000005)	0099, 0145
0065	HANDLE	0001 (000001)	0088
0066	MSG	0002 (000002)	0090
0067	SOMMOR	0003 (000003)	0168
0068	IOERR	0004 (000004)	
0069	LISTLU	0005 (000005)	
0070	COMOLU	0006 (000006)	
0071	NEWMLU	0007 (000007)	
0072	PROG1	0008 (000008)	
0073	PROG2	0009 (000009)	0122
0074	BITFLG	000A (000010)	
0075	BUFCNT	000B (000011)	

0076	FIELD	000C	(000012)	0126
0077	SLASHF	0010	(000016)	
0078	BUFEMT	0011	(000017)	0139
0079	BUFFER	0012	(000018)	

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0040	SLDREQ	0000	0040, 0086
0041	UNLREQ	0000	0041
0115	LUER	001B	0101, 0106, 0108
0120	LUOK	001D	0113
0126	SLO5	0023	0124
0132	SLO6	0029	0128
0136	SLO7	002C	
0142	SLO9E	0032	0134, 0150
0145	SLO12	0034	0141
0151	SLO14	003A	0149
0155	SLO15	003C	0125, 0131
0156	SLOCD	003D	0157
0159	LU	0040	0102
0160	DENTY	0041	0093, 0130, 0152
0164	SLDEX	0043	0157
0168	SLO25	0047	0166
0172	BASE	0049	0085, 0120, 0165
0173	EXTHAN	004A	0089, 0098, 0100, 0138, 0146
0174	EXTMSG	004B	0091, 0116, 0143
0175	MAXLU	004C	0104
0178	DENCD	004D	0151
0184	SA55	0000	0185
0185	SP55	0001	0186
0186	DB55	0060	0187

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0044	LOG1A	0014	0107
0045	NUMLU	004C	0175


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0041      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N3300041
          0045
          0004
          0003
          0024
0042      0046      EQU      TEN($46)      **MSOS4.0**N3300042
0043      0003      EQU      MASK(3)      ONE BIT MASK      N3300043

0045      0007      EQU      CHRSLV(7)      LEVEL OF THIS PROGRAM      116*4360*****
0046      1000      EQU      ASM0D($1000)      OUTPUT ASC MODE      N3300046

0048      *          CHARACTER 'EQUIVALENCES'      N3300048
0049      0030      EQU      KAR0($30)      CHARACTER = 0      N3300049
0050      0039      EQU      KAR9($39)      CHARACTER = 9      N3300050
0051      0041      EQU      KARA($41)      CHARACTER = A      N3300051
0052      0046      EQU      KARF($46)      CHARACTER = F      N3300052

0054      *          PARAMETER LOCATION (OFFSET FROM BASE)      N3300054
0055      0001      EQU      HANDLE(1)      "HANDLE"      N3300055
0056      0002      EQU      MSG(2)      "MSG" ENTRY      N3300056
0057      0003      EQU      SOMMOR(3)      "SOMMOR" ENTRY      N3300057
0058      0004      EQU      IOERR(4)      "IOERR" ENTRY      N3300058
0059      0005      EQU      LISTLU(5)      LIST OUTPUT --- "LISTLU"      N3300059
0060      0006      EQU      COMOLU(6)      "COMOLU"      N3300060
0061      0007      EQU      NEWMLU(7)      "NEWMLU" --- NEW MM LU      N3300061
0062      0008      EQU      PROG1(8)      "PROG1"      N3300062
0063      0009      EQU      PROG2(9)      "PROG2"      N3300063
0064      000A      EQU      BITFLG(10)      "BITFLG"      N3300064
0065      000B      EQU      BUFCNT(11)      "BUFCNT"      N3300065
0066      000C      EQU      FIELD(12)      "FIELD"      N3300066
0067      0010      EQU      SLASHF(16)      "SLASHF"      N3300067
0068      0011      EQU      BUFEMT(17)      "BUFEMT"      N3300068
0069      0012      EQU      BUFFER(18)      "BUFFER"      N3300069

0071      *          SUBROUTINE "EQU" POINTERS      N3300071
0072      0002      EQU      GETFLD(2)      "GETFLD"      N3300072
0073      0003      EQU      ASCHEX(3)      "ASCHEX"      N3300073
0074      0005      EQU      ASCJEC(5)      "ASCJEC"      N3300074

0076      *          ***** PROGRAM START *****      N3300076
0077      *****      N3300077
0078      *          N3300078

0080      P0000      683D      CWAREQ      STA*      BASE      N3300080
0081      P0001      60FF      STA-      I      N3300081
0082      P0002      8112      ADD-      BUFFER,I      N3300082
0083      P0003      683D      STA*      BUFADD      N3300083
0084      P0004      C101      LDA-      HANDLE,I      N3300084
0085      P0005      6839      STA*      EXTHAN      N3300085

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0086 P0006 C102
 0087 P0007 6838
 0088 P0008 C106
 0089 P0009 8838
 0090 P000A 6800
 P000B 0062

LDA- MSG,I
 STA* EXTMSG
 LDA- COMOLU,I GET COMMENT LU
 ADD* MODE
 STA OTLU

N3300086
 N3300087
 N3300088
 N3300089
 N3300090

0092
 0093 P000C 0C08
 0094 P000D 4835
 0095 P000E 0FA1
 0096 P000F 0A00
 0097 P0010 6A00
 P0011 0076

* GET INPUT DATA
 ENQ 8
 STQ* COUNT
 QLS 1
 ENA 0 ZERO OUT COUNTERS
 CWA1 STA INV,Q

N3300092
 N3300093
 N3300094
 N3300095
 N3300096
 N3300097

0098 P0012 0142
 0099 P0013 0DFE
 0100 P0014 18FB
 0101 P0015 F10A
 0102 P0016 4820
 0103 P0017 C10B
 0104 P0018 60FF
 0105 P0019 0142
 0106 P001A 0CFE
 0107 P001B 00FF
 0108 P001C 0D01
 0109 P001D 4826

CWA2 SQZ CWA2
 INQ -1
 JMP* CWA1
 CWA2 LDQ- BITFLG,I
 STQ* HILO
 LDA- BUFCNT,I
 STA- I
 CWA4 SQZ CWA5 NO CHANGE OF CHAR. POSITION, SKIP
 ENQ -1 OTHERWISE BUMP POINTERS
 CWA5 RAO- I
 INQ 1
 STQ* HILO

N3300098
 N3300099
 N3300100
 N3300101
 N3300102
 N3300103
 N3300104
 N3300105
 N3300106
 N3300107
 N3300108
 N3300109

0110
 0111 P001E CD22
 0112 P001F 0151
 0113 P0020 0F48
 0114 P0021 A00A
 0115 P0022 6863
 0116 P0023 B00A
 0117 P0024 0111
 0118 P0025 181F

*
 LDA* (BUFADD),I GET AND EXTRACT CHAR.
 SQN CWA7
 ARS 8
 CWA7 AND- LPMSK+8
 STA* TEMP
 FOR- LPMSK+8 IS END OF TEXT
 SAN CWA9
 JMP* CWA27

N3300110
 N3300111
 N3300112
 N3300113
 N3300114
 N3300115
 N3300116
 N3300117
 N3300118

0119
 0120 P0026 C85F
 0121 P0027 09CF
 0122 P0028 010C
 0123 P0029 0137
 0124 P002A 09F5
 0125 P002B 0138
 0126 P002C 09F8
 0127 P002D C106
 0128 P002E 0132
 0129 P002F 09F9
 0130 P0030 0132
 0131 P0031 0C04
 0132 P0032 1C0D

* CHECK FOR 0-9 AND A-F
 CWA9 LDA* TEMP
 INA -KAR0
 SAZ CWA18
 SAM CWA12 ERROR
 INA -KAR9+KAR0-1
 SAM CWA15 BETWEEN 1-9, SKIP
 INA -KARA+KAR9+1
 SAZ CWA15 SKIP ON 'A'
 SAM CWA12 ERROR
 INA -KARF+KARA-1
 SAM CWA14
 CWA12 ENQ 4 FORMAT ERROR --- TO "MSG"
 JMP* (EXTMSG)

N3300119
 N3300120
 N3300121
 N3300122
 N3300123
 N3300124
 N3300125
 N3300126
 N3300127
 N3300128
 N3300129
 N3300130

0133
 0134 P0033 0906
 0135 P0034 090A
 0136 P0035 E800

*
 CWA14 INA 6
 CWA15 INA 10
 CWA18 LDQ* COUNT

N3300131
 N3300132
 N3300133
 N3300134
 N3300135
 N3300136


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0188 P005C 0FCF      ALS 15
0189 P005D 4827      STQ* MOSMSB
0190 P005E 584E      RTJ* CV4A      CWA47 CONVERT LSB SECTOR TO ASCII
0191 P005F 4848      STQ* MES2
0192 P0060 6848      STA* MES2+1
0193 P0061 C823      LDA* MOSMSB      CONVERT MSB SECTOR
0194 P0062 584A      RTJ* CV4A
0195 P0063 4841      STQ* MES1
0196 P0064 E841      STA* MES1+1
0197 P0065 C820      LDA* TEMP      CONVERT WORD
0198 P0066 5846      RTJ* CV4A
0199 P0067 4843      STQ* MES3
0200 P0068 6843      STA* MES3+1
0201 *
0202 P0069 54F4      RTJ- (AMONI)
0203 P006A 0507      CWACJ ADC $500+CHRSLV WRITE
0204 P006B 0307      ADC CWAART-CWACD RETURN
0205 P006C 0000      NUM 0          THREAD
0206 P006D 0000      OTLU NUM 0     LU (TO BE FILLED)
0207 P006E 0014      ADC LMES       LENGTH
0208 P006F C02E      ADC MES-CWACD BUFFER
0209 P0070 14FA      JMP- (ADISP)
0210 *
0211 P0071 0814      CWAART TRQ A
0212 P0072 E8CA      LDQ* BASE
0213 P0073 0121      SAP CWAEX
0214 P0074 0D01      INQ 1          SET FOR I/O ERROR
0215 P0075 E203      CWAEX LDQ- SOMMOR,Q
0216 P0076 1622      JMP- (ZERO),Q EXIT ACCORDINGLY

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132*5453*****
132*5453*****
N3300222f
N33002225f
N33002226
N33002227
N33002228
N33002229
N33002230
N33002231
N33002232
N33002233
N33002234
N33002235
N33002236
N33002237
N33002238
N33002239
N33002240
N33002241
N33002242
N33002243
N33002244
N33002245
N33002246
N33002247
N33002248
N33002249
N33002250

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0218 *
0219 *****
0220 *****
0221 *****
0222 *
0223 CVTBIN NOP 0
0224 P0077 0B00      STQ- I
0225 P0078 40FF      LDA* CWAVAL,I   FIRST DIGIT
0226 P0079 C916      ALS 12          *$1000
0227 P007A E915      LDQ* CWAVAL+1,I SECOND DIGIT
0228 P007B 0FA8      QLS 8          *$100
0229 P007C 0874      EAQ A          ADD TO FIRST DIGIT
0230 P007D E913      LDQ* CWAVAL+2,I THIRD DIGIT
0231 P007E 0FA4      QLS 4          *$10
0232 P007F 0874      EAQ A          ADD TO FIRST 2 DIGITS
0233 P0080 0874      EOR* CWAVAL+3,I ADD IN FOURTH DIGIT
0234 P0081 B911      JMP* (CVTBIN)  RETURN
0234 P0082 1CF4

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132*5453*****
132*5453*****
132*5453*****
132*5453*****
132*5453*****
132*5453*****
132*5453*****
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132*5453*****
132*5453*****
132*5453*****

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0236 P0083 0000      ILSB NUM 0
0237 P0084 0000      MOSMSB NUM 0
0238 P0085 0000      TEMP NUM 0

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132*5453*****
N33002252
N33002253

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0239	P0086	0060	N096	NUM	96		N3300254
0240	P0087	0008	INV	BZS	INV(8)		N3300255
0241	P008F	0009	CWAVAL	BZS	CWAVAL(9)		N3300256
0243			*			M E S S A G E	N3300258
0244	P0098	0A0D	MES	NUM	\$ADD		N3300259
0245	P0099	5345		ALF	11,SECTOR/WORD ADDRESS =		N3300260
	P009A	4354					
	P009B	4F52					
	P009C	2F57					
	P009D	4F52					
	P009E	4420					
	P009F	4144					
	P00A0	4452					
	P00A1	4553					
	P00A2	5320					
	P00A3	3D20					
0246	P00A4	2020	MES1	ALF	2,	MSB ADD.	N3300261
	P00A5	2020					
0247	P00A6	2D20		ALF	1,--		N3300262
0248	P00A7	2020	MES2	ALF	2,	LSB ADD.	N3300263
	P00A8	2020					
0249	P00A9	2D20		ALF	1,--		N3300264
0250	P00AA	2020	MES3	ALF	2,	WORD ADD.	N3300265
	P00AB	2020					
0251		0014		EQU	LMES(*-MES)		N3300266
0253			*				N3300268
0254			*****			ROUTINE TO CONVERT TO I-WORD ASCII	N3300269
0255			*				N3300270
0256	P00AC	0B00	CV4A	NOP	0	ENTRY	N3300271
0257	P00AD	0C00		ENQ	0		N3300272
0258	P00AE	4815		STQ*	CI	SET UP INDEX	N3300273
0259	P00AF	0FEC	C1	LLS	12	EXTRACT 4-BIT TO A-REG.	N3300274
0260	P00BC	0FC4		ALS	4		N3300275
0261	P00B1	480D		STQ*	CT	SAVE REMAINDER	N3300276
0262	P00B2	09F5		INA	-10	SET UP CHAR. AS NO. OR A-F	N3300277
0263	P00B3	0131		SAM	NOAF1		N3300278
0264	P00B4	0907		INA	7		N3300279
0265	P00B5	093A	NOAF1	INA	\$3A		N3300280
0266	P00B6	E80D		LDQ*	CI	RECALL INDEX TO SAVE CHAR.	N3300281
0267	P00B7	6A08		STA*	CU,Q		N3300282
0268	P00B8	0DFC		INQ	-3	CHECK IF DONE	N3300283
0269	P00B9	G14A		SQZ	CE	SKIP WHEN DONE	N3300284
0270	P00BA	D809		RAO*	CI		N3300285
0271	P00BB	0C00		ENQ	0		N3300286
0272	PCJBC	C802		LDA*	CT	TO PROCESS ANOTHER ONE	N3300287
0273	P00BD	18F1		JMP*	C1		N3300288
0274			*				N3300289
0275	P00BE	0000	CT	NUM	0		N3300290
0276	P00BF	0004	CU	BZS	CU(4)		N3300291
0277	P00C3	0000	CI	NUM	0		N3300292

0278			*					
0279	P00C4	E8FD	CE	LDQ*	CU+3			N3300293
0280	P00C5	0FA8		QLS	8	ASSEMBLE INTO 2-CHAR. WORD		N3300294
0281	P00C6	F8FA		ADQ*	CU+2			N3300295
0282	P00C7	C8F8		LDA*	CU+1			N3300296
0283	P00C8	0FC8		ALS	8			N3300297
0284	P00C9	88F5		ADD*	CU			N3300298
0285	P00CA	1CE1		JMP*	(CV4A)	RETURN		N3300299
								N3300300

0287			*					
0288		0002	P	EQU	SA50(* / 96)			N3300302
0289		0003	P	EQU	SP50(SA 50+1)			N3300303
0290		0120	P	EQU	DB50(SP 50*96)			N3300304
0291	P00CB	0055		BSS	(DB50-*)			N3300305
0292				END				N3300306
								N3300307

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0081, 0104, 0107, 0164, 0172, 0224
0038	AMONI	00F4	(000244) 0202
0038	ADISP	00EA	(000234) 0209
0038	LPMSK	0002	(000002) 0114, 0116
0038	NZERO	0012	(000018)
0038	ZROBIT	0033	(000051)
0039	FIVE	0043	(000067)
0039	SIX	0044	(000068)
0039	ZERO	0022	(000034) 0216
0039	ONEBIT	0023	(000035)
0039	SIXTEN	0027	(000039)
0040	COMMA	002C	(000044)
0040	SLASH	002F	(000047)
0040	ASTRIC	002A	(000042)
0041	EIGHT	0026	(000038)
0041	NINE	0045	(000069)
0041	THREE	0004	(000004)
0041	ONE	0003	(000003)
0041	TWO	0024	(000036)
0042	TEN	0046	(000070)
0043	MASK	0003	(000003)
0045	CHRSLV	0007	(000007) 0203
0046	ASMOD	1000	(004096) 0154
0049	KAR0	0030	(000048) 0121, 0124
0050	KAR9	0039	(000057) 0124, 0126
0051	KARA	0041	(000065) 0126, 0129
0052	KARF	0046	(000070) 0129
0055	HANDLE	0001	(000001) 0084
0056	MSG	0002	(000002) 0086
0057	SOMMOR	0003	(000003) 0215
0058	IOEPR	0004	(000004)
0059	LISTLU	0005	(000005)
0060	COMOLU	0006	(000006) 0088
0061	NEWMLU	0007	(000007)
0062	PROG1	0008	(000008)
0063	PROG2	0009	(000009)
0064	BITFLG	000A	(000010) 0101
0065	BUFCNT	000B	(000011) 0103

0066	FIELD	0000	(000012)	
0067	SLASHF	0010	(000016)	
0068	BUFEMT	0011	(000017)	
0069	BUFFER	0012	(000018)	0082
0072	GETFLO	0002	(000002)	
0073	ASCHEX	0003	(000003)	
0074	ASCDEC	0005	(000005)	
0251	LMES	0014	(000020)	0207

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0035	CWAREQ	0000	0035
0097	CWA1	0010	0100
0101	CWA2	0015	0098
0105	CWA4	0019	0147
0108	CWA5	001C	0105
0114	CWA7	0021	0112
0120	CWA9	0026	0117
0131	CWA12	0031	0123, 0128, 0138
0134	CWA14	0033	0130
0135	CWA15	0034	0125, 0127
0136	CWA18	0035	C122
0139	CWA19	0038	0137
0142	CWA20	0039	
0145	CWA25	003B	
0150	BASE	003D	0080, 0212
0151	EXTHAN	003E	0085
0152	EXTMSG	003F	0087, 0132
0153	BUFADD	0040	0083, 0111
0154	MODE	0041	0089
0155	COUNT	0042	0094, 0136, 0143, 0163, 0170
0156	HILO	0043	0102, 0109, 0146
0163	CWA27	0044	0118
0166	CWA29	0047	0173
0174	CWA30	004F	0171
0190	CWA47	005E	
0203	CWACD	006A	0204, 0208
0206	OTLU	006D	0090
0211	CWART	0071	0204
0215	CWAEX	0075	0213
0223	CVTRIN	0077	0175, 0178, 0234
0236	ILSB	0083	0176, 0183
0237	MOSMSB	0084	0181, 0186, 0189, 0193
0238	TEMP	0085	0115, 0120, 0185, 0197
0239	NO96	0086	0180, 0184
0240	INV	0087	0097, 0140, 0166
0241	CWAVAL	008F	0167, 0225, 0227, 0230, 0233
0244	MFS	0098	0208, 0251
0246	MES1	00A4	0195, 0196
0248	MES2	00A7	0191, 0192
0250	MES3	00AA	0199, 0200
0256	CV4A	00AC	0190, 0194, 0198, 0285

G259	C1	COAF
0265	NOAF1	COB5
0275	CT	COBE
0276	CU	COBF
0277	CI	COC3
0279	CF	COC4
0288	SA50	COO2
0289	SP50	COO3
0290	DB50	O120

0273
0263
0261, 0272
0267, 0279, 0281, 0282, 0284
0258, 0266, 0270
0269
0289
0290
0291

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0038	AMONI	0038	ASCDEC	0074	ASCHEX	0073	ASMOD	0046	ASTRIC	0040	BASE	0150	BITFLG	0064	BUFADD	0153
BUFCNT	0065	BUFEMT	0068	BUFFER	0069	C1	0259	CE	0279	CHRSLV	0045	CI	0277	COMMA	0040	COMOLU	0060
COUNT	0155	CT	0275	CU	0276	CV4A	0256	CVTRIN	0223	CWA1	0097	CWA12	0131	CWA14	0134	CWA15	0135
CWA18	0136	CWA19	0139	CWA2	0101	CWA20	0142	CWA25	0146	CWA27	0163	CWA29	0166	CWA30	0174	CWA4	0105
CWA47	0190	CWA5	0108	CWA7	0114	CWA9	0123	CWACD	0203	CWAEX	0215	CWAREQ	0035	CWART	0211	CWAVL	0241
DB50	0290	EIGHT	0041	EXTHAN	0151	EXTMSG	0152	FIELD	0066	FIVE	0039	GETFLD	0072	HANDLE	0055	HILO	0156
I	0000	ILSB	0236	INV	0240	IOERR	0058	KAR0	0049	KAR9	0050	KARA	0051	KARF	0052	LISTLU	0059
LMES	0251	LPMSK	0038	MASK	0043	MES	0244	MES1	0246	MES2	0248	MES3	0250	MODE	0154	MOSMSB	0237
MSG	0056	NEWMLU	0061	NINE	0041	NO96	0239	NOAF1	0265	NZERO	0038	ONE	0041	ONEBIT	0039	OTLU	0206
PROG1	0062	PROG2	0063	SA50	0288	SIX	0039	SIXTEN	0039	SLASH	0040	SLASHF	0067	SOMMOR	0057	SP50	0289
TEMP	0238	TEN	0042	THREE	0041	TWO	0041	ZERO	0039	ZROBIT	0038						


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0048 0033 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N3400048
      0043
      0044
      0022
      0023
      0027
0049 302C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N3400049
      002F
      002A
0050 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N3400050
      0045
      0004
      0003
      0024
0051 0046 EQU TEN($46) N3400051
0052 0003 EQU MASK(3) ONE BIT MASK N3400052

0054 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0055 1000 EQU ASM0D($1000) OUTPUT ASC MODE N3400055
0056 0060 EQU N096(96) BUFFER SIZE N3400056
0057 002D EQU COMDMH(45) COMMAND "DMH" INDEX N3400057

*
* PARAMETER LOCATION (OFFSET FROM BASE)
0059 EQU HANDLE(1) "HANDLE" N3400059
0060 EQU MSG(2) "MSG" ENTRY N3400060
0061 EQU SOMMOR(3) "SOMMOR" ENTRY N3400061
0062 EQU IOERR(4) "IOERR" ENTRY N3400062
0063 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N3400063
0064 EQU COMOLU(6) "COMOLU" N3400064
0065 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N3400065
0066 EQU PROG1(8) "PROG1" N3400066
0067 EQU PROG2(9) "PROG2" N3400067
0068 EQU BITFLG(10) "BITFLG" N3400068
0069 EQU BUFCNT(11) "BUFCNT" N3400069
0070 EQU FIELD(12) "FIELD" N3400070
0071 EQU SLASHF(16) "SLASHF" N3400071
0072 EQU BUFEMT(17) "BUFEMT" N3400072
0073 EQU BUFFER(18) "BUFFER" N3400073
0074

*
* SUBROUTINE "EQU" POINTERS
0076 EQU GETFLD(2) "GETFLD" N3400076
0077 EQU ASCHEX(3) "ASCHEX" N3400077
0078 EQU ASCDEC(5) "ASCDEC" N3400078
0079 EQU FETMM(9) "FETMM" --- GET MM ADDRESS N3400079
0080 EQU MASOT(11) "MASOT"--- PRINT MM DATA WITH DIFF. FORMATS N3400080
0081

*
*****
*
0083 ***** PROGRAM START ***** N3400083
0084 N3400084
0085 N3400085

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0087 P0000 6854 DMHREQ STA* BASE N3400087
0088 0000 P EQU DMAREQ(DMHREQ) N3400088
0089 0000 P EQU DMIREQ(DMHREQ) N3400089
0090 P0001 00FF STA- I N3400090
0091 P0002 C101 LDA- HANDLE, I GET AND SAVE "HANDLG" N3400091
0092 P0003 6852 STA* EXTHAN N3400092
0093 P0004 C102 LDA- MSG, I FETCH AND STORE "MSG" N3400093
0094 P0005 6851 STA* EXTMSG N3400094
0095 P0006 C107 LDA- NEWMLU, I GET MM LU N3400095
0096 P0007 6851 STA* DMHLOC N3400096
0097 P0008 6821 STA* OTLU N3400097
0098 P0009 C109 LDA- PROG2, I GENERATE PROGRAM TYPE, 0=HEX., 1=DECIMAL N3400098
0099 P000A 0902 INA -COMDMH AND 2=ASCII DUMP N3400099
0100 P000B 684C STA* PROTYP N3400100

* GET MM ADDRESS N3400102
0102 * ENA FETMM GET MM ADDRESS WITH INPUT MM ADD. DATA SAVE N3400103
0103 P000C 0A09 ENQ 1 N3400104
0104 P000D 0C01 RTJ* (EXTHAN) N3400105
0105 P000E 5C47 ADC DMHLOC-* N3400106
0106 P000F 0049 LDA- FIELD, I MAKE SURE FORMAT OK N3400107
0107 P0010 C10C INA -COMMA N3400108
0108 P0011 0903 SAN DMH3 ERROR, SKIP N3400109
0109 P0012 0116 ENA GETFLD GET NEXT FIELD --- NO. OF WORDS N3400110
0110 P0013 0A02 ENQ 4 N3400111
0111 P0014 0C04 RTJ* (EXTHAN) N3400112
0112 P0015 5C40 LDA- BUFEMT, I MAKE SURE NO MORE DATA N3400113
0113 P0016 C111 EOR- LPMASK+16 N3400114
0114 P0017 B012 SAZ DMH6 N3400115
0115 P0018 6102 * N3400116
0116 * ENQ 4 FORMAT ERROR N3400117
0117 P0019 0C04 DMH3 JMP* (EXTMSG) N3400118
0118 P001A 1C3C * N3400119
0119 * DMH6 ENA ASCHEX CONVERT TO HEX. N3400120
0120 P001B 0A03 RTJ* (EXTHAN) N3400121
0121 P001C 5C39 NW NUM 0 N3400122
0122 P001D 0000

* INPUT DATA IN, TO READ OVER MM DATA N3400124
0124 * ***** N3400125
0125 * N3400126
0126 * N3400127
0127 P001E 0A60 DMH9 ENA N096 N3400128
0128 P001F 680B STA* DMHZ N3400129
0129 P0020 683E STA* SIZE N3400130
0130 P0021 C837 LDA* DMHLOC SET UP MM ADD. N3400131
0131 P0022 680A STA* DMHM N3400132
0132 P0023 C836 LDA* DMHLOC+1 N3400133
0133 P0024 6809 STA* DMHL N3400134
0134 P0025 54F4 RTJ- (AMONI) N3400135
0135 P0026 0307 DMHCD ADC $300+CHRSLV READ N3400136
0136 P0027 00C9 ADC DMHRT-DMHCD RETURN N3400137
0137 P0028 0000 NUM 0 THREAD

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0138	P0029	0000	OTLU	NUM	0	LU (TO BE FILLED)	N3400138
0139	P002A	0060	DMHZ	ADC	N095	NO. OF WORDS	N3400139
0140	P002B	0039		ADC	MMDAT-DMHCD	BUFFER	N3400140
0141	P002C	0000	DMHM	NUM	0	MSB (TO BE FILLED)	N3400141
0142	P002D	0000	DMHL	NUM	0	LSB	N3400142
0143	P002F	14FA		JMP-	(ADISP)		N3400143
0145			*				N3400145
0146	P002F	0163	DMHRT	SQP	DMH20		N3400146
0147	P0030	E824		LDQ*	BASE	I/O ERROR	N3400147
0148	P0031	E204		LDQ-	IOERR,Q		N3400148
0149	P0032	1622		JMP-	(ZERO),Q		N3400149
0150			*				N3400150
0151	P0033	0A00	DMH20	ENA	0		N3400151
0152	P0034	6829		STA*	DONE		N3400152
0153	P0035	C8E7		LDA*	NW	CHECK IF MORE DATA THAN REQUIRED	N3400153
0154	P0036	98F3		SUB*	DMHZ		N3400154
0155	P0037	09FE		INA	-1		N3400155
0156	P0038	0123		SAP	DMH22		N3400156
0157	P0039	D824		RAO*	DONE	SET DONE	N3400157
0158	P003A	C8E2		LDA*	NW	SET UP SIZE	N3400158
0159	P003B	6823		STA*	SIZE		N3400159
0160	P003C	CAGB	DMH22	ENA	MASOT	TO ASSEMBLE MM ADD./DATA AND PRINT	N3400160
0161	P003D	E81A		LDQ*	PROTP	ACCORDING TO PROGRAM TYPE	N3400161
0162	P003E	5C17		RTJ*	(EXTHAN)		N3400162
0163	P003F	001B		ADC	DMHLOC+2-*		N3400163
0164	P0040	001E		ADC	SIZE-*		N3400164
0165	P0041	001E		ADC	MMDAT-*		N3400165
0166			*				N3400166
0167	P0042	C81B		LDA*	DONE	CHECK IF ALL DATA BEEN PRINT	N3400167
0168	P0043	0103		SAZ	DMH30	NO, SKIP TO UPDATE POINTERS	N3400168
0169	P0044	E810		LDQ*	BASE		N3400169
0170	P0045	E203		LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N3400170
0171	P0046	1622		JMP-	(ZERO),Q		N3400171
0172			*			UPDATE POINTERS AND REPEAT	N3400172
0173	P0047	C805	DMH30	LDA*	NW		N3400173
0174	P0048	98F1		SUB*	DMHZ		N3400174
0175	P0049	68D3		STA*	NW		N3400175
0176	P004A	C80F		LDA*	DMHLOC+1	ADJUST MM ADD.	N3400176
0177	P004B	88DE		ADD*	DMHZ		N3400177
0178	P004C	0122		SAP	DMH31		N3400178
0179	P004D	A011		AND-	LPMSK+15		N3400179
0180	P004E	D80A		RAO*	DMHLOC		N3400180
0181	P004F	680A	DMH31	STA*	DMHLOC+1		N3400181
0182	P0050	C80C		LDA*	DMHLOC+4	UPDATE WORD POSITION	N3400182
0183	P0051	88D8		ADD*	DMHZ		N3400183
0184	P0052	680A		STA*	DMHLOC+4		N3400184
0185	P0053	18CA		JMP*	DMH9		N3400185
0187			*			S T O R A G E	N3400187
0188	P0054	0000		BASE	NUM	0	N3400188
0189	P0055	0000		EXTHAN	NUM	0	N3400189
0190	P0056	0000		EXTMSG	NUM	0	N3400190

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0191 P0057 0000 PROTOP NUM 0
0192 P0058 0005 DMHLOC BZS DMHLOC(5)
0193 P005D 0000 DONE NUM 0
0194 P005E 0000 SIZE NUM 0
0195 P005F 0060 MMDAT BZS MMDAT(N096)

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PROGRAM TYPE

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N3400191
N3400192
N3400193
N3400194
N3400195

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0197
0198      0001 P * EQU SA45(*96)
0199      0002 P EQU SP45(SA45+1)
0200      0000 P EQU DB45(SP45*96)
0201 P00BF 0001 BSS (DB45-*)
0202      END

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N3400197
N3400198
N3400199
N3400200
N3400201
N3400202

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PSM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(0000255) 0090
0047	AMONI	00F4	(0000244) 0134
0047	ADISP	00EA	(0000234) 0143
0047	LPMSK	0002	(0000002) 0114, 0179
0047	NZERO	0012	(0000018)
0047	ZROBIT	0033	(0000051)
0048	FIVE	0043	(0000067)
0048	SIX	0044	(0000068)
0048	ZERO	0022	(0000034) 0149, 0171
0048	ONEBIT	0023	(0000035)
0048	SIXTEN	0027	(0000039)
0049	COMMA	002C	(0000044) 0108
0049	SLASH	002F	(0000047)
0049	ASTRIC	002A	(0000042)
0050	EIGHT	0026	(0000038)
0050	NINE	0045	(0000069)
0050	THREE	0004	(0000004)
0050	ONE	0003	(0000003)
0050	TWO	0024	(0000036)
0051	TEN	0046	(0000070)
0052	MASK	0003	(0000003)
0054	CHRSLV	0007	(0000007) 0135
0055	ASMOD	1000	(004095)
0056	NO96	0060	(0000096) 0127, 0139, 0195
0057	COMDMH	002D	(0000045) 0099
0060	HANDLE	0001	(0000001) 0091
0061	MSG	0002	(0000002) 0093
0062	SOMMOR	0003	(0000003) 0170
0063	IOERR	0004	(0000004) 0148
0064	LISTLU	0005	(0000005)
0065	COMOLU	0006	(0000006)
0066	NEWMLU	0007	(0000007) 0095
0067	PROG1	0008	(0000008)
0068	PROG2	0009	(0000009) 0098
0069	BITFLG	000A	(0000010)
0070	BUFCNT	000B	(0000011)
0071	FIELD	000C	(0000012) 0107
0072	SLASHF	0010	(0000016)

0073	BUFEMT	0011	(000017)	0113
0074	BUFFER	0012	(000018)	
0077	GETFLD	0002	(000002)	0110
0078	ASCHEX	0003	(000003)	0120
0079	ASCDEC	0005	(000005)	
0080	FETMM	0009	(000009)	0103
0081	MASOT	0008	(000011)	0160

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0042	DMHREQ	0000	0042, 0088, 0089
0043	DMAREEQ	0000	0043
0044	DMIREQ	0000	0044
0117	DMH3	0019	0109
0120	DMH6	0018	0115
0122	NW	001D	0153, 0158, 0173, 0175
0127	DMH9	001E	0185
0135	DMHCD	0026	0136, 0140
0138	OTLU	0029	0097
0139	DMH7	002A	0128, 0154, 0174, 0177, 0183
0141	DMHM	002C	0131
0142	DMHL	002D	0133
0146	DMHRT	002F	0136
0151	DMH20	0033	0146
0160	DMH22	003C	0156
0173	DMH3G	0047	0168
0181	DMH31	004F	0178
0188	BASE	0054	0087, 0147, 0169
0189	EXTHAN	0055	0092, 0105, 0112, 0121, 0162
0190	EXTMSG	0056	0094, 0118
0191	PROTYP	0057	0100, 0161
0192	DMHLOC	0058	0096, 0106, 0130, 0132, 0163, 0176, 0180, 0181, 0182, 0184
0193	DONE	005D	0152, 0157, 0167
0194	SIZEF	005E	0129, 0159, 0164
0195	MMDAT	005F	0140, 0165
0198	SA45	0001	0199
0199	SP45	0002	0200
0200	DB45	00C0	0201


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0043      002C      EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)                N3500043
          002F
          002A
0044      0026      EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)    N3500044
          0045
          0004
          0003
          0024
0045      0046      EQU  TEN($46)                                         **MSOS4.0**N3500045
0046      0003      EQU  MASK(3)      ONE BIT MASK                        N3500046

0048      0007      EQU  CHRSLV(7)      LEVEL OF THIS PROGRAM          116*4360*****
0049      1000      EQU  ASMOD($1000)  OUTPUT ASC MODE                  N3500049
0050      0060      EQU  ONESTR(96)                                         N3500050

0052      *          SUBROUTINE  "EQU"  POINTERS                        N3500052
0053      0002      EQU  GETFLD(2)    "GETFLD"                          N3500053
0054      0003      EQU  ASCHEX(3)   "ASCHEX"                          N3500054
0055      0005      EQU  ASCDEC(5)   "ASCDEC"                          N3500055
0056      0009      EQU  FETMM(9)    "FETMM"  ---  FETCH MM ADDRESS    N3500056

0058      *          PARAMETER LOCATION (OFFSET FROM BASE)              N3500058
0059      0001      EQU  BHAN(1)     "HANDLE"                          N3500059
0060      0002      EQU  MSG(2)      "MSG"  ENTRY                      N3500060
0061      0003      EQU  SOMMOR(3)   "SOMMOR" ENTRY                    N3500061
0062      0004      EQU  IOERR(4)    "IOERR" ENTRY                     N3500062
0063      0005      EQU  LISTLU(5)   LIST OUTPUT  ---  "LISTLU"       N3500063
0064      0006      EQU  COMOLU(6)   "COMOLU"                          N3500064
0065      0007      EQU  NEWMLU(7)   "NEWMLU"  ---  NEW MM LU         N3500065
0066      0008      EQU  PROG1(8)    "PROG1"                          N3500066
0067      0009      EQU  PROG2(9)    "PROG2"                          N3500067
0068      000A      EQU  BITFLG(10)  "BITFLG"                          N3500068
0069      000B      EQU  BUFcnt(11)  "BUFcnt"                          N3500069
0070      000C      EQU  FIELD(12)   "FIELD"                          N3500070
0071      0010      EQU  SLASHF(16)  "SLASHF"                          N3500071
0072      0011      EQU  BUFEMT(17)  "BUFEMT"                          N3500072
0073      0012      EQU  BUFFER(18)  "BUFFER"                          N3500073

0075      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *          *
0076      *****          *****          P R O G R A M          S T A R T          *****
0077      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *

0079      P0000      6864      SMNREQ  STA*  BASE                        N3500079
0080      P0001      60FF      STA-  I                                N3500080
0081      P0002      C101      LDA-  BHAN,I          FETCH "HANDLE" ADD.    N3500081
0082      P0003      6862      STA*  EXTHAN                            N3500082
0083      P0004      C102      LDA-  MSG,I          GET "MSG" LOCATION    N3500083
0084      P0005      6861      STA*  EXTMSG                            N3500084
0085      P0006      C107      LDA-  NEWMLU,I        GET MM LU                N3500085

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0086 P0007 681F
0087 P0008 6840
0088 P0009 C105
0089 P000A 885D
0090 P000B 6874

STA* MMINP
STA* OTLU
LDA- LISTLU,I
ADD* MODE
STA* OTLU2

GET LIST LOGICAL UNIT

N3500086
N3500087
N3500088
N3500089
N3500090

0092
0093 P000C 0A09
0094 P000D 0C01
0095 P000E 5C57
0096 P000F 0017
0097 P0010 C816
0098 P0011 683A
0099 P0012 C815
0100 P0013 6839
0101 P0014 0A00
0102 P0015 6857
0103 P0016 6855

*
ENA FETMM
ENQ 1
RTJ* (EXTHAN)
ADC MMINP-*
LDA* MMINP
STA* SMNLOC
LDA* MMINP+1
STA* SMNLOC+1
ENA 0
STA* COUNT
STA* SMNVAL+3

GFT MM ADDRESS

ZERO OUT COUT

N3500092
N3500093
N3500094
N3500095
N3500096
N3500097
N3500098
N3500099
N3500100
N3500101
N3500102
N3500103

0104
0105
0106
0107

**
* LOOP TO OBTAIN (1) NO. OF WORDS
* (2) NO. FOR SEARCH
* (3) BIT MASK

N3500104
N3500105
N3500106
N3500107

0108 P0017 2A02
0109 P0018 0C04
0110 P0019 5C4C
0111 P001A 0A03
0112 P001B 5C4A
0113 P001C 0000
0114 P001D C10C
0115 P001E 010C
0116 P001F 0903
0117 P0020 010A
0118 P0021 C84B
0119 P0022 09FD
0120 P0023 0107

SMN7 ENA GETFLD
ENQ 4
RTJ* (EXTHAN)
ENA ASCHEX
RTJ* (EXTHAN)
SMNXXX NUM 0
LDA- FIELD,I
SAZ SMN10
INA -COMMA
SAZ SMN10
LDA* COJNT
INA -2
SAZ SMN10

TO GET NEXT INPUT FIELD
4 CHAR. MAX.

CONVERT TO HEX.

N3500108
N3500109
N3500110
N3500111
N3500112
N3500113
N3500114
N3500115
N3500116
N3500117
N3500118
N3500119
N3500120

0121
0122 P0024 0C04
0123 P0025 1C41
0124 P0026 0005

*
ENQ 4
JMP* (EXTMSG)
BZS MMINP(5)
*
SMN10

ERROR, ---- FORMAT

SAVE INPUT DATA ACCORDINGLY

BUMP INDEX AND CHECK IF DONE

N3500121
N3500122
N3500123
N3500124
N3500125

0125
0126 P002B F841
0127 P002C C8EF
0128 P002D 6A3B
0129 P002E 0001
0130 P002F 483D
0131 P0030 0DFC
0132 P0031 0141
0133 P0032 18F4
0134

LDQ* COUNT
LDA* SMNXXX
STA* SMNVAL,Q
INQ 1
STQ* COUNT
INQ -3
SQZ SMN20
JMP* SMN7

TO REPEAT
15 CARDS DELETED

N3500126
N3500127
N3500128
N3500129
N3500130
N3500131
N3500132
N3500133
N3500134

0136

* GET INCREMENT ("I")

N3500136

0137	PC033	C111	SMN20	LDA-	BUFEMT,I	SKIP I	"I" UNDEFINED	N3500137
0138	P0034	B012		EOR-	LPMASK+16			N3500138
0139	P0035	0107		SAZ	SMN22			N3500139
0140	P0036	3A02	SMN21	ENA	GETFLD	GET	"I" FIELD	N3500140
0141	P0037	0C04		ENQ	4			N3500141
0142	P0038	5C2D		RTJ*	(EXTHAN)			N3500142
0143	P0039	0A05		ENA	ASCDEC	CONVERT TO BINARY		N3500143
0144	P003A	5C2B		RTJ*	(EXTHAN)			N3500144
0145	P003B	6830		STA*	SMNVAL+3			N3500145
0146	P003C	0111		SAN	SMN25			N3500146
0147	P003D	DB2E	SMN22	RAO*	SMNVAL+3	SET TO DEFAULT = 1		N3500147
0148			*			READ OVER DATA (1 SECTOR) AND SEARCH		N3500148
0149	P003E	0A00	SMN25	ENA	0			N3500149
0150	P003F	682D		STA*	COUNT			N3500150
0151	P0040	686C		STA*	HEADIG			N3500151
0152	P0041	C828		LDA*	SMNVAL+1			N3500152
0153	P0042	A828		AND*	SMNVAL+2			N3500153
0154	P0043	686A		STA*	BAMASK			N3500154
0156	P0044	54F4	SMN26	RTJ-	(AMONI)			N3500156
0157	P0045	0307	SMNCAL	ADC	\$300+CH RSLV			N3500157
0158	P0046	0009		ADC	SMNIOE-SMNCAL	EXIT		N3500158
0159	P0047	0000		NUM	0	THREAD		N3500159
0160	P0048	0000	OTLU	NUM	0	LU (TO BE FILLED)		N3500160
0161	P0049	0060		ADC	ONESTR	SIZE (96 WORDS)		N3500161
0162	P004A	0081		ADC	MMDATA-SMNCAL	BUFFER		N3500162
0163	P004B	0000	SMNLOC	NUM	0,0	MSB AND LSB		N3500163
0164	P004C	0000						
0164	P004D	14EA		JMP-	(ADISF)			N3500164
0166			*					N3500166
0167	P004F	0162	SMNIOE	SQP	SMN33			N3500167
0168	P004F	0C02	SMNEM	ENQ	2	I/O ERROR, PRINT MESSAGE		N3500168
0169	P0050	1C16		JMP*	(EXTMSG)			N3500169
0170			*					N3500170
0171	P0051	C817	SMN33	LDA*	SMNVAL	CHECK IF ANY WORD LEFT TO BE SEARCHED		N3500171
0172	P0052	0122		SAP	SMN36			N3500172
0173	P0053	0C07	SMN34	ENQ	7	OUTPUT SEARCH FINISH MESSAGE AND EXIT		N3500173
0174	P0054	1C12		JMP*	(EXTMSG)			N3500174
0175			*					N3500175
0176	P0055	E817	SMN36	LDQ*	COUNT			N3500176
0177	P0056	CA00		LDA	MMDATA,0			N3500177
0178	P0057	009F						
0178	P0058	A812		AND*	SMNVAL+2			N3500178
0179	P0059	B854		EOR*	BAMASK			N3500179
0180	P005A	0101		SAZ	SMN40			N3500180
0181	P005B	1839		JMP*	SMN50	TO BUMP POINTERS		N3500181
0183			*			ASSEMBLE DATA		N3500183
0184	P005C	E850	SMN40	LDQ*	HEADIG			N3500184
0185	P005D	0FA1		QLS	1			N3500185

0186	P005E	CA 50	LDA*	MESTBL, Q	GET PROPER MESSAGE	N3500186
0187	P005F	6822	STA*	MESLOC		N3500187
0188	P0060	CA 4F	LDA*	MESTBL+1, Q		N3500188
0189	P0061	681F	STA*	MESSIZ		N3500189
0190	P0062	015B	SQN	SMN43	SKIP IF NOT PRINT HEADING	N3500190
0191	P0063	1818	JMP*	SMN45		N3500191

0193			*		STORAGE AND CONSTANTS	N3500193
0194	P0064	0000	BASE	NUM	0	N3500194
0195	P0065	0000	EXTHAN	NUM	0	N3500195
0196	P0066	0000	EXTMSG	NUM	0	N3500196
0197	P0067	1000	MODE	ADC	ASMOD	N3500197
0198	P0068	0000	SMNVAL	NUM	0,0,0,0	N3500198
	P0069	0000				
	P006A	0000				
	P006B	0000				
0199	P006C	0000	COUNT	NUM	0	N3500199
0200	P006D	0000	TEMP	NUM	0	N3500200

0202			*			N3500202	
0203			*		ASSEMBLE ADDRESS DATA	N3500203	
0204	P006E	C8B9	SMN43	LDA*	MMINP+2	MSB	N3500204
0205	P006F	585A		RTJ*	ASMASC		N3500205
0206	P0070	004A		ADC	MES21-*		N3500206
0207	P0071	C8B7		LDA*	MMINP+3	LSB	N3500207
0208	P0072	5857		RTJ*	ASMASC		N3500208
0209	P0073	004A		ADC	MES22-*		N3500209
0210	P0074	C8B5		LDA*	MMINP+4	WORD	N3500210
0211	P0075	5854		RTJ*	ASMASC		N3500211
0212	P0076	004A		ADC	MES23-*		N3500212
0213	P0077	E8F4		LDQ*	COUNT		N3500213
0214	P0078	CA7E		LDA*	MMDATA, Q	CONTENT	N3500214
0215	P0079	5850		RTJ*	ASMASC		N3500215
0216	P007A	004B		ADC	MES24-*		N3500216
0217			*				N3500217
0218	P007B	54F4	SMN45	RTJ-	(AMONI)		N3500218
0219	P007C	0507	SMNPNT	ADC	\$500+CHRSLV		N3500219
0220	P007D	0007		ADC	SMNPX-SMNPNT	EXIT	N3500220
0221	P007E	0000		NUM	0	THREAD	N3500221
0222	P007F	0000	OTLU2	NUM	0	LU (TO BE FILLED)	N3500222
0223	P0080	0000	MESSIZ	NUM	0	SIZE	N3500223
0224	P0081	0000	MESLJC	NUM	0		N3500224
0225	P0082	14FA		JMP-	(ADISP)		N3500225
0226			*				N3500226
0227	P0083	0161	SMNPX	SQP	SMN48		N3500227
0228	P0084	18CA		JMP*	SMNEM		N3500228
0229	P0085	E827	SMN48	LDQ*	HEADIG		N3500229
0230	P0086	C400		LDA	CHRSFG	CHECK IF "DX"	N3500230
	P0087	7FFF	X				
	P0088	0118	X	SAN	SMN49	NO, ASSEMBLE DATA AND PRINT	N3500231
0232	P0089	C807		LDA*	OTB+1	CALCULATE "OFF" ADDRESS	N3500232


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0233 P008A 9805 SUB* OTB
0234 P008B E808 LOQ* BASE
0235 P008C 8201 ADD- BHAN,Q
0236 P008D 0822 TRA Q
0237 P008E 1622 JMP- (ZERO),Q
0238 P008F 7FFF X OTB ADC HANDLE
0239 P0090 7FFF X SMN49 ADC OFF
0240 P0091 0152 SQN SMN50
0241 P0092 081A RAO* HEADIG
0242 P0093 18C8 JMP* SMN40
                                     EXIT TO "OFF"
                                     0. "HANDLE" ENTRY
                                     1. "OFF" ENTRY
                                     SKIP IF NOT PRINT HEADING
                                     SET NO HEADING FLAG

0244 * UPDATE POINTERS
0245 P0094 C8D3 SMN50 LDA* SMNVAL
0246 P0095 98D5 SUB* SMNVAL+3
0247 P0096 68D1 STA* SMNVAL
0248 P0097 E892 LDO* MMINP+4
0249 P0098 F8D2 ADQ* SMNVAL+3
0250 P0099 4890 STQ* MMINP+4
0251 P009A 0101 SAZ SMN51
0252 P009B 0121 SAP SMN53
0253 P009C 18B6 SMN51 JMP* SMN34
0254 P009D C8CE SMN53 LDA* COUNT
0255 P009E 88CC ADD* SMNVAL+3
0256 P009F 68CC STA* COUNT
0257 P00A0 099F INA -96
0258 P00A1 0121 SAP SMN55
0259 P00A2 13B2 JMP* SMN36
                                     ALL DONE
                                     UPDATE CORE BUFFER

0260 * CORE BUFFER EXHAUSTED, UP DATE MM ADD.
0261 P00A3 68C8 SMN55 STA* COUNT
0262 P00A4 C8A7 LDA* SMNLOC+1
0263 P00A5 0960 INA ONESTR
0264 P00A6 68A5 STA* SMNLOC+1
0265 P00A7 0123 SAP SMN56
0266 P00A8 08A2 RAO* SMNLOC
0267 P00A9 A011 AND- LPMSK+15
0268 P00AA 68A1 STA* SMNLOC+1
0269 P00AB 1898 SMN56 JMP* SMN26
                                     BUMP MSB WHEN LSB OVER 32K
                                     TO READ OVER DATA FROM MM

0271 P00AC 0000 HEADIG NUM 0
0272 P00AD 0000 BAMASK NUM 0
0273 * MESSAGE
0274 P00AE 0036 MESTBL ADC MES1-SMNPNT
0275 P00AF 0008 ADC LMES1
0276 P00B0 003E ADC MES2-SMNPNT
0277 P00B1 000F ADC LMES2
0278 *
0279 P00B2 CA0D MES1 NUM $ADD
0280 P00B3 4345 ALF 6,CELL CONTENT
P00B4 4C4C
P00B5 2043
P00B6 4F4E
P00B7 5445
P00B8 4E54

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N3500233
N3500234
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N3500278
N3500279
N3500280

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0281	P00B9	0A0D	NUM	\$A0D		N3500281
0282		0008	EQU	LMES1(*-MES1)		N3500282
0283		00BA	P EQU	MES2 MES2(*)		N3500283
0284	P00BA	2020	MES21	ALF	2, MSB LOCATION	N3500284
	P00BB	2020				
0285	P00BC	2020	ALF	1,		N3500285
0286	P00BD	2020	MES22	ALF	2, LSB LOCATION	N3500286
	P00BE	2020				
0287	P00BF	2020	ALF	1,		N3500287
0288	P00C0	2020	MES23	ALF	2, WORD LOCATION	N3500288
	P00C1	2020				
0289	P00C2	2020	ALF	3, (N3500289
	P00C3	2020				
	P00C4	2028				
0290	P00C5	2020	MES24	ALF	2, DATA	N3500290
	P00C6	2020				
0291	P00C7	2920	ALF	1,)		N3500291
0292	P00C8	0A0D	NUM	\$A0D		N3500292
0293		000F	EQU	LMES2(*-MES2)		N3500293

0295			*			N3500295
0296			*****			N3500296
0297			*			N3500297

0299			*			N3500299
0300			*****	ASSEMBLE LOCATION AND CONTENT INTO ASCII		N3500300
0301			*			N3500301
0302	P00C9	0B00	ASMASC	NOP	0 ENTRY	N3500302
0303	P00CA	6807		STA*	A0 SAVE LOCATION	N3500303
0304	P00CB	ECFD		LDQ*	(ASMASC)	N3500304
0305	P00CC	F8FC		ADQ*	ASMASC	N3500305
0306	P00CD	4805		STQ*	A1 SAVE DATA CONTENT ADD.	N3500306
0307	P00CE	5805		RTJ*	TW ASSEMBLE INTO ASCII	N3500307
0308	P00CF	D8F9		RAO*	ASMASC SET EXIT	N3500308
0309	P00D0	1CF8		JMP*	(ASMASC) EXIT	N3500309

0311			*			N3500311
0312	P00D1	0000	A0	NUM	0	N3500312
0313	P00D2	0000	A1	NUM	0	N3500313

0315			*			N3500315
0316	P00D3	0B00	TW	NOP	0 ENTRY	N3500316
0317	P00D4	0C00		ENQ	0	N3500317
0318	P00D5	4811		STQ*	TW1 ZERO COUNT	N3500318
0319	P00D6	0FE4	TW0	LLS	4 EXTRACT 4-BIT BYTE	N3500319
0320	P00D7	6810		STA*	TW2	N3500320
0321	P00D8	0DF5		INQ	-10 ASSEMBLE INTO ASCII ACCORDING TO NO. OR A-F	N3500321

0322	P00D9	0171		SQM	TWX					N3500322
0323	P00DA	0D07		INQ	7					N3500323
0324	P00DB	0D3A	TWX	INQ	\$3A					N3500324
0325	P00DC	0FFC		LLS	16	TO A-REG.				N3500325
0326	P00DD	E809		LDQ*	TW1					N3500326
0327	P00DE	6A0A		STA*	TW3,Q	SAVE ACCORDINGLY				N3500327
0328	P00DF	0D01		INQ	1					N3500328
0329	P00E0	4805		STQ*	TW1					N3500329
0330	P00E1	0DF8		INQ	-4					N3500330
0331	P00E2	0149		SQZ	TWAS	DONE, ALL 4 BYTE BEEN PROCESSED				N3500331
0332	P00E3	C804		LDA*	TW2					N3500332
0333	P00E4	0C00		ENQ	0					N3500333
0334	P00E5	18F0		JMP*	TW0					N3500334
0335			*							N3500335
0336	P00E6	0000	TW1	NUM	0					N3500336
0337	P00E7	0000	TW2	NUM	0					N3500337
0338	P00E8	0004	TW3	BZS	TW3(4)					N3500338
0339	P00EC	E8E5	TWAS	LDQ*	A1	ASSEMBLE INTO 2-WORD AND SAVE				N3500339
0340	P00ED	C8FA		LDA*	TW3					N3500340
0341	P00EF	0FC8		ALS	8					N3500341
0342	P00EF	88F9		ADD*	TW3+1					N3500342
0343	P00F0	6622		STA-	(ZERO),Q					N3500343
0344	P00F1	C8F8		LDA*	TW3+2					N3500344
0345	P00F2	0FC8		ALS	8					N3500345
0346	P00F3	88F7		ADD*	TW3+3					N3500346
0347	P00F4	6201		STA-	1,Q					N3500347
0348	P00F5	1C0D		JMP*	(TW)	RETURN				N3500348

0350			*							N3500350
0351	P00F6	0060	MMDATA	BZS	MMDATA(96)					N3500351

0353			*							N3500353
0354		0003	P	EQU	SA53(* /96)					N3500354
0355		0004	P	EQU	SP53(SA53+1)					N3500355
0356		0180	P	EQU	DB53(SP53*96)					N3500356
0357	P0156	002A		BSS	(DB53-*)					N3500357
0358				END						N3500358

PGM= 0180 (384) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0080
0041	AMONI	00F4 (000244)	0156, 0218
0041	ADISP	00EA (000234)	0164, 0225
0041	LPMSK	0002 (000002)	0138, 0267
0041	NZERO	0012 (000018)	
0041	ZROBIT	0033 (000051)	
0042	FIVE	0043 (000067)	
0042	SIX	0044 (000068)	
0042	ZERO	0022 (000034)	0237, 0343
0042	ONEBIT	0023 (000035)	
0042	SIXTEN	0027 (000039)	
0043	COMMA	002C (000044)	0116
0043	SLASH	002F (000047)	
0043	ASTRIC	002A (000042)	
0044	EIGHT	0026 (000038)	
0044	NINE	0045 (000069)	
0044	THREE	0004 (000004)	
0044	ONE	0003 (000003)	
0044	TWO	0024 (000036)	
0045	TEN	0046 (000070)	
0046	MASK	0003 (000003)	
0048	CHRSLV	0007 (000007)	0157, 0219
0049	ASMOD	1000 (004096)	0197
0050	ONESTR	0060 (000096)	0161, 0263
0053	GETFLD	0002 (000002)	0108, 0140
0054	ASCHEX	0003 (000003)	0111
0055	ASCDEC	0005 (000005)	0143
0056	FETMM	0009 (000009)	0093
0059	BHAN	0001 (000001)	0081, 0235
0060	MSG	0002 (000002)	0083
0061	SOMMOR	0003 (000003)	
0062	IOERR	0004 (000004)	
0063	LISTLU	0005 (000005)	0088
0064	COMOLU	0006 (000006)	
0065	NEWMLU	0007 (000007)	0085
0066	PROG1	0008 (000008)	
0067	PROG2	0009 (000009)	
0068	BITFLG	000A (000010)	

0069	BUFCNT	000B	(000011)	
0070	FIELD	000C	(000012)	0114
0071	SLASHF	0010	(000016)	
0072	BUFEMT	0011	(000017)	0137
0073	BUFFER	0012	(000018)	
0282	LMES1	0008	(000008)	0275
0293	LMES2	00CF	(000015)	0277

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	SMNREQ	0000	0033
0108	SMN7	0017	0133
0113	SMNXXX	001C	0127
0124	MMINP	0026	0086, 0096, 0097, 0099, 0204, 0207, 0210, 0248, 0250
0126	SMN10	002B	0115, 0117, 0120
0137	SMN20	0033	0132
0140	SMN21	0036	
0147	SMN22	003D	0139
0149	SMN25	003E	0145
0156	SMN26	0044	0269
0157	SMNCAL	0045	0158, 0162
0160	OTLU	0048	0087
0163	SMNLOC	004B	0098, 0100, 0262, 0264, 0266, 0268
0167	SMNIOE	004E	0158
0168	SMNEM	004F	0228
0171	SMN33	0051	0167
0173	SMN34	0053	0253
0176	SMN36	0055	0172, 0259
0184	SMN40	005C	0180, 0242
0194	BASE	0064	0079, 0234
0195	EXTHAN	0065	0082, 0095, 0110, 0112, 0142, 0144
0196	EXTMSG	0066	0084, 0123, 0169, 0174
0197	MODE	0067	0089
0198	SMNVAL	0068	0103, 0128, 0145, 0147, 0152, 0153, 0171, 0178, 0245, 0246, 0247, 0249, 0255
0199	COUNT	006C	0102, 0118, 0126, 0130, 0150, 0176, 0213, 0254, 0256, 0261
0200	TEMP	006D	
0204	SMN43	006E	0190
0218	SMN45	007B	0191
0219	SMNPNT	007C	0220, 0274, 0276
0222	OTLU2	007F	0090
0223	MESSIZ	0080	0189
0224	MESLOC	0081	0187
0227	SMNPX	0083	0220
0229	SMN48	0085	0227
0238	OTB	008F	0232, 0233
0240	SMN49	0091	0231
0245	SMN50	0094	0181, 0240
0253	SMN51	009C	0251
0254	SMN53	009D	0252
0261	SMN55	00A3	0258
0269	SMN56	00AB	0265

0271	HEADIG	00AC	0151, 0184, 0229, 0241
0272	BAMASK	00AD	0154, 0179
0274	MESTBL	00AE	0186, 0188
0279	MES1	00B2	0274, 0282
0283	MES2	00BA	0276, 0293
0287	MES21	00BA	0206
0288	MES22	00BD	0209
0288	MES23	00C0	0212
0290	MES24	00C5	0215
0302	ASMASC	00C9	0205, 0208, 0211, 0215, 0304, 0305, 0308, 0309
0312	A0	00D1	0303
0313	A1	00D2	0306, 0339
0316	TW	00D3	0307, 0348
0319	TW0	00D6	0334
0324	TWX	00DB	0322
0336	TW1	00E6	0318, 0326, 0329
0337	TW2	00E7	0320, 0332
0338	TW3	00E8	0327, 0340, 0342, 0344, 0346
0339	TWAS	00FC	0331
0351	MMDATA	00F6	0162, 0177, 0214
0354	SA53	0003	0355
0355	SP53	0004	0356
0356	DB53	0180	0357

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0036	CHRSFG	0087	0230
0037	OFF	0090	0239
0038	HANDLE	008F	0238


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0036      0003      EQU  MASK(3)          ONE BIT MASK                      N3600036
0038      0007      EQU  CHRSLV(7)       LEVEL OF THIS PROGRAM          116*4360*****
0039      1000      EQU  ASM0D($1000)    OUTPUT ASC MODE                N3600039
0040      0000      EQU  N096(96)       SIZE OF DATA(PATTERN) BUFFER    N3600040

0042      *          SUBROUTINE "EQU"    POINTERS                      N3600042
0043      0002      EQU  GETFLD(2)       "GETFLD"                        N3600043
0044      0003      EQU  ASCHEX(3)       "ASCHEX"                        N3600044
0045      0005      EQU  ASCDEC(5)       "ASCDEC"                        N3600045
0046      0009      EQU  FETMM(9)        "FETMM" --- FETCH MM ADDRESS    N3600046

0048      *          PARAMETER LOCATION (OFFSET FROM BASE)           N3600048
0049      0001      EQU  HANDLE(1)       "HANDLE"                        N3600049
0050      0002      EQU  MSG(2)         "MSG" ENTRY                     N3600050
0051      0003      EQU  SOMMOR(3)      "SOMMOR" ENTRY                   N3600051
0052      0004      EQU  IOERR(4)       "IOERR" ENTRY                   N3600052
0053      0005      EQU  LISTLU(5)      LIST OUTPUT --- "LISTLU"        N3600053
0054      0006      EQU  COMOLU(6)      "COMOLU"                        N3600054
0055      0007      EQU  NEWMLU(7)      "NEWMLU" --- NEW MM LU          N3600055
0056      0008      EQU  PROG1(8)       "PROG1"                         N3600056
0057      0009      EQU  PROG2(9)       "PROG2"                         N3600057
0058      000A      EQU  BITFLG(10)     "BITFLG"                        N3600058
0059      000B      EQU  BUFCNT(11)     "BUFCNT"                        N3600059
0060      000C      EQU  FIELD(12)     "FIELD"                          N3600060
0061      0010      EQU  SLASHF(16)     "SLASHF"                        N3600061
0062      0011      EQU  BUFEMT(17)    "BUFEMT"                        N3600062
0063      0012      EQU  BUFFER(18)     "BUFFER"                         N3600063

0065      *          *****          P R O G R A M   S T A R T   *****          N3600065
0066      *          *****          N3600066
0067      *          *****          N3600067

0069      SMPREQ  P0000  6853  STA*  BASE                      N3600069
0070      P0001  60FF  STA-  I                      N3600070
0071      P0002  C101  LDA-  HANDLE, I                N3600071
0072      P0003  6852  STA*  EXTHAN                    N3600072
0073      P0004  C102  LDA-  MSG, I                   N3600073
0074      P0005  684F  STA*  EXTMSG                    N3600074
0075      P0006  C107  LDA-  NEWMLU, I                SET UP LU          N3600075
0076      P0007  6833  STA*  OTLU                      N3600076
0077      P0008  6835  STA*  SMPLOC                    N3600077

0079      *          GET MM ADDRESS AND CHECK          N3600079
0080      P0009  0C00  ENQ   0                      N3600080
0081      P000A  0A09  ENA   FETMM                    N3600081
0082      P000B  5C4A  RTJ*  (EXTHAN)                  N3600082
0083      P000C  0031  ADC   SMPLOC-*                  N3600083
0084      P000D  6A02  ENA   GETFLD                    GET NEXT FIELD --- NO. OF WORDS  N3600084

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0085 PC00E 0C04 ENQ 4 N3600085
0086 P000F 5C46 RTJ* (EXTHAN) N3600086
0087 P0010 C10C LDA- FIELD,I MAKE SURE FORMAT OK N3600087
0088 P0011 09D3 INA -COMMA N3600088
0089 P0012 0116 SAN SMP4 N3600089
0090 P0013 0A03 ENA ASCHEX CONVERT TO HEX. N3600090
0091 P0014 5C41 RTJ* (EXTHAN) N3600091
0092 P0015 0000 SMPVAL NUM 0 N3600092
0093 P0016 C8FE LDA* SMPVAL MAKE SURE VALUE IS POSITIVE N3600093
0094 P0017 0101 SAZ SMP4 N3600094
0095 P0018 0122 SAP SMP5 N3600095
0096 P0019 0C04 SMP4 ENQ 4 FORMAT ERROR N3600096
0097 P001A 1C3A JMP* (EXTMSG) N3600097
0098 * N3600098
0099 P001B C10C SMP6 LDA- FIELD,I N3600099
0100 P001C 09D3 INA -COMMA N3600100
0101 P001D 0116 SAN SMP8 N3600101
0102 P001F 0A02 ENA GETFLD GFT NEXT FIELD --- PATTERN N3600102
0103 P001F 0C04 ENQ 4 N3600103
0104 P0020 5C35 RTJ* (EXTHAN) N3600104
0105 P0021 C111 LDA- BUFEMT,I MAKE SURE BUFFER EMPTY N3600105
0106 P0022 B012 EOR- LPMSK+16 N3600106
0107 P0023 0101 SAZ SMP10 N3600107
0108 P0024 18F4 SMP8 JMP* SMP4 N3600108
0109 * N3600109
0110 P0025 0A03 SMP10 ENA ASCHEX CONVERT PATTERN TO HEX. N3600110
0111 P0026 5C2F RTJ* (EXTHAN) N3600111
0112 P0027 0000 PATTEN NUM 0 N3600112

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0114 * N3600114
0115 ***** ALL INPUT IN N3600115
0116 * N3600116
0117 * N3600117
0118 ENQ 0 SET BUFFER FOR PATTERN N3600118
0119 P0028 0C00 SMP20 LDA* PATTEN N3600119
0120 P002A 6A2C STA* DATBUF,Q N3600120
0121 P0028 0D01 INQ 1 N3600121
0122 P002C 0814 TRQ A N3600122
0123 P002D 099E INA -N096-1 N3600123
0124 P002E 0101 SAZ SMP22 N3600124
0125 P002F 18F9 JMP* SMP20 N3600125
0126 P0030 0A60 SMP22 ENA N096 SET UP SIZE N3600126
0127 P0031 680A STA* SMP22 N3600127
0128 P0032 98E2 SUB* SMPVAL N3600128
0129 P0033 0132 SAN SMP26 N3600129
0130 P0034 C8EC LDA* SMPVAL N3600130
0131 P0035 6806 STA* SMP26 N3600131
0132 P0036 54F4 SMP26 RTJ- (AMONI) N3600132
0133 P0037 0507 SMPCD ADC $500+CHRSLV WRITE REQUEST N3600133
0134 P0038 0609 ADC SMPRET-SMPCD RETURN N3600134
0135 P0039 0000 NUM 0 THREAD N3600135

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0136 P003A 0000 OTLU NUM 0 LU (TO BE FILLED) N3600136
0137 P003B 0060 SMPsiz ADC N096 SIZE N3600137
0138 P003C 001F DATBUF-SMPCD BUFFER N3600138
0139 P003D 0000 SMPLOC NUM 0,0 MSB AND LSB (TO BE FILLED) N3600139
      P003E C000
0140 P003F 14EA JMP- (ADISP) N3600140
0141 * N3600141
0142 P0040 0163 SMPRET SQP SMP32 N3600142
0143 P0041 E812 LDQ* BASE I/O ERROR, EXIT N3600143
0144 P0042 E204 LDQ- IOERR,Q N3600144
0145 P0043 1622 JMP- (ZERO),Q N3600145
0146 * N3600146
      CHECK IF DONE N3600147
0147 P0044 C8D0 SMP32 LDA* SMPVAL N3600148
0148 P0045 98F5 SUP* SMPsiz N3600149
0149 P0046 68CE STA* SMPVAL N3600150
0150 P0047 0101 SAZ SMP36 N3600151
0151 P0048 0123 SAP SMP40 N3600152
0152 P0049 F80A SMP36 LDQ* BASE DONE, --- TO "SOMMOR" N3600153
0153 P004A E203 LDQ- SOMMOR,Q N3600154
0154 P004B 1622 JMP- (ZERO),Q N3600155
0155 * N3600156
      ***** UP DATE MM N3600157
0156 SMP40 LDA* SMPLOC+1 N3600158
0157 P004C C8F1 ADD* SMPsiz N3600159
0158 P004D 88ED SAP SMP42 N3600160
0159 P004E 0122 AND- LPMSK+15 N3600161
0160 P004F A011 RAO* SMPLOC N3600162
0161 P0050 D8EC SMP42 STA* SMPLOC+1 N3600163
0162 P0051 68EC JMP* SMP22 N3600164
0163 P0052 18DD N3600165
0165 * N3600166
0166 P0053 0000 BASE NUM 0 N3600167
0167 P0054 0000 EXTMSG NUM 0 N3600168
0168 P0055 0000 EXTHAN NUM 0 N3600169
0159 P0056 0060 DATBUF BZS DATBUF(96)
0171 * N3600171
0172 0001 P EQU SA42(* / 96) N3600172
0173 0002 P EQU SP42(SA42+1) N3600173
0174 0000 P EQU DB42(SP42*96) N3600174
0175 P00B6 000A BSS (DB42-*) N3600175
0176 END N3600176

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PGM= 0000 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0070
0031	AMONI	00F4	(000244) 0132
0031	ADISP	00EA	(000234) 0140
0031	LPMSK	0002	(000002) 0106, 0160
0031	NZERO	0012	(000018)
0031	ZROBIT	0033	(000051)
0032	FIVE	0043	(000067)
0032	SIX	0044	(000068)
0032	ZERO	0022	(000034) 0145, 0154
0032	ONEBIT	0023	(000035)
0032	SIXTEN	0027	(000039)
0033	COMMA	002C	(000044) 0088, 0100
0033	SLASH	002F	(000047)
0033	ASTRIC	002A	(000042)
0034	EIGHT	0026	(000038)
0034	NINE	0045	(000069)
0034	THREE	0004	(000004)
0034	ONE	0003	(000003)
0034	TWO	0024	(000036)
0035	TEN	0046	(000070)
0036	MASK	0003	(000003)
0038	CHRSLV	0007	(000007) 0133
0039	ASMOD	1000	(004096)
0040	NO96	0060	(000096) 0123, 0126, 0137
0043	GETFLD	0002	(000002) 0084, 0102
0044	ASCHEX	0003	(000003) 0090, 0110
0045	ASCDEC	0005	(000005)
0046	FETMM	0009	(000009) 0081
0049	HANDLE	0001	(000001) 0071
0050	MSG	0002	(000002) 0073
0051	SOMNOR	0003	(000003) 0153
0052	IOERR	0004	(000004) 0144
0053	LISTLU	0005	(000005)
0054	COMOLU	0006	(000006)
0055	NEWMLU	0007	(000007) 0075
0056	PROG1	0008	(000008)
0057	PROG2	0009	(000009)
0058	BITFLG	000A	(000010)

0059	BUFCNT	000B	(000011)	
0060	FIELD	000C	(000012)	0387, 0099
0061	SLASHF	0010	(000016)	
0062	BUFEMT	0011	(000017)	0105
0063	BUFFER	0012	(000018)	

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0028	SMPREQ	0000	0028
0092	SMPVAL	0015	0093, 0128, 0130, 0147, 0149
0096	SMP4	0019	0089, 0094, 0108
0099	SMP6	0018	0095
0108	SMP8	0024	0101
0110	SMP10	0025	0107
0112	PATTEN	0027	0119
0119	SMP20	0029	0125
0126	SMP22	0030	0124, 0163
0132	SMP26	0036	0129
0133	SMPCD	0037	0134, 0138
0136	OTLU	003A	0076
0137	SMPsiz	003B	0127, 0131, 0148, 0158
0139	SMPLOC	003D	0077, 0083, 0157, 0161, 0162
0142	SMPRET	0040	0134
0147	SMP32	0044	0142
0152	SMP36	0049	0150
0157	SMP40	004C	0151
0162	SMP42	0051	0159
0166	BASE	0053	0069, 0143, 0152
0167	EXTMSG	0054	0074, 0097
0168	EXTHAN	0055	0072, 0082, 0086, 0091, 0104, 0111
0169	DATABUF	0056	0120, 0138
0172	SA42	0001	0173
0173	SP42	0002	0174
0174	DB42	00C0	0175

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0031	AMONI	0031	ASCDEC	0045	ASCHEX	0044	ASMOD	0039	ASTRIC	0033	BASE	0166	BITFLG	0058	BUFCNT	0059
BUFEMT	0062	BUFFER	0063	CHRSLV	0038	COMMA	0033	COMOLU	0054	DATEUF	0169	DE42	0174	EIGHT	0034	EXTHAN	0168
EXTMSG	0167	FETMM	0046	FIELD	0060	FIVE	0032	GETFLD	0043	HANDLE	0049	I	0000	IOERR	0052	LISTLU	0053
LPMSK	0031	MASK	0036	MSG	0050	NEWMLU	0055	NINE	0034	NO96	0040	NZERO	0031	ONE	0034	ONEBIT	0032
OTLU	0136	PATTEN	0112	PROG1	0056	PROG2	0057	SA42	0172	SIX	0032	SIXTEN	0032	SLASH	0033	SLASHF	0061
SMP10	0110	SMP2G	0119	SMP22	0126	SMP26	0132	SMP32	0147	SMP36	0152	SMP4	0096	SMP40	0157	SMP42	0162
SMP6	0099	SMP8	0108	SMPCD	0133	SMPLOC	0139	SMPREQ	0028	SMPRET	0142	SMPSIZ	0137	SMPVAL	0092	SOMMOR	0051
SP42	0173	TEN	0035	THREE	0034	TWO	0034	ZERO	0032	ZROBIT	0031						


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0042      002C      EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)                N3700042
          002F
          002A
0043      0026      EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)    N3700043
          0045
          0004
          0003
          0024
0044      0046      EQU  TEN($46)                                         **MSOS4.0**N3700044
          08C2      EQU  MASSLU($8C2)                                       N3700045
          0007      EQU  CHRSLV(7)    LEVEL OF THIS PROGRAM             116*4360*****
          00E9      EQU  EXTBV4($E9)                                       N3700047

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*
0049      0002      EQU  GETFLD(2)    "GETFLD" --- GET FIELD SUBROUTINE    N3700049
          0003      EQU  ASCHEX(3)    "ASCHEX" --- ASC TO HEX.            N3700050
          0008      EQU  GETINT(8)    "GETINT" --- GET SINGLE/DOUBLE PRECISION VALUEN3700051
          000D      EQU  FLCVSG(13)   "FLCVSG" --- PRINT VALUE AND CONFIRM N3700052
          0708      EQU  FLOATZ(1800) "FLOATZ" --- SIZE OF FLOATING POINT PACKAGE N3700053

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*
0056      0001      EQU  HANDLE(1)    "HANDLE" --- PARAMETER LOCATION (OFFSET FROM BASE) N3700056
          0002      EQU  BMSG(2)     "MSG" ENTRY                          N3700057
          0003      EQU  SOMMOR(3)    "SOMMOR" ENTRY                          N3700058
          0004      EQU  IOERR(4)     "IOERR" ENTRY                          N3700059
          0005      EQU  LISTLU(5)    "LISTLU" --- LIST OUTPUT --- "LISTLU" N3700060
          0006      EQU  COMOLU(6)    "COMOLU" ---                               N3700061
          0007      EQU  NEWMLU(7)    "NEWMLU" --- NEW MM LU                    N3700062
          0008      EQU  PROG1(8)     "PROG1" ---                               N3700063
          0009      EQU  PROG2(9)     "PROG2" ---                               N3700064
          000A      EQU  BITFLG(10)   "BITFLG" ---                               N3700065
          000B      EQU  BUFCNT(11)   "BUFCNT" ---                               N3700066
          000C      EQU  FIELD(12)    "FIELD" ---                               N3700067
          0010      EQU  SLASHF(16)   "SLASHF" ---                               N3700068
          0011      EQU  BUFEMT(17)   "BUFEMT" ---                               N3700069
          0012      EQU  BUFFER(18)   "BUFFER" ---                               N3700070

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*
0073      *****          *****          P R O G R A M          S T A R T          *****          N3700073
0074      *
0075      *

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0077      P0000 686A LSPREQ STA* BASE N3700077
0078      P0001 60FF STA- I N3700078
0079      P0002 C101 LDA- HANDLE,I N3700079
0080      P0003 6868 STA* EXTHAN N3700080
0081      P0004 C102 LDA- BMSG,I    FETCH "MSG" ADDRESS N3700081
0082      P0005 6867 STA* EXTMSG N3700082

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0084	P0006	0C04	ENQ	4	SET 4 CHAR. MAX.	N3700084
0085	P0007	0A02	ENA	GETFLD	GET STARTING LOC.	N3700085
0086	P0008	5C63	RTJ*	(EXTHAN)		N3700086
0087	P0009	0A03	ENA	ASCHEX	CONVERT TO HEX	N3700087
0088	P000A	5C61	RTJ*	(EXTHAN)		N3700088
0089	P000B	0000	LSPLOC	NUM 0		N3700089
0090			*		CHECK IF BASE ADDRESS USED.	N3700090
0091			*		CONTROL CHAR. = SLASH, BASE IS UNUSED	N3700091
0092	P000C	C10C	LDA-	FIELD, I	IS CONTROL CHAR. = SLASH	N3700092
0093	P000D	0900	INA	-SLASH		N3700093
0094	P000E	0111	SAN	LSP2	NO, GET BASE	N3700094
0095	P000F	180F	JMP*	LSP10		N3700095
0096			*			N3700096
0097	P0010	0A02	LSP2	ENA	GETFLD	N3700097
0098	P0011	0C04	ENQ	4	GET BASE	N3700098
0099	P0012	5C59	RTJ*	(EXTHAN)		N3700099
0100	P0013	0A03	ENA	ASCHEX	CONVERT TO HEX.	N3700100
0101	P0014	5C57	RTJ*	(EXTHAN)		N3700101
0102	P0015	0000	LSPBAS	NUM 0		N3700102
0103	P0016	C8FE	LDA*	LSPBAS	ADDRESS = START LOC. + BASE	N3700103
0104	P0017	88F3	ADD*	LSPLOC		N3700104
0105	P0018	68F2	STA*	LSPLOC		N3700105
0107			*		CHECK FOR FORMAT ---- CONTROL CHAR = SLASH	N3700107
0108	P0019	C10C	LDA-	FIELD, I	IS CONTROL CHAR. = SLASH	N3700108
0109	P001A	0900	INA	-SLASH		N3700109
0110	P001B	0102	SAZ	LSP10		N3700110
0111	P001C	0C04	LER	ENQ 4	TO PRINT FORMAT INCORRECT MESSAGE	N3700111
0112	P001D	1C4F	JMP*	(EXTMSG)		N3700112
0114			*			N3700114
0115			****		TO OBTAIN SINGLE PRECISION VALUE	N3700115
0116			*			N3700116
0117	P001E	6110	LSP10	STA-	SLASHF, I	N3700117
0118	P001F	684E	STA*	COUNT		N3700118
0119	P0020	C0F5	LDA-	\$F5	HIGHEST CORE LOCATION USED BY SYSTEM	N3700119
0120	P0021	6840	STA*	MAX		N3700120
0121	P0022	C8E8	LDA*	LSPLOC	TO CHECK CORE ADD.	N3700121
0122	P0023	6857	STA*	CORLOC		N3700122
0123	P0024	5800	RTJ	CORADK	TO CHECK IF CORE LOC. WITHIN LIMIT	N3700123
0124	P0025	007C				
0124	P0026	18F5	LSP11	JMP*	LER	ERROR, GO
0125	P0027	0C07	ENQ	7	SET FOR 7 DIGIT MAX	N3700125
0126	P0028	0A08	ENA	GETINT	GET DECODE SINGLE/DOUBLE PRECISION	N3700126
0127	P0029	5C42	RTJ*	(EXTHAN)		N3700127
0128	P002A	0054	ADC	VALUE-*		N3700128
0130			*			N3700130
0131			****		REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE	N3700131
0132	P002B	54F4	LSP12	RTJ-	(AMONI)	N3700132
0133	P002C	1547	LSPCAL	ADC	\$1540+CHRSLV	N3700133

0134	P002D	0006		ADC	LSPACE-LSPCAL		N3700134
0135	P002F	0000		NUM	0		N3700135
0136	P002F	0000	LSP13	NUM	0	CORE LOCATION OF REQUESTED SPACE	N3700136
0137	P0030	0708		ADC	FLOATZ		N3700137
0138	P0031	14EA		JMP-	(ADISP)		N3700138
0139			*				N3700139
0140	P0032	0161	LSPACE	SQP	LSP15	SPACE BE GRANTED, DO SOMETHING	N3700140
0141	P0033	1822		JMP*	LSP32	TO ERROR (I/O ERROR)	N3700141
0142			*				N3700142
0143	P0034	4816	LSP15	STQ*	LSP25	SFT LOC. WHERE PROGRAM TO BE READ	N3700143
0144	P0035	491F		STQ*	LSP31		N3700144
0145	P0036	4827		STQ*	LSP40		N3700145
0146	P0037	5801		RTJ*	SELF	GENERATE RETURN ADD.	N3700146
0147	P0038	0800	SELF	NOP	0		N3700147
0148	P0039	C8FE		LDA*	SELF		N3700148
0149	P003A	0919		INA	LSP30-SELF		N3700149
0150	P003B	680B		STA*	LSP24		N3700150
0151	P003C	C812		LDA*	OFTB	GENERATE "MMADDR" LOCATION	N3700151
0152	P003D	9812		SUB*	OFTB+1		N3700152
0153	P003E	882E		ADD*	EXTMSG		N3700153
0154	P003F	0822		TRA	Q		N3700154
0155	P0040	C810		LDA*	FLTADD	GET FLOAT PACKAGE SECTOR ADD.	N3700155
0156	P0041	5622		RTJ-	(ZERO),Q	TO "MMADDR" FOR MM ADD. CONVERSION	N3700156
0157	P0042	680A		STA*	LSP26	SAVE LSB	N3700157
0158	P0043	4808		STQ*	LSP26-1		N3700158
0159	P0044	54F4		RTJ-	(AMONI)		N3700159
0160	P0045	0807	LSP20	ADC	\$800+CHRSLV		N3700160
0161	P0046	0000	LSP24	NUM	0	RETURN (TO BE FILLED)	N3700161
0162	P0047	0000		NUM	0	THREAD	N3700162
0163	P0048	08C2		ADC	MASSLU		N3700163
0164	P0049	0708		ADC	FLOATZ		N3700164
0165	P004A	0000	LSP25	NUM	0	FLOAT PACKAGE ADD. (TO BE FILLED)	N3700165
0166	P004B	0000		NUM	0		N3700166
0167	P004C	0000	LSP26	NUM	0	SECTOR ADD. (TO BE FILLED)	N3700167
0168	P004D	14EA		JMP-	(ADISP)		N3700168
0170			*				N3700170
0171	P004F	7FFF	X	OFTB	ADC	MMADDR	0. "MMADDR"
0172	P004F	7FFF	X	ADC	MSG		1. "MSG"
0173	P0050	7FFF	X	FLTADD	ADC	ECONV	E- OR F-FORMAT CONVERSION -- SINGLE
0175			*				N3700175
0176	P0051	0166	LSP30	SQP	LSP35	MM TRANSFER OK, SKIP	N3700176
0177	P0052	54F4		RTJ-	(AMONI)	RFLEASE CORE DUE TO ERROR	N3700177
0178	P0053	1800		NUM	\$1800		N3700178
0179	P0054	0000	LSP31	NUM	0	CORE ADD. TO BE FILLED	N3700179
0180	P0055	E815	LSP32	LDQ*	BASE		N3700180
0181	P0056	E204		LDQ-	IOERR,Q	EXIT TO "IOERR"	N3700181
0182	P0057	1622		JMP-	(ZERO),Q		N3700182
0183			*				N3700183
0184			*****			FLOAT PACKAGE IS IN CORE, CONVERT NO.	N3700184
0185			*				N3700185

0186	PG058	0C00	LSP35	ENO	0						
0187	P0059	5C05		RTJ*	(LSP13)						N3700186
0188	P005A	0024		ADC	VALUE-*						N3700187
0189	P005B	54F4	LSP37	RTJ-	(AMONI)	RELEASE CORE					N3700188
0190	P005C	1800		NUM	\$1800						N3700189
0191	P005D	0000	LSP40	NUM	0	ADD. (TO BE FILLED)					N3700190
0192	P005E	E80F		LDQ*	COUNT						N3700191
0193	P005F	C82C		LDA*	VALUE+13	SAVE FLOATING VALUE IN TEMPORARY STORAGE					N3700192
0194	P0060	6A2D		STA*	TEMP,Q						N3700193
0195	P0061	C82B		LDA*	VALUE+14						N3700194
0196	P0062	6A2C		STA*	TEMP+1,Q						N3700195
0197	P0063	D80A		RAO*	COUNT	UPDATE STORAGE COUNT BY 2					N3700196
0198	P0064	D809		RAO*	COUNT						N3700197
0199			*			CHECK IF ALL INPUT TEXT BEED PROCESSED					N3700198
0200	P0065	C805		LDA*	BASE						N3700199
0201	P0066	60FF		STA-	I						N3700200
0202	P0067	C111		LDA-	BUFEMT,I						N3700201
0203	P0068	0136		SAM	LSP50	DONE, SKIP					N3700202
0204	P0069	18BD		JMP*	LSP11	TO REPEAT					N3700203
0205			*			CONSTANTS OR STORAGE LOC.					N3700204
0206	P006A	0000		BASE	NUM	0	PARAMETER BASE ADD.				N3700205
0207	P006B	0000		EXTHAN	NUM	0	"HANDLE" ADD.				N3700206
0208	P006C	0000		EXTMSG	NUM	0	"MSG" ADD.				N3700207
0209	P006D	0000		COUNT	NUM	0	NO. OF INPUT VALUES				N3700208
0210	P006E	0000		MAX	NUM	0					N3700209
											N3700210
0212			*								N3700212
0213			***			INPUT TEXT EXHAUSTED, REQUEST CONFIRMATION					N3700213
0214			*								N3700214
0215	P006F	E8FD	LSP50	LDQ*	COUNT						N3700215
0216	P0070	0A0D		ENA	FLCVSG	TO PRINT DATA AND REQUEST CONFIRMATION					N3700216
0217	P0071	5CF9		RTJ*	(EXTHAN)						N3700217
0218	P0072	001B		ADC	TEMP-*						N3700218
0219	P0073	0007		ADC	CORLOC-*						N3700219
0220	P0074	F8F8		LDQ*	COUNT	MOVE TO REQUESTED CORE LOCATION					N3700220
0221	P0075	0DFE	LSP51	INQ	-1						N3700221
0222	P0076	0164		SQP	LSP55						N3700222
0223	P0077	F8F2	LSP53	LDQ*	BASE						N3700223
0224	P0078	F203		LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"					N3700224
0225	P0079	1622		JMP-	(ZERO),Q						N3700225
0226	P007A	0000	CORLOC	NUM	0						N3700226
0227			*								N3700227
0228	P007B	CA12	LSP55	LDA*	TEMP,Q						N3700228
0229	P007C	6EFD		STA*	(CORLOC),Q						N3700229
0230	P007D	18F7		JMP*	LSP51						N3700230
											N3700231
0232	P007E	000F	VALUE	BZS	VALUE(15)						N3700232
0233	P008D	0014	TEMP	BZS	TEMP(20)	FLOATING VALUE TEMPORARY STORAGE					N3700233

```

0235          ***          CHECK ADDRESSES TO BE WITHIN 32K          N3700235
0236          *
0237 P00A1 0B00 CORADK NOP 0          ENTRY          N3700236
0238 P00A2 E0E9          LDQ- EXT8V4          GET 32K/65K FLAG (32K=0, 65K=1) N3700237
0239 P00A3 E622          LDQ- (ZERO),Q          N3700238
0240 P00A4 0155          SQN AD65          SKIP ON 65K          N3700239
0241 P00A5 0133          SAM AD32EX          ERROR, OVER 32K          N3700240
0242 P00A6 98C7          SUB* MAX          N3700241
0243 P00A7 0137          SAM AD65EX          N3700242
0244 P00A8 0106          SAZ AD65EX          N3700243
0245 P00A9 1CF7 AD32EX JMP* (CORADK)          RETURN          N3700244
          N3700245

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0247          ***          CHECK TO BE WITHIN 65K OR LESS          N3700247
0248 P00AA 0124 AD65 SAP AD65EX          SKIP FOR 32K OR SO          N3700248
0249 P00AB 98C2          SUB* MAX          N3700249
0250 P00AC 0132          SAM AD65EX          OK, SKIP          N3700250
0251 P00AD 0101          SAZ AD65EX          OK, SKIP          N3700251
0252 P00AE 18FA          JMP* AD32EX          ERROR, GO          N3700252
0253 P00AF D8F1 AD65EX RAO* CORADK          SET NORMAL EXIT          N3700253
0254 P00B0 1CF0 JMP* (CORADK)          NORMAL RETURN          N3700254

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0256          *
0257          0001 P          EQU SA36(* /96)          N3700256
0258          0002 P          EQU SP36(SA36+1)          N3700257
0259          00C0 P          EQU DB36(SP36*96)          N3700258
0260 P00B1 000F          BSS (DB36-*)          N3700259
0261          END          N3700260
          N3700261

```

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0078, 0201
0040	AMONI	00F4	(000244) 0132, 0159, 0177, 0189
0040	ADISP	00EA	(000234) 0138, 0168
0040	LPMSK	0002	(000002)
0040	NZERO	0012	(000018)
0040	ZROBIT	0033	(000051)
0041	FIVE	0043	(000067)
0041	SIX	0044	(000068)
0041	ZERO	0022	(000034) 0156, 0182, 0225, 0239
0041	ONEBIT	0023	(000035)
0041	SIXTEN	0027	(000039)
0042	COMMA	002C	(000044)
0042	SLASH	002F	(000047) 0093, 0109
0042	ASTRIC	002A	(000042)
0043	EIGHT	0026	(000038)
0043	NINE	0045	(000069)
0043	THREE	0004	(000004)
0043	ONE	0003	(000003)
0043	TWO	0024	(000036)
0044	TEN	0046	(000070)
0045	MASSLU	08C2	(002242) 0163
0046	CHRSLV	0007	(000007) 0133, 0160
0047	EXTRV4	00E9	(000233) 0238
0050	GETFLD	0002	(000002) 0085, 0097
0051	ASCHEX	0003	(000003) 0087, 0100
0052	GETINT	0008	(000008) 0126
0053	FLCVSG	000D	(000013) 0216
0054	FLOATZ	0708	(001800) 0137, 0164
0057	HANDLE	0001	(000001) 0079
0058	BMSG	0002	(000002) 0081
0059	SOMMOR	0003	(000003) 0224
0060	IOERR	0004	(000004) 0181
0061	LISTLU	0005	(000005)
0062	COMOLU	0006	(000006)
0063	NEWMLU	0007	(000007)
0064	PROG1	0008	(000008)
0065	PROG2	0009	(000009)
0066	BITFLG	000A	(000010)

0067	BUFCNT	0008	(000011)	
0068	FIELD	000C	(000012)	0092, 0108
0069	SLASHF	0010	(000016)	0117
0070	BUFEMT	0011	(000017)	0202
0071	BUFFER	0012	(000018)	

 S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0031	LSPREQ	0000	0031
0089	LSPLOC	000B	0104, 0105, 0121
0097	LSP2	0010	0094
0102	LSPBAS	0015	0103
0111	LER	001C	0124
0117	LSP10	001E	0095, 0110
0125	LSP11	0027	0204
0132	LSP12	002B	
0133	LSPCAL	002C	0134
0136	LSP13	002F	0187
0140	LSPACE	0032	0134
0143	LSP15	0034	0140
0147	SELF	0038	0146, 0148, 0149
0160	LSP20	0045	
0161	LSP24	0046	0150
0165	LSP25	004A	0143
0167	LSP26	004C	0157, 0158
0171	OFTB	004E	0151, 0152
0173	FLTADD	0050	0155
0175	LSP30	0051	0149
0179	LSP31	0054	0144
0180	LSP32	0055	0141
0186	LSP35	0058	0176
0189	LSP37	005B	
0191	LSP40	005D	0145
0206	BASE	006A	0077, 0180, 0200, 0223
0207	EXTHAN	006B	0080, 0086, 0088, 0099, 0101, 0127, 0217
0208	EXTMSG	006C	0082, 0112, 0153
0209	COUNT	006D	0118, 0192, 0197, 0198, 0215, 0220
0210	MAX	006E	0120, 0242, 0249
0215	LSP50	006F	0203
0221	LSP51	0075	0230
0223	LSP53	0077	
0226	CORLOC	007A	0122, 0219, 0229
0228	LSP55	007B	0222
0232	VALUE	007E	0128, 0188, 0193, 0195
0233	TEMP	008D	0194, 0196, 0218, 0228
0237	CORADK	00A1	0123, 0245, 0253, 0254
0245	AD32EX	00A9	0241, 0252
0248	AD65	00AA	0240
0253	AD65EX	00AF	0243, 0244, 0248, 0250, 0251

LSPREQ

PAGE 10

DATE: 01/27/99

0257	SA36	0001
0258	SP36	0002
0259	DB36	00C0

0258
0259
0260

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0034	ECONV	0050	0173
0035	MMADDR	004E	0171
0036	MSG	004F	0172

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0245	AD65	0248	AD65EX	0253	ADISP	0040	AMONI	0040	ASCHEX	0051	ASTRIC	0042	BASE	0206	BITFLG	0066
BMSG	0058	BUFCNT	0067	BUFEMT	0070	BUFFER	0071	CHRSLV	0046	COMMA	0042	COMOLU	0062	CORADK	0237	CORLOC	0226
COUNT	0209	DB36	0259	ECONV	0034	EIGHT	0043	EXTBV4	0047	EXTHAN	0207	EXTMSG	0208	FIELD	0068	FIVE	0041
FLCVSG	0053	FLOATZ	0054	FLTADD	0173	GETFLD	0050	GETINT	0052	HANDLE	0057	I	0000	IOERR	0060	LER	0111
LISTLU	0061	LPMSK	0040	LSP10	0117	LSP11	0125	LSP12	0132	LSP13	0136	LSP15	0143	LSP2	0097	LSP20	C160
LSP24	0161	LSP25	0165	LSP26	0167	LSP30	0176	LSP31	0179	LSP32	0180	LSP35	0186	LSP37	0189	LSP40	C191
LSP50	0215	LSP51	0221	LSP53	0223	LSP55	0228	LSPACE	0140	LSPBAS	0102	LSPCAL	0133	LSPLOC	0089	LSPREQ	0031
MASSLU	0045	MAX	0210	MMADDR	0035	MSG	0036	NEWMLU	0063	NINE	0043	NZERO	0040	OFTB	0171	ONE	0043
ONEBIT	0041	PROG1	0064	PROG2	0065	SA36	0257	SELF	0147	SIX	0041	SIXTEN	0041	SLASH	0042	SLASHF	0069
SOMMOR	0059	SP36	0258	TEMP	0233	TEN	0044	THREE	0043	TWO	0043	VALUE	0232	ZERO	0041	ZROBIT	0040

NAM DSPREQ DECK-ID N38 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

N3800002
 N3800003
 N3800004
 N3800005
 N3800006
 N3800007
 N3800008
 N3800009
 N3800010
 N3800011
 N3800012
 N3800013
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 N3800015
 N3800016
 N3800017
 N3800018
 N3800019
 N3800020
 N3800021
 N3800022
 N3800023
 N3800024
 N3800025
 N3800026

 * THIS PROCESSOR DUMPS CORE VALUE IN *
 * SINGLE PRECISION FORMAT *

INPUT FORMAT :

DSP, STARTING CORE, END CORE, BASE

OUTPUT FORMAT :

A TOTAL OF 4 VALUES ARE INSERTED IN A LINE

LLLL +.NNNNNNE+NNN -.NNNNNNE-NNN

ENTRY NAME

ENT DSPREQ

EXTERNALS

EXT ECONV
 EXT MMADDR
 EXT MSG

1 CARD DELETED

EXT OFF
 EXT HANDLE
 EXT CHRSG

N3800028
 N3800029
 N3800031
 N3800032
 N3800033
 N3800034
 N3800035
 N3800036
 N3800037
 N3800038

'EQU' TABLE

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$I2),ZROBIT(\$33)

N3800040
 N3800041

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N3800042

0001
 0002
 0003
 0004
 0005
 0006
 0007
 0008
 0009
 0010
 0011
 0012
 0013
 0014
 0015
 0016
 0017
 0018
 0019
 0020
 0021
 0022
 0023
 0024
 0025
 0026

0028
 0029

0031
 0032
 0033
 0034
 0035
 0036
 0037
 0038

0040
 0041

0042

00F4
 00FA
 0002
 0012
 0033
 0043
 0044
 0022
 0023
 0027

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0043      002C      EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)                N3800043
          002F
          002A
0044      0026      EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)    N3800044
          0045
          0004
          0003
          0024
0045      0046      EQU  TEN($46)                                          **MSOS4.0**N3800045
0046      0003      EQU  MASK(3)      ONE BIT MASK                        N3800046

0048      0007      EQU  CHRSLV(7)      LEVEL OF THIS PROGRAM          116*4360*****
0049      00E9      EQU  EXTBV4($E9)
0050      0024      EQU  LNWD36(36)      36WORDS/LINE                    N3800049
0051      1000      EQU  ASMOD($1000)    ASC OUTPUT MODE                N3800050
0052      08C2      EQU  MASSLU($8C2)    MASS MEMORY LU                 N3800051
0053      0708      EQU  FLOATZ(1800)    SIZE OF FLOATING POINT PACKAGE   N3800052
0054      0003      EQU  WRDLN(3)      NO. OF DATA PER LINE           N3800053

          *          SUBROUTINE "EQU"  POINTERS                          N3800056
0056      0002      EQU  GETFLD(2)      "GETFLD"                          N3800057
0057      0003      EQU  ASCHEX(3)      "ASCHEX"                          N3800058
0058      0005      EQU  ASCDEC(5)      "ASCDEC"                          N3800059
0059      002E      EQU  KARPER($2E)    CHARACTER = .                    N3800060
0060      0045      EQU  KARE($45)

          *          PARAMETER LOCATION (OFFSET FROM BASE)                N3800063
0063      0001      EQU  BHAN(1)        "HANDLE"                          N3800064
0064      0002      EQU  BMSG(2)        "MSG" ENTRY                       N3800065
0065      0003      EQU  SOMMOR(3)      "SOMMOR" ENTRY                    N3800066
0066      0004      EQU  IOERR(4)      "IOERR" ENTRY                       N3800067
0067      0005      EQU  LISTLU(5)      LIST OUTPUT --- "LISTLU"         N3800068
0068      0006      EQU  COMOLU(6)      "COMOLU"                          N3800069
0069      0007      EQU  NEWMLU(7)      "NEWMLU" --- NEW MM LU           N3800070
0070      0008      EQU  PROG1(8)      "PROG1"                            N3800071
0071      0009      EQU  PROG2(9)      "PROG2"                            N3800072
0072      000A      EQU  BITFLG(10)     "BITFLG"                          N3800073
0073      000B      EQU  BUFCNT(11)     "BUFCNT"                          N3800074
0074      000C      EQU  FIELD(12)      "FIELD"                            N3800075
0075      0010      EQU  SLASHF(16)     "SLASHF"                          N3800076
0076      0011      EQU  BUFEMT(17)    "BUFEMT"                          N3800077
0077      0012      EQU  BUFFER(18)    "BUFFER"                            N3800078

0080      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *          *
0081      *****          *****          P R O G R A M          S T A R T          *****
0082      *

0084      P0000 6874      DSPREQ STA* BASE                                N3800084
0085      P0001 60FF      STA- I                                         N3800085

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0086	P0002	8112	ADD-	BUFFER,I	CALCULATE "BUFFER" ADD.	N3800086
0087	P0003	6800	STA	BUFADD		N3800087
0088	P0004	0000				
0088	P0005	686B	STA*	DATLOC		N3800088
0089	P0006	C101	LDA-	BHAN,I	GET "HANDLE" ADD.	N3800089
0090	P0007	686B	STA*	EXTHAN		N3800090
0091	P0008	C102	LDA-	BMSG,I	FETCH "MSG" ADDRESS	N3800091
0092	P0009	6868	STA*	EXTMSG		N3800092
0093	P000A	C105	LDA-	LISTLU,I		N3800093
0094	P000B	8813	ADD*	MODE		N3800094
0095	P000C	6800	STA	OTLU		N3800095
	P000D	00C5				
0096	P000E	C0F5	LDA-	\$F5	HIGHEST CORE LOCATION USED BY SYSTEM	N3800096
0097	P000F	6866	STA*	MAX		N3800097
0099			*		GET ALL CORE ADDRESSES	N3800099
0100	P0010	0A00	ENA	0		N3800100
0101	P0011	6862	STA*	COUNT		N3800101
0102	P0012	0A02	DSP1	ENA	GETFLD GET A FIELD (CORE LOC.)	N3800102
0103	P0013	0C04	ENQ	4		N3800103
0104	P0014	5C5E	RTJ*	(EXTHAN)		N3800104
0105	P0015	C10C	LDA-	FIELD,I	CHECK IF EMPTY	N3800105
0106	P0016	0108	SAZ	DSP5		N3800106
0107	P0017	900A	SUB-	LPMSK+8	IS END OF TEXT	N3800107
0108	P0018	0106	SAZ	DSP5		N3800108
0109	P0019	800A	ADD-	LPMSK+8		N3800109
0110	P001A	0903	INA	-COMMA	IS COMMA	N3800110
0111	P001B	0103	SAZ	DSP5		N3800111
0112			*			N3800112
0113	P001C	0C04	DSP3	ENQ	4 INCORRECT FORMAT,	N3800113
0114	P001D	1C54	JMP*	(EXTMSG)		N3800114
0115	P001E	1000	MODE	ADC	ASC OUTPUT MODE	N3800115
0116	P001F	0A03	DSP5	ENA	ASCHEX CONVERT TO HEX	N3800116
0117	P0020	5C52	RTJ*	(EXTHAN)		N3800117
0118	P0021	0000	DSPVA	NUM	0	N3800118
0119	P0022	E851	LDQ*	COUNT		N3800119
0120	P0023	C8FD	LDA*	DSPVA	STORE LOCATION ACCORDINGLY	N3800120
0121	P0024	6A7F	STA*	DSPLOC,Q		N3800121
0122	P0025	D84E	RAO*	COUNT		N3800122
0123	P0026	5800	RTJ	CORADK	TO CHECK IF CORE LOC. WITHIN LIMIT	N3800123
	P0027	00C7				
0124	P0028	18F3	JMP*	DSP3	ERROR, GO	N3800124
0125	P0029	E84A	LDQ*	COUNT		N3800125
0126	P002A	0DFC	INQ	-3	CHECK IF DONE	N3800126
0127	P002B	0141	SQZ	DSP10		N3800127
0128	P002C	18E5	JMP*	DSP1	NO, REPEAT	N3800128
0130			*			N3800130
0131			***		ADJUST ADDRESSES IF NEEDED	N3800131
0132			*			N3800132
0133	P002D	C111	DSP10	LDA-	BUFEMT,I MAKE SURE IS EMPTY	N3800133
0134	P002E	B012	EOR-	LPMSK+16		N3800134

0135	P002F	0101	SAZ	DSP11		N3800135
0136	P0030	18E8	JMP*	DSP3		N3800136
0137	P0031	0873	DSP11	LDA* DSPLOC+1	MAKE SURE "END" LARGER THE "BEGIN"	N3800137
0138	P0032	9871		SUB* DSPLOC		N3800138
0139	P0033	0121		SAP DSP12		N3800139
0140	P0034	18E7		JMP* DSP3		N3800140
0141			*			N3800141
0142	P0035	C86E	DSP12	LDA* DSPLOC		N3800142
0143	P0036	886F		ADD* DSPLOC+2		N3800143
0144	P0037	686C		STA* DSPLOC		N3800144
0145	P0038	C86C		LDA* DSPLOC+1		N3800145
0146	P0039	886C		ADD* DSPLOC+2		N3800146
0147	P003A	686A		STA* DSPLOC+1		N3800147
0148			*		INSERT DATA	N3800148
0149	P003B	0844	DSP19	CLR A		N3800149
0150	P003C	6837		STA* COUNT		N3800150
0152			*		FILL LINE WITH SPACE	N3800152
0153	P003D	C000		LDA =A		N3800153
	P003E	2020				
0154	P003F	0C23		ENQ 35		N3800154
0155	P0040	6ECC	DSP20	STA (BUFADD),Q		N3800155
	P0041	0093				
0156	P0042	00FE		INQ -1		N3800156
0157	P0043	0171		SQM DSP22		N3800157
0158	P0044	18FB		JMP* DSP20		N3800158
0159			*		INSERT CORE LOCATION TAG	N3800159
0160			*			N3800160
0161	P0045	C85E	DSP22	LDA* DSPLOC	ASSEMBLE HI-2-DIGIT OF LOC.	N3800161
0162	P0046	0F4C		ARS 12		N3800162
0163	P0047	5822		RTJ* CONASC		N3800163
0164	P0048	C822		TRA Q		N3800164
0165	P0049	0FA8		QLS 8		N3800165
0166	P004A	C859		LDA* DSPLOC		N3800166
0167	P004B	0F48		ARS 8		N3800167
0168	P004C	581D		RTJ* CONASC		N3800168
0169	P004D	0874		EAQ A		N3800169
0170	P004E	6C22		STA* (DATLOC)	SAVE HI-2-DIGIT	N3800170
0171	P004F	C854		LDA* DSPLOC	CONVERT LO-2-DIGIT OF LOC.	N3800171
0172	P0050	0F44		ARS +		N3800172
0173	P0051	5818		RTJ* CONASC		N3800173
0174	P0052	0822		TRA Q		N3800174
0175	P0053	0FA8		QLS 8		N3800175
0176	P0054	C84F		LDA* DSPLOC		N3800176
0177	P0055	5814		RTJ* CONASC		N3800177
0178	P0056	0874		EAQ A		N3800178
0179	P0057	0C01		ENQ 1		N3800179
0180	P0058	6E18		STA* (DATLOC),Q		N3800180
0181			*		INCREMENT DATA LOC. TO VALUE	N3800181
0182	P0059	0A03		ENA WRDLN	INCREMENT LOCATION COUNT FOR NEXT	N3800182
0183	P005A	8816		ADD* DATLOC		N3800183
0184	P005B	6815		STA* DATLOC		N3800184

```

0186
0187
0188
0189 P005C CC47
0190 P005D 6849
0191 P005E 0845
0192 P005F CC44
0193 P0060 6847
0194 P0061 D842

*
****
GET AND ASSEMBLE VALUE
*
DSP26 LDA* (DSPLOC) MOVE FLOATING POINT VALUE INTO CALLING PAR.
STA* VALUE ARRAY
RAO* DSPLOC
LDA* (DSPLOC)
STA* VALUE+1
RAO* DSPLOC

N3800186
N3800187
N3800188
N3800189
N3800190
N3800191
N3800192
N3800193
N3800194

0196
0197
0198 P0062 54F4
0199 P0063 1547
0200 P0064 0013
0201 P0065 0000
0202 P0066 0000
0203 P0067 0708
0204 P0068 14EA

*
****
REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE
*
LSP12 RTJ- (AMONI)
LSPCAL ADC $1540+CHRSLV
ADC LSPACE-LSPCAL
LSP13 NUM 0 CORE LOCATION OF REQUESTED SPACE
NUM 0
ADC FLOATZ
JMP- (ADISP)

N3800195
N3800197
N3800198
N3800199
N3800200
N3800201
N3800202
N3800203
N3800204

0206
0207
0208
0209 P0069 0B00
0210 P006A A006
0211 P006B 09F5
0212 P006C 0131
0213 P006D 0907
0214 P006E 093A
0215 P006F 1CF9

*
****
SUBROUTINE FOR ASSEMBLE ASCII
*
CONASC NOP 0 ENTRY
AND- MASK+3 EXTRACT 4 BITS
INA -10 CHECK FOR NUMBER
SAM DASNO
INA 7 SET FOR A-F
DASNO INA $3A
JMP* (CONASC) EXIT

N3800206
N3800207
N3800208
N3800209
N3800210
N3800211
N3800212
N3800213
N3800214
N3800215

0217
0218 P0070 0000
0219 P0071 0000
0220 P0072 0000
0221 P0073 0000
0222 P0074 0000
0223 P0075 0000

*
DATLOC NUM 0
EXTMSG NUM 0 "MSG" ADD.
EXTHAN NUM 0 "HANDLE" ADD.
COUNT NUM 0
BASE NUM 0 PARAMETER ADD.
MAX NUM 0

N3800217
N3800218
N3800219
N3800220
N3800221
N3800222
N3800223

0225
0226 P0076 0161
0227 P0077 1822
0228
0229 P0078 4816
0230 P0079 481F
0231 P007A 4827
0232 P007B 5801

*
LSPACE SQP LSP15 SPACE BE GRANTED, DO SOMETHING
JMP* DSPE10 TO ERPOR (I/O ERROR)
*
LSP15 STQ* LSP25 SET LOC. WHERE PROGRAM TO BE READ
STQ* LSP31
STQ* LSP40
PTJ* SELF GENERATE RETURN ADD.

N3800225
N3800226
N3800227
N3800228
N3800229
N3800230
N3800231
N3800232

```


0282 P00A6 0010 VALUE BZS VALUE(16)

N3800282

```

0284 *
0285 ***** INSERT INTEGER INTO OUTPUT FORMAT
0286 *
0287 P00B6 0000 DSP100 ENQ 0
0288 P00B7 0AF0 DSP101 LDA* VALUE+2,Q ASSEMBLE 2-DIGIT INTO ONE WORD (INTEGER)
0289 P00B8 0FC0 ALS 8
0290 P00B9 8AEF ADD* VALUE+3,0
0291 P00BA 0CR5 STA* (DATLOC)
0292 P00BB 08B4 RAO* DATLOC
0293 P00BC 0DC2 INQ 2 BUMP NO. OF INTEGER IN E-FORMAT
0294 P00BD 0814 TRQ A
0295 P00BE 09F1 INA -14 CHECK IF DONE
0296 P00BF 0121 SAP DSP102
0297 P00C0 18F6 JMP* DSP101
0298 P00C1 08AE DSP102 RAO* DATLOC
0299 P00C2 08AD RAO* DATLOC BUMP POINTER TO NEXT VALUE

```

N3800284
N3800285
N3800286
N3800287
N3800288
N3800289
N3800290
N3800291
N3800292
N3800293
N3800294
N3800295
N3800296
N3800297
N3800298
N3800299

```

0301 * CHECK IF LINE EXHAUSTED
0302 P00C3 08AF RAO* COUNT
0303 P00C4 08AE LDA* COUNT
0304 P00C5 09FC INA -WRDLN
0305 P00C6 0104 SA7 DSP105
0306 * CHECK IF DATA EXHAUSTED
0307 P00C7 080C LDA* DSPLOC+1
0308 P00C8 98DA SUB* DSPLOC
0309 P00C9 0131 SAM DSP105 DATA EXHAUSTED, TO PRINT
0310 P00CA 1891 JMP* DSP26

```

N3800301
N3800302
N3800303
N3800304
N3800305
N3800306
N3800307
N3800308
N3800309
N3800310

```

0312 *
0313 ***** PRINT DATA
0314 *
0315 P00CB 08B0 DSP105 LDA* SELF
0316 P00CC 095A INA DSPRET-SELF
0317 P00CD 6803 STA* DSPX
0318 P00CE 54F4 RTJ- (AMONI) CALL MONITOR
0319 P00CF 0C07 ADC $C00+CHRSLV
0320 P00D0 0600 DSPX NUM 0 EXIT (TO BE FILLED)
0321 P00D1 0000 NUM 0
0322 P00D2 0000 OTLU NUM 0 LU (TO BE FILLED)
0323 P00D3 0024 ADC LNWD36
0324 P00D4 0000 BUFADD NUM 0 "BUFFER" ADD.
0325 P00D5 14EA JMP- (ADISP)

```

N3800312
N3800313
N3800314
N3800315
N3800316
N3800317
N3800318
N3800319
N3800320
N3800321
N3800322
N3800323
N3800324
N3800325

0327 * RETURN FROM OUTPUT

N3800327

```

0328 P00D6 0161 DSPRET SQP DSPOK
0329 P00D7 18C1 JMP* DSPEIO TO "IOERR" ERROR EXIT
0330 *
0331 P00D8 C400 X DSPOK LDA CHRSGF CHECK IF "DX"
      P00D9 7FFF X
0332 P00DA 0111 SAN DSPREP NO, SKIP
0333 P00DB 180B JMP* GONE YES, TO EXIT
0334 P00DC C8C7 DSPREP LDA* DSPLOC+1 CHECK IF ALL DATA EXHAUSTED
0335 P00DD 98C5 SUB* DSPLOC
0336 P00DE 0134 SAM DSPDON
0337 P00DF C8F4 LDA* BUFADD RESTORE BUFFER ADD. AND REPEAT
0338 P00E0 688F STA* DATLOC
0339 P00E1 1300 JMP DSP19
      PC0E2 FF58
0340 *
0341 P00E3 E890 DSPDON LDQ* BASE D O N E ----- E X I T
0342 P00E4 E203 LDQ- SONMOR,0 EXIT TO "SONMOR"
0343 P00E5 1622 JMP- (ZERO),0
0344 P00E6 E88D GONE LDQ* BASE
0345 P00E7 C806 LDA* OTB+1 GENERATE "OFF" ADDRESS
0346 P00E8 9394 SUB* OTB
0347 P00E9 8201 ADD- BHAN,Q
0348 P00EA 0822 TRA Q
0349 P00EB 1622 JMP- (ZERO),0 TO "OFF"
0350 P00EC 7FFF X OTB ADC HANDLE 0. "HANDLE" ENTRY
0351 P00ED 7FFF X ADC OFF 1. "OFF" ENTRY

```

```

N3800328
N3800329
N3800330
N3800331
N3800332
N3800333
N3800334
N3800335
N3800336
N3800337
N3800338
N3800339
N3800340
N3800341
N3800342
N3800343
N3800344
N3800345
N3800346
N3800347
N3800348
N3800349
N3800350
N3800351

```

```

0353 *** CHECK ADDRESSES TO BE WITHIN 32K
0354 *
0355 P00FE 0P00 CORADK NOP 0 ENTRY
0356 P00FF E0E9 LDQ- EXTRV4 GET 32K/65K FLAG (32K=0, 65K=1)
0357 P00F0 E622 LDQ- (ZERO),0
0358 P00F1 0155 SQN AD55 SKIP ON 65K
0359 P00F2 0133 SAM AD32EX ERROR, OVER 32K
0360 P00F3 9881 SUB* MAX
0361 P00F4 0138 SAM AD65EX
0362 P00F5 0107 SAZ AD65EX
0363 P00F6 1CF7 AD32FX JMP* (CORADK) RETURN
0364 ***
0365 P00F7 0125 AD65 SAP AD65EX CHECK TO BE WITHIN 65K OR LESS
0366 P00F8 9800 SUB MAX SKIP FOR 32K OR SO
0367 P00F9 FF7B
0368 P00FA 0132 SAM AD65EX OK, SKIP
0369 P00FB 0101 SAZ AD65EX OK, SKIP
0370 P00FC 18F9 JMP* AD32EX ERROR, GO
0371 P00FD 08F0 AD65EX RAO* CORADK SET NORMAL EXIT
0372 P00FE 1CF7 JMP* (CORADK) NORMAL RETURN

```

```

N3800353
N3800354
N3800355
N3800356
N3800357
N3800358
N3800359
N3800360
N3800361
N3800362
N3800363
N3800364
N3800365
N3800366
N3800367
N3800368
N3800369
N3800370
N3800371
N3800372

```

0374 *
0375 G002 P EQU SA37(*96)
0376 UC03 F EQU SP37(SA37+1)
0377 C120 P EQU DB37(SP37*96)
0378 P00FF G021 BSS (DB37-*)
0379 END

N3800374
N3800375
N3800376
N3800377
N3800378
N3800379

PGM= 0120 (288) COM = UC00 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0085
0041	AMONI	00F4 (000244)	0198, 0245, 0263, 0275, 0318
0041	ADISP	00EA (000234)	0204, 0254, 0325
0041	LPMSK	0002 (000002)	0107, 0109, 0134
0041	NZERO	0012 (000018)	
0041	ZROBIT	0033 (000051)	
0042	FIVE	0043 (000067)	
0042	SIX	0044 (000068)	
0042	ZERO	0022 (000034)	0242, 0268, 0343, 0349, 0357
0042	ONERIT	0023 (000035)	
0042	SIXTEN	0027 (000039)	
0043	CONMA	0020 (000014)	0110
0043	SLASH	002F (000047)	
0043	ASTRIC	002A (000042)	
0044	EIGHT	0026 (000038)	
0044	NINE	0045 (000069)	
0044	THREE	0004 (000004)	
0044	ONE	0003 (000003)	
0044	TWO	0024 (000036)	
0045	TEN	0046 (000070)	
0045	MASK	0003 (000003)	0210
0048	CHRSLV	0007 (000007)	0199, 0246, 0319
0049	EXTRV4	00E9 (000233)	0356
0050	LNWD36	0024 (000036)	0323
0051	ASMOD	1000 (004096)	0115
0052	MASSLU	08C2 (002242)	0249
0053	FLOATZ	0708 (001800)	0203, 0250
0054	WRDLN	0003 (000003)	0182, 0304
0057	GETFLD	0002 (000002)	0102
0058	ASCHEX	0003 (000003)	0116
0059	ASCDEC	0005 (000005)	
0060	KARPER	002E (000046)	
0061	KARF	0045 (000069)	
0064	BHAN	0001 (000001)	0089, 0347
0065	BMSG	0002 (000002)	0091
0066	SOMMOR	0003 (000003)	0342
0067	IOFPR	0004 (000004)	0267
0068	LTSSTLU	0005 (000005)	0093

0069	COMOLU	0006	(000006)	
0070	NFWMLU	0007	(000007)	
0071	PROG1	0008	(000008)	
0072	PROG2	0009	(000009)	
0073	BITFLG	000A	(000010)	
0074	BUFCNT	000B	(000011)	
0075	FIELD	000C	(000012)	0105
0076	SLASHF	0010	(000016)	
0077	BUFENT	0011	(000017)	0133
0078	BUFFFR	0012	(000018)	0086

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0029	DSPREQ	0000	0029
0102	DSP1	0012	0128
0113	DSP3	0010	0124, 0136, 0140
0115	MODE	001E	0094
0116	DSP5	001F	0106, 0108, 0111
0118	DSPVA	0021	0127
0133	DSP10	002D	0127
0137	DSP11	0031	0135
0142	DSP12	0035	0139
0149	DSP19	003P	0339
0155	DSP20	0040	0158
0161	DSP22	0045	0157
0189	DSP26	0050	0310
0198	LSP12	0062	
0199	LSPCAL	0063	0200
0202	LSP13	0066	0273
0209	CONASC	0069	0163, 0168, 0173, 0177, 0215
0214	DASNO	006E	0212
0218	DATLOC	0070	0088, 0170, 0180, 0183, 0184, 0291, 0292, 0298, 0299, 0338
0219	EXTMSG	0071	0092, 0114, 0239
0220	EXTHAN	0072	0090, 0104, 0117
0221	CCOUNT	0073	0101, 0119, 0122, 0125, 0150, 0302, 0303
0222	BASE	0074	0084, 0266, 0341, 0344
0223	MAX	0075	0097, 0360, 0367
0226	LSPACF	0076	0200
0229	LSP15	0078	0226
0233	SELF	0070	0232, 0234, 0235, 0315, 0316
0234	LSP20	0089	
0237	LSP24	008A	0236
0251	LSP25	008E	0229
0253	LSP26	0090	0243, 0244
0257	OFFTG	0092	0237, 0233
0259	FLTADD	0094	0241
0260	LSP30	0095	0235
0265	LSP31	0098	0230
0266	DSPF10	0099	0227, 0329
0272	LSP35	009C	0262
0273	LSP37	009F	
0277	LSP40	00A1	
0281	DSPLOC	00A3	0231 0121, 0137, 0138, 0142, 0143, 0144, 0145, 0146, 0147, 0161, 0166, 0171, 0176, 0189, 0191, 0192 0194, 0307, 0308, 0334, 0335

0282	VALUE	00A6	0190, 0193, 027+, 0288, 0290
0287	DSP100	00B6	0278
0288	DSP101	00B7	0297
0298	DSP102	00C1	0296
0315	DSP105	00CB	0305, 0309
0320	DSPX	0000	0317
0322	OTLU	0002	0095
0322	BUFADD	0004	0087, 0155, 0337
0328	DSPRFT	0006	0316
0331	DSP0K	0008	0328
0334	DSPPEP	000C	0332
0341	DSPDON	000E	0336
0344	GONE	000E	0333
0344	OTB	000E	0345, 0346
0345	CORADK	000E	0123, 0363, 0371, 0372
0345	AD32EX	000E	0359, 0370
0346	AD35EX	000E	0358
0371	AD35EX	000E	0361, 0362, 0366, 0368, 0369
0375	SA37	0002	0375
0377	SP37	0003	0377
0377	DB37	0120	0378

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0032	ECONV	0094	0259
0033	MMADDR	0092	0257
0034	MSG	0093	0258
0036	OFF	00ED	0351
0037	HANDLE	00EC	0350
0038	CHRSFG	00D9	0331

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0363	AD65	0366	AD65EX	0371	ADISP	0041	AMONI	0041	ASCODEC	0059	ASCHEX	0038	ASMOD	0051	ASTPIC	0013
BASE	0222	BHAN	0064	BITFLG	0073	BMSG	0065	BUFADD	0024	BUFCNT	0074	BUFLMT	0077	BUFFER	0076	CHRSFG	0038
CHRSLV	0048	COMMA	0043	COMOLU	0069	CONASQ	0209	CORADK	0055	COUNT	0221	DASNO	0214	DATLOC	0218	DB37	0377
DSP1	0102	DSP10	0133	DSP100	0287	DSP101	0288	DSP102	0298	DSP105	0315	DSP11	0137	DSP12	0142	DSP19	0149
DSP20	0155	DSP22	0161	DSP26	0189	DSP3	0113	DSP5	0116	DSPDON	0341	DSPEIO	0265	DSPLOC	0281	DSPOK	0331
DSPREP	0334	DSPREQ	0029	DSPRET	0328	DSPVA	0118	DSPX	0320	ECONV	0032	EIGHT	0044	EXTBV4	0049	EXTHAN	0220
EXTMSG	0219	FIELD	0075	FIVE	0042	FLOAT7	0053	FLTADD	0259	GETFLO	0057	GONE	0344	HANDLE	0037	I	0000
IOFPP	0067	KAPE	0061	KARPER	0060	L1STLU	0068	LNWD36	0050	LPMSK	0041	LSP12	0198	LSP13	0202	LSP15	0229
LSP20	0246	LSP24	0247	LSP25	0251	LSP26	0253	LSP30	0262	LSP31	0265	LSP35	0272	LSP37	0275	LSP40	0277
LSPACE	0226	LSPCAL	0199	MASK	0046	MASSLU	0052	MAX	0223	MMADDR	0033	MODE	0115	MSG	0031	NEWMLU	0070
NINF	0044	NZERO	0041	OFF	0036	OFTB	0257	ONE	0044	ONFRIT	0042	OTB	0350	OTLU	0322	PROG1	0071
PROG2	0072	SA37	0375	SELF	0233	SIX	0042	SIXTEN	0042	SLASH	0043	SLASHF	0075	SOMMOR	0066	SP37	0376
TEN	0045	THREE	0044	TWO	0044	VALUE	0282	WRDLN	0054	ZERO	0042	ZROBIT	0041				


```

0047      0043      EQU      FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N3900047
          0044
          0022
          0023
0048      0027      EQU      COMMA($2C),SLASH($2F),ASTRIC($2A)      N3900048
          002C
          002F
          002A
0049      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N3900049
          0045
          0004
          0003
          0024
0050      0046      EQU      TEN($46)      **MSOS4.0**N3900050
0051      0003      EQU      MASK(3)      ONE BIT MASK      N3900051

0053      0007      EQU      CHRSLV(7)      LEVEL OF THIS PROGRAM      116*4360*****
0054      00F9      EQU      EXTRV4($E9)      N3900054
0055      0024      EQU      LNWD36(36)      36WORDS/LINE      N3900055
0056      1000      EQU      ASMOD($1000)      ASC OUTPUT MODE      N3900056
0057      0802      EQU      MASSLU($802)      MASS MEMORY LU      N3900057
0058      0708      EQU      FLOATZ(1800)      SIZE OF FLOATING POINT PACKAGE      N3900058
0059      0028      EQU      NO40(40)      BUFFER SIZE      N3900059
0060      0003      EQU      WRDLN(3)      NO. OF DATA PER LINE      N3900060

0062      002E      EQU      KARPER($2E)      CHARACTER = .      N3900062
0063      0045      EQU      KARE($45)      N3900063

0065      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *
0066      0001      EQU      BHAN(1)      "HANDLE"      N3900065
0067      0002      EQU      BMSG(2)      "MSG" ENTRY      N3900066
0068      0003      EQU      SOMMOR(3)      "SOMMOR" ENTRY      N3900067
0069      0004      EQU      IOERR(4)      "IOERR" ENTRY      N3900068
0070      0005      EQU      LISTLU(5)      LIST OUTPUT --- "LISTLU"      N3900069
0071      0006      EQU      COMOLU(6)      "COMOLU"      N3900070
0072      0007      EQU      NEWMLU(7)      "NEWMLU" --- NEW MM LU      N3900071
0073      0008      EQU      PROG1(8)      "PROG1"      N3900072
0074      0009      EQU      PROG2(9)      "PROG2"      N3900073
0075      000A      EQU      BITFLG(10)      "BITFLG"      N3900074
0076      0008      EQU      BUFCNT(11)      "BUFCNT"      N3900075
0077      000C      EQU      FIELD(12)      "FIELD"      N3900076
0078      0010      EQU      SLASHF(16)      "SLASHF"      N3900077
0079      0011      EQU      BUFEMT(17)      "BUFEMT"      N3900078
0080      0012      EQU      BUFFER(18)      "BUFFER"      N3900079
0081      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *
0082      0002      EQU      GETFLD(2)      SUBROUTINE "EQU" POINTERS      N3900080
0083      0003      EQU      ASCHEX(3)      "GETFLD"      N3900081
0084      0005      EQU      ASCDEC(5)      "ASCHEX"      N3900082
0085      0009      EQU      FETMM(9)      "ASCDEC"      N3900083
          'FETMM' --- GET MM ADD.      N3900084
          N3900085

```

```

0087 *
0088 *****
0089 *

```

```

N3900087
N3900088
N3900089

```

```

0091 P0000 6877 DMSREQ STA* BASE
0092 P0001 60FF STA- I
0093 P0002 8112 ADD- BUFFER, I CALCULATE "BUFFER" ADD.
0094 P0003 6800 STA BUFADD
      P0004 00F8
0095 P0005 686E STA* DATLOC
0096 P0006 C101 LDA- BHAN, I GET "HANDLE" ADD.
0097 P0007 686E STA* EXTHAN
0098 P0008 C102 LDA- BMSG, I FETCH "MSG" ADDRESS
0099 P0009 686B STA* EXTMSG
0100 P000A C105 LDA- LISTLU, I
0101 P000B 8815 ADD* MODE
0102 P000C 6800 STA OTLU
      P000D 00ED
0103 P000E C107 LDA- NEWMLU, I SET UP MM LU
0104 P000F 681F STA* DMSLU
0105 P0010 6836 STA* DMSLOC

```

```

N3900091
N3900092
N3900093
N3900094
N3900095
N3900096
N3900097
N3900098
N3900099
N3900100
N3900101
N3900102
N3900103
N3900104
N3900105

```

```

0107 * GET ALL CORE ADDRESSES N3900107

```

```

0109 *
0110 *****
0111 * DUMP MASS MEMORY --- SINGLE PRECISION
0112 P0011 0A09 DMSNT ENA FETMM GET MM ADD.
0113 P0012 0C01 ENQ 1 RETURN WITH INPUT ADD. DATA
0114 P0013 5C62 RTJ* (EXTHAN)
0115 P0014 0032 ADC DMSLOC-*
0116 P0015 CA02 ENA GETFLO GET NEXT FIELD --- NO. OF WORDS
0117 P0016 CC04 ENQ 4
0118 P0017 5C5E RTJ* (EXTHAN)
0119 P0018 0A03 ENA ASCHEX CONVERT TO HEX
0120 P0019 5C5C RTJ* (EXTHAN)
0121 P001A 0000 NW NUM 0
0122 P001B C111 LDA- BUFEMT, I MAKE SURE IS EMPTY
0123 P001C B012 FOR- LPMSK+16
0124 P001D 0103 SAZ DMS5
0125 *
0126 P001E 0C04 DSP3 ENQ 4 INCORRECT FORMAT,
0127 P001F 1C55 JMP* (EXTMSG)
0128 P0020 1000 MODE ADC ASMOD ASC OUTPUT MODE
0129 *
0130 P0021 6851 DMS5 STA* INDEX
0131 P0022 C824 LDA* DMSLOC SET UP MSB AND LSB
0132 P0023 680E STA* DMSM
0133 P0024 C823 LDA* DMSLOC+1

```

```

N3900109
N3900110
N3900111
N3900112
N3900113
N3900114
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0134	P0025	680D	DMS5R	STA*	DMSL		N3900134
0135	P0026	0A28		ENA	NO40	NO. OF WORDS TO BE XFER	N3900135
0136	P0027	6808		STA*	DMSZ		N3900136
0137	P0028	6800		STA	WDBF		N3900137
	P0029	00FD					
0138	P002A	54F4		RTJ-	(AMONI)	READ OVER DATA	N3900138
0139	P002B	0307	DMSCD	ADC	\$300+CHRSLV		N3900139
0140	P002C	0009		ADC	DMSRT-DMSCD		N3900140
0141	P002D	0000		NUM	0		N3900141
0142	P002F	0000	DMSLU	NUM	0	LU (FILLED)	N3900142
0143	P002F	0000	DMSZ	NUM	0	SIZE (FILLED)	N3900143
0144	P0030	0105		ADC	DMSBUF-DMSCD		N3900144
0145	P0031	0000	DMSM	NUM	0	MSB (FILLED)	N3900145
0146	P0032	0000	DMSL	NUM	0	LSB (FILLED)	N3900146
0147	P0033	14EA		JMP-	(ADISP)		N3900147
0148			*				N3900148
0149	P0034	0162	DMSRT	SQP	DMS10		N3900149
0150	P0035	1800		JMP	DSPEIO		N3900150
	P0036	0084	*				N3900151
0151							N3900152
0152	P0037	0844	DMS10	CLR	A		N3900153
0153	P0038	683E		STA*	COUNT		N3900153
			*				
0155						FILL LINE WITH SPACE	N3900155
0156			*				N3900156
0157	P0039	C800	DMS13	LDA	BUFADD		N3900157
	P003A	00C2					
0158	P003B	09FE		INA	-1		N3900158
0159	P003C	60FF		STA-	I		N3900159
0160	P003D	0C00		ENQ	0	FILL BUFFER WITH SPACE	N3900160
0161	P003E	C000	MA12	LDA	=A		N3900161
	P003F	2020					
0162	P0040	6301		STA-	1,B		N3900162
0163	P0041	0D01		INQ	1		N3900163
0164	P0042	0814		TRQ	A		N3900164
0165	P0043	09DB		INA	-36		N3900165
0166	P0044	0106		SAZ	MA14		N3900166
0167	P0045	18F8		JMP*	MA12		N3900167
0168	P0046	0005	DMSLOC	BZS	DMSLOC(5)		N3900168
0169			*			INSERT CORE LOCATION TAG	N3900169
0170			*				N3900170
0171	P0048	C8FC	MA14	LDA*	DMSLOC+2	CONVERT MSB TO ASC	N3900171
0172	P004C	582C		RTJ*	CV4A		N3900172
0173	P004D	6101		STA-	1,I		N3900173
0174	P004E	C8FA		LDA*	DMSLOC+3	GET LSB AND CONVERT TO ASC	N3900174
0175	P004F	5829		RTJ*	CV4A		N3900175
0176	P0050	4102		STQ-	2,I		N3900176
0177	P0051	6103		STA-	3,I		N3900177
0178	P0052	C8F7		LDA*	DMSLOC+4	GET WORD	N3900178
0179	P0053	5825		RTJ*	CV4A		N3900179
0180	P0054	6824		STA*	CV4A		N3900180
0181	P0055	0814		TRQ	A		N3900181

0182	P0056	0C2F	ENQ	SLASH	INSERT '/' BETWEEN SECTOR AND WORD	N3900182
0183	P0057	0FE8	LLS	8		N3900183
0184	P0058	4104	STQ-	4,I		N3900184
0185	P0059	E81F	LDQ*	CV4A		N3900185
0186	P005A	0FC8	ALS	8		N3900186
0187	P005B	0FF8	LLS	24		N3900187
0188	P005C	0920	INA	\$20		N3900188
0189	P005D	6106	STA-	6,I		N3900189
0190	P005E	4105	STQ-	5,I		N3900190
0191			*			N3900191
0192			*		INCREMENT DATA LOC. TO VALUE	N3900192
0193	P005F	0A07	ENA	7		N3900193
0194	P0060	8813	ADD*	DATLOC		N3900194
0195	P0061	6812	STA*	DATLOC		N3900195
0197			*			N3900197
0198			****		GET AND ASSEMBLE VALUE	N3900198
0199			*			N3900199
0200	P0062	E810	DMS22	LDQ* INDEX	SET UP INDEX AND MOVE FLOATING POINT VALUE	N3900200
0201	P0063	CA00	LDA	DMSBUF,Q	INTO CALLING PARAMETER LOCATION	N3900201
0202	P0064	00CC				N3900202
0203	P0065	685F	STA*	VALUE		N3900203
0203	P0066	CA00	LDA	DMSBUF+1,Q		N3900203
0204	P0067	00CA				N3900204
0204	P0068	685D	STA*	VALUE+1		N3900204
0205	P0069	0D02	INQ	2		N3900205
0206	P006A	4808	STQ*	INDEX		N3900206
0208			*			N3900208
0209			****		REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE	N3900209
0210	P006B	54F4	LSP12	RTJ- (AMONI)		N3900210
0211	P006C	1547	LSPCAL	ADC \$1540+CHRSLV		N3900211
0212	P006D	002B		ADC LSPACE-LSPCAL		N3900212
0213	P006E	0000		NUM 0		N3900213
0214	P006F	0000	LSP13	NUM 0	CORE LOCATION OF REQUESTED SPACE	N3900214
0215	P0070	0708		ADC FLOATZ		N3900215
0216	P0071	14EA		JMP- (ADISP)		N3900216
0217	P0072	0000	INDEX	NUM 0		N3900217
0219			*			N3900219
0220	P0073	0000	DATLOC	NUM 0		N3900220
0221	P0074	0000	EXTMSG	NUM 0	"MSG" ADD.	N3900221
0222	P0075	0000	EXTHAN	NUM 0	"HANDLE" ADD.	N3900222
0223	P0076	0000	COUNT	NUM 0		N3900223
0224	P0077	0000	BASE	NUM 0	PARAMETER ADD.	N3900224
0226			*			N3900226
0227			****		ROUTINE TO CONVERT TO I-WORD ASCII	N3900227
0228			*			N3900228
0229	P0078	0B00	CV4A	NOP 0	ENTRY	N3900229

0230	P0079	0C00	ENO	0					
0231	P007A	4815	STQ*	CI	SET UP INDEX				
0232	P007B	0FEC	C1	LLS	12	EXTRACT 4-BIT TO A-REG.			
0233	P007C	0FC4		ALS	4				
0234	P007D	480D		STQ*	CT	SAVE REMAINDER			
0235	P007E	09F5		INA	-10	SET UP CHAR. AS NO. OR A-F			
0236	P007F	0131		SAM	NOAF1				
0237	P0080	0907		INA	7				
0238	P0081	093A	NOAF1	INA	\$3A				
0239	P0082	F80D		LDQ*	CI	RECALL INDEX TO SAVE CHAR.			
0240	P0083	6A08		STA*	CU,Q				
0241	P0084	0DFC		INQ	-3	CHECK IF DONE			
0242	P0085	014A		SQZ	CE	SKIP WHEN DONE			
0243	P0086	D809		RAO*	CI				
0244	P0087	0C00		ENO	0				
0245	P0088	C802		LDA*	CT	TO PROCESS ANOTHER ONE			
0246	P0089	18F1		JMP*	C1				
0247			*						
0248	P008A	0000	CT	NUM	0				
0249	P008B	0004	CU	BZS	CU(4)				
0250	P008F	0000	CI	NUM	0				
0251			*						
0252	P0090	F8FD	CE	LDQ*	CU+3				
0253	P0091	0FA8		QLS	8	ASSEMBLE INTO 2-CHAR. WORD			
0254	P0092	F8FA		ADQ*	CU+2				
0255	P0093	C8F8		LDA*	CU+1				
0256	P0094	0FC8		ALS	8				
0257	P0095	88F5		ADD*	CU				
0258	P0096	1CE1		JMP*	(CV4A)	RETURN			
0260			*						
0261	P0097	0161	LSPACE	SQP	LSP15	SPACE BE GRANTED, DO SOMETHING			
0262	P0098	1822		JMP*	DSPEIO	TO ERROR (I/O ERROR)			
0263			*						
0264	P0099	4816	LSP15	STQ*	LSP25	SET LOC. WHERE PROGRAM TO BE READ			
0265	P009A	481F		STQ*	LSP31				
0266	P009B	4827		STQ*	LSP40				
0267	P009C	5801		RTJ*	SELF	GENERATE RETURN ADD.			
0268	P009D	0B00	SELF	NOP	0				
0269	P009E	C8FE		LDA*	SELF				
0270	P009F	0919		INA	LSP30-SELF				
0271	P00A0	680B		STA*	LSP24				
0272	P00A1	C812		LDA*	OFTB	GENERATE "MMADDR" LOCATION			
0273	P00A2	9312		SUB*	OFTB+1				
0274	P00A3	8800		ADD*	EXTMSG				
0275	P00A4	C822		TRA	Q				
0276	P00A5	C810		LDA*	FLTADD	GET FLOAT PACKAGE SECTOR ADD.			
0277	P00A6	5622		RTJ-	(ZERO),0	TO 'MMADDR' FOR MM ADD. CONVERSION			
0278	P00A7	680A		STA*	LSP26	SAVE LSB			
0279	P00A8	4808		STQ*	LSP26-1				
0280	P00A9	54F4		RTJ-	(AMONI)				
0281	P00AA	08G7	LSP20	ADC	\$800+CHRSLV				

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N3900281

0282	P00AB	0000	LSP24	NUM	0	RETURN (TO BE FILLED)	N3900282
0283	P00AC	0000		NUM	0	THREAD	N3900283
0284	P00AD	08C2		ADC	MASSLU		N3900284
0285	P00AE	C708		ADC	FLOATZ		N3900285
0286	P00AF	0000	LSP25	NUM	0	FLOAT PACKAGE ADD. (TO BE FILLED)	N3900286
0287	P00BC	0000		NUM	0		N3900287
0288	P00B1	0000	LSP26	NUM	0	SECTOR ADD. (TO BE FILLED)	N3900288
0289	P00B2	14FA		JMP-	(ADISF)		N3900289

0291			*				N3900291
0292	P00B3	7FFF	X	OFTB	ADC	MMADDR	0. "MMADDR"
0293	P00B4	7FFF	X		ADC	MSG	1. "MSG"
0294	P00B5	7FFF	X	FLTADD	ADC	ECONV	E- OR F-FORMAT CONVERSION FOR SINGLE

0295			*				N3900295
0297	P00B6	0166	LSP30	SQP	LSP35	MM TRANSFER OK, SKIP	N3900297
0298	P00B7	54F4		RTJ-	(AMONI)	RELEASE CORE	N3900298
0299	P00B8	1800		NUM	\$1800		N3900299
0300	P00B9	0000	LSP31	NUM	0		N3900300
0301	P00BA	E8BC	DSPEIO	LDQ*	BASE	EXIT TO "IOERR"	N3900301
0302	P00BB	E204		LDQ-	IOERR,Q	EXIT TO "IOERR"	N3900302
0303	P00BC	1622		JMP-	(ZERO),Q		N3900303

0304			*				N3900304
0305			*****			FLOAT PACKAGE IS IN CORE, CONVERT NO.	N3900305
0306			*				N3900306

0307	P00BD	0C01	LSP35	ENQ	1		N3900307
0308	P00BE	5C80		RTJ*	(LSP13)		N3900308
0309	P00BF	0005		ADC	VALUE-*		N3900309
0310	P00C0	54F4	LSP37	RTJ-	(AMONI)	RELEASE CORE	N3900310
0311	P00C1	1800		NUM	\$1800		N3900311
0312	P00C2	0000	LSP40	NUM	0	ADD. (TO BE FILLED)	N3900312
0313	P00C3	1811		JMP*	DSP100		N3900313

0315			*			STORAGE AND/OR CONSTANTS	N3900315
0316	P00C4	0010		VALUE	BZS	VALUE(16)	N3900316

0318			*				N3900318
0319			*****			INSERT INTEGER INTO OUTPUT FORMAT	N3900319
0320			*				N3900320

0321	P00D4	0C00	DSP100	ENQ	0		N3900321
0322	P00D5	CAFG	DSP101	LDA*	VALUE+2,Q	ASSEMBLE 2-DIGIT INTO ONE WORD (INTEGER)	N3900322
0323	P00D6	0FC8		ALS	3		N3900323
0324	P00D7	8AEF		ADD*	VALUE+3,Q		N3900324
0325	P00D8	6C9A		STA*	(DATLOC)		N3900325
0326	P00D9	D899		RAO*	DATLOC		N3900326

0327	P00DA	0D02	INQ	2	BUMP NO. OF INTEGER IN E-FORMAT	N3900327
0328	P00DB	0814	TRQ	A		N3900328
0329	P00DC	09F1	INA	-14	CHECK IF DONE	N3900329
0330	P00DD	0121	SAP	DSP102		N3900330
0331	P00DE	18F6	JMP*	DSP101		N3900331
0332	P00DF	D893	RAO*	DATLOC		N3900332
0333	P00EO	D892	RAO*	DATLOC	BUMP POINTER TO NEXT VALUE	N3900333
0335			*		CHECK IF LINE EXHAUSTED	N3900335
0336	P00E1	D894	RAO*	COUNT		N3900336
0337	P00E2	E844	LDQ*	WDBF	ADJUST NO. OF WORDS IN BUFFER	N3900337
0338	P00E3	0DFD	INQ	-2		N3900338
0339	P00E4	4842	STQ*	WDBF		N3900339
0340	P00E5	C890	LDA*	COUNT		N3900340
0341	P00E6	09FC	INA	-WRDLN		N3900341
0342	P00E7	0108	SAZ	DSP105		N3900342
0343	P00E8	C800	LDA	NW	CHECK IF DATA EXHAUSTED	N3900343
	P00E9	FF30				
0344	P00EA	09FD	INA	-2		N3900344
0345	P00EB	6800	STA	NW		N3900345
	P00EC	FF20				
0346	P00ED	0105	SAZ	DSP105		N3900346
0347	P00EE	0134	SAM	DSP105		N3900347
0348	P00EF	0151	SQN	DMS171		N3900348
0349	P00F0	182B	JMP*	DMS201	BUFFER NOT YET EMPTY	N3900349
0350	P00F1	1800	JMP	DMS22	BUFFER EMPTY, TO UPDATE MM AND GET DATA	N3900350
	P00F2	FF6F				
0352			*			N3900352
0353			*****		PRINT DATA	N3900353
0354			*			N3900354
0355	P00F3	C8A9	DSP105	LDA*	SELF	N3900355
0356	P00F4	0961	INA	DSPRET-SELF		N3900356
0357	P00F5	6803	STA*	DSPX		N3900357
0358	P00F6	54F4	RTJ-	(AMONI)	CALL MONITOR	N3900358
0359	P00F7	0CC7	ADC	%C00+CHRSLV		N3900359
0360	P00F8	0000	DSPX	NUM	0	N3900360
0361	P00F9	0000		NUM	0	N3900361
0362	P00FA	0000	OTLU	NUM	0	N3900362
0363	P00FB	0024	ADC	LNWD36		N3900363
0364	P00FC	0000	BUFADD	NUM	0	N3900364
0365	P00FD	14EA	JMP-	(ADISP)	"BUFFER" ADD.	N3900365
0367			*		RETURN FROM OUTPUT	N3900367
0368	P00FE	0161	DSPRET	SQP	DSPOK	N3900368
0369	P00FF	18BA	JMP*	DSPEIO	TO "IOERR" ERROR EXIT	N3900369
0370			*			N3900370
0371	P0100	C400	DSPOK	LDA	CHRSFG	N3900371
	P0101	7FFF			CHECK IF "DX"	
0372	P0102	0111	SAN	DSPREP	NO, SKIP	N3900372

0373	P0103	1824	JMP*	GONE	YES, TO EXIT	N3900373
0374	P0104	C800	DSPREP LDA	NW	CHECK IF ALL DATA EXHAUSTED	N3900374
	P0105	FF14				
0375	P0106	09FD	INA	-2		N3900375
0376	P0107	6800	STA	NW		N3900376
	P0108	FF11				
0377	P0109	010D	SAZ	DSPDON		N3900377
0378	P010A	013C	SAM	DSPDON		N3900378
0379	P010B	C8FD	LDA*	BUFADD	RESTORE BUFFER ADD. AND REPEAT	N3900379
0380	P010C	6800	STA	DATLOC		N3900380
	P010D	FF65				
0381	P010E	C800	LDA	DMSLOC+4	UP DATA LOCATION COUNT	N3900381
	P010F	FF3A				
0382	P0110	0906	INA	6		N3900382
0383	P0111	6800	STA	DMSLOC+4		N3900383
	P0112	FF37				
0384	P0113	E813	LDQ*	WDBF	CHECK IF BUFFER EMPTY	N3900384
0385	P0114	0146	SQZ	DMS201	YES, SKIP	N3900385
0386	P0115	1800	JMP	DMS10		N3900386
	P0116	FF20				
0387			*		D O N E ----- E X I T	N3900387
0388	P0117	E800	DSPDON LDQ	BASE		N3900388
	P0118	FF5E				
0389	P0119	E203	LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N3900389
0390	P011A	1622	JMP-	(ZERO),Q		N3900390
0392			*		BUFFER EMPTY, UP DATE MM ADD. AND GET DATA	N3900392
0393	P011B	4800	DMS201 STQ	INDEX		N3900393
	P011C	FF55				
0394	P011D	C800	LDA	DMSL	UPDATE LSB	N3900394
	P011E	FF13				
0395	P011F	0928	INA	NO40		N3900395
0396	P0120	0123	SAP	DMS207		N3900396
0397	P0121	D800	RAO	DMSM		N3900397
	P0122	FF0E				
0398	P0123	A011	AND-	LPMSK+15		N3900398
0399	P0124	1800	DMS207 JMP	DMS5R	TO GET DATA, ETC.	N3900399
	P0125	FEFF				
0400	P0126	0000	WDBF	NUM 0		N3900400
0402			*			N3900402
0403	P0127	F800	GONE	LDQ	BASE	N3900403
	P0128	FF4E				
0404	P0129	C806	LDA*	OTB+1	GENERATE "OFF" ADDRESS	N3900404
0405	P012A	9804	SUB*	OTB		N3900405
0406	P012B	8201	ADD-	BHAN,Q		N3900406
0407	P012C	0822	TRA	Q		N3900407
0408	P012D	1622	JMP-	(ZERO),Q	TO "OFF"	N3900408
0409	P012E	7FFF	ADC	HANDLE	0. "HANDLE" ENTRY	N3900409
0410	P012F	7FFF	ADC	OFF	1. "OFF" ENTRY	N3900410

0412 *
0413 P0130 0028 DMSBUF BZS DMSBUF(40)

N3900412
N3900413

0415 *
0416 0003 P EQU SA48(* /96)
0417 0004 P EQU SP48(SA48+1)
0418 0180 P EQU DB48(SP48*96)
0419 P0158 0028 BSS (DB48-*)
0420 END

N3900415
N3900416
N3900417
N3900418
N3900419
N3900420

PGM= 0180 (384) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0092, 0159
0046	AMONI	00F4 (000244)	0138, 0210, 0280, 0298, 0310, 0358
0046	ADISP	00EA (000234)	0147, 0216, 0289, 0365
0046	LPMSK	0002 (000002)	0123, 0398
0046	NZERO	0012 (000018)	
0046	ZROBIT	0033 (000051)	
0047	FIVE	0043 (000067)	
0047	SIX	0044 (000058)	
0047	ZERO	0022 (000034)	0277, 0303, 0390, 0408
0047	ONEBIT	0023 (000035)	
0047	SIXTEN	0027 (000039)	
0048	COMMA	002C (000044)	
0048	SLASH	002F (000047)	0182
0048	ASTRIC	002A (000042)	
0049	EIGHT	0026 (000038)	
0049	NINE	0045 (000069)	
0049	THREE	0004 (000004)	
0049	ONE	0003 (000003)	
0049	TWO	0024 (000036)	
0050	TEN	0046 (000070)	
0051	MASK	0003 (000003)	
0053	CHRSLV	0007 (000007)	0139, 0211, 0281, 0359
0054	EXTBY4	00E9 (000233)	
0055	LNWD36	0024 (000036)	0363
0056	ASMOD	1000 (004096)	0128
0057	MASSLU	08C2 (002242)	0284
0058	FLOATZ	0708 (001800)	0215, 0285
0059	NO40	0028 (000040)	0135, 0395
0060	WRDLN	0003 (000003)	0341
0062	KARPER	002E (000046)	
0063	KARE	0045 (000069)	
0066	BHAN	0001 (000001)	0096, 0406
0067	BMSG	0002 (000002)	0098
0068	SOMMOR	0003 (000003)	0389
0069	IOERR	0004 (000004)	0302
0070	LISTLU	0005 (000005)	0100
0071	COMOLU	0006 (000006)	
0072	NEWMLU	0007 (000007)	0103

0073	PROG1	0008	(000008)	
0074	PROG2	0009	(000009)	
0075	BITFLG	000A	(000010)	
0076	BUFCNT	000B	(000011)	
0077	FIELD	000C	(000012)	
0078	SLASHF	0010	(000016)	
0079	BUFEMT	0011	(000017)	0122
0080	BUFFER	0012	(000018)	0093
0082	GETFLD	0002	(000002)	0116
0083	ASCHEX	0003	(000003)	0119
0084	ASCDEC	0005	(000005)	
0085	FETMM	0009	(000009)	0112

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0034	DMSREQ	0000	0034
0112	DMSENT	0011	
0121	NW	001A	0343, 0345, 0374, 0376
0126	DSP3	001E	
0128	MODE	0020	0101
0130	DMS5	0021	0124
0134	DMS5R	0025	0399
0139	DMSCD	002B	0149, 0144
0142	DMSLU	002E	0104
0143	DMSZ	002F	0136
0145	DMSM	0031	0132, 0397
0146	DMSL	0032	0134, 0394
0149	DMSRT	0034	0140
0152	DMS13	0037	0149, 0386
0157	DMS13	0039	
0161	MA12	003E	0167
0168	DMSLOC	0046	0105, 0115, 0131, 0133, 0171, 0174, 0178, 0381, 0383
0171	MA14	004B	0166
0200	DMS22	0062	0350
0210	LSP12	006B	
0211	LSPCAL	006C	0212
0214	LSP13	006F	0308
0217	INDEX	0072	0130, 0200, 0206, 0393
0220	DATLOC	0073	0095, 0194, 0195, 0325, 0326, 0332, 0333, 0380
0221	EXTMSG	0074	0099, 0127, 0274
0222	EXTHAN	0075	0097, 0114, 0118, 0120
0223	COUNT	0076	0153, 0336, 0340
0224	BASE	0077	0091, 0301, 0388, 0403
0229	CV4A	0078	0172, 0175, 0179, 0180, 0185, 0258
0232	C1	007B	0245
0238	NOAF1	0081	0236
0248	CT	008A	0234, 0245
0249	CU	008B	0240, 0252, 0254, 0255, 0257
0250	GI	008F	0231, 0239, 0243
0252	CE	0090	0242
0261	LSPACE	0097	0212
0264	LSP15	0099	0261
0268	SELF	009D	0267, 0269, 0270, 0355, 0356
0281	LSP20	00AA	
0282	LSP24	00AB	0271
0286	LSP25	00AF	0264

0288	LSP26	00B1	0278, 0279
0292	OFTB	00B3	0272, 0273
0294	FLTADD	00B5	0276
0297	LSP30	00B6	0270
0300	LSP31	00B9	0265
0301	DSPFI0	00BA	0150, 0262, 0369
0307	LSP35	00BD	0297
0310	LSP37	00CC	
0312	LSP40	00C2	0266
0316	VALUE	00C4	0202, 0204, 0309, 0322, 0324
0321	DSP100	00D4	0313
0322	DSP101	00D5	0331
0322	DSP102	00DF	0330
0350	DMS171	00F1	0348
0355	DSP105	00F3	0342, 0346, 0347
0360	DSPX	00F8	0357
0362	OTLU	00FA	J102
0364	BUFADD	00FC	0094, 0157, 0379
0368	DSPRET	00FE	0356
0371	DSPPOK	0100	0368
0374	DSPPREP	0104	0372
0388	DSPDON	0117	0377, 0378
0393	DMS201	011B	0349, 0385
0399	DMS207	0124	0396
0400	WDBF	0126	0137, 0337, 0339, 0384
0403	GONE	0127	0373
0409	OTB	012E	0404, 0405
0413	DMS EUF	0130	J144, 0201, 0203
0416	SA48	0003	0417
0417	SP48	0004	0418
0418	DB48	0180	0419

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0037	ECONV	00B5	0294
0038	MMA DDR	00B3	0292
0039	MSG	00B4	0293
0041	CHRSFG	0101	0371
0042	OFF	012F	0410
0043	HANDLE	012E	0409


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0054      *
0055      00F4      ' E Q U '      T A B L E      N4000054
0055      00FA      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)      N4000055
0055      00002
0055      0012
0056      0033
0056      0043      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N4000056
0056      0044
0056      00222
0056      0023
0057      0027
0057      002C      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)      N4000057
0057      002F
0058      002A
0058      0026      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N4000058
0058      0045
0058      0004
0058      0003
0058      0024
0059      0046      EQU TEN($46)      N4000059
0060      08C2      EQU MASSLU($8C2)      N4000060
0061      0307      EQU CHRSLV(7)      N4000061
0062      00E6      EQU CSYLEN($E6)      116*4360 *****
0063      00E7      EQU CSYDIR($E7)      LENGTH OF SYSTEM DIRECTORY (IN THIS LOC.)      N4000062
0064      00E9      EQU EXTBV4($E9)      INDEX OF FIRST MM DIRECTORY      N4000063
0065      00EB      EQU DIRTRY($EB)      SYSTEM DIRECTORY CORE LOCATION      N4000064
0066      003C      EQU LSO(60)      COMMAND "LSO" INDEX      N4000065
0066      N4000066

0068      *
0069      0002      SUBROUTINE POINTER (FOR REQUEST)      N4000068
0070      0003      EQU GETFLD(2)      "GETFLD" --- GET FIELD SUBROUTINE      N4000069
0071      0005      EQU ASCHEX(3)      "ASCHEX" --- ASC TO HEX.      N4000070
0072      0008      EQU ASCDEC(5)      ASE TO DEC.      N4000071
0073      0009      EQU GETINT(8)      "GETINT" --- GET SINGLE/DOUBLE PRECISION VALUE      N4000072
0074      000D      EQU FETMM(9)      FETMM --- FETCH/CONVERT MM ADD.      N4000073
0075      0708      EQU FLCVSG(13)      "FLCVSG" --- PRINT VALUE AND CONFIRM      N4000074
0075      EQU FLOATZ(1800)      SIZE OF FLOATING POINT PACKAGE      N4000075

0077      *
0078      0001      PARAMETER LOCATION (OFFSET FROM BASE)      N4000077
0079      0002      EQU HANDLE(1)      "HANDLE"      N4000078
0080      0003      EQU BMSG(2)      "MSG" ENTRY      N4000079
0081      0004      EQU SOMMOR(3)      "SOMMOR" ENTRY      N4000080
0082      0005      EQU IOERR(4)      "IOERR" ENTRY      N4000081
0083      0006      EQU LISTLU(5)      LIST OUTPUT --- "LISTLU"      N4000082
0084      0007      EQU COMOLU(6)      "COMOLU"      N4000083
0085      0008      EQU NEWMLU(7)      "NEWMLU" --- NEW MM LU      N4000084
0086      0009      EQU PROG1(8)      "PROG1"      N4000085
0087      000A      EQU PROG2(9)      "PROG2"      N4000086
0087      EQU BITFLG(10)      "BITFLG"      N4000087

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0088	000B	EQU	BUFCNT(11)	"BUFCNT"	N4000088
0089	000C	EQU	FIELD(12)	"FIELD"	N4000089
0090	0010	EQU	SLASHF(16)	"SLASHF"	N4000090
0091	0011	EQU	BUFEMT(17)	"BUFEMT"	N4000091
0092	0012	EQU	BUFFER(18)	"BUFFER"	N4000092

0094	*				N4000094
0095	*****	*****	PROGRAM	START	N4000095
0096	*				N4000096

0098	P0000	687C	LSOREQ	STA*	BASE		N4000098
0099		0000	P	EQU	LSMREQ(LSOREQ)		N4000099
0100	P0001	60FF		STA-	I		N4000100
0101	P0002	8112		ADD-	BUFFER,I		N4000101
0102	P0003	6800		STA	DATBUF		N4000102
	P0004	00B1					
0103	P0005	6800		STA	BUFADD		N4000103
	P0006	0099					
0104	P0007	C101		LDA-	HANDLE,I		N4000104
0105	P0008	6800		STA	EXTHAN		N4000105
	P0009	0087					
0106	P000A	C102		LDA-	BMSG,I	FETCH "MSG" ADDRESS	N4000106
0107	P000B	6800		STA	EXTMSG		N4000107
	P000C	0083					
0108	P000D	C109		LDA-	PROG2,I	GET PROGRAM TYPE	N4000108
0109	P000E	09C3		INA	-LSO		N4000109
0110	P000F	010C		SAZ	LSO1	SKIP ON "LSO"	N4000110

0112	*						N4000112
0113	***			GET	"LSM" DATA --- MM ADDRESSES		N4000113
0114	*						N4000114
0115	P0010	0C00	LSM	ENQ	0		N4000115
0116	P0011	C107		LDA-	NEWMLU,I	GET LU	N4000116
0117	P0012	6800		STA	MSB	FOR MM SIZE CHECK INCONJUNCTION WITH ADD.	N4000117
	P0013	00DA					
0118	P0014	6800		STA	COUNT-1		N4000118
	P0015	0088					
0119	P0016	6800		STA	XF2WD-1		N4000119
	P0017	0098					
0120	P0018	0A09		ENA	FETMM		N4000120
0121	P0019	5C77		RTJ*	(EXTHAN)		N4000121
0122	P001A	00D3		ADC	MSB-*		N4000122
0123	P001B	1828		JMP*	LSOM		N4000123

0125	*						N4000125
0126	*****			MODIFY	ORDINAL, GET (1) ORDINAL, LOC., AND BASE		N4000126
0127	*						N4000127
0128	P001C	0A02	LSO1	ENA	GETFLD	GET ORDINAL	N4000128

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0129 PG01D 0C03 ENQ 3 N4000129
0130 P001E 5C72 RTJ* (EXTHAN) N4000130
0131 P001F 0A05 ENA ASCDEC CONVERT TO DEC. N4000131
0132 P0020 5C70 RTJ* (EXTHAN) N+000132
0133 P0021 0101 SAZ LER N4000133
0134 P0022 0122 SAP LS02 N+000134
0135 P0023 0C04 LER ENQ 4 TO PRINT FORMAT ERROR N4000135
0136 P0024 1C6B * JMP* (EXTMSG) N4000136
0137 N4000137
0138 P0025 5800 LS02 RTJ ORDCHK TO CHECK IF ORDINAL WITHIN LIMIT/GET ADDRESS N4000138
0139 P0026 00C1 N4000139
0140 P0027 JC04 ENQ 4 N4000140
0141 P0028 0A02 ENA GETFLD GET LOC. N4000141
0142 P0029 5C67 RTJ* (EXTHAN) N4000142
0143 P002A 0A03 ENA ASCHEX CONVERT TO HEX. N+000143
0144 P002B 5C65 RTJ* (EXTHAN) N4000144
0145 P002C 0000 * LSPLOC NUM 0 N4000145
0146 * GET BASE ADDRESS N4000146
0147 P002D C10C LDA- FIELD,I N4000147
0148 P002E 09D3 INA -COMMA CHECK FOR COMMA (GET EASE) N4000148
0149 P002F 0116 SAN LS04 N4000149
0150 P0030 0C04 ENQ 4 SET FOR 4 CHAR. MAX. N4000150
0151 P0031 0A02 ENA GETFLD N4000151
0152 P0032 5C5E RTJ* (EXTHAN) GET BASE ADDRESS N+000152
0153 P0033 0A03 ENA ASCHEX CONVERT TO HEX. N4000153
0154 P0034 5C5C RTJ* (EXTHAN) N4000154
0155 P0035 0000 P LSOB NUM 0 N+000155
0156 P0036 C8FE P LS04 EQU LS04(*) ASSEMBLE ADDRESS = BASE + L N4000156
0157 P0037 88F4 LDA* LSOB N+000157
0158 P0038 68F3 ADD* LSPLOC N+000158
0159 P0039 6800 STA* LSPLOC N4000159
0160 P003A 00B5 STA MSB+2 N4000160
0161 P003B C856 LDA* MAXL N4000161
0162 P003C 0112 SAN LS05 SKIP IF ORDINAL LENGTH NON-ZERO N4000162
0163 P003D 0C0C ENQ 12 N4000163
0164 P003E 1C51 JMP* (EXTMSG) ERROR - ZERO LENGTH N+000164
0165 P003F 0A09 LS05 ENA FETMM CONVERT TO WORD ADDRESSING N+000165
0166 P0040 5C02 ENQ 2 N4000166
0167 P0041 5C4F RTJ* (EXTHAN) N4000167
0168 P0042 00AB ADC MSB-* N4000168
0169 * CHECK FOR FORMAT ---- CONTROL CHAR = SLASH N4000169
0170 P0043 C10C LSOM LDA- FIELD,I IS CONTROL CHAR. = SLASH N4000170
0171 P0044 0900 INA -SLASH N4000171
0172 P0045 0101 SAZ LSP10 N4000172
0173 P0046 18DC JMP* LER TO PRINT FORMAT ERROR N4000173
0175 * N4000175
0176 *** TO OBTAIN SINGLE PRECISION VALUE N+000176
0177 * N4000177
0178 P0047 6110 LSP10 STA- SLASHF,I N4000178

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0179	P0048	6856		STA*	COUNT				N4000179
0180	P0049	0C07	LSP11	ENQ	7		SET FOR 7 DIGIT MAX		N4000180
0181	P004A	0A08		ENA	GETINT		GET DECODE SINGLE/DOUBLE PRECISION		N4000181
0182	P004B	5C45		RTJ*	(EXTHAN)				N4000182
0183	P004C	0078		ADC	VALUE-*				N4000183
0185				*					N4000185
0186				*****			REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE		N4000186
0187	P004D	54F4	LSP12	RTJ-	(AMONI)				N4000187
0188	P004E	1547	LSPCAL	ADC	\$1540+CHRSLV				N4000188
0189	P004F	0006		ADC	LSPACE-LSPCAL				N4000189
0190	P0050	0000		NUM	0				N4000190
0191	P0051	0000	LSP13	NUM	0		CORE LOCATION OF REQUESTED SPACE		N4000191
0192	P0052	0708		ADC	FLOATZ				N4000192
0193	P0053	14EA		JMP-	(ADISP)				N4000193
0194				*					N4000194
0195	P0054	0161	LSPACE	SQP	LSP15		SPACE BE GRANTED, DO SOMETHING		N4000195
0196	P0055	1824		JMP*	LSP32		TO ERROR (I/O ERROR)		N4000196
0197				*					N4000197
0198	P0056	4818	LSP15	STQ*	LSP25		SET LOC. WHERE PROGRAM TO BE READ		N4000198
0199	P0057	4821		STQ*	LSP31				N4000199
0200	P0058	482A		STQ*	LSP40				N4000200
0201	P0059	5801		RTJ*	SELF		GENERATE RETURN ADD.		N4000201
0202	P005A	0B00	SELF	NOP	0				N4000202
0203	P005B	C8FE		LDA*	SELF				N4000203
0204	P005C	091B		INA	LSP30-SELF				N4000204
0205	P005D	680D		STA*	LSP24				N4000205
0206	P005E	092E		INA	XFRDRT-LSP30				N4000206
0207	P005F	683C		STA*	XFRDAD				N4000207
0208	P0060	C812		LDA*	OFTB		GENERATE "MMADDR" LOCATION		N4000208
0209	P0061	9812		SUB*	OFTB+1				N4000209
0210	P0062	882D		ADD*	EXTMSG				N4000210
0211	P0063	0822		TRA	Q				N4000211
0212	P0064	0810		LDA*	FLTADD		GET FLOAT PACKAGE SECTOR ADD.		N4000212
0213	P0065	5622		RTJ-	(ZERO),Q		TO "MMADDR" FOR MM ADD. CONVERSION		N4000213
0214	P0066	680A		STA*	LSP26		SAVE LSB		N4000214
0215	P0067	4808		STQ*	LSP26-1				N4000215
0216	P0068	54F4		RTJ-	(AMONI)				N4000216
0217	P0069	0807	LSP20	ADC	\$800+CHRSLV				N4000217
0218	P006A	0000	LSP24	NUM	0		RETURN (TO BE FILLED)		N4000218
0219	P006B	0000		NUM	0		THREAD		N4000219
0220	P006C	08C2		ADC	MASSLU				N4000220
0221	P006D	0708		ADC	FLOATZ				N4000221
0222	P006E	0000	LSP25	NUM	0		FLOAT PACKAGE ADD. (TO BE FILLED)		N4000222
0223	P006F	0000		NUM	0				N4000223
0224	P0070	0000	LSP26	NUM	0		SECTOR ADD. (TO BE FILLED)		N4000224
0225	P0071	14EA		JMP-	(ADISP)				N4000225
0227				*					N4000227
0228	P0072	7FFF	X	OFTB	ADC	MMADDR	0. "MMADDR"		N4000228
0229	P0073	7FFF	X		ADC	MSG	1. "MSG"		N4000229
0230	P0074	7FFF	X	FLTADD	ADC	ECONV	E- OR F-FORMAT CONVERSION -- SINGLE		N4000230

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0232 *
0233 P0075 0167 LSP30 SQP LSP35 MM TRANSFER OK, SKIP
0234 P0076 54F4 RTJ- (AMONI) RELEASE CORE DUE TO ERROR
0235 P0077 1800 NUM $1800
0236 P0078 0000 LSP31 NUM 0 CORE ADD. TO BE FILLED
0237 P0079 E803 LSP32 LDQ* BASE
0238 P007A E204 LDQ- IOERR,Q EXIT TO "IOERR"
0239 P007B 1622 JMP- (ZERO),Q
0240 *
0241 ***** FLOAT PACKAGE IS IN CORE, CONVERT NO.
0242 *
0243 P007C 0000 BASE NUM 0 PARAMETER BASE ADD.
0244 P007D 0C00 LSP35 ENQ 0
0245 P007E 5CD2 RTJ* (LSP13)
0246 P007F 0045 ADC VALUE-*
0247 P0080 54F4 LSP37 RTJ- (AMONI) RELEASE CORE
0248 P0081 1800 NUM $1800
0249 P0082 0000 LSP40 NUM 0 ADD. (TO BE FILLED)
0250 P0083 E81B LDQ* COUNT
0251 P0084 C84D LDA* VALUE+13 SAVE FLOATING VALUE IN TEMPORARY STORAGE
0252 P0085 6A4E STA* TEMP,Q
0253 P0086 C84C LDA* VALUE+14
0254 P0087 6A4D STA* TEMP+1,Q
0255 P0088 D815 RAO* COUNT UPDATE STORAGE COUNT BY 2
0256 P0089 D815 RAO* COUNT
0257 * CHECK IF ALL INPUT TEXT BEED PROCESSED
0258 P008A C8F1 LDA* BASE
0259 P008B 60FF STA- I
0260 P008C C111 LDA- BUFEMT,I
0261 P008D 0134 SAM LSO113 DONE, SKIP
0262 P008E 18BA JMP* LSP11 TO REPEAT
0263 * CONSTANTS OR STORAGE LOC.
0264 P008F 0000 EXTMMSG NUM 0 "MSG" ADD.
0265 P0090 0C00 EXIHAN NUM 0 "HANDLE" ADD.
0266 P0091 0000 MAXL NUM 0 LENGTH OF ORDINAL
N+000232
N+000233
N+000234
N+000235
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N+000254
N+000255
N+000256
N+000257
N+000258
N+000259
N+000260
N+000261
N+000262
N+000263
N+000264
N+000265
N+000266

0268 *
0269 ***** GET MASS MEMORY DATA ACCORDING TO REQUEST TYPE
0270 *
0271 *
0272 P0092 C800 LSO113 LDA MSB GET WORD ADDRESSING MSB AND SET UP FOR READ/
P0093 0C5A WRITE OPERATION
0273 P0094 680C STA* XFMSB1
0274 P0095 681D STA* XFMSB2
0275 P0096 C858 LDA* LSB GET LSB
0276 P0097 680A STA* XFMSB1
0277 P0098 681B STA* XFMSB2
0278 P0099 54F4 RTJ- (AMONI)
0279 P009A 0207 XFRDCD ADC $200+CHRSLV READ
N+000268
N+000269
N+000270
N+000271
N+000272
N+000273
N+000274
N+000275
N+000276
N+000277
N+000278
N+000279

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0280	P009B	0000	XFRDAD	NUM	0	RETURN (FILLED)	N4000280
0281	P009C	0000		NUM	0	THREAD	N4000281
0282	P009D	08C2		ADC	MASSLU		N4000282
0283	P009E	0000	COUNT	NUM	0	NO OF WORDS	N4000283
0284	P009F	0000	BUFADD	NUM	0	BUFFER ADD. (FILLED)	N4000284
0285	P00A0	0000	XFMSB1	NUM	0	MSB (FILLED)	N4000285
0286	P00A1	0000	XFLSB1	NUM	0	LSB	N4000286
0287	P00A2	14EA	JMP-	{ADISP}			N4000287
0288			*				N4000288
0289	P00A3	0161	XFRDRT	SQP	XFOR		N4000289
0290	P00A4	18D4	JMP*	LSP32		TO I/O ERROR	N4000290

0292			*				N4000292
0293			*****			MM DATA IN CORE, GET CONFIRMATION	N4000293
0294			*				N4000294
0295	P00A5	E8F8	XFOR	LDQ*	COUNT		N4000295
0296	P00A6	480A		STQ*	XF2WD		N4000296
0297	P00A7	0A00		ENA	FLCVSG	TO PRINT DATA AND REQUEST CONFIRMATION	N4000297
0298	P00A8	5CE7		RTJ*	{EXTHAN}		N4000298
0299	P00A9	002A		ADC	TEMP-*		N4000299
0300	P00AA	000B		ADC	DATBUF-*		N4000300
0301			*		DATA	CONFIRMED, SAVE	N4000301
0302	P00AB	54F4		RTJ-	{AMONI}		N4000302
0303	P00AC	0507	XF2CD	ADC	\$500+CHRSLV	WRITE	N4000303
0304	P00AD	000A	COMBK	ADC	FINRT-XF2CD	RETURN	N4000304
0305	P00AE	0000		NUM	0	THREAD	N4000305
0306	P00AF	08C2		ADC	MASSLU		N4000306
0307	P00B0	0000	XF2WD	NUM	0	NO. OF WORDS (FILLED)	N4000307
0308	P00B1	0027		ADC	TEMP-XF2CD	BUFFER	N4000308
0309	P00B2	0000	XFMSB2	NUM	0	MSB (FILLED)	N4000309
0310	P00B3	0000	XFLSB2	NUM	0	LSB (FILLED)	N4000310
0311	P00B4	14EA		JMP-	{ADISP}		N4000311
0312	P00B5	0000	DATBUF	NUM	0	BUFFER (FILLED)	N4000312
0313			*				N4000313
0314	P00B6	C853	FINRT	LDA*	CORLSB	CHECK IF CORE ORDINAL	N4000314
0315	P00B7	0109		SAZ	GETOUT	NO, SKIP	N4000315
0316			*				N4000316
0317	P00B8	60FF		STA-	I	SET INDEX WITH CORE LOCATION	N4000317
0318	P00B9	0C00		ENQ	0	MOVE DATA TO CORE ORDINAL LOCATION	N4000318
0319	P00BA	CA19	TOCORE	LDA*	TEMP,Q		N4000319
0320	P00BB	6722		STA-	{ZERO},B		N4000320
0321	P00BC	0D01		INQ	1		N4000321
0322	P00BD	0814		TRQ	A	CHECK IF ALL DATA BEEN MOVED	N4000322
0323	P00BE	98DF		SUB*	COUNT		N4000323
0324	P00BF	0101		SAZ	GETOUT	YES, DONE	N4000324
0325	P00C0	18F9		JMP*	TOCORE	NO, TO REPEAT	N4000325
0326			*				N4000326
0327	P00C1	E8BA	GETOUT	LDQ*	BASE	EXIT TO "SOMMOR"	N4000327
0328	P00C2	E203		LDQ-	SOMMOR,Q		N4000328
0329	P00C3	1622		JMP-	{ZERO},Q		N4000329
0330			*				N4000330

0332	P00C4	000F	VALUE	BZS	VALUE(15)		N+000332
0333	P00D3	0014	TEMP	BZS	TEMP(20)	FLOATING VALUE TEMPORARY STORAGE	N+000333

0335			*				N+000335
0336			*****	*****	SYSTEM DIRECTORY ORDINAL CHECK	*****	N+000336
0337			*				N+000337
0338	P00E7	0B00	ORDCHK	NOP	0	ENTRY	N+000338
0339	P00E8	6820		STA*	ORD10	SAVE ORDINAL NO.	N+000339
0340	P00E9	0C00		ENQ	0	ZERO OUT CORE ORDINAL FLAG	N+000340
0341	P00EA	4820		STQ*	CORDIR		N+000341
0342	P00EB	4802		STQ*	MSB		N+000342
0343	P00EC	1806		JMP*	ORDM		N+000343
0344	P00ED	0005	MSB	BZS	MSB(5)		N+000344
0345		00EE	P	EQU	LSB(MSB+1)		N+000345

0347			*				N+000347
0348			*	-----	FOR MM DIRECTORY PROCESSING		N+000348
0349			*				N+000349
0350	P00F2	C0E6	ORDM	LDA-	CSYLEN	GET DIRECTORY LENGTH AND SUBTRACT CORE DIRECT.	N+000350
0351	P00F3	90E7		SUB-	CSYDIR	LENGTH	N+000351
0352	P00F4	3005		DVI-	LPMSK+3	CONVERT TO NO. OF MM DIRECTORY NO.	N+000352
0353	P00F5	9813		SUB*	ORD10	CHECK IF OVER SYSTEM MAX.	N+000353
0354	P00F6	C122		SAP	ORDM2	NO, SKIP	N+000354
0355	P00F7	0C0B		ENQ	11	TO PRINT ORDINAL NO. ERROR (OVER MAX.)	N+000355
0356	P00F8	1C96		JMP*	(EXTMSG)		N+000356
0357			*				N+000357
0358	P00F9	C80F	ORDM2	LDA*	ORD10		N+000358
0359	P00FA	09FE		INA	-1		N+000359
0360	P00FB	2005		MUI-	LPMSK+3	*7	N+000360
0361	P00FC	80EB		ADD-	DIRTRY		N+000361
0362	P00FD	80E7		ADD-	CSYDIR	CORE DIRECTORY OFF-SET, IF ANY	N+000362
0363	P00FE	0822		TRA	Q		N+000363
0364	P00FF	C206		LDA-	6,Q	GET LSB	N+000364
0365	P0100	E8ED		STA*	LSB		N+000365
0366	P0101	C205		LDA-	5,Q	GET AND SAVE MSB	N+000366
0367	P0102	68EA		STA*	MSB		N+000367
0368	P0103	C204		LDA-	4,Q		N+000368
0369	P0104	688C		STA*	MAXL	SAVE LENGTH OF ORDINAL	N+000369
0370	P0105	0A00		ENA	0		N+000370
0371	P0106	68E8		STA*	MSB+2		N+000371
0372	P0107	1CDF		JMP*	(ORDCHK)	RETURN	N+000372
0373			*				N+000373
0374	P0108	0000	ORD10	NUM	0		N+000374
0375	P0109	0000	CORLSB	NUM	0		N+000375
0376	P010A	0000	CORDIR	NUM	0		N+000376
0377	P010B	0060	NO96ST	NUM	96		N+000377

0379			*				N+000379
------	--	--	---	--	--	--	----------

0380 0002 P EQU SA50(*96)
0381 0003 P EQU SP60(SA60+1)
0382 0120 P EQU DB60(SP60*96)
0383 P010C 0014 BSS (DB60-*)
0384 END

N4000380
N4000381
N4000382
N4000383
N4000384

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	0JFF (000255)	0100, 0259, 0317
0055	AMONI	00F4 (000244)	0187, 0216, 0234, 0247, 0278, 0302
0055	ADISP	00EA (000234)	0193, 0225, 0287, 0311
0055	LPMSK	0002 (000002)	0352, 0360
0055	NZERO	0012 (000018)	
0055	ZROBIT	0033 (000051)	
0056	FIVE	0043 (000067)	
0056	SIX	0044 (000068)	
0056	ZERO	0022 (000034)	0213, 0239, 0320, 0329
0056	ONFRIT	0023 (000035)	
0056	SIXTEN	0027 (000039)	
0057	COMMA	002C (000044)	0147
0057	SLASH	002F (000047)	0171
0057	ASTRIC	002A (000042)	
0058	EIGHT	0026 (000038)	
0058	NINE	0045 (000069)	
0058	THREE	0004 (000004)	
0058	ONE	0003 (000003)	
0058	TWO	0024 (000036)	
0059	TEN	0046 (000070)	
0060	MASSLU	03C2 (002242)	0220, 0282, 0306
0061	CHRSLV	0007 (000007)	0188, 0217, 0279, 0303
0062	CSYLEN	00E6 (000230)	0350
0063	CSYDIR	00E7 (000231)	0351, 0362
0064	EXTBV4	00E9 (000233)	
0065	DIRTRY	00EB (000235)	J361
0066	LSO	003C (000050)	0109
0069	GETFLD	0002 (000002)	0128, 0140, 0150
0070	ASCHEX	0003 (000003)	0142, 0152
0071	ASCDEC	0005 (000005)	0131
0072	GETINT	0008 (000008)	0181
0073	FETMM	0009 (000009)	0120, 0164
0074	FLCVSG	000D (000013)	0297
0075	FLOATZ	0708 (001800)	0192, 0221
0078	HANDLE	0001 (000001)	0104
0079	BMSG	0002 (000002)	0106
0080	SOMMOR	0003 (000003)	0328
0081	IOERR	0004 (000004)	0238

0082	LISTLU	0005	(000005)	
0083	COMOLU	0006	(000006)	
0084	NEWMLU	0007	(000007)	0116
0085	PROG1	0008	(000008)	
0086	PROG2	0009	(000009)	0108
0087	BITFLG	000A	(000010)	
0088	BUFCNT	000B	(000011)	
0089	FIELD	000C	(000012)	0146, 0170
0090	SLASHF	001C	(000016)	0178
0091	BUFEMT	0011	(000017)	0260
0092	BUFFER	0012	(000018)	0101

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0045	LSOREQ	0000	0045, 0099
0046	LSMREQ	0000	0046
0115	LSM	0010	
0128	LSO1	0010	0110
0135	LER	0023	0133, 0173
0138	LSO2	0025	0134
0144	LSPLC	0020	0157, 0158
0154	LSO8	0035	0156
0155	LSO4	0036	0148
0164	LSO5	003F	0161
0170	LSOM	0043	0123
0178	LSP10	0047	0172
0180	LSP11	0049	0262
0187	LSP12	0040	
0188	LSPCAL	004E	0189
0191	LSP13	0051	0245
0195	LSPACE	0054	0189
0198	LSP15	0056	0195
0202	SELF	005A	0201, 0203, 0204
0217	LSP20	0069	
0218	LSP24	006A	0205
0222	LSP25	006E	0198
0224	LSP26	0070	0214, 0215
0228	OFTB	0072	0208, 0209
0230	FLTADD	0074	0212
0233	LSP30	0075	0204, 0206
0236	LSP31	0078	0199
0237	LSP32	0079	0196, 0290
0243	BASE	007C	0098, 0237, 0258, 0327
0244	LSP35	007D	0233
0247	LSP37	0080	
0249	LSP40	0082	0200
0264	EXTMSG	008F	0107, 0136, 0163, 0210, 0356
0265	EXTHAN	0090	0105, 0121, 0130, 0132, 0141, 0143, 0151, 0153, 0166, 0182, 0298
0266	MAXL	0091	0160, 0369
0272	LSO113	0092	0261
0279	XFRDCD	009A	
0280	XFRDAD	009B	0207
0283	COUNT	009E	0118, 0179, 0250, 0255, 0256, 0295, 0323
0284	BUFADD	009F	0103
0285	XFMSB1	00AC	0273

0286	XFLSB1	00A1	0276
0289	XFRDRT	00A3	0206
0295	XFOR	00A5	0289
0303	XF2CD	00AC	0304, 0308
0304	COMBK	00AD	
0307	XF2WD	00B0	0119, 0296
0309	XFMSB2	00B2	0274
0310	XFLSR2	00B3	0277
0312	DATBUF	00B5	0102, 0300
0314	FINRT	00B6	0304
0319	TOCORE	00BA	0325
0327	GETOUT	00C1	0315, 0324
0332	VALUE	00C4	0183, 0246, 0251, 0253
0333	TEMP	00D3	0252, 0254, 0299, 0308, 0319
0338	ORDCHK	00E7	0138, 0372
0344	MSB	00ED	0117, 0122, 0159, 0167, 0272, 0342, 0345, 0367, 0371
0345	LSB	00EE	0275, 0365
0350	ORDM	00F2	0343
0358	ORDM2	00F9	0354
0374	ORD10	0108	0339, 0353, 0358
0375	CORLSB	0109	0314
0376	CORDIR	010A	0341
0377	NO96ST	010B	
0380	SA60	0002	0381
0381	SP60	0003	0382
0382	DB60	0120	0383

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0049	ECONV	0074	0230
0050	MMADDR	0072	0228
0051	MSG	0073	0229


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0054      *      ' E Q U '      T A B L E      N4100054
0055      00F4      EQU  AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)      N4100055
          00EA
          0002
          0012
          0033
0056      0043      EQU  FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N4100056
          0044
          0022
          0023
          0027
0057      002C      EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)      N4100057
          002F
          002A
0058      0026      EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N4100058
          0045
          0004
          0003
          0024
0059      0046      EQU  TEN($46)      **MSOS4.0**N4100059
0060      0003      EQU  MASK(3)      ONE BIT MASK      N4100060

0052      0007      EQU  CHRSLV(7)      LEVEL OF THIS PROGRAM      116*4360*****
0063      00F9      EQU  EXTBV4($E9)      ADDRESS OF EXTENDED CORE TABE      N4100063
0064      1000      EQU  ASMOD($1000)      ASCII OUTPUT MODE      N4100064

          *      P A R A M E T E R      L O C A T I O N      ( O F F S E T      F R O M      B A S E )
0066      0001      EQU  BHAN(1)      "HANDLE"      N4100066
0067      0002      EQU  MSG(2)      "MSG" ENTRY      N4100067
0068      0003      EQU  SOMMOR(3)      "SOMMOR" ENTRY      N4100068
0069      0004      EQU  IOERR(4)      "IOERR" ENTRY      N4100069
0070      0005      EQU  LISTLU(5)      LIST OUTPUT --- "LISTLU"      N4100070
0071      0006      EQU  COMOLU(6)      "COMOLU"      N4100071
0072      0007      EQU  NEWMLU(7)      "NEWMLU" --- NEW MM LU      N4100072
0073      0008      EQU  PROG1(8)      "PROG1"      N4100073
0074      0009      EQU  PROG2(9)      "PROG2"      N4100074
0075      000A      EQU  BITFLG(10)      "BITFLG"      N4100075
0076      000B      EQU  BUFCNT(11)      "BUFCNT"      N4100076
0077      000C      EQU  FIELD(12)      "FIELD"      N4100077
0078      0010      EQU  SLASHF(16)      "SLASHF"      N4100078
0079      0011      EQU  BUFEMT(17)      "BUFEMT"      N4100079
0080      0012      EQU  BUFFER(18)      "BUFFER"      N4100080
0081

0083      *      N4100083
0084      ****      *****      P R O G R A M      S T A R T      *****      N4100084
0085      *      N4100085

```

0087	P0000	687D	CCC REQ	STA*	BASE				
0088	P0001	60FF		STA-	I				
0089	P0002	E101		LDQ-	BHAN,I	GET "HANDLE" ADDRESS			
0090	P0003	487B		STQ*	EXTHAN				
0091	P0004	C821		LDA*	OOT+1	CALCULATE "OFF" ADDRESS			
0092	P0005	981F		SUB*	OOT				
0093	P0006	0834		AAQ	A				
0094	P0007	E83E		STA*	EXTOFF				
0095	P0008	C102		LDA-	MSG,I	OBTAIN "MSG" LOCATION			
0096	P0009	6876		STA*	EXTMSG				
0097	P000A	C105		LDA-	LISTLU,I	GET LIST LOGICAL UNIT			
0098	P000B	8877		ADD*	MODE				
0099	P000C	686D		STA*	OTLU1				
0100	P000D	6800		STA	OTLU2				
	P000E	0088							
0101	P000F	0A00		ENA	0				
0102	P0010	6870		STA*	COUNT				
0103	P0011	6870		STA*	HEADIG				
0104	P0012	CCF5		LDA-	\$F5	HIGHEST CORE LOCATION USED BY SYSTEM			
0105	P0013	6874		STA*	MAX				
0106			*			GET ADDRESS			
0107	P0014	0A02	CCC1	ENA	GETFLD	TO "GETFLD" TO FETCH ADD.			
0108	P0015	0C04		ENQ	+	SET 4 CHAR. IS MAX.			
0109	P0016	5C68		RTJ*	(EXTHAN)				
0110	P0017	C10C		LDA-	FIELD,I	CHECK IF EMPTY			
0111	P0018	010D		SAZ	CCC5				
0112	P0019	900A		SUB-	LPMSK+8	IS END OF TEXT			
0113	P001A	0114		SAN	CCC2				
0114	P001B	C865		LDA*	COUNT	MAKE SURE IS THE THIRD ONE			
0115	P001C	09FD		INA	-2				
0116	P001D	0108		SAZ	CCC5				
0117	P001E	1804		JMP*	CCC3	ERROR			
0118	P001F	800A	CCC2	ADD-	LPMSK+8				
0119	P0020	09D3		INA	-COMMA	CHECK FOR COMMA			
0120	P0021	0104		SAZ	CCC5				
0121			*			4 CARDS DELETED			
0122	P0022	0C04	CCC3	ENQ	4	INCORRECT FORMAT			
0123	P0023	1C5C		JMP*	(EXTMSG)				
0124			*						
0125	P0024	7FFF	X	OOT	HANDLE	0. "HANDLE"			
0126	P0025	7FFF	X	ADC	OFF	1. "OFF" ENTRY			
0127			*						
0128	P0026	0A03	CCC5	ENA	ASCHEX	CONVERT TO HEX			
0129	P0027	5C57		RTJ*	(EXTHAN)				
0130	P0028	0000	CCCVA	NUM	0				
0131	P0029	E857		LDQ*	COUNT				
0132	P002A	C8FD		LDA*	CCCVA	SAVE ADDRESS ACCORDING TO COUNTER INDEX			
0133	P002B	6A59		STA*	CCCLOC,Q				
0134	P002C	5878		RTJ*	CORADK	TO CHECK IF CORE LOC. WITHIN LIMIT			
0135	P002D	18F4		JMP*	CCC3	ADDRESS ERROR, GO			
0136	P002E	D852		RAO*	COUNT				
0137	P002F	E851		LDQ*	COUNT	CHECK IF ALL ADDRESSES ARE IN			
0138	P0030	0DFC		INQ	-3	CHECK IF ALL 3 ADDRESSES BEEN EXTRACTED			

N4100087
N4100088
N4100089
N4100090
N4100091
N4100092
N4100093
N4100094
N4100095
N4100096
N4100097
N4100098
N4100099
N4100100

N4100101
N4100102
N4100103
N4100104
N4100105
N4100106
N4100107
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N4100109
N4100110
N4100111
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N4100122
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N4100125
N4100126
N4100127
N4100128
N4100129
N4100130
N4100131
N4100132
N4100133
N4100134
N4100135
N4100136
N4100137
N4100138

0139 P0031 0141
0140 P0032 18E1

SQZ CCC10 SKIP, DONE
JMP* CCC1

N4100139
N4100140

0142
0143
0144
0145 P0033 C111
0146 P0034 B012
0147 P0035 0101
0148 P0036 18EB

*
***** ALL ADDRESSES ARE IN, LEGALITY CHECK
*
CCC10 LDA- BUFEMT,I MAKE SURE INPUT IS EMPTY
EOR- LPMSK+16
SAZ CCC11
JMP* CCC3 FORMAT ERROR

N4100142
N4100143
N4100144
N4100145
N4100146
N4100147
N4100148

0150
0151
0152
0153 P0037 E0E9
0154 P0038 C622
0155 P0039 011C
0156 P003A C848
0157 P003B 9849
0158 P003C 0136
0159 P003D 6846
0160 P003E 8848
0161 P003F 0133
0162 P0040 9847
0163 P0041 0102
0164 P0042 0131
0165 P0043 18DE
0166 P0044 181A
0167
0168 P0045 0000

*
***** CHECK CORE ADDRESSES (32K OR 65K)
*
CCC11 LDQ- EXTBV4
LDA- (ZERO),Q GET 32K/65K FLAG
SAN CCC22 SKIP ON 65K
CCC15 LDA* CCCLOC+1 CALCULATE DIFFERENT OF END AND START
SUB* CCCLOC
SAM CCC19
CCC17 STA* DIFF
ADD* CCCLOC+2
SAM CCC19
SUB* MAX
SAZ CCC20
SAM CCC20
CCC19 JMP* CCC3
CCC20 JMP* CCC45
*
EXTOFF NUM 0 **OFF** ADDRESS

N4100150
N4100151
N4100152
N4100153
N4100154
N4100155
N4100156
N4100157
N4100158
N4100159
N4100160
N4100161
N4100162
N4100163
N4100164
N4100165
N4100166
N4100167
N4100168

0170
0171 P0046 C83F
0172 P0047 E83D
0173 P0048 0178
0174 P0049 0133
0175
0176 P004A 983A
0177 P004B 0129
0178 P004C 18D5
0179
0180 P004D 9837
0181 P004E 0864
0182 P004F 0125
0183 P0050 18D1

*
CCC22 LDA* CCCLOC+1 65K OR LESS, BUT OVER 32-K
LDQ* CCCLOC GET END ADD.
SQM CCC32 START ADD.
SAM CCC28 SKIP FOR START IS 32K AND OVER
*
HERE, BOTH ARE POSITIVE (32K OR LESS)
SUB* CCCLOC
SAP CCC37 TO SAVE DIFFERENT
JMP* CCC3 ERROR
*
HERE, START = 32K OR LESS, END = OVER 32K
CCC28 SUB* CCCLOC
TCA A
SAP CCC37
JMP* CCC3 ERROR

N4100170
N4100171
N4100172
N4100173
N4100174
N4100175
N4100176
N4100177
N4100178
N4100179
N4100180
N4100181
N4100182
N4100183

0185
0186 P0051 0122
0187 P0052 9832

CCC32 SAP CCC34 START ADD, OVER 32K
SUR* CCCLOC ERROR, END LESS/EQUAL 32K

N4100185
N4100186
N4100187


```

0240 *
0241 P007D 0000 BASE NUM 0
0242 P007E 0000 EXTHAN NUM 0
0243 P007F 0000 EXTMSG NUM 0
0244 P0080 0000 COUNT NUM 0
0245 P0081 0000 HEADIG NUM 0 MESSAGE HEADING FLAG
0246 P0082 1000 MODE ADC ASMOD
0247 P0083 0000 DIFF NUM 0
0248 P0084 0003 CCCLOC BZS CCCLOC(3)
0249 P0087 0000 MAX NUM 0
0250 *
0251 P0088 0163 CCCRT1 SQP CCC66
0252 P0089 E8F3 CCCWE LDQ* BASE I/O ERROR
0253 P008A 204 LDQ- IOERR,Q
0254 P008B 1622 JMP- (ZERO),Q

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N4100240
N4100241
N4100242
N4100243
N4100244
N4100245
N4100246
N4100247
N4100248
N4100249
N4100250
N4100251
N4100252
N4100253
N4100254

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0256 *
0257 ***** ASSEMBLE DATA WITH LOCATIONS AND OUTPUT
0258 *
0259 P008C C843 CCC66 LDA* CURB1 TO ASSEMBLE BLOCK 1 DATA
0260 P008D 5844 RTJ* ASMASC
0261 P008E 0032 ADC CCCEL1-*
0262 P008F C841 LDA* CURB2 BLOCK 2 DATA
0263 P0090 5841 RTJ* ASMASC
0264 P0091 0037 ADC CCCEL2-*
0265 P0092 54F4 RTJ- (AMONI)
0266 P0093 0507 CCCWT2 ADC $500+CHRSLV
0267 P0094 0007 ADC CCCRT2-CCCWT2
0268 P0095 0000 NUM 0
0269 P0096 0000 O TLU2 NUM 0 LU (TO BE FILLED)
0270 P0097 0010 ADC CCCF2-CCCNT+1
0271 P0098 002C ADC CCCNT-CCCWT2
0272 P0099 14EA JMP- (ADISP)
0273 *
0274 P009A 0161 CCCRT2 SQP CCC70
0275 P009B 18ED JMP* CCCWE IO ERROR
0276 P009C C400 X CCC70 LDA CHRSGF CHECK FOR "DX"
0277 P009D 7FFF X
0278 P009E 0111 SAN CCC77 NO, SKIP
0279 P009F 1CA5 JMP* (EXTOFF) TO "OFF"
0280 P00A0 C830 CCC77 LDA* CURB2 RESTORE BLOCKS 1 AND 2 ADDRESS
0281 P00A1 60FF STA- I
0282 P00A2 E82D LDQ* CURB1
0283 P00A3 18C4 JMP* CCC54 TO REPEAT

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N4100256
N4100257
N4100258
N4100259
N4100260
N4100261
N4100262
N4100263
N4100264
N4100265
N4100266
N4100267
N4100268
N4100269
N4100270
N4100271
N4100272
N4100273
N4100274
N4100275
N4100276
N4100277
N4100278
N4100279
N4100280
N4100281
N4100282

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0284 *** CHECK ADDRESSES TO BE WITHIN 32K
0285 *
0286 P00A4 0B00 CORADK NOP 0 ENTRY

```

```

N4100284
N4100285
N4100286

```

0287	P00A5	E0E9	LDQ-	EXTBV4	GET 32K/65K FLAG (32K=0, 65K=1)	N+100287
0288	P00A6	E622	LDQ-	(ZERO),Q		N+100288
0289	P00A7	0155	SQN	AD65	SKIP ON 65K	N+100289
0290	P00A8	0133	SAM	AD32EX	ERROR, OVER 32K	N+100290
0291	P00A9	98DD	SUB*	MAX		N+100291
0292	P00AA	0137	SAM	AD65EX		N+100292
0293	P00AB	0106	SAZ	AD65EX		N+100293
0294	P00AC	1CF7	AD32EX	JMP* (CORADK)	RETURN	N+100294

0296			AD65	SAP	CHECK TO BE WITHIN 65K OR LESS	N+100296
0297	P00AD	0124	AD65	SUB* MAX	SKIP FOR 32K OR SO	N+100297
0298	P00AE	98D8	SAM	AD65EX		N+100298
0299	P00AF	0132	SAM	AD65EX	OK, SKIP	N+100299
0300	P00B0	0101	SAZ	AD65EX	OK, SKIP	N+100300
0301	P00B1	18FA	JMP*	AD32EX	ERROR, GO	N+100301
0302	P00B2	08F1	AD65EX	RAO* CORADK	SET NORMAL EXIT	N+100302
0303	P00B3	1CF0	JMP*	(CORADK)	NORMAL RETURN	N+100303
*						
0305			CCCHED	NUM	\$A0D	N+100305
0306	P00B4	0A0D	ALF	8,	CELL CONTENTS	N+100306
0307	P00B5	2020				N+100307
	P00B6	4345				
	P00B7	4C4C				
	P00B8	2043				
	P00B9	4F4E				
	P00BA	5445				
	P00BB	4E54				
	P00BC	5320				
0308	P00BD	0A0D	CCCE1	NUM	\$A0D	N+100308
0309	P00BE	0A0D	CCCE1	NUM	\$A0D	N+100309
0310			*			N+100310
0311	P00BF	2020	CCCONT	ALF	1,	N+100311
0312	P00C0	0000	CCCEL1	NUM	0,0	N+100312
	P00C1	0000			BLOCK 1 ADDRESS	
0313	P00C2	2028	CCCON1	ALF	1, (N+100313
0314	P00C3	0000	CCCON1	NUM	0,0	N+100314
	P00C4	0000			CONTENT OF BLOCK 1	
0315	P00C5	2920		ALF	1,)	N+100315
0316	P00C6	2020		ALF	2,	N+100316
	P00C7	2320				
0317	P00C8	0000	CCCEL2	NUM	0,0	N+100317
	P00C9	0000			BLOCK 2 ADDRESS	
0318	P00CA	2028	CCCON2	ALF	1, (N+100318
0319	P00CB	0000	CCCON2	NUM	0,0	N+100319
	P00CC	0000			CONTENT OF BLOCK 2	
0320	P00CD	2920		ALF	1,)	N+100320
0321	P00CE	0A0D	CCCE2	NUM	\$A0D	N+100321
0322	P00CF	0000	CURB1	NUM	0	N+100322
0323	P00D0	0000	CURB2	NUM	0	N+100323

```

0325 *
0326 *****
0327 *
                                N+100325
                                N+100326
                                N+100327

0329 *
0330 *****
0331 *
                                N+100329
                                N+100330
                                N+100331
                                N+100332
                                N+100333
                                N+100334
                                N+100335
                                N+100336
                                N+100337
                                N+100338
                                N+100339
                                N+100340
                                N+100341
                                N+100342
                                N+100343
                                N+100344

0332 P00D1 0B00 ASMNASC NOP 0 ENTRY
0333 P00D2 680C STA* A0 SAVE LOCATION
0334 P00D3 ECFD LDQ* (ASMNASC)
0335 P00D4 F8FC ADQ* ASMNASC
0336 P00D5 480A STQ* A1
0337 P00D6 580A RTJ* TW SAVE DATA CONTENT ADD.
                                ASSEMBLE INTO ASCII
0338 P00D7 C808 LDA* A1
0339 P00D8 0903 INA 3 SET TO CONTENT LOC.
0340 P00D9 6806 STA* A1
0341 P00DA CC04 LDA* (A0) GET CONTENT
0342 P00DB 5805 RTJ* TW ASSEMBLE INTO ASCII
0343 P00DC D8F4 RAO* ASMNASC SET EXIT
0344 P00DD 1CF3 JMP* (ASMNASC) EXIT

0346 *
0347 P00DE 0000 A0 NUM 0
0348 P00DF 0000 A1 NUM 0
                                N+100346
                                N+100347
                                N+100348

0350 *
0351 P00E0 0B00 TW NOP 0 ENTRY
0352 P00E1 0C00 ENQ 0
0353 P00E2 4811 STQ* TW1 ZERO COUNT
0354 P00E3 0FE4 TWO LLS 4 EXTRACT 4-BIT BYTE
0355 P00E4 6810 STA* TW2
0356 P00E5 0DF5 INQ -10 ASSEMBLE INTO ASCII ACCORDING TO NO. OR A-F
0357 P00E6 0171 SQM TWX
0358 P00E7 0D07 INQ 7
0359 P00E8 0D3A TWX INQ $3A
0360 P00E9 0FFJ LLS 16 TO A-REG.
0361 P00EA F809 LDQ* TW1
0362 P00EB 6A0A STA* TW3,Q
0363 P00EC 0D01 INQ 1
0364 P00ED 4806 STQ* TW1
0365 P00EE 0DF8 INQ -4
0366 P00EF 0149 SQZ TWAS
0367 P00F0 C804 LDA* TW2
0368 P00F1 0C00 ENQ 0
0369 P00F2 18F0 JMP* TW0
                                N+100350
                                N+100351
                                N+100352
                                N+100353
                                N+100354
                                N+100355
                                N+100356
                                N+100357
                                N+100358
                                N+100359
                                N+100360
                                N+100361
                                N+100362
                                N+100363
                                N+100364
                                N+100365
                                N+100366
                                N+100367
                                N+100368
                                N+100369
                                N+100370
                                N+100371
                                N+100372
                                N+100373
                                N+100374
                                N+100375

0370 *
0371 P00F3 0000 TW1 NUM 0
0372 P00F4 0000 TW2 NUM 0
0373 P00F5 0004 TW3 BZS TW3(4)
0374 P00F9 E8E5 TWAS LDQ* A1
0375 P00FA C8FA LDA* TW3 ASSEMBLE INTO 2-WORD AND SAVE

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0376 P0JFB 0FC8
 0377 P0JFC 88F9
 0378 P0JFD 6622
 0379 P0JFE C8F8
 0380 P0JFF 0FC8
 0381 P0100 88F7
 0382 P0101 0D01
 0383 P0102 6622
 0384 P0103 1CDC

ALS 8
 ADD* TW3+1
 STA- (ZERO),Q
 LDA* TW3+2
 ALS 8
 ADD* TW3+3
 INQ 1
 STA- (ZERO),Q
 JMP* (TW)

RETURN

N4100376
 N4100377
 N4100378
 N4100379
 N4100380
 N4100381
 N4100382
 N4100383
 N4100384

0386 *
 0387 0002 P
 0388 0003 P
 0389 0120 P
 0390 P0104 001C
 0391

EQU SA43(* /96)
 EQU SP43(SA43+1)
 EQU DB43(SP+3*96)
 BSS (DB43-*)
 END

N+100386
 N+100387
 N4100388
 N4100389
 N4100390
 N4100391

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0088, 0206, 0219, 0225, 0280
0051	GETFLD	0002	(000002) 0107
0052	ASCHEX	0003	(000003) 0128
0055	AMONI	00F4	(000244) 0231, 0265
0055	ADISP	00EA	(000234) 0238, 0272
0055	LPMSK	0002	(000002) 0112, 0118, 0146
0055	NZERO	0012	(000018)
0055	ZROBIT	0033	(000051)
0056	FIVE	0043	(000067)
0056	SIX	0044	(000068)
0056	ZERO	0022	(000034) 0154, 0213, 0214, 0254, 0288, 0378, 0383
0056	ONEBIT	0023	(000035)
0056	SIXTEN	0027	(000039)
0057	COMMA	002C	(000044) 0119
0057	SLASH	002F	(000047)
0057	ASTRIC	002A	(000042)
0058	EIGHT	0026	(000038)
0058	NINE	0045	(000069)
0058	THREE	0004	(000004)
0058	ONE	0003	(000003)
0058	TWO	0024	(000036)
0059	TEN	0046	(000070)
0060	MASK	0003	(000003)
0062	CHRSLV	0007	(000007) 0232, 0266
0063	EXTBV4	00E9	(000233) 0153, 0287
0064	ASMOD	1000	(004095) 0246
0067	BHAN	0001	(000001) 0089
0068	MSG	0002	(000002) 0095
0069	SCMMOR	0003	(000003)
0070	IOERR	0004	(000004) 0253
0071	LISTLU	0005	(000005) 0097
0072	COMOLU	0006	(000006)
0073	NEWMLU	0007	(000007)
0074	PROG1	0008	(000008)
0075	PROG2	0009	(000009)
0076	BITFLG	000A	(000010)
0077	BUFCNT	000B	(000011)
0078	FIELD	000C	(000012) 0110

0079	SLASHF	0010	(000016)	
0080	BUFENT	0011	(000017)	0145
0081	BUFFER	0012	(000018)	

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0042	CCCREQ	0000	0042
0107	CCC1	0014	0140
0118	CCC2	001F	0113
0122	CCC3	0022	0117, 0135, 0148, 0165, 0178, 0183, 0189, 0199
0125	OOT	0024	0091, 0092
0128	CCC5	0026	0111, 0116, 0120
0130	CCCVA	0028	0132
0145	CCC10	0033	0139
0153	CCC11	0037	0147
0156	CCC15	003A	
0159	CCC17	003D	
0165	CCC19	0043	J158, 0161
0166	CCC20	0044	0163, 0164
0168	EXTOFF	0045	0094, 0278
0171	CCC22	0046	0155
0180	CCC28	004D	0174
0186	CCC32	0051	0173
0189	CCC34	0054	0186
0191	CCC37	0055	0177, 0182, 0188
0199	CCC39	005D	0195
0204	CCC45	005F	0166, 0194, 0197, 0198
0207	CCC50	0061	0221
0213	CCC52	0065	0208
0216	CCC54	0068	0282
0223	CCC56	006E	0215
0230	CCC58	0074	0227
0232	CCCWT1	0076	0233, 0237
0235	OTLU1	0079	0099
0241	BASE	007D	0087, 0252
0242	EXTHAN	007E	0090, 0109, 0129
0243	EXTMSG	007F	0096, 0123, 0211
0244	COUNT	0080	0102, 0114, 0131, 0136, 0137
0245	HEADIG	0081	0103, 0223, 0230
0246	MODE	0082	0098
0247	DIFF	0083	0159, 0191, 0207, 0216, 0218
0248	CCCLOC	0084	0133, 0156, 0157, 0160, 0171, 0172, 0176, 0180, 0187, 0192, 0193, 0204, 0205
0249	MAX	0087	0105, 0162, 0196, 0291, 0298
0251	CCCR1	0088	0233
0252	CCCWE	0089	0275
0259	CCC66	008C	0228, 0251
0266	CCCWT2	0093	0267, 0271

0269	OTLU2	0096	0100
0274	CCCRT2	009A	0267
0276	CCC70	009C	0274
0279	CCC77	00A0	0277
0286	CORADK	00A4	0134, 0294, 0302, 0303
0294	AD32EX	00AC	0290, 0301
0297	AD65	00AD	0289
0302	AD65EX	00B2	0292, 0293, 0297, 0299, 0300
0306	CCCCHED	00B4	0236, 0237
0309	CCCCE1	00BE	0236
0311	CCCCONT	00BF	0270, 0271
0312	CCCCEL1	00C0	0261
0314	CCCCON1	00C3	
0317	CCCCEL2	00C8	0264
0319	CCCCON2	00CB	
0321	CCCCE2	00CE	0270
0322	CURB1	00CF	0224, 0259, 0281
0323	CURB2	00D0	0226, 0262, 0279
0332	ASMASC	00D1	0260, 0263, 0334, 0335, 0343, 0344
0347	A0	00DE	0333, 0341
0348	A1	00DF	J336, 0338, 0340, 0374
0351	TW	00E0	0337, 0342, 0384
0354	TW0	00E3	0369
0359	TWX	00E8	0357
0371	TW1	00F3	0353, 0361, 0364
0372	TW2	00F4	0355, 0367
0373	TW3	00F5	0362, 0375, 0377, 0379, 0381
0374	TWAS	00F9	0366
0387	SA43	0002	0388
0388	SP43	0003	0389
0389	DB43	0120	0390

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0046	OFF	0025	0126
0047	HANDLE	0024	0125
0048	CHRSFG	009D	0276

*** ALPHABETICAL SORT OF SYMBOLS ***

AG	0347	A1	0348	AD32EX	0294	AD65	0297	AD65EX	0302	ADISP	0055	AMONI	0055	ASCHEX	0052	ASMASC	0332
ASMOD	0054	ASTRIC	0057	BASE	0241	RHAN	0067	BITFLG	0076	BUFCNT	0077	BUFEMT	0080	BUFFER	0081	CCC1	0107
CCC10	0145	CCC11	0153	CCC15	0156	CCC17	0159	CCC19	0165	CCC2	0118	CCC20	0166	CCC22	0171	CCC28	0180
CCC3	0122	CCC32	0186	CCC34	0189	CCC37	0191	CCC39	0199	CCC45	0204	CCC5	0128	CCC50	0207	CCC52	0213
CCC54	0216	CCC56	0223	CCC58	0230	CCC66	0259	CCC70	0276	CCC77	0279	CCCE1	0309	CCCE2	0321	CCCEL1	0312
CCCEL2	0317	CCCHED	0306	CCCLOC	0248	CCCON1	0314	CCCON2	0319	CCCNT	0311	CCCREF	0042	CCCRT1	0251	CCCRT2	0274
CCCVA	0130	CCCWE	0252	CCCWT1	0232	CCCWT2	0266	CHRSFG	0048	CHRSLV	0062	COMMA	0057	COMOLU	0072	CORADK	0286
COUNT	0244	CURB1	0322	CURB2	0323	DB43	0389	DIFF	0247	EIGHT	0058	EXTBV4	0063	EXTHAN	0242	EXTMSG	0243
EXTOFF	0168	FIELD	0078	FIVE	0056	GETFLD	0051	HANDLE	0047	HEADIG	0245	I	0000	IOERR	0070	LISTLU	0071
LPMSK	0055	MASK	0060	MAX	0249	MODE	0246	MSG	0068	NEWMLU	0073	NINE	0058	NZERO	0055	OFF	0046
ONE	0058	ONEBIT	0056	OOT	0125	OTLU1	0235	OTLU2	0269	PROG1	0074	PROG2	0075	SA+3	0387	SIX	0056
SIXTEN	0056	SLASH	0057	SLASHF	0079	SOMMOR	0069	SP43	0388	TEN	0059	THREE	0058	TW	0351	TWO	0354
TW1	0371	TW2	0372	TW3	0373	TWAS	0374	TWO	0058	TWX	0359	ZERO	0056	ZROBIT	0055		


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0051      *      ' E Q U '      T A B L E      N4200051
0052      00F4      EQU      AMONI($F4),ADISP($EA),LPHSK(2),NZERO($12),ZROBIT($33)      N4200052
      00EA
      0002
      0012
      0033
0053      0043      EQU      FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N4200053
      0044
      0022
      0023
      0027
0054      002C      EQU      COMMA($2C),SLASH($2F),ASTRIC($2A)      N4200054
      002F
      002A
0055      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N4200055
      0045
      0004
      0003
      0024
0056      0046      EQU      TEN($46)      N4200056
0057      0003      EQU      MASK(3)      ONE BIT MASK      N4200057

0059      0007      EQU      CHRSLV(7)      LEVEL OF THIS PROGRAM      116*4360*****
0060      1000      EQU      ASMOD($1000)      OUTPUT ASC MODE      N4200060
0061      0060      EQU      N096(96)      BUFFER SIZE      N4200061
0062      00E9      EQU      EXTBV4($E9)      CORE LOCATION CONTAINS ADD. OF EXTENDED CORE      N4200062

0064      *      PARAMETER LOCATION (OFFSET FROM BASE)      N4200064
0065      0001      EQU      BHAN(1)      "HANDLE"      N4200065
0066      0002      EQU      MSG(2)      "MSG" ENTRY      N4200066
0067      0003      EQU      SOMMOR(3)      "SOMMOR" ENTRY      N4200067
0068      0004      EQU      IOEPR(4)      "IOERR" ENTRY      N4200068
0069      0005      EQU      LISTLU(5)      LIST OUTPUT --- "LISTLU"      N4200069
0070      0006      EQU      COMOLU(6)      "COMOLU"      N4200070
0071      0007      EQU      NEWMLU(7)      "NEWMLU" --- NEW MM LU      N4200071
0072      0008      EQU      PROG1(8)      "PROG1"      N4200072
0073      0009      EQU      PROG2(9)      "PROG2"      N4200073
0074      000A      EQU      BITFLG(10)      "BITFLG"      N4200074
0075      000B      EQU      BUFCNT(11)      "BUFCNT"      N4200075
0076      000C      EQU      FIELD(12)      "FIELD"      N4200076
0077      0010      EQU      SLASHF(16)      "SLASHF"      N4200077
0078      0011      EQU      BUFEMT(17)      "BUFEMT"      N4200078
0079      0012      EQU      BUFFER(18)      "BUFFER"      N4200079

0081      *      SUBROUTINE "EQU" POINTERS      N4200081
0082      0002      EQU      GETFLD(2)      "GETFLD"      N4200082
0083      0003      EQU      ASCHEX(3)      "ASCHEX"      N4200083
0084      0005      EQU      ASCJEC(5)      "ASCDEC"      N4200084
0085      0009      EQU      FETMM(9)      "FETMM" --- GET MM ADDRESS      N4200085
0086      000A      EQU      PNTMD(10)      "PNTMD" --- PRINT BOTH CORE AND MM DATA      N4200086

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0088      *
0089      *****
0090      *

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N4200088
N4200089
N4200090

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0092 P0000 6860 CCMREQ STA* BASE
0093 P0001 60FF STA- I
0094 P0002 E101 LDQ- BHAN,I
0095 P0003 485E STQ* EXTHAN
0096 P0004 C81F LDA* OOT+1          CALCULATF "OFF" ADDRESS
0097 P0005 981D SUB* OOT
0098 P0006 0834 AAQ A
0099 P0007 685C STA* EXTOFF
0100 P0008 C102 LDA- MSG,I
0101 P0009 6859 STA* EXTMSG
0102 P000A C107 LDA- NEWMLU,I      GET MM LU AND SAVE
0103 P000B 6838 STA* OTLU
0104 P000C 6800 STA CCMLOC+2
0105 P000D 0085 ENA 0
0106 P000E 0A00 STA* COUNT
0107 P000F 687E STA* HEADIG
0108 P0010 687E LDA- $F5          HIGHEST CORE LOCATION USED BY SYSTEM
0109 P0012 687D STA* MAX

```

```

N4200092
N4200093
N4200094
N4200095
N4200096
N4200097
N4200098
N4200099
N4200100
N4200101
N4200102
N4200103
N4200104
N4200105
N4200106
N4200107
N4200108
N4200109

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0111      *
0112 P0013 3A02 CCM3 ENA GETFLD GET STARTING AND ENDING CORE LOCATIONS
0113 P0014 0C04 ENQ + GET FIELD --- CORE LOC.
0114 P0015 5C4C RTJ* (EXTHAN)
0115 P0016 0A03 ENA ASCHEX CONVERT TO HEX
0116 P0017 5C4A RTJ* (EXTHAN)
0117 P0018 0C00 CCMCOR NUM 0
0118 P0019 E874 LDQ* COUNT
0119 P001A C8FD LDA* CCMCOR
0120 P001B 6A75 STA* CCMLOC,Q SAVE CORE LOC. ACCORDINGLY
0121 P001C 587D RTJ* CORADK TO CHECK IF CORE LOC. WITHIN LIMIT
0122 P001D 180E JMP* CCM11 ERROR, GO
0123 P001E F86F LDQ* COUNT
0124 P001F 0154 SQN CCM6 DONE, SKIP
0125 P0020 D86D RAO* COUNT
0126 P0021 18F1 JMP* CCM3
0127 P0022 7FFF X OOT ADC HANDLE 0. "HANDLE" ENTRY
0128 P0023 7FFF X ADC OFF 1. "OFF" ENTRY
0129      *
0130 P0024 C86C CCM6 LDA* CCMLOC MAKE SURE END LOC. IS LARGER/EQUAL TO START
0131 P0025 F86C LDQ* CCMLOC+1
0132 P0026 0136 SAM CCM13
0133 P0027 9161 SQP CCM10
0134 P0028 1809 JMP* CCM20
0135 P0029 9868 CCM10 SUB* CCMLOC+1
0136 P002A 0136 SAM CCM20
0137 P002B 0C04 CCM11 ENQ 4 FORMAT ERROR (END LESS/EQUAL TO START)
0138 P002C 1C36 JMP* (EXTMSG)

```

```

N4200111
N4200112
N4200113
N4200114
N4200115
N4200116
N4200117
N4200118
N4200119
N4200120
N4200121
N4200122
N4200123
N4200124
N4200125
N4200126
N4200127
N4200128
N4200129
N4200130
N4200131
N4200132
N4200133
N4200134
N4200135
N4200136
N4200137
N4200138

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0139          *          START OVER 32K, CHECK END          N4200139
0140 P002D 0162 CCM13 SQP CCM15          N4200140
0141 P002E F862 ADQ* CCMLOC          BOTH OVER 32K          N4200141
0142 P002F 0171 SQM CCM20          N4200142
0143 P0030 18FA CCM15 JMP* CCM11          TO ERROR          N4200143

0145          *          GET MM ADD.          N+200145
0146 P0031 0A09 CCM20 ENA FETMM          N4200146
0147 P0032 0C01 ENQ 1          N4200147
0148 P0033 5C2E RTJ* (EXTHAN)          N4200148
0149 P0034 005E ADC CCMLOC+2-*          N4200149
0150 P0035 C111 LDA- BUFEMT,I          MAKE SURE FORMAT OK          N4200150
0151 P0036 BC12 EOR- LPMSK+16          N4200151
0152 P0037 0101 SAZ CCM24          N4200152
0153 P0038 18F2 JMP* CCM11          N4200153

0155          ****          ALL INPUT IN, READ MM DATA          N+200155
0156 P0039 6A60 CCM24 ENA N096          SET UP SIZE AND MM ADD.          N4200156
0157 P003A 680A STA* CCMZ          N4200157
0158 P003B C857 LDA* CCMLOC+2          N4200158
0159 P003C 680A STA* CCMM          N4200159
0160 P003D C856 LDA* CCMLOC+3          N4200160
0161 P003E 6809 STA* CCML          N4200161
0162 P003F 54F4 RTJ- (AMONI)          N4200162
0163 P0040 0307 CCMCD ADC $300+CHRSLV          READ          N4200163
0164 P0041 0009 ADC CCMRT-CCMCD          RETURN          N4200164
0165 P0042 0300 NUM 0          THREAD          N4200165
0166 P0043 0000 OTLU NUM 0          LU (TO BE FILLED)          N4200166
0167 P0044 0060 CCMZ ADC N096          SIZE (FILLED)          N4200167
0168 P0045 0069 ADC MMDAT-CCMCD          BUFFER          N4200168
0169 P0046 0000 CCMN NUM 0,0          MSB AND LSB (FILLED)          N4200169
0170          P          EQU CCML(CMNM+1)          N4200170
0171 P0048 14EA JMP- (ADISP)          N4200171
0172          *          N4200172
0173 P0049 0163 CCMRT SQP CCM30          N4200173
0174 P004A E816 LDQ* BASE          N4200174
0175 P004B E204 LDQ- IOERR,Q          TO "IOERR"          N4200175
0176 P004C 1622 JMP- (ZERO),Q          N4200176

0178          *          TO COMPARE DATA          N4200178
0179 P004D C843 CCM30 LDA* CCMLOC          SET UP CORE LOC.          N4200179
0180 P004E 60FF STA- I          N4200180
0181 P004F 0C00 ENQ 0          N4200181
0182 P0050 C522 CCM31 LDA- (ZERO),I          CORE DATA - MM DATA          N4200182
0183 P0051 BA58 EOR* MMDAT,Q          113*4247*****          N4200184
0184 P0052 C101 SAZ CCM32          SKIP DATA MATCHED          N4200185
0185 P0053 181F JMP* CCM50          TO PRINT          N4200185
0186          P          CCM32 EQU CCM32(*)          113*4248*****          N4200188
0187 P0054 C0FF LDA- I          CHECK IF ALL DONE          N4200189
0188 P0055 983C SUB* CCMLOC+1          N4200190
0189 P0056 0106 SAZ GONE          N4200190

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0190 P0057 D0FF          RAO- I          BUMP CORE LOC. BY 1
0191 P0058 D83E          RAO* CCMLOC+6
0192 P0059 C400 X        LDA  CHRSGF          CHECK FOR "DX"
      P005A 7FFF X
0193 P005B 0118          SAN  CCM34          NO "DX", SKIP
0194 P005C 1C07          JMP* (EXTOFF)       TO "OFF"
      * TOFF          D O N E ---- EXIT
0195 * GONE
0196 P005D E803          LDQ* BASE
0197 P005F F203          LDQ- SOMMOR,Q
0198 P005F 1622          JMP- (ZERO),Q
0199 P0060 0000          BASE NUM 0
0200 P0061 0000          EXTHAN NUM 0
0201 P0062 0000          EXTMSG NUM 0
0202 P0063 0000          EXTOFF NUM 0          "OFF" ADDRESS (FILLED)
0203 *
0204 P0064 0D01          CCM34 INQ 1
0205 P0065 0814          TRQ A          CHECK IF BUFFER EMPTY
0206 P0066 980D          SUB* CCMZ
0207 P0067 0101          SAZ CCM39
0208 P0068 18E7          JMP* CCM31
0209 P0069 C82A          LDA* CCMLOC+3      TO REPEAT
0210 P006A 8809          ADD* CCMZ          UP DATE MSB AND LSB
0211 P006B 0122          SAP CCM42
0212 P006C AC11          AND- LPMSK+15
0213 P006D 0825          RAO* CCMLOC+2
0214 P006E 6825          STA* CCMLOC+3
0215 P006F C0FF          LDA- I
0216 P0070 6820          STA* CCMLOC
0217 P0071 18C7          JMP* CCM24          SAVE CURRENT CORE LOCATION
                                     TO REPEAT

* DATA UNMATCHED, SET UP TO PRINT
0219 * CCM50
0220 P0072 4825          STQ* QIND
0221 P0073 C0FF          LDA- I
0222 P0074 6824          STA* ICOR
0223 P0075 C819          LDA* HEADIG          CHECK IF HEADING BEEN PRINTED
0224 P0076 0114          SAN  CCM52
0225 P0077 0817          RAO* HEADIG          SET HEADING FLAG
0226 P0078 0A0A          ENA  PNTMD
0227 P0079 0C00          ENQ  0          TO PRINT HEADING
0228 P007A 5CE6          RTJ* (EXTHAN)
0229 P007B 0AGA          CCM52 ENA  PNTMD
0230 P007C 0C04          ENQ  4          SET CORE DATA
0231 P007D 5CE3          RTJ* (EXTHAN)
0232 P007E 001A          ADC  ICOR-*
0233 P007F 0A0A          ENA  PNTMD
0234 P0080 0C02          ENQ  2          TO INSERT MM DATA AND PRINT
0235 P0081 5CDF          RTJ* (EXTHAN)
0236 P0082 0012          ADC  CCMLOC+4-*
0237 P0083 0014          ADC  QIND-*
0238 P0084 0025          ADC  MMDAT-*
0239 P0085 C400 X        LDA  CHRSGF          CHECK FOR "DX"
      P0086 005A X

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113*4248*****
113*4248*****
N4200191
N4200192
N4200193
N4200194
N4200195
N4200196
N4200197
N4200198
N4200199
N4200200
N4200201
N4200202
N4200203
N4200204
N4200205
N4200206
N4200207
N4200208
N4200209
N4200210
N4200211
N4200212
N4200213
N4200214
N4200215
N4200216
N4200218
N4200219
N4200220
N4200221
N4200222
N4200223
N4200224
N4200225
N4200226
N4200227
N4200228
N4200229
N4200230
N4200231
N4200232
N4200233
N4200234
N4200235
N4200236
N4200237
N4200238

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0240 P0087 0111 SAN CCM199 NO, SKIP N+200239
0241 P0088 18D3 JMP* TOFF N+200240
0242 P0089 C80F CCM199 LDA* ICOR RESTORE I AND Q-REG. N+200241
0243 P008A 60FF STA- I N+200242
0244 P008B E80C LDQ* QIND N+200243
0245 P008C 18C7 JMP* CCM32 N+200244

* S T O R A G E
0247 COUNT NUM 0 N+200246
0248 P008D 0000 HEADIG NUM 0 N+200247
0249 P008E 0000 MAX NUM 0 N+200248
0250 P008F 0000 CCMLOC BZS CCMLOC(7) N+200249
0251 P0090 0007 QIND NUM 0 N+200250
0252 P0097 0000 ICOR NUM 0 N+200251
0253 P0098 0000

*** CHECK ADDRESSES TO BE WITHIN 32K
0255 CORADK NOP 0 ENTRY N+200254
0256 * LDQ- EXTBV4 GET 32K/65K FLAG (32K=0, 65K=1) N+200255
0257 P0099 0B00 LDQ- (ZERO),Q N+200256
0258 P009A E0E9 SQN AD65 SKIP ON 65K N+200257
0259 P009B E622 SAM AD32EX ERROR, OVER 32K N+200258
0260 P009C 0155 SUB* MAX N+200259
0261 P009D 0133 SAM AD65EX N+200260
0262 P009E 98FD SAZ AD65EX N+200261
0263 P009F 0137 AD32EX JMP* (CORADK) RETURN N+200262
0264 P00A0 0106 N+200263
0265 P00A1 1CF7 N+200264

*** CHECK TO BE WITHIN 65K OR LESS
0267 AD65 SAP AD65EX SKIP FOR 32K OR SO N+200266
0268 P00A2 0124 SUB* MAX N+200267
0269 P00A3 98EB SAM AD65EX OK, SKIP N+200268
0270 P00A4 0132 SAZ AD65EX OK, SKIP N+200269
0271 P00A5 0101 JMP* AD32EX ERROR, GO N+200270
0272 P00A6 18FA AD65EX RAO* CORADK SET NORMAL EXIT N+200271
0273 P00A7 D8F1 JMP* (CORADK) NORMAL RETURN N+200272
0274 P00A8 1CF0 * N+200273
0275 MMDAT BZS MMDAT(96) N+200274
0276 P00A9 0060 N+200275

*
0278 EQU SA51(* /96) N+200277
0279 0002 P EQU SP51(SA51+1) N+200278
0280 0003 P EQU DB51(SP51*96) N+200279
0281 0120 P EQU (DB51-*) N+200280
0282 P0109 0017 BSS N+200281
0283 END N+200282

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EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0093, 0180, 0187, 0190, 0215, 0221, 0243
0052	AMONI	00F4	(000244) 0162
0052	ADISP	00EA	(000234) 0171
0052	LPMSK	0002	(000002) 0151, 0212
0052	NZERO	0012	(000018)
0052	ZROBIT	0033	(000051)
0053	FIVE	0043	(000057)
0053	SIX	0044	(000068)
0053	ZERO	0022	(000034) 0176, 0182, 0198, 0259
0053	ONEBIT	0023	(000035)
0053	SIXTEN	0027	(000039)
0054	COMMA	002C	(000044)
0054	SLASH	002F	(000047)
0054	ASTRIC	002A	(000042)
0055	EIGHT	0026	(000038)
0055	NINE	0045	(000069)
0055	THREE	0004	(000004)
0055	ONE	0003	(000003)
0055	TWO	0024	(000036)
0056	TEN	0046	(000070)
0057	MASK	0003	(000003)
0059	CHRSLV	0007	(000007) 0163
0060	ASMOD	1000	(004096)
0061	NO96	0060	(000096) 0156, 0167
0062	EXTBV4	00E9	(000233) 0258
0065	BHAN	0001	(000001) 0094
0066	MSG	0002	(000002) 0100
0067	SOMMOR	0003	(000003) 0197
0068	IOERR	0004	(000004) 0175
0069	LISTLU	0005	(000005)
0070	COMOLU	0006	(000006)
0071	NEWMLU	0007	(000007) 0102
0072	PROG1	0008	(000008)
0073	PROG2	0009	(000009)
0074	BITFLG	000A	(000010)
0075	BUFCNT	000B	(000011)
0076	FIELD	000C	(000012)
0077	SLASHF	0010	(000016)

0078	BUFEMT	0011	(000017)	0150
0079	BUFFER	0012	(000018)	
0082	GETFLD	0002	(000002)	0112
0083	ASCHEX	0003	(000003)	0115
0084	ASCDEC	0005	(000005)	
0085	FETMM	0009	(000009)	0146
0086	PNTMD	000A	(000010)	0226, 0229, 0233

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	CCMREQ	0000	0043
0112	CCM3	0013	0126
0117	CCM3OR	0018	0119
0127	OOT	0022	0096, 0097
0130	CCM6	0024	0124
0135	CCM10	0029	0133
0137	CCM11	0028	0122, 0143, 0153
0140	CCM13	0020	0132
0143	CCM15	0030	0140
0146	CCM20	0031	0134, 0136, 0142
0156	CCM24	0039	0152, 0217
0163	CCMCD	0040	0164, 0168
0166	OTLU	0043	0103
0167	CCMZ	0044	0157, 0206, 0210
0169	CCMM	0046	0159, 0170
0170	CCML	0047	0161
0173	CCMRT	0049	0164
0179	CCM30	0040	0173
0182	CCM31	0050	0208
0186	CCM32	0054	0184, 0245
0194	TOFF	0050	0241
0196	GONE	0050	0189
0199	BASE	0050	0092, 0174, 0196
0200	EXTHAN	0061	0095, 0114, 0116, 0148, 0228, 0231, 0235
0201	EXTMSG	0062	0101, 0138
0202	EXTOFF	0063	0099, 0194
0204	CCM34	0064	0193
0209	CCM39	0069	0207
0214	CCM42	006E	0211
0220	CCM50	0072	0185
0229	CCM52	0078	0224
0242	CCM199	0089	0240
0248	COUNT	008D	0106, 0118, 0123, 0125
0249	HEADIG	008E	0107, 0223, 0225
0250	MAX	008F	0109, 0262, 0269
0251	CCMLOC	0090	0104, 0120, 0130, 0131, 0135, 0141, 0149, 0158, 0160, 0179, 0188, 0191, 0209, 0213, 0214, 0216
0252	QIND	0097	0236
0253	ICOR	0098	0220, 0237, 0244
0257	CORADK	0099	0222, 0232, 0242
0265	AD32EX	00A1	0121, 0265, 0273, 0274
			0261, 0272

0268	AD65	00A2
0273	AD65EX	00A7
0276	MMDAT	00A9
0279	SA51	0002
0280	SP51	0003
0281	DB51	0120

0260
0263, 0264, 0268, 0270, 0271
0168, 0183, 0238
0280
0281
0282

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0047	OFF	0023	0128
0048	HANDLE	0022	0127
0049	CHRSFG	0086	0192, 0239


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0050 0002 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N4400050
      0012
      0033
      0043
      0044
      0022
      0023
0051 0027 EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N4400051
      002C
      002F
0052 002A EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N4400052
      0026
      0045
      0004
      0003
0053 0024 EQU TEN($46) N4400053
0054 0046 EQU MASK(3) ONE BIT MASK N4400054
      0003
0056 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0057 1000 EQU ASM0D($1000) OUTPUT ASC MODE N4400057
0058 0020 EQU WDXFER(32) SIZE TO BE TRANSFERRED (LIMITED BY BUFFER SIZEN4400058

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0050 *          PARAMETER LOCATION (OFFSET FROM BASE) N4400060
0061 0001 EQU BHAN(1) "HANDLE" N4400061
0062 0002 EQU MSG(2) "MSG" ENTRY N4400062
0063 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N4400063
0064 0004 EQU IOERR(4) "IOERR" ENTRY N4400064
0065 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N4400065
0066 0006 EQU COMOLU(6) "COMOLU" N4400066
0067 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N4400067
0068 0008 EQU PROG1(8) "PROG1" N4400068
0069 0009 EQU PROG2(9) "PROG2" N4400069
0070 000A EQU BITFLG(10) "BITFLG" N4400070
0071 0003 EQU BUFCNT(11) "BUFCNT" N4400071
0072 000C EQU FIELD(12) "FIELD" N4400072
0073 0010 EQU SLASHF(16) "SLASHF" N4400073
0074 0011 EQU BUFEMT(17) "BUFEMT" N4400074
0075 0012 EQU BUFFER(18) "BUFFER" N4400075

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0077 *          SUBROUTINE ENTRY COUNT "EQU" N4400077
0078 0002 EQU GETFLD(2) "GETFLD" SUB. N4400078
0079 0003 EQU ASCHEX(3) "ASCHEX" SUB. N4400079
0080 0005 EQU ASCDEC(5) "ASCDEC" SUB. N4400080
0081 0009 EQU FETMM(9) "FETMM" N4400081
0082 000C EQU CONFM(12) "CONFM" -- PRINT DATA AND CONFIRM N4400082

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0084 *          N4400084
0085 ***** PROGRAM START ***** N4400085
0086 *          N4400086

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0088	P0000	686F	MMMREQ	STA*	BASE	SAVE PARAMETER ADD.	N4400088
0089	P0001	60FF		STA-	I		N4400089
0090	P0002	8112		ADD-	BUFFER,I	CALCULATE "BUFFER" ADDRESS	N4400090
0091	P0003	6800		STA	BUFADD		N4400091
	P0004	00FE					
0092	P0005	E101		LDQ-	BHAN,I		N4400092
0093	P0006	486A		STQ*	EXTHAN		N4400093
0094	P0007	C827		LDA*	OOT+1	CALCULATE "OFF" ADDRESS	N4400094
0095	P0008	9825		SUB*	OOT		N4400095
0096	P0009	0834		AAQ	A		N4400096
0097	P000A	6800		STA	EXTOFF		N4400097
	P000B	00F8					
0098	P000C	C102		LDA-	MSG,I	FETCH "MSG" ADDRESS	N4400098
0099	P000D	6864		STA*	EXTMSG		N4400099
0101	P000E	0A00		ENA	0		N4400101
0102	P000F	687B		STA*	COUNT		N4400102
0103	P0010	6877		STA*	MMMLOC+5		N4400103
0104			*			LU WHERE DATA TO BE MOVED	N4400104
0105	P0011	5800		RTJ	LUEXTR	TO GET LU. AND SAVE	N4400105
	P0012	0085					
0106	P0013	6875		STA*	OLJLU		N4400106
0107	P0014	687B		STA*	SIZMSB		N4400107
			*				
0109			MMM1	ENA	FETMM	TO EXTRACT MM ADDRESS AND CHECK	N4400109
0110	P0015	0A09		ENQ	0		N4400110
0111	P0016	CC00		RTJ*	(EXTHAN)		N4400111
0112	P0017	5C59		ADC	SIZMSB-*		N4400112
0113	P0018	0077		LDQ*	COUNT		N4400113
0114	P0019	E871		QLS	1		N4400114
0115	P001A	0FA1		LDA*	SIZMSB	SAVE MM ADD. ACCORDINGLY	N4400115
0116	P001B	C874		STA*	MMMLOC,Q		N4400116
0117	P001C	6A66		LDA*	SIZMSB+1		N4400117
0118	P001D	C873		STA*	MMMLOC+1,Q		N4400118
0119	P001E	6A65		LDA*	OLJLU		N4400119
0120	P001F	C869		STA*	SIZMSB	SET UP LOGICAL UNIT FOR MM ADDRESS CHECK	N4400120
0121	P0020	686F		QRS	1		N4400121
0122	P0021	0F21		INQ	1	INCREMENT COUNT BY 1 AND CHECK IF DONE	N4400122
0123	P0022	0D01		STQ*	COUNT		N4400123
0124	P0023	4867		TRQ	A		N4400124
0125	P0024	0814		INQ	-3		N4400125
0126	P0025	0DFC		SQZ	MMM6	SKIP, IT IS DONE	N4400126
0127	P0026	0148		AND-	ONEBIT	CHECK IF IT IS FOR NEW ADD.	N4400127
0128	P0027	A023		SAN	MMM3	NO, SKIP	N4400128
0129	P0028	0113		RTJ*	LUEXTR	GET NEW LU AND SAVE	N4400129
0130	P0029	586E		STA*	NEWLU		N4400130
0131	P002A	685F		STA*	SIZMSB	SET UP LOGICAL UNIT FOR MM ADDRESS CHECK	N4400131
0132	P002B	6864		JMP*	MMM1		N4400132
0133	P002C	18E8	MMM3	ADC	HANDLE	0. "HANDLE" ENTRY	N4400133
0134	P002D	7FFF	X OOT				N4400134

0135 P002E 7FFF X

ADC OFF

1. "OFF" ENTRY

N4400135

0137
0138
0139
0140
0141 P002F C840
0142 P0030 60FF
0143 P0031 C111
0144 P0032 0012
0145 P0033 0102
0146 P0034 0C04
0147 P0035 1C3C
0148
0149 P0036 C84E
0150 P0037 9848
0151 P0038 6857
0152 P0039 0822
0153 P003A C84B
0154 P003B 9848
0155 P003C 6854
0156 P003D 09FE
0157 P003E 0172
0158 P003F 0152
0159 P0040 0128
0160 P0041 18F2

*

*
MMM6 LDA* BASE
STA- I
LDA- BUFEMT,I
ECR- LPMSK+16
SAZ MMM16
MMM9 ENQ 4
JMP* (EXTMSG)
*
MMM16 LDA* MMMLOC+2
SUB* MMMLOC
STA* SIZMSE
TRA Q
LDA* MMMLOC+3
SUB* MMMLOC+1
STA* SIZLSB
INA -1
SQM MMM19
SQN MMM30
SAP MMM37
MMM19 JMP* MMM9

ALL MM ADDRESSES ARE IN, CHECK TO MAKE SURE "END"
IS GREATER THAN "START"
MAKE SURE BUFFER IS EMPTY
INCORRECT FORMAT, GO
START LOC. MUST BE LESS OR EQUAL TO END
MSB IS POSITIVE AND NOT 0

N4400137
N4400138
N4400139
N4400140
N4400141
N4400142
N4400143
N4400144
N4400145
N4400146
N4400147
N4400148
N4400149
N4400150
N4400151
N4400152
N4400153
N4400154
N4400155
N4400156
N4400157
N4400158
N4400159
N4400160

0162
0163
0164
0165
0166
0167
0168
0169
0170
0171 P0042 0901
0172 P0043 0101
0173 P0044 0124
0174 P0045 8011
0175 P0046 684A
0176 P0047 00FE
0177 P0048 4847

*

*
*
*
*
*
*
*
MMM30 INA 1
MMM32 SAZ MMM34
SAP MMM37
MMM34 ADD- LPMSK+15
STA* SIZLSB
INQ -1
STQ* SIZMSB

CALCULATE SIZE TO BE MOVED, 3 CASES :
(1) DIFF. MSB = 0, SIZE = DIFF. LSB
(2) DIFF. MSB = +, AND DIFF. LSB = -
SIZE = MSB-1, AND \$7FFF+LSB (DIFF.)
(3) DIFF. MSB = +, AND DIFF. LSB = +
SIZE = MSB, AND LSB (DIFF.)
CALCULATE LSB SIZE
DECREMENT DIFF. MSB BY 1

N4400162
N4400163
N4400164
N4400165
N4400166
N4400167
N4400168
N4400169
N4400170
N4400171
N4400172
N4400173
N4400174
N4400175
N4400176
N4400177

0179
0180
0181
0182

*

SPECIAL READ/WRITE SEQUENCE IS USED TO ELIMINATE
POSSIBLE DATA DESTRUCTION IF THE DIFFERENT BETWEEN
THE START AND NEW ADD. ARE LESS THAN THE CORE BUFFER

N4400179
N4400180
N4400181
N4400182

```

0183          ***** SIZE.
0184          *
0185          *****
0186          *
0187          *
0188          *
0189          *
0190          *
0191 P0049 0A0G MMM37 ENA 0
0192 P004A 6840 STA* COUNT
0193 P004B 6842 STA* WRIT
0194 P004C 6842 STA* DONE
0195 P004D 684A STA* LUEXTR
0196 P004E 6824 STA* WORD1
0197 P004F 0A20 ENA WDXFER
0198 P0050 6872 STA* XFSZ
0199 P0051 E842 LDQ* BTB
0200          *
0201          *
0202 P0052 C843 MMM40 LDA* OTRDWR READ DATA TO CORE BUFFER
0203 P0053 585C RTJ* RDWT48
0204 P0054 5800 RTJ ENDCK TO CHECK IF NO MORE DATA
      P0055 0082
0205 P0056 0101 SAZ MMM42 DATA EXHAUSTED, SKIP
0206 P0057 181F JMP* MMM52
0207 P0058 0AFE MMM42 ENA -1
0208 P0059 6837 STA* SIZLSB
0209          *
0210 P005A C838 MMM44 LDA* SIZLAT SET UP SIZE
0211 P005B 6867 MMM45 STA* XFSZ
0212 P005C C816 LDA* WORD1 CHECK IF CONFIRMATION BEEN REQUESTED
0213 P005D 0112 SAN MMM47 YES, SKIP
0214 P005E 1800 JMP CONFIRM TO REQUEST CONFIRMATION
      P005F 0090
0215 P0060 0A00 MMM47 ENA 0
0216 P0061 6836 STA* LUEXTR RESET WRITE FLAG
0217 P0062 E82B LDQ* WRIT SET UP BUFFER LOCATION ACCORDINGLY
0218 P0063 0814 TRQ A
0219 P0064 EA2F LDQ* BTB,Q
0220 P0065 0901 INA 1
0221 P0066 A023 AND- ONEBIT SET UP BUFFER INDEX
0222 P0067 6826 STA* WRIT
0223 P0068 C82E LDA* OTRDWR+1 GET WRITE CODE
0224 P0069 5846 RTJ* RDWT48
0225 P006A C824 LDA* DONE IF "DONE" SET
0226 P006B 010A SAZ MMM52

0228          *
0229 P006C C824 LDA* SIZLSB DONE SET, CHECK FOR LAST
0230 P006D 0135 SAM MMM48
0231 P006E 18F9 JMP* MMM42 TO PROCESS LAST BUFFER

```

```

N4400183
N4400184
N4400185
N4400186
N4400187
N4400188
N4400189
N4400190
N4400191
N4400192
N4400193
N4400194
N4400195
N4400196
N4400197
N4400198
N4400199
N4400200
N4400201
N4400202
N4400203
N4400204
N4400205
N4400206
N4400207
N4400208
N4400209
N4400210
N4400211
N4400212
N4400213
N4400214
N4400215
N4400216
N4400217
N4400218
N4400219
N4400220
N4400221
N4400222
N4400223
N4400224
N4400225
N4400226
N4400228
N4400229
N4400230
N4400231

```

0233	P006F	0000	BASE	NUM	0	PARAMETER ADD.	N4400233
0234	P0070	0000	EXTHAN	NUM	0	"HANDLE" ADD.	N4400234
0235	P0071	0000	EXTMSG	NUM	0	"MSG" LOC.	N4400235
0236	PG072	0000	WORD1	NUM	0		N4400236

0238			*			EXIT	N4400238
0239	P0073	E8FB	MMM48	LDQ*	BASE		N4400239
0240	PG074	E2C3		LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N4400240
0241	P0075	1622		JMP-	(ZERO),Q		N4400241

0243			*				N4400243
0244			***			MORE DATA TO BE TRANSFERRED, UPDATE	N4400244
0245	P0076	C821	MMM52	LDA*	LUEXTR	CHECK IF BOTH BUFFER BEEN READ	N4400245
0246	P0077	0102		SAZ	MMM54		N4400246
0247	P0078	0A20		ENA	WDXFER		N4400247
0248	P0079	18E1		JMP*	MMM45		N4400248
0249	P007A	C810	MMM54	LDA*	COUNT	SET UP BUFFER	N4400249
0250	P007B	0901		INA	1		N4400250
0251	P007C	A023		AND-	ONEBIT		N4400251
0252	P007D	68CD		STA*	COUNT	SET BOTH BUFFER BEEN READ	N4400252
0253	P007E	D819		RAO*	LUEXTR		N4400253
0254	P007F	0822		TRA	Q		N4400254
0255	P0080	EA13		LDQ*	BTB,Q		N4400255
0256	P0081	18D0		JMP*	MMM40		N4400256

0258			*				N4400258
0259	P0082	0006	MMMLOC	BZS	MMMLOC(6)		N4400259
0260	P0083	0000	OLDLU	NUM	0,0		N4400260
0261	P0089	0000	P	NEWLU	EQU	NEWLU(OLDLU+1)	N4400261
0262	P008A	0000		COUNT	NUM	0	N4400262
0263	P008B	7FFF	X	MAXLU	ADC	NUMLU	N4400263
0264	P008C	0060		NO96	NUM	96	N4400264
0265	P008D	0000		WRIT	NUM	0	N4400265
0266	P008E	0000		DONE	NUM	0	N4400266
0267	P008F	0000		SIZMSB	NUM	0	N4400267
0268	P0090	0000		SIZLSB	NUM	0	N4400268
0269	P0091	0000		SIZINT	NUM	0	N4400269
0270	P0092	0000		SIZLAT	NUM	0	N4400270
0271	P0093	0057		BTB	ADC	OVLYBU-RDWTCD	N4400271
0272	P0094	0077			ADC	OVLYBL-RDWTCD	N4400272
0273	P0095	0307		OTRDWR	ADC	CHRSLV+\$100+\$200	N4400273
0274	P0096	0507			ADC	CHRSLV+\$100+\$400	N4400274
						0. READ	
						1. WRITE	

0276			*				N4400276
0277			*	*****			N4400277
0278			*				N4400278
0279			*				N4400279
0280			****			EXTRACT AND CHECK LOGICAL UNIT (MM)	N4400280

```

0281
0282 P0097 0B00 *
0283 P0098 0A02 LUEXTR NOP 0 ENTRY
0284 P0099 0C02 ENA GETFLD GET A FIELD
0285 P009A 5CD5 ENQ 2
0286 P009B 0A05 RTJ* (EXTHAN) TO GET LU
0287 P009C 5CD3 ENA ASCDEC CONVERT TO BINARY
0288 P009D 010D SAZ LUER LU = 0, ERROR
0289 P009E 6877 STA* OVLYBF SAVE LU
0290 P009F 0822 TRA Q
0291 P00AC 98EA SUB* MAXLU
0292 P00A1 09FE INA -1
0293 P00A2 0128 SAP LUER OVER MAX.
0294 P00A3 E600 LDQ LOG1A,Q
0295 P00A4 7FFF X
0296 P00A5 0145 SQZ LUER UNDEFINED, ERROR
0297 P00A6 C208 LDA- 8,Q GET UNIT CLASS CODE
0298 P00A7 0F4B ARS 11
0299 P00A8 A005 AND- MASK+2
0300 P00A9 09FD INA -2 MASS MEMORY CLASS IS 2
0301 P00AA 0102 SAZ LUGT
0302 P00AB 0C09 LUER ENQ 9 ERROR, TO PRINT
0303 P00AC 1CC4 JMP* (EXTMSG)
0304 P00AD C868 LUGT LDA* OVLYBF RECALL LU AND EXIT
0305 P00AE 1CE8 JMP* (LUEXTR)

*
***** ROUTINE TO READ OR WRITE 48 WORDS TO/FROM BUFFER
*
0307
0308
0309 RDWT48 NOP 0 ENTRY
0310 P00AF 0B00 STA* RDWTCB SAVE READ/WRITE REQUEST CODE
0311 P00B0 680E STQ* BU
0312 P00B1 4812 ARS 10 BASE ON READ/WRITE CODE,
0313 P00B2 0F4A AND- ONEBIT GET MM LU AND ADDRESS
0314 P00B3 A023 TRA Q
0315 P00B4 0822 STA* BYRW
0316 P00B5 6821 LDA* OLJLU,Q
0317 P00B6 CAD1 STA* XFLU
0318 P00B7 680A QLS 2
0319 P00B8 0FA2 LDA* MMMLOC,Q GET MM ADDRESS (MSB AND LSB)
0320 P00B9 CAC8 STA* RDWTM
0321 P00BA 680A LDA* MMMLOC+1,Q
0322 P00BB CAC7 STA* RDWTL
0323 P00BC 6809 RTJ- (AMONI) MONITOR REQUEST
0324 P00BD 54F4 RDWTCB NUM 0 REQUEST CODE (TO BE FILLED)
0325 P00BE 0000 ADC RDWTRN-RDWTCB
0326 P00BF 0009 NUM 0
0327 P00C0 0000 XFLU NUM 0 MM LU (TO BE FILLED)
0328 P00C1 0000 XFSZ ADC WDXFER NO. OF WORDS TO BE TRANSFER
0329 P00C2 0020 BU NUM 0 BUFFER RELATIVE ADD. (TO BE FILLED)
0330 P00C3 0000 RDWT4 NUM 0 MSB --- WORD ADDRESSING
0331 P00C4 0000

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N+400 281
N+400 282
N+400 283
N+400 284
N+400 285
N+400 286
N+400 287
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N+400 292
N+400 293
N+400 294
N+400 295
N+400 296
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N+400 298
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N+400 300
N+400 301
N+400 302
N+400 303
N+400 304
N+400 305
N+400 307
N+400 308
N+400 309
N+400 310
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N+400 312
N+400 313
N+400 314
N+400 315
N+400 316
N+400 317
N+400 318
N+400 319
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N+400 321
N+400 322
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N+400 324
N+400 325
N+400 326
N+400 327
N+400 328
N+400 329
N+400 330
N+400 331

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0332 P00C5 0000 RDWTL NUM 0 LSB
0333 P00C6 14EA JMP- (ADISP)
0334 *
0335 P00C7 0163 RDWTRN SQP RDEX OK, SKIP
0336 P00C8 E8A6 XFER LDQ* BASE
0337 P00C9 E204 LDQ- IOERR,Q EXIT TO "IOERR"
0338 P00CA 1622 JMP- (ZERO),Q

0340 *
0341 P00CB E80B RDEX LDQ* BYRW READ/WRITE CODE
0342 P00CC 0FA2 QLS 2
0343 P00CD CAB5 LDA* MMMLOC+1,Q UP DATE MM ADDRESS (LSB)
0344 P00CE 88F3 ADD* XFSZ
0345 P00CF 0122 SAP NOUPM
0346 P00D0 DAB1 RAO* MMMLOC,Q BUMP MSB
0347 P00D1 A011 AND- LPMSK+15
0348 P00D2 6AB0 NOUPM STA* MMMLOC+1,Q
0349 P00D3 C89B LDA* BASE RESTORE PARAMETER ADD. BASE
0350 P00D4 60FF STA- I
0351 P00D5 1CD9 JMP* (RDWT48) RETURN
0352 P00D6 0000 BYRW NUM 0

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N4400332
N4400333
N4400334
N4400335
N4400336
N4400337
N4400338
N4400340
N4400341
N4400342
N4400343
N4400344
N4400345
N4400346
N4400347
N4400348
N4400349
N4400350
N4400351
N4400352

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0354 *
0355 ***** CHECK FOR SIZE TO BE TRANSFERRED,
0356 * CONDITIONS :
0357 * (1) MORE TO GO
0358 * (2) DONE --- EXACTLY "DONE" SET
0359 * (3) DONE --- NOT EXACT "DONE" SET, SIZE ADJUST
0360 *
0361 * IN RETURN --- A-REGISTER = 0 (DONE)
0362 * A-REGISTER = 1 OR NON-ZERO (MORE)
0363 *
0364 P00D7 0B00 ENDCK NOP 0 ENTRY
0365 P00D8 C400 X LDA CHRSFG CHECK FOR 'DX'
0366 P00D9 7FFF X
0367 P00DA 0111 SAN E0 NO, SKIP
0368 P00DB 1C28 JMP* (EXTOFF) TO TURN OFF
0369 P00DC C8B3 E0 LDA* SIZLSB ADJUST SIZE AND CHECK IF MORE DATA
0370 P00DD 010A SAZ E2
0371 P00DE 09DF INA -WDXFER
0372 P00DF 68B0 STA* SIZLSB
0373 P00E0 0101 SAZ E1
0374 P00E1 6126 SAP E2
0375 P00E2 E8AC E1 LDQ* SIZMSB LSB IS DONE , CHECK IF MSB IS SET
0376 P00E3 0155 SQN E4 NO MORE, ADJUST SIZE IS NEEDED
0377 P00E4 08A9 RAO* DONE
0378 P00E5 48AA STQ* SIZLSB
0379 P00E6 6920 INA WDXFER CALCULATE LAST SIZE TO BE TRANSFER
0380 P00E7 68AA STA* SIZLAT
0381 P00E8 1CEE E2 JMP* (ENDCK)

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N4400354
N4400355
N4400356
N4400357
N4400358
N4400359
N4400360
N4400361
N4400362
N4400363
N4400364
N4400365
N4400366
N4400367
N4400368
N4400369
N4400370
N4400371
N4400372
N4400373
N4400374
N4400375
N4400376
N4400377
N4400378
N4400379
N4400380
N4400381

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0382
 0383 P00E9 0DFE
 0384 P00EA 48A4
 0385 P00EB 8011
 0386 P00EC 68A3
 0387 P00ED 0A01
 0388 P00EE 18F9

*
 E4 INQ -1
 STQ* SIZMSB
 ADD- LPMSK+15
 STA* SIZLSB
 ENA 1
 JMP* E2

UP DATE REMAINDER

N4400382
 N4400383
 N4400384
 N4400385
 N4400386
 N4400387
 N4400388

0390
 0391
 0392
 0393 P00EF C899
 0394 P00F0 6809
 0395 P00F1 C894
 0396 P00F2 680A
 0397 P00F3 C893
 0398 P00F4 6809
 0399 P00F5 54F4
 0400 P00F6 0307
 0401 P00F7 0009
 0402 P00F8 0000
 0403 P00F9 0000
 0404 P00FA 0001
 0405 P00FR 000B
 0406 P00FC 0000
 0407 P00FD 0000
 0408 P00FE 14EA
 0409
 0410 P00FF 0164
 0411 P0100 18C7
 0412 P0101 0000
 0413 P0102 0000
 0414 P0103 0000
 0415 P0104 C8FC
 0416 P0105 6CFC
 0417 P0106 0A0C
 0418 P0107 0C01
 0419 P0108 5C00
 P0109 FF66
 0420 P010A 000B
 0421 P010B 0CF6
 0422 P010C 0114
 0423 P010D 0800
 P010E FF63
 0424 P010F 1800
 P0110 FF4F
 0425 P0111 E800
 P0112 FF5C
 0426 P0113 E203
 0427 P0114 1622

*

 * --- PRINT FIRST WORD OF BOTH NEW AND OLD ADD.
 *
 CONFIRM LDA* NEWLU
 STA* CONLU SET UP LOGICAL UNIT AND READ OVER WORD 1
 LDA* MMMLOC+4 GET MSB AND LSB
 STA* CONMSB
 LDA* MMMLOC+5
 STA* CONLSB
 RTJ- (AMONI) TO READ OVER WORD 1
 CONFCD ADC \$300+CHRSLV
 ADC CONFRT-CONFCD
 NUM 0
 CONLU NUM 0 LOGICAL UNIT (FILLED)
 NUM 1 1 WORD
 ADC CONBF-CONFCD BUFFER
 CONMSB NUM 0 MSB (FILLED)
 CCNLSB NUM 0 LSB (FILLED)
 JMP- (ADISP)
 *
 CONFRT SQP CONFMX I/O OK, SKIP
 JMP* XFER TO ERROR
 CONBF NUM 0
 BUFADD NUM 0 **BUFFER** ADDRESS
 EXTOFF NUM 0 **OFF** ADDRESS (FILLED)
 CONFMX LDA* CONBF MOVE DATA
 STA* (BUFADD)
 ENA CONFM
 ENQ 1 (1 WORD AND HEX. DATA)
 RTJ (EXTHAN)
 ADC OVLYBF-*
 LDA* (BUFADD) CHECK IF CONFIRMED
 SAN NOTCON NO, SKIP
 RAO WORD1 SET CONFIRMED
 JMP MMN47
 NOTCON LDQ BASE
 LDQ- SOMMOR,Q EXIT (TO "SOMMOR")
 JMP- (ZERO),Q

N4400390
 N4400391
 N4400392
 N4400393
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 N4400397
 N4400398
 N4400399
 N4400400
 N4400401
 N4400402
 N4400403
 N4400404
 N4400405
 N4400406
 N4400407
 N4400408
 N4400409
 N4400410
 N4400411
 N4400412
 N4400413
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 N4400419
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 N4400421
 N4400422
 N4400423
 N4400424
 N4400425
 N4400426
 N4400427

0429			*									N+400429
0430	PG115	0040		OVLYBF	BZS	OVLYBF(64)						N+400430
0431		0115	P	OVLYBU	EQU	OVLYBU(OVLYBF)						N+400431
0432		0135	P	OVLYBL	EQU	OVLYBL(OVLYBF+32)						N+400432

0434			*									N+400434
0435		0003	P		EQU	SA44(*96)						N+400435
0436		0004	P		EQU	SP44(SA44+1)						N+400436
0437		0180	P		EQU	DB44(SP44*96)						N+400437
0438	P0155	002B			BSS	(DB44-*)						N+400438
0439					END							N+400439

PGM= 0180 (384) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (0000255)	0089, 0142, 0350
0049	AMONI	00F4 (0000244)	0324, 0399
0049	ADISP	00EA (0000234)	0333, 0408
0049	LPMSK	0002 (0000002)	0144, 0174, 0347, 0385
0049	NZERO	0012 (0000018)	
0049	ZROBIT	0033 (0000051)	
0050	FIVE	0043 (0000067)	
0050	SIX	0044 (0000068)	
0050	ZERO	0022 (0000034)	0241, 0338, 0427
0050	ONEBIT	0023 (0000035)	0128, 0221, 0251, 0314
0050	SIXTEN	0027 (0000039)	
0051	CCMA	002C (0000044)	
0051	SLASH	002F (0000047)	
0051	ASTRIC	002A (0000042)	
0052	EIGHT	0026 (0000038)	
0052	NINE	0045 (0000069)	
0052	THREE	0004 (0000004)	
0052	ONE	0003 (0000003)	
0052	TWO	0024 (0000036)	
0053	TEN	0046 (0000070)	
0054	MASK	0003 (0000003)	0298
0056	CHRSLV	0007 (0000007)	0273, 0274, 0400
0057	ASMOD	1000 (004096)	
0058	WDXFER	0020 (0000032)	0197, 0247, 0329, 0370, 0379
0061	BHAN	0001 (0000001)	0092
0062	MSG	0002 (0000002)	0098
0063	SOMMOR	0003 (0000003)	0240, 0426
0064	IOERR	0004 (0000004)	0337
0065	LISTLU	0005 (0000005)	
0066	COMOLU	0006 (0000006)	
0067	NEWMLU	0007 (0000007)	
0068	PROG1	0008 (0000008)	
0069	PROG2	0009 (0000009)	
0070	BITFLG	000A (0000010)	
0071	BUFCNT	000B (0000011)	
0072	FIELD	000C (0000012)	
0073	SLASHF	0010 (0000016)	
0074	BUFEMT	0011 (0000017)	0143

0075	BUFFER	0012	(000018)	0090
0078	GETFLD	0002	(000002)	0283
0079	ASCHEX	0003	(000003)	
0080	ASCDEC	0005	(000005)	0286
0081	FETMM	0009	(000009)	0110
0082	CONFM	000C	(000012)	0417

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0039	MMMREQ	0000	0039
0110	MMM1	0015	0133
0133	MMM3	0020	0129
0134	OOT	0020	0094, 0095
0141	MMM6	002F	0127
0146	MMM9	0034	0160
0149	MMM16	0036	0145
0160	MMM19	0041	0157
0171	MMM30	0042	0158
0172	MMM32	0043	
0174	MMM34	0045	0172
0191	MMM37	0049	0159, 0173
0202	MMM40	0052	0256
0207	MMM42	0058	0205, 0231
0210	MMM44	005A	
0211	MMM45	005B	0248
0215	MMM47	0060	0213, 0424
0233	BASE	006F	0088, 0141, 0239, 0336, 0349, 0425
0234	EXTHAN	0070	0093, 0112, 0285, 0287, 0419
0235	EXTMSG	0071	0099, 0147, 0302
0236	WORD1	0072	0196, 0212, 0423
0239	MMM48	0073	0230
0245	MMM52	0076	0206, 0226
0249	MMM54	007A	0246
0259	MMMLOC	0082	0103, 0117, 0119, 0149, 0150, 0153, 0154, 0320, 0322, 0343, 0346, 0348, 0395, 0397
0260	OLDLU	0088	0106, 0120, 0261, 0317
0261	NEWLU	0089	0131, 0393
0262	COUNT	008A	0102, 0114, 0124, 0192, 0249, 0252
0263	MAXLU	008B	0291
0264	NO96	008C	
0265	WRIT	008D	0193, 0217, 0222
0266	DONE	008E	0194, 0225, 0377
0267	SIZMSB	008F	0107, 0113, 0116, 0118, 0121, 0132, 0151, 0177, 0374, 0384
0268	SIZLSB	0090	0155, 0175, 0208, 0229, 0368, 0371, 0378, 0386
0269	SIZINT	0091	
0270	SIZLAT	0092	0210, 0380
0271	BTB	0093	0199, 0219, 0255
0273	OTRDWR	0095	0202, 0223
0282	LUEXTR	0097	0105, 0130, 0195, 0216, 0245, 0253, 0305
0301	LUER	00AB	0288, 0293, 0295
0304	LUGT	00AD	0300

0310 RDWT48 00AF
 0325 RDWTCO 00BE
 0328 XFLU 00C1
 0329 XFSZ 00C2
 0330 BU 00C3
 0331 RDWTM 00C4
 0332 RDWTL 00C5
 0335 RDWTRN 00C7
 0336 XFER 00C8
 0341 RDEX 00C8
 0348 NOUPM 00D2
 0352 BYRW 00D6
 0364 ENDDCK 00D7
 0368 EE0 00D0
 0374 EE1 00E2
 0381 EE2 00E8
 0383 EE4 00E9
 0393 CONFRM 00EF
 0400 CONFCO 00F6
 0403 CONFLU 00F9
 0406 CONMSB 00FC
 0407 CONLSB 00FD
 0410 CONFRT 00FF
 0412 CONBF 0101
 0413 BUFADD 0102
 0414 EXT OFF 0103
 0415 CONF MX 0104
 0425 NOTCON 0111
 0430 OVLYBF 0115
 0431 OVLYBU 0115
 0432 OVLYBL 0135
 0435 SA44 0003
 0436 SP44 0004
 0437 DB44 0180

0203, 0224, 0351
 0271, 0272, 0311, 0326
 0318
 0198, 0211, 0344
 0312
 0321
 0323
 0326
 0411
 0335
 0345
 0316, 0341
 0204, 0381
 0366
 0372
 0369, 0373, 0388
 0375
 0214
 0401, 0405
 0394
 0396
 0398
 0401
 0405, 0415
 0091, 0416, 0421
 0097, 0367
 0410
 0422
 0289, 0304, 0420, 0431, 0432
 0271
 0272
 0436
 0437
 0438

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0042	LOG1A	00A4	0294
0043	NUMLU	008B	0263
0044	OFF	002E	0135
0045	HANDLE	002D	0134
0046	CHRSFG	00D9	0365

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0049	AMONI	0049	ASCDEC	0080	ASCHEX	0079	ASMOD	0057	ASTRIC	0051	BASE	0233	BHAN	0061	BITFLG	0070
BTB	0271	BU	0330	BUFADD	0413	BUFCNT	0071	BUFEMT	0074	BUFFER	0075	BYRW	0352	CHRSFG	0046	CHRSLV	0056
COMMA	0051	COMOLU	0066	CONBF	0412	CONFCD	0400	CONFEM	0082	CONFMX	0415	CONFRM	0393	CONFRT	0410	CONLSB	0407
CONLU	0403	CONMSB	0406	COUNT	0262	DE44	0437	DONE	0266	EQ	0368	E1	0374	E2	0381	E4	0383
EIGHT	0052	ENDCK	0364	EXTHAN	0234	EXTMSG	0235	EXTOFF	0414	FETMM	0081	FIELD	0072	FIVE	0050	GETFLD	0078
HANDLE	0045	I	0000	IOERR	0064	LISTLU	0065	LOG1A	0042	LPMSK	0049	LUER	0301	LUEXTR	0282	LUGT	0304
MASK	0054	MAXLU	0263	MMM1	0110	MMM16	0149	MMM19	0160	MMM3	0133	MMM30	0171	MMM32	0172	MMM34	0174
MMM37	0191	MMM40	0202	MMM42	0207	MMM44	0210	MMM45	0211	MMM47	0215	MMM48	0239	MMM52	0245	MMM54	0249
MMM6	0141	MMM9	0146	MMMLOC	0259	MMMREQ	0039	MSG	0062	NEWLU	0261	NEWMLU	0067	NINE	0052	NO96	0264
NOTCON	0125	NOUPM	0348	NUMLU	0043	NZERO	0049	OFF	0044	OLDLU	0260	ONE	0052	ONEBIT	0050	OOT	0134
OTRDWR	0273	OVLYBF	0430	OVLYBL	0432	OVLYBU	0431	PROG1	0068	PROG2	0069	RDEX	0341	RDWT48	0310	RDWTCO	0325
RDWTL	0332	RDWTM	0331	RDWTRN	0335	SA44	0435	SIX	0050	SIXTEN	0050	SIZINT	0269	SIZLAT	0270	SIZLSB	0268
SIZMSB	0267	SLASH	0051	SLASHF	0073	SOMMOR	0063	SP44	0436	TEN	0053	THREE	0052	TWO	0052	WDXFER	0058
WORD1	0236	WRIT	0265	XFER	0336	XFLU	0328	XFSZ	0329	ZERO	0050	ZROBIT	0049				

0050	00F4 00EA 0002 0012 0033	EQU	AMONI(\$F4),ADTSP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)	N4500050
0051	0043 0044 0022 0023 0027	EQU	FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)	N4500051
0052	002C 002F 002A	EQU	COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)	N4500052
0053	0026 0045 0004 0003 0024	EQU	EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)	N4500053
0054	0046	EQU	TEN(\$46)	N4500054
0055	0003	EQU	MASK(3) ONE BIT MASK	N4500055
0057	0007	EQU	CHRSLV(7) LEVEL OF THIS PROGRAM	116*4360*****
0058	1000	EQU	ASMOD(\$1000) OUTPUT ASC MODE	N4500058
0059	08C2	EQU	MASSLU(\$8C2) LIB. MASS MEMORY LU	N4500059
0060	00E9	EQU	EXTBV4(\$E9) CORE LOCATION CONTAINS ADD. OF EXTENDED CORE	N4500060
0061	0028	EQU	NO40(40) LOCAL INPUT BUFFER SIZE	N4500061
0062	0016	EQU	COMLHC(22) COMMAND "LHC" INDEX	N4500062
0063	0038	EQU	COMLIC(56) COMMAND "LIC" INDEX	N4500063
0065		*	PARAMETER LOCATION (OFFSET FROM BASE)	N4500065
0066	0001	EQU	HANDLE(1) "HANDLE"	N4500066
0067	0002	EQU	MSG(2) "MSG" ENTRY	N4500067
0068	0003	EQU	SOMMOR(3) "SOMMOR" ENTRY	N4500068
0069	0004	EQU	IOERR(4) "IOERR" ENTRY	N4500069
0070	0005	EQU	LISTLU(5) LIST OUTPUT --- "LISTLU"	N4500070
0071	0006	EQU	COMOLU(6) "COMOLU"	N4500071
0072	0007	EQU	NEWMLU(7) "NEWMLU" --- NEW MM LU	N4500072
0073	0008	EQU	PROG1(8) "PROG1"	N4500073
0074	0009	EQU	PROG2(9) "PROG2"	N4500074
0075	000A	EQU	BITFLG(10) "BITFLG"	N4500075
0076	000B	EQU	BUFCNT(11) "BUFCNT"	N4500076
0077	000C	EQU	FIELD(12) "FIELD"	N4500077
0078	0010	EQU	SLASHF(16) "SLASHF"	N4500078
0079	0011	EQU	BUFEMT(17) "BUFEMT"	N4500079
0080	0012	EQU	BUFFER(18) "BUFFER"	N4500080
0082		*	SUBROUTINE "EQU" POINTERS	N4500082
0083	0002	EQU	GETFLD(2) "GETFLD"	N4500083
0084	0003	EQU	ASCHEX(3) "ASCHEX"	N4500084
0085	0005	EQU	ASCDEC(5) "ASCDEC"	N4500085
0086	0009	EQU	FETMM(9) "FETMM" --- CONVERT MM ADD. TO WORD ADDRESSING	N4500086
0087	000C	EQU	CONFM(12) "CONFM" --- PRINT DATA AND REQUEST CONFIRM	N4500087


```

0089          *
0090          *****
0091          *

```

***** PROGRAM START *****

```

N4500089
N4500090
N4500091

```

```

0093 P0000 687D LICREQ STA* BASE
0094          0000 EQU LHCREQ(LICREQ)
0095          0000 EQU LACREQ(LICREQ)
0096 P0001 60FF STA- I
0097 P0002 8112 ADD- BUFFER, I
0098 P0003 6800 STA BUFADD
          P0004 00E3
0099 P0005 C101 LDA- HANDLE, I
0100 P0006 687A STA* EXTHAN
0101 P0007 C102 LDA- MSG, I
0102 P0008 6879 STA* EXTMSG
0103 P0009 C0F5 LDA- $F5
0104 P000A 687B STA* MAX

```

HIGHEST CORE LOCATION USED BY SYSTEM

```

N4500093
N4500094
N4500095
N4500096
N4500097
N4500098
N4500099
N4500100
N4500101
N4500102
N4500103
N4500104

```

```

0106 P000B 0A00 ENA 0
0107 P000C 6873 STA* LICLOC+1
0108 P000D 686F STA* COUNT
0109 P000E 0A02 LIC1 ENA GETFLD GET INPUT DATA
0110 P000F 0C04 ENQ 4
0111 P0010 5C70 RTJ* (EXTHAN)
0112 P0011 0A03 ENA ASCHEX
0113 P0012 5C6E RTJ* (EXTHAN)
0114 P0013 0000 LICVAL NUM 0
0115 P0014 E868 LDQ* COUNT
0116 P0015 C8FD LDA* LICVAL
0117 P0016 6A68 STA* LICLOC, Q
0118 P0017 D865 RAO* COUNT
0119 P0018 C10C LDA- FIELD, I
0120 P0019 09D0 INA -SLASH
0121 P001A 0107 SAZ LIC6
0122 P001B 0DFE INQ -1
0123 P001C 0163 SQP LIC4
0124 P001D 0903 INA -COMMA+SLASH
0125 P001E 0111 SAN LIC4
0126 P001F 18EE JMP* LIC1
0127 P0020 0C04 LIC4 ENQ 4
0128 P0021 1C60 JMP* (EXTMSG)
0129 P0022 685A LIC6 STA* COUNT
0130 P0023 685F STA* ASMHIL
0131 P0024 6862 STA* PROTOP
0132 P0025 6110 STA- SLASH, I
0133 P0026 C858 LDA* LICLOC
0134 P0027 8858 ADD* LICLOC+1
0135 P0028 6856 STA* LICLOC

```

SKIP ON SLASH('/')
NOT '/', IT FORMAT OK,
NO, ERROR
NOT '/' AND ONLY 1 ENTRY, MUST BE COMMA
NOT COMMA, ERROR
FORMAT ERROR
RESET 'SLASH' FLAG
LOCATION + BASE = ACTUAL LOCATION

118*4483 *****

```

N4500106
N4500107
N4500108
N4500109
N4500110
N4500111
N4500112
N4500113
N4500114
N4500115
N4500116
N4500117
N4500118
N4500119
N4500120
N4500121
N4500122
N4500124
N4500125
N4500126
N4500127
N4500128
N4500129
N4500130
N4500131
N4500132
N4500133
N4500134
N4500135

```

0136	P0029	6800	STA	MSB+2		N4500136
0137	P002A	00E0	RTJ	CORADK	TO CHECK IF CORE LOC. WITHIN LIMIT	N4500137
0138	P002B	5800				
	P002C	6091	JMP*	LIC4	ERROR, GO	N4500138
0140	P002D	18F2				
0140	P002E	C111	LDA-	BUFEMT,I	MAKE SURE THERE IS DATA	N4500140
0141	P002F	8012	EOR-	LPMSK+16		N4500141
0142	P0030	0111	SAN	LIC10		N4500142
0143	P0031	18EE	JMP*	LIC4	NO DATA, ERROR	N4500143
0145	P0032	C109	LIC10	LDA-	PROG2,I	N4500145
0146	P0033	09E9		INA	-COMLHC	N4500146
0147	P0034	0111		SAN	LICLAC	N4500147
0148	P0035	1852	JMP*	HEXDAT	TO PROCESSING HEX. DATA	N4500148
0149	P0036	09DD	LICLAC	INA	-COMLIC+COMLHC	N4500149
0150	P0037	684F		STA*	PROTYP	N4500150
0151	P0038	D84E		RAQ*	PROTYP	N4500151
0152	P0039	0111		SAN	ASCDAT	N4500152
0153	P003A	182C	JMP*	DECDAT	FCR "LIC", GO	N4500153
0155			*		FOR ASCII DATA	N4500155
0156			****		*****	N4500156
0158			*		2. ASCII DATA PROCESSING	N4500158
0159	P003B	E10A	ASCDAT	LDQ-	BITFLG,I	GET BYTE POSITION FLAG AND BUFFER POINTER
0160	PG03C	4847		STQ*	HILO	
0161	P003D	C10B		LDA-	BUFCNT,I	
0162	P003E	60FF		STA-	I	
0163	P003F	0142	AS2	SQZ	AS4	SKIP, NO ADVANCE CHARACTER IS NEEDED
0164	P0040	0CFE		ENQ	-1	
0165	P0041	D0FF		RAQ-	I	
0166	P0042	0D01	AS4	INQ	1	
0167	P0043	C000		LDA	(BUFADD),I	GET INPUT TEXT WORD
	PG044	00A3				
0168	P0045	483E		STQ*	HILO	N4500168
0169	P0046	0151		SQN	AS6	N4500169
0170	P0047	0F48		ARS	8	N4500170
0171	P0048	A00A	AS6	AND-	LPMSK+8	ISOLATE CHARACTER
0172	P0049	6836		STA*	TEMP	
0173	P004A	800A		EOR-	LPMSK+8	CHECK FOR EOT (END OF TEXT)
0174	P004B	0111		SAN	AS8	NO, SKIP
0175	P004C	1816		JMP*	AS18	
0176			*			
0177	P004D	E835	AS8	LDQ*	ASMHIL	PUT CHARACTER INTO POSITION
0178	P004E	C831		LDA*	TEMP	
0179	P004F	0154		SQN	AS10	
0180	P0050	0FC8		ALS	8	PUT CHAR. INTO HI-8-BIT AND INSERT SPACE IN
0181	P0051	0920		INA	\$20	LOW-8-BIT
0182	P0052	0CG1		ENQ	1	
0183	P0053	1805		JMP*	AS12	

0184	P0054	C830	AS10	LDA*	CHAR	RECALL HI-8-BIT (DELETE SPACE)	N4500184
0185	P0055	B028		EOR-	ONEBIT+5		N4500185
0186	P0056	B829		EOR*	TEMP	AND INSERT CURRENT CHAR.	N4500186
0187	P0057	0C00		ENQ	J		N4500187
0188	P0058	482A	AS12	STQ*	ASMHIL	SAVE CHAR. POSITION FLAG (0=HI-8)	N4500188
0189	P0059	682B		STA*	CHAR		N4500189
0190	P005A	E822	AS14	LDQ*	COUNT		N4500190
0191	P005B	6A00		STA	INPDAT,Q	SAVE INPUT TEXT	N4500191
	P005C	00BC					
0192	P005D	E825		LDQ*	ASMHIL	CHECK IF UP DATE STORAGE POINTER IS NEEDED	N4500192
0193	P005E	C151		SQN	AS15	NO, SKIP	N4500193
0194	P005F	D81D		RAQ*	COUNT		N4500194
0195	P0060	E823	AS15	LDQ*	HILO	RECALL INPUT TEXT BYTE POSITION FLAG AND	N4500195
0196	P0061	18DD		JMP*	AS2	REPEAT	N4500196
0197			*				N4500197
0198	P0062	C820	AS18	LDA*	ASMHIL	UPDATE INPUT TEXT COUNT IF NEEDED	N4500198
0199	P0063	0101		SAZ	AS20		N4500199
0200	P0064	D818		RAQ*	COUNT		N4500200
0201	P0065	1868	AS20	JMP*	CONFRM	TO PRINT DATA AND REQUEST CONFIRM	N4500201
			*				
0203					1. DECIMAL DATA		N4500203
0204	P0066	0A02	DEC DAT	ENA	GETFLD	GET INPUT DATA	N4500204
0205	P0067	0C06		ENQ	6		N4500205
0206	P0068	5C18		RTJ*	(EXTHAN)		N4500206
0207	P0069	0A05		ENA	ASCDEC	CONVERT TO DEC.	N4500207
0208	P006A	5C16		RTJ*	(EXTHAN)		N4500208
0209	P006B	E811		LDQ*	COUNT		N4500209
0210	P006C	6A00		STA	INPDAT,Q	SAVE INPUT DATA	N4500210
	P006D	00AB					
0211	P006E	D80E		RAQ*	COUNT	BUMP STORAGE INDEX BY 1	N4500211
0212	P006F	E80E		LDQ*	BASE		N4500212
0213	P0070	C20C		LDA-	FIELD,Q	CHECK IF END OF TEXT	N4500213
0214	P0071	B00A		EOR-	LPMSK+8		N4500214
0215	P0072	0111		SAN	DEC3		N4500215
0216	P0073	18EA		JMP*	CONFRM	NO MORE DATA, TO PRINT	N4500216
0217	P0074	C20C	DEC3	LDA-	FIELD,Q	CHECK FOR COMMA	N4500217
0218	P0075	A00A		AND-	LPMSK+8		N4500218
0219	P0076	09D3		INA	-COMMA		N4500219
0220	P0077	0101		SAZ	DEC7		N4500220
0221	P0078	18A7	DEC5	JMP*	LIC4	FORMAT ERROR, GO	N4500221
0222	P0079	18FC	DEC7	JMP*	DECDAT	TO REPEAT	N4500222
			*		S T O R A G E		N4500224
0224					ORDINAL NO.		N4500225
0225	P007A	0000	GRDINL	NUM	0		N4500226
0226	P007B	0000	ASTCH	NUM	0		N4500227
0227	P007C	0000	COUNT	NUM	0		N4500228
0228	P007D	0000	BASE	NUM	0		N4500229
0229	P007E	0002	LICLOC	BZS	LICLOC(2)		N4500230
0230		007F	P	EQU	TEMP(LICLOC+1)		N4500231
0231	P0080	0000	EXTHAN	NUM	0		N4500232
0232	P0081	0000	EXTMSG	NUM	0		N4500233
0233	P0082	0000	ASMHIL	NUM	0		N4500234

0234	P0083	0000	HILO	NUM	0				N4500234
0235	P0084	0000	CHAR	NUM	0				N4500235
0236	P0085	0000	MAX	NUM	0				N4500236
0237	P0086	0000	PROTYP	NUM	0	DATA TYPE			N4500237
0239			*			0. HEX. DATA			N4500239
0240	P0087	0A00	HEXDAT	ENA	0				N4500240
0241	P0088	68F2		STA*	ASTCH				N4500241
0242	P0089	68F5		STA*	TEMP				N4500242
0243	P008A	0A02	HEX2	ENA	GETFLD	GET INPUT DATA			N4500243
0244	P008B	0C04		ENQ	4				N4500244
0245	P008C	5CF3		RTJ*	(EXTHAN)				N4500245
0246	P008D	0A03		ENA	ASCHEX	CONVERT TO HEX.			N4500246
0247	P008E	5CF1		RTJ*	(EXTHAN)				N4500247
0248	P008F	0000	HEXNUM	NUM	0				N4500248
0249			*						N4500249
0250			***			TERMINATORS CAN BE (1) COMMA,			N4500250
0251			*			(2) ASTERISK			N4500251
0252			*			(3) "NULL"			N4500252
0253			*						N4500253
0254	P0090	C10C		LDA-	FIELD,I	CHECK FOR COMMA			N4500254
0255	P0091	09D3		INA	-COMMA				N4500255
0256	P0092	0101		SAZ	HEX5	YES, SKIP			N4500256
0257	P0093	181D		JMP*	HEX20				N4500257
0258	P0094	C8E6	HEX5	LDA*	ASTCH	IS ASTERISK SET			N4500258
0259	P0095	011A		SAN	HEX10				N4500259
0260	P0096	C8F8		LDA*	HEXNUM	RECALL DATA AND SAVE			N4500260
0261	P0097	E8E4	HEX6	LDQ*	COUNT				N4500261
0262	P0098	6A00		STA	INPDAT,Q				N4500262
0263	P009A	D8E1		RAO*	COUNT				N4500263
0264	P009B	C10C		LDA-	FIELD,I	CHECK FOR END OF TEXT			N4500264
0265	P009C	B00A		EOR-	LPMSK+8				N4500265
0266	P009D	0111		SAN	HEX8				N4500266
0267	P009E	182F		JMP*	CONFRM	TO PRINT AND REQUEST FOR CONFIRMATION			N4500267
0268	P009F	18E7	HEX8	JMP*	HEXDAT				N4500268
0269			***			ASTERISK ENCOUNTERED, 2 CASES CAN BE HAPPENED			N4500269
0270			*			(1) HEX. NO. FOLLOWS ASTERISK, OR			N4500270
0271			*			(2) NO., *, AND NO.			N4500271
0272			*						N4500272
0273	P00A0	C8DE	HEX10	LDA*	TEMP				N4500273
0274	P00A1	0114		SAN	HEX12	SKIP ON HEX. PROCEEDED *			N4500274
0275	P00A2	C8EC		LDA*	HEXNUM	FOR " * HEX" = HEX. DATA - CURRENT LOC.			N4500275
0276	P00A3	98DA		SUB*	LICLOC				N4500276
0277	P00A4	98D7		SUB*	COUNT				N4500277
0278	P00A5	18F1		JMP*	HEX6				N4500278
0279			*						N4500279
0280	P00A6	C8E8	HEX12	LDA*	HEXNUM	GENERATE LAST 8 BITS (ADDRESSING)			N4500280
0281	P00A7	98D6		SUB*	LICLOC	HEX. NO. - CURRENT LOC			N4500281
0282	P00A8	98D3		SUB*	COUNT				N4500282
0283	P00A9	A00A		AND-	LPMSK+8				N4500283
0284	P00AA	68E4		STA*	HEXNUM				N4500284

```

0285 P00AB C8D3 LDA* TEMP GET COMMAND AND SHIF) IT TO H-8-BIT
0286 P00AC CFC8 ALS 8
0287 P00AD AG1A AND- NZERO+8
0288 P00AE B8E0 EOR* HEXNUM INSERT LOCATION
0289 P00AF 18E7 JMP* HEX6
0290 *
0291 ***** DELIMITER IS NOT COMMA
0292 *
0293 P00B0 0902 HEX20 INA -ASTRIC+COMMA CHECK FOR ASTERISK
0294 P00B1 0116 SAN HEX28 NOT COMMA AND ASTERISK, SKIP
0295 P00B2 C8C8 HEX22 LDA* ASTCH MAKE SURE IT IS NOT YET ENCOUNTERED
0296 P00B3 0117 SAN HEX29
0297 P00B4 D8C6 HEX24 RAO* ASTCH
0298 P00B5 C8D9 LDA* HEXNUM SAVE OP-CODE
0299 P00B6 68C8 STA* TEMP
0300 P00B7 18D2 JMP* HEX2
0301 P00B8 C10C HEX28 LDA- FIELD,I
0302 P00B9 B00A EOR- LPMSK+8 EOT CHECK
0303 P00BA 0101 SAZ HEX30
0304 P00BB 18BC HEX29 JMP* DEC5 ERROR, GO
0305 P00BC 18D7 HEX30 JMP* HEX5

```

```

N4500285
N4500286
N4500287
N4500288
N4500289
N4500290
N4500291
N4500292
N4500293
N4500294
N4500295
N4500296
N4500297
N4500298
N4500299
N4500300
N4500301
N4500302
N4500303
N4500304
N4500305

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```

0307 ***** CHECK ADDRESSES TO BE WITHIN 32K
0308 *
0309 P00BD 0B00 CORADK NOP 0 ENTRY
0310 P00BE E0E9 LDQ- EXTBV4 GET 32K/65K FLAG (32K=0, 65K=1)
0311 P00BF E622 LDQ- (ZERO),0
0312 P00C0 0155 SQN AD65 SKIP ON 65K
0313 P00C1 0133 SAM AD32EX ERROR, OVER 32K
0314 P00C2 98C2 SUB* MAX
0315 P00C3 0137 SAM AD65EX
0316 P00C4 0106 SAZ AD65EX
0317 P00C5 1CF7 AD32EX JMP* (CORADK) RETURN

```

```

N4500307
N4500308
N4500309
N4500310
N4500311
N4500312
N4500313
N4500314
N4500315
N4500316
N4500317

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```

0319 ***** CHECK TO BE WITHIN 65K OR LESS
0320 P00C6 0124 AD65 SAP AD65EX SKIP FOR 32K OR SO
0321 P00C7 98BD SUB* MAX
0322 P00C8 0132 SAM AD65EX OK, SKIP
0323 P00C9 0101 SAZ AD65EX OK, SKIP
0324 P00CA 18FA JMP* AD32EX ERROR, GO
0325 P00CB D8F1 AD65EX RAO* CORADK SET NORMAL EXIT
0326 P00CC 1CF0 JMP* (CORADK) NORMAL RETURN

```

```

N4500319
N4500320
N4500321
N4500322
N4500323
N4500324
N4500325
N4500326

```

```

0328 *
0329 ***** ALL INPUT IN, READ OVER OLD DATA FOR
0330 * CONFIRMATION CHECK
0331 *
0332 * GET CORE IMAGE MM ADD.

```

```

N4500328
N4500329
N4500330
N4500331
N4500332

```

```

0333 P00CD 0C04 CONFIRM ENO 4
0334 P00CE C6E9 LDA- ($E9),Q THE FOURTH WORD OF EXTENDED CORE TABLE
0335 P00CF 683A STA* LSB
0336 P00D0 0CC0 ENQ 0
0337 P00D1 4837 STQ* MSB
0338 P00D2 0A09 ENA FETMM CONVERT TO WORD ADDRESSING
0339 P00D3 0C02 ENQ 2
0340 P00D4 5CAB RTJ* (EXTHAN)
0341 P00D5 0033 ADC MSB-*
0342 P00D6 C832 LDA* MSB SET UP MSB AND LSB, SO THAN OLD DATA IS READ
0343 P00D7 6811 STA* LIOM OVER FOR CONFIRMATION
0344 P00D8 682B STA* LIOSM
0345 P00D9 C836 LDA* LSB
0346 P00DA 680F STA* LIOL
0347 P00DB 6829 STA* LIOSL
0348 P00DC 5801 RTJ* SELF
0349 P00DD 0B00 SELF NOP 0
0350 P00DE C8FE LDA* SELF
0351 P00DF 090E INA LIORT-SELF GENERATE RETURN ADD.
0352 P00E0 6803 STA* LIOE
0353 P00E1 54F4 RTJ- (AMONI)
0354 P00E2 0207 LIOC) ADC $200+CHRSLV READ
0355 P00E3 0000 LIOE NUM 0 RETURN (FILLED)
0356 P00E4 0000 NUM 0 THREAD
0357 P00E5 08C2 ADC MASSLU LU (LIB. UNIT)
0358 P00E6 0023 ADC NO40 SIZE
0359 P00E7 0000 BUFADD NUM 0 BUFFER ADD. (FILLED)
0360 P00E8 0000 LIOM NUM 0 MSB (FILLED)
0361 P00E9 0000 LIOL NUM 0 LSB (FILLED)
0362 P00EA 14EA JMP- (ADISP)
0363 *
0364 P00EB 0163 LIORT SQP XFOK NO READ ERROR, SKIP
0365 P00EC E890 XFER LDQ* BASE IOERR
0366 P00ED E204 LDQ- IOERR,Q
0367 P00EE 1622 JMP- (ZERO),Q
0368 P00EF E88C XFOK LDQ* COUNT GET NO. OF WORDS AND INSERT DATA TYPE
0369 P00F0 4811 STQ* LIOZ
0370 P00F1 C894 LDA* PROTYF
0371 P00F2 0FC8 ALS 8
0372 P00F3 0832 AAQ Q
0373 P00F4 0A0C ENA CONFIRM TO PRINT DATA FOR CONFIRMATION
0374 P00F5 5C8A RTJ* (EXTHAN)
0375 P00F6 0022 ADC INPDAT-*
0376 P00F7 C0FF LDA* (BUFADD) RETURN FROM CONFIRMATION CHECK
0377 P00F8 0103 SAZ LIOSAV OK, WRITE (SAVE MM)
0378 P00F9 E883 LIOEX LDQ* BASE TO "SOMMOR"
0379 P00FA E203 LDQ- SOMMOR,Q
0380 P00FB 1622 JMP- (ZERO),Q
0381 P00FC 54F4 LIOSAV RTJ- (AMONI)
0382 P00FD 0507 LIOV) ADC $500+CHRSLV WRITE
0383 P00FE 0009 ADC LIOVX-LIOVD RETURN
0384 P00FF 0000 NUM 0
0385 P0100 08C2 ADC MASSLU

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N4500333
N4500334
N4500335
N4500336
N4500337
N4500338
N4500339
N4500340
N4500341
N4500342
N4500343
N4500344
N4500345
N4500346
N4500347
N4500348
N4500349
N4500350
N4500351
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N4500364
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N4500375
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N4500377
N4500378
N4500379
N4500380
N4500381
N4500382
N4500383
N4500384
N4500385

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0386	P0101	0000	LIOZ	NUM	0	SIZE (FILLED)	N4500386
0387	P0102	0018		ADC	INPDAT-LIOVD		N4500387
0388	P0103	0000	LIO SM	NUM	0	MSB (FILLED)	N4500388
0389	P0104	0000	LIO SL	NUM	0	LSB (FILLED)	N4500389
0390	P0105	14EA		JMP-	(ADIS F)		N4500390
0391	P0106	0164	LIO V X	SQP	SAVOK		N4500391
0392	P0107	18E4		JMP*	XFER		N4500392
0393	P0108	0003	MSB	BZS	MSB(3)		N4500393
0394		0109	P	EQU	LSB(MSB+1)		N4500394

0396			*				N4500396
0397			***		SAVE DATA IN CORE ACCORDING TO ADDRESS		N4500397
0398			*				N4500398
0399	P0108	C800	SAVOK	LDA	LICLOC	SET UP CORE ADDRESS	N4500399

0400	P010C	FF71		STA-	I		N4500400
0401	P010D	60FF		ENQ	0	INITIALIZE INDEX	N4500401
0402	P010E	0C00	UPCR	LDA*	INPDAT,Q	GET CURRENT INPUT DATA	N4500402
0403	P010F	CA09		STA-	(ZERO),B	SAVE IN CORE	N4500403
0404	P0110	E722		INQ	1	BUMP INDEX BY 1 AND CHECK IF DONE	N4500404
0405	P0111	0D01		TRQ	A		N4500405
0406	P0112	0814		SUB	COUNT		N4500406
0407	P0113	9800					
0408	P0114	FF67					
0409	P0115	0101		SAZ	DONE	SKIP ON DONE	N4500407
0410	P0116	18F8		JMP*	UPCR	TO REPEAT	N4500408
0411	P0117	18E1	DONE	JMP*	LIOEX		N4500409

0411			*				N4500411
0412	P0118	0028	INPDAT	BZS	INPDAT(N040)		N4500412

0414			*				N4500414
0415		0003	P	EQU	SA56(* / 96)		N4500415
0416		0004	P	EQU	SP56(SA56+1)		N4500416
0417		0180	P	EQU	DB56(SP56*96)		N4500417
0418	P0140	0040		BSS	(DB56-*)		N4500418
0419				END			N4500419

PGM= 0180 (384) 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) 0096, 0162, 0165, 0400
0050	AMONI	00F4	(000244) 0353, 0381
0050	ADISP	00EA	(000234) 0362, 0390
0050	LPMSK	0002	(000002) 0141, 0171, 0173, 0214, 0218, 0265, 0283, 0302
0050	NZERO	0012	(000018) 0287
0050	ZROBIT	0033	(000051)
0051	FIVE	0043	(000067)
0051	SIX	0044	(000068)
0051	ZERO	0022	(000034) 0311, 0367, 0380, 0403
0051	ONEBIT	0023	(000035) 0185
0051	SIXTEN	0027	(000039)
0052	COMMA	002C	(000044) 0124, 0219, 0255, 0293
0052	SLASH	002F	(000047) 0120, 0124
0052	ASTRIC	002A	(000042) 0293
0053	EIGHT	0026	(000038)
0053	NINE	0045	(000069)
0053	THREE	0004	(000004)
0053	ONE	0003	(000003)
0053	TWO	0024	(000036)
0054	TEN	0046	(000070)
0055	MASK	0003	(000003)
0057	CHRSLV	0007	(000007) 0354, 0382
0058	ASMOD	1000	(004096)
0059	MASSLU	08C2	(002242) 0357, 0385
0060	EXTBV4	00E9	(000233) 0310
0061	NO40	0028	(000040) 0358, 0412
0062	COMLHC	0016	(000022) 0146, 0149
0063	COMLIC	0038	(000056) 0149
0066	HANDLE	0001	(000001) 0099
0067	MSG	0002	(000002) 0101
0068	SOMMOR	0003	(000003) 0379
0069	IOERR	0004	(000004) 0366
0070	LISTLU	0005	(000005)
0071	COMOLU	0006	(000006)
0072	NEWMLU	0007	(000007)
0073	PROG1	0008	(000008)
0074	PROG2	0009	(000009) 0145
0075	BITFLG	000A	(000010) 0159

0076	BUFCNT	0008	(000011)	0161	
0077	FIELD	000C	(000012)	0119, 0213, 0217, 025+, 0264, 0301	
0078	SLASHF	0010	(000016)	0132	
0079	BUFENT	0011	(000017)	0140	
0080	BUFFER	0012	(000018)	0097	
0083	GETFLD	0002	(000002)	0109, 0204, 0243	
0084	ASCHEX	0003	(000003)	0112, 0246	
0085	ASCDEC	0005	(000005)	0207	
0086	FETMM	0009	(000009)	0338	
0087	CONFM	000C	(000012)	0373	

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	LHCREQ	0000	0043
0044	LACREQ	0000	0044
0045	LICREQ	0000	0045, 0094, 0095
0109	LIC1	000E	0126
0114	LICVAL	0013	0116
0127	LIC4	0020	0123, 0125, 0138, 0143, 0221
0129	LIC6	0022	0121
0145	LIC10	0032	0142
0149	LICLAC	0036	0147
0159	ASG DAT	003B	0152
0163	ASS2	003F	0196
0166	ASS4	0042	0163
0171	ASS6	0048	0169
0177	ASS8	004D	0174
0184	ASS10	0054	0179
0188	ASS12	0058	0183
0190	ASS14	005A	
0195	ASS15	0060	0193
0198	ASS18	0062	0175
0201	ASS20	0065	0199
0204	DECDAT	0066	0153, 0222
0217	DEC3	0074	0215
0221	DEC5	0078	0304
0222	DEC7	0079	0220
0225	ORDINL	007A	
0226	ASTCH	007B	0241, 0258, 0295, 0297
0227	COUNT	007C	0108, 0115, 0118, 0129, 0190, 0194, 0200, 0209, 0211, 0261, 0263, 0277, 0282, 0368, 0400
0228	BASE	007D	0093, 0212, 0365, 0378
0229	LICLOC	007E	0107, 0117, 0133, 0134, 0135, 0230, 0276, 0281, 0399
0230	TFMP	007F	0172, 0178, 0186, 0242, 0273, 0285, 0299
0231	EXTHAN	0080	0100, 0111, 0113, 0206, 0208, 0245, 0247, 0340, 0374
0232	EXTMSG	0081	0102, 0128
0233	ASMHIL	0082	0130, 0177, 0188, 0192, 0198
0234	HILO	0083	0160, 0168, 0195
0235	CHAR	0084	0184, 0189
0236	MAX	0085	0104, 0314, 0321
0237	PROTYP	0086	0131, 0150, 0151, 0370
0240	HEXDAT	0087	0148, 0268
0243	HEX2	008A	0300
0248	HEXNUM	008F	0260, 0275, 0280, 0284, 0288, 0298
0258	HEX5	0094	0256, 0305

0261	HEX6	0097	0278, 0289
0268	HEX8	009F	0266
0273	HEX10	00A0	0259
0280	HEX12	00A6	0274
0293	HEX20	00B0	0257
0295	HEX22	00B2	
0297	HEX24	00B4	
0301	HEX28	00B8	0294
0304	HEX29	00BB	0296
0305	HEX30	00BC	0303
0309	CORADK	00BD	0137, 0317, 0325, 0326
0317	AD32EX	00C5	0313, 0324
0320	AD65	00C6	0312
0325	AD65EX	00CB	0315, 0316, 0320, 0322, 0323
0333	CONFIRM	00CD	0201, 0216, 0267
0349	SELF	00DD	0348, 0350, 0351
0354	LIOCD	00E2	
0355	LIOE	00E3	0352
0359	BUFADD	00E7	0098, 0167, 0376
0360	LIOM	00E8	0343
0361	LIOL	00E9	0346
0364	LIORT	00EB	0351
0365	XFER	00EC	0392
0368	XFOK	00EF	0364
0378	LIOEX	00F9	0409
0381	LIO SAV	00FC	0377
0382	LIOVD	00FD	0383, 0387
0386	LIOZ	0101	0369
0388	LIOSM	0103	0344
0389	LIO SL	0104	0347
0391	LIO VX	0106	0383
0393	MSB	0108	0136, 0337, 0341, 0342, 0394
0394	LSB	0109	0335, 0345
0399	SAVOK	010B	0391
0402	UPCR	010F	0408
0409	DONE	0117	0407
0412	INPDAT	0118	0191, 0210, 0262, 0375, 0387, 0402
0415	SA56	0003	0416
0416	SP56	0004	0417
0417	DB56	0180	0418


```

0022
0023
0027
0046 002C EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N46J0045
002F
002A
0047 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N4600047
0045
0004
0003
0048 0024 EQU TEN($45) N4600048
0049 0046 EQU MASK(3) ONE BIT MASK N+600049
0003

0051 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0052 1000 EQU ASMOD($1000) OUTPUT ASC MODE N+600052
0053 0028 EQU NO49(40) BUFFER SIZE N+600053
0054 08C2 EQU MASSLU($8C2) LIB. MASS MEMORY UNIT N46J0054
0055 00E6 EQU CSYLEN($E6) LENGTH OF SYSTEM DIRECTORY (IN THIS LOC.) N+600055
0056 00E7 EQU CSYDIR($E7) INDEX OF FIRST MM DIRECTORY N46J0056
0057 00E9 EQU EXTBV4($E9) LOCATION CONTAINS EXTENDED CORE TABLE N4600057
0058 00EB EQU DIRTRY($EB) LOC. CONTAINS LIB. DIRECTORY N+600058

*
* PARAMETER LOCATION (OFFSET FROM BASE)
0060 EQU HANDLE(1) "HANDLE" N4600060
0061 0001 EQU MSG(2) "MSG" ENTRY N4600061
0062 0002 EQU SOMMOR(3) "SOMMOR" ENTRY N4600062
0063 0003 EQU IOERR(4) "IOERR" ENTRY N+600063
0064 0004 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N46J0064
0065 0005 EQU COMOLU(6) "COMOLU" N+600065
0066 0006 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N4600066
0067 0007 EQU PROG1(8) "PROG1" N+600067
0068 0008 EQU PROG2(9) "PROG2" N+600068
0069 0009 EQU BITFLG(10) "BITFLG" N+600069
0070 000A EQU BUFCNT(11) "BUFCNT" N4600070
0071 000B EQU FIELD(12) "FIELD" N+600071
0072 000C EQU SLASHF(16) "SLASHF" N+600072
0073 0010 EQU BUFEMT(17) "BUFEMT" N+600073
0074 0011 EQU BUFFER(18) "BUFFER" N+600074
0075 0012

*
* SUBROUTINE "EQU" POINTERS
0077 EQU GETFLD(2) "GETFLD" N+600077
0078 0002 EQU ASCHEX(3) "ASCHEX" N+6J0078
0079 0003 EQU ASCDEC(5) "ASCDEC" N+600079
0080 0005 EQU FETMM(9) 'FETMM' --- GET MM ADDRESS N+600080
0081 0009 EQU PNTMD(10) "PNTMD" --- PRINT BOTH CORE AND MM DATA N+600081
0082 000A EQU CONFM(12) 'CONFM' -- PRINT NEW + OLD DATA FOR CONFIRM N+600082
0083 000C

*
* ***** PROGRAM START *****
0085 ***** N4600085
0086 ***** N46J0085

```

0087		*				N4600087
0089	P0000	6800	LIOREQ	STA	BASE	N4600089
	P0001	0081				
0090		0000	P	EQU	LHOREQ(LIOREQ)	N4600090
0091		0000	P	EQU	LAOREQ(LIOREQ)	N4600091
0092	P0002	60FF		STA-	I	N4600092
0093	P0003	8112		ADD-	BUFFER,I	N4600093
0094	P0004	6800		STA	BUFA00	N4600094
	P0005	0004				
0095	P0006	C101		LDA-	HANDLE,I	N4600095
0096	P0007	687F		STA*	EXTHAN	N4600096
0097	P0008	C102		LDA-	MSG,I	N4600097
0098	P0009	687E		STA*	EXTMSG	N4600098
0100			*		EXTRACT ORDINAL, LOCATION AND/OR BASE FROM	N4600100
0101			*		INPUT BUFFER	N4600101
0102	P000A	0A00		ENA	0	N4600102
0103	P000B	6879		STA*	COUNT	N4600103
0104	P000C	6819		STA*	9	N4600104
0105	P000D	0A02		ENA	GETFLD	N4600105
0106	P000E	0C03		ENQ	3	N4600106
0107	P000F	5C77		RTJ*	(EXTHAN)	N4600107
0108	P0010	0A05		ENA	ASCDEC	N4600108
0109	P0011	5C75		RTJ*	(EXTHAN)	N4600109
0110	P0012	0112		SAN	LI05	N4600110
0111	P0013	0C04	LI03	ENQ	4	N4600111
0112	P0014	1C73		JMP*	(EXTMSG)	N4600112
0113	P0015	5800	LI05	RTJ	ORDCHK	N4600113
	P0016	00F7				
0114	P0017	0A02		ENA	GETFLD	N4600114
0115	P0018	0C04		ENQ	4	N4600115
0116	P0019	5C6D		RTJ*	(EXTHAN)	N4600116
0117	P001A	0A03		ENA	ASCHEX	N4600117
0118	P001B	5C6B		RTJ*	(EXTHAN)	N4600118
0119	P001C	0000	L	NUM	0	N4600119
0120	P001D	C10C		LDA-	FIELD,I	N4600120
0121	P001E	09D0		INA	-SLASH	N4600121
0122	P001F	010A		SAZ	LI010	N4600122
0123	P0020	0A02		ENA	GETFLD	N4600123
0124	P0021	0C04		ENQ	4	N4600124
0125	P0022	5C64		RTJ*	(EXTHAN)	N4600125
0126	P0023	0A03		ENA	ASCHEX	N4600126
0127	P0024	5C62		RTJ*	(EXTHAN)	N4600127
0128	P0025	0000	B	NUM	0	N4600128
0129	P0026	C10C		LDA-	FIELD,I	N4600129
0130	P0027	09D0		INA	-SLASH	N4600130
0131	P0028	0101		SAZ	LI010	N4600131
0132	P0029	18E9		JMP*	LI03	N4600132
0134			*			N4600134

0185	P0057	C834	LDA*	TEMP		N4600185	
0186	P0058	0154	SQN	AS10		N4600186	
0187	P0059	0FC8	ALS	8	PUT CHAR. INTO HI-8-BIT AND INSERT SPACE IN	N4600187	
0188	P005A	0920	INA	\$20	LOW-8-BIT	N4600188	
0189	P005B	0C01	ENQ	1		N4600189	
0190	P005C	1805	JMP*	AS12		N4600190	
0191	P005D	C82F	LDA*	CHAR	RECALL HI-8-BIT (DELETE SPACE)	N4600191	
0192	P005E	8028	EOR-	ONEBIT+5		N4600192	
0193	P005F	B82C	EOR*	TEMP	AND INSERT CURRENT CHAR.	N4600193	
0194	P0060	0C00	ENQ	0		N4600194	
0195	P0061	4828	STQ*	ASMHIL	SAVE CHAR. POSITION FLAG (0=HI-8)	N4600195	
0196	P0062	682A	STA*	CHAR		N4600196	
0197	P0063	E821	LDQ*	COUNT		N4600197	
0198	P0064	6A00	STA	INPDAT,Q	SAVE INPUT TEXT	N4600198	
	P0065	00A8					
0199	P0066	E823	LDQ*	ASMHIL	CHECK IF UP DATE STORAGE POINTER IS NEEDED	N4600199	
0200	P0067	0151	SQN	AS15	NO, SKIP	N4600200	
0201	P0068	D81C	RAO*	COUNT		N4600201	
0202	P0069	E821	LDQ*	HILO	RECALL INPUT TEXT BYTE POSITION FLAG AND	N4600202	
0203	P006A	18DD	JMP*	AS2	REPEAT	N4600203	
0204			*			N4600204	
0205	P006B	C81E	AS18	LDA*	ASMHIL	UPDATE INPUT TEXT COUNT IF NEEDED	N4600205
0206	P006C	0101	SAZ	AS20		N4600206	
0207	P006D	D817	RAO*	COUNT		N4600207	
0208	P006E	1856	AS20	JMP*	CONFRM	TO PRINT DATA AND REQUEST CONFIRM	N4600208
0210			*		1. DECIMAL DATA	N4600210	
0211	P006F	0A02	DECDAT	ENA	GETFLD	GET INPUT DATA	N4600211
0212	P0070	0C06	ENQ	6		N4600212	
0213	P0071	5C15	RTJ*	(EXTHAN)		N4600213	
0214	P0072	0A05	ENA	ASCDEC	CONVERT TO DEC.	N4600214	
0215	P0073	5C13	RTJ*	(EXTHAN)		N4600215	
0216	P0074	E810	LDQ*	COUNT		N4600216	
0217	P0075	6A00	STA	INPDAT,Q	SAVE INPUT DATA	N4600217	
	P0076	0097					
0218	P0077	D80D	RAO*	COUNT	BUMP STORAGE INDEX BY 1	N4600218	
0219	P0078	E80A	LDQ*	BASE		N4600219	
0220	P0079	C20C	LDA-	FIELD,Q	CHECK IF END OF TEXT	N4600220	
0221	P007A	B00A	EOR-	LPMSK+8		N4600221	
0222	P007B	0111	SAN	DEC3		N4600222	
0223	P007C	1848	JMP*	CONFRM	NO MORE DATA, TO PRINT	N4600223	
0224	P007D	C20C	DEC3	LDA-	FIELD,Q	CHECK FOR COMMA	N4600224
0225	P007E	09D3	INA	-COMMA		N4600225	
0226	P007F	0101	SAZ	DEC7		N4600226	
0227	P0080	1892	DEC5	JMP*	LIO3	FORMAT ERROR, GO	N4600227
0228	P0081	18ED	DEC7	JMP*	DECDAT	TO REPEAT	N4600228
0230			*		S T O R A G E	N4600230	
0231	P0082	0000	BASE	NUM	0	N4600231	
0232	P0083	0000	ASTCH	NUM	0	N4600232	
0233	P0084	0000	COUNT	NUM	0	N4600233	
0234	P0085	0000	LIOLC	NUM	0	N4600234	

0235 P0086 0000 EXTHAN NUM 0
 0236 P0087 0000 EXTMSG NUM 0
 0237 P0088 0000 PROTYP NUM 0
 0238 P0089 0000 ASMHIL NUM 0
 0239 P008A 0000 HILO NUM 0
 0240 P008B 0000 TEMP NUM 0
 0241 P008C 0000 CHAR NUM 0
 0242 P008D 0000 MAXL NUM 0

LENGTH OF ORDINAL

N4600235
 N4600236
 N4600237
 N4600238
 N4600239
 N4600240
 N4600241
 N4600242

0244 P008E 0A00
 0245 P008F 68F3
 0246 P0090 68FA
 0247 P0091 0AC2
 0248 P0092 DC04
 0249 P0093 5CF2
 0250 P0094 0A03
 0251 P0095 5CF0
 0252 P0096 0000

* HEXDAT ENA 0 0. HEX. DATA

STA* ASTCH
 STA* TEMP
 HEX2 ENA GETFLD GET INPUT DATA
 ENQ 4
 RTJ* (EXTHAN)
 ENA ASCHEX CONVERT TO HEX.
 RTJ* (EXTHAN)
 HEXNUM NUM 0

N4600244
 N4600245
 N4600246
 N4600247
 N4600248
 N4600249
 N4600250
 N4600251
 N4600252
 N4600253
 N4600254

**** TERMINATORS CAN BE (1) COMMA,
 * (2) ASTERISK
 * (3) "NULL"
 *

0259 P0097 C10C
 0260 P0098 09D3
 0261 P0099 0101
 0262 P009A 181D
 0263 P009B C8E7
 0264 P009C 011A
 0265 P009D C8F8
 0266 P009E E8E5
 0267 P009F 6A00

RAO* COUNT
 LDA- FIELD,I CHECK FOR COMMA
 INA -COMMA
 SAZ HEX5 YES, SKIP
 JMP* HEX20
 HEX5 LDA* ASTCH IS ASTERISK SET
 SAN HEX10
 LDA* HEXNUM RECALL DATA AND SAVE
 HEX6 LDQ* COUNT
 STA INPDAT,Q

N4600255
 N4600256
 N4600257
 N4600258
 N4600259
 N4600260
 N4600261
 N4600262
 N4600263
 N4600264
 N4600265
 N4600266
 N4600267

0268 P00A0 006D
 0269 P00A1 D8E2
 0270 P00A2 C10C
 0271 P00A3 B00A
 0272 P00A4 C111
 0273 P00A5 181F
 0274 P00A6 18E7

RAO* COUNT
 LDA- FIELD,I CHECK FOR END OF TEXT
 EOR- LPMSK+8
 SAN HEX8
 JMP* CONFRM TO PRINT AND REQUEST FOR CONFIRMATION
 JMP* HEXDAT
 HEX8 *****
 * ASTERISK ENCOUNTERED, 2 CASES CAN BE HAPPENED
 * (1) HEX. NO. FOLLOWS ASTERISK, OR
 * (2) NO., *, AND NO.
 *

N4600268
 N4600269
 N4600270
 N4600271
 N4600272
 N4600273
 N4600274
 N4600275
 N4600276
 N4600277

0278 P00A7 C8E3
 0279 P00A8 0114
 0280 P00A9 C8EC
 0281 P00AA 98DA
 0282 P00AB 98D8
 0283 P00AC 18F1
 0284
 0285 P00AD C8E8

HEX10 LDA* TEMP
 SAN HEX12 SKIP ON HEX. PROCDED *
 LDA* HEXNUM FOR ** * HEX**= HEX. DATA - CURRENT LOC.
 SUB* LIOLOC
 SUB* COUNT
 JMP* HEX6
 *
 HEX12 LDA* HEXNUM GENERATE LAST 8 BITS (ADDRESSING)

N4600278
 N4600279
 N4600280
 N4600281
 N4600282
 N4600283
 N4600284
 N4600285

0286	P00AE	98D6	SUB*	LIOLC	HEX. NO. - CURRENT LOC	N4600286
0287	P00AF	98D4	SUB*	COUNT		N4600287
0288	P00B0	A00A	AND-	LPMSK+8		N4600288
0289	P00B1	68E4	STA*	HEXNUM		N4600289
0290	P00B2	C8D8	LDA*	TEMP	GET COMMAND AND SHIF) IT TO H-8-BIT	N4600290
0291	P00B3	0FC8	ALS	8		N4600291
0292	P00B4	A01A	AND-	NZERO+8		N4600292
0293	P00B5	B8E0	EOR*	HEXNUM	INSERT LOCATION	N4600293
0294	P00B6	18E7	JMP*	HEX6		N4600294
0295			*			N4600295
0296			****	DELIMITER IS NOT COMMA		N4600296
0297			*			N4600297
0298	P00B7	0902	HEX20	INA -ASTRIC+COMMA	CHECK FOR ASTERISK	N4600298
0299	P00B8	0116	SAN	HEX28	NOT COMMA AND ASTERISK, SKIP	N4600299
0300	P00B9	C8C9	HEX22	LDA*	ASTCH	MAKE SURE IT IS NOT YET ENCOUNTERED
0301	P00BA	0117	SAN	HEX29		N4600300
0302	P00BB	D8C7	HEX24	RAO*	ASTCH	N4600301
0303	P00BC	C8D9	LDA*	HEXNUM	SAVE OP-CODE	N4600302
0304	P00BD	68CD	STA*	TEMP		N4600303
0305	P00BE	18D2	JMP*	HEX2		N4600304
0306	P00BF	C10C	HEX28	LDA-	FIELD,I	N4600305
0307	P00C0	B00A	EOR-	LPMSK+8	EOT CHECK	N4600306
0308	P00C1	0101	SAZ	HEX30		N4600307
0309	P00C2	18BD	HEX29	JMP*	DEC5	N4600308
0310	P00C3	18D7	HEX30	JMP*	HEX5	N4600309
					ERROR, GO	N4600310
0312			*			N4600312
0313			*****	ALL INPUT IN, READ OVER OLD DATA FOR		N4600313
0314			*	CONFIRMATION CHECK		N4600314
0315			*			N4600315
0316	P00C4	0A09	CONFRM	ENA	FETMM	CONVERT TO WORD ADDRESSING
0317	P00C5	0C02	ENQ	2		N4600316
0318	P00C6	5CBF	RTJ*	(EXTHAN)		N4600317
0319	P00C7	003F	ADC	MSB-*		N4600318
0320	P00C8	C83E	LDA*	MSB	SET UP MSB AND LSB, SO THAN OLD DATA IS READ	N4600319
0321	P00C9	6811	STA*	LIOM	OVER FOR CONFIRMATION	N4600320
0322	P00CA	682B	STA*	LIOSM		N4600321
0323	P00CB	C83C	LDA*	LSB		N4600322
0324	P00CC	680F	STA*	LIOL		N4600323
0325	P00CD	6829	STA*	LIOSL		N4600324
0326	P00CE	5801	RTJ*	SELF		N4600325
0327	P00CF	0B00	SELF	NOP	0	N4600326
0328	P00D0	C8FE	LDA*	SELF		N4600327
0329	P00D1	090E	INA	LIORT-SELF	GENERATE RETURN ADD.	N4600328
0330	P00D2	6803	STA*	LIOE		N4600329
0331	P00D3	54F4	RTJ-	(AMONI)		N4600330
0332	P00D4	0207	LIOCD	ADC	\$200+CHRSLV	READ
0333	P00D5	0000	LIOE	NUM	0	RETURN (FILLED)
0334	P00D6	0000	NUM	0		THREAD
0335	P00D7	C8C2	ADC	MASSLU		LU (LIB. UNIT)
0336	P00D8	0028	ADC	N040		SIZE

```

0337 P00D9 00C0 BUFADD NUM 0
0338 P00DA 0000 LIOM NUM 0
0339 P00DB 0000 LIOL NUM 0
0340 P00DC 14EA JMP- (ADISP)
*
0341
0342 P00DD 0163 LIORT SQP XFOK
0343 P00DE E8A3 XFER LDQ* BASE
0344 P00DF E204 LDQ- IOERR,Q
0345 P00E0 1622 JMP- (ZERO),Q
0346 P00E1 E8A2 XFOK LDQ* COUNT
0347 P00E2 4811 STQ* LIOZ
0348 P00E3 C8A4 LDA* PROTYP
0349 P00E4 0FC8 ALS 8
0350 P00E5 0832 AAQ Q
0351 P00E6 0A0C ENA CONFM
0352 P00E7 5C9E RTJ* (EXTHAN)
0353 P00E8 0025 ADC INPDAT-*
0354 P00E9 CCEFF LDA* (BUFADD)
0355 P00EA 0103 SAZ LIOXAV
0356 P00EB E896 LIOEX LDQ* BASE
0357 P00EC E203 LDQ- SOMMOR,Q
0358 P00ED 1622 JMP- (ZERO),Q
0359 P00EE 54F4 LIOXAV RTJ- (AMONI)
0360 P00EF 0507 LIOVJ ADC $500*CHRSLV
0361 P00F0 0009 ADC LIOVX-LIOVD
0362 P00F1 0000 NUM 0
0363 P00F2 08C2 ADC MASSLU
0364 P00F3 0000 LIOZ NUM 0
0365 P00F4 001E ADC INPDAT-LIOVD
0366 P00F5 0000 LIOSM NUM 0
0367 P00F6 0000 LIOSL NUM 0
0368 P00F7 14EA JMP- (ADISP)
0369 P00F8 0161 LIOVX SQP SAVOK
0370 P00F9 18F4 JMP* XFER
0371 P00FA C810 SAVOK LDA* CORLSB
0372 P00FB 0109 SAZ GETOUT
*
0373
0374 P00FC 60FF STA- I
0375 P00FD 0C00 ENQ 0
0376 P00FE CA0F TOCORE LDA* INPDAT,Q
0377 P00FF 6722 STA- (ZERO),B
0378 P0100 0001 INQ 1
0379 P0101 0814 TRQ A
0380 P0102 9881 SUB* COUNT
0381 P0103 0101 SAZ GETOUT
0382 P0104 18F9 JMP* TOCORE
*
0383
0384 P0105 18E5 GETOUT JMP* LIOEX
*
0386
0387 P0106 0003 MSB BZS MSB(3)
0388 0107 P EQU LSB(MSB+1)
0389

```

```

BUFFER ADD. (FILLED)
MSB (FILLED)
LSB (FILLED)

NO READ ERROR, SKIP
IOERR

GET NO. OF WORDS AND INSERT DATA TYPE

TO PRINT DATA FOR CONFIRMATION

RETURN FROM CONFIRMATION CHECK
OK, WRITE (SAVE MM)
TO "SOMMOR"

WRITE
RETURN

SIZE (FILLED)

MSB (FILLED)
LSB (FILLED)

CHECK IF CORE ORDINAL
NO, SKIP

SET INDEX WITH CORE LOCATION
MOVE DATA TO CORE ORDINAL LOCATION

CHECK IF ALL DATA BEEN MOVED
YES, DONE
NO, TO REPEAT

TO EXIT --- "SOMMOR"

```

```

N4600337
N4600338
N4600339
N4600340
N4600341
N4600342
N4600343
N4600344
N4600345
N4600346
N4600347
N4600348
N4600349
N4600350
N4600351
N4600352
N4600353
N4600354
N4600355
N4600356
N4600357
N4600358
N4600359
N4600360
N4600361
N4600362
N4600363
N4600364
N4600365
N4600366
N4600367
N4600368
N4600369
N4600370
N4600371
N4600372
N4600373
N4600374
N4600375
N4600376
N4600377
N4600378
N4600379
N4600380
N4600381
N4600382
N4600383
N4600384
N4600386
N4600387
N4600388
N4600389

```

0398	P0109	0000	ORD10	NUM	0	N4600390
0391	P010A	0000	CORLSB	NUM	0	N4600391
0392	P010B	0000	CORDIR	NUM	0	N4600392
0393	P010C	0060	NO96ST	NUM	96	N4600393

0395			*			N4600395
0396			*****	*****	SYSTEM DIRECTORY ORDINAL CHECK	N4600396
0397			*			N4600397
0398	P010D	0860	ORDCHK	NOP	0	N4600398
0399		010D	P	EQU	INPDAT(ORDCHK)	N4600399
0400			*		ENTRY	N4600400
0401			*			N4600401
0402			*		*****	N4600402
0403			*		NOTED THAT THIS SECTION OF CODE WILL	N4600403
					BECOME BUFFER -- NAME "INPDAT"	N4600404
0404	P010E	68FA	STA*	ORD10	SAVE ORDINAL NO.	N4600405
0405	P010F	0C00	ENQ	0	ZERO OUT CORE ORDINAL FLAG	N4600406
0406	P0110	48FA	STQ*	CORDIR		N4600407
0407	P0111	48F4	STQ*	MSB		

0409			*			N4600409
0410			*	-----	FOR MM DIRECTORY PROCESSING	N4600410
0411			*			N4600411
0412	P0112	C0E6	ORDM	LDA-	CSYLEN	N4600412
0413	P0113	90F7		SUB-	CSYDIR	N4600413
0414	P0114	3005		DVI-	LPMSK+3	N4600414
0415	P0115	98F3		SUB*	ORD10	N4600415
0416	P0116	0123		SAP	ORDM2	N4600416
0417	P0117	0C08		ENQ	11	N4600417
0418	P0118	1C00		JMP	(EXTMSG)	N4600418
	P0119	FF6D				

0419			*			N4600419
0420	P011A	C8EE	ORDM2	LDA*	ORD10	N4600420
0421	P011B	09FE		INA	-1	N4600421
0422	P011C	2005		MUI-	LPMSK+3	N4600422
0423	P011D	80EB		ADD-	DIRTRY	N4600423
0424	P011E	80E7		ADD-	CSYDIR	N4600424
0425	P011F	C822		TRA	Q	N4600425
0426	P0120	C206		LDA-	5,Q	N4600426
0427	P0121	68E5		STA*	LSB	N4600427
0428	P0122	C205		LDA-	5,Q	N4600428
0429	P0123	68E2		STA*	MSB	N4600429
0430	P0124	C204		LDA-	4,Q	N4600430
0431	P0125	6800		STA	MAXL	N4600431
	P0126	FF66				
0432	P0127	1CE5		JMP*	(ORDCHK)	N4600432
					RETURN	

0434		0003	P	EQU	SA58(*/96)	N4600434
0435		0004	P	EQU	SP58(SA58+1)	N4600435

LIORFQ

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DATE: 01/27/99

0436 0180 P
0437 P0128 0058
0438

EQU DB58 (SP58*96)
BSS (DB58-*)
END

N+600436
N+600437
N+600438

PGM= 0180 (384) 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) 0092, 0169, 0172, 0374
0044	AMONI	00F4	(000244) 0331, 0359
0044	ADISP	00EA	(000234) 0340, 0368
0044	LPMSK	0002	(000002) 0151, 0178, 0180, 0221, 0270, 0288, 0307, 0414, 0422
0044	NZERO	0012	(000018) 0292
0044	ZROBIT	0033	(000051)
0045	FIVE	0043	(000067)
0045	SIX	0044	(000068)
0045	ZERO	0022	(000034) 0345, 0358, 0377
0045	ONEBIT	0023	(000035) 0192
0045	SIXTEN	0027	(000039)
0046	COMMA	002C	(000044) 0225, 0260, 0298
0046	SLASH	002F	(000047) 0121, 0130
0046	ASTRIC	002A	(000042) 0298
0047	EIGHT	0026	(000038)
0047	NINE	0045	(000069)
0047	THREE	0004	(000004)
0047	ONE	0003	(000003)
0047	TWO	0024	(000036)
0048	TEN	0046	(000070)
0049	MASK	0003	(000003)
0051	CHRSLV	0007	(000007) 0332, 0360
0052	ASMOD	1000	(004096)
0053	NO40	0028	(000040) 0336
0054	MASSLU	0802	(002242) 0335, 0363
0055	CSYLEN	00E6	(000230) 0412
0056	CSYDIR	00E7	(000231) 0413, 0424
0057	EXTBV4	00E9	(000233)
0058	DIRTRY	00E0	(000235) 0423
0061	HANDLE	0001	(000001) 0095
0062	MSG	0002	(000002) 0097
0063	SOMMOR	0003	(000003) 0357
0064	IOERR	0004	(000004) 0344
0065	LISTLU	0005	(000005)
0066	COMOLU	0006	(000006)
0067	NEWMLU	0007	(000007)
0068	PROG1	0008	(000008)
0069	PROG2	0009	(000009) 0154

0070	BITFLG	000A	(000010)	0166	
0071	BUFCNT	000B	(000011)	0168	
0072	FIELD	000C	(000012)	0120, 0129, 022u, 0224, 0259, 0269, 0306	
0073	SLASHF	0010	(000016)	0139	
0074	BUFEMT	0011	(000017)	0150	
0075	BUFFER	0012	(000018)	0093	
0078	GETFLD	0002	(000002)	0105, 0114, 0123, 0211, 0248	
0079	ASCHEX	0003	(000003)	0117, 0126, 0251	
0080	ASCDEC	0005	(000005)	0108, 0214	
0081	FETMM	0009	(000009)	0316	
0082	PNTMD	000A	(000010)		
0083	CONFM	000C	(000012)	0351	

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0039	LIOREQ	0000	0039, 0090, 0091
0040	LHOREQ	0000	0040
0041	LAOREQ	0000	0041
0111	LI03	0013	0132, 0153, 0227
0113	LI05	0015	0110
0119	L	001C	0141
0128	B	0025	0104, 0142
0137	LI010	002A	0122, 0131
0149	LI013	0037	0145
0154	LI011	003B	0152
0158	LI012	003F	0156
0160	DATPRO	0041	0159
0166	ASCDAT	0044	0162
0170	AS2	0048	0203
0173	AS4	004B	0170
0178	AS6	0051	0176
0184	AS8	0056	0181
0191	AS10	005D	0186
0195	AS12	0061	0190
0197	AS14	0063	
0202	AS15	0069	0200
0205	AS18	006B	0182
0208	AS20	006E	0206
0211	DECDAT	006F	0161, 0228
0224	DEC3	007D	0222
0227	DEC5	0080	0309
0228	DEC7	0081	0226
0231	BASE	0082	0089, 0219, 0343, 0356
0232	ASTCH	0083	0137, 0246, 0263, 0300, 0302
0233	COUNT	0084	0103, 0140, 0197, 0201, 0207, 0216, 0218, 0266, 0268, 0282, 0287, 0346, 0380
0234	LI0LOC	0085	0143, 0281, 0286
0235	EXTHAN	0086	0096, 0107, 0109, 0116, 0118, 0125, 0127, 0213, 0215, 0250, 0252, 0318, 0352
0236	EXTMSG	0087	0098, 0112, 0148, 0418
0237	PROTYP	0088	0158, 0348
0238	ASMHIL	0089	0138, 0184, 0195, 0199, 0205
0239	HILO	008A	0167, 0175, 0202
0240	TEMP	008B	0179, 0185, 0193, 0247, 0278, 0290, 0304
0241	CHAR	008C	0191, 0196
0242	MAXL	008D	0145, 0431
0245	HEXDAT	008E	0160, 0273
0248	HEX2	0091	0305

0253	HEXNUM	0096	0265, 0280, 0285, 0289, 0293, 0303
0263	HEX5	009B	0261, 0310
0266	HEX6	009E	0283, 0294
0273	HEX8	00A6	0271
0278	HEX10	00A7	0264
0285	HEX12	00AD	0279
0298	HEX20	00B7	0262
0300	HEX22	00B9	
0302	HEX24	00BB	
0306	HEX28	00BF	0299
0309	HEX29	00C2	0301
0310	HEX30	00C3	0308
0316	CONFIRM	00C4	0208, 0223, 0272
0327	SELF	00CF	0326, 0328, 0329
0332	LIOCD	00D4	
0333	LIOE	00D5	0330
0337	BUFADD	00D9	0094, 0174, 0354
0338	LIOM	00DA	0321
0339	LIOL	00DB	0324
0342	LIORT	00DD	0329
0343	XFER	00DE	0370
0346	XFOK	00E1	0342
0356	LIOEX	00EB	0384
0359	LIOHAV	00EE	0355
0360	LIOVD	00EF	0361, 0365
0364	LIOZ	00F3	0347
0366	LIOSM	00F5	0322
0367	LIOVL	00F6	0325
0369	LIOVX	00F8	0361
0371	SAVOK	00FA	0369
0376	TOCORE	00FE	0382
0384	GETOUT	0105	0372, 0381
0387	MSB	0106	0144, 0319, 0320, 0388, 0407, 0429
0388	LSB	0107	0323, 0427
0390	ORD10	0109	0404, 0415, 0420
0391	CORLSB	010A	0371
0392	CORDIR	010B	0406
0393	NO96ST	010C	
0398	ORDCHK	010D	0113, 0399, 0432
0399	INPDAT	010D	0198, 0217, 0267, 0353, 0365, 0376
0412	ORDM	0112	
0420	ORDM2	011A	0416
0434	SA58	0003	0435
0435	SP58	0004	0436
0436	DB58	0180	0437


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0046      0043      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N4700046
          0044
          0022
          0023
0047      0027      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)      N4700047
          002C
          002F
          002A
0048      0026      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N4700048
          0026
          0045
          0004
          0003
          0024
0049      0046      EQU TEN($46)      N4700049
0050      0003      EQU MASK(3)      ONE BIT MASK      N4700050

0052      0007      EQU CHRSLV(7)      LEVEL OF THIS PROGRAM      116*4360*****
0053      1000      EQU ASMOD($1000)      OUTPUT ASC MODE      N4700053
0054      08C2      EQU MASSLU($8C2)      LIB. MASS MEMORY UNIT      N4700054
0055      0028      EQU NO40(40)      BUFFER SIZE      N4700055
0056      0018      EQU COMLHM(24)      COMMAND "LHM" INDEX      N4700056
0057      001D      EQU COMLIM(29)      COMMAND "LIM" INDEX      N4700057

          *      PARAMETER LOCATION (OFFSET FROM BASE)
0059      0001      EQU HANDLE(1)      "HANDLE"      N4700059
0060      0002      EQU MSG(2)      "MSG" ENTRY      N4700060
0061      0003      EQU SOMMOR(3)      "SOMMOR" ENTRY      N4700061
0062      0004      EQU IOERR(4)      "IOERR" ENTRY      N4700062
0063      0005      EQU LISTLU(5)      LIST OUTPUT --- "LISTLU"      N4700063
0064      0006      EQU COMOLU(6)      "COMOLU"      N4700064
0065      0007      EQU NEWMLU(7)      "NEWMLU" --- NEW MM LU      N4700065
0066      0008      EQU PROG1(8)      "PROG1"      N4700066
0067      0009      EQU PROG2(9)      "PROG2"      N4700067
0068      000A      EQU BITFLG(10)      "BITFLG"      N4700068
0069      000B      EQU BUFCNT(11)      "BUFCNT"      N4700069
0070      000C      EQU FIELD(12)      "FIELD"      N4700070
0071      0010      EQU SLASHF(16)      "SLASHF"      N4700071
0072      0011      EQU BUFEMT(17)      "BUFEMT"      N4700072
0073      0012      EQU BUFFER(18)      "BUFFER"      N4700073
0074

          *      SUBROUTINE "EQU" POINTERS
0076      0002      EQU GETFLD(2)      "GETFLD"      N4700076
0077      0003      EQU ASCHEX(3)      "ASCHEX"      N4700077
0078      0005      EQU ASCDEC(5)      "ASCDEC"      N4700078
0079      0009      EQU FETMM(9)      'FETMM' --- GET MM ADDRESS      N4700079
0080      000A      EQU PNTMD(10)      "PNTMD" --- PRINT BOTH CORE AND MM DATA      N4700080
0081      000C      EQU CONFM(12)      'CONFM' -- PRINT NEW + OLD DATA FOR CONFIRM      N4700081
0082

          *      *****      PROGRAM START      *****
0084      *****      N4700084
0085      *****      N4700085

```

0086

*

N4700086

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0088 P0000 686B LAMREQ STA* BASE
0089 0000 P EQU LHMREQ(LAMREQ)
0090 0000 P EQU LIMREQ(LAMREQ)
0091 P0001 80FF STA- I
0092 P0002 8112 ADD- BUFFER, I
0093 P0003 685C STA* BUFADD
0094 P0004 C101 LDA- HANDLE, I
0095 P0005 6867 STA* EXTHAN
0096 P0006 C102 LDA- MSG, I
0097 P0007 6866 STA* EXTMSG

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N4700088
N4700089
N4700090
N4700091
N4700092
N4700093
N4700094
N4700095
N4700096
N4700097

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0099 P0008 C107 LDA- NEWMLU, I GET LU
0100 P0009 6800 STA LIOZ-1

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N4700099
N4700100

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0101 P000B 6852 STA* MLU
0102 P000C 6859 STA* MSB AND SET UP FOR SIZE CHECK
0103 P000D 0A09 ENA FETMM GET MM ADDRESS
0104 P000E 0C01 ENQ 1
0105 P000F 5C5D RTJ* (EXTHAN)
0106 P0010 0055 ADC MSB-*
0107 P0011 C10C LDA- FIELD, I CHECK FOR SLASH ( '/' )
0108 P0012 09D0 INA -SLASH
0109 P0013 C102 SAZ LAM5
0110 P0014 0C04 LA1 ENQ 4 FORMAT ERROR
0111 P0015 1C58 JMP* (EXTMSG)

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N4700101
N4700102
N4700103
N4700104
N4700105
N4700106
N4700107
N4700108
N4700109
N4700110
N4700111

```

0113 *
0114 ***** ADDRESS DATA IN, GET INPUT DATA ACCORINGLY
0115 *

```

N4700113
N4700114
N4700115
N4700116
N4700117
N4700118
N4700119
N4700120
N4700121
N4700122
N4700123
N4700124
N4700125
N4700126
N4700127
N4700128

```

0116 P0016 684E LAM5 STA* COUNT
0117 P0017 6857 STA* ASMHIL
0118 P0018 6110 STA- SLASHF, I
0119 P0019 684A STA* PROTYP
0120 P001A C109 LDA- PROG2, I CHECK FOR "LHM"
0121 P001B 09E7 INA -COMLHM
0122 P001C 0111 SAN NOTLHM SKIP, NOT "LHM"
0123 P001D 1868 JMP* HEXJAT TO HEX. DATA PROCESSING
0124 P001E D845 RAO* PROTYP SET TO DECIMAL TYPE
0125 P001F 09FA INA -COMLIM+COMLHM CHECK FOR "LIM"
0126 P0020 0111 SAN LHMX NO, SKIP
0127 P0021 1851 JMP* DECDAT TO PROCESS DECIMAL DATA
0128 *****

```

```

0130 *
0131 P0022 D841 LHM5 RAO* PROTYP 2. ASCII DATA PROCESSING
0132 P0023 E10A ASCDAT LDQ- BITFLG, I SET TO ASCII DATA
0133 P0024 484B STQ* HILO GET BYTE POSITION FLAG AND BUFFER POINTER
0134 P0025 C10B LDA- BUFCNT, I

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N4700130
N4700131
N4700132
N4700133
N4700134

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0135 P0026 60FF STA- I
0136 P0027 0142 AS2 SQZ AS4 SKIP, NO ADVANCE CHARACTER IS NEEDED
0137 P0028 0CFE ENQ -1
0138 P0029 00FF RAO- I
0139 P002A 0D01 AS4 INQ 1
0140 P002B CD34 LDA* (BUFADD),I GET INPUT TEXT WORD
0141 P002C 4843 STQ* HILO
0142 P002D 0151 SQN AS6
0143 P002E 0F48 ARS 8
0144 P002F A00A AS6 AND- LPMSK+8 ISOLATE CHARACTER
0145 P0030 683A STA* TEMP CHECK FOR EOT (END OF TEXT)
0146 P0031 B00A EOR- LPMSK+8 NO, SKIP
0147 P0032 9111 SAN AS8
0148 P0033 1816 JMP* AS18
0149 *
0150 P0034 E83A AS8 LDQ* ASMHIL PUT CHARACTER INTO POSITION
0151 P0035 C835 LDA* TEMP
0152 P0036 0154 SQN AS10
0153 P0037 0FC8 ALS 8 PUT CHAR. INTO HI-8-BIT AND INSERT SPACE IN
0154 P0038 0920 INA $20 LOW-8-BIT
0155 P0039 0CC1 ENQ 1
0156 P003A 1805 JMP* AS12
0157 P003B C835 AS10 LDA* CHAR RECALL HI-8-BIT (DELETE SPACE)
0158 P003C B028 EOR- ONEBIT+5
0159 P003D B82D EOR* TEMP AND INSERT CURRENT CHAR.
0160 P003F 0C00 ENQ 0
0161 P003F 482F AS12 STQ* ASMHIL SAVE CHAR. POSITION FLAG (0=HI-8)
0162 P0040 6830 STA* CHAR
0163 P0041 E823 AS14 LDQ* COUNT
0164 P0042 6A00 STA INPDAT,Q SAVE INPUT TEXT
0165 P0043 0095
0166 P0044 E82A LDQ* ASMHIL
0167 P0045 0151 SQN AS15 SKIP IF NO NEEDED TO ADVANCE STORAGE POINTER
0168 P0046 081E RAO* COUNT
0169 P0047 E828 AS15 LDQ* HILO RECALL INPUT TEXT BYTE POSITION FLAG AND
0170 P0048 18DE JMP* AS2 REPEAT
0171 P0049 C825 AS18 LDA* ASMHIL UPDATE INPUT TEXT COUNT IF NEEDED
0172 P004A 0101 SAZ AS20
0173 P004B 0819 RAO* COUNT

* PRINT DATA AND REQUEST FOR CONFIRMATION
0175 P004C C819 AS20 LDA* MSB SET UP MSB AND LSB, SO THAN OLD DATA IS READ
0176 P004C 004C EQU CONFRM(AS20)
0177 P004D 6813 STA* LIOM OVER FOR CONFIRMATION
0178 P004E 6800 STA LIOSM
0179 P004F 0083

0180 P0050 C816 LDA* LSB
0181 P0051 6810 STA* LIOL
0182 P0052 6800 STA LIOSL
0183 P0053 0080
0183 P0054 5801 RTJ* SELF

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0184	P0055	0000	SELF	NOP	0				N4700184
0185	P0056	C8FE		LDA*	SELF				N4700185
0186	P0057	0965		INA	LIORT-SELF	GENERATE RETURN ADD.			N4700186
0187	P0058	5803		STA*	LIOE				N4700187
0188	P0059	54F4		RTJ-	(AMONI)				N4700188
0189	P005A	0207	LIOCD	ADC	\$200+CHRSLV	READ			N4700189
0190	P005B	0000	LIOE	NUM	0	RETURN (FILLED)			N4700190
0191	P005C	0000		NUM	0	THREAD			N4700191
0192	P005D	08C2	MLU	ADC	MASSLU	LU (LIB. UNIT)			N4700192
0193	P005E	0028		ADC	N040	SIZE			N4700193
0194	P005F	0000	BUFA0D	NUM	0	BUFFER ADD. (FILLED)			N4700194
0195	P0060	0000	LIOM	NUM	0	MSB (FILLED)			N4700195
0196	P0061	0000	LIOL	NUM	0	LSB (FILLED)			N4700196
0197	P0062	14EA		JMP-	(ADISP)				N4700197

0199			*			S T O R A G E			N4700199
0200	P0063	0000	PROTYP	NUM	0				N4700200
0201	P0064	0000	COUNT	NUM	0				N4700201
0202	P0065	0005	MSB	BZS	MSB(5)				N4700202
0203		0066	P	EQU	LSB(MSB+1)				N4700203
0204		0069	P	EQU	SW(MSB+4)				N4700204
0205	P006A	0000	TEMP	NUM	0				N4700205
0206	P006B	0000	BASE	NUM	0				N4700206
0207	P006C	0000	EXTHAN	NUM	0				N4700207
0208	P006D	0000	EXTMSG	NUM	0				N4700208
0209	P006E	0000	ASMHIL	NUM	0				N4700209
0210	P006F	0000	HILO	NUM	0				N4700210
0211	P0070	0000	CHAR	NUM	0				N4700211
0212	P0071	0000	ASTCH	NUM	0				N4700212

0214			*			1. DECIMAL DATA			N4700214
0215	P0072	0A02	DECDAT	ENA	GETFLD	GET INPUT DATA			N4700215
0216	P0073	0C06		ENQ	6				N4700216
0217	P0074	5CF7		RTJ*	(EXTHAN)				N4700217
0218	P0075	0A05		ENA	ASCDEC	CONVERT TO DEC.			N4700218
0219	P0076	5CF5		RTJ*	(EXTHAN)				N4700219
0220	P0077	E8EC		LDQ*	COUNT				N4700220
0221	P0078	6A00		STA	INPDAT,Q	SAVE INPUT DATA			N4700221
0222	P0079	005F							N4700222
0223	P007A	D8E9		RAO*	COUNT	BUMP STORAGE INDEX BY 1			N4700223
0224	P007B	E8EF		LDQ*	BASE				N4700224
0225	P007C	C20C		LDA-	FIELD,Q	CHECK IF END OF TEXT			N4700225
0226	P007D	B00A		EOR-	LPMSK+8				N4700226
0227	P007E	C111		SAN	DEC3				N4700227
0228	P007F	18CC		JMP*	CONFRM	NO MORE DATA, TO PRINT			N4700228
0229	P0080	C20C	DEC3	LDA-	FIELD,Q	CHECK FOR COMMA			N4700229
0230	P0081	09D3		INA	-COMMA				N4700230
0231	P0082	0101		SAZ	DEC7				N4700231
0232	P0083	1890	DEC5	JMP*	LA1	FORMAT ERROR, GO			N4700232
0233	P0084	18ED	DEC7	JMP*	DECDAT	TO REPEAT			N4700233


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0234      *
0235 P0085 0A00  HEXDAT ENA 0
0236 P0086 68EA  STA* ASTCH
0237 P0087 68E2  STA* TEMP
0238 P0088 0A02  HEX2  ENA GETFLD GET INPUT DATA
0239 P0089 0C04  ENQ 4
0240 P008A 5CE1  RTJ* (EXTHAN)
0241 P008B 0A03  ENA ASCHEX CONVERT TO HEX.
0242 P008C 5CDF  RTJ* (EXTHAN)
0243 P008D 0000  HEXNUM NUM 0
0244 *
0245 ***** TERMINATORS CAN BE (1) COMMA,
0246 * (2) ASTERISK
0247 * (3) "NULL"
0248 *
0249 P008E C10C  LDA- FIELD,I CHECK FOR COMMA
0250 P008F 09D3  INA -COMMA
0251 P0090 0101  SAZ HEX5 YES, SKIP
0252 P0091 181C  JMP* HEX20
0253 P0092 C8DE  HEX5  LDA* ASTCH IS ASTERISK SET
0254 P0093 0119  SAN HEX10
0255 P0094 C8F8  LDA* HEXNUM RECALL DATA AND SAVE
0256 P0095 E8CE  HEX6  LDQ* COUNT
0257 P0096 5A42  STA* INPDAT, Q
0258 P0097 D8CC  RAO* COUNT
0259 P0098 C10C  LDA- FIELD,I CHECK FOR END OF TEXT
0260 P0099 B00A  EOR- LPMSK+8
0261 P009A G111  SAN HEX8
0262 P009B 18B0  JMP* CONFIRM TO PRINT AND REQUEST FOR CONFIRMATION
0263 P009C 18E8  HEX8  JMP* HEXDAT
0264 *
0265 ***** ASTERISK ENCOUNTERED, 2 CASES CAN BE HAPPENED
0266 * (1) HEX. NO. FOLLOWS ASTERISK, OR
0267 * (2) NO., *, AND NO.
0268 P009D C8CC  HEX10 LDA* TEMP
0269 P009E 0114  SAN HEX12 SKIP ON HEX. PROCEEDED *
0270 P009F C8ED  LDA* HEXNUM FOR " * HEX"= HEX. DATA - CURRENT LOC.
0271 P00A0 98C8  SUB* SW
0272 P00A1 98C2  SUB* COUNT
0273 P00A2 18F2  JMP* HEX6
0274 *
0275 P00A3 C8E9  HEX12 LDA* HEXNUM GENERATE LAST 8 BITS (ADDRESSING)
0276 P00A4 98C4  SUB* SW HEX. NO. - CURRENT LOC
0277 P00A5 98BE  SUB* COUNT
0278 P00A6 A00A  AND- LPMSK+8
0279 P00A7 68E5  STA* HEXNUM
0280 P00A8 C8C1  LDA* TEMP GET COMMAND AND SHIF) IT TO H-8-BIT
0281 P00A9 0FC8  ALS 3
0282 P00AA A01A  AND- NZERO+8
0283 P00AB B8F1  EOR* HEXNUM INSERT LOCATION
0284 P00AC 18E8  JMP* HEX6
0285 *
0286 ***** DELIMITER IS NOT COMMA

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0287		*					N4700287
0288	P00AD	0902	HEX20	INA	-ASTRIC+COMMA	CHECK FOR ASTERISK	N4700288
0289	P00AF	0116		SAN	HEX28	NOT COMMA AND ASTERISK, SKIP	N4700289
0290	P00AF	C8C1	HEX22	LDA*	ASTCH	MAKE SURE IT IS NOT YET ENCOUNTERED	N4700290
0291	P00B0	0117		SAN	HEX29		N4700291
0292	P00B1	D8BF	HEX24	RAO*	ASTCH		N4700292
0293	P00B2	C8DA		LDA*	HEXNUM	SAVE OP-CODE	N4700293
0294	P00B3	68B6		STA*	TEMP		N4700294
0295	P00B4	18D3		JMP*	HEX2		N4700295
0296	P00B5	C10C	HEX28	LDA-	FIELD,I		N4700296
0297	P00B6	800A		EOR-	LPMSK+8	EOT CHECK	N4700297
0298	P00B7	0101		SAZ	HEX30		N4700298
0299	P00B8	18CA	HEX29	JMP*	DEC5	ERROR, GO	N4700299
0300	P00B9	18D8	HEX30	JMP*	HEX5		N4700300
0302			*				N4700302
0303	P00BA	0163	LIORT	SQP	XFOK	NO READ ERROR, SKIP	N4700303
0304	P00BB	E8AF	XFER	LDQ*	BASE	IOERR	N4700304
0305	P00BC	E204		LDQ-	IOERR,Q		N4700305
0306	P00BD	1622		JMP-	(ZERO),Q		N4700306
0307	P00BE	E8A5	XFOK	LDQ*	COUNT	TO PRINT DATA FOR CONFIRMATION CHECK	N4700307
0308	P00BF	4811		STQ*	LIOZ	SET UP SIZE	N4700308
0309	P00C0	C3A2		LDA*	PROTYP	SET UP DATA TYPE	N4700309
0310	P00C1	0FC8		ALS	8		N4700310
0311	P00C2	0832		AAQ	Q		N4700311
0312	P00C3	0A0C		ENA	CONFM		N4700312
0313	P00C4	5CA7		RTJ*	(EXTHAN)		N4700313
0314	P00C5	0013		ADC	INPDAT-*		N4700314
0315	P00C6	CC98		LDA*	(BUFADD)	RETURN FROM CONFIRMATION CHECK	N4700315
0316	P00C7	0103		SAZ	LIO SAV	OK, WRITE (SAVE MM)	N4700316
0317	P00C8	E8A2	LIOEX	LDQ*	BASE	TO "SOMMOR"	N4700317
0318	P00C9	E203		LDQ-	SOMMOR,Q		N4700318
0319	P00CA	1622		JMP-	(ZERO),Q		N4700319
0321			*			SAVE DATA IN MASS MEMORY	N4700321
0322	P00CB	54F4	LIO SAV	RTJ-	(AMONI)		N4700322
0323	P00CC	0507	LIOVD	ADC	\$500+CHRSLV	WRITE	N4700323
0324	P00CD	0009		ADC	LIOVX-LIOVD	RETURN	N4700324
0325	P00CE	0000		NUM	0		N4700325
0326	P00CF	08C2		ADC	MASSLU		N4700326
0327	P00D0	0000	LIOZ	NUM	0	SIZE (FILLED)	N4700327
0328	P00D1	000C		ADC	INPDAT-LIOVD		N4700328
0329	P00D2	0000	LIOSM	NUM	0	MSB (FILLED)	N4700329
0330	P00D3	0000	LIO SL	NUM	0	LSB (FILLED)	N4700330
0331	P00D4	14EA		JMP-	(ADISP)		N4700331
0332	P00D5	0161	LIOVX	SQP	SAVOK		N4700332
0333	P00D6	18E4		JMP*	XFER		N4700333
0334	P00D7	18F0	SAVOK	JMP*	LIOEX		N4700334
0336			*				N4700336
0337	P00D8	0028	INPDAT	BZS	INPDAT(N040)		N4700337

0339 *
0340 0002 P
0341 0003 P
0342 0120 P
0343 P0100 0020
0344

EQU SA62(* /96)
EQU SP62(SA62+1)
EQU DB62(SP62*96)
BSS (DB62-*)
END

N4700339
N4700340
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N4700344

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0091, 0135, 0138
0045	AMONI	00F4	(000244) 0188, 0322
0045	ADISP	00EA	(000234) 0197, 0331
0045	LPMSK	0002	(000002) 0144, 0146, 0225, 0260, 0278, 0297
0045	NZERO	0012	(000018) 0282
0045	ZROBIT	0033	(000051)
0046	FIVE	0043	(000067)
0046	SIX	0044	(000068)
0046	ZERO	0022	(000034) 0306, 0319
0046	ONEBIT	0023	(000035) 0158
0046	SIXTEN	0027	(000039)
0047	COMMA	002C	(000044) 0229, 0250, 0283
0047	SLASH	002F	(000047) 0108
0047	ASTRIC	002A	(000042) 0288
0048	EIGHT	0026	(000038)
0048	NINE	0045	(000069)
0048	THREE	0004	(000004)
0048	ONE	0003	(000003)
0048	TWO	0024	(000036)
0049	TEN	0046	(000070)
0050	MASK	0003	(000003)
0052	CHRSLV	0007	(000007) 0189, 0323
0053	ASMOD	1000	(004095)
0054	MASSLU	08C2	(002242) 0192, 0326
0055	NO40	0028	(000040) 0193, 0337
0056	COMLHM	0018	(000024) 0121, 0125
0057	COMLIM	0010	(000029) 0125
0060	HANDLE	0001	(000001) 0094
0061	MSG	0002	(000002) 0096
0062	SOMMOR	0003	(000003) 0318
0063	IOERR	0004	(000004) 0305
0064	LISTLU	0005	(000005)
0065	COMOLU	0006	(000006)
0066	NEWMLU	0007	(000007) 0099
0067	PROG1	0008	(000008)
0068	PROG2	0009	(000009) 0120
0069	BITFLG	000A	(000010) 0132
0070	BUFCNT	000B	(000011) 0134

0071	FIELD	000C	(000012)	0107, 0224, 0228, 0249, 0259, 0296
0072	SLASHF	0010	(000016)	0118
0073	BUFEMT	0011	(000017)	
0074	BUFFER	0012	(000018)	0092
0077	GETFLD	0002	(000002)	0215, 0238
0078	ASCHEX	0003	(000003)	0241
0079	ASCDEC	0005	(000005)	0218
0080	FTMM	0009	(000009)	0103
0081	PNTMD	000A	(000010)	
0082	CONFM	000C	(000012)	0312

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0040	LAMREQ	0000	0040, 0089, 0090
0041	LHMREQ	0000	0041
0042	LIMREQ	0000	0042
0110	LA1	0014	0231
0116	LAM5	0016	0109
0124	NOTLHM	001E	0122
0131	LHMx	0022	0126
0132	ASCDAT	0023	
0136	AS2	0027	0169
0139	AS4	002A	0136
0144	AS6	002F	0142
0150	AS8	0034	0147
0157	AS10	003B	0152
0161	AS12	003F	0156
0163	AS14	0041	
0168	AS15	0047	0166
0171	AS18	0049	0148
0176	AS20	004C	0172, 0177
0177	CONFRM	004C	0227, 0262
0184	SELF	0055	0183, 0185, 0186
0189	LIOCD	005A	
0190	LIOE	005B	0187
0192	MLU	005D	0101
0194	BUFADD	005F	0093, 0140, 0315
0195	LIOM	0060	0178
0196	LIOL	0061	0181
0200	PROTYP	0063	0119, 0124, 0131, 0309
0201	CCUNT	0064	0116, 0163, 0167, 0173, 0220, 0222, 0256, 0258, 0272, 0277, 0307
0202	MSB	0065	0102, 0106, 0176, 0203, 0204
0203	LSB	0066	0180
0204	SW	0069	0271, 0276
0205	TEMP	006A	0145, 0151, 0159, 0237, 0268, 0280, 0294
0206	BASE	006B	0088, 0223, 0304, 0317
0207	EXTHAN	006C	0095, 0105, 0217, 0219, 0240, 0242, 0313
0208	EXTMSG	006D	0097, 0111
0209	ASMHIL	006E	0117, 0150, 0161, 0165, 0171
0210	HIL0	006F	0133, 0141, 0168
0211	CHAR	0070	0157, 0162
0212	ASTCH	0071	0236, 0253, 0290, 0292
0215	DECDAT	0072	0127, 0232
0228	DEC3	0080	0226

02331 DEC5 0083
02332 DEC7 0084
02335 HEXDAT 0085
02338 HEX2 0088
02437 HEXNUM 0080
02553 HEX5 0092
02556 HEX6 0095
02633 HEX8 009C
02688 HEX10 0090
02755 HEX12 00A3
02888 HEX20 00AD
02990 HEX22 00AF
02992 HEX24 00B1
02996 HEX28 00B5
02999 HEX29 00B8
03000 HEX30 00B9
03003 LIORT 00BA
03004 XFER 00BB
03007 XFOK 00BE
03017 LIOEX 00C8
03022 LIOSAV 00CB
03223 LIOVD 00CC
03227 LIOZ 00D0
03229 LIO SM 00D2
03300 LIO SL 00D3
0332 LIO VX 00D5
0334 SAVOK 00D7
0337 INPDAT 00D8
0340 SA62 00E2
0341 SP62 00E3
0342 DB62 0120

0299 0299
0230 0230
0123, 0263 0123, 0263
0295 0295
0255, 0270, 0275, 0279, 0283, 0293 0255, 0270, 0275, 0279, 0283, 0293
0251, 0300 0251, 0300
0273, 0284 0273, 0284
0261 0261
0254 0254
0269 0269
0252 0252

0289 0289
0291 0291
0298 0298
0186 0186
0333 0333
0303 0303
0334 0334
0316 0316
0324, 0328 0324, 0328
0100, 0308 0100, 0308
0179 0179
0182 0182
0324 0324
0332 0332
0164, 0221, 0257, 0314, 0328 0164, 0221, 0257, 0314, 0328
0341 0341
0342 0342
0343 0343


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0043      002C      EQU  COMMA ($2C),SLASH($2F),ASTRIC ($2A)                N4800043
          002F
          002A
0044      0026      EQU  EIGHT ($26),NINE ($45),THREE (4),ONE (3),TWO ($24)    N4800044
          0045
          0004
          0003
          0024
0045      0046      EQU  TEN ($46)                                           N4800045
0046      0003      EQU  MASK (3)      ONE BIT MASK                          N4800046

0048      0007      EQU  CHRSLV (7)      LEVEL OF THIS PROGRAM            116*4360*****
0049      0024      EQU  LNWD36(36)      36WORDS/LINE                      N4800049
0050      1000      EQU  ASMDD($1000)    ASC OUTPUT MODE                    N4800050
0051      08C2      EQU  MASSLU($8C2)    MASS MEMORY LU                   N4800051
0052      0708      EQU  FLOATZ(1800)    SIZE OF FLOATING POINT PACKAGE    N4800052
0053      00E9      EQU  EXTBV4($E9)
0054      0002      EQU  WRDLN(2)      2 DATA VALUES PER LINE           N4800053
                                          N4800054

*          SUBROUTINE "EQU"  POINTERS                                     N4800056
0056      0002      EQU  GETFLD(2)      "GETFLD"                            N4800057
0057      0003      EQU  ASCHEX(3)      "ASCHEX"                            N4800058
0058      0005      EQU  ASCDEC(5)      "ASCDEC"                            N4800059
0059      002E      EQU  KARPER($2E)    CHARACTER = .                      N4800060
0060      0045      EQU  KARE($45)
                                          N4800061

*          PARAMETER LOCATION (OFFSET FROM BASE)                         N4800063
0063      0001      EQU  BHANI(1)      "HANDLE"                            N4800064
0064      0002      EQU  BMSG(2)      "MSG" ENTRY                          N4800065
0065      0003      EQU  SOMMOR(3)     "SOMMOR" ENTRY                       N4800066
0066      0004      EQU  IOERR(4)     "IOERR" ENTRY                         N4800067
0067      0005      EQU  LISTLU(5)    LIST OUTPUT --- "LISTLU"           N4800068
0068      0006      EQU  COMOLU(6)    "COMOLU"                            N4800069
0069      0007      EQU  NEWMLU(7)    "NEWMLU" --- NEW MM LU             N4800070
0070      0008      EQU  PROG1(8)     "PROG1"                            N4800071
0071      0009      EQU  PROG2(9)     "PROG2"                            N4800072
0072      000A      EQU  BITFLG(10)   "BITFLG"                            N4800073
0073      000B      EQU  BUFCNT(11)   "BUFCNT"                            N4800074
0074      000C      EQU  FIELD(12)    "FIELD"                            N4800075
0075      0010      EQU  SLASHF(16)   "SLASHF"                            N4800076
0076      0011      EQU  BUFEMT(17)  "BUFEMT"                            N4800077
0077      0012      EQU  BUFFER(18)  "BUFFER"                            N4800078

0080      *          *          *          *          *          *          *          *          *          *          *          *          *          *          *          *
0081      *****          PROGRAM          START          *****
0082      *

0084      P0000 687D      DDPREQ STA* BASE                                  N4800084
0085      P0001 60FF      STA- I                                          N4800085

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0086 P0002 8112
 0087 P0003 6800
 P0004 00E1
 0088 P0005 6874
 0089 P0006 C101
 0090 P0007 6874
 0091 P0008 881B
 0092 P0009 9819
 0093 P000A 6800
 P000B 00E2
 0094 P000C C102
 0095 P000D 686D
 0096 P000E C105
 0097 P000F 8815
 0098 P0010 6800
 P0011 00D2

ADD- BUFFER, I
 STA BUFADD
 STA* DATLOC
 LDA- BHAN, I
 STA* EXTHAN
 ADD* OTB+1
 SUB* OTB
 STA EXTOFF
 LDA- BMSG, I
 STA* EXTMSG
 LDA- LISTLU, I
 ADD* MODE
 STA OTLU

CALCULATE "BUFFER" ADD.
 GET "HANDLE" ADDRESS
 CALCULATE "OFF" ADDRESS
 FETCH "MSG" ADDRESS

N4800086
 N4800087
 N4800088
 N4800089
 N4800090
 N4800091
 N4800092
 N4800093
 N4800094
 N4800095
 N4800096
 N4800097
 N4800098

0100
 0101 P0012 0A00
 0102 P0013 6869
 0103 P0014 C0F5
 0104 P0015 686B
 0105 P0016 0A02
 0106 P0017 0C04
 0107 P0018 5C63
 0108 P0019 C10C
 0109 P001A 010A
 0110 P001B 900A
 0111 P001C 0108
 0112 P001D 800A
 0113 P001E 09D3
 0114 P001F 0105
 0115
 0116 P0020 0C04
 0117 P0021 1C59

*
 ENA 0
 STA* COUNT
 LDA- \$F5
 STA* MAX
 ENA GETFLD
 ENQ 4
 RTJ* (EXTHAN)
 LDA- FIELD, I
 SAZ DSP5
 SUB- LPMSK+8
 SAZ DSP5
 ADD- LPMSK+8
 INA -COMMA
 SAZ DSP5
 *
 DSP3 ENQ 4
 JMP* (EXTMSG)

GET ALL CORE ADDRESSES
 HIGHEST CORE LOCATION USED BY SYSTEM
 GET A FIELD (CORE LOC.)
 CHECK IF EMPTY
 IS END OF TEXT
 IS COMMA
 INCORRECT FORMAT,

N4800100
 N4800101
 N4800102
 N4800103
 N4800104
 N4800105
 N4800106
 N4800107
 N4800108
 N4800109
 N4800110
 N4800111
 N4800112
 N4800113
 N4800114
 N4800115
 N4800116
 N4800117

0119
 0120 P0022 7FFF X
 0121 P0023 7FFF X
 0122 P0024 1000
 0123
 0124 P0025 0A03
 0125 P0026 5C55
 0126 P0027 0000
 0127 P0028 E854
 0128 P0029 C8FD
 0129 P002A 6A7B
 0130 P002B D851
 0131 P002C 5800
 P002D C0CB
 0132 P002E 18F1
 0133 P002F E84D

*
 OTB ADC HANDLE
 ADC OFF
 MODE ADC ASMOD
 *
 DSP5 ENA ASCHEX
 RTJ* (EXTHAN)
 DSPVA NUM 0
 LDQ* COUNT
 LDA* DSPVA
 STA* DSPLOC, Q
 RAO* COUNT
 RTJ CORADK
 *
 JMP* DSP3
 LDQ* COUNT

0. "HANDLE" ENTRY
 1. "OFF" ENTRY
 ASC OUTPUT MODE
 CONVERT TO HEX
 STORE LOCATION ACCORDINGLY
 TO CHECK IF CORE LOC. WITHIN LIMIT
 ERROR, GO

N4800119
 N4800120
 N4800121
 N4800122
 N4800123
 N4800124
 N4800125
 N4800126
 N4800127
 N4800128
 N4800129
 N4800130
 N4800131
 N4800132
 N4800133

0134	P0030	0DFC	INQ	-3	CHECK IF DONE	N+800134
0135	P0031	0141	SQZ	DSP10		N+800135
0136	P0032	18E3	JMP*	DSP1	NO, REPEAT	N+800136
0138			*			N+800138
0139			***		ADJUST ADDRESSES IF NEEDED	N+800139
0140			*			N+800140
0141	P0033	C1111	DSP10	LDA-	BUFEMT,I	N+800141
0142	P0034	B012		EOR-	LPMSK+16	N+800142
0143	P0035	0101		SAZ	DSP11	N+800143
0144	P0036	18E9		JMP*	DSP3	N+800144
0145	P0037	C86F	DSP11	LDA*	DSPLOC+1	N+800145
0146	P0038	986D		SUB*	DSPLOC	N+800146
0147	P0039	0121		SAP	DSP12	N+800147
0148	P003A	18E5		JMP*	DSP3	N+800148
0149			*			N+800149
0150	P003B	C86A	DSP12	LDA*	DSPLOC	N+800150
0151	P003C	886B		ADD*	DSPLOC+2	N+800151
0152	P003D	6868		STA*	DSPLOC	N+800152
0153	P003E	C868		LDA*	DSPLOC+1	N+800153
0154	P003F	8868		ADD*	DSPLOC+2	N+800154
0155	P0040	6866		STA*	DSPLOC+1	N+800155
0156			*		INSERT DATA	N+800156
0157	P0041	0844	DSP13	CLR	A	N+800157
0158	P0042	683A		STA*	COUNT	N+800158
0160			*		FILL LINE WITH SPACE	N+800160
0161	P0043	C000		LDA	=A	N+800161
	P0044	2020				
0162	P0045	0C23		ENQ	35	N+800162
0163	P0046	6E00	DSP20	STA	(BUFADD),Q	N+800163
	P0047	009E				
0164	P0048	0DFE		INQ	-1	N+800164
0165	P0049	0171		SQM	DSP22	N+800165
0166	P004A	18FB		JMP*	DSP20	N+800166
0167			*		INSERT CORE LOCATION TAG	N+800167
0168			*			N+800168
0169	P004B	C85A	DSP22	LDA*	DSPLOC	N+800169
0170	P004C	0F4C		ARS	12	N+800170
0171	P004D	5825		RTJ*	CONASC	N+800171
0172	P004E	0822		TRA	Q	N+800172
0173	P004F	0FA8		QLS	8	N+800173
0174	P0050	C855		LDA*	DSPLOC	N+800174
0175	P0051	0F48		ARS	8	N+800175
0176	P0052	5820		RTJ*	CONASC	N+800176
0177	P0053	0874		EAQ	A	N+800177
0178	P0054	6C25		STA*	(DATLOC)	N+800178
0179	P0055	C850		LDA*	DSPLOC	N+800179
0180	P0056	0F44		ARS	4	N+800180
0181	P0057	581B		RTJ*	CONASC	N+800181
0182	P0058	0822		TRA	Q	N+800182
0183	P0059	0FA8		QLS	8	N+800183

SAVE HI-2-DIGIT
 CONVERT LO-2-DIGIT OF LOC.

0184	P005A	C84B	LDA*	DSPLOC		N4800184
0185	P005B	5817	RTJ*	CONASC		N4800185
0186	P005C	0874	EAQ	A		N4800186
0187	P005D	0C01	ENQ	1		N4800187
0188	P005E	6E1B	STA*	(DATLOC),Q		N4800188
0189			*		INCREMENT DATA LOC. TO VALUE	N4800189
0190	P005F	0A04	ENA	+		N4800190
0191	P0060	8819	ADD*	DATLOC		N4800191
0192	P0061	6818	STA*	DATLOC		N4800192
0194			*			N4800194
0195			****		GET AND ASSEMBLE VALUE	N4800195
0196			*			N4800196
0197	P0062	CC43	DDP26	LDA*	(DSPLOC)	N4800197
0198	P0063	684C		STA*	VALUE	N4800198
0199	P0064	0841		RAO*	DSPLOC	N4800199
0200	P0065	CC40		LDA*	(DSPLOC)	N4800200
0201	P0066	684A		STA*	VALUE+1	N4800201
0202	P0067	D83E		RAO*	DSPLOC	N4800202
0203	P0068	CC3D		LDA*	(DSPLOC)	N4800203
0204	P0069	6848		STA*	VALUE+2	N4800204
0205	P006A	D83B		RAO*	DSPLOC	N4800205
0207			*			N4800207
0208			*****		REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE	N4800208
0209	P006B	54F4	LSP12	RTJ-	(AMONI)	N4800209
0210	P006C	1547	LSPCAL	ADC	\$1540+CHRSLV	N4800210
0211	P006D	0012		ADC	LSPACE-LSPCAL	N4800211
0212	P006E	0000		NUM	0	N4800212
0213	P006F	0000	LSP13	NUM	0	N4800213
0214	P0070	0708		ADC	FLOATZ	N4800214
0215	P0071	14EA		JMP-	(ADISP)	N4800215
0217			*			N4800217
0218			****		SUBROUTINE FOR ASSEMBLE ASCII	N4800218
0219			*			N4800219
0220	P0072	0B00	CONASC	NOP	0	N4800220
0221	P0073	A0C6		AND-	MASK+3	N4800221
0222	P0074	09F5		INA	-10	N4800222
0223	P0075	0131		SAM	DASNO	N4800223
0224	P0076	0907		INA	7	N4800224
0225	P0077	093A	DASNO	INA	\$3A	N4800225
0226	P0078	1CF9		JMP*	(CONASC)	N4800226
0228			*			N4800228
0229	P0079	0000	DATLOC	NUM	0	N4800229
0230	P007A	0000	EXTMSG	NUM	0	N4800230
0231	P007B	0000	EXTHAN	NUM	0	N4800231
0232	P007C	0000	COUNT	NUM	0	N4800232

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0233 P007D 0000 BASE NUM 0 PARAMETER ADD. N4800233
0235 * N+800235
0236 P007E 0162 LSPACE SQP LSP15 SPACE BE GRANTED, DO SOMETHING N+800236
0237 P007F 1823 JMP* DSPEIO TO ERROR (I/O ERROR) N+800237
0238 P0080 0000 MAX NUM 0 N4800238
0239 * N4800239
0240 P0081 4816 LSP15 STQ* LSP25 SET LOC. WHERE PROGRAM TO BE READ N+800240
0241 P0082 481F STQ* LSP31 N4800241
0242 P0083 482A STQ* LSP40 N4800242
0243 P0084 5801 RTJ* SELF GENERATE RETURN ADD. N4800243
0244 P0085 0800 SELF NOP 0 N4800244
0245 P0086 C8FE LDA* SELF N4800245
0246 P0087 0919 INA LSP30-SELF N4800246
0247 P0088 6808 STA* LSP24 N+800247
0248 P0089 C812 LDA* OFTB GENERATE "MMADDR" LOCATION N4800248
0249 P008A 9812 SUB* OFTB+1 N4800249
0250 P008B 88FE ADD* EXTMSG N+800250
0251 P008C 0822 TRA Q N4800251
0252 P008D C810 LDA* FLTADD GET FLOAT PACKAGE SECTOR ADD. N4800252
0253 P008E 5622 RTJ- (ZERO),Q TO 'MMADDR' FOR MM ADD. CONVERSION N4800253
0254 P008F 680A STA* LSP26 SAVE LSB N4800254
0255 P0090 4808 STQ* LSP26-1 N+800255
0256 P0091 54F4 RTJ- (AMONI) N4800256
0257 P0092 0807 LSP20 ADC $800*CHRSLV RETURN (TO BE FILLED) N4800257
0258 P0093 0000 LSP24 NUM 0 THREAD N+800258
0259 P0094 0000 NUM 0 N4800259
0260 P0095 08C2 ADC MASSLU N4800260
0261 P0096 0708 ADC FLOATZ N4800261
0262 P0097 0000 LSP25 NUM 0 FLOAT PACKAGE ADD. (TO BE FILLED) N4800262
0263 P0098 0000 NUM 0 N4800263
0264 P0099 0000 LSP26 NUM 0 SECTOR ADD. (TO BE FILLED) N4800264
0265 P009A 14FA JMP- (ADISP) N4800265

0267 * N4800267
0268 P009B 7FFF X OFTB ADC MMADDR 0. "MMADDR" N+800268
0269 P009C 7FFF X ADC MSG 1. "MSG" N4800269
0270 P009D 7FFF X FLTADD ADC DCONV D- OR F-FORMAT CONVERSION FOR DOUBLE N4800270

0272 * N4800272
0273 P009E 0169 LSP30 SQP LSP35 MM TRANSFER OK, SKIP N+800273
0274 P009F 54F4 RTJ- (AMONI) RELEASE CORE N4800274
0275 P00A0 1800 NUM $1800 N+800275
0276 P00A1 0000 LSP31 NUM 0 N4800276
0277 P00A2 E8DA DSPEIO LDQ# BASE EXIT TO "IOERR" N4800277
0278 P00A3 E204 LDQ- IOERR,Q EXIT TO "IOERR" N4800278
0279 P00A4 1622 JMP- (ZERO),Q N4800279
0280 P00A5 0003 DSPLOC BZS DSPLOC(3) N4800280
0281 * N4800281
0282 ***** FLOAT PACKAGE IS IN CORE, CONVERT NO. N4800282
0283 * N4800283

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0284	P00A8	0C01	LSP35	ENQ	1				N4800284
0285	P00A9	5CC5		RTJ*	(LSP13)				N4800285
0286	P00AA	0005		ADC	VALUE-*				N4800286
0287	P00AB	54F4	LSP37	RTJ-	(AMONI)	RELEASE CORE			N4800287
0288	P00AC	1800		NUM	\$1800				N4800288
0289	P00AD	0000	LSP40	NUM	0	ADD. (TO BE FILLED)			N4800289
0290	P00AE	1819		JMP*	DSP100				N4800290
0292			*			STORAGE AND/OR CONSTANTS			N4800292
0293	P00AF	0018	VALUE	BZS	VALUE(24)				N4800293
0295			*			INSERT INTEGER INTO OUTPUT FORMAT			N4800295
0296			*****						N4800296
0297			*						N4800297
0298	P00C7	0C00	DSP100	ENQ	0				N4800298
0299	P00C8	CAE9	DSP101	LDA*	VALUE+3,Q				N4800299
0300	P00C9	0FC8		ALS	8				N4800300
0301	P00CA	8AE8		ADD*	VALUE+4,Q				N4800301
0302	P00CB	6CAD		STA*	(DATLOC)				N4800302
0303	P00CC	D8AC		RAO*	DATLOC				N4800303
0304	P00CD	0002		INQ	2				N4800304
0305	P00CE	0814		TRQ	A				N4800305
0306	P00CF	09EB		INA	-20				N4800306
0307	P00D0	0121		SAP	DSP102	DONE SKIP			N4800307
0308	P00D1	18F6		JMP*	DSP101	TO REPEAT ASSEMBLE OUTPUT DATA			N4800308
0309	P00D2	D8A6	DSP102	RAO*	DATLOC				N4800309
0310	P00D3	D8A5		RAO*	DATLOC				N4800310
0312			*			CHECK IF LINE EXHAUSTED			N4800312
0313	P00D4	D8A7		RAO*	COUNT				N4800313
0314	P00D5	C8A6		LDA*	COUNT				N4800314
0315	P00D6	09FD		INA	-WRDLN				N4800315
0316	P00D7	0104		SAZ	DSP105				N4800316
0317			*			CHECK IF DATA EXHAUSTED			N4800317
0318	P00D8	C8CD		LDA*	DSPLOC+1				N4800318
0319	P00D9	98CB		SUB*	DSPLOC				N4800319
0320	P00DA	0131		SAM	DSP105	DATA EXHAUSTED, TO PRINT			N4800320
0321	P00DB	1886		JMP*	DDP26				N4800321
0323			*			PRINT DATA			N4800323
0324			*****						N4800324
0325			*						N4800325
0326	P00DC	C8A8	DSP105	LDA*	SELF				N4800326
0327	P00DD	0962		INA	DSPRET-SELF				N4800327

0328	P00DE	68 03	STA*	DSPX		N4800328
0329	P00DF	54F4	RTJ-	(AMONI)	CALL MONITOR	N4800329
0330	P00E0	0C07	ADC	\$C00+CH RSLV		N4800330
0331	P00E1	0000	DSPX	NUM 0	EXIT (TO BE FILLED)	N4800331
0332	P00E2	0000	NUM	0		N4800332
0333	P00E3	0000	OTLU	NUM 0	LU (TO BE FILLED)	N4800333
0334	P00E4	0024	ADC	LNWD36		N4800334
0335	P00E5	00C0	BUFADD	NUM 0	"BUFFER" ADD.	N4800335
0336	P00E6	14EA	JMP-	(ADISP)		N4800336
0338			*		RETURN FROM OUTPUT	N4800338
0339	P00E7	0161	DSPRET	SQP DSPOK		N4800339
0340	P00E8	18B9	JMP*	DSPEIO	TO "IOERR" ERROR EXIT	N4800340
0341			*			N4800341
0342	P00E9	C400	DSPOK	LDA CHRSG	CHECK IF "DX"	N4800342
	P00EA	7FFF	X			
0343	P00EB	0112		SAN DSPREP	NO, SKIP	N4800343
0344	P00EC	1C01	JMP*	(EXTOFF)	EXIT TO "OFF"	N4800344
0345	P00ED	0000	EXTOFF	NUM 0	"OFF" ADDRESS	N4800345
0346			*			N4800346
0347	P00EE	C8B7	DSPREP	LDA* DSPLOC+1	CHECK IF ALL DATA EXHAUSTED	N4800347
0348	P00EF	98B5	SUB*	DSPLOC		N4800348
0349	P00F0	0134	SAM	DSPDON		N4800349
0350	P00F1	C8F3	LDA*	BUFADD	RESTORE BUFFER ADD. AND REPEAT	N4800350
0351	P00F2	6886	STA*	DATLOC		N4800351
0352	P00F3	1800	JMP	DSP19		N4800352
	P00F4	FF4C				
0353			*		D O N E ----- E X I T	N4800353
0354	P00F5	E887	DSPDON	LDQ* BASE		N4800354
0355	P00F6	E203	LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N4800355
0356	P00F7	1622	JMP-	(ZERO),Q		N4800356
0358			***		CHECK ADDRESSES TO BE WITHIN 32K	N4800358
0359			*			N4800359
0360	P00F8	0B00	CORADK	NOP 0	ENTRY	N4800360
0361	P00F9	E9E9	LDQ-	EXTBV4	GET 32K/65K FLAG (32K=0, 65K=1)	N4800361
0362	P00FA	E622	LDQ-	(ZERO),Q		N4800362
0363	P00FB	0155	SQN	AD65	SKIP ON 65K	N4800363
0364	P00FC	0133	SAM	AD32EX	ERROR, OVER 32K	N4800364
0365	P00FD	9882	SUB*	MAX		N4800365
0366	P00FE	0138	SAM	AD65EX		N4800366
0367	P00FF	0107	SAZ	AD65EX		N4800367
0368	P0100	1CF7	AD32EX	JMP* (CORADK)	RETURN	N4800368
0370			***		CHECK TO BE WITHIN 65K OR LESS	N4800370
0371	P0101	0125	AD65	SAP AD65EX	SKIP FOR 32K OR SO	N4800371
0372	P0102	9800	SUB	MAX		N4800372
	P0103	FF7C				
0373	P0104	C132	SAM	AD65EX	OK, SKIP	N4800373

0374 P0105 0101
0375 P0106 18F9
0376 P0107 08F0
0377 P0108 1CEF

AD65EX

SAZ AD65EX
JMP* AD32EX
RAO* CORADK
JMP* (CORADK)

OK, SKIP
ERROR, GO
SET NORMAL EXIT
NORMAL RETURN

N+800374
N+800375
N+800376
N+800377

0379
0380 0002 P
0381 0003 P
0382 0120 P
0383 P0109 0017
0384

*

EQU SA39(* /96)
EQU SP39(SA39+1)
EQU DB39(SP39*96)
BSS (DB39-*)
END

N+800379
N+800380
N+800381
N+800382
N+800383
N+800384

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAMF	VALUE	REFERENCED AT LINE NUMBER
0000	I	03FF (000255)	0085
0041	AMONI	00F4 (000244)	0209, 0256, 0274, 0287, 0329
0041	ADISP	00EA (000234)	0215, 0265, 0336
0041	LPMSK	0002 (000002)	0110, 0112, 0142
0041	NZERO	0012 (000018)	
0041	ZROBIT	0033 (000051)	
0042	FIVE	0043 (000067)	
0042	SIX	0044 (000068)	
0042	ZERO	0022 (000034)	0253, 0279, 0356, 0362
0042	ONEBIT	0023 (000035)	
0042	SIXTEN	0027 (000039)	
0043	COMMA	0020 (000044)	0113
0043	SLASH	002F (000047)	
0043	ASTRIC	002A (000042)	
0044	EIGHT	0026 (000038)	
0044	NINE	0045 (000069)	
0044	THREE	0004 (000004)	
0044	ONE	0003 (000003)	
0044	TWO	0024 (000036)	
0045	TEN	0046 (000070)	
0046	MASK	0003 (000003)	0221
0048	CHRSLV	0007 (000007)	0210, 0257, 0330
0049	LNWD36	0024 (000036)	0334
0050	ASMOD	1000 (004096)	0122
0051	MASSLU	0802 (002242)	0260
0052	FLOATZ	0708 (001800)	0214, 0261
0053	EXTBV4	00E9 (000233)	0361
0054	WRDLN	0002 (000002)	0315
0057	GETFLD	0002 (000002)	0105
0058	ASCHEX	0003 (000003)	0124
0059	ASCDEC	0005 (000005)	
0060	KARPER	002E (000046)	
0061	KARE	0045 (000069)	
0064	BHAN	0001 (000001)	0089
0065	BMSG	0002 (000002)	0094
0066	SOMMOR	0003 (000003)	0355
0067	IOERR	0004 (000004)	0278
0068	LISTLU	0005 (000005)	0096

0069	COMOLU	0006	(000006)	
0070	NEWMLU	0007	(000007)	
0071	PROG1	0008	(000008)	
0072	PROG2	0009	(000009)	
0073	BITFLG	000A	(000010)	
0074	BUFCNT	000B	(000011)	
0075	FIELD	000C	(000012)	0108
0076	SLASHF	0010	(000016)	
0077	BUFEMT	0011	(000017)	0141
0078	BUFFER	0012	(000018)	0086

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0029	DDPREQ	0000	0029
0105	DSP1	0016	0136
0116	DSP3	0020	0132, 0144, 0148
0120	OTB	0022	0091, 0092
0122	MODE	0024	0097
0124	DSP5	0025	0109, 0111, 0114
0126	DSPVA	0027	0128
0141	DSP10	0033	0135
0145	DSP11	0037	0143
0150	DSP12	0038	0147
0157	DSP19	0041	0332
0163	DSP20	0046	0166
0169	DSP22	0048	0165
0197	DSP26	0062	0321
0209	LSP12	006B	
0210	LSPCAL	006C	
0213	LSP13	006F	0211
0220	CONASC	0072	0285
0225	DASNO	0077	0171, 0176, 0181, 0185, 0226
0229	DATLOC	0079	0223
0230	EXTMSG	007A	0088, 0178, 0188, 0191, 0192, 0302, 0303, 0309, 0310, 0351
0231	EXTHAN	007B	0095, 0117, 0250
0232	COUNT	007C	0090, 0107, 0125
0233	BASE	007D	0102, 0127, 0130, 0133, 0158, 0313, 0314
0236	LSPACE	007E	0084, 0277, 0354
0238	MAX	0080	0211
0240	LSP15	0081	0104, 0365, 0372
0244	SELF	0085	0236
0257	LSP20	0092	0243, 0245, 0246, 0326, 0327
0258	LSP24	0093	0247
0262	LSP25	0097	0240
0264	LSP26	0099	0254, 0255
0268	OFTB	009B	0248, 0249
0270	FLTADD	009D	0252
0273	LSP30	009E	0246
0276	LSP31	00A1	0241
0277	DSPPEIO	00A2	0237, 0340
0280	DSPLOC	00A5	0129, 0145, 0146, 0150, 0151, 0152, 0153, 0154, 0155, 0169, 0174, 0179, 0184, 0197, 0199, 0200
0284	LSP35	00A8	0202, 0203, 0205, 0318, 0319, 0347, 0348
0287	LSP37	00AB	0273

0289	LSP40	00AD	0242
0293	VALUE	00AF	0198, 0201, 0204, 0286, 0299, 0301
0298	DSP100	00C7	0290
0299	DSP101	00C8	0308
0309	DSP102	00D2	0307
0326	DSP105	00DC	0316, 0320
0331	DSPX	00E1	0328
0333	OTLU	00E3	0098
0335	BUFA00	00E5	0087, 0163, 0350
0339	DSPRET	00E7	0327
0342	DSPOK	00E9	0339
0345	EXTOFF	00ED	0093, 0344
0347	DSPREP	00EE	0343
0354	DSPDON	00F5	0349
0360	CORADK	00F8	0131, 0368, 0376, 0377
0368	AD32EX	0100	0364, 0375
0371	AD65	0101	0363
0376	AD65EX	0107	0366, 0367, 0371, 0373, 0374
0380	SA39	0002	0381
0381	SP39	0003	0382
0382	DB39	0120	0383

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0032	NMADDR	009B	0268
0033	MSG	009C	0269
0035	DCONV	009D	0270
0036	HANDLE	0022	0120
0037	OFF	0023	0121
0038	CHRSFG	00EA	0342

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0368	AD65	0371	AD65EX	0376	ADISP	0041	AMONI	0041	ASCDEC	0059	ASCHEX	0058	ASMOD	0050	ASTRIC	0043
BASE	0233	BHAN	0064	BITFLG	0073	BMSG	0065	BUFADD	0335	BUFCNT	0074	BUFEMT	0077	BUFFER	0078	CHRSFG	0038
CHRSLV	0048	COMMA	0043	COMOLU	0069	CONASC	0220	CORADK	0360	COUNT	0232	DASNO	0225	DATLOC	0229	DB39	0382
DCONV	0035	DDP26	0197	DDPREQ	0029	DSP1	0105	DSP10	0141	DSP100	0298	DSP101	0299	DSP102	0309	DSP105	0326
DSP11	0145	DSP12	0150	DSP19	0157	DSP20	0163	DSP22	0169	DSP3	0116	DSP5	0124	DSPDON	0354	DSPPEIO	0277
DSPLOC	0280	DSPOK	0342	DSPREP	0347	DSPRET	0339	DSPVA	0126	DSPX	0331	EIGHT	0044	EXTBV4	0053	EXTHAN	0231
EXTMSG	0230	EXTOFF	0345	FIELD	0075	FIVE	0042	FLOATZ	0052	FLTADD	0270	GETFLD	0057	HANDLE	0036	I	0000
IOERR	0067	KARE	0061	KARPER	0060	LISTLU	0068	LNWD36	0049	LPMSK	0041	LSP12	0209	LSP13	0213	LSP15	0240
LSP20	0257	LSP24	0258	LSP25	0262	LSP26	0264	LSP30	0273	LSP31	0276	LSP35	0284	LSP37	0287	LSP40	0289
LSPACE	0236	LSPCAL	0210	MASK	0046	MASSLU	0051	MAX	0238	MMADDR	0032	MODE	0122	MSG	0033	NEWMLU	0070
NINE	0044	NZERO	0041	OFF	0037	OFTB	0268	ONE	0044	ONEBIT	0042	OTB	0120	OTLU	0333	PROG1	0071
PROG2	0072	SA39	0380	SELF	0244	SIX	0042	SIXTEN	0042	SLASH	0043	SLASHF	0076	SOMMOR	0066	SP39	0381
TEN	0045	THREE	0044	TWO	0044	VALUE	0293	WRDLN	0054	ZERO	0042	ZROBIT	0041				

0084	P0006	0C04	ENQ	4	SET 4 CHAR. MAX.	N4900084
0085	P0007	0A02	ENA	GETFLD	GET STARTING LOC.	N4900085
0086	P0008	5C52	RTJ*	(EXTHAN)		N4900086
0087	P0009	0A03	ENA	ASCHEX	CONVERT TO HEX	N4900087
0088	P000A	5C50	RTJ*	(EXTHAN)		N4900088
0089	P000B	0000	LSPLOC	NUM 0		N4900089
0090			*		CHECK IF BASE ADDRESS USED.	N4900090
0091			*		CONTROL CHAR. = SLASH, BASE IS UNUSED	N4900091
0092	P000C	C10C	LDA-	FIELD,I	IS CONTROL CHAR. = SLASH	N4900092
0093	P000D	09D0	INA	-SLASH		N4900093
0094	P000E	0111	SAN	LSP2	NO, GET BASE	N4900094
0095	P000F	1811	JMP*	LSP10		N4900095
0096			*			N4900096
0097	P0010	0A02	LSP2	ENA	GETFLD	N4900097
0098	P0011	0C04	ENQ	4	GET BASE	N4900098
0099	P0012	5C48	RTJ*	(EXTHAN)		N4900099
0100	P0013	0A03	ENA	ASCHEX	CONVERT TO HEX.	N4900100
0101	P0014	5C46	RTJ*	(EXTHAN)		N4900101
0102	P0015	0000	LSPBAS	NUM 0		N4900102
0103	P0016	C8FE	LDA*	LSPBAS	ADDRESS = START LOC. + BASE	N4900103
0104	P0017	88F3	ADD*	LSPLOC		N4900104
0105	P0018	68F2	STA*	LSPLOC		N4900105
0107			*		CHECK FOR FORMAT ---- CONTROL CHAR = SLASH	N4900107
0108	P0019	C840	LDA*	BASE		N4900108
0109	P001A	60FF	STA-	I		N4900109
0110	P001B	C10C	LDA-	FIELD,I	IS CONTROL CHAR. = SLASH	N4900110
0111	P001C	09D0	INA	-SLASH		N4900111
0112	P001D	0102	SAZ	LSP10		N4900112
0113	P001E	0C04	LER	ENQ	4	N4900113
0114	P001F	1C3C	JMP*	(EXTMSG)	TO PRINT FORMAT INCORRECT MESSAGE	N4900114
0116			*			N4900116
0117			****		TO OBTAIN SINGLE PRECISION VALUE	N4900117
0118			*			N4900118
0119	P0020	6110	LSP10	STA-	SLASHF,I	N4900119
0120	P0021	683B	STA*	COUNT		N4900120
0121	P0022	00F5	LDA-	SF5	HIGHEST CORE LOCATION USED BY SYSTEM	N4900121
0122	P0023	683A	STA*	MAX		N4900122
0123	P0024	C8E6	LDA*	LSPLOC	TO CHECK CORE ADD.	N4900123
0124	P0025	685C	STA*	CORLOC		N4900124
0125	P0026	585C	RTJ*	CORADK	TO CHECK IF CORE LOC. WITHIN LIMIT	N4900125
0126	P0027	18F6	JMP*	LER	ERROR, GO	N4900126
0127	P0028	0C0C	LSP11	ENQ	12	N4900127
0128	P0029	0A08	ENA	GETINT	SET 12 DIGITS ARE MAX.	N4900128
0129	P002A	5C30	RTJ*	(EXTHAN)	GET DECODE SINGLE/DOUBLE PRECISION	N4900129
0130	P002B	0067	ADC	VALUE-*		N4900130
0132			*			N4900132
0133			****		REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE	N4900133
0134	P002C	54F4	LSP12	RTJ-	(AMONI)	N4900134

0135	P002D	1547	LSPCAL	ADC	\$1540+CHRSLV				N+900135
0136	P002E	0006		ADC	LSPACE-LSPCAL				N+900136
0137	P002F	0000		NUM	0				N+900137
0138	P0030	0000	LSP13	NUM	0	CORE LOCATION OF REQUESTED SPACE			N+900138
0139	P0031	C708		ADC	FLOATZ				N+900139
0140	P0032	14EA		JMP-	(ADISP)				N+900140
0141			*						N+900141
0142	P0033	0161	LSPACE	SQP	LSP15	SPACE BE GRANTED, DO SOMETHING			N+900142
0143	P0034	1822		JMP*	LSP32	TO ERROR (I/O ERROR)			N+900143
0144			*						N+900144
0145	P0035	4816	LSP15	STQ*	LSP25	SET LOC. WHERE PROGRAM TO BE READ			N+900145
0146	P0036	481F		STQ*	LSP31				N+900146
0147	P0037	482C		STQ*	LSP40				N+900147
0148	P0038	5801		RTJ*	SELF	GENERATE RETURN ADD.			N+900148
0149	P0039	0800	SELF	NOP	0				N+900149
0150	P003A	C8FE		LDA*	SELF				N+900150
0151	P003B	0919		INA	LSP30-SELF				N+900151
0152	P003C	680B		STA*	LSP24				N+900152
0153	P003D	C812		LDA*	OFTB	GENERATE "MMADDR" LOCATION			N+900153
0154	P003E	9812		SUB*	OFTB+1				N+900154
0155	P003F	881C		ADD*	EXTMSG				N+900155
0156	P0040	0822		TRA	Q				N+900156
0157	P0041	C810		LDA*	FLTADD	GET FLOAT PACKAGE SECTOR ADD.			N+900157
0158	P0042	5622		RTJ-	(ZERO),Q	TO "MMADDR" FOR MM ADD. CONVERSION			N+900158
0159	P0043	680A		STA*	LSP26	SAVE LSB			N+900159
0160	P0044	4808		STQ*	LSP26-1				N+900160
0161	P0045	54F4		RTJ-	(AMONI)				N+900161
0162	P0046	0807	LSP20	ADC	\$800+CHRSLV				N+900162
0163	P0047	0000	LSP24	NUM	J	RETURN (TO BE FILLED)			N+900163
0164	P0048	0000		NUM	J	THREAD			N+900164
0165	P0049	08C2		ADC	MASSLU				N+900165
0166	P004A	0708		ADC	FLOATZ				N+900166
0167	P004B	0000	LSP25	NUM	0	FLOAT PACKAGE ADD. (TO BE FILLED)			N+900167
0168	P004C	0000		NUM	0				N+900168
0169	P004D	0000	LSP26	NUM	0	SECTOR ADD. (TO BE FILLED)			N+900169
0170	P004E	14EA		JMP-	(ADISP)				N+900170
0171			*						N+900171
0172									N+900172
0173	P004F	7FFF	X	OFTB	ADC	MMADDR	0. "MMADDR"		N+900173
0174	P0050	7FFF	X		ADC	MSG	1. "MSG"		N+900174
0175	P0051	7FFF	X	FLTADD	ADC	DCONV	SECTOR ADD. OF "FLOAT" PACKAGE (DOUBLE)		N+900175
0176									N+900176
0177			*						N+900177
0178	P0052	0168	LSP30	SQP	LSP35	MM TRANSFER OK, SKIP			N+900178
0179	P0053	54F4		RTJ-	(AMONI)	RELEASE CORE			N+900179
0180	P0054	1800		NUM	\$1800				N+900180
0181	P0055	0000	LSP31	NUM	0				N+900181
0182	P0056	E803	LSP32	LDQ*	BASE				N+900182
0183	P0057	E204		LDQ-	IOERR,Q	EXIT TO "IOERR"			N+900183
0184	P0058	1622		JMP-	(ZERO),Q				N+900184
0185			*						N+900185
0186						CONSTANTS OR STORAGE LOC.			N+900186

0187	P0059	0000	BASE	NUM	0	PARAMETER BASE ADD.	N4900187
0188	P005A	0000	EXTHAN	NUM	0	"HANDLE" ADD.	N4900188
0189	P005B	0000	EXTMSG	NUM	0	"MSG" ADD.	N4900189
0190	P005C	0000	COUNT	NUM	0	NO. OF INPUT VALUES	N4900190
0191	P005D	0000	MAX	NUM	0		N4900191
0192			*				N4900192
0193			*****			FLOAT PACKAGE IS IN CORE, CONVERT NO.	N4900193
0194			*				N4900194
0195	P005E	0C00	LSP35	ENQ	0		N4900195
0196	P005F	5C00		RTJ*	(LSP13)		N4900196
0197	P0060	0032		ADC	VALUE-*		N4900197
0198	P0061	54F4	LSP37	RTJ-	(AMONI)	RELEASE CORE	N4900198
0199	P0062	1800		NUM	\$1800		N4900199
0200	P0063	0000	LSP40	NUM	0	ADD. (TO BE FILLED)	N4900200
0201	P0064	E8F7		LDQ*	COUNT		N4900201
0202	P0065	C83F		LDA*	VALUE+18	SAVE FLOATING POINT VALUES IN TEMPORARY	N4900202
0203	P0066	6A42		STA*	TEMP,Q		N4900203
0204	P0067	C83E		LDA*	VALUE+19		N4900204
0205	P0068	6A41		STA*	TEMP+1,Q		N4900205
0206	P0069	C83D		LDA*	VALUE+20		N4900206
0207	P006A	6A40		STA*	TEMP+2,Q		N4900207
0208	P006B	D8F0		RAO*	COUNT	UPDATE STORAGE COUNT BY 3	N4900208
0209	P006C	D8EF		RAO*	COUNT		N4900209
0210	P006D	D8EF		RAO*	COUNT		N4900210
0211			*			CHECK IF ALL INPUT TEXT BEED PROCESSED	N4900211
0212	P006E	C8FA		LDA*	BASE		N4900212
0213	P006F	60FF		STA-	I		N4900213
0214	P0070	C111		LDA-	BUFEMT,I		N4900214
0215	P0071	0131		SAM	LSP50	DONE, SKIP	N4900215
0216	P0072	18B5		JMP*	LSP11	TO REPEAT	N4900216
0218			*			PRINT NEW AND OLD DATA AND REQUEST CONFIRMATION	N4900218
0219	P0073	E8E8	LSP50	LDQ*	COUNT		N4900219
0220	P0074	0A0E		ENA	FLCVDB		N4900220
0221	P0075	5CF4		RTJ*	(EXTHAN)		N4900221
0222	P0076	0032		ADC	TEMP-*		N4900222
0223	P0077	000A		ADC	CORLOC-*		N4900223
0225			*				N4900225
0226			***			INPUT TEXT EXHAUSTED, MOVE DATA TO CORE	N4900226
0227			*				N4900227
0228	P0078	E8E3		LDQ*	COUNT	SET UP INDEX TO SAVE DATA	N4900228
0229	P0079	0DFE	LSP51	INQ	-1		N4900229
0230	P007A	0163		SQP	LSP55		N4900230
0231	P007B	E8DD	LSP53	LDQ*	BASE		N4900231
0232	P007C	E203		LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N4900232
0233	P007D	1622		JMP-	(ZERO),Q		N4900233
0234			*				N4900234
0235	P007E	CA2A	LSP55	LDA*	TEMP,Q		N4900235
0236	P007F	6E02		STA*	(CORLOC),Q		N4900236

0237 P0080 18F8 JMP* LSP51 N4900237
 0238 P0081 0000 CORLOC NUM 0 N4900238

0240 *** CHECK ADDRESSES TO BE WITHIN 32K N4900240
 0241 * N4900241
 0242 P0082 0B00 CORADK NOP 0 ENTRY N4900242
 0243 P0083 E0E9 LDQ- EXTBV4 GET 32K/65K FLAG (32K=0, 65K=1) N4900243
 0244 P0084 E622 LDQ- (ZERO),Q N4900244
 0245 P0085 0155 SQN AD65 SKIP ON 65K N4900245
 0246 P0086 0133 SAM AD32EX ERROR, OVER 32K N4900246
 0247 P0087 98D5 SUB* MAX N4900247
 0248 P0088 0137 SAM AD65EX N4900248
 0249 P0089 0106 SAZ AD65EX N4900249
 0250 P008A 1CF7 AD32EX JMP* (CORADK) RETURN N4900250

0252 *** CHECK TO BE WITHIN 65K OR LESS N4900252
 0253 P008B 0124 AD65 SAP AD65EX SKIP FOR 32K OR SO N4900253
 0254 P008C 98D0 SUB* MAX N4900254
 0255 P008D 0132 SAM AD65EX OK, SKIP N4900255
 0256 P008E 0101 SAZ AD65EX OK, SKIP N4900256
 0257 P008F 18FA JMP* AD32EX ERROR, GO N4900257
 0258 P0090 D8F1 AD65EX RAO* CORADK SET NORMAL EXIT N4900258
 0259 P0091 1CF0 JMP* (CORADK) NORMAL RETURN N4900259

0261 P0092 0016 VALUE BZS VALUE(22) N4900261
 0262 P00A8 001E TEMP BZS TEMP(30) FLOATING VALUE TEMPORARY STORAGE N4900262

0264 * N4900264
 0265 EQU SA38(*96) N4900265
 0266 EQU SP38(SA38+1) N4900266
 0267 EQU DB38(SP38*96) N4900267
 0268 P00C6 005A BSS (DB38-*) N4900268
 0269 END N4900269

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0078, 0109, 0213
0040	AMONI	00F4	(000244) 0134, 0161, 0179, 0198
0040	ADISP	00EA	(000234) 0140, 0170
0040	LPMASK	0002	(000002)
0040	NZERO	0012	(000018)
0040	ZROBIT	0033	(000051)
0041	FIVE	0043	(000067)
0041	SIX	0044	(000068)
0041	ZERO	0022	(000034) 0158, 0184, 0233, 0244
0041	ONEBIT	0023	(000035)
0041	SIXTEN	0027	(000039)
0042	COMMA	002C	(000044)
0042	SLASH	002F	(000047) 0093, 0111
0042	ASTRIC	002A	(000042)
0043	EIGHT	0026	(000038)
0043	NINE	0045	(000069)
0043	THREE	0004	(000004)
0043	ONE	0003	(000003)
0043	TWO	0024	(000036)
0044	TEN	0046	(000070)
0045	CHRSLV	0007	(000007) 0135, 0162
0046	MASSLU	08C2	(002242) 0165
0047	EXTBV4	00E9	(000233) 0243
0050	GETFLD	0002	(000002) 0085, 0097
0051	ASCHEX	0003	(000003) 0087, 0100
0052	GETINT	0008	(000008) 0128
0053	FLOVDB	000E	(000014) 0220
0054	FLOATZ	0708	(001800) 0139, 0166
0057	HANDLE	0001	(000001) 0079
0058	BMSG	0002	(000002) 0081
0059	SOMMOR	0003	(000003) 0232
0060	IOERR	0004	(000004) 0183
0061	LISTLU	0005	(000005)
0062	COMOLU	0006	(000006)
0063	NEWMLU	0007	(000007)
0064	PROG1	0008	(000008)
0065	PROG2	0009	(000009)
0066	BITFLG	000A	(000010)

0067	BUFCNT	000B	(000011)	
0068	FIELD	000C	(000012)	0092, 0110
0069	SLASHF	0010	(000016)	0119
0070	BUFEMT	0011	(000017)	0214
0071	BUFFER	0012	(000018)	

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0031	LDPREQ	0000	0031
0089	LSPLOC	0008	0104, 0105, 0123
0097	LSP2	0010	0094
0102	LSPBAS	0015	0103
0113	LER	001E	0126
0119	LSP10	0020	0095, 0112
0127	LSP11	0028	0216
0134	LSP12	002C	
0135	LSPCAL	002D	0136
0138	LSP13	0030	0196
0142	LSPACE	0033	0136
0145	LSP15	0035	0142
0149	SELF	0039	0148, 0150, 0151
0162	LSP20	0046	
0163	LSP24	0047	0152
0167	LSP25	004B	0145
0169	LSP26	004D	0159, 0160
0173	OFTB	004F	0153, 0154
0175	FLTADD	0051	0157
0178	LSP30	0052	0151
0181	LSP31	0055	0146
0182	LSP32	0056	0143
0187	BASF	0059	0077, 0108, 0182, 0212, 0231
0188	EXTHAN	005A	0080, 0086, 0088, 0099, 0101, 0129, 0221
0189	EXTMSG	005B	0082, 0114, 0155
0190	COUNT	005C	0120, 0201, 0208, 0209, 0210, 0219, 0228
0191	MAX	005D	0122, 0247, 0254
0195	LSP35	005E	0178
0198	LSP37	0061	
0200	LSP40	0063	0147
0219	LSP50	0073	0215
0229	LSP51	0079	0237
0231	LSP53	007B	
0235	LSP55	007E	0230
0238	CORLOC	0081	0124, 0223, 0236
0242	CORADK	0082	0125, 0250, 0258, 0259
0250	AD32EX	008A	0246, 0257
0253	AD65	008B	0245
0258	AD65EX	0090	0248, 0249, 0253, 0255, 0256
0261	VALUE	0092	0130, 0197, 0202, 0204, 0206
0262	TEMP	00A8	0203, 0205, 0207, 0222, 0235

LOPREQ

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0265	SA38	0002
0266	SP38	0003
0267	DB38	0120

0266
0267
0268

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0035	D CONV	0051	0175
0036	MMADDR	004F	0173
0037	MSG	0050	0174

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0250	AD65	0253	AD65EX	0258	ADISP	0040	AMONI	0040	ASCHEX	0051	ASTRIC	0042	BASE	0187	BITFLG	0066
BMSG	0038	BUFCNT	0067	BUFEMT	0070	BUFFER	0071	CHRSLV	0045	COMMA	0042	COMOLU	0062	CORADK	0242	CORLOC	0238
COUNT	0190	DB38	0267	DCONV	0035	EIGHT	0043	EXTBV4	0047	EXTHAN	0188	EXTMSG	0189	FIELD	0068	FIVE	0041
FLCVDR	0053	FLOATZ	0054	FLTADD	0175	GETFLD	0050	GETINT	0052	HANDLE	0057	I	0000	IOERR	0060	LDPREQ	0031
LER	0113	LISTLU	0061	LPMSK	0040	LSP10	0119	LSP11	0127	LSP12	0134	LSP13	0138	LSP15	0145	LSP2	0097
LSP20	0162	LSP24	0163	LSP25	0167	LSP26	0169	LSP30	0178	LSP31	0181	LSP32	0182	LSP35	0195	LSP37	0198
LSP40	0200	LSP50	0219	LSP51	0229	LSP53	0231	LSP55	0235	LSPACE	0142	LSPBAS	0102	LSPCAL	0135	LSPLOC	0089
MASLU	0046	MAX	0191	MMADDR	0036	MSG	0037	NEWMLU	0063	NINE	0043	NZERO	0040	OFTB	0173	ONE	0043
ONEBIT	0041	PROG1	0064	PROG2	0065	SA38	0265	SELF	0149	SIX	0041	SIXTEN	0041	SLASH	0042	SLASHF	0069
SOMMOR	0059	SP38	0266	TEMP	0262	TEN	0044	THREE	0043	TWO	0043	VALUE	0261	ZERO	0041	ZROBIT	0040


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0054      *
0055      00F4      EQU      AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)      N5000054
          00EA      N5000055
          0002
          0012
          0033
0056      0043      EQU      FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N5000056
          0044
          0022
          0023
          0027
0057      002C      EQU      COMMA($2C),SLASH($2F),ASTRIC($2A)      N5000057
          002F
          002A
0058      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N5000058
          0045
          0004
          0003
          0024
0059      0046      EQU      TEN($46)      N5000059
0060      08C2      EQU      MASSLU($8C2)      N5000060
0061      0007      EQU      CHRSLV(7)      N5000061
0062      00E6      EQU      CSYLEN($E6)      LEVEL OF THIS PROGRAM      116*4360*****
0063      00F7      EQU      CSYDIR($E7)      LENGTH OF SYSTEM DIRECTORY (IN THIS LOC.)
0064      00E9      EQU      EXTBV4($E9)      INDEX OF FIRST MM DIRECTORY      N5000062
0065      00EB      EQU      DIRTRY($EB)      SYSTEM DIRECTORY CORE LOCATION      N5000063
0066      003D      EQU      LDO(61)      PROGRAM INDEX OF "LDO"      N5000064
          N5000065
          N5000066

0068      *
0069      0002      EQU      GETFLD(2)      SUBROUTINE POINTER (FOR REQUEST)      N5000068
0070      0003      EQU      ASCHEX(3)      "GETFLD" --- GET FIELD SUBROUTINE      N5000069
0071      0005      EQU      ASCDEC(5)      "ASCHEX" --- ASC TO HEX.      N5000070
0072      0008      EQU      GETINT(8)      ASE TO DEC.      N5000071
0073      0009      EQU      FETMM(9)      "GETINT" --- GET SINGLE/DOUBLE PRECISION VALUE      N5000072
0074      000E      EQU      FLCVDB(14)      FETMM --- FETCH/CONVERT MM ADD.      N5000073
0075      0708      EQU      FLOATZ(1800)      "FLCVDB" --- PRINT VALUE AND CONFIRM      N5000074
          N5000075

0077      *
0078      0001      EQU      HANDLE(1)      PARAMETER LOCATION (OFFSET FROM BASE)      N5000077
0079      0002      EQU      BMSG(2)      "HANDLE"      N5000078
0080      0003      EQU      SOMMOR(3)      "MSG" ENTRY      N5000079
0081      0004      EQU      IOERR(4)      "SOMMOR" ENTRY      N5000080
0082      0005      EQU      LISTLU(5)      "IOERR" ENTRY      N5000081
0083      0006      EQU      COMOLU(6)      LIST OUTPUT --- "LISTLU"      N5000082
0084      0007      EQU      NEWMLU(7)      "COMOLU"      N5000083
0085      0008      EQU      PROG1(8)      "NEWMLU" --- NEW MM LU      N5000084
0086      0009      EQU      PROG2(9)      "PROG1"      N5000085
0087      000A      EQU      BITFLG(10)      "PROG2"      N5000086
          N5000087
          "BITFLG"

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0088	000B	EQU	BUFCNT(11)	"BUFCNT"	N5000088
0089	000C	EQU	FIELD(12)	"FIELD"	N5000089
0090	0010	EQU	SLASHF(16)	"SLASHF"	N5000090
0091	0011	EQU	BUFEMT(17)	"BUFEMT"	N5000091
0092	0012	EQU	BUFFER(18)	"BUFFER"	N5000092

0094	*				N5000094
0095	*****	*****	PROGRAM	START	N5000095
0096	*				N5000096

0098	P0000	6879	LDOREQ	STA*	BASE		N5000098
0099		0000	P	EQU	LDMREQ(LDOREQ)		N5000099
0100	P0001	60FF		STA-	I		N5000100
0101	P0002	8112		ADD-	BUFFER, I		N5000101
0102	P0003	6800		STA	DATBUF		N5000102
	P0004	0085					
0103	P0005	6800		STA	BUFADD		N5000103
	P0006	0090					
0104	P0007	C101		LDA-	HANDLE, I		N5000104
0105	P0008	6800		STA	EXTHAN		N5000105
	P0009	0087					
0106	P000A	C102		LDA-	3MSG, I	FETCH "MSG" ADDRESS	N5000106
0107	P000B	6800		STA	EXTMSG		N5000107
	P000C	0083					
0108	P000D	C109		LDA-	PROG2, I	GET PROGRAM TYPE	N5000108
0109	P000E	09C2		INA	-LDO		N5000109
0110	P000F	010C		SAZ	LS01	SKIP ON "LDO"	N5000110

0112	*						N5000112
0113	*****		GET	"LSM"	DATA	--- MM ADDRESSES	N5000113
0114	*						N5000114
0115	P0010	0C00	LSM	ENQ	0		N5000115
0116	P0011	C107		LDA-	NEWMLU, I	GET LU	N5000116
0117	P0012	6800		STA	MSB	FOR MM SIZE CHECK INCONJUNCTION WITH ADD.	N5000117
	P0013	010B					
0118	P0014	6800		STA	COUNT-1		N5000118
	P0015	008C					
0119	P0016	6800		STA	XF2WD-1		N5000119
	P0017	009C					
0120	P0018	0A09		ENA	FETMM		N5000120
0121	P0019	5C77		RTJ*	(EXTHAN)		N5000121
0122	P001A	0104		ADC	MSB-*		N5000122
0123	P001B	1828		JMP*	LS0M		N5000123

0125	*						N5000125
0126	*****		MODIFY	ORDINAL,	GET (1) ORDINAL,	LOC., AND BASE	N5000126
0127	*						N5000127
0128	P001C	0A02	LS01	ENA	GETFLD	GET ORDINAL	N5000128

0129	P001D	0C03	ENQ	3			N5000129
0130	P001E	5C72	RTJ*	(EXTHAN)			N5000130
0131	P001F	0A05	ENA	ASCDEC	CONVERT TO DEC.		N5000131
0132	P0020	5C70	RTJ*	(EXTHAN)			N5000132
0133	PG021	0101	SAZ	LER			N5000133
0134	P0022	0122	SAP	LS02			N5000134
0135	P0023	0C04	ENQ	4	TO PRINT FORMAT ERROR		N5000135
0136	P0024	1C6B	JMP*	(EXTMSG)			N5000136
0137			*				N5000137
0138	P0025	5800	LS02	RTJ	ORDCHK	TO CHECK IF ORDINAL WITHIN LIMIT/GET ADDRESS	N5000138
	P0026	00D6					
0139	P0027	0C04	ENQ	4			N5000139
0140	P0028	0A02	ENA	GETFLD	GET LOC.		N5000140
0141	P0029	5C67	RTJ*	(EXTHAN)			N5000141
0142	P002A	0A03	ENA	ASCHEX	CONVERT TO HEX.		N5000142
0143	P002B	5C65	RTJ*	(EXTHAN)			N5000143
0144	P002C	0000	LSPLOC	NUM	0		N5000144
0145			*		GET BASE ADDRESS		N5000145
0146	P002D	C10C	LDA-	FIELD,I			N5000146
0147	P002E	09D3	INA	-COMMA	CHECK FOR COMMA (GET BASE)		N5000147
0148	P002F	0116	SAN	LS04			N5000148
0149	P0030	0C04	ENQ	4	SET FOR 4 CHAR. MAX.		N5000149
0150	P0031	0A02	ENA	GETFLD			N5000150
0151	P0032	5C5E	RTJ*	(EXTHAN)	GFT BASE ADDRESS		N5000151
0152	P0033	1A03	ENA	ASCHEX	CONVERT TO HEX.		N5000152
0153	P0034	5C5C	RTJ*	(EXTHAN)			N5000153
0154	P0035	0000	LSOB	NUM	0		N5000154
0155			P	LS04			N5000155
0156	P0036	C8FE	EQU	LS04(*)	ASSEMBLE ADDRESS = BASE + L		N5000156
0157	P0037	88F4	LDA*	LSOB			N5000157
0158	P0038	68F3	ADD*	LSPLOC			N5000158
0159	P0039	6800	STA*	LSPLOC			N5000159
	P003A	00E6	STA	MSB+2			
0160	P003B	C859	LDA*	MAXL			N5000160
0161	P003C	0112	SAN	LS05	SKIP IF ORDINAL LENGTH NON-ZERO		N5000161
0162	P003D	0C0C	ENQ	12			N5000162
0163	P003E	1C51	JMP*	(EXTMSG)	ERROR - ZERO LENGTH		N5000163
0164	P003F	0A09	LS05	ENA	FETMM	CONVERT TO WORD ADDRESSING	N5000164
0165	P0040	0C02	ENQ	2			N5000165
0166	P0041	5C4F	RTJ*	(EXTHAN)			N5000166
0167	P0042	00DC	ADC	MSB-*			N5000167
0169			*		CHECK FOR FORMAT ---- CONTROL CHAR = SLASH		N5000169
0170	P0043	C10C	LS0M	LDA-	FIELD,I	IS CONTROL CHAR. = SLASH	N5000170
0171	P0044	09D0	INA	-SLASH			N5000171
0172	P0045	0101	SAZ	LSP10			N5000172
0173	P0046	180C	JMP*	LER	TO PRINT FORMAT ERROR		N5000173
0175			*				N5000175
0176			***		TO OBTAIN SINGLE PRECISION VALUE		N5000176
0177			*				N5000177
0178	P0047	6110	LSP10	STA-	SLASHF,I		N5000178

0179 P0048 685A
 0180 P0049 0C0C
 0181 P004A 0A08
 0182 P004B 5C45
 0183 P004C 007C

LSP11 STA* COUNT
 ENQ 12
 ENA GETINT
 RTJ* (EXTHAN)
 ADC VALUE-*

MAX. 12 DIGITS
 GET DECODE SINGLE/DOUBLE PRECISION

N5000179
 N5000180
 N5000181
 N5000182
 N5000183

0185
 0186
 0187 P004D 54F4
 0188 P004E 1547
 0189 P004F 0006
 0190 P0050 0000
 0191 P0051 0000
 0192 P0052 0708
 0193 P0053 14EA

*

 LSP12 RTJ- (AMONI)
 LSPCAL ADC \$1540+CHRSLV
 ADC LSPACE-LSPCAL
 NUM 0
 LSP13 NUM 0
 ADC FLOATZ
 JMP- (ADISP)

REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE

CORE LOCATION OF REQUESTED SPACE

N5000185
 N5000186
 N5000187
 N5000188
 N5000189
 N5000190
 N5000191
 N5000192
 N5000193
 N5000194

0194
 0195 P0054 0161
 0196 P0055 1821

*
 LSPACE SQP LSP15
 JMP* LSP32

SPACE BE GRANTED, DO SOMETHING
 TO ERROR (I/O ERROR)

N5000195
 N5000196
 N5000197

0197
 0198 P0056 4818
 0199 P0057 481E
 0200 P0058 4827

*
 LSP15 STQ* LSP25
 STQ* LSP31
 STQ* LSP40
 RTJ* SELF

SET LOC. WHERE PROGRAM TO BE READ

N5000198
 N5000199
 N5000200

0201 P0059 5801
 0202 P005A 0B00
 0203 P005B C8FE

SELF NOP 0
 LDA* SELF
 INA LSP30-SELF
 STA* LSP24

GENERATE RETURN ADD.

N5000201
 N5000202
 N5000203

0204 P005C 0918
 0205 P005D 680D
 0206 P005E 0935

INA XFRDRT-LSP30
 STA* XFRDAD
 LDA* OFTB

GENERATE "MMADDR" LOCATION

N5000204
 N5000205
 N5000206

0207 P005F 6840
 0208 P0060 C831
 0209 P0061 9831

SUB* OFTB+1
 ADD* EXTMSG
 TRA Q

GET FLOAT PACKAGE SECTOR ADD.
 TO "MMADDR" FOR MM ADD. CONVERSION
 SAVE LSB

N5000207
 N5000208
 N5000209

0210 P0062 882D
 0211 P0063 0822
 0212 P0064 C82F

LDA* FLTADD
 RTJ- (ZERO),Q
 STA* LSP26

N5000210
 N5000211
 N5000212

0213 P0065 5622
 0214 P0066 680A
 0215 P0067 4808

STQ* LSP26-1
 RTJ- (AMONI)
 LSP20 ADC \$800+CHRSLV
 LSP24 NUM 0

RETURN (TO BE FILLED)
 THREAD

N5000213
 N5000214
 N5000215

0216 P0068 54F4
 0217 P0069 0807
 0218 P006A 0000

ADC MASSLU
 ADC FLOATZ
 LSP25 NUM 0

FLOAT PACKAGE ADD. (TO BE FILLED)

N5000216
 N5000217
 N5000218

0219 P006B 0000
 0220 P006C 08C2
 0221 P006D 0708

NUM 0
 LSP26 NUM 0
 JMP- (ADISP)

SECTOR ADD. (TO BE FILLED)

N5000219
 N5000220
 N5000221

0222 P006E 0000
 0223 P006F 0000
 0224 P0070 000C
 0225 P0071 14EA

*
 LSP33 SQP LSP35
 RTJ- (AMONI)

MM TRANSFER OK, SKIP
 RELEASE CORE DUE TO ERROR

N5000222
 N5000223
 N5000224

N5000227
 N5000228
 N5000229


```

0230 P0074 1800 NUM $1800
0231 P0075 0000 LSP31 NUM 0 CORE ADD. TO BE FILLED
0232 P0076 E803 LSP32 LDQ* BASE
0233 P0077 E264 LDQ- IOERR,Q EXIT TO "IOERR"
0234 P0078 1622 JMP- (ZERO),Q
*
0235 ***** FLOAT PACKAGE IS IN CORE, CONVERT NO.
0236 *
0237 * PARAMETER BASE ADD.
0238 P0079 0000 BASE NUM 0
0239 P007A 0C00 LSP35 ENQ 0
0240 P007B 5CD5 RTJ* (LSP13)
0241 P007C 004C ADC VALUE-*
0242 P007D 54F4 LSP37 RTJ- (AMONI) RELEASE CORE
0243 P007E 1800 NUM $1800
0244 P007F 0000 LSP40 NUM 0 ADD. (TO BE FILLED)
0245 P0080 E822 LDQ* COUNT
0246 P0081 C859 LDA* VALUE+18 SAVE FLOATING VALUE IN TEMPORARY STORAGE
0247 P0082 6A5C STA* TEMP,Q
0248 P0083 C858 LDA* VALUE+19
0249 P0084 6A5B STA* TEMP+1,Q
0250 P0085 C857 LDA* VALUE+20
0251 P0086 6A5A STA* TEMP+2,Q
0252 P0087 D81B RAO* COJNT UPDATE STORAGE COUNT BY 3
0253 P0088 D81A RAO* COUNT
0254 P0089 D819 RAO* COUNT
*
0255 ***** CHECK IF ALL INPUT TEXT BEED PROCESSED
0256 P008A C8EE LDA* BASE
0257 P008B 60FF STA- I
0258 P008C C111 LDA- BUFEMT,I
0259 P008D 0137 SAM LS0113 DONE, SKIP
0260 P008E 18BA JMP* LSP11 TO REPEAT
*
0261 ***** CONSTANTS OR STORAGE LOC.
0262 P008F 0000 EXTMSG NUM 0 "MSG" ADD.
0263 P0090 0000 EXTHAN NUM 0 "HANDLE" ADD.
*
0265 *****
0266 P0091 7FFF X OFTB ADC MMADDR 0. "MMADDR"
0267 P0092 7FFF X ADC MSG 1. "MSG"
0268 P0093 7FFF X FLTADD ADC DCONV D- OR F-FORMAT CONVERSION -- DOUBLE
0269 P0094 6000 MAXL NUM 0 LENGTH OF ORDINAL
*
0271 ***** GET MASS MEMORY DATA ACCORDING TO REQUEST TYPE
0272 *
0273 *
0274 *
0275 LS0113 LDA MSB GET WORD ADDRESSING MSB AND SET UP FOR READ/
*
0276 P0096 0088 STA* XFMSB1 WRITE OPERATION
0277 P0097 680D STA* XFMSB2
0278 P0098 681E LDA LSB GET LSB
0279 P0099 C860
0280 P009A 6085

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N5000230
N5000231
N5000232
N5000233
N5000234
N5000235
N5000236
N5000237
N5000238
N5000239
N5000240
N5000241
N5000242
N5000243
N5000244
N5000245
N5000246
N5000247
N5000248
N5000249
N5000250
N5000251
N5000252
N5000253
N5000254
N5000255
N5000256
N5000257
N5000258
N5000259
N5000260
N5000261
N5000262
N5000263
N5000265
N5000266
N5000267
N5000268
N5000269
N5000271
N5000272
N5000273
N5000274
N5000275
N5000276
N5000277
N5000278

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0279 P009B 680A
 0280 P009C 681B
 0281 P009D 54F4
 0282 P009E 0207
 0283 P009F 0000
 0284 P00A0 0000
 0285 P00A1 08C2
 0286 P00A2 0000
 0287 P00A3 0000
 0288 P00A4 0000
 0289 P00A5 0000
 0290 P00A6 14EA
 0291
 0292 P00A7 0161
 0293 P00A8 18CD

STA* XFLSB1
 STA* XFLSB2
 RTJ- (AMONI)
 XFRDCD ADC \$200+CHRSLV
 XFRDAD NUM 0
 NUM 0
 ADC MASSLU
 COUNT NUM 0
 BUFADD NUM 0
 XFMSB1 NUM 0
 XFLSB1 NUM 0
 JMP- (ADISP)
 *
 XFRDRT SQP XFOR
 JMP* LSP32

READ
 RETURN (FILLED)
 THREAD
 NO OF WORDS
 BUFFER ADD. (FILLED)
 MSB (FILLED)
 LSB
 TO I/O ERROR

N5000279
 N5000280
 N5000281
 N5000282
 N5000283
 N5000284
 N5000285
 N5000286
 N5000287
 N5000288
 N5000289
 N5000290
 N5000291
 N5000292
 N5000293

0295
 0296
 0297
 0298 P00A9 E8F8
 0299 P00AA 480A
 0300 P00AB 0A0E
 0301 P00AC 5CE3
 0302 P00AD 0031
 0303 P00AE 000B
 0304
 0305 P00AF 54F4
 0306 P00B0 0507
 0307 P00B1 000A
 0308 P00B2 0009
 0309 P00B3 08C2
 0310 P00B4 0000
 0311 P00B5 002E
 0312 P00B6 0000
 0313 P00B7 0000
 0314 P00B8 14EA
 0315 P00B9 0000
 0316
 0317 P00BA C849
 0318 P00BB 0109
 0319
 0320 P00BC 60FF
 0321 P00BD 0C00
 0322 P00BE CA20
 0323 P00BF 0722
 0324 P00C0 0D01
 0325 P00C1 0814
 0326 P00C2 98DF
 0327 P00C3 0101
 0328 P00C4 18F9
 0329

*

 *
 XFOR LDQ* COUNT
 STQ* XF2WD
 ENA FLCVDB
 RTJ* (EXTHAN)
 ADC TEMP-*
 ADC DATBUF-*
 * DATA
 RTJ- (AMONI)
 XF2CD ADC \$500+CHRSLV
 COMBK ADC FINRT-XF2CD
 NUM 0
 ADC MASSLU
 XF2WD NUM 0
 ADC TEMP-XF2CD
 XFMSB2 NUM 0
 XFLSB2 NUM 0
 JMP- (ADISP)
 DATBUF NUM 0
 *
 FINRT LDA* CORLSE
 SAZ GETOUT
 *
 STA- I
 ENQ 0
 TOCORE LDA* TEMP,0
 STA- (ZERO),B
 INQ 1
 TRQ A
 SUB* COUNT
 SAZ GETOUT
 JMP* TOCORE
 *

MM DATA IN CORE, GET CONFIRMATION
 TO PRINT DATA AND REQUEST CONFIRMATION
 DATA CONFIRMED, SAVE
 WRITE
 RETURN
 THREAD
 NO. OF WORDS (FILLED)
 BUFFER
 MSB (FILLED)
 LSB (FILLED)
 BUFFER (FILLED)
 CHECK IF CORE ORDINAL
 NO, SKIP
 SET INDEX WITH CORE LOCATION
 MOVE DATA TO CORE ORDINAL LOCATION
 CHECK IF ALL DATA BEEN MOVED
 YES, DONE
 NO, TO REPEAT

N5000295
 N5000296
 N5000297
 N5000298
 N5000299
 N5000300
 N5000301
 N5000302
 N5000303
 N5000304
 N5000305
 N5000306
 N5000307
 N5000308
 N5000309
 N5000310
 N5000311
 N5000312
 N5000313
 N5000314
 N5000315
 N5000316
 N5000317
 N5000318
 N5000319
 N5000320
 N5000321
 N5000322
 N5000323
 N5000324
 N5000325
 N5000326
 N5000327
 N5000328
 N5000329

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0330 P00C5 E8B3 GETOUT LDQ* BASE EXIT TO "SOMMOR"
0331 P00C6 E203 LDQ- SOMMOR,Q
0332 P00C7 1622 * JMP- (ZERO),Q
0333
0335 P00C8 0016 VALUE BZS VALUE(22)
0336 P00DE 001E TEMP BZS TEMP(30) FLOATING VALUE TEMPORARY STORAGE

0338 *
0339 ***** ***** SYSTEM DIRECTORY ORDINAL CHECK *****
0340 *
0341 P00FC 0B00 ORDCHK NOP 0 ENTRY
0342 P00FD 6805 STA* ORD10 SAVE ORDINAL NO.
0343 P00FE 0C00 ENQ 0 ZERO OUT CORE ORDINAL FLAG
0344 P00FF 4805 STQ* CORDIR
0345 P0100 481E STQ* MSB
0346 P0101 1805 JMP* ORDM
0347 *
0348 P0102 00C0 ORD10 NUM 0
0349 P0103 0000 CORLSB NUM 0
0350 P0104 0000 CORDIR NUM 0
0351 P0105 0060 NO96ST NUM 96

0353 *
0354 * ----- FOR MM DIRECTORY PROCESSING
0355 *
0356 P0106 C0E6 ORDM LDA- CSYLEN GET DIRECTORY LENGTH AND SUBTRACT CORE DIRECT.
0357 P0107 90E7 SUB- CSYDIR LENGTH
0358 P0108 3005 DVI- LPMSK+3 CONVERT TO NO. OF MM DIRECTORY NO.
0359 P0109 98F8 SUB* ORD10 CHECK IF OVER SYSTEM MAX.
0360 P010A 0123 SAP ORDM2 NO, SKIP
0361 P010B 0C0B ENQ 11 TO PRINT ORDINAL NO. ERROR (OVER MAX.)
0362 P010C 1C60 JMP (EXTMSG)
0363 *
0364 P010E C8F3 ORDM2 LDA* ORD10
0365 P010F 09FE INA -1
0366 P0110 2005 MUI- LPMSK+3 *7
0367 P0111 80EB ADD- DIRTRY
0368 P0112 80E7 ADD- CSYDIR CORE DIRECTORY OFF-SET, IF ANY
0369 P0113 0822 TRA Q
0370 P0114 C206 LDA- 6,Q GET LSB
0371 P0115 680A STA* LSB
0372 P0116 C205 LDA- 5,Q GET AND SAVE MSB
0373 P0117 6807 STA* MSB
0374 P0118 C204 LDA- 4,Q
0375 P0119 6800 STA MAXL SAVE LENGTH OF ORDINAL
0376 P011A FF79
0377 P011C 6804 ENA 0
STA* MSB+2

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```

N5000330
N5000331
N5000332
N5000333
N5000335
N5000336
N5000338
N5000339
N5000340
N5000341
N5000342
N5000343
N5000344
N5000345
N5000346
N5000347
N5000348
N5000349
N5000350
N5000351
N5000353
N5000354
N5000355
N5000356
N5000357
N5000358
N5000359
N5000360
N5000361
N5000362
N5000363
N5000364
N5000365
N5000366
N5000367
N5000368
N5000369
N5000370
N5000371
N5000372
N5000373
N5000374
N5000375
N5000376
N5000377

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0378 P011D 1CDE JMP* (ORDCHK) RETURN
0379 P011E 0005 BZS MSB(5)
0380 011F P EQU LSB(MSB+1)

N5000378
N5000379
N5000380

0382 *
0383 0003 P EQU SA61(*96)
0384 0004 P EQU SP61(SA61+1)
0385 0180 P EQU DB61(SP61*96)
0386 P0123 005D BSS (DB61-*)
0387 END

N5000382
N5000383
N5000384
N5000385
N5000386
N5000387

PGM= 0180 (384) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0100, 0257, 0320
0055	AMONI	00F4 (000244)	0187, 0216, 0229, 0242, 0281, 0305
0055	ADISP	00EA (000234)	0193, 0225, 0290, 0314
0055	LPMSK	0002 (000002)	0358, 0366
0055	NZERO	0012 (000018)	
0055	ZROBIT	0033 (000051)	
0056	FIVE	0043 (000067)	
0056	SIX	0044 (000068)	
0056	ZERO	0022 (000034)	0213, 0234, 0323, 0332
0056	ONEBIT	0023 (000035)	
0056	SIXTEN	0027 (000039)	
0057	COMMA	002C (000044)	0147
0057	SLASH	002F (000047)	0171
0057	ASTRIC	002A (000042)	
0058	EIGHT	0026 (000038)	
0058	NINE	0045 (000069)	
0058	THREE	0004 (000004)	
0058	ONE	0003 (000003)	
0058	TWO	0024 (000036)	
0059	TEN	0046 (000070)	
0060	MASSLU	08C2 (002242)	0220, 0285, 0309
0061	CHRSLV	0007 (000007)	0188, 0217, 0282, 0306
0062	CSYLEN	00E6 (000230)	0356
0063	CSYDIR	00E7 (000231)	0357, 0368
0064	EXTRV4	00E9 (000233)	
0065	DIRTRY	00E8 (000235)	0367
0066	LDO	003D (000061)	0109
0069	GETFLD	0002 (000002)	0128, 0140, 0150
0070	ASCHEX	0003 (000003)	0142, 0152
0071	ASCDFC	0005 (000005)	0131
0072	GETINT	0008 (000008)	0181
0073	FETMM	0009 (000009)	0120, 0164
0074	FLCVDB	000E (000014)	0300
0075	FLOATZ	0708 (001800)	0192, 0221
0078	HANDLE	0001 (000001)	0104
0079	BMSG	0002 (000002)	0106
0080	SOMMOR	0003 (000003)	0331
0081	IOERR	0004 (000004)	0233

0082	LISTLU	0005	(000005)	
0083	COMOLU	0006	(000006)	
0084	NEWMLU	0007	(000007)	0116
0085	PROG1	0008	(000008)	
0086	PROG2	0009	(000009)	0108
0087	BITFLG	000A	(000010)	
0088	BUFCNT	000B	(000011)	
0089	FIELD	000C	(000012)	0146, 0170
0090	SLASHF	0010	(000015)	0178
0091	BUFEMT	0011	(000017)	0258
0092	BUFFER	0012	(000018)	0101

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0045	LDOREQ	0000	0045, 0099
0046	LDMREQ	0000	0046
0115	LSM	0010	
0128	LSO1	0010	0110
0135	LER	0023	0133, 0173
0138	LSO2	0025	0134
0144	LSPLOC	002C	0157, 0158
0154	LSOP	0035	0156
0155	LSO4	0036	0148
0164	LSO5	003F	0161
0170	LSOM	004E	0123
0178	LSP10	0047	0172
0180	LSP11	0049	0260
0187	LSP12	004D	
0188	LSPCAL	004E	0189
0191	LSP13	0051	0240
0195	LSPACE	0054	0189
0198	LSP15	0056	0195
0202	SELF	005A	0201, 0203, 0204
0217	LSP20	0069	
0218	LSP24	006A	0205
0222	LSP25	006E	0198
0224	LSP26	0070	0214, 0215
0228	LSP30	0072	0204, 0206
0231	LSP31	0075	0199
0232	LSP32	0076	0196, 0293
0238	BASE	0079	0098, 0232, 0256, 0330
0239	LSP35	007A	0228
0242	LSP37	007D	
0244	LSP40	007F	0200
0262	EXTMSG	008F	0107, 0136, 0163, 0210, 0362
0263	EXTHAN	0090	0105, 0121, 0130, 0132, 0141, 0143, 0151, 0153, 0166, 0182, 0301
0266	OFTB	0091	0208, 0209
0268	FLTADD	0093	0212
0269	MAXL	0094	0160, 0375
0275	LSO113	0095	0259
0282	XFRDCD	009E	
0283	XFRDAD	009F	0207
0286	COUNT	00A2	0118, 0179, 0245, 0252, 0253, 0254, 0298, 0326
0287	BUFADD	00A3	0103
0288	XFMSB1	00A4	0276

0289	XFLSB1	00A5	0279	
0292	XFRDRT	00A7	0206	
0298	XFOR	00A9	0292	
0306	XF2CD	00B0	0307, 0311	
0307	COMBK	00B1		
0310	XF2WD	00B4	0119, 0299	
0312	XFMSB2	00B6	0277	
0313	XFLSB2	00B7	0280	
0315	DATBUF	00B9	0102, 0303	
0317	FINRT	00BA	0307	
0322	TOCORE	00BE	0329	
0330	GETOUT	00C5	0318, 0327	
0335	VALUE	00C8	0183, 0241, 0246, 0248, 0250	
0336	TEMP	00DE	0247, 0249, 0251, 0302, 0311, 0322	
0341	ORDCHK	00FC	0138, 0378	
0348	ORD10	0102	0342, 0359, 0364	
0349	CORLSB	0103	0317	
0350	CORDIR	0104	0344	
0351	NO96ST	0105		
0356	ORDM	0106	0346	
0364	JRDM2	010E	0360	
0379	MSB	011E	0117, 0122, 0159, 0167, 0275, 0345, 0373, 0377, 0380	
0380	LSB	011F	0278, 0371	
0383	SA61	0003	0384	
0384	SP61	0004	0385	
0385	DR61	0180	0386	

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0049	DCONV	0093	0268
0050	MMADDR	0091	0266
0051	MSG	0092	0267

0047	0043	EQU	FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)	N5100047
	0044			
	0022			
	0023			
	0027			
0048	002C	EQU	COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)	N5100048
	002F			
	002A			
0049	0026	EQU	EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)	N5100049
	0045			
	0004			
	0003			
	0024			
0050	0046	EQU	TEN(\$46)	N5100050
0051	0003	EQU	MASK(3) ONE BIT MASK	N5100051
0053	0007	EQU	CHRSLV(7) LEVEL OF THIS PROGRAM	116*4360*****
0054	00E9	EQU	EXTBV4(\$E9)	N5100054
0055	0024	EQU	LNWD36(36) 36WORDS/LINE	N5100055
0056	1000	EQU	ASMOD(\$1000) ASC OUTPUT MODE	N5100056
0057	08C2	EQU	MASSLU(\$8C2) MASS MEMORY LU	N5100057
0058	0708	EQU	FLOATZ(1800) SIZE OF FLOATING POINT PACKAGE	N5100058
0059	001E	EQU	NO40(30) BUFFER SIZE	N5100059
0060	0002	EQU	WRJLN(2) NO. OF DATA PER LINE	N5100060
0062	002E	EQU	KARPER(\$2E) CHARACTER = .	N5100062
0063	0045	EQU	KARE(\$45)	N5100063
0065		*	PARAMETER LOCATION (OFFSET FROM BASE)	N5100065
0066	0001	EQU	BHAN(1) "HANDLE"	N5100066
0067	0002	EQU	BMSG(2) "MSG" ENTRY	N5100067
0068	0003	EQU	SOMMOR(3) "SOMMOR" ENTRY	N5100068
0069	0004	EQU	IOERR(4) "IOERR" ENTRY	N5100069
0070	0005	EQU	LISTLU(5) LIST OUTPUT --- "LISTLU"	N5100070
0071	0006	EQU	COMOLU(6) "COMOLU"	N5100071
0072	0007	EQU	NEWMLU(7) "NEWMLU" --- NEW MM LU	N5100072
0073	0008	EQU	PROG1(8) "PROG1"	N5100073
0074	0009	EQU	PROG2(9) "PROG2"	N5100074
0075	000A	EQU	BITFLG(10) "BITFLG"	N5100075
0076	000B	EQU	BUFCNT(11) "BUFCNT"	N5100076
0077	000C	EQU	FIELD(12) "FIELD"	N5100077
0078	0010	EQU	SLASHF(16) "SLASHF"	N5100078
0079	0011	EQU	BUFEMT(17) "BUFEMT"	N5100079
0080	0012	EQU	BUFFER(18) "BUFFER"	N5100080
0081		*	SUBROUTINE "EQU" POINTERS	N5100081
0082	0002	EQU	GETFLD(2) "GETFLD"	N5100082
0083	0003	EQU	ASCHEX(3) "ASCHEX"	N5100083
0084	0005	EQU	ASCDEC(5) "ASCDEC"	N5100084
0085	0009	EQU	FETMM(9) 'FETMM' --- GET MM ADD.	N5100085

0087
0088
0089

*

*

PROGRAM START

N5100087
N5100088
N5100089

0091 P0000 687A
0092 P0001 60FF
0093 P0002 8112
0094 P0003 6800
P0004 0103
0095 P0005 6871
0096 P0006 C101
0097 P0007 6871
0098 P0008 C102
0099 P0009 686E
0100 P000A C105
0101 P000B 8815
0102 P000C 6800
P000D 00F8
0103 P000E C107
0104 P000F 681F
0105 P0010 6836

DMDREQ

STA* BASE
STA- I
ADD- BUFFER, I
STA BUFADD

STA* DATLOC
LDA- BHAN, I
STA* EXTHAN
LDA- BMSG, I
STA* EXTMSG
LDA- LISTLU, I
ADD* MODE
STA OTLU

LDA- NEWMLU, I
STA* DMSLU
STA* DMSLOC

CALCULATE "BUFFER" ADD.

GET "HANDLE" ADD.

FETCH "MSG" ADDRESS

SET UP MM LU

N5100091
N5100092
N5100093
N5100094

N5100095
N5100096
N5100097
N5100098
N5100099
N5100100
N5100101
N5100102

N5100103
N5100104
N5100105

0107

*

GET ALL CORE ADDRESSES

N5100107

0109
0110
0111
0112 P0011 0A09
0113 P0012 0C01
0114 P0013 5C65
0115 P0014 0032
0116 P0015 0A02
0117 P0016 0C04
0118 P0017 5C61
0119 P0018 0A03
0120 P0019 5C5F
0121 P001A 0000
0122 P001B C111
0123 P001C B012
0124 P001D 0103
0125
0126 P001E 0C04
0127 P001F 1C58
0128 P0020 1000
0129
0130 P0021 6854
0131 P0022 C824
0132 P0023 680E
0133 P0024 C823

*

*

DUMP MASS MEMORY --- SINGLE PRECISION

DMSENT

ENA FETMM
ENQ 1
RTJ* (EXTHAN)
ADC DMSLOC-
ENA GETFLD
ENQ 4
RTJ* (EXTHAN)
ENA ASCHEX
RTJ* (EXTHAN)
NW NUM 0
LDA- BUFEMT, I
EOR- LPMSK+16
SAZ DMS5

GET MM ADD.
RETURN WITH INPUT ADD. DATA

GET NEXT FIELD --- NO. OF WORDS

CONVERT TO HEX

MAKE SURE IS EMPTY

*

DSP3

ENQ 4
JMP* (EXTMSG)
MODE ADC ASMOD

INCORRECT FORMAT,

ASC OUTPUT MODE

*

DMS5

STA* INDEX
LDA* DMSLOC
STA* DMSM
LDA* DMSLOC+1

SET UP MSB AND LSB

N5100109
N5100110
N5100111
N5100112
N5100113
N5100114
N5100115
N5100116
N5100117
N5100118
N5100119
N5100120
N5100121
N5100122
N5100123
N5100124
N5100125
N5100126
N5100127
N5100128
N5100129
N5100130
N5100131
N5100132
N5100133

0134	P0025	6800	DMD1R	STA*	DMSL		N5100134
0135	P0026	0A1E		ENA	NO40	NO. OF WORDS TO BE XFER	N5100135
0136	P0027	6808		STA*	DMSZ		N5100136
0137	P0028	6800		STA	WDBF		N5100137
	P0029	0112					
0138	P002A	54F4		RTJ-	(AMONI)	READ OVER DATA	N5100138
0139	P002B	0307	DMSCD	ADC	\$300+CHRSLV		N5100139
0140	P002C	0009		ADC	DMSRT-DMSCD		N5100140
0141	P002D	0000		NUM	0		N5100141
0142	P002E	0000	DMSLU	NUM	0	LU (FILLED)	N5100142
0143	P002F	0000	DMSZ	NUM	0	SIZE (FILLED)	N5100143
0144	P0030	0111		ADC	DMSBUF-DMSCD		N5100144
0145	P0031	0000	DMSM	NUM	0	MSB (FILLED)	N5100145
0146	P0032	0000	DMSL	NUM	0	LSB (FILLED)	N5100146
0147	P0033	14EA		JMP-	(ADISP)		N5100147
0148			*				N5100148
0149	P0034	C162	DMSRT	SQP	DMS10		N5100149
0150	P0035	1800		JMP	DSPEIO		N5100150
	P0036	0087	*				N5100151
0151							N5100152
0152	P0037	0844	DMS10	CLR	A		N5100153
0153	P0038	6841		STA*	COUNT		
			*				N5100155
0155						FILL LINE WITH SPACE	N5100156
0156			*				N5100157
0157	P0039	C800	DMS13	LDA	BUFADD		N5100158
	P003A	00CD					N5100159
0158	P003B	09FE		INA	-1		N5100160
0159	P003C	60FF		STA-	I		N5100161
0160	P003D	0C00		ENQ	0	FILL BUFFER WITH SPACE	N5100162
0161	P003E	C000	MA12	LDA	=A		N5100163
	P003F	2020					N5100164
0162	P0040	6301		STA-	1,B		N5100165
0163	P0041	0D01		INQ	1		N5100166
0164	P0042	0814		TRQ	A		N5100167
0165	P0043	09DB		INA	-36		N5100168
0166	P0044	0106		SAZ	MA14		N5100169
0167	P0045	18F8		JMP*	MA12		N5100170
0168	P0046	0005	DMSLOC	BZS	DMSLOC(5)		N5100171
0169			*			INSERT CORE LOCATION TAG	N5100172
0170			*				N5100173
0171	P004B	C8FC	MA14	LDA*	DMSLOC+2	CONVERT MSB TO ASC	N5100174
0172	P004C	582F		RTJ*	CV4A		N5100175
0173	P004D	6101		STA-	1,I		N5100176
0174	P004E	C8FA		LDA*	DMSLOC+3	GET LSB AND CONVERT TO ASC	N5100177
0175	P004F	582C		RTJ*	CV4A		N5100178
0176	P0050	4102		STQ-	2,I		N5100179
0177	P0051	6103		STA-	3,I		N5100180
0178	P0052	C8F7		LDA*	DMSLOC+4	GET WORD	N5100181
0179	P0053	5828		RTJ*	CV4A		N5100182
0180	P0054	6827		STA*	CV4A		N5100183
0181	P0055	0814		TRQ	A		N5100184

0182 P0056 0C2F
 0183 P0057 0FE8
 0184 P0058 4104
 0185 P0059 E822
 0186 P005A 0FC8
 0187 P005B 0FF8
 0188 P005C 0920
 0189 P005D 6106
 0190 P005E 4105
 0191
 0192
 0193 P005F 0A07
 0194 P0060 8816
 0195 P0061 6815

ENQ SLASH
 LLS 8
 STQ- 4,I
 LDQ* CV4A
 ALS 3
 LLS 24
 INA \$20
 STA- 6,I
 STQ- 5,I

INSERT '/' BETWEEN SECTOR AND WORD

N5100182
 N5100183
 N5100184
 N5100185
 N5100186
 N5100187
 N5100188
 N5100189
 N5100190
 N5100191
 N5100192
 N5100193
 N5100194
 N5100195

*
*

INCREMENT DATA LOC. TO VALUE

ENA 7
 ADD* DATLOC
 STA* DATLOC

0197
 0198
 0199
 0200 P0062 E813
 0201 P0063 CA00
 P0064 0008
 0202 P0065 6862
 0203 P0066 CA00
 P0067 0006
 0204 P0068 6860
 0205 P0069 CA00
 P006A 0004
 0206 P006B 685E
 0207 P006C 0D03
 0208 P006D 4808

*

*

GET AND ASSEMBLE VALUE

SET UP INDEX AND MOVE FLOATING POINT VALUE INTO CALLING PARAMETER LOCATION

DMS22

LDQ* INDEX
 LDA DMSBUF,Q
 STA* VALUE
 LDA DMSBUF+1,Q
 STA* VALUE+1
 LDA DMSBUF+2,Q
 STA* VALUE+2
 INQ 3
 STQ* INDEX

N5100197
 N5100198
 N5100199
 N5100200
 N5100201
 N5100202
 N5100203
 N5100204
 N5100205
 N5100206
 N5100207
 N5100208

0210
 0211
 0212 P006E 54F4
 0213 P006F 1547
 0214 P0070 0028
 0215 P0071 0000
 0216 P0072 0000
 0217 P0073 0708
 0218 P0074 14EA
 0219 P0075 0000

*

REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE

LSP12
 LSPCAL
 LSP13
 INDEX

RTJ- (AMONI)
 ADC \$1540+CHRSLV
 ADC LSPACE-LSPCAL
 NUM 0
 NUM 0
 ADC FLOATZ
 JMP- (ADISP)
 NUM 0

CORE LOCATION OF REQUESTED SPACE

N5100210
 N5100211
 N5100212
 N5100213
 N5100214
 N5100215
 N5100216
 N5100217
 N5100218
 N5100219

*

0221
 0222 P0076 0000
 0223 P0077 0000
 0224 P0078 0000
 0225 P0079 0000
 0226 P007A 0000

DATLOC NUM 0
 EXTHAN NUM 0
 COUNT NUM 0
 BASE NUM 0

MSG ADD.
 HANDLE ADD.
 PARAMETER ADD.

N5100221
 N5100222
 N5100223
 N5100224
 N5100225
 N5100226

0228

*

N5100228

ROUTINE TO CONVERT TO I-WORD ASCII

```

0229 *****
0230 *
0231 CV4A NOP 0 ENTRY
0232 P007P 0B00 ENQ 0
0233 P007C 0C00 STQ* CI SET UP INDEX
0234 P007D 4815 C1 LLS 12 EXTRACT 4-BIT TO A-REG.
0235 P007E 0FEC ALS 4
0236 P007F 0FC4 STQ* CT SAVE REMAINDER
0237 P0080 480D INA -10 SET UP CHAR. AS NO. OR A-F
0238 P0081 09F5 SAM NOAF1
0239 P0082 0131 INA 7
0240 P0083 0907 NOAF1 INA $3A
0241 P0084 093A LDQ* CI RECALL INDEX TO SAVE CHAR.
0242 P0085 E800 STA* CU,Q
0243 P0086 6A08 INQ -3 CHECK IF DONE
0244 P0087 0DFC SQZ CE SKIP WHEN DONE
0245 P0088 J14A RAO* CI
0246 P0089 D809 ENQ 0
0247 P008A 0C00 LDA* CT TO PROCESS ANOTHER ONE
0248 P008B C802 JMP* C1
0249 *
0250 P008D 6000 CT NUM 0
0251 P008E 0004 CU BZS CU(4)
0252 P0092 0060 CI NUM 0
0253 *
0254 CE LDQ* CU+3
0255 P0093 E8FD QLS 8 ASSEMBLE INTO 2-CHAR. WORD
0256 P0094 0FA8 ADQ* CU+2
0257 P0095 F8FA LDA* CU+1
0258 P0096 C8F8 ALS 8
0259 P0097 0FC8 ADD* CU
0260 P0098 88F5 JMP* (CV4A) RETURN
0261 P0099 1CE1

0262 *
0263 P009A 0161 LSPACE SQP LSP15 SPACE BE GRANTED, DO SOMETHING
0264 P009B 1822 JMP* DSPEIO TO ERROR (I/O ERROR)
0265 *
0266 LSP15 STQ* LSP25 SET LOC. WHERE PROGRAM TO BE READ
0267 P009C 4816 STQ* LSP31
0268 P009D 481F STQ* LSP40
0269 P009E 4827 RTJ* SELF GENERATE RETURN ADD.
0270 P009F 5801 SELF
0271 P00A0 0B00 NOP 0
0272 P00A1 C8FE LDA* SELF
0273 P00A2 0919 INA LSP30-SELF
0274 P00A3 680B STA* LSP24
0275 P00A4 C812 LDA* OFTB GENERATE "MMADDR" LOCATION
0276 P00A5 9812 SUB* OFTB+1
0277 P00A6 88D0 ADD* EXTMSG
0278 P00A7 0822 TRA Q
0279 P00A8 C810 LDA* FLTADD GET FLOAT PACKAGE SECTOR ADD.
0280 P00A9 5622 RTJ- (ZERO),Q TO 'MMADDR' FOR MM ADD. CONVERSION
0281 P00AA 680A STA* LSP26 SAVE LSB

```

```

N5100229
N5100230
N5100231
N5100232
N5100233
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N5100278
N5100279
N5100280

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0281	P00AB	4808		STQ*	LSP26-1				N5100281
0282	P00AC	54F4		RTJ-	(AMONI)				N5100282
0283	P00AD	0807	LSP20	ADC	\$800+CHRSLV				N5100283
0284	P00AE	0000	LSP24	NUM	0		RETURN (TO BE FILLED)		N5100284
0285	P00AF	0000		NUM	0		THREAD		N5100285
0286	P00B0	08C2		ADC	MASSLU				N5100286
0287	P00B1	0708		ADC	FLOATZ				N5100287
0288	P00B2	0000	LSP25	NUM	0		FLOAT PACKAGE ADD. (TO BE FILLED)		N5100288
0289	P00B3	0000		NUM	0				N5100289
0290	P00B4	0000	LSP26	NUM	0		SECTOR ADD. (TO BE FILLED)		N5100290
0291	P00B5	14EA		JMP-	(ADISP)				N5100291
0293			*						N5100293
0294	P00B6	7FFF	X	OFTB	ADC	MMADDR	0. "MMADDR"		N5100294
0295	P00B7	7FFF	X		ADC	MSG	1. "MSG"		N5100295
0296	P00B8	7FFF	X	FLTADD	ADC	DCONV	D- OR F-FORMAT CONVERSION FOR DOUBLE		N5100296
0298			*						N5100298
0299	P00B9	0166	LSP33	SQP	LSP35		MM TRANSFER OK, SKIP		N5100299
0300	P00BA	54F4		RTJ-	(AMONI)		RELEASE CORE		N5100300
0301	P00BB	1800		NUM	\$1800				N5100301
0302	P00BC	0000	LSP31	NUM	0				N5100302
0303	P00BD	E8BC	DSPEI 0	LDQ*	BASE		EXIT TO "IOERR"		N5100303
0304	P00BE	E204		LDQ-	IOERR,Q		EXIT TO "IOERR"		N5100304
0305	P00BF	1622		JMP-	(ZERO),Q				N5100305
0306			*						N5100306
0307			*****				FLOAT PACKAGE IS IN CORE, CONVERT NO.		N5100307
0308			*						N5100308
0309	P00C0	0C01	LSP35	ENQ	1				N5100309
0310	P00C1	5CB0		RTJ*	(LSP13)				N5100310
0311	P00C2	0005		ADC	VALUE-*				N5100311
0312	P00C3	54F4	LSP37	RTJ-	(AMONI)		RELEASE CORE		N5100312
0313	P00C4	1800		NUM	\$1800				N5100313
0314	P00C5	0000	LSP43	NUM	0		ADD. (TO BE FILLED)		N5100314
0315	P00C6	1819		JMP*	DSP100				N5100315
0317			*				STORAGE AND/OR CONSTANTS		N5100317
0318	P00C7	0018	VALUE	BZS	VALUE(24)				N5100318
0320			*						N5100320
0321			*****				INSERT INTEGER INTO OUTPUT FORMAT		N5100321
0322			*						N5100322
0323	P00DF	0C00	DSP100	ENQ	0				N5100323
0324	P00E0	CAE9	DSP101	LDA*	VALUE+3,Q		ASSEMBLE 2-DIGIT INTO ONE WORD (INTEGER)		N5100324
0325	P00E1	0FC8		ALS	8				N5100325

0326	P00F2	8AE8	ADD*	VALUE+4,Q		N5100326
0327	P00E3	6C92	STA*	(DATLOC)		N5100327
0328	P00E4	D891	RAO*	DATLOC		N5100328
0329	P00E5	0D02	INQ	2	BUMP NO. OF INTEGER IN E-FORMAT	N5100329
0330	P00E6	0814	TRQ	A		N5100330
0331	P00E7	09EB	INA	-20	CHECK IF DONE	N5100331
0332	P00E8	0121	SAP	DSP102		N5100332
0333	P00E9	18F6	JMP*	DSP101		N5100333
0334	P00EA	D88B	DSP102 RAO*	DATLOC		N5100334
0335	P00EB	D88A	RAO*	DATLOC		N5100335
0336	P00EC	D889	RAO*	DATLOC	BUMP POINTER TO NEXT VALUE	N5100336
0338			*		CHECK IF LINE EXHAUSTED	N5100338
0339	P00ED	D88B	RAO*	COUNT		N5100339
0340	P00EE	C88A	LDA*	COUNT		N5100340
0341	P00EF	09FD	INA	-WRDLN		N5100341
0342	P00F0	E84B	LDQ*	WDBF	CHECK IF BUFFER EMPTY	N5100342
0343	P00F1	0DFC	INQ	-3		N5100343
0344	P00F2	4849	STQ*	WDBF		N5100344
0345	P00F3	C10A	SAZ	DSP105		N5100345
0346	P00F4	C800	LDA	NW	CHECK IF DATA EXHAUSTED	N5100346
0347	P00F6	09FC	INA	-3		N5100347
0348	P00F7	6800	STA	NW		N5100348
0349	P00F9	0104	SAZ	DSP105		N5100349
0350	P00FA	0133	SAM	DSP105		N5100350
0351	P00FB	0142	SQZ	DSP105	SKIP IF BUFFER EMPTY	N5100351
0352	P00FC	1800	JMP	DMS22		N5100352
0352	P00FD	FF64				
0354			*			N5100354
0355			*****		PRINT DATA	N5100355
0356			*			N5100356
0357	P00FE	C8A1	DSP105 LDA*	SELF		N5100357
0358	P00FF	0969	INA	DSPRET-SELF		N5100358
0359	P0100	6803	STA*	DSPX		N5100359
0360	P0101	54F4	RTJ-	(AMONI)	CALL MONITOR	N5100360
0361	P0102	0C07	ADC	\$C00+CHRSLV		N5100361
0362	P0103	0000	DSPX NUM	0	EXIT (TO BE FILLED)	N5100362
0363	P0104	0000	NUM	0		N5100363
0364	P0105	0000	OTLU NUM	0	LU (TO BE FILLED)	N5100364
0365	P0106	0024	ADC	LNWD36		N5100365
0366	P0107	0000	BUFADD NUM	0	"BUFFER" ADD.	N5100366
0367	P0108	14EA	JMP-	(ADISP)		N5100367
0369			*		RETURN FROM OUTPUT	N5100369
0370	P0109	0161	DSPRET SQP	DSPOK		N5100370
0371	P010A	18B2	JMP*	DSPEIO	TO "IOERR" ERROR EXIT	N5100371
0372			*			N5100372

0373	P010B	C400	X	DSPOK	LDA	CHRSFG	CHECK IF "DX"	N5100373
	P010C	7FFF	X					
0374	P010D	0111			SAN	DSPREP	NO, SKIP	N5100374
0375	P010E	1819			JMP*	GONE	YES, TO EXIT	N5100375
0376	P010F	C800		DSPREP	LDA	NW	CHECK IF ALL DATA EXHAUSTED	N5100376
	P0110	FF09						
0377	P0111	09FC			INA	-3		N5100377
0378	P0112	6800			STA	NW		N5100378
	P0113	FF06						
0379	P0114	010E			SAZ	DSPDON		N5100379
0380	P0115	013D			SAM	DSPDON		N5100380
0381	P0116	C8F0			LDA*	BUFADD	RESTORE BUFFER ADD. AND REPEAT	N5100381
0382	P0117	6800			STA	DATLOC		N5100382
	P0118	FF5D						
0383	P0119	C800			LDA	DMSLOC+4	UP DATA LOCATION COUNT	N5100383
	P011A	FF2F						
0384	P011B	0906			INA	6		N5100384
0385	P011C	6800			STA	DMSLOC+4		N5100385
	P011D	FF2C						
0386	P011E	C81D			LDA*	WDBF	CHECK IF BUFFER EMPTY	N5100386
0387	P011F	0111			SAN	DMD70	NO, SKIP	N5100387
0388	P0120	1810			JMP*	DMD201	YES, TO UPDATE MM ADD. AND READ OVER DATA	N5100388
0389	P0121	1800		DMD70	JMP	DMS10		N5100389
	P0122	FF14						
0390				*			D O N E ----- E X I T	N5100390
0391	P0123	E800		DSPDON	LDQ	BASE		N5100391
	P0124	FF55						
0392	P0125	E203			LDQ-	SOMMOR,Q	EXIT TO "SOMMOR"	N5100392
0393	P0126	1622			JMP-	(ZERO),Q		N5100393
0394	P0127	E800		GONE	LDQ	BASE		N5100394
	P0128	FF51						
0395	P0129	C806			LDA*	OTB+1	GENERATE "OFF" ADDRESS	N5100395
0396	P012A	9804			SUB*	OTB		N5100396
0397	P012B	8201			ADD-	BHAN,Q		N5100397
0398	P012C	0822			TRA	Q		N5100398
0399	P012D	1622			JMP-	(ZERO),Q	TO "OFF"	N5100399
0400	P012E	7FFF	X	OTB	ADC	HANDLE	0. "HANDLE" ENTRY	N5100400
0401	P012F	7FFF	X		ADC	OFF	1. "OFF" ENTRY	N5100401
0403	P0130	6800		DMD201	STA	INDEX		N5100403
	P0131	FF43						
0404	P0132	0A1E			ENA	N040	UPDATE MM ADD.	N5100404
0405	P0133	8800			ADD	DMSL		N5100405
	P0134	FEFD						
0406	P0135	0123			SAP	DMD203		N5100406
0407	P0136	D800			RAO	DMSM		N5100407
	P0137	FEF9						
0408	P0138	A011			AND-	LPMSK+15		N5100408
0409	P0139	1800		DMD203	JMP	DMD1R	TO READ OVER MORE DATA	N5100409
	P013A	FEFA						
0410	P013B	0000		WDBF	NUM	0		N5100410

0412
0413 P013C 001E * DMSBUF BZS DMSBUF(30)

N5100412
N5100413

0415
0416 0003 P * EQU SA49(* /96)
0417 0004 P EQU SP49(SA49+1)
0418 0180 P EQU DB49(SP49*96)
0419 P015A 0026 BSS (DB49-*)
0420 END

N5100415
N5100416
N5100417
N5100418
N5100419
N5100420

PGM= 0180 (384) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0092, 0159
0046	AMONI	00F4	(000244) 0138, 0212, 0282, 0300, 0312, 0360
0046	ADISP	00E4	(000234) 0147, 0218, 0291, 0367
0046	LPMSK	0002	(000002) 0123, 0408
0046	NZERO	0012	(000018)
0046	ZROBIT	0033	(000051)
0047	FIVE	0043	(000067)
0047	SIX	0044	(000068)
0047	ZERO	0022	(000034) 0279, 0305, 0393, 0399
0047	ONEBIT	0023	(000035)
0047	SIXTEN	0027	(000039)
0048	COMMA	002C	(000044)
0048	SLASH	002F	(000047) 0182
0048	ASTRIC	002A	(000042)
0049	EIGHT	0026	(000038)
0049	NINE	0045	(000069)
0049	THREE	0004	(000004)
0049	ONE	0003	(000003)
0049	TWO	0024	(000036)
0050	TEN	0046	(000070)
0051	MASK	0003	(000003)
0053	CHRSLV	0007	(000007) 0139, 0213, 0283, 0361
0054	EXTBV4	00E9	(000233)
0055	LNWD36	0024	(000036) 0365
0056	ASMOD	1000	(004096) 0128
0057	MASSLU	08C2	(002242) 0286
0058	FLOATZ	0708	(001800) 0217, 0287
0059	NO40	001E	(000030) 0155, 0404
0060	WRDLN	0002	(000002) 0341
0062	KARPER	002E	(000046)
0063	KARF	0045	(000069)
0066	BHAN	0001	(000001) 0096, 0397
0067	BMSG	0002	(000002) 0098
0068	SOMMOR	0003	(000003) 0392
0069	IOERR	0004	(000004) 0304
0070	LISTLU	0005	(000005) 0100
0071	COMOLU	0006	(000006)
0072	NEWMLU	0007	(000007) 0103

0073	PROG1	0008	(000008)	
0074	PROG2	0009	(000009)	
0075	BITFLG	000A	(000010)	
0076	BUFCNT	000B	(000011)	
0077	FIELD	000C	(000012)	
0078	SLASHF	0010	(000016)	
0079	BUFEFT	0011	(000017)	0122
0080	BUFFER	0012	(000018)	0093
0082	GETFLO	0002	(000002)	0116
0083	ASCHEX	0003	(000003)	0119
0084	ASCDEC	0005	(000005)	
0085	FETMM	0009	(000009)	0112

SYMBOLS

DEF.LINE	NAMF	ADDRESS	REFERENCED AT LINE NUMBER
0034	DMDREQ	0000	0034
0112	DMSENT	0011	
0121	NW	001A	0346, 0348, 0376, 0378
0126	DSP3	001E	
0128	MODE	0020	0101
0130	DMS5	0021	0124
0134	DMD1R	0025	0409
0139	DMSCD	002B	0140, 0144
0142	DMSLU	002E	0104
0143	DMSZ	002F	0136
0145	DMSM	0031	0132, 0407
0146	DMSL	0032	0134, 0405
0149	DMSRT	0034	0140
0152	DMS10	0037	0149, 0389
0157	DMS13	0039	
0161	MA12	003E	0167
0168	DMSLOC	0046	0105, 0115, 0131, 0133, 0171, 0174, 0178, 0383, 0385
0171	MA14	004B	0166
0200	DMS22	0062	0352
0212	LSP12	006E	
0213	LSPCAL	006F	0214
0216	LSP13	0072	0310
0219	INDEX	0075	0130, 0200, 0208, 0403
0222	DATLOC	0076	0095, 0194, 0195, 0327, 0328, 0334, 0335, 0336, 0382
0223	EXTMSG	0077	0099, 0127, 0276
0224	EXTHAN	0078	0097, 0114, 0118, 0120
0225	COUNT	0079	0153, 0339, 0340
0226	BASE	007A	0091, 0303, 0391, 0394
0231	CV4A	007B	0172, 0175, 0179, 0180, 0185, 0260
0234	C1	007E	0248
0240	NOAF1	0084	0238
0250	CT	008D	0235, 0247
0251	CU	008E	0242, 0254, 0256, 0257, 0259
0252	CI	0092	0233, 0241, 0245
0254	CE	0093	0244
0263	LSPACE	009A	0214
0266	LSP15	009C	0263
0270	SELF	00A0	0269, 0271, 0272, 0357, 0358
0283	LSP20	00AD	
0284	LSP24	00AE	
0288	LSP25	00B2	0273
			0266

0290	LSP26	G0B4	0280, 0281
0294	OFTB	00B6	0274, 0275
0296	FLTADD	00B8	0278
0299	LSP30	00B9	0272
0302	LSP31	00BC	0267
0303	OSPEIO	00B0	0150, 0264, 0371
0309	LSP35	00C0	0299
0312	LSP37	00C3	
0314	LSP40	00C5	0268
0318	VALUE	00C7	0202, 0204, 0206, 0311, 0324, 0326
0323	DSP100	00DF	0315
0324	DSP101	00E0	0333
0334	DSP102	00EA	0332
0357	DSP105	00FE	0345, 0349, 0350, 0351
0362	DSPX	0103	0359
0364	OTLU	0105	0102
0366	BUFADD	0107	0094, 0157, 0381
0370	DSPRET	0109	0358
0373	DSPOK	010B	0370
0376	DSPREP	010F	0374
0389	DMD70	0121	0387
0391	DSPDON	0123	0379, 0380
0394	GONE	0127	0375, 0396
0400	OTB	012E	0395
0403	DMD201	0130	0388
0409	DMD203	0139	0406
0410	WDBF	013B	0137, 0342, 0344, 0386
0413	DMSBUF	013C	0144, 0201, 0203, 0205
0416	SA49	0003	0417
0417	SP49	J004	0418
0418	DB49	0180	0419

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0037	D CONV	00B8	0296
0038	MMADDR	00B6	0294
0039	MSG	00B7	0295
0041	CHRSFG	010C	0373
0042	OFF	012F	0401
0043	HANDLE	012E	0400


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0053      *          ' E Q U '       T A B L E          N5200053
0054      EQU  AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)  N5200054

0055      EQU  FIVE($+3),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)  N5200055

0056      EQU  COMMA($2C),SLASH($2F),ASTRIC($2A)          N5200056

0057      EQU  EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N5200057

0058      EQU  TEN($46)                                     N5200058
0059      EQU  MASK(3)                                     N5200059
0060      EQU  EXTRV4($E9)  ONE BIT MASK                   N5200060
                                LOCATION CONTAINS EXTENDED CORE TABLE

0062      EQU  CHRSLV(7)  LEVEL OF THIS PROGRAM          116*4360*****
0063      EQU  ASMDD($1000)  OUTPUT ASC MODE             N5200063
0064      EQU  NO96(96)    BUFFER SIZE                   N5200064
0065      EQU  WDK(40)     "WDK" PROGRAM INDEX           N5200065

*          PARAMETER LOCATION (OFFSET FROM BASE)

0067      EQU  HANDLE(1)  "HANDLE"                      N5200067
0068      EQU  MSG(2)     "MSG" ENTRY                    N5200068
0069      EQU  SOMMOR(3)  "SOMMOR" ENTRY                 N5200069
0070      EQU  IOERR(4)  "IOERR" ENTRY                  N5200070
0071      EQU  LISTLU(5) LIST OUTPUT --- "LISTLU"       N5200071
0072      EQU  COMOLU(6) "COMOLU"                      N5200072
0073      EQU  NEWMLU(7) "NEWMLU" --- NEW MM LU         N5200073
0074      EQU  PROG1(8)  "PROG1"                      N5200074
0075      EQU  PROG2(9)  "PROG2"                      N5200075
0076      EQU  BITFLG(10) "BITFLG"                    N5200076
0077      EQU  BUFCNT(11) "BUFCNT"                    N5200077
0078      EQU  FIELD(12) "FIELD"                      N5200078
0079      EQU  SLASHF(16) "SLASHF"                    N5200079
0080      EQU  BUFEMT(17) "BUFEMT"                    N5200080
0081      EQU  BUFFER(18) "BUFFER"                    N5200081
0082

*          SUBROUTINE "EQU" POINTERS

0084      EQU  GETFLD(2)  "GETFLD"                     N5200084
0085      EQU  ASCHEX(3)  "ASCHEX"                     N5200085
0086      EQU  ASCDEC(5)  "ASCDEC"                     N5200086
0087      EQU  FETMM(9)  "FETMM" --- GET MM ADDRESS     N5200087
0088

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0089 000B EQU MASOT(11) "MASOT"-- PRINT MM DATA WITH DIFF. FORMATS N5200089

0091 * N5200091
0092 ***** PROGRAM START ***** N5200092
0093 * N5200093

0095 P0000 6861 WDKREQ STA* BASE N5200095
0096 0000 EQU RDKREQ(WDKREQ) N5200096
0097 P0001 60FF STA- I N5200097
0098 P0002 C101 LDA- HANDLE,I GET AND SAVE "HANDLG" N5200098
0099 P0003 685F STA* EXTHAN N5200099
0100 P0004 C102 LDA- MSG,I FETCH AND STORE "MSG" N5200100
0101 P0005 685E STA* EXTMSG N5200101
0102 P0006 C107 LDA- NEWMLU,I GET MM LU N5200102
0103 P0007 685E STA* DMHLOC N5200103
0104 P0008 684F STA* OTLU N5200104
0105 P0009 C109 LDA- PROG2,I CALCULATE PROGRAM TYPE N5200105
0106 P000A 09D7 INA -WDK N5200106
0107 P000B 6859 STA* PROTP N5200107

0109 *** GET CORE ADDRESSES N5200109
0110 P000C 0C04 ENQ 4 GET START CORE N5200110
0111 P000D 0A02 ENA GETFLD N5200111
0112 P000E 5C54 RTJ* (EXTHAN) N5200112
0113 P000F 0A03 ENA ASCHEX N5200113
0114 P0010 5C52 RTJ* (EXTHAN) N5200114
0115 P0011 0000 SC NUM 0 N5200115
0116 P0012 0C04 ENQ 4 GET END CORE N5200116
0117 P0013 0A02 ENA GETFLD N5200117
0118 P0014 5C4E RTJ* (EXTHAN) N5200118
0119 P0015 0A03 ENA ASCHEX N5200119
0120 P0016 5C4C RTJ* (EXTHAN) N5200120
0121 P0017 0000 EC NUM 0 N5200121

0123 * GET MM ADDRESS N5200123
0124 P0018 0A09 ENA FETMM GET MM ADDRESS WITH INPUT MM ADD. DATA SAVE N5200124
0125 P0019 0C01 ENQ 1 N5200125
0126 P001A 5C48 RTJ* (EXTHAN) N5200126
0127 P001B 004A ADC DMHLOC-* N5200127
0128 P001C C111 LDA- BUFEMT,I MAKE SURE NO MORE DATA N5200128
0129 P001D B012 EOR- LPMSK+16 N5200129
0130 P001E 0102 SAZ DMH6 N5200130
0131 * N5200131
0132 P001F 0C04 DMH3 ENQ 4 FORMAT ERROR N5200132
0133 P0020 1C43 JMP* (EXTMSG) N5200133
0134 P0021 C0F5 DMH6 LDA- \$F5 N5200134
0135 P0022 6800 STA MAX N5200135
0136 P0023 00C7 LDA* SC N5200136
0136 P0024 C8EC MAKE SURE START/END CORE WITHIN LIMIT

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0137 P0025 58C0 RTJ CORADK N5200137
      P0026 00C5
0138 PC027 18F7 JMP* DMH3 ERROR N5200138
0139 P0028 C8EE LDA* EC N5200139
0140 P0029 5800 RTJ CORADK N5200140
      P002A 00C1
0141 P002B 18F3 JMP* DMH3 N5200141
0142 * MAKE SURE END CORE LARGER N5200142
0143 P002C C8E4 LDA* SC N5200143
0144 P002D E8E9 LDQ* EC N5200144
0145 P002E 0135 SAM WDK4 START CORE IS OVER 32K N5200145
0146 P002F 0173 SQM WDK2 N5200146
0147 P0030 0864 TCA A N5200147
0148 P0031 0834 AAQ A N5200148
0149 P0032 0134 SAM WDK6 ERROR, SKIP N5200149
0150 P0033 1807 WDK2 JMP* WDK10 OK, GO N5200150
0151 * N5200151
0152 P0034 0162 WDK4 SQP WDK6 ERROR, N5200152
0153 P0035 0834 AAQ A N5200153
0154 P0036 0123 SAP WDK10 N5200154
0155 PC037 18E7 WDK6 JMP* DMH3 TO ERROR N5200155
0156 P0038 0507 WRCD ADC $500+CHRSLV 0. WRITE N5200156
0157 P0039 0307 ADC $300+CHRSLV 1. READ N5200157
0158 * N5200158
0159 P003A E82A WDK10 LDQ* PROTOP SET UP READ/WRITE CODE ACCORDINGLY N5200159
0160 P003B 40FF STQ- I N5200160
0161 P003C CAFB LDA* WRCD, Q N5200161
0162 P003D 6817 STA* DMHCD N5200162
0163 P003E 015D SQN DMH9 SKIP ON READ N5200163
0164 P003F C0D1 WDK20 LDA* (SC) MOVE DATA TO TEMPORARY BUFFER FOR XFER N5200164
0165 P0040 694A STA* MMDAT, I N5200165
0166 P0041 D8CF RAO* SC N5200166
0167 P0042 D0FF RAO- I N5200167
0168 P0043 C8D3 LDA* EC CHECK IF DONE N5200168
0169 P0044 98CC SUB* SC N5200169
0170 P0045 0134 SAM WDK22 DONE, SKIP N5200170
0171 P0046 C0FF LDA- I CHECK IF BUFFER OVER MAX. N5200171
0172 P0047 099F INA -N096 N5200172
0173 P0048 0101 SAZ WDK22 N5200173
0174 P0049 18F5 JMP* WDK20 N5200174
0175 P004A C0FF WDK22 LDA- I N5200175
0176 P004B 1802 JMP* DMH10 N5200176

0178 * N5200178
0179 ***** INPUT DATA IN, TO READ OVER MM DATA N5200179
0180 * N5200180
0181 P004C 0A60 DMH9 ENA N096 N5200181
0182 P004D 680B DMH10 STA* DMHZ N5200182
0183 P004E 681D STA* SIZE N5200183
0184 P004F C816 LDA* DMHLOC SET UP MM ADD. N5200184
0185 P0050 680A STA* DMHM N5200185

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0186	P0051	C815	LDA*	DMHLOC+1			N5200186
0187	P0052	6809	STA*	DMHL			N5200187
0188	P0053	54F4	RTJ-	(AMONI)			N5200188
0189	P0054	0307	DMHCD	ADC \$300+CHRSLV	READ		N5200189
0190	P0055	0009		ADC DMHRT-DMHCD	RETURN		N5200190
0191	P0056	0000		NUM 0	THREAD		N5200191
0192	P0057	0000	OTLU	NUM 0	LU (TO BE FILLED)		N5200192
0193	P0058	0060	DMHZ	ADC N096	NO. OF WORDS		N5200193
0194	P0059	0036		ADC MMDAT-DMHCD	BUFFER		N5200194
0195	P005A	0000	DMHM	NUM 0	MSB (TO BE FILLED)		N5200195
0196	P005B	0000	DMHL	NUM 0	LSB		N5200196
0197	P005C	14EA		JMP- (ADISP)			N5200197
0199			*				N5200199
0200	P005D	016E	DMHRT	SQP DMH20			N5200200
0201	P005E	E803		LDQ* BASE	I/O ERROR		N5200201
0202	P005F	E204		LDQ- IOERR,Q			N5200202
0203	P0060	1622		JMP- (ZERO),Q			N5200203
0205			*		S T O R A G E		N5200205
0206	P0061	0000		BASE NUM 0			N5200206
0207	P0062	0000		EXTHAN NUM 0			N5200207
0208	P0063	0000		EXTMSG NUM 0			N5200208
0209	P0064	0000		PROTYP NUM 0	PROGRAM TYPE		N5200209
0210	P0065	0005		DMHLOC BZS DMHLOC(5)			N5200210
0211	P006A	0000		DONE NUM 0			N5200211
0212	P006B	0000		SIZE NUM 0			N5200212
0214			*		DATA BEEN READ/WRITE, CHECK TYPE AND		N5200214
0215			*		CONTINUE ACCORDINGLY		N5200215
0216	P006C	E8F7	DMH20	LDQ* PROTYP			N5200216
0217	P006D	0157		SQN RDK3	SKIP ON READ		N5200217
0218	P006E	C8A8		LDA* EC	CHECK IF DONE		N5200218
0219	P006F	98A1		SUB* SC			N5200219
0220	P0070	0131		SAM GONE	YES, SKIP		N5200220
0221	P0071	1812		JMP* DMH33	NO, UP DATE		N5200221
0222	P0072	E8EE	GONE	LDQ* BASE	EXIT TO "SOMMOR"		N5200222
0223	P0073	E203		LDQ- SOMMOR,Q			N5200223
0224	P0074	1622		JMP- (ZERO),Q			N5200224
0226			*		READ OPERATION, MOVE DATA		N5200226
0227	P0075	0A00	RDK3	ENA 0			N5200227
0228	P0076	60FF		STA- I	SET UP INDEXES TO MOVE DATA FROM TEMPORARY		N5200228
0229	P0077	C913	RDK4	LDA* MMDAT,I	TO CORE		N5200229
0230	P0078	6C98		STA* (SC)			N5200230
0231	P0079	D897		RAO* SC			N5200231
0232	P007A	D0FF		RAO- I			N5200232
0233	P007B	C898		LDA* EC	CHECK IF DONE		N5200233
0234	P007C	9894		SUB* SC			N5200234

0235 PG07D 0121
 0236 P007E 18F3
 0237 P007F C0FF
 0238 P0080 98D7
 0239 P0081 0101
 0240 P0082 18F4
 0241
 0242 PG083 C8E2
 0243 P0084 88D3
 0244 P0085 0122
 0245 P0086 A011
 0246 P0087 08DD
 0247 P0088 68DD
 0248 P0089 18B0
 0249 P008A 0060
 0250 P00EA 0000

RDK5

* DMH33

DMH31

MMDAT

MAX

SAP RDK5
 JMP* GONE
 LDA- I
 SUB* DMHZ
 SAZ DMH33
 JMP* RDK4
 LDA* DMHLOC+1
 ADD* DMHZ
 SAP DMH31
 AND- LPMSK+15
 RAO* DMHLOC
 STA* DMHLOC+1
 JMP* WDK10
 BZS MMDAT(96)
 NUM 0

UPDATE POINTERS AND REPEAT
 ADJUST MM ADD. AND REPEAT

N5200235
 N5200236
 N5200237
 N5200238
 N5200239
 N5200240
 N5200241
 N5200242
 N5200243
 N5200244
 N5200245
 N5200246
 N5200247
 N5200248
 N5200249
 N5200250

0252
 0253
 0254 P00EB 0B00
 0255 P00EC E0E9
 0256 P00ED E622
 0257 P00EE 0155
 0258 P00EF 0133
 0259 P00F0 98F9
 0260 P00F1 0137
 0261 P00F2 0106
 0262 P00F3 1CF7

* CORADK

AD32EX

NOP 0
 LDQ- EXTBV4
 LDQ- (ZERO),Q
 SQN AD65
 SAM AD32EX
 SUB* MAX
 SAM AD65EX
 SAZ AD65EX
 JMP* (CORADK)

CHECK ADDRESSES TO BE WITHIN 32K

ENTRY
 GET 32K/65K FLAG (32K=0, 65K=1)

SKIP ON 65K
 ERROR, OVER 32K

RETURN

N5200252
 N5200253
 N5200254
 N5200255
 N5200256
 N5200257
 N5200258
 N5200259
 N5200260
 N5200261
 N5200262

0264
 0265 P00F4 0124
 0266 P00F5 98F4
 0267 P00F6 0132
 0268 P00F7 0101
 0269 P00F8 18FA
 0270 P00F9 D8F1
 0271 P00FA 1CF0

AD65

AD65EX

SAP AD65EX
 SUB* MAX
 SAM AD65EX
 SAZ AD65EX
 JMP* AD32EX
 RAO* CORADK
 JMP* (CORADK)

CHECK TO BE WITHIN 65K OR LESS

SKIP FOR 32K OR SO

OK, SKIP
 OK, SKIP
 ERROR, GO
 SET NORMAL EXIT
 NORMAL RETURN

N5200264
 N5200265
 N5200266
 N5200267
 N5200268
 N5200269
 N5200270
 N5200271

0273
 0274 0002 P
 0275 0003 P
 0276 0120 P
 0277 P00FB 0025
 0278

*

EQU SA40(*96)
 EQU SP40(SA40+1)
 EQU DB40(SP40*96)
 BSS (DB40-*)
 END

N5200273
 N5200274
 N5200275
 N5200276
 N5200277
 N5200278

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0097, 0160, 0167, 0171, 0175, 0228, 0232, 0237
0054	AMONI	00F4	(000244) 0188
0054	ADISP	00EA	(000234) 0197
0054	LPMSK	0002	(000002) 0129, 0245
0054	NZERO	0012	(000018)
0054	ZROBIT	0033	(000051)
0055	FIVE	0043	(000067)
0055	SIX	0044	(000068)
0055	ZERO	0022	(000034) 0203, 0224, 0256
0055	ONEBIT	0023	(000035)
0055	SIXTEN	0027	(000039)
0056	COMMA	002C	(000044)
0056	SLASH	002F	(000047)
0056	ASTRIC	002A	(000042)
0057	EIGHT	0026	(000038)
0057	NINE	0045	(000069)
0057	THREE	0004	(000004)
0057	ONE	0003	(000003)
0057	TWO	0024	(000036)
0058	TEN	0046	(000070)
0059	MASK	0003	(000003)
0060	EXTBV4	00E9	(000233) 0255
0062	CHRSLV	0007	(000007) 0156, 0157, 0189
0063	ASMOD	1000	(004096)
0064	NO96	0060	(000096) 0172, 0181, 0193
0065	WDK	0028	(000040) 0106
0068	HANDLE	0001	(000001) 0098
0069	MSG	0002	(000002) 0100
0070	SOMMOR	0033	(000003) 0223
0071	IOERR	0004	(000004) 0202
0072	LISTLU	0005	(000005)
0073	COMOLU	0006	(000006)
0074	NEWMLU	0007	(000007) 0102
0075	PROG1	0008	(000008)
0076	PROG2	0009	(000009) 0105
0077	BITFLG	000A	(000010)
0078	BUFCNT	000B	(000011)
0079	FIELD	000C	(000012)

0080	SLASHF	0010	(000016)	
0081	BUFEMT	0011	(000017)	0128
0082	BUFFER	0012	(000018)	
0085	GETFLD	0002	(000002)	0111, 0117
0086	ASCHEX	0003	(000003)	0113, 0119
0087	ASCDEC	0005	(000005)	
0088	FETMM	0009	(000009)	0124
0089	MASOT	0008	(000011)	

SYMBOLS

DEF.LIN#	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0048	WDKREQ	0000	0048, 0096
0049	RDKREQ	0000	0049
0115	SC	0011	0136, 0143, 0164, 0166, 0169, 0219, 0230, 0231, 0234
0121	EC	0017	0139, 0144, 0168, 0218, 0233
0132	DMH3	001F	0138, 0141, 0155
0134	DMH6	0021	0130
0150	WDK2	0033	0146
0152	WDK4	0034	0145
0155	WDK6	0037	0149, 0152
0156	WRCD	0038	0161
0159	WDK10	003A	0150, 0154, 0248
0164	WDK20	003F	0174
0175	WDK22	004A	0170, 0173
0181	DMH9	004C	0163
0182	DMH10	004D	0176
0189	DMHCD	0054	0162, 0190, 0194
0192	OTLU	0057	0104
0193	DMH7	0058	0182, 0238, 0243
0195	DMHM	005A	0185
0196	DMHL	005B	0187
0200	DMHRT	005D	0190
0206	BASE	0061	0095, 0201, 0222
0207	EXTHAN	0062	0099, 0112, 0114, 0118, 0120, 0126
0208	EXTMSG	0063	0101, 0133
0209	PROTYP	0064	0107, 0159, 0216
0210	DMHLOC	0065	0103, 0127, 0184, 0186, 0242, 0246, 0247
0211	DONE	006A	
0212	SIZE	006B	0183
0216	DMH20	006C	0200
0222	GONE	0072	0220, 0236
0227	RDK3	0075	0217
0229	RDK4	0077	0240
0237	RDK5	007F	0235
0242	DMH33	0083	0221, 0239
0247	DMH31	0088	0244
0249	MMDAT	008A	0165, 0194, 0229
0250	MAX	00FA	0135, 0259, 0266
0254	CORADK	00EB	0137, 0140, 0262, 0270, 0271
0262	AD32EX	00F3	0258, 0269
0265	AD65	00F4	0257
0270	AD65EX	00F9	0260, 0261, 0265, 0267, 0268

0274	SA40	0002
0275	SP40	0003
0276	DB40	0120

0275
0276
0277

*** ALPHABETICAL SORT OF SYMBOLS ***

AD32EX	0262	AD65	0265	AD65EX	0270	ADISP	0054	AMONI	0054	ASCDEC	0087	ASCHEX	0086	ASMOD	0063	ASTRIC	0056
BASE	0206	BITFLG	0077	BUFCNT	0078	BUFEMT	0081	BUFFER	0082	CHRSLV	0062	COMMA	0056	COMOLU	0073	CORADK	0254
DB40	0276	DMH10	0182	DMH20	0216	DMH3	0132	DMH31	0247	DMH33	0242	DMH6	0134	DMH9	0181	DMHCD	0189
DMHL	0196	DMHLOC	0210	DMHM	0195	DMHRT	0200	DMHZ	0193	DONE	0211	EC	0121	EIGHT	0057	EXTBV4	0060
EXTHAN	0207	EXTMSG	0208	FETMM	0088	FIELD	0079	FIVE	0055	GETFLD	0085	GONE	0222	HANDLE	0068	I	0000
IOERR	0071	LISTLU	0072	LPMSK	0054	MASK	0059	MASOT	0089	MAX	0250	MMDAT	0249	MSG	0069	NEWMLU	0074
NINE	0057	NO96	0064	NZERO	0054	ONE	0057	ONEBIT	0055	OTLU	0192	PROG1	0075	PROG2	0076	PROTYP	0209
RDK3	0227	RDK4	0229	RDK5	0237	RDKREQ	0049	SA40	0274	SC	0115	SIX	0055	SIXTEN	0055	SIZE	0212
SLASH	0056	SLASHF	0080	SOMMOR	0070	SP40	0275	TEN	0058	THREE	0057	TWO	0057	WDK	0065	WDK10	0159
WDK2	0150	WDK20	0164	WDK22	0175	WDK4	0152	WDK6	0155	WDKREQ	0048	WRCD	0156	ZERO	0055	ZROBIT	0054

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0100
0101
0102
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0104

EXT CPPREQ
EXT SPPREQ
EXT ADHREQ
EXT SBHREQ
EXT ALCREQ
EXT RELREQ
EXT DACREQ
EXT PTHREQ
EXT ADFREQ
EXT BSFREQ
EXT ADDRREQ
EXT BSRREQ
EXT WEFREQ
EXT REWREQ
EXT LHCREQ
EXT LHOREQ
EXT LHMREQ
EXT DICREQ
EXT MSDREQ
EXT CLUREQ
EXT LITREQ
EXT LIMREQ
EXT WCDREQ
EXT RCDREQ
EXT LASREQ
EXT DASREQ
EXT MLUREQ
EXT OPTREQ
EXT LSPREQ
EXT DSPREQ
EXT LOPREQ
EXT DDPREQ
EXT WDKREQ
EXT RDKREQ
EXT SMPREQ
EXT CCCREQ
EXT MMMREQ
EXT DMHREQ
EXT DMIREQ
EXT DMAREQ
EXT DMSREQ
EXT DMDREQ
EXT CWAREQ
EXT CCMREQ
EXT CMMREQ
EXT SMNREQ
EXT UNLREQ
* REQUEST
EXT SLDREQ
EXT LICREQ
EXT LACREQ
EXT LIORREQ
EXT LAOREQ

CODE 54 IS

08. CLEAR PROTECT BITS
09. SET PROTECT BITS
10. ADD HEX. NUMBER
11. SUBTRACT HEX. NUMBER
12. ALLOCATE CORE
13. RELEASE CORE
14. LIST ALLOCATABLE CORE MAP
15. PRINT THREAD
16. ADVANCE FILE
17. BACKSPACE FILE
18. ADVANCE RECORD
19. BACKSPACE RECORD
20. WRITE END OF FILE
21. REWIND TAPE
22. MODIFY CORE IMAGE --- ASCII
23. MODIFY ORDINAL ---HEX
24. MODIFY MASS MEMORY --- HEX
25. DUMP DECIMAL (INTEGER)
26. LIST MASS MEMORY
27. CHANGE LIST UNIT
28. LOAD DECIMAL (INTEGER)
29. MODIFY MASS MEMORY (INTEGER)
30. WRITE CORE TO MM
31. READ TO CORE FROM MM
32. LOAD ASCII
33. DUMP ASCII
34. CHANGE MASS MEMORY UNIT
35. LIST PARTITION CORE MAP
36. LOAD SINGLE PRECISION
37. DUMP SINGLE PRECISION
38. LOAD DOUBLE PRECISION
39. DUMP DOUBLE PRECISION
40. WRITE TO DISK FROM CORE
41. READ FROM MASS MEMORY TO CORE
42. SET MASS MEMORY TO PATTERN
43. COMPARE CORE TO CORE
44. MOVE MASS MEMORY
45. DUMP MASS MEMORY
46. DUMP MASS MEMORY --- DECIMAL
47. DUMP MASS MEMORY (ASCII)
48. DUMP MASS MEMORY --- SINGLE PRECISION
49. DUMP MASS MEMORY --- DOUBLE PRECISION
50. CONVERT WORD ADD. TO SECTOR/WORD ADD.
51. COMPARE CORE TO MASS MEMORY
52. COMPARE MASS MEMORY TO MM
53. SEARCH MM FOR PATTERN
54. UNLOAD TAPE
55. SAME AS CODE 55 ----- 'UNL'
56. SELECT DENSITY
57. MODIFY CORE IMAGE (DECIMAL)
58. MODIFY CORE IMAGE (ASCII)
59. MODIFY ORDINAL (DECIMAL)
59. MODIFY ORDINAL (ASCII)

N5300052
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N5300101
N5300102
N5300103
N5300104

0105		EXT	LSOREQ	60. MODIFY ORDINAL (SINGLE PRECISION)	N5300105
0106		EXT	LDOREQ	61. MODIFY ORDINAL (DOUBLE PRECISION)	N5300106
0107		EXT	LAMREQ	62. MODIFY MM (ASCII)	N5300107
0108		EXT	LSMREQ	63. LOAD MM SINGLE PRECISION (SAME AS 60)	N5300108
0109		EXT	LDMREQ	64. MODIFY MM (DOUBLE PRECISION)	N5300109
0111		*		' E Q U ' T A B L E	N5300111
0112	00F4	EQU	AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)		N5300112
	00EA				
	0002				
	0012				
	0033				
0113	0043	EQU	FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)		N5300113
	0044				
	0022				
	0023				
	0027				
0114	002C	EQU	COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)		N5300114
	002F				
	002A				
0115	0026	EQU	EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)		N5300115
	0045				
	0004				
	0003				
	0024				
0116	0046	EQU	TEN(\$46)		N5300116
0117	0003	EQU	MASK(3) ONE BIT MASK		N5300117
0119	0007	EQU	CHRSLV(7) LEVEL OF THIS PROGRAM	116*4360*****	
0120	00E9	EQU	EXTBV4(\$E9)		N5300120
0121	1000	EQU	ASMOD(\$1000) ASC OUTPUT MODE		N5300121
0122	08C2	EQU	MASSLU(\$8C2) MASS MEMORY LU		N5300122
0123	0008	EQU	MSPG(8) NO. OF MESSAGE IN A PAGE		N5300123
0124	0060	EQU	N096(96) BUFFER SIZE		N5300124
0126		*		SUBROUTINE "EQU" POINTERS	N5300126
0127	0002	EQU	GETFLD(2) "GETFLD"		N5300127
0128	0003	EQU	ASCHEX(3) "ASCHEX"		N5300128
0129	0005	EQU	ASCDEC(5) "ASCDEC"		N5300129
0131		*		PARAMETER LOCATION (OFFSET FROM BASE)	N5300131
0132	0001	EQU	HANDLE(1) "HANDLE"		N5300132
0133	0002	EQU	BMSG(2) "MSG" ENTRY		N5300133
0134	0003	EQU	SOMMOR(3) "SOMMOR" ENTRY		N5300134
0135	0004	EQU	IOERR(4) "IOERR" ENTRY		N5300135
0136	0005	EQU	LISTLU(5) LIST OUTPUT --- "LISTLU"		N5300136
0137	0006	EQU	COMOLU(6) "COMOLU"		N5300137
0138	0007	EQU	NEWMLU(7) "NEWMLU" --- NEW MM LU		N5300138

0139	0008	EQU	PROG1(8)	"PROG1"	N5300139
0140	0009	EQU	PROG2(9)	"PROG2"	N5300140
0141	000A	EQU	BITFLG(10)	"BITFLG"	N5300141
0142	000B	EQU	BUFCNT(11)	"BUFCNT"	N5300142
0143	000C	EQU	FIELD(12)	"FIELD"	N5300143
0144	0010	EQU	SLASHF(16)	"SLASHF"	N5300144
0145	0011	EQU	BUFEMT(17)	"BUFEMT"	N5300145
0146	0012	EQU	BUFFER(18)	"BUFFER"	N5300146

0148	*				N5300148
0149	*****	*****	PROGRAM	START	N5300149
0150	*				N5300150

0152	P0000	6869	LSTREQ	STA* BASE	N5300152
0153	P0001	60FF		STA- I	N5300153
0154	P0002	C105		LDA- LISTLU, I	N5300154
0155	P0003	8868		ADD* MODE	N5300155
0156	P0004	683E		STA* OTLU	N5300156

GET LIST UNIT AS OUTPUT UNIT

0158	*****			GET COMMAND MESSAGE MM ADDRESS	N5300158
0159	P0005	C812		GENERATE "MMADDR" LOCATION	N5300159
0160	P0006	9812	LDA*	OTB	N5300160
0161	P0007	8102	SUB*	OTB+1	N5300161
0162	P0008	C822	ADD-	BMSG, I	N5300162
0163	P0009	C810	TRA	Q	N5300163
0164	P000A	5622	LDA*	OTB+2	N5300164
0165	P000B	680A	RTJ-	(ZERO), Q	N5300165
0166	P000C	4808	STA*	XFRLSB	N5300166
0167			STQ*	XFRMSB	N5300167
0168	P000D	54F4	* REPEAT	RTJ- (AMONI)	N5300168
0169	P000E	0907	XFRCD	ADC \$900+CHRSLV	N5300169
0170	P000F	000D		ADC XFRET-XFRCD	N5300170
0171	P0010	0000		NUM 0	N5300171
0172	P0011	08C2		ADC MASSLU	N5300172
0173	P0012	0060		ADC NO96	N5300173
0174	P0013	006F	XFBF	ADC MES-XFRCD	N5300174
0175	P0014	0000	XFRMSB	NUM 0	N5300175
0176	P0015	0000	XFRLSB	NUM 0	N5300176
0177	P0016	14EA	JMP-	(ADISP)	N5300177

TO "MMADDR" FOR MM ADD. CONVERSION
SAVE LSB AND MSB

THREAD
SIZE
MESSAGE BUFFER LOC. (FILLED)
MSB (FILLED)
LSB (FILLED)

0179	*				N5300179	
0180	P0017	7FFF	X	OTB	ADC MMADDR	N5300180
0181	P0018	7FFF	X		ADC MSG	N5300181
0182	P0019	7FFF	X		ADC NAMEMS	N5300182
0183	P001A	7FFF	X	OFTB	ADC OFF	N5300183
0184			*			N5300184
0185	P001B	0161		XFRET	SQP REDOK	N5300185
0186	P001C	182E		JMP*	ERIO	N5300186
0187	*					N5300187

0. "MMADDR" ENTRY
1. "MSG" ENTRY
2. "NAMEMS" ENTRY
3. 'OFF'

NO ERROR ENCOUNTERED
TO ERROR

0188	P001D	0A3E	REDOK	ENA	MES-PNTCD	SET UP BUFFER LOC.	N5300188
0189	P001E	8829		ADD*	CURTPT		N5300189
0190	P001F	6825		STA*	BUF		N5300190
0191	P0020	0A60		ENA	NO96	UPDATE SIZE OF MESSAGE	N5300191
0192	P0021	8825		ADD*	TOTAL		N5300192
0193	P0022	6824		STA*	TOTAL		N5300193
0194	P0023	E824		LDQ*	CURTPT		N5300194
0195	P0024	CA59	TERMCK	LDA*	MES,Q	GET NO. OF WORDS IN MESSAGE	N5300195
0196	P0025	09FE		INA	-1		N5300196
0197	P0026	681D		STA*	NOWORD		N5300197
0198	P0027	0902		INA	2		N5300198
0199	P0028	6820		STA*	TEMP		N5300199
0200	P0029	0864		TCA	A		N5300200
0201	P002A	881C		ADD*	TOTAL		N5300201
0202	P002B	0121		SAP	CKTY	MORE DATA IN BUFFER, SKIP	N5300202
0203	P002C	1840		JMP*	NEDROM	MESSAGE EXHAUSTED, GO UPDATE PROPER POINTERS	N5300203
0204	P002D	6819	CKTY	STA*	TOTAL		N5300204
0205	P002E	CA50		LDA*	MES+1,Q	CHECK FOR TERMINATOR	N5300205
0206	P002F	0123		SAP	MESTYP	NO, SKIP	N5300206
0207	P0030	E839	DONE	LDQ*	BASE	ALL DONE, EXIT OT 'SOMMOR'	N5300207
0208	P0031	E203		LDQ-	SOMMOR,Q		N5300208
0209	P0032	1622		JMP-	(ZERO),Q		N5300209
0210	P0033	0108	MESTYP	SAZ	NOHEAD	SKIP ON HEADING	N5300210
0211	P0034	E836		LDQ*	COUNT		N5300211
0212	P0035	D835		RAO*	COUNT	BUMP ENTRY COUNT BY 1	N5300212
0213	P0036	D800		RAO*	NOWORD		N5300213
0214	P0037	CA00		LDA	ENTABL,Q	GET ENTRY AND CHECK IF DEFINED IN SYSTEM.	N5300214
0215	P0038	J089					N5300215
0216	P0039	B011		EOR-	LPMSK+15		N5300216
0217	P003A	0112		SAN	ASMPNT		N5300217
0218	P003B	1812		JMP*	WRTOK	GO, ENTRY UNUSED	N5300218
0219	P003C	D808	NOHEAD	RAO*	BUF	BUMP BUFFER LOC. BY 1	N5300219
0220	P003D	D807	ASMPNT	RAO*	BUF	BUMP TO MESSAGE LOCATION	N5300220
			*				
0222			*	LIST	ALL NMEMONICS, ONE AT A TIME, CAN BE STOPPED		N5300222
0223			*		BY DX		N5300223
0224	P003E	54F4		RTJ-	(AMONI)		N5300224
0225	P003F	0D07	PNTCD	ADC	\$D00+CHRSLV	F-WRITE	N5300225
0226	P0040	000A		ADC	RET-PNTCD	RETURN	N5300226
0227	P0041	0000		NUM	0	THREAD	N5300227
0228	P0042	0000	OTLU	NUM	0	LOGICAL UNIT (FILLED)	N5300228
0229	P0043	0000	NOWORD	NUM	0	SIZE (FILLED)	N5300229
0230	P0044	0000	BUF	NUM	0	BUFFER LOC. (FILLED)	N5300230
0231	P0045	14FA		JMP-	(ADISP)		N5300231
0232			*				N5300232
0233	P0046	0000		TOTAL	NUM 0		N5300233
0234	P0047	0000		CURTPT	NUM 0		N5300234
0235	P0048	0000		TEMP	NUM 0		N5300235
			*				
0237			*				N5300237

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0238      ***          RETURN FROM WRITE
0239      *
0240 P0049 0163 RET SQP WRTOK OK, SKIP
0241 P004A E81F ERIO LDQ* BASE
0242 P004B E204 LDQ- IOERR,Q TO I/O ERROR
0243 P004C 1622 JMP- (ZERO),Q
0244      *
0245 P004D C400 X WRTOK LDA CHRSGF CHECK IF NO MORE PRINTING
0246 P004E 7FFF X SAN NEXTLN NO, SKIP
0247 P004F 0116 LDA* OFTB
0248 P0050 C8C9 SUB* OTB+1 GENERATE 'OFF' ADDRESS
0249 P0051 98C6 LDQ* BASE
0250 P0053 8202 ADD- BMSG,Q
0251 P0054 0822 TRA Q
0252 P0055 1622 JMP- (ZERO),Q TO 'OFF'

0254      *
0255 ***** CHECK IF ALL PRINTED
0256      *
0257 P0056 C8EF NEXTLN LDA* TOTAL CHECK IF BUFFER EMPTY
0258 P0057 011A SAN ADJBUF NO, SKIP
0259 P0058 68EE STA* CURTPT RESET BUFFER POINTER
0260 P0059 096F N1 INA MES-XFRCD
0261 P005A 68B8 STA* XFBF
0262 P005B C8B9 LDA* XFRLSB BUMP SECTOR ADDRESS BY 1
0263 P005C 0901 INA 1
0264 P005D 0122 SAP STL
0265 P005E D8B5 RAO* XFRMSB
0266 P005F A011 AND- LPMSK+15
0267 P0060 68B4 STL STA* XFRLSB
0268 P0061 18AB JMP* REPEAT TO GET NEXT PAGE
0269      *
0270      *
0271      *
0272 ***** MORE DATA IN BUFFER, CHECK IF ALL MESSAGE, DATA IN
0273 ***** OR TERMINATOR
0274      *
0275 P0062 E8E4 ADJBUF LDQ* CURTPT
0276 P0063 F8E4 ADQ* TEMP
0277 P0064 48E2 STQ* CURTPT
0278 P0065 0814 TRQ A
0279 P0066 093E INA MES-PNTCD
0280 P0067 68DC STA* BUF
0281 P0068 18BB JMP* TERMCK

0283      *          CONSTANT AND STORAGES
0284 P0069 0000 BASE NUM 0
0285 P006A 0000 COUNT NUM 0
0286 P006B 1000 MODE ADC ASMOD

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N5300238
N5300239
N5300240
N5300241
N5300242
N5300243
N5300244
N5300245
N5300246
N5300247
N5300248
N5300249
N5300250
N5300251
N5300252
N5300254
N5300255
N5300256
N5300257
N5300258
N5300259
N5300260
N5300261
N5300262
N5300263
N5300264
N5300265
N5300266
N5300267
N5300268
N5300269
N5300270
N5300271
N5300272
N5300273
N5300274
N5300275
N5300276
N5300277
N5300278
N5300279
N5300280
N5300281
N5300283
N5300284
N5300285
N5300286

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```

0288 *
0289 *****
0290 *
0291 P006C E8DA NEDROM LDQ* CURTPT SET UP INDEXES
0292 P006D C8D8 LDA* TOTAL
0293 P006E 68D9 STA* TEMP
0294 P006F 0A00 ENA 0
0295 P0070 60FF STA- I
0296 P0071 CA0C MOVDAT LDA* MES,Q MOVE DATA TO TOP OF MESSAGE BUFFER MAKE ROOM
0297 P0072 690B STA* MES,I FOR NEW DATA (AT BOTTOM)
0298 P0073 D0FF RAO- I
0299 P0074 C8D3 LDA* TEMP DECREMENT NO. OF WORDS REMAINED
0300 P0075 09FE INA -1
0301 P0076 0103 SAZ SETB SKIP WHEN DONE
0302 P0077 68D0 STA* TEMP OTHERWISE BUMP POINTERS
0303 P0078 0D01 INQ 1
0304 P0079 18F7 JMP* MOVDAT
0305 P007A 68CC SETB STA* CURTPT
0306 P007B C0FF LDA- I
0307 P007C 18DC JMP* N1

```

N5300288
N5300289
N5300290
N5300291
N5300292
N5300293
N5300294
N5300295
N5300296
N5300297
N5300298
N5300299
N5300300
N5300301
N5300302
N5300303
N5300304
N5300305
N5300306
N5300307

```

0309 *
0310 *****
0311 *
0312 *
0313 P007D 0074 MES BZS MES(N096+20)

```

N5300309
N5300310
N5300311
N5300312
N5300313

```

0315 *
0316 *****
0317 *
0318 *****
0319 *
0320 *

```

N5300315
N5300316
N5300317
N5300318
N5300319
N5300320

```

0322 P00F1 7FFF X ENTABL ADC LHXREQ 01. LOAD HEXADECIMAL
0323 P00F2 7FFF X ADC LITREQ 28. LOAD DECIMAL (INTEGER)
0324 P00F3 7FFF X ADC LASREQ 32. LOAD ASCII
0325 P00F4 7FFF X ADC LSPREQ 36. LOAD SINGLE PRECISION
0326 P00F5 7FFF X ADC LDPREQ 38. LOAD DOUBLE PRECISION
0327 P00F6 7FFF X ADC DPCREQ 02. DUMP HEXADECIMAL
0328 P00F7 7FFF X ADC DICREQ 25. DUMP DECIMAL (INTEGER)
0329 P00F8 7FFF X ADC DASREQ 33. DUMP ASCII
0330 P00F9 7FFF X ADC DSPREQ 37. DUMP SINGLE PRECISION
0331 P00FA 7FFF X ADC DDPREQ 39. DUMP DOUBLE PRECISION
0332 P00FB 7FFF X ADC LHMREQ 24. MODIFY MASS MEMORY --- HEX
0333 P00FC 7FFF X ADC LIMREQ 29. MODIFY MASS MEMORY (INTEGER)
0334 P00FD 7FFF X ADC LAMREQ 62. MODIFY MM (ASCII)
0335 P00FE 7FFF X ADC LSMREQ 63. LOAD MM SINGLE PRECISION (SAME AS 60)
0336 P00FF 7FFF X ADC LDMREQ 64. MODIFY MM (DOUBLE PRECISION)
0337 P0100 7FFF X ADC LHCREQ 22. MODIFY CORE IMAGE --- ASCII

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N5300322
N5300323
N5300324
N5300325
N5300326
N5300327
N5300328
N5300329
N5300330
N5300331
N5300332
N5300333
N5300334
N5300335
N5300336
N5300337

0338 P0101 7FFF X
 0339 P0102 7FFF X
 0340 P0103 7FFF X
 0341 P0104 7FFF X
 0342 P0105 7FFF X
 0343 P0106 7FFF X
 0344 P0107 7FFF X
 0345 P0108 7FFF X
 0346 P0109 7FFF X
 0347 P010A 7FFF X
 0348 P010B 7FFF X
 0349 P010C 7FFF X
 0350 P010D 7FFF X
 0351 P010E 7FFF X
 0352 P010F 7FFF X
 0353 P0110 7FFF X
 0354 P0111 7FFF X
 0355 P0112 7FFF X
 0356 P0113 7FFF X
 0357 P0114 7FFF X
 0358 P0115 7FFF X
 0359 P0116 7FFF X
 0360 P0117 7FFF X
 0361 P0118 7FFF X
 0362 P0119 7FFF X
 0363 P011A 7FFF X
 0364 P011B 7FFF X
 0365 P011C 7FFF X
 0366 P011D 7FFF X
 0367 P011E 7FFF X
 0368 P011F 7FFF X
 0369 P0120 7FFF X
 0370 P0121 7FFF X
 0371 P0122 7FFF X
 0372 P0123 7FFF X
 0373 P0124 7FFF X
 0374 P0125 7FFF X
 0375 P0126 7FFF X
 0376 P0127 7FFF X
 0377 P0128 7FFF X
 0378 P0129 7FFF X
 0379 P012A 7FFF X
 0380 P012B 7FFF X
 0381 P012C 7FFF X
 0382 P012D 7FFF X
 0383 P012E 7FFF X
 0384 P012F 7FFF X
 0385 P0130 7FFF X
 0386 P0131 0000 P

ADC LICREQ
 ADC LACREQ
 ADC LHOREQ
 ADC LIOREQ
 ADC LAOREQ
 ADC LSOREQ
 ADC LDOREQ
 ADC DMHREQ
 ADC DMIREQ
 ADC DMAREQ
 ADC DMSREQ
 ADC DMDREQ
 ADC MSDREQ
 ADC RCDREQ
 ADC RDKREQ
 ADC WCDREQ
 ADC WDKREQ
 ADC ADFREQ
 ADC BSFRREQ
 ADC ADRRREQ
 ADC BSRREQ
 ADC WEFREQ
 ADC REWRREQ
 ADC UNLREQ
 ADC SLDREQ
 ADC SCNREQ
 ADC SMNREQ
 ADC SETREQ
 ADC SMPREQ
 ADC SPERREQ
 ADC CPPREQ
 ADC SPPREQ
 ADC SCHREQ
 ADC ALCREQ
 ADC RELREQ
 ADC PTHREQ
 ADC DAGREQ
 ADC DPTREQ
 ADC MBCREQ
 ADC MMMREQ
 ADC CCCREQ
 ADC CCMREQ
 ADC CMMREQ
 ADC ADHREQ
 ADC SBHREQ
 ADC MLUREQ
 ADC CLUREQ
 ADC CWAREQ
 ADC LSTREQ

56. MODIFY CORE IMAGE (DECIMAL)
 57. MODIFY CORE IMAGE (ASCII)
 23. MODIFY ORDINAL ---HEX
 58. MODIFY ORDINAL (DECIMAL)
 59. MODIFY ORDINAL (ASCII)
 60. MODIFY ORDINAL (SINGLE PRECISION)
 61. MODIFY ORDINAL (DOUBLE PRECISION)
 45. DUMP MASS MEMORY
 46. DUMP MASS MEMORY --- DECIMAL
 47. DUMP MASS MEMORY (ASCII)
 48. DUMP MASS MEMORY --- SINGLE PRECISION
 49. DUMP MASS MEMORY --- DOUBLE PRECISION
 26. LIST MASS MEMORY
 31. READ TO CORE FROM MM
 41. READ FROM MASS MEMORY TO CORE
 30. WRITE CORE TO MM
 40. WRITE TO DISK FROM CORE
 16. ADVANCE FILE
 17. BACKSPACE FILE
 18. ADVANCE RECORD
 19. BACKSPACE RECORD
 20. WRITE END OF FILE
 21. REWIND TAPE
 54. UNLOAD TAPE
 55. SELECT DENSITY
 03. SEARCH COR
 53. SEARCH MM FOR PATTERN
 04. SET CORE TO PATTERN
 42. SET MASS MEMORY TO PATTERN
 07. SEARCH CORE FOR PARITY ERROR
 08. CLEAR PROTECT BITS
 09. SET PROTECT BITS
 06. SCHEDULE PROGRAM
 12. ALLOCATE CORE
 13. RELEASE CORE
 15. PRINT THREAD
 14. LIST ALLOCATABLE CORE MAP
 35. LIST PARTITION CORE MAP
 05. MOVE BLOCK OF CORE
 44. MOVE MASS MEMORY
 43. COMPARE CORE TO CORE
 51. COMPARE CORE TO MASS MEMORY
 52. COMPARE MASS MEMORY TO MM
 10. ADD HEX. NUMBER
 11. SUBTRACT HEX. NUMBER
 34. CHANGE MASS MEMORY UNIT
 27. CHANGE LIST UNIT
 50. CONVERT WORD ADD. TO SECTOR/WORD ADD.
 65. LIST COMMAND

N5300338
 N5300339
 N5300340
 N5300341
 N5300342
 N5300343
 N5300344
 N5300345
 N5300346
 N5300347
 N5300348
 N5300349
 N5300350
 N5300351
 N5300352
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 N5300358
 N5300359
 N5300360
 N5300361
 N5300362
 N5300363
 N5300364
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 N5300374
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 N5300378
 N5300379
 N5300380
 N5300381
 N5300382
 N5300383
 N5300384
 N5300385
 N5300386

0389 0003 P EQU SA65(*96)
0390 0004 P EQU SP65(SA65+1)
0391 0180 P EQU DB65(SP65*96)
0392 P0132 004E BSS (DB65-*)
0393 END

N5300389
N5300390
N5300391
N5300392
N5300393

PGM= 0180 (384) 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) 0153, 0295, 0298, 0306
0112	AMONI	00F4	(000244) 0168, 0224
0112	ADISP	00EA	(000234) 0177, 0231
0112	LPMSK	0002	(000002) 0215, 0266
0112	NZERO	0012	(000018)
0112	ZROBIT	0033	(000051)
0113	FIVE	0043	(000067)
0113	SIX	0044	(000068)
0113	ZERO	0022	(000034) 0164, 0209, 0243, 0252
0113	ONEBIT	0023	(000035)
0113	SIXTEN	0027	(000039)
0114	COMMA	002C	(000044)
0114	SLASH	002F	(000047)
0114	ASTRIC	002A	(000042)
0115	EIGHT	0026	(000038)
0115	NINE	0045	(000069)
0115	THREE	0004	(000004)
0115	ONE	0003	(000003)
0115	TWO	0024	(000036)
0116	TEN	0046	(000070)
0117	MASK	0003	(000003)
0119	CHRSLV	0007	(000007) 0169, 0225
0120	EXTBV4	00E9	(000233)
0121	ASMOD	1000	(004096) 0236
0122	MASSLU	08C2	(002242) 0172
0123	MSPG	0008	(000008)
0124	NO96	0060	(000096) 0173, 0191, 0313
0127	GETFLD	0002	(000002)
0128	ASCHEX	0003	(000003)
0129	ASCDFC	0005	(000005)
0132	HANDLE	0001	(000001)
0133	BMSG	0002	(000002) 0161, 0250
0134	SCMMOR	0003	(000003) 0208
0135	IOERR	0004	(000004) 0242
0136	LISTLU	0005	(000005) 0154
0137	COMOLU	0006	(000006)
0138	NEWMLU	0007	(000007)
0139	PROG1	0008	(000008)

0140	PROG2	0009	(000009)
0141	BITFLG	000A	(000010)
0142	BUFCNT	000B	(000011)
0143	FIELD	000C	(000012)
0144	SLASHF	0010	(000016)
0145	BUFFMT	0011	(000017)
0146	BUFFER	0012	(000018)

 S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0035	LSTREQ	0000	0035, 0386
0168	REPEAT	0000	0268
0169	XFRCD	000E	0170, 0174, 0260
0174	XFBF	0013	0261
0175	XFRMSB	0014	0166, 0265
0176	XFRLSB	0015	0165, 0262, 0267
0180	OTB	0017	0159, 0160, 0163, 0248
0183	OFTB	001A	0247
0185	XFRET	001B	0170
0188	REDOK	0010	0185
0195	TERMCK	0024	0281
0204	CKTY	0020	0202
0207	DONE	0030	
0210	MESTYP	0033	0206
0218	NOHEAD	003C	0210
0219	ASMPNT	003D	0216
0225	PNTCD	003F	0188, 0226, 0279
0228	OTLU	0042	0156
0229	NOWORD	0043	0197, 0213
0230	BUF	0044	0190, 0218, 0219, 0280
0233	TOTAL	0046	0192, 0193, 0201, 0204, 0257, 0292
0234	CURTPT	0047	0189, 0194, 0259, 0275, 0277, 0291, 0305
0235	TEMP.	0048	0199, 0276, 0293, 0299, 0302
0240	RET	0049	0226
0241	ERIO	004A	0186
0245	WRTOK	004D	0217, 0240
0257	NEXTLN	0056	0246
0260	N1	0059	0307
0267	STL	0060	0264
0275	ADJBUF	0062	0258
0284	BASE	0069	0152, 0207, 0241, 0249
0285	COUNT	006A	0211, 0212
0286	MODE	006B	0155
0291	NEDROM	006C	0203
0296	MOVDAT	0071	0304
0305	SETR	007A	0301
0313	MES	007D	0174, 0188, 0195, 0205, 0260, 0279, 0296, 0297
0322	ENTABL	00F1	0214
0389	SA65	0003	0390
0390	SP65	0004	0391
0391	DB65	0180	0392

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0038	MSG	0018	0181
0039	OFF	001A	0183
0040	MMADDR	0017	0180
0041	CHRSFG	004E	0245
0042	NAMEMS	0019	0182
0045	LHXREQ	00F1	0322
0046	DPCREQ	00F6	0327
0047	SCNREQ	011A	0363
0048	SETREQ	011C	0365
0049	MBCREQ	0127	0376
0050	SCHREQ	0121	0370
0051	SPEREQ	011E	0367
0052	COPREQ	011F	0368
0053	SPPREQ	0120	0369
0054	ADHREQ	012C	0381
0055	SBHREQ	012D	0382
0056	ALCREQ	0122	0371
0057	RELREQ	0123	0372
0058	DACREQ	0125	0374
0059	PTHREQ	0124	0373
0060	ADFREQ	0112	0355
0061	BSFREQ	0113	0356
0062	ADRREQ	0114	0357
0063	BSRREQ	0115	0358
0064	WEFREQ	0116	0359
0065	REWREQ	0117	0360
0066	LHCREQ	0100	0337
0067	LHOREQ	0103	0340
0068	LHMREQ	00FB	0332
0069	DICREQ	00F7	0328
0070	MSDREQ	0100	0350
0071	CLUREQ	012F	0384
0072	LITREQ	00F2	0323
0073	LIMREQ	00FC	0333
0074	WCDREQ	0110	0353
0075	RCDREQ	010E	0351
0076	LASREQ	00F3	0324
0077	DASREQ	00F8	0329
0078	MLUREQ	012E	0383
0079	DPTREQ	0126	0375
0080	LSPREQ	00F4	0325

0081	DSPREQ	00F9	0330
0082	LDPREQ	00F5	0326
0083	DDPREQ	00FA	0331
0084	WDKREQ	0111	0354
0085	RDKREQ	010F	0352
0086	SMPREQ	0110	0366
0087	CCCREQ	0129	0378
0088	MMHREQ	0128	0377
0089	DMHREQ	0108	0345
0090	DMIREQ	0109	0346
0091	DMAREQ	010A	0347
0092	DMSREQ	010B	0348
0093	DMDREQ	010C	0349
0094	GWAREQ	0130	0385
0095	CCMREQ	012A	0379
0096	CMMREQ	012B	0380
0097	SMNREQ	011B	0364
0098	UNLREQ	0118	0361
0100	SLDREQ	0119	0362
0101	LICREQ	0101	0333
0102	LACREQ	0102	0339
0103	LIOREQ	0104	0341
0104	LAOREQ	0105	0342
0105	LSOREQ	0106	0343
0106	LDOREQ	0107	0344
0107	LAMREQ	00FD	0334
0108	LSMREQ	00FE	0335
0109	LDMREQ	00FF	0336

0041 0026 EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24) N5400041

0045
0004
0003
0024
0046

0042 EQU TEN(\$46) **MSOS4.0**N5400042

*
 EQU HANDLE(1) "HANDLE" N5400044
 EQU BMSG(2) "MSG" ENTRY N5400045
 EQU SOMMOR(3) "SOMMOR" ENTRY N5400046
 EQU IOERR(4) "IOERR" ENTRY N5400047
 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N5400048
 EQU COMOLU(6) "COMOLU" N5400049
 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N5400050
 EQU PROG1(8) "PROG1" N5400051
 EQU PROG2(9) "PROG2" N5400052
 EQU BITFLG(10) "BITFLG" N5400053
 EQU BUFCNT(11) "BUFCNT" N5400054
 EQU FIELD(12) "FIELD" N5400055
 EQU SLASHF(16) "SLASHF" N5400056
 EQU BUFEMT(17) "BUFEMT" N5400057
 EQU BUFFER(18) "BUFFER" N5400058
 N5400059

*
 EQU CHRSLV(7) VARIABLE EQUUS LEVEL OF THIS PROGRAM N5400061
 116*4360*****

*
 EQU COMOUT(\$8FC) EQUUS FOR LOGICAL UNITS TYPE OUTPUT LOGICAL UNIT N5400064
 EQU COMLU(\$8FD) INPUT COMMENT LOGICAL UNIT N5400065
 EQU MASSLU(\$8G2) MASS MEMORY LOGICAL UNIT N5400066
 EQU ASM0D(\$1000) ASCII MODE OUTPUT N5400068

*
 ***** PROGRAM START *****
 *

PRINT 0 0 N5400074
 STA* BASE SAVE PARAMETER BUFFER ADDRESS N5400075
 STA- I N5400076
 LDA- COMOLU, I GET COMMENT LOGICAL UNIT N5400077
 ADD* MODE + MODE (ASCII) CODE N5400078
 STA* OTLU N5400079
 QLS 1 ADJUST INDEX FOR 2 WD ENTRY IN TBL. N5400080
 LDA* MESTBL, Q STORE REL. ADDRESS AND LENGTH IN N5400081
 STA* MESP+5 WRITE REQUEST N5400082
 LDA* MESTBL+1, Q N5400083
 STA* MESP+4 N5400084

0085	P000B	54F4		RTJ-	(AMONI)		INITIATE MESSAGE	N5400085
0086	P000C	0507	MESP	ADC	\$500+CHRSLV			N5400086
0087	P000D	0007		ADC	MESCOM-MESP			N5400087
0088	P000E	0000		0	0			N5400088
0089	P000F	0000	OTLU	NUM	0		LOGICAL UNIT (TO B0 FILLED)	N5400089
0090	P0010	0000		ADC	0,0			N5400090
0091	P0011	0000						N5400091
0092	P0012	14EA	MESCOM	JMP-	(ADISP)		SKIP IF NO I/O ERROR	N5400092
0093	P0013	0168		SQP	MESNOE		EXIT TO "ERROR"	N5400093
0094	P0014	E809		LDQ*	BASE			N5400094
0095	P0015	C805		LDA*	OFTB			N5400095
0096	P0016	9805		SUB*	OFTB+1		CALCULATE "ERROR" ADDRESS	N5400096
0097	P0017	8202		ADD-	3MSG,Q			N5400097
0098	P0018	0822		TRA	Q			N5400098
0099	P0019	1622		JMP-	(ZERO),Q			N5400099
0100	P001A	7FFF	X	OFTB	ADC	ERROR	0. "ERROR"	N5400100
0101	P001B	7FFF	X		ADC	MSG	1. "MSG"	N5400101
0102				*				N5400102
0103	P001C	1CE3		MESNOE	JMP*	(PRINT)	RETURN TO CALLER	N5400103
0105				*				N5400105
0106	P001D	0000		BASE	NUM	0		N5400106
0107	P001E	1000		MODE	ADC	ASMOD		N5400107
0108				*				N5400108
0109				*	TABLE OF RELATIVE ADDRESSES (REL. TO START OF			N5400109
0110				*	WRITE REQUEST) AND LENGTHS FOR MSG. SKELETONS			N5400110
0111				*				N5400111
0112	P001F	002D		MESTBL	ADC	MES0-MESP	0	N5400112
0113	P0020	0006			ADC	LMES0		N5400113
0114	P0021	0033			ADC	MES1-MESP	1	N5400114
0115	P0022	0007			ADC	LMES1		N5400115
0116	P0023	003A			ADC	MES2-MESP	2	N5400116
0117	P0024	0008			ADC	LMES2		N5400117
0118	P0025	0042			ADC	MES3-MESP	3	N5400118
0119	P0026	0005			ADC	LMES3		N5400119
0120	P0027	0047			ADC	MES4-MESP	4	N5400120
0121	P0028	000C			ADC	LMES4		N5400121
0122	P0029	0053			ADC	MES5-MESP	5	N5400122
0123	P002A	000B			ADC	LMES5		N5400123
0124	P002B	005E			ADC	MES6-MESP	6	N5400124
0125	P002C	0001			ADC	LMES6		N5400125
0126	P002D	005F			ADC	MES7-MESP	7	N5400126
0127	P002E	000B			ADC	LMES7		N5400127
0128	P002F	006A			ADC	MES8-MESP	8	N5400128
0129	P0030	000C			ADC	LMES8		N5400129
0130	P0031	0076			ADC	MES9-MESP	9	N5400130
0131	P0032	0009			ADC	LMES9		N5400131
0132	P0033	007F			ADC	MES10-MESP	10	N5400132
0133	P0034	000B			ADC	LMES10		N5400133
0134	P0035	008A			ADC	MES11-MESP	11	N5400134
0135	P0036	000C			ADC	LMES11		N5400135

0136	P0037	0096		ADC	MES12-MESP	12		N5400136
0137	P0038	0000		ADC	LMES12			N5400137
0138			*					N5400138
0139			*		MESSAGE SKELETONS			N5400139
0140			*					N5400140
0141	P0039	0A00	MES0	NUM	\$A00			N5400141
0142	P003A	4445		ALF	4,DEBUG IN			N5400142
	P003B	4255						
	P003C	4720						
	P003D	494E						
0143	P003E	0A00		NUM	\$A00			N5400143
0144		0006		EQU	LMES0(*-MES0)			N5400144
0145	P003F	0A00	MES1	NUM	\$A00			N5400145
0146	P0040	4445		ALF	5,DEBUG OUT			N5400146
	P0041	4255						
	P0042	4720						
	P0043	4F55						
	P0044	5420						
0147	P0045	0A00		NUM	\$A00			N5400147
0148		0007		EQU	LMES1(*-MES1)			N5400148
0149	P0046	0A00	MES2	NUM	\$A00			N5400149
0150	P0047	4442		ALF	6,DB I/O ERROR			N5400150
	P0048	2049						
	P0049	2F4F						
	P004A	2045						
	P004B	5252						
	P004C	4F52						
0151	P004D	0A00		NUM	\$A00			N5400151
0152		0008		EQU	LMES2(*-MES2)			N5400152
0153	P004E	0A00	MES3	NUM	\$A00			N5400153
0154	P004F	4E45		ALF	3,NEXT			N5400154
	P0050	5854						
	P0051	2020						
0155	P0052	0A00		NUM	\$A00			N5400155
0156		0005		EQU	LMES3(*-MES3)			N5400156
0157	P0053	0A00	MES4	NUM	\$A00			N5400157
0158	P0054	4442		ALF	10,DB FORMAT INCORRECT			N5400158
	P0055	2046						
	P0056	4F52						
	P0057	4D41						
	P0058	5420						
	P0059	494E						
	P005A	434F						
	P005B	5252						
	P005C	4543						
	P005D	5420						
0159	P005E	0A00		NUM	\$A00			N5400159
0160		000C		EQU	LMES4(*-MES4)			N5400160
0161	P005F	0A00	MES5	NUM	\$A00			N5400161
0162	P0060	4442		ALF	9,DB INVALID REQUEST			N5400162
	P0061	2049						
	P0062	4E56						
	P0063	414C						
	P0064	4944						

0163 P0065 2052
 0164 P0066 4551
 0165 P0067 5545
 0166 P0068 5354
 0167 P0069 0A0D
 0168 P006A 0A0D
 0169 P006B 0001
 P006C 4442
 P006D 2053
 P006E 4541
 P006F 5243
 P0070 4820
 P0071 4649
 P0072 4E49
 P0073 5348
 P0074 4544
 P0075 0A0D
 0170 P0076 0A0D
 0171 P0077 4442
 0172 P0078 204E
 0173 P0079 4F20
 P007A 434F
 P007B 5245
 P007C 2041
 P007D 5641
 P007E 494C
 P007F 4142
 P0080 4C45
 0174 P0081 0A0D
 0175 P0082 000C
 0176 P0083 4442
 0177 P0084 2049
 P0085 4C4C
 P0086 4547
 P0087 414C
 P0088 204C
 P0089 5520
 0178 P008A 0A0D
 0179 P008B 0009
 C180 P008C 4442
 0181 P008D 2049
 P008E 4C4C
 P008F 4547
 P0090 414C
 P0091 204D
 P0092 4D20
 P0093 4144
 P0094 442E

MES6

MES7

MES8

MES9

MES10

NUM \$AOD
 EQU LMES5 (*-MES5)
 NUM \$AOD
 * 2 CARDS DELETED
 EQU LMES6 (*-MES6)
 NUM \$AOD
 ALF 9,DB SEARCH FINISHED

NUM \$AOD
 EQU LMES7 (*-MES7)
 NUM \$AOD
 ALF 10,DB NO CORE AVAILABLE

NUM \$AOD
 EQU LMES8 (*-MES8)
 NUM \$AOD
 ALF 7,DB ILLEGAL LU

NUM \$AOD
 EQU LMES9 (*-MES9)
 NUM \$AOD
 ALF 9,DB ILLEGAL MM ADD.

69*1567

N5400163
 N5400164
 N5400165
 N5400166
 N5400167
 N5400168
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N5400174
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N5400178
 N5400179
 N5400180
 N5400181

0182	P0095	0A0D		NUM	\$A0D		N5400182
0183		000B		EQU	LMES10(*-MES10)		N5400183
0184	P0096	0A0D	MES11	NUM	\$A0D		N5400184
0185	P0097	4442		ALF	10,DB ORDINAL OVER MAX.		N5400185
	P0098	204F					
	P0099	5244					
	P009A	494E					
	P009B	414C					
	P009C	204F					
	P009D	5645					
	P009E	5220					
	P009F	4D41					
	P00A0	582E					
0186	P00A1	0A0D		NUM	\$A0D		N5400186
0187		000C		EQU	LMES11(*-MES11)		N5400187
0188	P00A2	0A0D	MES12	NUM	\$A0D		N5400188
0189	P00A3	4442		ALF	11,DB ORDINAL LENGTH ZERO		N5400189
	P00A4	204F					
	P00A5	5244					
	P00A6	494E					
	P00A7	414C					
	P00A8	204C					
	P00A9	454E					
	P00AA	4754					
	P00AB	4820					
	P00AC	5A45					
	P00AD	524F					
0190	P00AE	0A0D		NUM	\$A0D		N5400190
0191		000D		EQU	LMES12(*-MES12)		N5400191
0193			*				N5400193
0194		0001	P	EQU	SA19(*'96)		N5400194
0195		0002	P	EQU	SP19(SA19+1)		N5400195
0196		00C0	P	EQU	DB19(SP19*96)		N5400196
0197	P00AF	0011		BSS	(DB19-*)		N5400197
0198				END			N5400198

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0076
0038	AMONI	00F4	(000244) 0085
0038	ADISP	00EA	(000234) 0091
0038	LPMSK	0002	(000002)
0038	NZERO	0012	(000018)
0038	ZROBIT	0033	(000051)
0039	FIVE	0043	(000067)
0039	SIX	0044	(000068)
0039	ZERO	0022	(000034) 0098
0039	ONEBIT	0023	(000035)
0039	SIXTEN	0027	(000039)
0040	COMMA	002C	(000044)
0040	SLASH	002F	(000047)
0040	ASTRIC	002A	(000042)
0041	EIGHT	0026	(000038)
0041	NINE	0045	(000069)
0041	THREE	0004	(000004)
0041	ONE	0003	(000003)
0041	TWO	0024	(000036)
0042	TEN	0046	(000070)
0045	HANDLE	0001	(000001)
0046	BMSG	0002	(000002) 0096
0047	SOMMOR	0003	(000003)
0048	IOERR	0004	(000004)
0049	LISTLU	0005	(000005)
0050	COMOLU	0006	(000006) 0077
0051	NEWMLU	0007	(000007)
0052	PROG1	0008	(000008)
0053	PROG2	0009	(000009)
0054	BITFLG	000A	(000010)
0055	BUFCNT	000B	(000011)
0056	FIELD	000C	(000012)
0057	SLASHF	0010	(000016)
0058	BUFEFT	0011	(000017)
0059	BUFFER	0012	(000018)
0062	CHRSLV	0007	(000007) 0086
0065	COMOUT	08FC	(002300)
0066	COMLU	08FD	(002301)

0067	MASSLU	08C2	{002242}	
0068	ASMOD	1000	{004096}	0107
0144	LMES0	0006	{000006}	0113
0148	LMES1	0007	{000007}	0115
0152	LMES2	0008	{000008}	0117
0156	LMES3	0005	{000005}	0119
0160	LMES4	000C	{000012}	0121
0164	LMES5	000B	{000011}	0123
0167	LMES6	0001	{000001}	0125
0171	LMES7	000B	{000011}	0127
0175	LMES8	000C	{000012}	0129
0179	LMES9	0009	{000009}	0131
0183	LMES10	000B	{000011}	0133
0187	LMES11	000C	{000012}	0135
0191	LMES12	000D	{000013}	0137

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0031	PRINT	0000	0031, 0103
0086	MESP	000C	0082, 0084, 0087, 0112, 0114, 0116, 0118, 0120, 0122, 0124, 0126, 0128, 0130, 0132, 0134, 0136
0089	OTLU	000F	0079
0092	MESCOM	0013	0087
0100	OFTB	001A	0094, 0095
0103	MESNOE	001C	0092
0106	BASE	001D	0075, 0093
0107	MODE	001E	0078
0112	MESTBL	001F	0081, 0083
0141	MES0	0039	0112, 0144
0145	MES1	003F	0114, 0148
0149	MES2	0046	0116, 0152
0153	MES3	004E	0118, 0156
0157	MES4	0053	0120, 0160
0161	MES5	005F	0122, 0164
0165	MES6	006A	0124, 0167
0168	MES7	006B	0126, 0171
0172	MES8	0076	0128, 0175
0176	MES9	0082	0130, 0179
0180	MES10	008B	0132, 0183
0184	MES11	0096	0134, 0187
0188	MES12	00A2	0136, 0191
0194	SA19	0001	0195
0195	SP19	0002	0196
0196	DB19	00C0	0197

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0034	MSG	001B	0101
0035	ERROR	001A	0100

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0038	AMONI	0038	ASMOD	0068	ASTRIC	0040	BASE	0106	BITFLG	0054	BMSG	0046	BUFCNT	0055	BUFEMT	0058
BUFFER	0059	CHRSLV	0062	COMLU	0066	COMMA	0040	COMOLU	0050	COMOUT	0065	DB19	0190	EIGHT	0041	ERROR	0033
FIELD	0056	FIVE	0039	HANDLE	0045	I	0000	IOERR	0048	LISTLU	0049	LMES0	0144	LMES1	0148	LMES10	0183
LMES11	0187	LMES12	0191	LMES2	0152	LMES3	0156	LMES4	0160	LMES5	0164	LMES6	0167	LMES7	0171	LMES8	0175
LMES9	0179	LPMSK	0038	MASSLU	0067	MES0	0141	MES1	0145	MES10	0180	MES11	0184	MES12	0188	MES2	0149
MES3	0153	MES4	0157	MES5	0161	MES6	0165	MES7	0168	MES8	0172	MES9	0176	MESCOM	0092	MESNOE	0103
MESP	0086	MESTBL	0112	MODE	0107	MSG	0034	NEWMLU	0051	NINE	0041	NZERO	0038	OFTB	0100	ONE	0041
ONEBIT	0039	OTLU	0089	PRINT	0031	PROG1	0052	PROG2	0053	SA19	0194	SIX	0039	SIXTEN	0039	SLASH	0040
SLASHF	0057	SOMMOR	0047	SP19	0195	TEN	0042	THREE	0041	TWO	0041	ZERO	0039	ZROBIT	0038		


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0001      *      NAM GETFLD      DECK-ID N55  MSOS 5.0      SUMMARY-11CN5500001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N5500002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N5500003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976      N5500004
0005      *      N5500005
0006      *      THIS SUBROUTINE FINDS THE NEXT FIELD THAT IS      N5500006
0007      *      TERMINATED BY A CCMMA SLASH OR ASTERISK      N5500007
0008      *      AND PLACES IT IN THE FIELD BUFFER.      N5500008
0009      *      IF THE BUFFER WAS EMPTY BLANKS ARE RETURNED.      N5500009
0010      *      IF THE SLASH FLAG IS SET BLANKS ARE RETURNED.      N5500010
0011      *      THE NO. OF CHARACTERS IN THE FIELD ARE      N5500011
0012      *      SPECIFIED IN THE Q-REGISTER. ONLY THE      N5500012
0013      *      SPECIFIED NO. OF CHARACTERS PRECEDING THE      N5500013
0014      *      CONTROL CHARACTER ARE SENT.      N5500014
0015      *      THE CONTROL CHARACTER IS ALSO SENT.      N5500015

0017      *      E N T R Y      N A M E      N5500017
0018      *      ENT GETFLD      N5500018

0020      *      ' E Q U '      T A B L E      N5500020
0021      *      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)      N5500021
0022      *      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)      N5500022
0023      *      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)      N5500023
0024      *      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)      N5500024
0025      *      EQU TEN($46)      **MSOS4.0**N5500025

0027      *      PARAMETER LOCATION (OFFSET FROM BASE)      N5500027
0028      *      EQU HANDLE(1)      "HANDLE"      N5500028
0029      *      EQU MSG(2)      "MSG" ENTRY      N5500029
0030      *      EQU SOMMOR(3)      "SOMMOR" ENTRY      N5500030
0031      *      EQU IOERR(4)      "IOERR" ENTRY      N5500031
0032      *      EQU LISTLU(5)      LIST OUTPUT --- "LISTLU"      N5500032
0033      *      EQU COMOLU(6)      "COMOLU"      N5500033
0034      *      EQU NEWMLU(7)      "NEWMLU" --- NEW MM LU      N5500034

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0035	0008	EQU	PROG1(8)	"PROG1"	N5500035
0036	0009	EQU	PROG2(9)	"PROG2"	N5500036
0037	000A	EQU	BITFLG(10)	"BITFLG"	N5500037
0038	000B	EQU	BUFCNT(11)	"BUFCNT"	N5500038
0039	000C	EQU	FIELD(12)	"FIELD"	N5500039
0040	0010	EQU	SLASHF(16)	"SLASHF"	N5500040
0041	0011	EQU	BUFEMT(17)	"BUFEMT"	N5500041
0042	0012	EQU	BUFFER(18)	"BUFFER"	N5500042

0044	*				N5500044
0045	*****	*****	PROGRAM	START	N5500045
0046	*				N5500046

0048	P0000	0000	GETFLD	G	0	(RETURN)	N5500048
0049	P0001	6871		STA*	BASE	SAVE PARAMETER BUFFER ADDRESS	N5500049
0050	P0002	60FF		STA-	I		N5500050
0051	P0003	8112		ADD-	BUFFER,I	CALCULATE BUFFER ADDRESS	N5500051
0052	P0004	6821		STA*	INBUF		N5500052
0054	P0005	486E		STQ*	NOCHAR	SAVE NO. OF CHARACTERS	N5500054
0055	P0006	C000		LDA	=A00	BACKGROUND WITH ZEROS	N5500055
	P0007	3030				WITH BLANKS	N5500056
0056	P0008	0C03	GET001	ENQ	3		N5500057
0057	P0009	630C		STA-	FIELD,B		N5500058
0058	P000A	0DFF		INQ	-1		N5500059
0059	P000B	0141		SQZ	GET002-*--1		N5500060
0060	P000C	18FC		JMP*	GET001		N5500061
0061	P000D	C110	GET002	LDA-	SLASHF,I	IS SLASH FLAG SET	N5500062
0062	P000E	0104		SAZ	GET003-*--1		N5500063
0063	P000F	C000		LDA	=A ,	YES,SET CONTROL CHARACTER	N5500064
	P0010	202C				TO COMMA	N5500065
0064	P0011	610C	GETXIT	STA-	FIELD,I	RETURN TO CALLER	N5500066
0065	P0012	1CED		JMP*	(GETFLD)	IS BUFFER EMPTY	N5500067
0066	P0013	C111	GET003	LDA-	BUFEMT,I		N5500068
0067	P0014	0103		SAZ	GET004-*--1	SET TO NO CONTROL CHAR.	N5500069
0068	P0015	0A00		ENA	0		N5500070
0069	P0016	610C		STA-	FIELD,I		N5500071
0070	P0017	18FA		JMP*	GETXIT		N5500072
0071	P0018	0A03	GET004	ENA	3	SET FIELD INDEX TO 3	N5500073
0072	P0019	685D		STA*	FIELDX		N5500074
0073	P001A	0A00		ENA	0	INITIALIZE NO. OF CHAR. IN FIELD COUNTER	N5500075
0074	P001B	6859		STA*	GETCHC		N5500076
0075	P001C	C10B		LDA-	BUFCNT,I	GET BUFFER COUNTER	N5500077
0076	P001D	F10A		LDQ-	BITFLG,I	IS NEXT CHAR. IN HI BITS	N5500078
0077	P001E	60FF		STA-	I		N5500079
0078	P001F	685C		STA*	TEMP+1		N5500080
0079	P0020	0145	GET005	SQZ	GET006-*--1		N5500081
0080	P0021	0842		CLR	Q	YES,CHANGE TO LO	N5500082
0081	P0022	D0FF		RAO-	I	BUMP BUFFER INDEX	N5500083
0082	P0023	D858		RAO*	TEMP+1		N5500084
0083	P0024	1803		JMP*	GET007		N5500085

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0084 *
0085 P0025 0000 INBUF NUM 0 "BUFFER" ADDRESS (TO BE FILLED)
0086 *
0087 P0026 0C01 GET006 ENQ 1 NO, CHANGE TO HI
0088 P0027 CDFD GET007 LDA* (INBUF),I GET WORD
0089 P0028 0151 SQN GET008-* -1
0090 P0029 0F48 ARS 8 POSITION TO LOW BITS
0091 P002A A00A GET008 AND- LPMSK+8
0092 P002B 684A STA* T1 (SAVE IT)
0093 P002C B00A EOR- LPMSK+8 IS IT END OF TEXT($FF)
0094 P002D 0109 SAZ GETCCH-* -1
0095 P002E C847 LDA* T1
0096 P002F B848 EOR* COMMAC IS IT CONMA
0097 P0030 0106 SAZ GETCCH-* -1 IS IT ASTERISK
0098 P0031 B044 EOR- SIX
0099 P0032 0104 SAZ GETCCH-* -1 IS IT SLASH
0100 P0033 B043 EOR- FIVE
0101 P0034 0102 SAZ GETCCH-* -1
0102 P0035 D83F RAO* GETCHC TALLY NO. OF CHAR. IN FIELD COUNTER
0103 P0036 18E9 JMP* GET005 NOT A CONTROL CHAR.
0104 * PUT CONTROL CHARACTER IN FIELD
0105 P0037 C83E GETCCH LDA* T1 GET CONTROL CHARACTER
0106 P0038 6842 IGOTFD STA* TEMP SAVE CONTROL CHAR.
0107 P0039 C839 LDA* BASE RESTORE PARAMETER ADDRESS
0108 P003A 60FF STA- I
0109 P003B C840 LDA* TEMP+1
0110 P003C 610B STA- BUFCNT, I SAVE WORD COUNT IN BUFFER
0111 P003D C83D LDA* TEMP
0112 P003E 610C STA- FIELD, I
0113 P003F 410A STQ- BITFLG, I SAVE WORD COUNT IN BUFFER
0114 P0040 4835 STQ* T1
0115 P0041 C833 LDA* GETCHC IS ACTUAL NO. OF CHAR. IN FIELD
0116 P0042 9831 SUB* NOCHAR LESS THAN NO. OF CHAR. DESIRED
0117 P0043 0124 SAP GET010-* -1 SKIP NO
0118 P0044 C83E LDA* GETCHC SET DESIRED =ACTUAL
0119 P0045 682E STA* NOCHAR
0120 P0046 0111 SAN GET010-* -1 SKIP IF FIELD NOT BLANK
0121 P0047 1821 JMP* GET103
0122 P0048 C833 GET010 LDA* TEMP+1 RESTORE WORD COUNT
0123 P0049 09FE INA -1 DECREASE BUFFER COUNT BY 1
0124 P004A 60FF STA- I AND SAVE
0125 P004B 6830 STA* TEMP+1
0126 P004C 0145 SQZ GET100-* -1 SKIP IF CONTROL CHAR. IN HI BITS
0127 P004D 0C01 ENQ 1
0128 P004E CDFD LDA* (INBUF),B
0129 P004F EDD5 LDQ* (INBUF),I GET WORD FROM BUFFER
0130 P0050 0F68 LRS 8
0131 P0051 1802 JMP* GET101
0132 P0052 C002 GET100 LDA* (INBUF),I GET WORD FROM BUFFER
0133 P0053 E81F GET101 LDQ* BASE RESTORE PARAMETER BUFFER ADDRESS
0134 P0054 40FF STQ- I
0135 P0055 E81E LDQ* NOCHAR DECREASE NO. OF CHAR. BY 1
0136 P0056 0DFE INQ -1

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N5500084
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N5500116
N5500117
N5500118
N5500119
N5500120
N5500121
N5500122
N5500123
N5500124
N5500125
N5500126
N5500127
N5500128
N5500129
N5500130
N5500131
N5500132
N5500133
N5500134
N5500135
N5500136

```

0137 P0057 481C
 0138 P0058 0155
 0139 P0059 A00A
 0140 P005A E81F
 0141 P005B E81B
 0142 P005C 630C
 0143 P005D 180B
 0144 P005E E818
 0145 P005F 630C
 0146 P0060 0DFE
 0147 P0061 4815
 0148 P0062 C811
 0149 P0063 09FE
 0150 P0064 680F
 0151 P0065 0102
 0152 P0066 E80F
 0153 P0067 18E0
 0154 P0068 C10C
 0155 P0069 B00A
 0156 P006A 0802
 0157 P006B 0111
 0158 P006C 4111
 0159 P006D C10C
 0160 P006E B80A
 0161 P006F 0111
 0162 P0070 4110
 0163 P0071 18A0

GET102

GET103

GET104

GET105

STQ* NOCHAR
 SQN GET102--*-1
 AND- LPMSK+8
 EOR* TTHOUS
 LDQ* FIELDX
 STA- FIELD,B
 JMP* GET103
 LDQ* FIELDX
 STA- FIELD,B
 INQ -1
 STQ* FIELDX
 LDA* NOCHAR
 INA -1
 STA* NOCHAR
 SAZ GET103--*-1
 LDQ* T1
 JMP* GET101
 LDA- FIELD,I
 EOR- LPMSK+8
 SET Q
 SAN GET104--*-1
 STQ- BUFEMT,I
 LDA- FIELD,I
 EOR* SLASHC
 SAN GET105--*-1
 STQ- SLASHF,I
 JMP* GETXIT

SKIP IF NOT DONE
 OR IN BLANK TO HI BITS
 HEX 3000
 STORE IN FIELD WORD
 STORE IN FIELD WORD
 DECREASE FIELD INDEX BY 1
 DECREASE NO. OF CHAR. BY 2
 SKIP IF FILD COMPLETE
 RESTORE CHAR. POSITION
 GO TO GET ANOTHER CHAR.
 IS IT \$FF CONTROL CHAR.
 (EOT)
 SET BUFFER EMPTY
 SKIP IF EOT CHAR.
 IS IT SLASH CONTROL CHAR.
 RETURN TO CALLER

*

0155
 0166 P0072 0000
 0167 P0073 0000
 0168 P0074 0000
 0169 P0075 0000
 0170 P0076 0000
 0171 P0077 002C
 0172 P0078 002F
 0173 P0079 3000
 0174 P007A 0000
 P007B 0000

BASE NUM 0
 NOCHAR 0 0
 GETCHC 0 0
 T1 0 0
 FIELDX 0 0
 COMMAC NUM \$2C
 SLASHC NUM \$2F
 TTHOUS NUM \$3000
 TEMP NUM 0,0

NO. OF CHARACTERS
 NO. OF CHAR. IN FIELD COUNTER
 TEMPORARY STORAGE
 FIELD WORD INDEX
 ASCII FOR COMMA
 ASCII FOR SLASH

0176
 0177 0001 P
 0178 0002 P
 0179 00C0 P
 0180 P007C 0044
 0181

*
 EQU SA20(* / 96)
 EQU SP20(SA20+1)
 EQU DB20(SP20+96)
 BSS (DB20-*)
 END

N5500137
 N5500138
 N5500139
 N5500140
 N5500141
 N5500142
 N5500143
 N5500144
 N5500145
 N5500146
 N5500147
 N5500148
 N5500149
 N5500150
 N5500151
 N5500152
 N5500153
 N5500154
 N5500155
 N5500156
 N5500157
 N5500158
 N5500159
 N5500160
 N5500161
 N5500162
 N5500163
 N5500165
 N5500166
 N5500167
 N5500168
 N5500169
 N5500170
 N5500171
 N5500172
 N5500173
 N5500174
 N5500176
 N5500177
 N5500178
 N5500179
 N5500180
 N5500181

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0050, 0077, 0081, 0108, 0124, 0134
0021	AMONI	00F4	(000244)
0021	ADISP	00EA	(000234)
0021	LPMSK	0002	(000002) 0091, 0093, 0139, 0155
0021	NZERO	0012	(000018)
0021	ZROBIT	0033	(000051)
0022	FIVE	0043	(000067) 0100
0022	SIX	0044	(000068) 0098
0022	ZERO	0022	(000034)
0022	ONEBIT	0023	(000035)
0022	SIXTEN	0027	(000039)
0023	COMMA	002C	(000044)
0023	SLASH	002F	(000047)
0023	ASTRIC	002A	(000042)
0024	EIGHT	0026	(000038)
0024	NINE	0045	(000069)
0024	THREE	0004	(000004)
0024	ONE	0003	(000003)
0024	TWO	0024	(000036)
0025	TEN	0046	(000070)
0028	HANDLE	0001	(000001)
0029	MSG	0002	(000002)
0030	SOMMOR	0003	(000003)
0031	IOERR	0004	(000004)
0032	LISTLU	0005	(000005)
0033	COMOLU	0006	(000006)
0034	NEWMLU	0007	(000007)
0035	PROG1	0008	(000008)
0036	PROG2	0009	(000009)
0037	BITFLG	000A	(000010) 0076, 0113
0038	BUFCNT	000B	(000011) 0075, 0110
0039	FIELD	000C	(000012) 0057, 0064, 0069, 0112, 0142, 0145, 0154, 0159
0040	SLASHF	0010	(000016) 0061, 0162
0041	BUFFMT	0011	(000017) 0066, 0158
0042	BUFFER	0012	(000018) 0051

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0018	GETFLD	0000	0018, 0065
0057	GET001	0009	0060
0061	GET002	0000	0059
0065	GETXIT	0012	0070, 0163
0066	GET003	0013	0062
0071	GET004	0018	0067
0079	GET005	0020	J103
0085	INBUF	0025	0052, 0088, 0128, 0129, 0132
0087	GET006	0026	0079
0088	GET007	0027	0083
0091	GET008	002A	0089
0105	GETCCH	0037	0094, 0097, 0099, 0101
0106	IGOTFD	0038	
0122	GET010	0048	0117, 0120, 0153
0132	GET100	0052	0126
0133	GET101	0053	0131
0144	GET102	005E	0138
0154	GET103	0068	0121, 0143, 0151
0159	GET104	006D	0157
0163	GET105	0071	0161
0166	BASE	0072	0049, 0107, 0133
0167	NOCHAR	0073	0054, 0116, 0119, 0135, 0137, 0148, 0150
0168	GETCHC	0074	0074, 0102, 0115, 0118
0169	T1	0075	0092, 0095, 0105, 0114, 0152
0170	FIELDX	0076	0072, 0141, 0144, 0147
0171	COMMACH	0077	0096
0172	SLASHC	0078	0160
0173	TTHOUS	0079	0140
0174	TEMP	007A	0078, 0082, 0106, 0109, 0111, 0122, 0125
0177	SA20	0001	0178
0178	SP20	0002	0179
0179	DR20	0000	0180


```

0001      *      NAM ASHX          DECK-ID N56  MSOS 5.0          SUMMARY-110N5600001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N5600002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA    N5600003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976        N5600004
0005      *      N56J0005
0006      *      ASCII TO HEX CONVERSION VALUE OF CHARACTERS IN FIELD N5600006
0007      *      ARE STORED IN WORD FOLLOWING RTJ TO ASCHEX. CONTROL IS N56J0007
0008      *      RETURNED TO SECOND WORD AFTER RTJ. (NUMERIC CONVERSIONS) N56J0008
0009      *      ANY NON HEX CHARACTER CAUSES PROGRAM TO CLEAR OUT VALUE N5600009
0010      *      SO FAR ACCUMULATE IN CELL FOLLOWING RTJ AND CONTINJE. N5600010

```

```

0012      *      ENT ASCHEX          E N T R Y          N A M E          N5600012
0013      *      N5600013

```

```

0015      *      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N5600015
0016      *      N5600016

```

```

0017      *      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N5600017

```

```

0018      *      EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N5600018

```

```

0019      *      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N5600019

```

```

0020      *      EQU TEN($46) **MSOS4.0**N5600020

```

```

0022      *      EQU HANDLE(1)          PARAMETER LOCATION (OFFSET FROM BASE) N5600022
0023      *      EQU MSG(2)              "MSG" ENTRY N5600023
0024      *      EQU SOMMOR(3)           "SOMMOR" ENTRY N5600024
0025      *      EQU IOERR(4)           "IOERR" ENTRY N56J00025
0026      *      EQU LISTLU(5)          LIST OUTPUT --- "LISTLU" N56J00026
0027      *      EQU COMOLU(6)          "COMOLU" N5600027
0028      *      EQU NEWMLU(7)           "NEWMLU" --- NEW MM LU N5600028
0029      *      EQU PROG1(8)            "PROG1" N56J00029
0030      *      EQU PROG2(9)            "PROG2" N5600030
0031      *      EQU BITFLG(10)          "BITFLG" N5600031
0032      *      EQU BUFCNT(11)          "BUFCNT" N5600032
0033      *      EQU FIELD(12)           "FIELD" N5600033
0034      *      N56J00034

```


0035	0010	EQU	SLASHF(16)	"SLASHF"	N5600035
0036	0011	EQU	BUFEMT(17)	"BUFEMT"	N5600036
0037	0012	EQU	BUFFER(18)	"BUFFER"	N5600037

0039	*				N5600039
0040	*****	*****	PROGRAM	START	N5600040
0041	*				N5600041

0043	P0000	0000	ASCHEX	NUM	0		N5600043
0044	P0001	60FF		STA-	I		N5600044
0045	P0002	C102		LDA-	MSG,I	FETCH "MSG" ADDRESS	N5600045
0046	P0003	682E		STA*	EXTMSG		N5600046
0047	P0004	6842		CLR	Q		N5600047
0048	P0005	40FA		STQ*	(ASCHEX)	INITIALIZE	N5600048
0049	P0006	482C		STQ*	LOWFLG		N5600049
0050	P0007	482C		STQ*	PASCTR		N5600050
0051	P0008	C10E	NXDIG1	LDA-	FIELD+2,I	GET "FIELD+2"	N5600051
0052	P0009	0151	NEXDIG	SQN	LFGSET-* -1	CHECK BIT FLAG	N5600052
0053	P000A	0F48		ARS	8		N5600053
0054	P000B	A009	LFGSET	AND-	LPMSK+7		N5600054
0055	P000C	09CF		INA	-\$30	START OF NUMBERS	N5600055
0056	P000D	013D		SAM	ASCCLR-* -1	ILLEGAL-CLEAR VALUE	N5600056
0057	P000E	0822		TRA	Q		N5600057
0058	P000F	09F5		INA	-\$3A+\$30	END OF ASCII NOS.	N5600058
0059	P0010	012C		SAP	CHKALF-* -1	SEE IF ALF HEX NUMBER	N5600059
0060	P0011	0CEE	ASCALC	LDA*	(ASCHEX)		N5600060
0061	P0012	0FC4		ALS	4		N5600061
0062	P0013	0874		EAQ	A		N5600062
0063	P0014	6CEB	ASCUP	STA*	(ASCHEX)	UPDATE IN (ASCHEX)	N5600063
0064	P0015	C81E		LDA*	PASCTR		N5600064
0065	P0016	E81C		LDQ*	LOWFLG		N5600065
0066	P0017	010E		SAZ	WORONE-* -1	CHECK WORD	N5600066
0067	P0018	014D		SQZ	WORONE-* -1	SECOND WORD-CHECK BITS	N5600067
0068	P0019	D8E6		RAO*	ASCHEX	DONE EXIT	N5600068
0069	P001A	1CE9		JMP*	(ASCHEX)		N5600069
0070	P001B	0C04	ASCCLR	ENQ	4		N5600070
0071	P001C	1C15		JMP*	(EXTMSG)		N5600071
0072	P001D	09F8	CHKALF	INA	-\$41+\$3A	ASSII ALF NOS.	N5600072
0073	P001E	0121		SAP	ALFOK-* -1		N5600073
0074	P001F	18FB		JMP*	ASCCLR		N5600074
0075	P0020	6822	ALFOK	TRA	Q		N5600075
0076	P0021	09F9		INA	-\$47+\$41		N5600076
0077	P0022	0131		SAM	ALFOK1-* -1		N5600077
0078	P0023	18F7		JMP*	ASCCLR		N5600078
0079	P0024	0D0A	ALFOK1	INQ	10	GET TO TRUE VALUE	N5600079
0080	P0025	18EB		JMP*	ASCALC		N5600080
0081	P0026	0145	WORONE	SQZ	ASCHI-* -1	DO NEXT DIGIT	N5600081
0082	P0027	D80C		RAO*	PASCTR	ON TO WORD 2	N5600082
0083	P0028	0842		CLR	Q		N5600083
0084	P0029	4809		STQ*	LOWFLG		N5600084
0085	P002A	C10F	WORTWO	LDA-	FIELD+3,I		N5600085

```

0086 P002B 18DD      JMP* NEXDIG
0087 P002C 0C01    ASCHI ENQ 1
0088 P002D 4805      STQ* LOWFLG
0089 P002E 0101      SAZ WDONE--1
0090 P002F 18FA      JMP* WORTWO
0091 P0030 18D7      WDONE JMP* NXDIG1

```

```

N5600086
N5600087
N5600088
N5600089
N5600090
N5600091

```

```

0093 *
0094 P0031 0000    EXTMSG NUM 0

```

```

N5600093
N5600094

```

```

0096 *
0097 P0032 0000    LOWFLG NUM 0
0098 P0033 0000    PASCTR NUM 0
0099 P0034 0005    BZS  CORRT2(5) *****

```

```

N5600096
N5600097
N5600098
N5600099

```

```

0101 *
0102      0000 P      EQU SA21(* /96)
0103      0001 PP     EQU SP21(SA21+1)
0104      0060 P      EQU DB21(SP21*96)
0105 P0039 0027      BSS (DB21-*)
0106      END

```

```

N5600101
N5600102
N5600103
N5600104
N5600105
N5600106

```

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

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0044
0016	AMONI	00F4	(000244)
0016	ADISP	00EA	(000234)
0016	LPMSK	0002	(000002) 0054
0016	NZERO	0012	(000018)
0016	ZROBIT	0033	(000051)
0017	FIVE	0043	(000067)
0017	SIX	0044	(000068)
0017	ZERO	0022	(000034)
0017	ONEBIT	0023	(000035)
0017	SIXTEN	0027	(000039)
0018	COMMA	002C	(000044)
0018	SLASH	002F	(000047)
0018	ASTRIC	002A	(000042)
0019	EIGHT	0026	(000038)
0019	NINE	0045	(000069)
0019	THREE	0004	(000004)
0019	ONE	0003	(000003)
0019	TWO	0024	(000036)
0020	TEN	0046	(000070)
0023	HANDLE	0001	(000001)
0024	MSG	0002	(000002) 0045
0025	SOMMOR	0003	(000003)
0026	IOERR	0004	(000004)
0027	LISTLU	0005	(000005)
0028	COMOLU	0006	(000006)
0029	NEWMLU	0007	(000007)
0030	PROG1	0008	(000008)
0031	PROG2	0009	(000009)
0032	BITFLG	000A	(000010)
0033	BUFCNT	000B	(000011)
0034	FIELD	000C	(000012) 0051, 0085
0035	SLASHF	0010	(000016)
0036	BUFEMT	0011	(000017)
0037	BUFFER	0012	(000018)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0013	ASCHEX	0000	0013, 0048, 0060, 0063, 0068, 0069
0051	NXDIG1	0008	0091
0052	NEXDIG	0009	0086
0054	LFGSET	000B	0052
0060	ASCALC	0011	0080
0063	ASCUP	0014	
0070	ASCCLR	001B	0056, 0074, 0078
0072	CHKALF	001D	0059
0075	ALFOK	0020	0073
0079	ALFOK1	0024	0077
0081	WORONE	0026	0066, 0067
0085	WORTWO	002A	0090
0087	ASCHI	002C	0081
0091	WDONE	0030	0089
0094	EXTMSG	0031	0046, 0071
0097	LOWFLG	0032	0049, 0065, 0084, 0088
0098	PASCTR	0033	0050, 0064, 0082
0099	CORRT2	0034	
0102	SA21	0000	0103
0103	SP21	0001	0104
0104	DB21	0060	0105

SUMMARY-116*****

```

0001      NAM DMPBUF          DECK-ID N57  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 SUBROUTINE PRINTS OUT CORE CELLS ON
0007      *      COMMENT OUTPUT DEVICE. TWO TYPES OF
0008      *      CALLS ARE SHOWN BELOW. ONLY ONE
0009      *      LINE IS OUTPUT. FOUR SPACES BETWEEN CELL
0010      *      AND FIRST CONTENTS THE TWO SPACES
0011      *ABSOL RTJ DMPBUF          Q REG HAS NO OF CELLS
0012      *      ADC STARTING CELL
0013      *RELAT RTJ DMPBUF          Q REG HAS NO. OF CELLS
0014      *      ADC (RELATIVE START ADDRESS OF BUFFER TO BE OUTPUT)
0015      *      ADC ADDRESS FROM WHICH DUMP COMES (FOR PRINTOUT)

0017      *      E N T R Y      N A M E
0018      ENT DMPBUF

0020      *      E X T E R N A L S
0021      EXT CHRSG

0023      *      E X T E R N A L S
0024      EXT MSG
0025      EXT OFF

0027      *      ' E Q U '      T A B L E
0028      EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)

0029      EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)

0030      EQU COMMA($2C),SLASH($2F),ASTRIC($2A)

0031      EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)

0032      EQU TEN($46)

```

```

N5700002
N5700003
N5700004
N5700005
N5700006
N5700007
N5700008
N5700009
N5700010
N5700011
N5700012
N5700013
N5700014
N5700015

N5700017
N5700018

N5700020
N5700021

N5700023
N5700024
N5700025

N5700027
N5700028

N5700029

N5700030

N5700031

**MSOS4.0**N5700032

```

```

00F4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046

```

```

0034      *          PARAMETER LOCATION (OFFSET FROM BASE)
0035      0001      EQU HANDLE(1)      "HANDLE"
0036      0002      EQU BMSG(2)        "MSG" ENTRY
0037      0003      EQU SOMMOR(3)     "SOMMOR" ENTRY
0038      0004      EQU IOERR(4)      "IOERR" ENTRY
0039      0005      EQU LISTLU(5)     LIST OUTPUT --- "LISTLU"
0040      0006      EQU COMOLU(6)     "COMOLU"
0041      0007      EQU NEWMLU(7)     "NEWMLU" --- NEW MM LU
0042      0008      EQU PROG1(8)      "PROG1"
0043      0009      EQU PROG2(9)      "PROG2"
0044      000A      EQU BITFLG(10)    "BITFLG"
0045      000B      EQU BUFCNT(11)    "BUFCNT"
0046      000C      EQU FIELD(12)     "FIELD"
0047      0010      EQU SLASHF(16)    "SLASHF"
0048      0011      EQU BUFEFT(17)    "BUFEFT"
0049      0012      EQU BUFFER(18)    "BUFFER"

```

```

N5700034
N5700035
N5700036
N5700037
N5700038
N5700039
N5700040
N5700041
N5700042
N5700043
N5700044
N5700045
N5700046
N5700047
N5700048
N5700049

```

```

0051      *          VARIABLE EQUUS
0052      0007      EQU CHRSLV(7)     LEVEL OF THIS PROGRAM

```

```

N5700051
116*4360*****

```

```

0054      *          EQUUS FOR LOGICAL UNITS
0055      08FC      EQU COMOUT($8FC)  TYPE OUTPUT LOGICAL UNIT
0056      08FD      EQU COMLU($8FD)  INPUT COMMENT LOGICAL UNIT
0057      08C2      EQU MASSLU($8C2) MASS MEMORY LOGICAL UNIT
0058      1000      EQU ASM0D($1000) ASCII MODE OUTPUT

```

```

N5700054
N5700055
N5700056
N5700057
N5700058

```

```

0060      *          ***** P R O G R A M S T A R T *****
0061      *****
0062      *

```

```

N5700060
N5700061
N5700062

```

```

0064      DMPBUF NUM 0
0065      P0001 4840 STQ* TRAP          SAVE Q-REGISTER
0066      P0002 6877 STA* BASE        SAVE PARAMETER BUFFER ADDRESS
0067      P0003 60FF STA- I
0068      P0004 8112 ADD- BUFFER,I    CALCULATE "BUFFER" ADDRESS
0069      P0005 6846 STA* BUFADD

```

```

N5700064
N5700065
N5700066
N5700067
N5700068
N5700069

```

```

0071      P0006 0842 CLR Q
0072      P0007 C109 LDA- PROG2,I    DETERMINE LIST UNIT BY ENTRY TYPE
0073      P0008 09FE INA -1
0074      *          ISOLATE ENTRY WITH MASK TO DETERMINE LU
0075      *          IF NON-ZERO, LIST LU IS LIST COMMENT UNIT
0076      P0009 3027 DVI- ONEBIT+4
0077      P000A 683F STA* OTLU
0078      P000B C223 LDA- ONEBIT,Q    GET BIT MASK TO ISLOATE LU
0079      P000C E83D LDQ* OTLU      RECALL LU MASK INDEX (WORD INDEX)
0080      P000D AA70 AND* LUMSK,Q
0081      P000E 0101 SAZ LUTY3      SKIP IF IT IS FOR LIST UNIT
0082      P000F D0FF RAO- I          SET FOR "COMOLU" --- COMMENT UNIT

```

```

N5700071
N5700072
N5700073
N5700074
N5700075
N5700076
N5700077
N5700078
N5700079
N5700080
N5700081
N5700082

```

0083	P0010	C105	LUTY3	LDA-	LISTLU, I	GET LIST UNIT ACCORDINGLY	N5700083
0084	P0011	883C		ADD*	MODE	+ MODE (ASCII) CODE	N5700084
0085	P0012	6837		STA*	OTLU		N5700085
0086	P0013	E82E		LDQ*	TRAP	RECALL Q-REGISTER	N5700086

0088	P0014	0A00		ENA	0		N5700088
0089	PC015	60FF		STA-	I		N5700089

0091	P0016	CCE9		LDA*	(DMPBUF)		N5700091
0092	P0017	0DEF		INQ	-16		**MSOS4.0**N5700092
0093	P0018	0174		SQM	NOTREL	Q GREATER THAN 16 MEANS RELATIVE	**MSOS4.0**N5700093
0094	P0019	38E6		ADD*	DMPBUF	-- USED BY MSD PROCESSOR	**MSOS4.0**N5700094
0095	P001A	683F		STA*	DMPADD	REMOVE BIAS FROM COUNT	**MSOS4.0**N5700095
0096	P001B	483F		STQ*	DMPCTR		**MSOS4.0**N5700096
0097	P001C	1809		JMP*	DMP001		**MSOS4.0**N5700097
0098	P001D	0D10	NOTREL	INQ	16		**MSOS4.0**N5700098
0099	P001E	683B		STA*	DMPADD		**MSOS4.0**N5700099
0100	P001F	483B		STQ*	DMPCTR	SET UP COUNTER	N5700100

0102	P0020	CCDF		LDA*	(DMPBUF)		N5700102
0103	P0021	583B		RTJ*	PUTINB	PUT ASCII CODE IN BUFFER	N5700103
0104	P0022	E838		LDQ*	DMPCTR		N5700104
0105	P0023	0161		SQP	DMP001--*-1	SKIP IF NOT 1 WORD PRINT-OUT	N5700105
0106	P0024	180F		JMP*	GOOUT		N5700106
0107	P0025	C836	DMP001	LDA*	SPACE2		N5700107
0108	P0026	6D25		STA*	(BUFADD), I		N5700108
0109	P0027	D0FF		RAO-	I	4 SPACES	N5700109
0110	P0028	6D23	DMPLOP	STA*	(BUFADD), I		N5700110
0111	P0029	D0FF		RAO-	I		N5700111
0112	P002A	C02F		LDA*	(DMPADD)	GET CELL VALUE	N5700112
0113	P002B	5831		RTJ*	PUTINB		N5700113
0114	P002C	D82D		RAO*	DMPADD		N5700114
0115	P002D	C82D		LDA*	DMPCTR		N5700115
0116	P002E	09FE		INA	-1		N5700116
0117	P002F	0103		SAZ	GOOUT--*-1		N5700117
0118	P0030	682A		STA*	DMPCTR		N5700118
0119	P0031	C82A		LDA*	SPACE2		N5700119
0120	P0032	18F5		JMP*	DMPLOP		N5700120

0122			*		BUFFER FULL		N5700122
0123	P0033	C0FF		GOOUT	LDA-	I	SET UP LENGTH
0124	P0034	6816		STA*	DMPLEN		N5700123
0125	P0035	C400	X	LDA	CHRSFG	CHECK IF PROGRAM TO BE TURNED OFF	N5700124
	P0036	7FFF	X				N5700125
0126	P0037	E842		LDQ*	BASE	SET UP PARAMETER ADDRESS	N5700126
0127	P0038	0117		SAN	DMPCON--*-1		N5700127
0128	P0039	C805	DMPEXI	LDA*	OFTB	CALCULATE "OFF" ADDRESS	N5700128

0129	P003A	9805		SUB*	OFTB+1			N5700129
0130	P003B	8202		ADD-	SMSG,Q			N5700130
0131	P003C	D822		TRA	Q			N5700131
0132	P003D	1622		JMP-	{ZERO},Q	EXIT TO "OFF"		N5700132

0134			*					N5700134
0135	P003E	7FFF	X	OFTB	ADC	OFF	0. "OFF"	N5700135
0136	P003F	7FFF	X		ADC	MSG	1. "MSG"	N5700136
0137			*					N5700137

0139			*					N5700139
0140	P0040	5801		DMPCON	RTJ*	TRAP	GENERATE EXIT ADDRESS	N5700140
0141	P0041	0800		TRAP	NOP	0		N5700141
0142	P0042	C8FE			LDA*	TRAP		N5700142
0143	P0043	0900			INA	DMPEXT-TRAP		N5700143
0144	P0044	6803			STA*	DMX		N5700144
0145	P0045	54F4			RTJ-	(AMONI)		N5700145
0146	P0046	0C07		DMPCAL	ADC	%C00+CHRSLV	EXIT ADDRESS (TO BE FILLED)	N5700146
0147	P0047	0000		DMX	NUM	0		N5700147
0148	P0048	0000			NUM	0	LOGICAL UNIT (TO BE FILLED)	N5700148
0149	P0049	0000		OTLU	NUM	0		N5700149
0150	P004A	0000		DMPLEN	NUM	0	"BUFFER" ADDRESS (TO BE FILLED)	N5700150
0151	P004B	0000		BUFADD	NUM	0		N5700151
0152	P004C	14EA			JMP-	(ADISP)		N5700152
0153			*					N5700153
0154	P004D	1000		MODE	ADC	ASMOD		N5700154
0155			*					N5700155

0157			*				SET UP FOR NEXT CELL INCASE LONG PRINTOUT	N5700157
0158	P004E	0163		DMPEXT	SQP	DMPOK1-* -1	CHECK FOR I/O ERROR	N5700158
0159	P004F	E82A			LDQ*	BASE	CALCULATE "IOERR" ADDRESS	N5700159
0160	P0050	E204			LDQ-	IOERR,Q		N5700160
0161	P0051	1622			JMP-	(ZERO),Q	EXIT TO "IOERR"	N5700161

0163	P0052	CCAD		DMPOK1	LDA*	(JMPBUF)		N5700163
0164	P0053	0908			INA	8		N5700164
0165	P0054	6CAB			STA*	(DMPBUF)		N5700165
0166	P0055	D8AA			RAO*	DMPBUF		N5700166
0167	P0056	1CA9			JMP*	(DMPBUF)		N5700167

0169			*				FLAGS, COUNTERS ETC	N5700169
0170	P0057	0000		PIBFLG	NUM	0		N5700170

0171 P0058 0000 DMPTMP NUM 0
 0172 P0059 0000 DMPADD NUM 0
 0173 P005A 0000 UMPCTR NUM 0
 0174 P005B 2020 SPACE2 ALF 1,

2 SPACES

N5700171
 N5700172
 N5700173
 N5700174

```

0176 * SUBROUTINE TO STORE VAL IN A REG INTO BUFFER
0177 P005C 0000 PUTINB 0
0178 P005D 681D STA* DEXHEX SAVE HEX NO.
0179 P005E 0844 CLR A
0180 P005F 681C STA* DEXCH INITIALIZE ASCII WORD TO BE MADE
0181 P0060 0C01 DEX001 ENQ 1 INITIALIZE COUNTER FOR 2 WDS.
0182 P0061 481B DEX002 STQ* DEXCNT
0183 P0062 0842 DEX003 CLR Q GET A HEX DIGIT
0184 P0063 C817 LDA* DEXHEX
0185 P0064 0FE4 LLS 4
0186 P0065 6815 STA* DEXHEX
0187 P0066 0814 TRQ A
0188 P0067 09F5 INA -$A
0189 P0068 0121 SAP DEX004-*--1 SKIP IF DIGIT A THRU F
0190 P0069 09F8 INA $3A-$41
0191 P006A 0941 DEX004 INA $41 CONVERT TO ASCII
0192 P006B F810 LDQ* DEXCH
0193 P006C 0153 SQN DEX005-*--1 SKIP IF NOT FIRST CHAR. FOR WORD
0194 P006D 0FC8 ALS 8
0195 P006E 680D STA* DEXCH
0196 P006F 18F2 JMP* DEX003 GO TO GET NEXT HEX DIGIT
0197 P0070 0874 DEX005 EAQ A BUILD ASCII WORD
0198 P0071 6DD9 STA* (BUFADD),I STORE WORD IN BUFFER
0199 P0072 D0FF RAO- I
0200 P0073 F809 LDQ* DEXCNT
0201 P0074 0143 SQZ DEX006-*--1 SKIP IF DONE
0202 P0075 0DFE INQ -1
0203 P0076 4805 STQ* DEXCH INITIALIZE ASCII WORD
0204 P0077 18E9 JMP* DEX002
0205 P0078 1CE3 DEX006 JMP* (PUTINB) RETURN TO CALLER

```

N5700176
 N5700177
 N5700178
 N5700179
 N5700180
 N5700181
 N5700182
 N5700183
 N5700184
 N5700185
 N5700186
 N5700187
 N5700188
 N5700189
 N5700190
 N5700191
 N5700192
 N5700193
 N5700194
 N5700195
 N5700196
 N5700197
 N5700198
 N5700199
 N5700200
 N5700201
 N5700202
 N5700203
 N5700204
 N5700205

```

0207 *
0208 P0079 0000 BASE NUM 0
0209 * CONSTANTS
0210 P007A 0000 DEXHEX 0 0 HEX NUMBER
0211 P007B 0000 DEXCH 0 0 STORAGE FOR ASCII WORD BEING BUILT
0212 P007C 0000 DEXCNT 0 0 ASCII WORD COUNTER

```

N5700207
 N5700208
 N5700209
 N5700210
 N5700211
 N5700212

```

0214 *
0215 ***** LIST LOGICAL UNIT MASK
0216 *
0217 ***** BIT ASSIGNMENT ---- WORD 1 BIT 0 IS CORRESPONDING

```

N5700214
 N5700215
 N5700216
 N5700217

TO ENTRY 1

0218
0219
0220
0221
0222
0223
0224
0225
0226
0227

*

*

*

BIT IS RESET (=0) IMPLIED LOGICAL UNIT FROM 'LISTLU'
OTHER WISE LOGICAL UNIT IS OBTAINED FROM 'COMOLU'

FOR EXAMPLE--'DPC' IS ENTRY 2 AND ITS LOGICAL UNIT
IS OBTAINED FROM 'LISTLU'. ITS MASK IS IN BIT 1
OF WORD 1 AND IT IS RESET

N5700218
N5700219
N5700220
N5700221
N5700222
N5700223
N5700224
N5700225
N5700226
N5700227

P007D FFF9
P007E FCFF
P007F 0BAA
P0080 FFF2

LUMSK NUM \$FFF9,\$FCFF,\$0BAA,\$FFF2

0230
0231
0232
0233
0234
0235

*

0001 P
0002 P
0000 P
P0081 003F

EQU SA22(* /96)
EQU SP22(SA22+1)
EQU DB22(SP22*96)
BSS (DB22-*)
END

N5700230
N5700231
N5700232
N5700233
N5700234
N5700235

PGM= 0000 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0067, 0082, 0089, 0109, 0111, 0123, 0199
0028	AMONI	00F4	(000244) 0145
0028	ADISP	00EA	(000234) 0152
0028	LPMSK	0002	(000002)
0028	NZERO	0012	(000018)
0028	ZROBIT	0033	(000051)
0029	FIVE	0043	(000067)
0029	SIX	0044	(000068)
0029	ZERO	0022	(000034) 0132, 0161
0029	ONEBIT	0023	(000035) 0076, 0078
0029	SIXTEN	0027	(000039)
0030	COMMA	002C	(000044)
0030	SLASH	002F	(000047)
0030	ASTRIC	002A	(000042)
0031	EIGHT	0026	(000038)
0031	NINE	0045	(000059)
0031	THREE	0004	(000004)
0031	ONE	0003	(000003)
0031	TWO	0024	(000036)
0032	TEN	0046	(000070)
0035	HANDLE	0001	(000001)
0036	BMSG	0002	(000002) 0130
0037	SOMMOR	0003	(000003)
0038	IOERR	0004	(000004) 0160
0039	LISTLU	0005	(000005) 0083
0040	COMOLU	0006	(000006)
0041	NEWMLU	0007	(000007)
0042	PROG1	0008	(000008)
0043	PROG2	0009	(000009) 0072
0044	BITFLG	000A	(000010)
0045	BUFCNT	000B	(000011)
0046	FIELD	000C	(000012)
0047	SLASHF	0010	(000016)
0048	BUFEMT	0011	(000017)
0049	BUFFER	0012	(000018) 0068
0052	CHRSLV	0007	(000007) 0146
0055	COMOUT	08FC	(002300)
0056	COMLU	08FD	(002301)

0057	MASSLU	08C2	(002242)	
0058	ASMOD	1000	(004096)	0154

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0018	DMPBUF	0000	0018, 0091, 0094, 0102, 0163, 0165, 0166, 0167
0083	LUTY3	0010	0081
0098	NOTREL	001D	0093
0107	DMP001	0025	0097, 0105
0110	DMPLOP	0028	0120
0123	GOOUT	0033	0106, 0117
0128	DMPEXI	0039	
0135	OFTR	003E	0128, 0129
0140	DMPCON	0040	0127
0141	TRAP	0041	0065, 0086, 0140, 0142, 0143
0146	DMPCAL	0046	
0147	DMX	0047	0144
0149	OTLU	0049	0077, 0079, 0085
0150	DMPLEN	004A	0124
0151	BUFA00	004B	0069, 0108, 0110, 0198
0154	MODE	004D	0084
0158	DMPEXT	004E	0143
0163	DMP0K1	0052	0158
0170	PIRFLG	0057	
0171	DMPTMP	0058	
0172	DMPADD	0059	0095, 0099, 0112, 0114
0173	DMPCTR	005A	0096, 0100, 0104, 0115, 0118
0174	SPACE2	005B	0107, 0119
0177	PUTINB	005C	0103, 0113, 0205
0181	DEX001	0060	
0182	DEX002	0061	0204
0183	DFX003	0062	0196
0191	DEX004	006A	0189
0197	DEX005	0070	0193
0205	DEX006	0078	0201
0208	BASE	0079	0066, 0126, 0159
0210	DEXHEX	007A	0178, 0184, 0186
0211	DEXCH	007B	0180, 0192, 0195, 0203
0212	DEXCNT	007C	0182, 0200
0227	LUMSK	007D	0080
0231	SA22	0001	0232
0232	SP22	0002	0233
0233	DB22	0000	0234

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0021	CHRSFG	0036	0125
0024	MSG	003F	0136
0025	OFF	003E	0135

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0028	AMONI	0028	ASMOD	0058	ASTRIC	0030	BASE	0208	BITFLG	0044	BMSG	0036	BUFADD	0151	BUFCNT	0045
BUFEMT	0048	BUFFER	0049	CHRSFG	0021	CHRSLV	0052	COMLU	0056	COMMA	0030	COMOLU	0040	COMOUT	0055	DB22	0233
DEX001	0181	DEX002	0182	DEX003	0183	DEX004	0191	DEX005	0197	DEX006	0205	DEXCH	0211	DEXCNT	0212	DEXHEX	0210
DMP001	0107	DMPADD	0172	DMPBUF	0018	DMPCAL	0140	DMPCON	0140	DMPCTR	0173	DMPEXI	0128	DMPEXT	0158	DMPLEN	0150
DMPLOP	0110	DMPOK1	0163	DMPIMP	0171	DMX	0147	EIGHT	0031	FIELD	0046	FIVE	0029	GOOUT	0123	HANDLE	0035
I	0000	IOERR	0038	LISTLU	0039	LPMSK	0028	LUMSK	0227	LUTY3	0083	MASSLU	0057	MODE	0154	HSG	0024
NEWMLU	0041	NINE	0031	NOTREL	0098	NZERO	0028	OFF	0025	OFTB	0135	ONE	0131	ONEBIT	0029	OTLU	0149
PIBFLG	0170	PROG1	0042	PROG2	0043	PUTINB	0177	SA22	0231	SIX	0029	SIXTEN	0029	SLASH	0030	SLASHF	0047
SOMMOR	0037	SP22	0232	SPACE2	0174	TEN	0032	THREE	0031	TRAP	0141	TWO	0031	ZERO	0029	ZROBIT	0028

NAM ASCDEC DECK-ID N58 MSOS 5.0
 MASS STORAGE OPERATING SYSTEM VERSION 5.0
 SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
 COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-110N5800001

0001
 0002
 0003
 0004
 0005
 0006
 0007
 0008
 0009
 0010
 0011
 0012
 0013
 0014
 0015

*
 *
 *
 *
 *
 *
 *
 *
 *
 *
 *
 *
 *
 *

THIS SUBROUTINE CONVERTS ASCII (REPRESENTING
 A SIGNED DECIMAL NO.) TO BINARY. ASCII CHARACTERS
 ARE IN BUFFER(FIELD+1,2,3).
 RESULT IS RETURNED IN A-REG.
 LEGAL CHARACTERS ARE +,-,0-9
 ILLEGAL CHAR. AND +,- ZEROS OUT ACCUMMULATION
 DECIMAL VALUE .GT. 2*15-1 WILL RESULT IN ERROR

N5800002
 N5800003
 N5800004
 N5800005
 N5800006
 N5800007
 N5800008
 N5800009
 N5800010
 N5800011
 N5800012
 N5800013
 N5800014
 N5800015

0017
 0018

*

ENT ASCDEC ENTRY NAME

N5800017
 N5800018

0020
 0021

*

EQU AMONI(\$F4),ADISF(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N5800020
 N5800021

00F4
 00EA
 0002
 0012
 0033
 0043
 0044
 0022
 0023
 0027
 002C
 002F
 002A
 0026
 0045
 0004
 0003
 0024
 0046
 0020
 002C
 002D

0022

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N5800022

0023

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N5800023

0024

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N5800024

0025
 0026

EQU TEN(\$46)
 EQU SPACE(\$20),PLUS(\$2C),NEG(\$2D)

MSOS4.0N5800025
 N5800026

0028
 0029
 0030
 0031
 0032

*

PARAMETER LOCATION (OFFSET FROM BASE)
 EQU HANDLE(1) "HANDLE"
 EQU MSG(2) "MSG" ENTRY
 EQU SOMMOR(3) "SOMMOR" ENTRY
 EQU IOERR(4) "IOERR" ENTRY

N5800028
 N5800029
 N5800030
 N5800031
 N5800032

```

0033 0005 EQU LISTLU(5)
0034 0006 EQU COMOLU(6)
0035 0007 EQU NEWMLU(7)
0036 0008 EQU PROG1(8)
0037 0009 EQU PROG2(9)
0038 000A EQU BITFLG(10)
0039 000B EQU BUFCNT(11)
0040 000C EQU FIELD(12)
0041 0010 EQU SLASHF(16)
0042 0011 EQU BUFEMT(17)
0043 0012 EQU BUFFER(18)

```

```

LIST OUTPUT --- "LISTLU"
"COMOLU"
"NEWMLU" --- NEW MM LU
"PROG1"
"PROG2"
"BITFLG"
"BUFCNT"
"FIELD"
"SLASHF"
"BUFEMT"
"BUFFER"

```

```

N5800033
N5800034
N5800035
N5800036
N5800037
N5800038
N5800039
N5800040
N5800041
N5800042
N5800043

```

```

0045 *
0046 ***** PROGRAM START *****
0047 *

```

```

N5800045
N5800046
N5800047

```

```

0049 P0000 0000 ASCDEC 0 0
0050 P0001 60FF STA- I
0051 P0002 0844 CLR A
0052 P0003 E838 STA* DECSGN INITIALIZE SIGN AND
0053 P0004 6836 STA* DECACC ACCUMMULATION
0054 P0005 C302 ENQ 2 GET AND STORE ONE CHARACTER
0055 P0006 C30D DEC001 LDA- FIELD+1,B PER WORD
0056 P0007 A00A AND- LPMSK+8 (GET LSD)
0057 P0008 0FA1 QLS 1
0058 P0009 6A0C STA* DECCHR+1,Q
0059 P000A 0F21 QRS 1
0060 P000B C30D LDA- FIELD+1,B
0061 P000C 0FC8 ALS 3
0062 P000D A00A AND- LPMSK+8
0063 P000E 0FA1 QLS 1
0064 P000F 6A05 STA* DECCHR,Q
0065 P0010 0F21 QRS 1
0066 P0011 0DFE INQ -1
0067 P0012 0177 SQM DEC002-* -1 SKIP IF DONE
0068 P0013 18F2 JMP* DEC001
0069 *
0070 P0014 0006 TABLE TO HOLD CHARACTERS
0071 P001A 0A00 BZS DECCHR(6)
0072 P001B 60FF DEC002 ENA 0 SET INDEX FOR CONVERSION
0073 P001C C9F7 DEC010 STA- I TO DECIMAL
0074 P001D 0903 LDA* DECCHR,I GET CHAR.
0075 P001E 0103 INA -PLUS
0076 P001F 09FE SAZ DEC003-* -1 SKIP IF PLUS SIGN
0077 P0020 0114 INA -NEG+PLUS
0078 P0021 0AFF SAN DEC005-* -1 SKIP IF NOT NEG. SIGN
0079 P0022 6819 DEC003 STA* DECSGN SET SIGN FLAG NEG.
0080 P0023 0844 CLR A CLEAR ACCUMMULATION
0081 P0024 180B DEC004 JMP* DEC009 IS CHAR. A DECIMAL DIGIT
0082 P0025 09FC DEC005 INA -$30+NEG
0083 P0026 6122 SAP DEC006-* -1 SKIP OK

```

```

N5800049
N5800050
N5800051
N5800052
N5800053
N5800054
N5800055
N5800056
N5800057
N5800058
N5800059
N5800060
N5800061
N5800062
N5800063
N5800064
N5800065
N5800066
N5800067
N5800068
N5800069
N5800070
N5800071
N5800072
N5800073
N5800074
N5800075
N5800076
N5800077
N5800078
N5800079
N5800080
N5800081
N5800082
N5800083

```

```

0084 P0027 0844 DEC007 CLR A
0085 P0028 18F9 JMP* DEC003
0086 P0029 09F5 DEC006 INA -$3A+$30 SKIP OK
0087 P002A 0131 SAM DEC008-*--1
0088 P002B 18FB JMP* DEC007
0089 P002C 090A DEC008 INA $A CONVERT TO HEX
0090 P002D 290F MUI* DECTEN,I CONVERT TO DECIMAL
0091 P002E 880C DEC009 ADD* DECACC ADD TO ACCUMULATED VALUE
0092 P002F 680B STA* DECACC
0093 P0030 C0FF LDA- I CONVERSION COMPLETE
0094 P0031 09FA INA -5
0095 P0032 0102 SAZ DEC011-*--1 SKIP YES
0096 P0033 D0FF RAO- I
0097 P0034 18E7 JMP* DEC010 GO TO CONVERT NEXT DIGIT
0098 P0035 C805 DEC011 LDA* DECACC IS SIGN NEG.
0099 P0036 E805 LDQ* DECSGN
0100 P0037 0161 SQP DEC012-*--1 SKIP NO
0101 P0038 0864 TCA A COMPLEMENT RESULT
0102 P0039 1C06 DEC012 JMP* (ASCDEC) RETURN TO CALLER
0103 P003A 0000 DECACC 0 STORAGE FOR ACCUMULATION
0104 P003B 0000 DECSGN 0 SIGN FLAG
0105 * TABLE OF POWERS OF TEN
0106 P003C 0000 DECTEN NUM 0
0107 P003D 2710 NUM 10000
0108 P003E 03E8 NUM 1000
0109 P003F 0064 NUM 100
0110 P0040 000A NUM 10
0111 P0041 0001 NUM 1
0112 *

```

N5800084
N5800085
N5800086
N5800087
N5800088
N5800089
N5800090
N5800091
N5800092
N5800093
N5800094
N5800095
N5800096
N5800097
N5800098
N5800099
N5800100
N5800101
N5800102
N5800103
N5800104
N5800105
N5800106
N5800107
N5800108
N5800109
N5800110
N5800111
N5800112

```

0114 *
0115 0000 P EQU SA23(* /96)
0116 0001 P EQU SP23(SA23+1)
0117 0060 P EQU DB23(SP23*96)
0118 PC042 001E BSS (DB23-*)
0119 END

```

N5800114
N5800115
N5800116
N5800117
N5800118
N5800119

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0050, 0072, 0093, 0096
0021	AMONI	00F4	(000244)
0021	ADISP	00EA	(000234)
0021	LPMSK	0002	(000002) 0056, 0062
0021	NZERO	0012	(000018)
0021	ZROBIT	0033	(000051)
0022	FIVE	0043	(000067)
0022	SIX	0044	(000068)
0022	ZERO	0022	(000034)
0022	ONEBIT	0023	(000035)
0022	SIXTEN	0027	(000039)
0023	COMMA	002C	(000044)
0023	SLASH	002F	(000047)
0023	ASTRIC	002A	(000042)
0024	EIGHT	0026	(000038)
0024	NINE	0045	(000069)
0024	THREE	0004	(000004)
0024	ONE	0003	(000003)
0024	TWO	0024	(000036)
0025	TEN	0046	(000070)
0026	SPACE	0020	(000032)
0026	PLUS	002C	(000044) 0074, 0076
0026	NEG	002D	(000045) 0076, 0082
0029	HANDLE	0001	(000001)
0030	MSG	0002	(000002)
0031	SCMMOR	0003	(000003)
0032	IOERR	0004	(000004)
0033	LISTLU	0005	(000005)
0034	COMOLU	0006	(000006)
0035	NEWMLU	0007	(000007)
0036	PROG1	0008	(000008)
0037	PROG2	0009	(000009)
0038	BITFLG	000A	(000010)
0039	BUFCNT	000B	(000011)
0040	FIELD	000C	(000012) 0055, 0060
0041	SLASHF	0010	(000016)
0042	BUFEMT	0011	(000017)
0043	BUFFER	0012	(000018)

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0018	ASCDEC	0000	0018, 0102
0055	DEC001	0006	0068
0070	DECCHR	0014	0058, 0064, 0073
0071	DEC002	001A	0067
0073	DEC010	001C	0097
0079	DEC003	0022	0075, 0085
0081	DEC004	0024	
0082	DEC005	0025	0077
0084	DEC007	0027	0088
0086	DEC006	0029	0083
0089	DEC008	002C	0087
0092	DEC009	002F	0081
0098	DEC011	0035	0095
0102	DEC012	0039	0100
0103	DECACC	003A	0053, 0091, 0092, 0098
0104	DECSGN	003B	0052, 0079, 0099
0106	DECTEN	003C	0090
0115	SA23	0000	0116
0116	SP23	0001	0117
0117	DB23	0060	0118

SUMMARY-110N5900001

```

0001 NAM HXAS DECK-ID N59 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 SUBROUTINE CONVERTS HEX NUMBER TO
0007 TWO WORD ASCII FOR PRINTING.
0008 Q-REG.=HEX NUMBER
0009 WORD FOLLOWING CALL CONTAINS RELATIVE
0010 INCREMENT TO WHERE ASCII IS TO BE STORED.
0011 RETURN IS MADE TO SECOND WORD FOLLOWING CALL.
0012

```

```

0014 *
0015 ENT HEXASC ENTRY NAME
0017 * EQU ZERO(2),MASK(3) TABLE
0018

```

0002
0003

```

0020 *
0021 ***** PROGRAM START *****
0022 *

```

```

0024 P0000 0B00 HEXASC NOP 0 ENTRY
0025 P0001 4821 STQ* HEXHEX SAVE HEX NO.
0026 P0002 CCFD LDA* (HEXASC) CALC. ABS. LOC. TO PUT
0027 P0003 88FC ADD* HEXASC ASCII CHARS.
0028 P0004 681F STA* HEXLAS
0029 P0005 08FA RAO* HEXASC BUMP RETURN AROUND PARAMETER
0030 P0006 0844 CLR A
0031 P0007 681D STA* HEXCH INITIALIZE ASC WORD TO BE MADE
0032 P0008 0C01 ENQ 1 INITIALIZE COUNTER FOR 2 WDS.
0033 P0009 481C HEX001 STQ* HEXCNT
0034 P000A 0842 HEX002 CLR Q GET A HEX DIGIT
0035 P000B C817 HEX003 LDA* HEXHEX
0036 P000C 0FE4 LLS 4
0037 P000D 6815 STA* HEXHEX
0038 P000E 0814 TRQ A
0039 P000F 09F5 INA -$A
0040 P0010 0121 SAP HEX004-*--1 SKIP IF DIGIT A THRU F
0041 P0011 09F8 INA $3A-$41
0042 P0012 0941 HEX004 INA $41 CONVERT TO ASCII
0043 P0013 E811 LDQ* HEXCH GET ASC WORD
0044 P0014 0153 SQN HEX005-*--1 SKIP IF THIS IS NOT FIRST CHAR. FOR WORD
0045 P0015 0FC8 ALS 8
0046 P0016 680E STA* HEXCH
0047 P0017 18F2 JMP* HEX003 GO TO GET NEXT HEX DIGIT
0048 P0018 0874 HEX005 EAQ A BUILD ASC WORD
0049 P0019 F80A LDQ* HEXLAS STORE IT IN SPECIFIED
0050 P001A 6602 STA- (ZERO),Q LOCATION

```

```

N5900024
N5900025
N5900026
N5900027
N5900028
N5900029
N5900030
N5900031
N5900032
N5900033
N5900034
N5900035
N5900036
N5900037
N5900038
N5900039
N5900040
N5900041
N5900042
N5900043
N5900044
N5900045
N5900046
N5900047
N5900048
N5900049
N5900050

```



```

0051 P001B D808 RAO* HEXLAS BUMP TO NEXT LOC. N5900051
0052 P001C E809 LDQ* HEXCNT N5900052
0053 P001D 0143 SQZ HEX006- *-1 SKIP IF DONE N5900053
0054 P001E 0DFE INQ -1 N5900054
0055 P001F 4805 STQ* HEXCH INITIALIZE ASC WORD TO BE MADE N5900055
0056 P0020 18E8 JMP* HEX002 N5900056
0057 P0021 1CDE HEX006 JMP* (HEXASC) RETURN TO SENDER N5900057
0058 * N5900058
0059 * N5900059
0060 P0022 0000 HEXHEX 0 0 CONSTANTS N5900060
0061 P0023 0000 HEXLAS 0 0 LOC. TO STORE ASCII N5900061
0062 P0024 0000 HEXCH 0 0 STORAGE FOR ASCII WORD BEING BUILT N5900062
0063 P0025 0000 HEXCNT 0 0 ASCII WORD COUNTER N5900063
0064 * N5900064
0065 0000 P EQU SA25(* /96) **MSOS4.0** N5900065
0066 0001 P EQU SP25(SA25+1) **MSOS4.0** N5900066
0067 0060 P EQU DB25(SP25*96) **MSOS4.0** N5900067
0068 P0026 003A BSS (DB25-*) **MSOS4.0** N5900068
0069 END N5900069

```

PGM= 0060 (96) 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)
0018	ZERO	0002	(000002) 0050
0018	MASK	0003	(000003)

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0015	HEXASC	0000	0015, 0026, 0027, 0029, 0057
0032	HEX001	0008	
0033	HEX002	0009	0056
0034	HEX003	000A	0047
0042	HEX004	0012	0040
0048	HEX005	0018	0044
0057	HEX006	0021	0053
0060	HEXHEX	0022	0025, 0035, 0037
0061	HEXLAS	0023	0028, 0049, 0051
0062	HEXCH	0024	0031, 0043, 0046, 0055
0063	HEXCNT	0025	0033, 0052
0065	SA25	0000	
0066	SP25	0001	0066
0067	DB25	0060	0067
			0068

*** ALPHABETICAL SORT OF SYMBOLS ***

DB25	0067	HEX001	0032	HEX002	0033	HEX003	0034	HEX004	0042	HEX005	0048	HEX006	0057	HEXASC	0015	HEXCH	0062
HEXCNT	0063	HEXHEX	0060	HEXLAS	0061	I	0000	MASK	0018	SA25	0065	SP25	0066	ZERO	0018		

0035	0001	EQU	HANDLE(1)	"HANDLE"	N6000035
0036	0002	EQU	BMSG(2)	"MSG" ENTRY	N6000036
0037	0003	EQU	SOMMOR(3)	"SOMMOR" ENTRY	N6000037
0038	0004	EQU	IOERR(4)	"IOERR" ENTRY	N6000038
0039	0005	EQU	LISTLU(5)	LIST OUTPUT --- "LISTLU"	N6000039
0040	0006	EQU	COMOLU(6)	"COMOLU"	N6000040
0041	0007	EQU	NEWMLU(7)	"NEWMLU" --- NEW MM LU	N6000041
0042	0008	EQU	PROG1(8)	"PROG1"	N6000042
0043	0009	EQU	PROG2(9)	"PROG2"	N6000043
0044	000A	EQU	BITFLG(10)	"BITFLG"	N6000044
0045	000B	EQU	BUFCNT(11)	"BUFCNT"	N6000045
0046	000C	EQU	FIELD(12)	"FIELD"	N6000046
0047	0010	EQU	SLASHF(16)	"SLASHF"	N6000047
0048	0011	EQU	BUFENT(17)	"BUFENT"	N6000048
0049	0012	EQU	BUFFER(18)	"BUFFER"	N6000049

0051		*		VARIABLE EQU	N6000051
0052	0007	EQU	CHRSLV(7)	LEVEL OF THIS PROGRAM	116*4360*****

0054		*		EQU	N6000054
0055	08FC	EQU	COMOUT(\$8FC)	FOR LOGICAL UNITS	N6000055
0056	08FD	EQU	COMLU(\$8FD)	TYPE OUTPUT LOGICAL UNIT	N6000056
0057	08C2	EQU	MASSLU(\$8C2)	INPUT COMMENT LOGICAL UNIT	N6000057
0058	1000	EQU	ASMOD(\$1000)	MASS MEMORY LOGICAL UNIT	N6000058
				ASCII MODE OUTPUT	

0060		*			N6000060
0061		*****	*****	P R O G R A M S T A R T	N6000061
0062		*			N6000062

0064	P0000	0B00	DECDMP	NOP	0	**MSOS4.0**	N6000064
0065	P0001	6840		STA*	BASE		N6000065
0066	P0002	60FF		STA-	I	SAVE PARAMETER BUFFER ADDRESS	N6000066
0067	P0003	8112		ADD-	BUFFER, I	CALCULATE "BUFFER" ADDRESS	N6000067
0068	P0004	6837		STA*	CHEAP		N6000068
0069	P0005	683A		STA*	BUFADD		N6000069
0070	P0006	09FE		INA	-1	"BUFFER"-1	N6000070
0071	P0007	6837		STA*	TEMP		N6000071
0072	P0008	0902		INA	2	"BUFFER"+1	N6000072
0073	P0009	6837		STA*	BUFADD+1		N6000073
0074	P000A	C105		LDA-	LISTLU, I	GET LIST LOGICAL UNIT	N6000074
0075	P000B	8832		ADD*	MODE	+ MODE (ASCII) CODE	N6000075
0076	P000C	682D		STA*	OTLU		N6000076
0077	P000D	CCF2		LDA*	(DECDMP)	**MSOS4.0**	N6000077
0078	P000E	0DEF		INQ	-16	**MSOS4.0**	N6000078
0079	P000F	0173		SQM	NTREL	SKIP IF NOT RELATIVE	N6000079
0080	P0010	88EF		ADD*	DECDMP	**MSOS4.0**	N6000080
0081	P0011	A011		AND-	MASK+14	**MSOS4.0**	N6000081
0082	P0012	1802		JMP*	DLN301	**MSOS4.0**	N6000082
0083	P0013	0D10	NTREL	INQ	16	**MSOS4.0**	N6000083

```

0084 P0014 6837 DLN301 STA* DLNADD
0085 P0015 4837 STQ* DLNCTR
0086 P0016 0842 CLR Q
0087 P0017 40FF STQ- I
0088 P0018 C835 DLN006 LDA* DLNSP2 STUF 2 SPACES
0089 P0019 6D26 DLN007 STA* (BUFA0),I
0090 P001A 00FF RAO- I
0091 P001B CC30 LDA* (DLNADD)
0092 P001C 5835 RTJ* DLNPIB CONVERT AND STUF A WORD
0093 P001D 082E RAO* DLNADD
0094 P001E C82E LDA* DLNCTR
0095 P001F 09FF INA -1
0096 P0020 0102 SAZ DLNOUT
0097 P0021 682B STA* DLNCTR
0098 P0022 18F5 JMP* DLN006

```

```

0100 *
0101 * BUFFER FULL
0102 *
0103 P0023 C0FF DLNOUT LDA- I SET UP LENGTH
0104 P0024 6816 STA* DLNLEN
0105 P0025 C400 X LDA CHRSGF CHECK IF PROGRAM TO BE
0106 P0026 7FFF X LDQ* BASE RESTORE PARAMETER ADDRESS
0107 P0027 E81A SAN DLNCON TURNED OFF
0108 P0028 0117 LDA* OFTB CALCULATE "OFF" ADDRESS
0109 P002A 9805 SUB* OFTB+1
0110 P002B 8202 ADD- BMSG,Q
0111 P002C 0822 TRA Q
0112 P002D 1622 JMP- (ZERO),Q TO "OFF", EXIT

```

```

0114 *
0115 P002E 7FFF X OFTB ADC OFF 0. "OFF"
0116 P002F 7FFF X ADC MSG 1. "MSG"
0117 *

```

```

0119 P0030 5801 DLNCON RTJ* TRAP GENERATE EXIT ADDRESS
0120 P0031 0B00 TRAP NOP 0
0121 P0032 C8FE LDA* TRAP
0122 P0033 0911 INA DLNEXT-TRAP
0123 P0034 6803 STA* DLX
0124 P0035 54F4 RTJ- (AMONI)
0125 P0036 0C07 DLNCAL ADC $C00+CHRSLV
0126 P0037 0000 DLX NUM 0 EXIT ADDRESS (TO BE FILLED)
0127 P0038 0000 NUM 0
0128 P0039 0000 OTLU NUM 0 LOGICAL UNIT (TO BE FILLED)
0129 P003A 3000 DLNLEN NUM 0
0130 P003B 0000 CHEAP NUM 0
0131 P003C 14EA JMP- (ADISP)
0132 *
0133 P003D 1000 MODE ADC ASMOD

```

```

**MSOS4.0**N6000084
**MSOS4.0**N6000085
**MSOS4.0**N6000086
**MSOS4.0**N6000087
**MSOS4.0**N6000088
**MSOS4.0**N6000089
**MSOS4.0**N6000090
**MSOS4.0**N6000091
**MSOS4.0**N6000092
**MSOS4.0**N6000093
**MSOS4.0**N6000094
**MSOS4.0**N6000095
**MSOS4.0**N6000096
**MSOS4.0**N6000097
**MSOS4.0**N6000098

```

```

**MSOS4.0**N6000100
**MSOS4.0**N6000101
**MSOS4.0**N6000102
**MSOS4.0**N6000103
**MSOS4.0**N6000104
**MSOS4.0**N6000105

```

```

**MSOS4.0**N6000106
**MSOS4.0**N6000107
**MSOS4.0**N6000108
**MSOS4.0**N6000109
**MSOS4.0**N6000110
**MSOS4.0**N6000111
**MSOS4.0**N6000112

```

```

N6000114
N6000115
N6000116
N6000117

```

```

N6000119
N6000120
N6000121
N6000122
N6000123
N6000124
N6000125
N6000126
**MSOS4.0**N6000127
N6000128
**MSOS4.0**N6000129
N6000130
**MSOS4.0**N6000131
N6000132
N6000133

```

```

0134 P003E 0003 TEMP BZS TEMP(3)
0135 * 'BUFADD' CONTAIN "BUFFER" ADDRESS --- TO BE FILLED
0136 003F P BUFADD EQU BUFADD(TEMP+1)
0137 *

```

```

N6000134
N6000135
N6000136
N6000137

```

```

0139 *
0140 P0041 0000 BASE NUM 0
0141 *
0142 * SET UP FOR NEXT CELL IN CASE LONG PRINTOUT
0143 P0042 0163 DLNEXT SQP DLNOK
0144 P0043 E8FD LDQ* BASE RESTORE PARAMETER ADDRESS
0145 P0044 E204 LDQ- IOERR,Q CALCULATE "IOERR" ADDRESS
0146 P0045 1622 JMP- (ZERO),Q EXIT TO "IOERR"

```

```

N6000139
N6000140
**MSOS4.0**N6000141
**MSOS4.0**N6000142
**MSOS4.0**N6000143
N6000144
N6000145
N6000146

```

```

0148 PC046 CCB9 DLNOK LDA* (DECDMP)
0149 PG047 0908 INA 8
0150 P0048 6CB7 STA* (DECDMP)
0151 P0049 D8E6 RAO* DECDMP
0152 P004A 1CB5 JMP* (DECDMP)
0153 *
0154 * FLAGS, COUNTERS, ETC.
0155 P004B 0000 DLNADD NUM 0 WORD ADDRESS
0156 P004C 0000 DLNCTR NUM 0 WORD COUNTER
0157 P004D 2020 DLNSP2 ALF 1, 2 SPACES
0158 P004E 0000 DLNTMP NUM 0
0159 P004F 2B00 DLNPLS NUM $2B00 PLUS SIGN
0160 P0050 2000 DLNMNS NUM $2D00 MINUS SIGN

```

```

**MSOS4.0**N6000148
**MSOS4.0**N6000149
**MSOS4.0**N6000150
**MSOS4.0**N6000151
**MSOS4.0**N6000152
**MSOS4.0**N6000153
**MSOS4.0**N6000154
**MSOS4.0**N6000155
**MSOS4.0**N6000156
**MSOS4.0**N6000157
**MSOS4.0**N6000158
**MSOS4.0**N6000159
**MSOS4.0**N6000160
**MSOS4.0**N6000161

```

```

0161 * SUBROUTINE TO STORE VAL IN A REG INTO BUFFER IN
0162 * DECIMAL ASCII FORMAT
0163 *

```

```

**MSOS4.0**N6000162
**MSOS4.0**N6000163
**MSOS4.0**N6000164
**MSOS4.0**N6000165
**MSOS4.0**N6000166
**MSOS4.0**N6000167
**MSOS4.0**N6000168
**MSOS4.0**N6000169

```

```

0164 P0051 0B00 DLNPIB NOP 0
0165 P0052 68FB STA* DLNTMP
0166 P0053 0125 SAP DLN009 CHECK FOR SIGN
0167 P0054 0864 TCA A MINUS
0168 P0055 58F8 STA* DLNTMP

```

```

N6000170
**MSOS4.0**N6000171
**MSOS4.0**N6000172
**MSOS4.0**N6000173
**MSOS4.0**N6000174
**MSOS4.0**N6000175
**MSOS4.0**N6000176
**MSOS4.0**N6000177
**MSOS4.0**N6000178

```

```

0169 P0056 C8F9 DLN010 LDA* DLNMNS
0170 P0057 6DE7 STA* (BUFADD),I
0171 P0058 1803 JMP* DLN008
0172 P0059 C8F5 DLN009 LDA* DLNPLS PLUS
0173 P005A 18FC JMP* DLN010
0174 P005B C8F2 DLN008 LDA* DLNTMP
0175 P005C 6842 CLR Q
0176 P005D 3046 DVI- TEN CONVERT TO DECIMAL
0177 P005E 0D30 INQ $30
0178 P005F D0FF RAO- I
0179 P0060 4DDF STQ* (BUFADD+1),I
0180 P0061 0842 CLR Q
0181 P0062 3046 DVI- TEN
0182 P0063 0D30 INQ $30
0183 P0064 0FF0 LLS 16
0184 PC065 0FC8 ALS 8
0185 P0066 BDD9 EOR* (BUFADD+1),I

```

```

N6000179
**MSOS4.0**N6000180
**MSOS4.0**N6000181
**MSOS4.0**N6000182
**MSOS4.0**N6000183
**MSOS4.0**N6000184
N6000185

```



```

0186 P0067 6DD8 STA* (BUFADD+1),I
0187 P0068 0814 TRQ A
0188 P0069 0842 CLR Q
0189 P006A 3046 DVI- TEN
0190 P006B 0D30 INQ $30
0191 P006C 4DD2 STQ* (BUFAOD),I
0192 P006D 0842 CLR Q
0193 P006E 3046 DVI- TEN
0194 P006F 0D30 INQ $30
0195 P0070 0FF0 LLS 16
0196 P0071 0FC8 ALS 8
0197 P0072 BDC4 EOR* (BUFADD),I
0198 P0073 6DCB STA* (BUFADD),I
0199 P0074 0814 TRQ A
0200 P0075 0842 CLR Q
0201 P0076 3046 DVI- TEN
0202 P0077 0D30 INQ $30
0203 P0078 0814 TRQ A
0204 P0079 BDC4 EOR* (BUFADD-1),I
0205 P007A 6DC3 STA* (BUFADD-1),I
0206 P007B 00FF RAO- I
0207 P007C 00FF RAO- I
0208 P007D 1CD3 JMP* (DLNPIB)

```

```

N6000186
**MSOS4.0**N6000187
**MSOS4.0**N6000188
**MSOS4.0**N5000189
**MSOS4.0**N6000190
N6000191
**MSOS4.0**N6000192
**MSOS4.0**N6000193
**MSOS4.0**N6000194
**MSOS4.0**N6000195
**MSOS4.0**N6000196
N6000197
N6000198
**MSOS4.0**N6000199
**MSOS4.0**N5000200
**MSOS4.0**N6000201
**MSOS4.0**N6000202
**MSOS4.0**N6000203
N6000204
N5000205
**MSOS4.0**N6000206
**MSOS4.0**N6000207
**MSOS4.0**N5000208

```

```

0210
0211 0001 P EQU SU07(* / 96)
0212 0002 P EQU SB07(SU07+1)
0213 00C0 P EQU DS07(SB07*96)
0214 P007E 0042 BSS (DS07-*)
0215 END

```

```

N6000210
N6000211
N6000212
N6000213
N5000214
N6000215

```

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0066, 0087, 0090, 0103, 0178, 0206, 0207
0027	AMONI	00F4	(000244) 0124
0027	ADISP	00EA	(000234) 0131
0027	LPMSK	0002	(000002)
0027	NZERO	0012	(000018)
0027	ZROBIT	0033	(000051)
0028	FIVE	0043	(000067)
0028	SIX	0044	(000068)
0028	ZERO	0022	(000034) 0112, 0146
0028	ONEBIT	0023	(000035)
0028	SIXTEN	0027	(000039)
0029	COMMA	002C	(000044)
0029	SLASH	002F	(000047)
0029	ASTRIC	002A	(000042)
0030	EIGHT	0026	(000038)
0030	NINE	0045	(000069)
0030	THREE	0004	(000004)
0030	ONE	0003	(000003)
0030	TWO	0024	(000036)
0031	TEN	0046	(000070) 0176, 0181, 0189, 0193, 0201
0032	MASK	0003	(000003) 0081
0035	HANDLE	0001	(000001)
0036	BMSG	0002	(000002) 0110
0037	SOMMOR	0003	(000003)
0038	IOERR	0004	(000004) 0145
0039	LISTLU	0005	(000005) 0074
0040	COMOLU	0006	(000006)
0041	NEWMLU	0007	(000007)
0042	PROG1	0008	(000008)
0043	PROG2	0009	(000009)
0044	BITFLG	000A	(000010)
0045	BUFCNT	000B	(000011)
0046	FIELD	000C	(000012)
0047	SLASHF	0010	(000016)
0048	BUFEMT	0011	(000017)
0049	BUFFER	0012	(000018) 0067
0052	CHRSLV	0007	(000007) 0125
0055	COMOUT	08FC	(000230)

0056	COMLU	08FD	(002301)	
0057	MASLU	08C2	(002242)	
0058	ASMOD	1000	(004096)	0133

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0017	DECDMP	0000	0017, 0077, 0080, 0148, 0150, 0151, 0152
0083	NTREL	0013	0079
0084	DLN301	0014	0082
0088	DLN006	0018	0098
0089	DLN007	0019	
0103	DLNOUT	0023	0096
0115	OFTB	002E	0108, 0109
0119	DLNCON	0030	0107
0120	TRAP	0031	0119, 0121, 0122
0125	DLNCAL	0036	
0126	DLX	0037	0123
0128	OTLU	0039	0076
0129	DLNLEN	003A	0104
0130	CHEAP	003B	0068
0133	MODE	003D	0075
0134	TEMP	003E	0071, 0136
0136	BUFADD	003F	0069, 0073, 0089, 0170, 0179, 0185, 0186, 0191, 0197, 0198, 0204, 0205
0140	BASE	0041	0065, 0106, 0144
0143	DLNEXT	0042	0122
0148	DLNOK	0046	0143
0155	DLNADD	004B	0084, 0091, 0093
0156	DLNCTR	004C	0085, 0094, 0097
0157	DLNSP2	004D	0088
0158	DLNTMP	004E	0165, 0168, 0174
0159	DLNPLS	004F	0172
0160	DLNMNS	0050	0169
0164	DLNPIB	0051	0092, 0208
0170	DLN010	0057	0173
0172	DLN009	0059	0166
0174	DLN008	005B	0171
0211	SU07	0001	0212
0212	SB07	0002	0213
0213	OS07	00C0	0214

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0020	CHRSFG	0026	0105
0023	MSG	002F	0116
0024	OFF	002E	0115


```

0047 0033 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N6100091
      0043
      0044
      0022
      0023
      0027
0048 0020 EQU COMMA($20),SLASH($2F),ASTRIC($2A) N6100092
      002F
      002A
0049 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N6100093
      0045
      0004
      0003
      0024
0050 0046 EQU TEN($46) **MSOS4.0**N6100094
0051 0003 EQU MASK(3) ONE BIT MASK N6100095

0053 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0054 1000 EQU ASM00($1000) OUTPUT ASC MODE N6100098

* ASCII CHARACTER CODES N6100100
0056 0030 EQU KAR0($30) CHARACTER = 0 N6100101
0057 0039 EQU KAR9($39) CHARACTER = 9 N6100102
0058 0041 EQU KARA($41) CHARACTER = A N6100103
0059 0046 EQU KARF($46) CHARACTER = F N6100104
0060 0046

* PARAMETER LOCATION (OFFSET FROM BASE) N6100106
0062 0001 EQU HANDLE(1) "HANDLE" N6100107
0063 0002 EQU MSG(2) "MSG" ENTRY N6100108
0064 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N6100109
0065 0004 EQU IOERR(4) "IOERR" ENTRY N6100110
0066 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N6100111
0067 0006 EQU COMOLU(6) "COMOLU" N6100112
0068 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N6100113
0069 0008 EQU PROG1(8) "PROG1" N6100114
0070 0009 EQU PROG2(9) "PROG2" N6100115
0071 000A EQU BITFLG(10) "BITFLG" N6100116
0072 000B EQU BUFCNT(11) "BUFCNT" N6100117
0073 000C EQU FIELD(12) "FIELD" N6100118
0074 0010 EQU SLASHF(16) "SLASHF" N6100119
0075 0011 EQU BUFEMT(17) "BUFEMT" N6100120
0076 0012 EQU BUFFER(18) "BUFFER" N6100121
0077 0012

* ***** PROGRAM START ***** N6100123
0079 ***** N6100124
0080 ***** N6100125
0081 *****

0083 P0000 0B00 FETMM NOP 0 ENTRY N6100127
0084 P0001 4867 STQ* REQTYP N6100128

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0085 P0002 682B
 0086 P0003 60FF
 0087 P0004 8112
 0088 P0005 682B
 0089 P0006 C101
 0090 P0007 6827
 0091 P0008 C102
 0092 P0009 6826
 0093 P000A CCF5
 0094 P000B 88F4
 0095 P000C 685B
 0096 P000D 08F2
 0097 P000E 0DFD
 0098 P000F 0152
 0099 P0010 1800
 P0011 00A8

STA* BASE
 STA- I
 ADD- BUFFER, I
 STA* BUFADD
 LDA- HANDLE, I
 STA* EXTHAN
 LDA- MSG, I
 STA* EXTMSG
 LDA* (FETMM)
 ADD* FETMM
 STA* PAR
 RAO* FETMM
 INQ -2
 SQN FM
 JMP CONADR

CALCULATE INPUT BUFFER ADD.

GET PARAMETER ADDRESS

SET EXIT
CHECK IF FOR ADDRESSING CONVERSION
NO, SKIP

N6100129
 N6100130
 N6100131
 N6100132
 N6100133
 N6100134
 N6100135
 N6100136
 N6100137
 N6100138
 N6100139
 N6100140
 N6100141
 N6100142
 N6100143

0101
 0102 P0012 E10A
 0103 P0013 4819
 0104 P0014 C108
 0105 P0015 60FF
 0106 P0016 CA00
 0107 P0017 6814
 0108 P0018 6810
 0109 P0019 6810
 0110 P001A 6810
 0111 P001B 0142
 0112 P001C 0CFE
 0113 P001D 00FF
 0114 P001E 0D01
 0115 P001F 480D
 0116
 0117 P0020 CD10
 0118 P0021 0151
 0119 P0022 0F48
 0120 P0023 A00A
 0121 P0024 6804
 0122 P0025 B00A
 0123 P0026 J11A
 0124 P0027 1830

*
 FM LDQ- BITFLG, I
 STO* HILO
 LDA- BUFCNT, I
 STA- I
 ENA 0
 STA* TEMP+3
 FMA1 STA* TEMP
 STA* TEMP+1
 STA* TEMP+2
 FMA4 SQZ FMA10
 ENQ -1
 RAO- I
 FMA10 INQ 1
 STO* HILO
 *
 LDA* (BUFADD), I
 SQN FMA12
 ARS 8
 FMA12 AND- LPMSK+8
 STA* TEMP
 EOR- LPMSK+8
 SAN FMA15
 JMP* FMA50

SKIP IF NO CHNAGE IN CHAR. POSITION

UPDATE BYTE POSITION FLAG AND SAVE

ISOLATE CHARACTER

CHECK IF END OF TEXT (\$FF)

N6100145
 N6100146
 N6100147
 N6100148
 N6100149
 N6100150
 N6100151
 N6100152
 N6100153
 N6100154
 N6100155
 N6100156
 N6100157
 N6100158
 N6100159
 N6100160
 N6100161
 N6100162
 N6100163
 N6100164
 N6100165
 N6100166
 N6100167
 N6100168

0126 P0028 0004
 0127 P002C 0000
 0128 P002D 0000
 0129 P002E 0000
 0130 P002F 0000
 0131 P0030 0000
 0132
 0133 P0031 C8F6
 0134 P0032 09D3

TEMP BZS TEMP(4)
 HILO NUM 0
 BASE NUM 0
 EXTHAN NUM 0
 EXTMSG NUM 0
 BUFADD NUM 0
 *
 FMA15 LDA* TEMP
 INA -COMMA

BUFFER ADDRESS

CHECK FOR COMMA

N6100170
 N6100171
 N6100172
 N6100173
 N6100174
 N6100175
 N6100176
 N6100177
 N6100178

0135	P0033	0111	SAN	FMA17			N6100179
0136	P0034	1826	JMP*	FMA53			N6100180
0137	P0035	09FC	FMA17	INA	-SLASH+COMMA	CHECK FOR SLASH	N6100181
0138	P0036	0114	SAN	FMA19			N6100182
0139	P0037	C8F3	LDA*	TEMP+3		FOR SLASH, MAKE SURE ALL 3 FIELDS ARE IN	N6100183
0140	P0038	09FD	INA	-2			N6100184
0141	P0039	011C	SAN	FMA20		ERROR, SKIP	N6100185
0142	P003A	1820	JMP*	FMA53			N6100186
0143	P003B	C8EC	FMA19	LDA*	TEMP	RECALL CHAR. AND CHECK FOR NUMBER (0-9)	N6100187
0144	P003C	09CF	INA	-KAR0			N6100188
0145	P003D	J10D	SAZ	FMA27			N6100189
0146	P003E	0137	SAM	FMA20		ERROR	N6100190
0147	P003F	09F5	INA	-KAR9+KAR0-1			N6100191
0148	P0040	0138	SAM	FMA23			N6100192
0149			*		CHECK	FOR A--F	N6100193
0150	P0041	09F8	INA	-KARA+KAR9+1			N6100194
0151	P0042	0106	SAZ	FMA23			N6100195
0152	P0043	0132	SAM	FMA20			N6100196
0153	P0044	09F9	INA	-KARF+KARA-1			N6100197
0154	P0045	0132	SAM	FMA22			N6100198
0155			*				N6100199
0156	P0046	0C04	FMA20	ENQ	4	FORMAT ERROR	N6100200
0157	P0047	1CE7	JMP*	(EXTMSG)			N6100201
0158			*				N6100202
0159	P0048	0906	FMA22	INA	6		N6100203
0160	P0049	0901	FMA23	INA	1		N6100204
0161	P004A	0909	FMA25	INA	9		N6100205
0162	P004B	68DC	FMA27	STA*	TEMP		N6100206
0163	P004C	C027	LDA-	ONEBIT+4		CONVERT ASCII TO HEX	N6100207
0164	P004D	28DB	MUI*	TEMP+1			N6100208
0165	P004E	88D9	ADD*	TEMP			N6100209
0166	P004F	68D9	STA*	TEMP+1			N6100210
0167	P0050	D8D9	RAQ*	TEMP+2		BUMP NO. OF CHAR. COUNT BY 1	N6100211
0168	P0051	C8D8	LDA*	TEMP+2			N6100212
0169	P0052	09FA	INA	-5			N6100213
0170	P0053	0131	SAM	FMA32			N6100214
0171	P0054	18F1	JMP*	FMA20			N6100215
0172	P0055	E8D6	FMA32	LDQ*	HILO	RECALL BYTE POSITION	N6100216
0173	P0056	18C4	JMP*	FMA4			N6100217
0175			*				N6100219
0176			****		TERMATOR ENCOUNTERED, ----	FIELD TERMINATOR (COMMA),	N6100220
0177			****			OR INPUT TERMINATOR	N6100221
0178			*				N6100222
0179	P0057	C012	FMA50	LDA-	LPMSK+16		N6100223
0180	P0058	E8D4	LDQ*	BASE			N6100224
0181	P0059	6211	STA-	BUFEMT,Q			N6100225
0183			***		COMMA ENCOUNTERED		N6100227
0184	P005A	E8D0	FMA53	LDQ*	TEMP+3	INCREMENT ADD. FIELD COUNT BY 1	N6100228
0185	P005B	0D01	INQ	1			N6100229

0186	P005C	48CE	STQ*	TEMP+3		N6100230
0187	P005D	C8CB	LDA*	TEMP+1	RECALL ADD. AND SAVE ACCORDINGLY	N6100231
0188	P005E	6A24	STA*	MAD-1,Q		N6100232
0189	P005F	0DFC	INQ	-3		N6100233
0190	P0060	0148	SQZ	FMA60	ALL 3 ADD. ARE IN, SKIP	N6100234
0191	P0061	C8C6	LDA*	TEMP	MAKE SURE IS COMMA	N6100235
0192	P0062	09D3	INA	-COMMA		N6100236
0193	P0063	0101	SAZ	FMA55	YES, SKIP	N6100237
0194	P0064	18E1	JMP*	FMA20		N6100238
0195	P0065	E8C6	LDQ*	HILO		N6100239
0196	P0066	18B1	JMP*	FMA1		N6100240
0197	P0067	0000	PAR	NUM 0		N6100241
0198	P0068	0000	REQTYP	NUM 0		N6100242

0200			*			N6100244
0201			*****		ALL MM ADDRESS DATA ARE IN, MAKE SURE LSB LESS	N6100245
0202			*****		THAN/ EQUAL TO \$7FFF	N6100246
0203			*			N6100247
0204	P0069	C81B	FMA60	LDA* MAD+1	CHECK IF LSB IS POSITIVE	N6100248
0205	P006A	0121	SAP	FMA62	YES, SKIP	N6100249
0206	P006B	18DA	JMP*	FMA20	NO, TO PRINT FORMAT ERROR	N6100250
0207	P006C	E0FF	FMA62	LDQ- I		N6100251
0208	P006D	C8BF	LDA*	BASE		N6100252
0209	P006E	E0FF	STA-	I		N6100253
0210	P006F	410B	STQ-	BUFCNT, I	SAVE "BUFFER" COUNT AND BYTE FLAG	N6100254
0211	P0070	C8B8	LDA*	HILO		N6100255
0212	P0071	610A	STA-	BITFLG, I		N6100256
0213	P0072	C8B5	LDA*	TEMP	SET NEXT FIELD ACCORDINGLY --- (COMMA OR EOT)	N6100257
0214	P0073	610C	FMA65	STA- FIELD, I		N6100258

0216			*			N6100260
0217			*****		TO CHECK FOR MAX. SECTORS (PHYSICAL LIMIT OF MM)	N6100261
0218			*		FIRST CONVERT WORD INTO SECTOR	N6100262
0219	P0074	C811	F20	LDA* FT+2	CONVERT WORD INTO SECTOR IF MORE THAN 96	N6100263
0220	P0075	0C00	ENQ	0		N6100264
0221	P0076	3000	N096	DVI =N96		N6100265
0222	P0077	0060				
0222	P0078	4812	STQ*	FT+7		N6100266
0223	P0079	680D	STA*	FT+3		N6100267
0224	P007A	E809	LDQ*	FT	SUM UP ALL SECTORS	N6100268
0225	P007B	C809	LDA*	FT+1		N6100269
0226	P007C	880A	ADD*	FT+3		121*4487*****
0227	P007D	0122	SAP	F24	SENSE NO OVERFLOW	121*4487*****
0228	P007E	0D01	INQ	1		121*4487*****
0229	P007F	A011	AND-	MASK+14		121*4487*****
0230	P0080	6806	F24	STA* FT+3	SAVE FINAL MSB,LSB	121*4487*****
0231	P0081	4806	STQ*	FT+4		N6100276
0232			*			N6100277
0233	P0082	1809	JMP*	F42		132*4963*****

0235 * STORAGE N6100295
 0236 P0083 0008 FT BZS FT(8) N6100296
 0237 0083 P EQU MAD(FT) N6100297
 0238 * 15 CARDS DELETED 132*4963*****

0240 * CONVERT TO WORD ADDRESSING N6100314
 0241 ***** N6100315
 0242 * N6100316
 0243 F42 ENA 0 ZERO OUT WORD ADDRESSING COUNTERS N6100317

0244 P008B 0A00 STA* FT+5 N6100318
 0245 P008C 68FB LDA* FT+4 CHECK IF MSB USED N6100319
 0246 P008D C8F9 SAZ NOMSB NO, SKIP N6100320
 0247 P008E 0106 MUI* NO96+1 YES, CONVERT MSB INTO WORD ADDRESSING N6100321
 0248 P008F 28E7 LLS 16 121*4487*****

0249 P0090 0FF0 SAP NOMSB-1 N6100326
 0250 P0091 0122 INQ 1 N6100327
 0251 P0092 0D01 AND- MASK+14 N6100328
 0252 P0093 A011 STQ* FT+5 N6100329
 0253 P0094 48F3 STA* FT+6 N6100330
 0254 P0095 68F3 NOMSB ENA 96 CONVERT LSB N6100331
 0255 P0096 0A60 MUI* FT+3 LSB*96 N6100332

0256 P0097 28EE LLS 1 N6100333
 0257 P0098 0FF1 ALS 15 N6100334
 0258 P0099 0FCF ADQ* FT+5 N6100335
 0259 P009A F8ED STQ* FT+3 N6100336
 0260 P009B 48EC ADD* FT+6 N6100337

0261 P009C 88EC STA* TEMP1 132*5140*****
 0262 P009D 681B LDA* FT+7 132*5140*****
 0263 P009E C8EB SAP F44 132*5140*****
 0264 P009F 0122 RAO* FT+5 132*5140*****
 0265 P00A0 D8E7 AND- MASK+14 132*5140*****
 0266 P00A1 A011 ADD* TEMP1 132*5140*****

0267 P00A2 8816 F44 ENQ 0 N6100339
 0268 P00A3 0C00 LLS 1 N6100340
 0269 P00A4 0FE1 ALS 15 N6100341
 0270 P00A5 0FCF ADQ* FT+5 N6100342
 0271 P00A6 F8E1 STQ* (PAR) SAVE MSB FOR CALLER (WORD ADDRESSING) N6100343

0272 P00A7 4CBF RAO* PAR N6100344
 0273 P00A8 D8BE STA* (PAR) SAVE LSB FOR CALLER N6100345
 0274 P00A9 6C8D LDQ* REQ TYP CHECK FOR REQUEST TYPE N6100346
 0275 P00AA E8BD SQZ F56 N6100347
 0276 P00AB 014A INQ -2 N6100348
 0277 P00AC 0DFD SQZ F56 N6100349
 0278 P00AD 0148 ENQ 1 N6100350
 0279 P00AE 0C01 F50 PICK UP ALL 3 ADDRESSES AS INPUT N6100351

0280 P00AF CAD2 F50 LDA* FT-1,Q N6100352
 0281 P00B0 6EB6 STA* (PAR),Q N6100353
 0282 P00B1 0D01 INQ 1 N6100354
 0283 P00B2 0814 TRQ A CHECK IF DONE N6100355
 0284 P00B3 09FB INA -4 N6100356
 0285 P00B4 0101 SAZ F56 N6100357
 0286 P00B5 18F9 JMP* F50 N6100358

0287 P00B6 1C00 F56 JMP (FETMM) RETURN
 0288 P00B7 FF48

0287 P00B8 0000 TEMP1 NUM 0

132*5140*****

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0289 * *** FOR ADDRESSING CONVERSION ONLY N6100360
0290 CONADR TRA Q N6100361
0291 P00B9 0822 LDA- (ZERO),Q SET UP MSB, LSB AND WORD FOR CONVERSION N5100362
0292 P00BA C622 STA* FT+4 GET AND SAVE MSB N6100363
0293 P00BB 68CB LDA- 1,Q GET AND STORE LSB N6100364
0294 P00BD 68C8 STA* FT+3 N6100365
0295 P00BE C202 LDA- 2,Q GET WORD N6100366
0296 P00BF 68CA STA* FT+7 N6100367
0297 P00C0 18CA JMP* F42 N5100368

```

0299 * 49 CARDS DELETED

132*4963*****

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0301 * N6100420
0302 0002 P EQU SB11(*96) N6100421
0303 0003 P EQU SU11(SB11+1) N6100422
0304 0120 P EQU DS11(SU11*96) N6100423
0305 P00C1 605F BSS (DS11-*) N6100424
0306 END N6100425

```

PGM= 0120 (288) 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) 0086, 0105, 0113, 0207, 0209
0046	AMONI	00F4	(000244)
0046	ADISP	00EA	(000234)
0046	LPMSK	0002	(000002) 0120, 0122, 0179
0046	NZERO	0012	(000018)
0046	ZROBIT	0033	(000051)
0047	FIVE	0043	(000067)
0047	SIX	0044	(000068)
0047	ZERO	0022	(000034) 0291
0047	ONEBIT	0023	(000035) 0163
0047	SIXTEN	0027	(000039)
0048	COMMA	002C	(000044) 0134, 0137, 0192
0048	SLASH	002F	(000047) 0137
0048	ASTRIC	002A	(000042)
0049	EIGHT	0026	(000038)
0049	NINE	0045	(000059)
0049	THREE	0004	(000004)
0049	ONE	0003	(000003)
0049	TWO	0024	(000036)
0050	TEN	0046	(000070)
0051	MASK	0003	(000003) 0229, 0251, 0265
0053	CHRSLV	0007	(000007)
0054	ASMOD	1000	(004095)
0057	KAR0	0030	(000048) 0144, 0147
0058	KAR9	0039	(000057) 0147, 0150
0059	KARA	0041	(000065) 0150, 0153
0060	KARF	0046	(000070) 0153
0063	HANDLE	0001	(000001) 0089
0064	MSG	0002	(000002) 0091
0065	SOMMOR	0003	(000003)
0066	IOERR	0004	(000004)
0067	LISTLU	0005	(000005)
0068	COMCLU	0006	(000006)
0069	NEWMLU	0007	(000007)
0070	PROG1	0008	(000008)
0071	PROG2	0009	(000009)
0072	BITFLG	000A	(000010) 0102, 0212
0073	BUFCNT	000B	(000011) 0104, 0210

0074	FIELD	000C	(000012)	0214
0075	SLASHF	0010	(000016)	
0076	BUFEMT	0011	(000017)	0181
0077	BUFFER	0012	(000018)	0087

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0038	FETMM	0000	0038, 0093, 0094, 0096, 0286
0102	FM	0012	0098
0108	FMA1	0018	0196
0111	FMA4	0018	0173
0114	FMA10	001E	0111
0120	FMA12	0023	0118
0126	TEMP	0028	0107, 0108, 0109, 0110, 0121, 0133, 0139, 0143, 0162, 0164, 0165, 0166, 0167, 0168, 0184, 0186
			0187, 0191, 0213
0127	HILO	002C	0103, 0115, 0172, 0195, 0211
0128	BASE	002D	0085, 0180, 0208
0129	EXTHAN	002E	0090
0130	EXTMSG	002F	0092, 0157
0131	BUFADD	0030	0088, 0117
0133	FMA15	0031	0123
0137	FMA17	0035	0135
0143	FMA19	003B	0138
0156	FMA20	0046	0141, 0146, 0152, 0171, 0194, 0206
0159	FMA22	0048	0154
0160	FMA23	0049	01+8, 0151
0161	FMA25	004A	
0162	FMA27	004B	0145
0172	FMA32	0055	0170
0179	FMA50	0057	0124
0184	FMA53	005A	0136, 0142
0195	FMA55	0065	0193
0197	PAR	0067	0095, 0271, 0272, 0273, 0280
0198	REQTYP	0068	0084, 0274
0204	FMA60	0069	0190
0207	FMA62	006C	0205
0214	FMA65	0073	
0219	F20	0074	
0221	NO96	0076	0247
0230	F24	0080	0227
0236	FT	0083	0219, 0222, 0223, 0224, 0225, 0226, 0230, 0231, 0237, 0244, 0245, 0252, 0253, 0255, 0258, 0259
			0260, 0262, 0264, 0270, 0279, 0292, 0294, 0296
0237	MAD	0083	0188, 0204
0243	F42	008B	0233, 0297
0253	NOMSB	0095	0246, 0249
0266	F44	00A2	0263
0279	F50	00AF	0285
0286	F56	00B6	0275, 0277, 0284

0287	TEMP1	0088
0290	CONADR	0089
0302	SB11	0002
0303	SU11	0003
0304	DS11	0120

0261, 0266
0099
0303
0304
0305

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0041	LOG1A	7FFF	

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0046	AMONI	0046	ASMOD	0054	ASTRIC	0048	BASE	0128	BITFLG	0072	BUFADD	0131	BUFCNT	0073	BUFEMT	0076
BUFFER	0077	CHRSLV	0053	COMMA	0048	COMOLU	0068	CONADR	0290	DS11	0304	EIGHT	0049	EXTHAN	0129	EXTMSG	0130
F20	0219	F24	0230	F42	0243	F44	0266	F50	0279	F56	0286	FETMM	0038	FIELD	0074	FIVE	0047
FM	0102	FMA1	0108	FMA10	0114	FMA12	0120	FMA15	0133	FMA17	0137	FMA19	0143	FMA20	0156	FMA22	0159
FMA23	0160	FMA25	0161	FMA27	0162	FMA32	0172	FMA4	0111	FMA50	0179	FMA53	0184	FMA55	0195	FMA60	0204
FMA62	0207	FMA65	0214	FT	0236	HANDLE	0063	HILO	0127	I	0000	IOERR	0066	KARC	0057	KAR9	0058
KARA	0059	KARF	0060	LISTLU	0067	LOG1A	0041	LPMSK	0046	MAD	0237	MASK	0051	MSG	0064	NEWMLU	0069
NINE	0049	NO96	0221	NOMSB	0253	NZERO	0046	ONE	0049	ONEBIT	0047	PAR	0197	PROG1	0070	PROG2	0071
REQTYP	0198	SB11	0302	SIX	0047	SIXTEN	0047	SLASH	0048	SLASHF	0075	SOMMOR	0065	SU11	0303	TEMP	0126
TEMP1	0287	TEN	0050	THREE	0049	TWO	0049	ZERO	0047	ZROBIT	0046						

0050 00F4 EQU AMONI(\$F4),ADISF(\$EA),LPMSK(2),NZERC(\$12),ZROBIT(\$33) N6200050

00EA
0002
0012
0033

0051 0043 EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27) N6200051

0044
0022
0023
0027

0052 002C EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A) N6200052

002F
002A

0053 0026 EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24) N6200053

0045
0004
0003

0054 0046 EQU TEN(\$46) N6200054

0055 0003 EQU MASK(3) ONE BIT MASK N6200055

0057 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****

0058 1000 EQU ASM0D(\$1000) OUTPUT ASC MODE N6200058

0060 * EQU HANDLE(1) PARAMETER LOCATION (OFFSET FROM BASE) N6200060

0061 0001 EQU HANDLE(1) "HANDLE" N6200061

0062 0002 EQU MSG(2) "MSG" ENTRY N6200062

0063 0003 EQU SOMMOR(3) "SOMMOR" ENTRY N6200063

0064 0004 EQU IOERR(4) "IOERR" ENTRY N6200064

0065 0005 EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N6200065

0066 0006 EQU COMOLU(6) "COMOLU" N6200066

0067 0007 EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N6200067

0068 0008 EQU PROG1(8) "PROG1" N6200068

0069 0009 EQU PROG2(9) "PROG2" N6200069

0070 000A EQU BITFLG(10) "BITFLG" N6200070

0071 000B EQU BUFCNT(11) "BUFCNT" N6200071

0072 000C EQU FIELD(12) "FIELD" N6200072

0073 0010 EQU SLASHF(16) "SLASHF" N6200073

0074 0011 EQU BUFEMT(17) "BUFEMT" N6200074

0075 0012 EQU BUFFER(18) "BUFFER" N6200075

0077 * EQU PROGRAM START ***** N6200077

0078 ***** N6200078

0079 * N6200079

0081 P0000 0B00 PNTMD NOP 0 ENTRY N6200081

0082 P0001 685A STA* BASE N6200082

0083 P0002 60FF STA- I N6200083

0084 P0003 4859 STQ* QSAVE SAVE Q-REGISTER N6200084

0085 P0004 C105
0086 P0005 8858
0087 P0006 684C

LDA- LISTLU,I
ADD* MODE
STA* OTLU

GET LIST LOGICAL UNIT
+ ASCII MODE

N6200085
N6200086
N6200087

0089
0090
0091 P0007 0151
0092 P0008 1840
0093 P0009 0A00

*
*

PN10

SQN PN10
JMP* PN30
ENA 0
INQ -2
SQN PN11
INA MES25-MES21
STA- I

1 CARD DELETED

N6200089
N6200090
N6200091
N6200092

0094 P000A 00FD
0095 P000B 0151
0096 P000C 0900

PN11

LDQ* (PNTMD)
ADQ* PNTMD
STQ* TLO

CHECK FOR REQUEST CODE 2, BUMP INDEX

N6200093
N6200094
N6200095
N6200096

0097 P000D 60FF
0098 P000E ECF1
0099 P000F F8FD

LDA- (ZERO),Q
LDQ* QSAVE

GET MM ADDRESS LOCATION

N6200097
N6200098
N6200099
N6200100

0100 P0010 484E
0101 P0011 C622
0102 P0012 E84A

INQ -4
SQZ PN15
RTJ* CV4A

GET MSB
CHECK IF CODE 4

N6200101
N6200102
N6200103
N6200104

0103 P0013 0DFB
0104 P0014 0149
0105 P0015 5851

RAO* TLO
STA* MES21,I
LDA* (TLO)

CONVERT TO ASCII AND SAVE

N6200105
N6200106
N6200107
N6200108

0106 P0016 D848
0107 P0017 6978
0108 P0018 CC46

RTJ* CV4A
STQ* MES22,I
STA* MES22+1,I

GET LSB

N6200109
N6200110
N6200111
N6200112

0109 P0019 584D
0110 P001A 4976
0111 P001B 6976

RAO* TLO
LDA* (TLO)

GET WORD, CONVERT AND SAVE

N6200113
N6200114
N6200115
N6200116

0112 P001C D842
0113 P001D CC41
0114 P001E 5848

PN15

RTJ* CV4A
STA* TLO+1
TRQ A

CHECK FOR CODE 4

N6200117
N6200118
N6200119
N6200120

0115 P001F 6840
0116 P0020 0814
0117 P0021 E83B

LDQ* QSAVE
INQ -4
SQZ PN17

INSERT "/" IN CONJUNCTION WITH WORD POSITION

N6200121
N6200122
N6200123
N6200124

0118 P0022 0DFB
0119 P0023 0142
0120 P0024 0C2F

JMP* PN18
ENQ \$20
LLS 8

INSERT SPACE CODE

N6200125
N6200126
N6200127
N6200128

0121 P0025 1802
0122 P0026 0C20
0123 P0027 0FE8

PN17
PN18

STQ* MES23,I
LDQ* TLO+1
ALS 8

LLS 24
INA \$20

N6200129
N6200130
N6200131
N6200132

0124 P0028 496A
0125 P0029 E836
0126 P002A 0FC8

STQ* MES23+1,I
STA* MES23+2,I

INCREMENT TO INDEX LOC.
FOR CODE 4, SKIP NEXT 2 PARAMETERS

N6200133
N6200134
N6200135
N6200136

0127 P002B 0FF8
0128 P002C 0920
0129 P002D 4966

RAO* PNTMD

NOT CODE 4
GET CORE DATA

N6200137

0130 P002E 6966
0131
0132 P002F D8D0
0133

LDA* QSAVE
INA -4
SAN PN21
LDQ* (TLO)

0134 P0030 C82C
0135 P0031 09FB
0136 P0032 U113
0137 P0033 EC2B

0138 P0034 C622
0139 P0035 180A
0140 P0036 CCC9
0141 P0037 88C8
0142 P0038 6826
0143 P0039 D8C6
0144 P003A ECC5
0145 P003B F8C4
0146 P003C FC22
0147 P003D C622
0148 P003E D8C1
0149 P003F 5827
0150 P0040 4957
0151 P0041 6957
0152 *
0153 P0042 E81A
0154 P0043 0DFE
0155 P0044 B142
0156 P0045 0DFC
0157 P0046 0151
0158 P0047 1CR8

0160
0161 P0048 E814
0162 P0049 DFA1
0163 P004A CA16
0164 P004B EA16
0165 P004C 6808
0166 P004D 4806
0167 P004E 54F4
0168 P004F 0507
0169 P0050 0007
0170 P0051 0000
0171 P0052 0000
0172 P0053 0000
0173 P0054 0000
0174 P0055 14EA
0175 *
0176 P0056 0171
0177 P0057 18EF
0178 P0058 E803
0179 P0059 E204
0180 P005A 1622

0182 *
0183 P005B 0000
0184 P005C 0000
0185 P005D 1000
0186 P005E 0000
0187 P005F 0000

PN21

PN23

PNEX

PN30

PN31

PN32

OTLU

MPZ

DMPL

DMPRT

PN40

*

*

LDA- (ZERO),Q
JMP* PN23
LDA* (PNTMD)
ADD* PNTMD
STA* TLO
RAO* PNTMD
LDQ* (PNTMD)
ADQ* PNTMD
ADQ* (TLO)
LDA- (ZERO),Q
RAO* PNTMD
RTJ* CV4A
STQ* MES24,I
STA* MES24+1,I

LDQ* QSAVE
INQ -1
SQZ PNEX
INQ -3
SQN PN30
JMP* (PNTMD)

LDQ* QSAVE
QLS 1
LDA* MESTBL,Q
LDQ* MESTBL+1,Q
STA* DMPL
STQ* MPZ
RTJ- (AMONI)
ADC \$500+CH RSLV
ADC DMPRT-DMPCD
NUM 0
NUM 0
NUM 0
NUM 0
JMP- (ADISP)

SQM PN40
JMP* PNEX
LDQ* BASE
LDQ- IOERR,Q
JMP- (ZERO),Q

BASE NUM 0
QSAVE NUM 0
MODE ADC ASMOD
TLO NUM 0,0

TO INSERT CORE DATA

BUMP TO DATA LOC.
GET DATA BASE LOC. + INDEX

GET DATA AND CONVERT TO ASCII AND SAVE
SET EXIT

CHECK FOR REQUEST TYPE

RETURN

PICK UP MESSAGE LOC. AND SIZE

RETURN
THREAD
LU (TO BE FILLED)
SIZE (TO BE FILLED)
LOC. (TO BE FILLED)

EXIT TO "IOERR"

15 CARDS DELETED

N6200138
N6200139
N6200140
N6200141
N6200142
N6200143
N6200144
N6200145
N6200146
N6200147
N6200148
N6200149
N6200150
N6200151
N6200152
N6200153
N6200154
N6200155
N6200156
N6200157
N6200158

N6200160
N6200161
N6200162
N6200163
N6200164
N6200165
N6200166
N6200167
N6200168
N6200169
N6200170
N6200171
N6200172
N6200173
N6200174
N6200175
N6200176
N6200177
N6200178
N6200179
N6200180

N6200182
N6200183
N6200184
N6200185
N6200186

N6200187

0189 P0060 0036 MESTBL ADC MES1-DMPCD
 0190 P0061 00CA ADC LMES1
 0191 P0062 0040 ADC MES2-DMPCD
 0192 P0063 0008 ADC LMESZ
 0193 P0064 0040 ADC MES2-DMPCD
 0194 P0065 0019 ADC LMES2

MESSAGE LOC.
 MESSAGE SIZE

N6200189
 N6200190
 N6200191
 N6200192
 N6200193
 N6200194

0196 *
 0197 *****
 0198 *
 0199 P0066 C800 CV4A NOP 0
 0200 P0067 0C00 ENQ 0
 0201 P0068 4815 STQ* CI
 0202 P0069 JFEC C1 LLS 12
 0203 P006A 0FC4 ALS 4
 0204 P006B 4800 STQ* CT
 0205 P006C 09F5 INA -10
 0206 P006D 0131 SAM NOAF1
 0207 P006E 0907 INA 7
 0208 P006F 093A NOAF1 INA \$3A
 0209 P0070 E800 LDQ* CI
 0210 P0071 6A08 STA* CU,Q
 0211 P0072 0DFC INQ -3
 0212 P0073 014A SQ7 CE
 0213 P0074 D809 RAO* CI
 0214 P0075 0C00 FNO 0
 0215 P0076 C802 LDA* CT
 0216 P0077 18F1 JMP* C1
 0217 *
 0218 P0078 0000 CT NUM 0
 0219 P0079 0004 CU BZS CU(4)
 0220 P007D 0000 CI NUM 0
 0221 *
 0222 P007E F8FD CE LDQ* CU+3
 0223 P007F 9FA8 QLS 8
 0224 P0080 F8FA ADQ* CU+2
 0225 P0081 C8F8 LDA* CU+1
 0226 P0082 0FC8 ALS 8
 0227 P0083 88F5 ADD* CU
 0228 P0084 1CF1 JMP* (CV4A)

ROUTINE TO CONVERT TO I-WORD ASCII

ENTRY
 SET UP INDEX
 EXTRACT 4-BIT TO A-REG.
 SAVE REMAINDER
 SET UP CHAR. AS NO. OR A-F

RECALL INDEX TO SAVE CHAR.
 CHECK IF DONE
 SKIP WHEN DONE

TO PROCESS ANOTHER ONE

ASSEMBLE INTO 2-CHAR. WORD

RETURN

N6200196
 N6200197
 N6200198
 N6200199
 N6200200
 N6200201
 N6200202
 N6200203
 N6200204
 N6200205
 N6200206
 N6200207
 N6200208
 N6200209
 N6200210
 N6200211
 N6200212
 N6200213
 N6200214
 N6200215
 N6200216
 N6200217
 N6200218
 N6200219
 N6200220
 N6200221
 N6200222
 N6200223
 N6200224
 N6200225
 N6200226
 N6200227
 N6200228

0230 *
 0231 *
 0232 P0085 0A00 MES1 NUM \$A00
 0233 P0086 4D41 ALF 8, MASS MEMORY DATA
 P0087 5353
 P0088 204D
 P0089 454D
 P008A 4F52
 P008B 5920

N6200230
 N6200231
 N6200232
 N6200233


```

0233 P008C 4441
0234 P008D 5441
0235 P008F 0A00 NUM $A00
0236 00CA EQU LMES1(*-MES1)
0237 *
0238 P008F 008F P MES2 EQU MES2(*)
0239 P0090 2020 MES21 ALF 1, MSB OF BLOCK 1
0240 P0091 2020 MES22 ALF 2, LSB
0241 P0092 2F20 MES23 ALF 3,/ WORD
0242 P0093 2020
0243 P0094 2020 ALF 2, (
0244 P0095 2020 MES24 ALF 2, BLOCK 1 DATA
0245 P0096 2028
0246 P0097 2020 MESXX ALF 1,)
0247 P0098 2020 ALF 2,
0248 P0099 2020 MES25 ALF 1, MSB BLOCK 2
0249 P009A 2020 MES26 ALF 2, LSB
0250 P009B 2020
0251 P009C 2020 MES27 ALF 3,/
0252 P009D 2020
0253 P009E 2020
0254 P00A0 2020
0255 P00A1 2020 ALF 2, (
0256 P00A2 2020
0257 P00A3 2028 MES28 ALF 2, BLOCK 2 DATA
0258 P00A4 2020
0259 P00A5 2020 ALF 1,)
0260 P00A6 2920 NUM $A00
0261 0A00 EQU LMES2(*-MES2)
0262 0019 EQU LMESZ(MESXX-MES2)
0263 0008 EQU

0255 *
0256 0001 P EQU SB10(*/96)
0257 0002 P EQU SU10(SB10+1)
0258 000C P EQU DB10(SU10*96)
0259 P00A8 0018 BSS (DB10-*)
0260 FND

```

```

N6200234
N6200235
N6200236
N6200237
N6200238
N6200239
N6200240
N6200241
N6200242
N6200243
N6200244
N6200245
N6200246
N6200247
N6200248
N6200249
N6200250
N6200251
N6200252
N6200253
N6200255
N6200256
N6200257
N6200258
N6200259
N6200260

```

 EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0083, 0097
0050	AMONI	00F4	(000244) 0167
0050	ADISP	00EA	(000234) 0174
0050	LPMSK	0002	(000002)
0050	NZERO	0012	(000018)
0050	ZROBIT	0033	(000051)
0051	FIVE	0043	(000067)
0051	SIX	0044	(000068)
0051	ZERO	0022	(000034) 0101, 0138, 0147, 0180
0051	ONERIT	0023	(000035)
0051	SIXTEN	0027	(000039)
0052	COMMA	002C	(000044)
0052	SLASH	002F	(000047) 0120
0052	ASTRIC	002A	(000042)
0053	EIGHT	0026	(000038)
0053	NINE	0047	(000069)
0053	THREE	0004	(000004)
0053	ONE	0003	(000003)
0053	TWO	0024	(000036)
0054	TEN	0046	(000070)
0055	MASK	0003	(000003)
0057	CHRSLV	0007	(000007) 0168
0058	ASMOD	1000	(004096) 0185
0061	HANDLE	0001	(000001)
0062	MSG	0002	(000002)
0063	SOMMOR	0003	(000003)
0064	IOERR	0004	(000004) 0179
0065	LISTLU	0005	(000005) 0085
0066	COMOLU	0006	(000006)
0067	NEWMLU	0007	(000007)
0068	PROG1	0008	(000008)
0069	PROG2	0009	(000009)
0070	BITFLG	000A	(000010)
0071	BUFCNT	000B	(000011)
0072	FIELD	000C	(000012)
0073	SLASHF	0010	(000016)
0074	BUFEFT	0011	(000017)
0075	BUFFER	0012	(000018)

0235	LMES1	000A	(000010)	0190
0252	LMES2	0019	(000025)	0194
0253	LMESZ	000E	(000011)	0192

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0047	PNTMD	0000	0047, 0098, 0099, 0132, 0140, 0141, 0143, 0144, 0145, 0148, 0158
0093	PN10	0009	0091
0097	PN11	000D	0095
0114	PN15	001E	0104
0122	PN17	0026	0119
0123	PN18	0027	0121
0140	PN21	0036	0136
0149	PN23	003F	0139
0158	PNEX	0047	0155, 0177
0161	PN30	0048	0092, 0157
0165	PN31	004C	
0167	PN32	004E	
0168	DMPCD	004F	0159, 0189, 0191, 0193
0171	OTLU	0052	0087
0172	MPZ	0053	0166
0173	DMPL	0054	0165
0176	DMPT	0056	0169
0178	PN40	0058	0176
0183	BASE	005B	0082, 0178
0184	QSAVE	005C	0084, 0102, 0117, 0134, 0153, 0161
0185	MODE	005D	0086
0186	TLO	005E	0100, 0106, 0108, 0112, 0113, 0115, 0126, 0137, 0142, 0146
0189	MESTRL	0060	0163, 0164
0199	CV4A	0066	0105, 0109, 0114, 0149, 0228
0202	C1	0069	0216
0208	NOAF1	006F	0206
0218	CT	0078	0204, 0215
0219	CU	0079	0210, 0222, 0224, 0225, 0227
0220	CI	007D	0201, 0209, 0213
0222	CE	007E	0212
0232	MES1	0085	0189, 0235
0237	MES2	008F	0191, 0193, 0252, 0253
0238	MES21	008F	0096, 0107
0239	MES22	0090	0110, 0111
0240	MES23	0092	0124, 0129, 0130
0242	MES24	0097	0150, 0151
0244	MESXX	009A	0253
0245	MES25	009C	0096
0246	MES26	009D	
0247	MES27	009F	
0249	MES28	00A4	

PNTND

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0256	SB10	0001
0257	SU10	0002
0258	DB10	0000

0257
0258
0259

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0050	AMONI	0050	ASMOD	0058	ASTRIC	0052	BASE	0183	BITFLG	0070	BUFCNT	0071	BUFENT	0074	BUFFER	0075
C1	0202	CE	0222	CHRSLV	0057	CI	0220	COMMA	0052	COMOLU	0066	CT	0218	CU	0219	CV4A	0199
DB10	0258	DMPCD	0168	DMPL	0173	DMPRT	0176	EIGHT	0053	FIELD	0072	FIVE	0051	HANDLE	0061	I	0001
IOERR	0064	LISTLU	0065	LMES1	0235	LMES2	0252	LMESZ	0257	LPMSK	0050	MASK	0059	MES1	0232	MES2	0237
MES21	0238	MES22	0239	MES23	0240	MES24	0242	MES25	0243	MES26	0246	MES27	0247	MES28	0249	MESTBL	0189
MFSXX	0244	MODE	0185	MPZ	0172	MSG	0062	NEWMLU	0067	NINE	0053	NOAF1	0203	NZFR0	0150	ONE	0053
ONEPIT	0051	OTLU	0171	PN10	0093	PN11	0097	PN15	0114	PN17	0122	PN18	0123	PN21	0140	PN23	0149
PN30	0161	PN31	0155	PN32	0167	PN40	0173	PNEX	0178	PNTMD	0047	PROG1	0063	PROG2	0109	RSAVE	0184
SB10	0256	SIX	0051	SIXTEN	0051	SLASH	0052	SLASHF	0073	SOHMOR	0063	SU10	0257	TEN	0054	THREE	0053
TLO	0186	TWO	0053	ZERO	0051	ZROBIT	0050										


```

0054 *
0055 *
0056 *
0057 *

```

16 ASCII DATA IN A LINE
8 DECIMAL DATA IN A LINE

```

N6300054
N6300055
N6300056
N6300057

```

```

0059 *
0060 ENT MASOT      E N T R Y      N A M E      N6300059

```

```

0062 *
0063 EXT CHRSG      E X T E R N A L S      N6300062
0064 EXT OFF      N6300063
0065 EXT HANDLE    N6300064

```

```

0067 *
0068 EQU AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33) N6300067

```

```

000F4
000FA
00002
00012
00033

```

```

0069 EQU FIVE($43),SIX($44),ZFRO($22),ONEBIT($23),SIXTEN($27) N6300069

```

```

00043
00044
00022
00023
00027

```

```

0070 EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N6300070

```

```

0002C
0002F
0002A

```

```

0071 EQU EIGHT($26),NINE($45),THREE(+),ONE(3),TWO($24) N6300071

```

```

00045
00004
00003
00024

```

```

0072 EQU TEN($46) N6300072
0073 EQU MASK(3) ONE BIT MASK N6300073

```

```

0075 EQU CHRSLV(7) LEVEL OF THIS PROGRAM
0076 EQU ASM0D($1000) OUTPUT ASC MODE 116*4360*****
0077 EQU N039(39) 39 WORDS/LINE N6300076

```

```

00007
1000
00027

```

```

0079 *
0080 EQU BHAN(1) PARAMETER LOCATION (OFFSET FROM BASE) N6300079

```

```

00001
00002
00003
00004
00005
00006
00007
00008

```

```

EQU MSG(2) "MSG" ENTRY N6300080
EQU SOMMOR(3) "SOMMOR" ENTRY N6300081
EQU IOEPR(4) "IOERR" ENTRY N6300082
EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N6300083
EQU COMOLU(6) "COMOLU" N6300084
EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N6300085
EQU PROG1(8) "PROG1" N6300086

```


0088	0009	EQU	PROG2(9)	"PROG2"	N6300088
0089	000A	EQU	BITFLG(10)	"BITFLG"	N6300089
0090	000B	EQU	BUFCNT(11)	"BUFCNT"	N6300090
0091	000C	EQU	FIELD(12)	"FIELD"	N6300091
0092	0010	EQU	SLASHF(16)	"SLASHF"	N6300092
0093	0011	EQU	BUFEMT(17)	"BUFEMT"	N6300093
0094	0012	EQU	BUFFER(18)	"BUFFER"	N6300094

0096		*			N6300096
0097		*****	*****	P R O G R A M S T A R T	N6300097
0098		*			N6300098

0100	P0000	0800	MASOT	NOP	0	ENTRY	N6300100
0101	P0001	4853		STO*	QSAVE	SAVE REQUEST TYPE	N6300101
0102	P0002	6853		STA*	BASE		N6300102
0103	P0003	60FF		STA-	I		N6300103
0104	P0004	8112		ADD-	BUFFER,I	CALCULATE BUFFER ADD.	N6300104
0105	P0005	6800		STA	BUFADD		N6300105

0106	P0006	609D		LDA*	LNSZ,Q	GET NO. OF DATA (MAX.) PER LINE	N6300106
0107	P0007	CA57		STA*	SIZLN		N6300107
0108	P0008	6853		LDA	CHRSFG	CHECK IF "DX"	N6300108

0109	P0009	0400	X				
0109	P000A	7FFF	X				
0109	P000B	0117		SAN	MOT	NO. ASSEMBLE DATA AND PRINT	N6300109
0110	P000C	C806	GETOJT	LDA*	OTB+1	CALCULATE 'OFF' ADDRESS	N6300110
0111	P000D	9804		SUB*	OTB		N6300111
0112	P000E	8101		ADD-	BHAN,I		N6300112
0113	P000F	0822		TRA	Q		N6300113
0114	P0010	1622		JMP-	(ZERO),Q	EXIT TO "OFF"	N6300114
0115	P0011	7FFF	X	OTB	ADD	0. "HANDLE" ENTRY	N6300115
0115	P0012	7FFF	X	ADD	OFF	1. "OFF" ENTRY	N6300116

0118			*			GET	PARAMETERS: (1) MH ADD. LOC., (2) DATA LOC.	N6300118
0119	P0013	ECFC	NOT	LDQ*	(MASOT)			N6300119
0120	P0014	F8EB		ADQ*	MASOT			N6300120
0121	P0015	C622		LDA-	(ZERO),Q	GET MSB		N6300121
0122	P0016	6841		STA*	MMADD			N6300122
0123	P0017	C201		LDA-	1,Q	GET LSB		N6300123
0124	P0018	6840		STA*	MMADD+1			N6300124
0125	P0019	C202		LDA-	2,Q	GET WORD		N6300125
0126	P001A	683F		STA*	MMADD+2			N6300126
0127	P001B	D8E4		RAO*	MASOT	BUMP TO NEXT PARAMETER		N6300127
0128	P001C	ECE3		LDQ*	(MASOT)	GET NO. OF WORDS IN DATA		N6300128
0129	P001D	F8E2		ADQ*	MASOT			N6300129
0130	P001E	C622		LDA-	(ZERO),Q			N6300130
0131	P001F	683D		STA*	NW			N6300131
0132	P0020	D8DF		RAO*	MASOT			N6300132
0133	P0021	CCDE		LDA*	(MASOT)			N6300133
0134	P0022	88DD		ADD*	MASOT			N6300134

0135	P0023	6837		STA*	DATLO				
0136	P0024	08DB		RAO*	MASOT				N6300135
0137	P0025	C105		LDA-	LISTLU,I	SET EXIT			N6300136
0138	P0026	8830		ADD*	MODE	GET LIST LOGICAL UNIT			N6300137
0139	P0027	6800		STA	OTLU				N6300138
	P0028	0079							N6300139
0141			*			INITIALIZE			
0142	P0029	GA00	MAZO	ENA	0				N6300141
0143	P002A	6833		STA*	COUNT				N6300142
0145	P002B	C878	MA10	LDA*	BUFADD				N6300143
0146	P002C	09FE		INA	-1				N6300145
0147	P002D	60FF		STA-	I				N6300146
0148	P002E	0C00		ENQ	0	FILL BUFFER WITH SPACE			N6300147
0149	P002F	C000	MA12	LDA	=A				N6300148
	P0030	2020							N6300149
0150	P0031	6301		STA-	1,B				N6300150
0151	P0032	0D01		INQ	1				N6300151
0152	P0033	0814		TRQ	A				N6300152
0153	P0034	09D7		INA	-40				N6300153
0154	P0035	0101		SAZ	MA14				N6300154
0155	P0036	18F8		JMP*	MA12				N6300155
0156			*						N6300156
0157	P0037	C820	MA14	LDA*	MMADD	CONVERT MSB TO ASC			N6300157
0158	P0038	5829		RTJ*	CV4A				N6300158
0159	P0039	6101		STA-	1,I				N6300159
0160	P003A	C81E		LDA*	MMADD+1	GET LSB AND CONVERT TO ASC			N6300160
0161	P003B	5826		RTJ*	CV4A				N6300161
0162	P003C	4102		STQ-	2,I				N6300162
0163	P003D	6103		STA-	3,I				N6300163
0164	P003E	C81B		LDA*	MMADD+2	GET WORD			N6300164
0165	P003F	5822		RTJ*	CV4A				N6300165
0166	P0040	6821		STA*	CV4A				N6300166
0167	P0041	0814		TRQ	A				N6300167
0168	P0042	0C2F		ENQ	SLASH	INSERT '/' BETWEEN SECTOR AND WORD			N6300168
0169	P0043	0FE8		LLS	8				N6300169
0170	P0044	4104		STQ-	4,I				N6300170
0171	P0045	E81C		LDQ*	CV4A				N6300171
0172	P0046	0FC8		ALS	8				N6300172
0173	P0047	0FF8		LLS	24				N6300173
0174	P0048	0920		INA	\$20				N6300174
0175	P0049	6106		STA-	6,I				N6300175
0176	P004A	4105		STQ-	5,I				N6300176
0177			*						N6300177
0178	P004B	C0FF		LDA-	I	UP DATE BUFFER TO DATA STORAGE LOC.			N6300178
0179	P004C	0907		INA	7				N6300179
0180	P004D	60FF		STA-	I				N6300180
0181			*						N6300181
0182	P004E	E806	RECALQ	LDQ*	QSAVE	RECALL REQUEST TYPE AND GO TO THE PROPER			N6300182
0183	P004F	CC0B		LDA*	(DATLO)	GET DATA			N6300183
0184	P0050	1A01		JMP*	TYDAT,Q	ASSEMBLE TYPE PROCESSING			N6300184
0185	P0051	1867	TYDAT	JMP*	HEXDAT	0. HEX. DATA			N6300185

0236	P0080	0822	ASCDAT	TRA	Q	DATA TO Q-REG.	N6300236
0237	P0081	C8DB		LDA*	COUNT	CHECK IF HI-CHAR. POSITION WORD	N6300237
0238	P0082	A023		AND-	ONEBIT		N6300238
0239	P0083	0108		SAZ	ASC3	YES, SKIP	N6300239
0240	P0084	0814		TRQ	A	ASSEMBLE 2-SPACE WITH CHAR.	N6300240
0241	P0085	0C20		ENQ	\$20		N6300241
0242	P0086	0FE8		LLS	8		N6300242
0243	P0087	0920		INA	\$20		N6300243
0244	P0088	4101		STQ-	1,I		N6300244
0245	P0089	6102		STA-	2,I		N6300245
0246	P008A	D0FF		RAO-	I		N6300246
0247	P008B	1802		JMP*	ASC4		N6300247
0248	P008C	4101	ASC3	STQ-	1,I		N6300248
0249	P008D	D0FF	ASC4	RAO-	I	UP DATE STORAGE INDEX	N6300249
0250	P008E	D8CB		RAO*	DATLO	BUMP DATA LOCATION BY 1 (ADVANCE TO NEXT DATA)	N6300250
0252			*			DATA EXHAUST OR LINE FULL CHECK	N6300252
0253	P008F	C8CC		LDA*	NW	DECREMENT NO. OF WORDS BY 1 AND CHECK IF	N6300253
0254	P0090	09FE		INA	-1	DATA EXHAUSTED	N6300254
0255	P0091	68CA		STA*	NW		N6300255
0256	P0092	0105		SAZ	PNT	DATA EXHAUSTED, SKIP	N6300256
0257	P0093	D8C9	CK3	RAO*	COUNT		N6300257
0258	P0094	C8C8		LDA*	COUNT		N6300258
0259	P0095	98C5		SUB*	SIZLN		N6300259
0260	P0096	0101		SAZ	PNT	LINE FULL, SKIP	N6300260
0261	P0097	18B6		JMP*	RECALQ	TO REPEAT	N6300261
0263			****			PRINT DATA	N6300263
0264	P0098	5801		PNT	RTJ* SELF		N6300264
0265	P0099	0800		SELF	NOP 0		N6300265
0266	P009A	C8FE			LDA* SELF		N6300266
0267	P009B	090C			INA PNTRT-SELF		N6300267
0268	P009C	6803			STA* RT		N6300268
0269	P009D	54F4			RTJ- (AMONI)		N6300269
0270	P009E	0C07	PNTCJ	ADC	\$C00+CHRSLV	F-WRITE	N6300270
0271	P009F	0000	RT	NUM	0	RETURN ADD. (FILLED)	N6300271
0272	P00A0	0000		NUM	0		N6300272
0273	P00A1	0000	OTLU	NUM	0	LU (FILLED)	N6300273
0274	P00A2	0027		ADC	N039	SIZE	N6300274
0275	P00A3	0000	BUFADD	NUM	0	BUFFER (FILLED)	N6300275
0276	P00A4	14EA		JMP-	(ADISF)		N6300276
0277			*				N6300277
0278	P00A5	C8AF	PNTRT	LDA*	BASE	SET UP 'BASE' ADDRESS IN I-REG.	N6300278
0279	P00A6	60FF		STA-	I		N6300279
0280	P00A7	E162		SQP	PNTOK	TO 'IOERR' (I/O ERROR EXIT)	N6300280
0281	P00A8	E104		LDQ-	IOERR,I		N6300281
0282	P00A9	1622		JMP-	(ZERO),Q		N6300282
0283	P00AA	C400	X PNTOK	LDA	CHRSG	CHECK FOR 'DX' AFTER EACH LINE	N6300283
0284	P00AB	000A	X				
0284	P00AC	0112		SAN	REPNT	NO 'DX' GO PRINT MORE IF NEEDED	N6300284
0285	P00AD	1800		JMP	GETOUT	'DX' SET, GO TO GET OUT	N6300285
	P00AE	FF5D					

0286 P00AF C8AC
 0287 P00B0 0105
 0288 P00E1 C8A7
 0289 P00B2 88A8
 0290 P00E3 68A5
 0291 P00B4 1800
 P00B5 FF73
 0292 P00B6 1C00
 P00B7 FF48

REPNT LDA* NW
 SAZ DONE
 LDA* MMADD+2
 ADD* SIZLN
 STA* MMADD+2
 JMP MAZO
 DONE JMP (MASOT)

CHECK IF ALL DONE
 UP DATE WORD ADD.
 TO REPEAT
 RETURN

N6300286
 N6300287
 N6300288
 N6300289
 N6300290
 N6300291
 N6300292

0294
 0295 P00B8 58A8
 0296 P00B9 4101
 0297 P00BA 6102
 0298 P00BB D0FF
 0299 P00BC D0FF
 0300 P00BD 18CF

* HEXDAT RIJ* CV4A
 HE1 STQ- 1,I
 STA- 2,I
 RAO- I
 RAO- I
 JMP* ASC4

ASSEMBLE HEX. DATA
 CONVERT TO HEX. AND SAVE DATA

N5300294
 N6300295
 N6300296
 N6300297
 N6300298
 N6300299
 N6300300

0302
 0303 P00BE E0FF
 0304 P00BF 4829
 0305 P00C0 0C00
 0306 P00C1 4828
 0307 P00C2 40FF
 0308 P00C3 0122
 0309 P00C4 D825
 0310 P00C5 0864
 0311 P00C6 3924
 0312 P00C7 481C
 0313 P00C8 691C
 0314 P00C9 D0FF
 0315 P00CA C0FF
 0316 P00CB 09FB
 0317 P00CC 0103
 0318 P00CD C816
 0319 P00CE 0C00
 0320 P00CF 18F6
 0321 P00D0 C818
 0322 P00D1 60FF
 0323 P00D2 0A28
 0324 P00D3 F816
 0325 P00D4 0141
 0326 P00D5 0902
 0327 P00D6 0FC8
 0328 P00D7 880D
 0329 P00D8 0930
 0330 P00D9 6101
 0331 P00DA D0FF
 0332 P00DB E80A
 0333 P00DC C80B
 0334 P00DD 0FE8
 0335 P00DE F808
 0336 P00DF 8804

* DECDAT LDQ- I
 STQ* ISAVE
 ENQ 0
 STQ* SIGN
 STQ- I
 SAP DE3
 RAO* SIGN
 TCA A
 DVI* FACTEN,I
 STQ* TEMP
 STA* TEMP+1,I
 RAO- I
 LDA- I
 INA -4
 SAZ DE6
 LDA* TEMP
 ENQ 0
 JMP* DE3
 LDA* ISAVE
 STA- I
 ENA \$2B
 LDQ* SIGN
 SQZ DE8
 INA 2
 ALS 8
 ADD* TEMP+1
 INA \$30
 STA- 1,I
 RAO- I
 LDQ* TEMP+2
 LDA* TEMP+4
 LLS 8
 ADQ* TEMP+3
 ADD* TEMP

ASSEMBLE DECIMAL DATA
 RESET SIGN AND INITIALIZE INDEX
 SKIP IF VALUE IS POSITIVE
 SET NEGATIVE AND SAVE VALUE W/O SIGN
 DIVIDED NO. BY TEN FACTOR
 SAVE NO.
 SKIP WHEN DONE
 RESTORE DATA BUFFER
 SET FOR "+" (SIGN)
 CHANGE TO NEGATIVE
 + MSD
 ASSEMBLE 2-3 DIGITS

N6300302
 N6300303
 N6300304
 N6300305
 N6300306
 N6300307
 N6300308
 N6300309
 N6300310
 N6300311
 N6300312
 N6300313
 N6300314
 N6300315
 N6300316
 N6300317
 N6300318
 N6300319
 N6300320
 N6300321
 N6300322
 N6300323
 N6300324
 N6300325
 N6300326
 N6300327
 N6300328
 N6300329
 N6300330
 N6300331
 N6300332
 N6300333
 N6300334
 N6300335
 N6300336

0337	P00E0	F80E		ADQ*	NOBASE		+ \$3030		N6300337
0338	P00E1	880D		ADD*	NOBASE				N6300338
0339	P00E2	18D6		JMP*	HE1				N6300339
0340	P00E3	0000	TEMP	NUM	0,0,0,0,0				N6300340
	P00E4	0000							
	P00E5	0000							
	P00E6	0000							
	P00E7	0000							
0341	P00E8	0000	ISAVE	NUM	0				N6300341
0342	P00E9	0000	SIGN	NUM	0		SIGN		N6300342
0343	P00EA	2710	FACTEN	NUM	10000,1000,100,10				N6300343
	P00EB	03E8							
	P00EC	0064							
	P00ED	000A							
0344	P00EF	3030	NOBASE	NUM	\$3030				N6300344
0346									N6300346
0347		0002	P	EQU	SB11(* / 96)				N6300347
0348		0003	P	EQU	SU11(SB11+1)				N6300348
0349		0120	P	EQU	DS11(SU11*96)				N6300349
0350	P00EF	0031		BSS	(DS11-*)				N6300350
0351				END					N6300351

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF (000255)	0103, 0147, 0178, 0180, 0246, 0249, 0279, 0298, 0299, 0303, 0307, 0314, 0315, 0322, 0331
0068	AMONI	00F4 (000244)	0269
0068	ADISP	00EA (000234)	0276
0068	LPMSK	0002 (000002)	
0068	NZERO	0012 (000018)	
0068	ZROBIT	0033 (000051)	
0069	FIVE	0043 (000067)	
0069	SIX	0044 (000068)	
0069	ZERO	0022 (000034)	0114, 0121, 0130, 0282
0069	ONEBIT	0023 (000035)	0238
0069	SIXTEN	0027 (000039)	
0070	COMMA	0020 (000044)	
0070	SLASH	002F (000047)	0168
0070	ASTRIC	002A (000042)	
0071	EIGHT	0026 (000038)	
0071	NINE	0045 (000069)	
0071	THREE	0004 (000004)	
0071	ONE	0003 (000003)	
0071	TWO	0024 (000036)	
0072	TEN	0046 (000070)	
0073	MASK	0003 (000003)	
0075	CHRSLV	0007 (000007)	0270
0076	ASMOD	1000 (004096)	0192
0077	NO39	0027 (000039)	0274
0080	BHAN	0001 (000001)	0112
0081	MSG	0002 (000002)	
0082	SOMMOR	0003 (000003)	
0083	IOERR	0004 (000004)	0281
0084	LISTLU	0005 (000005)	0137
0085	COMOLU	0006 (000006)	
0086	NEWMLU	0007 (000007)	
0087	PROG1	0008 (000008)	
0088	PROG2	0009 (000009)	
0089	BITFLG	000A (000010)	
0090	BUFCNT	000B (000011)	
0091	FIELD	000C (000012)	
0092	SLASHF	0010 (000016)	
0093	BUFEMT	0011 (000017)	

MASOT

PAGE 10

DATE: 01/27/99

0094 BUFFER 0012 (000018) 0104

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0060	MASOT	0000	0060, 0119, 0120, 0127, 0128, 0129, 0132, 0133, 0134, 0136, 0292
0110	GETOUT	000C	0285
0115	OTB	0011	0110, 0111
0119	MOT	0013	0109
0142	MAZO	0029	0291
0145	MA10	002B	
0149	MA12	002F	0155
0157	MA14	0037	0154
0182	RECALQ	004E	0261
0185	TYDAT	0051	0184
0190	QSAVE	0054	0101, 0182
0191	BASE	0055	0102, 0278
0192	MODE	0056	0138
0193	MMADD	0057	0122, 0124, 0126, 0157, 0160, 0164, 0288, 0290
0194	DATLO	005A	0135, 0183, 0250
0195	SIZLN	005B	0107, 0259, 0289
0196	NH	005C	0131, 0253, 0255, 0286
0197	COUNT	005D	0143, 0237, 0257, 0258
0198	LNSZ	005E	0106
0204	CV4A	0061	0158, 0161, 0165, 0166, 0171, 0233, 0295
0207	C1	0064	0221
0213	NOAF1	006A	0211
0223	CT	0073	0209, 0220
0224	CU	0074	0215, 0227, 0229, 0230, 0232
0225	CI	0078	0205, 0214, 0218
0227	CE	0079	0217
0236	ASCDAT	0080	0187
0248	ASC3	008C	0239
0249	ASC4	008D	0247, 0300
0257	GK3	0093	
0264	PNT	0098	0256, 0260
0265	SELF	0099	0264, 0266, 0267
0270	PNTCD	009E	
0271	RT	009F	0268
0273	OTLU	00A1	0139
0275	BUFADD	00A3	0105, 0145
0278	PNTRT	00A5	0267
0283	PNTOK	00AA	0280
0286	REPNT	00AF	0284
0292	DONE	00B6	0287
0295	HEXDAT	00B8	0185

0296	HE1	00B9	0339
0303	DECDAT	00BE	0186
0311	DE3	00C6	0308, 0320
0321	DE6	00D0	0317
0327	DE8	00D6	0325
0340	TEMP	00E3	0312, 0313, 0318, 0328, 0332, 0333, 0335, 0336
0341	ISAVE	00E8	0304, 0321
0342	SIGN	00E9	0306, 0309, 0324
0343	FACTEN	00EA	0311
0344	NOBASE	00EE	0337, 0338
0347	SB11	0002	0348
0348	SU11	0003	0349
0349	DS11	0120	0350

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0063	CHRSFG	00AB	0108, 0283
0064	OFF	0012	0116
0065	HANDLE	0011	0115

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0068	AMONI	0068	ASC3	0248	ASC4	0249	ASCDAT	0236	ASMOD	0076	ASTRIC	0070	BASE	0191	BHAN	0080
BITFLG	0039	BUFADD	0275	BUFCNT	0090	BUFEMT	0093	BUFFER	0094	C1	0207	CE	0227	CHRSFG	0063	CHRSLV	0075
CI	0225	CK3	0257	COMMA	0070	COMOLU	0085	COUNT	0197	CT	0223	CU	0224	CV4A	0204	DATLO	0194
DE3	0311	DE6	0321	DE8	0327	DECDAT	0303	DONE	0292	DS11	0349	EIGHT	0071	FACTEN	0343	FIELD	0091
FIVE	0059	GETOUT	0110	HANDLE	0065	HE1	0296	HEXDAT	0295	I	0000	IOERR	0083	ISAVE	0341	LISTLU	0084
LNSZ	0198	LPMSK	0068	MA10	0145	MA12	0149	MA14	0157	MASK	0073	MASOT	0060	MAZO	0142	MMADD	0193
MODE	0192	MOT	0119	MSG	0081	NEWMLU	0086	NINE	0071	NO39	0077	NOAF1	0213	NOBASE	0344	NW	0196
NZERO	0068	OFF	0064	ONE	0071	ONEBIT	0069	OTB	0115	OTLU	0273	PNT	0254	PNTCD	0270	PNTOK	0283
PNTRT	0278	PROG1	0087	PROG2	0088	QSAVE	0190	RECALQ	0182	REPNT	0286	RT	0271	SB11	0347	SELF	0265
SIGN	0342	SIX	0069	SIXTEN	0069	SIZLN	0195	SLASH	0070	SLASHF	0092	SOMMOR	0082	SU11	0348	TEMP	0340
TEN	0072	THREE	0071	TWO	0071	TYDAT	0185	ZERO	0069	ZROBIT	0068						

SUMMARY-116*****

NAM CONF M DECK-ID N64 MSQS 5.0
MASS STORAGE OPERATING SYSTEM VERSION 5.0
SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
COPYRIGHT CONTROL DATA CORPORATION 1976

N6400002
N6400003
N6400004
N6400005
N6400006
N6400007
N6400008
N6400009
N6400010
N6400011
N6400012
N6400013
N6400014
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N6400033
N6400034
N6400035
N6400036
N6400037
N6400038
N6400039
N6400040
N6400041
N6400042

*
* ROUTINE TO PRINT 'NEW' AND 'OLD' DATA *
* AND READ OPERATOR CONFIRMATIO *
*

CALLING SEQUENCE

RTJ CONF M

ADC NEWDAT NEW DATA BUFFER

"BUFFER" CONTAINS OLD DATA
Q-REGISTER CONTAINS TYPE (BITS 15-08) AND NUMBER
OF WORDS (BITS 07-00)

OUTPUT FORMAT :

NEW OLD DATA

XXXX YYYY
: :
: :
: :

VERIFY

IF DATA IS GOOD, OPERATOR ENTERES 'OK' FOR APPROVAL
"BJFFER" CONTAINS 0 = FOR APPROVAL
1 = FOR DISAPPROVAL

ENT CONF M ENTRY NAME

N6400044
N6400045

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$I2),ZROBIT(\$33)

N6400047
N6400048

00F4
00EA
0002

0001
0002
0003
0004
0005
0006
0007
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
0033
0034
0035
0036
0037
0038
0039
0040
0041
0042

0044
0045

0047
0048

```

0049 0012 EQU FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27) N6400049
      0033
      0043
      0044
      0022
      0023
0050 0027 EQU COMMA($2C),SLASH($2F),ASTRIC($2A) N6400050
      002C
      002F
      002A
0051 0026 EQU EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24) N6400051
      0045
      0004
      0003
      0024
0052 0046 EQU TEN($46) N6400052
0053 0003 EQU MASK(3) ONE BIT MASK N6400053

0055 0007 EQU CHRSLV(7) LEVEL OF THIS PROGRAM 116*4360*****
0056 1000 EQU ASMOD($1000) OUTPUT ASC MODE N6400056
0057 08FD EQU COMLU($8FD) INPUT COMMENT UNIT N6400057

```

```

*          PARAMETER LOCATION (OFFSET FROM BASE)
0059      EQU HANDLE(1) "HANDLE" N6400059
0060      EQU MSG(2) "MSG" ENTRY N6400060
0061      EQU SOMMOR(3) "SOMMOR" ENTRY N6400061
0062      EQU IOERR(4) "IOERR" ENTRY N6400062
0063      EQU LISTLU(5) LIST OUTPUT --- "LISTLU" N6400063
0064      EQU COMOLU(6) "COMOLU" N6400064
0065      EQU NEWMLU(7) "NEWMLU" --- NEW MM LU N6400065
0066      EQU PROG1(8) "PROG1" N6400066
0067      EQU PROG2(9) "PROG2" N6400067
0068      EQU BITFLG(10) "BITFLG" N6400068
0069      EQU BUFCNT(11) "BUFCNT" N6400069
0070      EQU FIELD(12) "FIELD" N6400070
0071      EQU SLASHF(16) "SLASHF" N6400071
0072      EQU BUFEMT(17) "BUFEMT" N6400072
0073      EQU BUFFER(18) "BUFFER" N6400073
0074

```

```

*          ***** PROGRAM START *****
0076      *          *****
0077      *
0078

```

```

CONF M  NOP 0 ENTRY N6400080
0080  STA- I N6400081
0081  STA* BASE N6400082
0082  ADD- BUFFER,I N6400083
0083  STA* BUFADD N6400084
0084  LDA- COMOLU,I N6400085
0085  P0000 0B00
0081  P0001 60FF
0082  P0002 6868
0083  P0003 8112
0084  P0004 6867
0085  P0005 C106

```

0086 P0006 8866
 0087 P0007 685B
 0088 P0008 0A00
 0089 P0009 0F68
 0090 P000A 0F48
 0091 P000B 6862
 0092 P000C 4862
 0093 P000D CCF2
 0094 P000E 88F1
 0095 P000F 6860
 0096 P0010 D8EF
 0097 P0011 0A00
 0098 P0012 6857
 0099 P0013 C85D
 0100 P0014 E85D
 0101 P0015 5846
 0102 P0016 C000
 P0017 2020
 0103 P0018 686F
 0104 P0019 6873
 0105 P001A E84F
 0106 P001B CE54
 0107 P001C E852
 0108 P001D 1A01
 0109 P001E 180C
 0110 P001F 1814
 0111 P0020 1801

CON2

GETDA

INSDA

ADD* MODE
 STA* OTLU
 ENA 0
 LRS 8
 ARS 8
 STA* NW
 STQ* PROTP
 LDA* (CONF M)
 ADD* CONF M
 STA* PAR
 RAO* CONF M
 ENA 0
 STA* COUNT
 LDA* MESTB
 LDQ* MESTB+1
 RTJ* WRI
 LDA =A
 STA* MES21+2
 STA* MES22+2
 LDQ* COUNT
 LDA* (PAR),Q
 LDQ* PROTP
 JMP* INSDA,Q
 JMP* HEXDAT
 JMP* DECDAT
 JMP* ASCDAT

SEPERATE NO. OF WORDS AND DATA TYPE

SAVE NO. OF WORDS AND DATA TYPE

GET BUFFER

SET EXIT

PRINT HEADING

GET CURRENT DATA

INSERT ACCORDING TO TYPE

0. HEX.

1. DEC.

2. ASC.

2. ASCII DATA

 *
 * A S C I I D A T A P R O C E S S *
 *

ASCDAT

STA* MES21+1
 LDA =A

STORE NEW DATA

STA* MES21
 STA* MES22
 LDQ* COUNT
 LDA* (BUFADD),Q
 STA* MES22+1
 JMP* CONPT

INSERT SPACE

GET AND SAVE OLD DATA

TO OUTPUT AND UPDATE ... ETC.

0. HEX. DATA

 *
 * H E X . D A T A P R O C E S S *
 *

N6400086
 N6400087
 N6400088
 N6400089
 N6400090
 N6400091
 N6400092
 N6400093
 N6400094
 N6400095
 N6400096
 N6400097
 N6400098
 N6400099
 N6400100
 N6400101
 N6400102

N6400103
 N6400104
 N6400105
 N6400106
 N6400107
 N6400108
 N6400109
 N6400110
 N6400111

N6400113
 N6400114
 N6400115
 N6400116
 N6400117
 N6400118
 N6400119
 N6400120
 N6400121
 N6400122

N6400123
 N6400124
 N6400125
 N6400126
 N6400127
 N6400128

N6400130
 N6400131
 N6400132
 N6400133
 N6400134

0113
 0114
 0115
 0116
 0117
 0118
 0119
 0120
 0121
 0122
 0123
 0124
 0125
 0126
 0127
 0128
 0130
 0131
 0132
 0133
 0134

```

0135 * * * * *
0136 * * * * *
0137 * * * * *
0138 P002A 5872 HEXDAT RTJ* CV4A CONVERT TO HEX. AND SAVE
0139 P002B 485A STQ* MES21
0140 P002C 685A STA* MES21+1
0141 P002D E83C LDQ* COUNT GET OLD DATA AND INSERT
0142 P002E CE3D LDA* (BUFADD),Q
0143 P002F 586D RTJ* CV4A
0144 P0030 485A STQ* MES22
0145 P0031 685A STA* MES22+1
0146 P0032 1808 JMP* CONPT TO UPDATE, OUTPUT.... ETC.

```

```

N6400135
N6400136
N6400137
N6400138
N6400139
N6400140
N6400141
N6400142
N6400143
N6400144
N6400145
N6400146

```

```

0148 * 1. DECIMAL DATA
0149 * * * * *
0150 * * * * *
0151 * * * * *
0152 * * * * *
0153 * * * * *
0154 * * * * *
0155 * * * * *
0156 P0033 5800 DEC DAT RTJ CV6D CONVERT AND INSERT DECIMAL DATA
0157 P0034 0081 P0035 0050 ADC MES21-*
0158 P0036 E83C LDQ* COUNT
0159 P0037 CE34 LDA* (BUFADD),Q GET OLD DATA
0160 P0038 587D RTJ* CV6D CONVERT AND INSERT DECIMAL DATA
0161 P0039 0051 ADC MES22-*

```

```

N6400148
N6400149
N6400150
N6400151
N6400152
N6400153
N6400154
N6400155
N6400156
N6400157
N6400158
N6400159
N6400160
N6400161

```

```

0163 * * * * *
0164 * * * * *
0165 * * * * *
0166 P003A C838 CONPT LDA* MESTB+2 TO PRINT
0167 P003B E838 LDQ* MESTB+3
0168 P003C 581F RTJ* WRI
0169 P003D D82C RAO* COUNT UPDATE COUNT BY 1 AND CHECK IF ALL DATA PRINT
0170 P003E C82B LDA* COUNT
0171 P003F 982E SUB* NW
0172 P0040 0101 SAZ GETWD TO GET CONFIRMATION --- OK.
0173 P0041 18D8 JMP* GETDA NO, REPEAT
0174 *
0175 P0042 C832 GETWD LDA* MESTB+4 INSERT WORD 'VERIFY' PRIOR TO READ
0176 P0043 E832 LDQ* MESTB+5
0177 P0044 5817 RTJ* WRI
0178 P0045 34F4 RTJ- (AMONI)
0179 P0046 0907 FRDCD ADC $900+CHPSLV F-READ
0180 P0047 0007 ADC GETRT-FRDCD RETURN
0181 P0048 0000 NUM 0
0182 P0049 08FD ADC COMLU
0183 P004A 0001 NUM 1 1 WORD

```

```

N6400163
N6400164
N6400165
N6400166
N6400167
N6400168
N6400169
N6400170
N6400171
N6400172
N6400173
N6400174
N6400175
N6400176
N6400177
N6400178
N6400179
N6400180
N6400181
N6400182
N6400183

```


0184 P004B 0023 ADC COUNT-FRDCD
 0185 P004C 14EA JMP- (ADISP)
 *
 0187 P004D 0163 GETRI SQP REDOK
 0188 P004E E81C CONER LDQ* BASE
 0189 P004F E204 LDQ- IOERR,Q TO 'IOERR'
 0190 P0050 1622 JMP- (ZERO),Q
 0191 P0051 C000 REDOK LDA =AOK CHECK IF OK BY OPERATOR
 P0052 4F4B
 0192 P0053 9816 SUB* COUNT
 0193 P0054 0104 SAZ ANSW
 0194 P0055 C821 LDA* MESTB+6 TO PRINT REGUEST ABORTED
 0195 P0056 E821 LDQ* MESTB+7
 0196 P0057 5804 RTJ* WRI
 0197 P0058 0A01 ENA 1 SET NO GOOD
 0198 P0059 6C12 ANSW STA* (BUFADD)
 0199 P005A 1CA5 JMP* (CONF M) RETURN TO CALLER

N6400184
 N6400185
 N6400186
 N6400187
 N6400188
 N6400189
 N6400190
 N6400191
 N6400192
 N6400193
 N6400194
 N6400195
 N6400196
 N6400197
 N6400198
 N6400199

0201 *
 0202 *****
 0203 *
 0204 P005B 0B00 WRI NOP 0 ENTRY
 0205 P005C 6808 STA* WRB
 0206 P005D 4806 STQ* WRZ
 0207 P005F 54F4 RTJ- (AMONI)
 0208 P005F 0507 WRCD ADC \$500+CHRSLV WRITE
 0209 P0060 0007 ADC WRET-WRCD RETURN
 0210 P0061 0000 NUM 0
 0211 P0062 0000 OTLU NUM 0 LU (FILLED)
 0212 P0063 0000 WRZ NUM 0 SIZE
 0213 P0064 0000 WRB NUM 0 BUFFER
 0214 P0065 14EA JMP- (ADISP)
 0215 P0065 005F EQU CONCD (WRCD)
 0216 P0066 0161 WRET SQP WREX
 0217 P0067 18E6 JMP* CONER
 0218 P0068 1CF2 WREX JMP* (WRI) RETURN

N6400201
 N6400202
 N6400203
 N6400204
 N6400205
 N6400206
 N6400207
 N6400208
 N6400209
 N6400210
 N6400211
 N6400212
 N6400213
 N6400214
 N6400215
 N6400216
 N6400217
 N6400218

0220 P0069 0000 COUNT NUM 0
 0221 P006A 0000 BASE NUM 0
 0222 P006B 0000 BUFADD NUM 0
 0223 P006C 1000 MODE ADC ASMOD
 0224 P006D 0000 NW NUM 0
 0225 P006E 0000 PROTY P NUM 0
 0226 P006F 0000 PAR NUM 0

N6400220
 N6400221
 N6400222
 N6400223
 N6400224
 N6400225
 N6400226

0228 *
 0229 P0070 0019 MESTB ADC MES1-CONCD 0.
 0230 P0071 0000C ADC LMES1 1.
 0231 P0072 0025 ADC MES2-CONCD 2.
 0232 P0073 00009 ADC LMES2 3.
 0233 P0074 002E ADC MES3-CONCD 4.

N6400228
 N6400229
 N6400230
 N6400231
 N6400232
 N6400233

0234 P0075 0005
0235 P0076 0033
0236 P0077 000A
0237
0238
0239

MES1

ADC LMES3 5.
ADC MES4-CONCD 6.
ADC LMES4 7.
MESSAGE
NUM \$AOD
ALF 11, NEW OLD

N6400234
N6400235
N6400236
N6400237
N6400238
N6400239

P0078 0A0D
P0079 204E
P007A 4557
P007B 2020
P007C 2020
P007D 2020
P007E 204F
P007F 4C44
P0080 2020
P0081 2020
P0082 2020
P0083 2020

MES2
MES21

EQU LMES1 (*-MES1)
NUM \$AOD
ALF 3,

N6400240
N6400241
N6400242

0240
0241 P0084 0A0D
0242 P0085 2020
P0086 2020
P0087 2020

0243 P0088 2020
P0089 2020
0244 P008A 2020
P008B 2020
P008C 2020

MES22

ALF 2,
ALF 3,

N6400243
N6400244

0245
0246 P008D 0A0D
0247 P008E 5645
P008F 5249
P0090 4659
P0091 2020

MES3

EQU LMES2 (*-MES2)
NUM \$AOD
ALF 4,VERIFY

N6400245
N6400246
N6400247

0248
0249 P0092 0A0D
0250 P0093 4442
P0094 2052
P0095 4551
P0096 5545
P0097 5354
P0098 2041
P0099 424F
P009A 5254
P009B 4544

MES4

EQU LMES3 (*-MES3)
NUM \$AOD
ALF 9,DB REQUEST ABORTED

N6400248
N6400249
N6400250

0251

EQU LMES4 (*-MES4)

N6400251

0253
0254
0255
0256 P009C 0B00
0257 P009D 0C00
0258 P009E 4846
0259 P009F 0FEC

*

*
CV4 A
C1

ROUTINE TO CONVERT TO I-WORD ASCII

NOP 0 ENTRY
ENQ 0
STQ* C1 SET UP INDEX
LLS 12 EXTRACT 4-BIT TO A-REG.

N6400253
N6400254
N6400255
N6400256
N6400257
N6400258
N6400259

0260	P00A0	0FC4	ALS	4			N6400260
0261	P00A1	4842	STQ*	CT	SAVE REMAINDER		N6400261
0262	P00A2	09F5	INA	-10	SET UP CHAR. AS NO. OR A-F		N6400262
0263	P00A3	0131	SAM	NOAF1			N6400263
0264	P00A4	0907	INA	7			N6400264
0265	P00A5	093A	INA	\$3A			N6400265
0266	P00A6	E83E	LDQ*	CI	RECALL INDEX TO SAVE CHAR.		N6400266
0267	P00A7	6A37	STA*	CU,Q			N6400267
0268	P00A8	0DFC	INQ	-3	CHECK IF DONE		N6400268
0269	P00A9	0144	SQZ	CE	SKIP WHEN DONE		N6400269
0270	P00AA	D83A	RAQ*	CI			N6400270
0271	P00AB	0C00	ENQ	0			N6400271
0272	P00AC	C837	LDA*	CT	TO PROCESS ANOTHER ONE		N6400272
0273	P00AD	18F1	JMP*	C1			N6400273
0274			*				N6400274
0275			*				N6400275
0276	P00AE	E833	CE	LDQ*	CU+3	ASSEMBLE INTO 2-CHAR. WORD	N6400276
0277	P00AF	0FA8	QLS	8			N6400277
0278	P00B0	F830	ADQ*	CU+2			N6400278
0279	P00B1	C82E	LDA*	CU+1			N6400279
0280	P00B2	0FC8	ALS	8			N6400280
0281	P00B3	882B	ADD*	CU			N6400281
0282	P00B4	1CE7	JMP*	(CV4A)	RETURN		N6400282
0284			*		ASSEMBLE DECIMAL DATA		N6400284
0285	P00B5	0B00	CV6D	NOP	0	ENTRY	N6400285
0286	P00B6	ECFE		LDQ*	(CV6D)	GET DATA BUFFER	N6400286
0287	P00B7	F8FD		ADQ*	CV6D		N6400287
0288	P00B8	482B		STQ*	ISAVE		N6400288
0289	P00B9	D8FB		RAQ*	CV6D	SET EXIT	N6400289
0290	P00BA	0C00		ENQ	0		N6400290
0291	P00BB	4829		STQ*	SIGN	RESET SIGN AND INITIALIZE INDEX	N6400291
0292	P00BC	40FF		STQ-	I		N6400292
0293	P00BD	0122		SAP	DE3	SKIP IF VALUE IS POSITIVE	N6400293
0294	P00BE	D826		RAQ*	SIGN	SET NEGATIVE AND SAVE VALUE W/O SIGN	N6400294
0295	P00BF	0864		TCA	A		N6400295
0296	P00C0	3925	DE3	DVI*	FACTEN,I	DIVIDED NO. BY TEN FACTOR	N6400296
0297	P00C1	481D		STQ*	TEMP		N6400297
0298	P00C2	691D		STA*	TEMP+1,I	SAVE NO.	N6400298
0299	P00C3	D0FF		RAQ-	I		N6400299
0300	P00C4	C0FF		LDA-	I		N6400300
0301	P00C5	09FB		INA	-4		N6400301
0302	P00C6	0103		SAZ	DE6	SKIP WHEN DONE	N6400302
0303	P00C7	C817		LDA*	TEMP		N6400303
0304	P00C8	0C00		ENQ	0		N6400304
0305	P00C9	18F6		JMP*	DE3		N6400305
0306	P00CA	C819	DE6	LDA*	ISAVE	RESTORE DATA BUFFER	N6400306
0307	P00CB	60FF		STA-	I		N6400307
0308	P00CC	0A2B		ENA	\$2B	SET FOR "+" (SIGN)	N6400308
0309	P00CD	E817		LDQ*	SIGN		N6400309
0310	P00CE	0141		SQZ	DE8		N6400310
0311	P00CF	0902		INA	2	CHANGE TO NEGATIVE	N6400311
0312	P00D0	0FC8	DE8	ALS	8		N6400312

```

0313 P0001 880E ADD* TEMP+1 + MSD N6400313
0314 P0002 0930 INA $30 N6400314
0315 P0003 6522 STA- (ZERO),I N6400315
0316 P0004 E80C LDQ* TEMP+2 ASSEMBLE 2-3 DIGITS N6400316
0317 P0005 C80D LDA* TEMP+4 N6400317
0318 P0006 0FE8 LLS 8 N6400318
0319 P0007 F80A ADQ* TEMP+3 N6400319
0320 P0008 8806 ADD* TEMP N6400320
0321 P0009 F810 ADQ* NOBASE + $3030 N6400321
0322 P000A 880F ADD* NOBASE N6400322
0323 P000B 4101 STQ- 1,I N6400323
0324 P000C 6102 STA- 2,I N6400324
0325 P000D 1CD7 JMP* (CV6D) RETURN N6400325
0326 P000E 0000 TEMP NUM 0,0,0,0,0 N6400326
P000F 0000
P0010 0000
P0011 0000
P0012 0000
0327 P0013 0000 ISAVE NUM 0 N6400327
0328 P0014 0000 SIGN NUM 0 SIGN N6400328
0329 P0015 2710 FACTEN NUM 10000,1000,100,10 N6400329
P0016 03E8
P0017 0064
P0018 000A
0330 00E3 P EQU GT(ISAVE) N6400330
0331 00E4 P EQU CI(SIGN) N6400331
0332 00DE P EQU CU(TEMP) N6400332
0333 P0019 3030 NOBASE NUM $3030 N6400333

0335 * N6400335
0336 0002 P EQU SU12(* /96) N6400336
0337 0003 P EQU SB12(SU12+1) N6400337
0338 0120 P EQU DB12(SB12*96) N6400338
0339 P00EA 0036 BSS (DB12-*) N6400339
0340 END N6400340

```

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	{000255) 0081, 0292, 0299, 0300, 0307
0048	AMONI	00F4	{000244) 0178, 0207
0048	ADISP	00EA	{000234) 0185, 0214
0048	LPMSK	0002	{000002)
0048	NZERO	0012	{000018)
0048	ZROBIT	0033	{000051)
0049	FIVE	0043	{000067)
0049	SIX	0044	{000068)
0049	ZERO	0022	{000034) 0190, 0315
0049	ONEBIT	0023	{000035)
0049	SIXTEN	0027	{000039)
0050	COMMA	002C	{000044)
0050	SLASH	002F	{000047)
0050	ASTRIC	002A	{000042)
0051	EIGHT	0026	{000038)
0051	NINE	0045	{000069)
0051	THREE	0004	{000004)
0051	ONE	0003	{000003)
0051	TWO	0024	{000036)
0052	TEN	0046	{000070)
0053	MASK	0003	{000003)
0055	CHRSLV	0007	{000007) 0179, 0208
0056	ASMOD	1000	{004096) 0223
0057	COMLU	08FD	{002301) 0182
0060	HANDLE	0001	{000001)
0061	MSG	0002	{000002)
0062	SOMMOR	0003	{000003)
0063	IOERR	0004	{000004) 0189
0064	LISTLU	0005	{000005)
0065	COMOLU	0006	{000006) 0085
0066	NEWMLU	0007	{000007)
0067	PROG1	0008	{000008)
0068	PROG2	0009	{000009)
0069	BITFLG	000A	{000010)
0070	BUFCNT	000B	{000011)
0071	FIELD	000C	{000012)
0072	SLASHF	0010	{000016)
0073	BUFEMT	0011	{000017)

CONFIRM

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DATE: 01/27/99

0074	BUFFER	0012	(000018)	0083
0240	LMES1	000C	(000012)	0230
0245	LMES2	0009	(000009)	0232
0248	LMES3	0005	(000005)	0234
0251	LMES4	000A	(000010)	0236

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0045	CONF M	0000	0045, 0093, 0094, 0096, 0199
0093	CON2	0000	
0105	GETDA	001A	0173
0109	INSDA	001E	0108
0121	ASCDAT	0021	0111
0138	HEXDAT	002A	0109
0156	DECDAT	0033	0110
0166	CONPT	003A	0128, 0146
0175	GETWD	0042	0172
0179	FRDCD	0046	0180, 0184
0187	GETRT	0040	0180
0188	CONER	004E	0217
0191	REDOK	0051	0187
0198	ANSW	0059	0193
0204	WRI	005B	0101, 0168, 0177, 0196, 0218
0208	WRCD	005F	0209, 0215
0211	OTLU	0062	0087
0212	WRZ	0063	0206
0213	WRB	0064	0205
0215	CONCD	005F	0229, 0231, 0233, 0235
0216	WRET	0066	0209
0218	WREX	0068	0216
0220	COUNT	0069	0098, 0105, 0125, 0141, 0158, 0169, 0170, 0184, 0192
0221	BASE	006A	0082, 0188
0222	BUFADD	006B	0084, 0126, 0142, 0159, 0198
0223	MODE	006C	0086
0224	NW	006D	0091, 0171
0225	PROTYP	006E	0092, 0107
0226	PAR	006F	0095, 0106
0229	MESTB	0070	0099, 0100, 0166, 0167, 0175, 0176, 0194, 0195
0238	MES1	0078	0229, 0240
0241	MES2	0084	0231, 0245
0242	MES21	0085	0103, 0121, 0123, 0139, 0140, 0157
0244	MES22	008A	0104, 0124, 0127, 0144, 0145, 0161
0246	MES3	008D	0233, 0248
0249	MES4	0092	0235, 0251
0256	CV4A	009C	0138, 0143, 0282
0259	C1	009F	0273
0265	NOAF1	00A5	0263
0276	CE	00AE	0269
0285	CV6D	00B5	0156, 0160, 0286, 0287, 0289, 0325

0296 DE3 00C0
 0306 DE6 00CA
 0312 DE8 00D0
 0326 TEMP 00DE
 0327 ISAVE 00E3
 0328 SIGN 00E4
 0329 FACTEN 00E5
 0330 CT 00E3
 0331 CI 00E4
 0332 CU 00DE
 0333 NOBASE 00E9
 0336 SU12 0002
 0337 SB12 0003
 0338 DB12 0120

0293, 0305
 0302
 0310
 0297, 0298, 0303, 0313, 0316, 0317, 0319, 0320, 0332
 0288, 0306, 0330
 0291, 0294, 0309, 0331
 0296
 0261, 0272
 0258, 0266, 0270
 0267, 0276, 0278, 0279, 0281
 0321, 0322
 0337
 0338
 0339

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0048	AMONI	0048	ANSW	0198	ASCDAT	0121	ASMOD	0056	ASTRIC	0050	BASE	0221	BITFLG	0069	BUFADD	0222
BUFCNT	0070	BUFEMT	0073	BUFFER	0074	C1	0259	CE	0276	CHRSLV	0055	CI	0331	COMLU	0057	COMMA	0050
COMOLU	0065	CON2	0093	CONCD	0215	CONER	0188	CONFIRM	0045	CONPT	0156	COUNT	0220	CT	0330	CU	0332
CV4A	0256	CV6D	0285	DB12	0338	DE3	0296	DE6	0306	DE8	0312	DECDAT	0156	EIGHT	0051	FACTEN	0329
FIELD	0071	FIVE	0049	FRDCD	0179	GETDA	0105	GETRT	0187	GETWD	0175	HANDLE	0060	HEXDAT	0138	I	0000
INSDA	0109	IOERR	0063	ISAVE	0327	LISTLU	0064	LMES1	0240	LMES2	0245	LMES3	0248	LMES4	0251	LPMSK	0048
MASK	0053	MES1	0238	MES2	0241	MES21	0242	MES22	0244	MES3	0246	MES4	0249	MESTB	0229	MODE	0223
MSG	0061	NEWMLU	0066	NINE	0051	NOAF1	0265	NOBASE	0333	NW	0224	NZERO	0048	ONE	0051	ONE BIT	0049
OTLU	0211	PAR	0226	PROG1	0067	PROG2	0068	PROTYP	0225	REDOK	0191	SB12	0337	SIGN	0328	SIX	0049
SIXTEN	0049	SLASH	0050	SLASHF	0072	SOMMOR	0062	SU12	0336	TEMP	0326	TEN	0052	THREE	0051	SIX	0049
WRB	0213	WRCD	0208	WRET	0216	WREX	0218	WRI	0204	WRZ	0212	ZERO	0049	ZROBIT	0048	TWO	0051

0053
0054
0055
0056
0057
0058
0059
0060
0061
0062
0063
0064
0065
0066

*
* * * * *
*
*
*
*
*
*
*
*
*
*
*
*
*
*

'BUFFER' ASSIGNMENT AT RETURN :

WORD 1 NO. OF DIGITS
WORD 2 NO. OF INTEGERS
WORD 3 NO. OF FRACTIONAL NUMBERS
WORD 4 SIGN (0 OR 1 = +, 2 = -)
WORD 5 'E'/'D' '0'=UNUSED, 2='E', 1='D'
WORD 6 EXPONENT VALUE IF E/D USED
WORD 7 INPUT DIGIT
: :
: :
: :
: :

N6500053
N6500054
N6500055
N6500056
N6500057
N6500058
N6500059
N6500060
N6500061
N6500062
N6500063
N6500064
N6500065
N6500066

0068
0069

*

ENT GETINT ENTRY NAME

N6500068
N6500069

0071
0072

00CF4
00EA
0002
0012
0033
0043
0044
0022
0023
0027
002C
002F
002A
0026
0045
0004
0003
0024
0046
0003

*

EQU AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)

N6500071
N6500072

0073

EQU FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)

N6500073

0074

EQU COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)

N6500074

0075

EQU EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)

N6500075

0076
0077

*

EQU TEN(\$46)
EQU MASK(3) ONE BIT MASK

MSOS4.0
N6500076
N6500077

0079
0080
0081
0082
0083
0084
0085
0086

0030
0039
0045
0044
002E
002B
002D

ASCII CHARACTER CODES
EQU KAR0(\$30) CHARACTER =0
EQU KAR9(\$39) CHARACTER =9
EQU KARE(\$45) CHARACTER =E
EQU KARD(\$44) CHARACTER =0
EQU KAPER(\$2E) CHARACTER =.
EQU KARPOS(\$2B) CHARACTER =+
EQU KARNEG(\$2D) CHARACTER =-

N6500079
N6500080
N6500081
N6500082
N6500083
N6500084
N6500085
N6500086

0088	0007	EQU	CHRSLV(7)	LEVEL OF THIS PROGRAM	116*4360*****
0089	001C	EQU	LNWD28(28)	MAX. NO. OF WORDS USED BY 1 LINE	N6500089
0090	0010	EQU	LNCH16(16)	MAX. NO. OF DATA IN LINE	N6500090
0091	1000	EQU	ASMOD(\$1000)	OUTPUT ASC MODE	N6500091
0092	0007	EQU	MAXE(7)	MAX. DIGITS OF E-FORMAT	N6500092
0093	000C	EQU	MAXD(12)	MAX. DIGITS OF D-FORMAT	N6500093

0095		*		PARAMETER LOCATION (OFFSET FROM BASE)	N6500095
0096	0001	EQU	HANDLE(1)	"HANDLE"	N6500096
0097	0002	EQU	MSG(2)	"MSG" ENTRY	N6500097
0098	0003	EQU	SOMMOR(3)	"SOMMOR" ENTRY	N6500098
0099	0004	EQU	IOERR(4)	"IOERR" ENTRY	N6500099
0100	0005	EQU	LISTLU(5)	LIST OUTPUT --- "LISTLU"	N6500100
0101	0006	EQU	COMOLU(6)	"COMOLU"	N6500101
0102	0007	EQU	NEWMLU(7)	"NEWMLU" --- NEW MM LU	N6500102
0103	0008	EQU	PROG1(8)	"PROG1"	N6500103
0104	0009	EQU	PROG2(9)	"PROG2"	N6500104
0105	000A	EQU	BITFLG(10)	"BITFLG"	N6500105
0106	000B	EQU	BUFCNT(11)	"BUFCNT"	N6500106
0107	000C	EQU	FIELD(12)	"FIELD"	N6500107
0108	0010	EQU	SLASHF(16)	"SLASHF"	N6500108
0109	0011	EQU	BUFEMT(17)	"BUFEMT"	N6500109
0110	0012	EQU	BUFFER(18)	"BUFFER"	N6500110

0112		*			N6500112
0113		*****	*****	PROGRAM START	N6500113
0114		*			N6500114

0116	P0000	0B00	GETINT	NOP	D	ENTRY	N6500116
0117	P0001	484D		STQ*	NOFDIG	SAVE NO. OF DIGITS ALLOWED	N6500117
0118	P0002	684A		STA*	BASE		N6500118
0119	P0003	0822		TRA	Q		N6500119
0120	P0004	C202		LDA-	MSG,Q	FETCH "MSG" ADDRESS	N6500120
0121	P0005	6848		STA*	EXTMSG		N6500121
0122	P0006	CCF9		LDA*	(GETINT)	GET PARAMETER ADDRESS	N6500122
0123	P0007	88F8		ADD*	GETINT		N6500123
0124	P0008	60FF		STA-	I		N6500124
0125	P0009	6846		STA*	PARADD		N6500125
0126	P000A	D8F5		RAO*	GETINT	SET TO EXIT ADDRESS	N6500126

0128	P000B	0A00		ENA	D	INITIALIZED	N6500128
0129	P000C	6879		STA*	EDIN		N6500129
0130	P000D	687B		STA*	FRACTL		N6500130
0131	P000E	6878		STA*	SIGNIN		N6500131
0132	P000F	6878		STA*	SIGNIN+1		N6500132
0133	P0010	6873		STA*	EDVAL		N6500133
0134	P0011	6873		STA*	NOE D		N6500134
0135	P0012	E83C		LDQ*	NOFDIG	RECALL NO. OF DIGITS	N6500135

0136	P0013	0007		INO	7				N6500136
0137	P0014	6722	GET1	STA-	(ZERO),B				N6500137
0138	P0015	0DFE		INO	-1				N6500138
0139	P0016	0171		SQM	GET3				N6500139
0140	P0017	18FC		JMP*	GET1				N6500140
0142			*						N6500142
0143	P0018	C834	GET3	LDA*	BASE	RESTORE	PARAMETER/ADDRESS		N6500143
0144	P0019	60FF		STA-	I				N6500144
0145	P001A	8112		ADD-	BUFFER,I	CALCULATE	"BUFFER" ADD.		N6500145
0146	P001B	6870		STA*	BUFADD				N6500146
0147	P001C	F1CA		LDQ-	BITFLG,I				N6500147
0148	P001D	486D		STQ*	HILO				N6500148
0149	P001E	C10B		LDA-	BUFCNT,I	SET UP	BUFFER COUNT AND BYTE POSITION		N6500149
0150	P001F	60FF		STA-	I				N6500150
0151	P0020	0142	GET5	SQZ	GET10	SKIP IF	NO CHANGE IN CHAR. POSITION IS NEEDED		N6500151
0152	P0021	0CFE		ENQ	-1				N6500152
0153	P0022	00FF		RAO-	I				N6500153
0154	P0023	00D1	GET10	INO	1				N6500154
0155	P0024	4866		STQ*	HILO	SAVE	BYTE POSITION FLAG		N6500155
0156	P0025	CD66		LDA*	(BUFADD),I				N6500156
0157	P0026	0151		SQN	GET12				N6500157
0158	P0027	0F48		ARS	8				N6500158
0159	P0028	A00A	GET12	AND-	LPMSK+8	ISOLATE	CHAR.		N6500159
0160	P0029	6860		STA*	TEMP				N6500160
0161	P002A	B00A		EOR-	LPMSK+8	CHECK FOR	END OF TEXT (\$FF)		N6500161
0162	P002B	0111		SAN	GET15	CHECK	CHAR.		N6500162
0163	P002C	1860		JMP*	GETEND	TEXT	EXHAUSTED, GO		N6500163
0165			*			CHECK	AND ASSEMBLE DATA TEXT CHAR.		N6500165
0166			*			LEGAL	CHARACTER (1) NUMERIC CHARACTER		N6500166
0167			*				(2) DECIMAL POINT		N6500167
0168			*				(3) SIGN		N6500168
0169			*				(4) 'E' OR 'D'		N6500169
0170			*				(5) COMMA (TERMINATOR OF FIELD)		N6500170
0171			*						N6500171
0172	P002D	C85C	GET15	LDA*	TEMP	RECALL	INPUT TEXT CHAR.		N6500172
0173	P002E	09D3		INA	-COMMA				N6500173
0174	P002F	0111		SAN	GET17	NO	COMMA, SKIP		N6500174
0175	P0030	187B		JMP*	GETMA				N6500175
0176	P0031	09FB	GET17	INA	-KAR0+COMMA	CHECK FOR	NUMERIC (0-9)		N6500176
0177	P0032	0105		SAZ	GET19				N6500177
0178	P0033	0121		SAP	GET18				N6500178
0179	P0034	181C		JMP*	GET30	NEITHER	NUMBER OR COMMA		N6500179
0180	P0035	09F5	GET18	INA	-KAR9+KAR0-1	IT IS	BETWEEN 0 - 9		N6500180
0181	P0036	0131		SAM	GET19				N6500181
0182	P0037	1819		JMP*	GET30				N6500182
0183			*			CHARACTER	IS NUMBER,SAVE		N6500183
0184	P0038	C84D	GET19	LDA*	EDIN	CHECK	IF VALUE FOR EXPONENT		N6500184
0185	P0039	0101		SAZ	GET20				N6500185
0186	P003A	1866		JMP*	GET100				N6500186

0187	P003B	E314	GET 20	LDQ*	PARADD		N6500187
0188	P003C	C622		LDA-	(ZERO),Q		N6500188
0189	P003D	9811		SUB*	NOFDIG	MAKE SURE NO. OF DIGITS IN HAS NOT OVER MAX.	N6500189
0190	P003E	0132		SAM	GET25		N6500190
0191	P003F	0C04	GET 22	ENQ	4	FORMAT ERROR	N6500191
0192	P0040	1C0D		JMP*	(EXTMSG)		N6500192
0193			*				N6500193
0194	P0041	C848	GET 25	LDA*	TEMP		N6500194
0195	P0042	09CF		INA	-KARO	CONVERT NUMBER TO BINARY	N6500195
0196	P0043	F622		ADQ-	(ZERO),Q		N6500196
0197	P0044	0D05		INQ	5	BUMP INDEX TO DIGIT STORAGE LOCATION AND	N6500197
0198	P0045	6201		STA-	1,Q	SAVE INPUT VALUE	N6500198
0199	P0046	DC09		RAO*	(PARADD)	BUMP NO. OF DIGIT COUNT BY 1	N6500199
0200	P0047	E841		LDQ*	FRACTL	SET UP TO INCREMENT INTEGER/FRACTIONAL NO.	N6500200
0201	P0048	G001		INQ	1	COUNT	N6500201
0202	P0049	DE06		RAO*	(PARADD),Q		N6500202
0203			*				N6500203
0204	P004A	E840	GET 27	LDQ*	HILO	RECALL BYTE POSITION FLAG AND REPEAT	N6500204
0205	P004B	18D4		JMP*	GET5		N6500205
0207			*				N6500207
0208	P004C	0000	BASE	NUM	0	PARAMETER BASE ADD.	N6500208
0209	P004D	0000	EXTMSG	NUM	0	"MSG" LOCATION (TO BE FILLED)	N6500209
0210	P004E	0000	NOFDIG	NUM	0	MAX. NO. OF DIGITS ALLOWED	N6500210
0211	P004F	0000	PARADD	NUM	0		N6500211
0213			*			CHARACTER IS NEITHER NUMBER NOR COMMA	N6500213
0214	P0050	C839	GET 30	LDA*	TEMP		N6500214
0215	P0051	0C01		ENQ	1	SET FOR POSITIVE	N6500215
0216	P0052	09D4		INA	-KARPOS	CHECK FOR SIGN "+" OR "-"	N6500216
0217	P0053	0103		SAZ	GET31		N6500217
0218	P0054	0C02		ENQ	2	SET FOR NEGATIVE	N6500218
0219	P0055	09FD		INA	-KARNEG+KARPOS		N6500219
0220	P0056	011E		SAN	GET40		N6500220
0221	P0057	C82E	GET 31	LDA*	EDIN	CHECK IF E OR D IN	N6500221
0222	P0058	0104		SAZ	GET32	NO, SKIP	N6500222
0223	P0059	C82E		LDA*	SIGNIN+1	CHECK IF 'E'/'D' SIGN BEEN SET	N6500223
0224	P005A	0114		SAN	GET34		N6500224
0225	P005B	482C		STQ*	SIGNIN+1	SAVE SIGN FLAG	N6500225
0226	P005C	18ED		JMP*	GET27		N6500226
0227	P005D	C829	GET 32	LDA*	SIGNIN	CHECK IF SIGN BEEN SET	N6500227
0228	P005E	0101		SAZ	GET36		N6500228
0229	P005F	18DF	GET 34	JMP*	GET22	YES, ERROR, GO	N6500229
0230	P0060	4826	GET 36	STQ*	SIGNIN	SAVE SIGN	N6500230
0231	P0061	0814		TRQ	A		N6500231
0232	P0062	0C03		ENQ	3		N6500232
0233	P0063	6EEB		STA*	(PARADD),Q	SAVE SIGN	N6500233
0234	P0064	18E5		JMP*	GET27		N6500234
0235			*				N6500235
0236	P0065	09FE	GET 40	INA	-KARPER+KARNEG		N6500236
0237	P0066	0117		SAN	GET47		N6500237
0238	P0067	C821		LDA*	FRACTL	CHAR. = DECIMAL POINT, MAKE SURE IT IS FIRST	N6500238
0239	P0068	0112		SAN	GET44	ERROR	N6500239

0240 P0069 C81C
 0241 P006A 0101
 0242 P006B 1803
 0243 P006C D81C
 0244 P006D 18DC

GET42 LDA* EDIN
 SAZ GET45
 GET44 JMP* GET22
 GET45 RAO* FRACTL
 JMP* GET27

MAKE SURE "E"/"D" NOT IN
 ERROR

N6500240
 N6500241
 N6500242
 N6500243
 N6500244

0246
 0247
 0248 P006E 09E9
 0249 P006F 0C0C
 0250 P0070 0103
 0251 P0071 09FE
 0252 P0072 0C07
 0253 P0073 0115
 0254 P0074 0814
 0255 P0075 98D8
 0256 P0076 0112
 0257 P0077 C80E
 0258 P0078 0101
 0259 P0079 18C5
 0260 P007A D80B
 0261 P007B 0814
 0262 P007C 0C04
 0263 P007D 09F3
 0264 P007E 0101
 0265 P007F 0A01
 0266 P0080 0901
 0267 P0081 6ECD
 0268 P0082 18C7

*
 *
 GET47 INA -KARD+KARPER
 ENQ MAXD
 SAZ GET50
 INA -KARD+KARD
 ENQ MAXE
 SAN GET51
 TRQ A
 GET50 SUB* NOFDIG
 SAN GET51
 LDA* EDIN
 SAZ GET53
 GET51 JMP* GET22
 GET53 RAO* EDIN
 TRQ A
 ENQ 4
 INA -MAXD
 SAZ GET56
 ENA 1
 GET56 INA 1
 STA* (PARADD),Q
 JMP* GET27

CHECK FOR 'E' OR 'D'
 CHECK FOR D
 SET UP D-MASK
 CHECK FOR E AND SET UP E-MASK
 MAKE SURE 'D'/'E' FORMAT

N6500246
 N6500247
 N6500248
 N6500249
 N6500250
 N6500251
 N6500252
 N6500253
 N6500254
 N6500255
 N6500256
 N6500257
 N6500258
 N6500259
 N6500260
 N6500261
 N6500262
 N6500263
 N6500264
 N6500265
 N6500266
 N6500267
 N6500268

0270
 0271 P0083 0000
 0272 P0084 0000
 0273 P0085 0000
 0274 P0086 0000
 P0087 0000
 0275 P0088 0000
 0276 P0089 0000
 0277 P008A 0000
 0278 P008B 0000

*
 EDVAL NUM 0
 NOED NUM 0
 EDIN NUM 0
 SIGNIN NUM 0,0
 FRACTL NUM 0
 TEMP NUM 0
 HILO NUM 0
 BUFADD NUM 0

CONSTANTS AND STORAGE
 EXPONENT VALUE
 NO. OF CHAR. FOR E/D
 'E' OR 'D' ENCOUNTERED (=1)
 DECIMAL POINT FLAG
 HI-8-BYTE OR LO-8-BYTE
 "BUFFER" ADD. (TO BE FILLED)

N6500270
 N6500271
 N6500272
 N6500273
 N6500274
 N6500275
 N6500276
 N6500277
 N6500278

0280
 0281
 0282
 0283 P008C 0AFF
 0284 P008D 6C11
 0285 P008E 6EBD
 0286

*

 *
 GETEND ENA -0
 ENQ BUFEMT
 STA* (BASE),Q
 *

TEXT EXHAUSTED.
 SET BUFFER EMPTY
 COMMON CHECKING FOR INPUT FIELD

N6500280
 N6500281
 N6500282
 N6500283
 N6500284
 N6500285
 N6500286

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0287 * (1) THERE IS INPUT N6500 287
0288 * (2) DOES NOT END WITH 'E'/'D' N6500 288
0289 P008F CCBF GETCOM LDA* (PARADD) N6500 289
0290 P0090 0104 SAZ GETNUE ERROR N6500 290
0291 P0091 C8F3 LDA* EDIN N6500 291
0292 P0092 010B SAZ GETOUT N6500 292
0293 P0093 C8F0 LDA* NOED N6500 293
0294 P0094 0111 SAN EXPGET N6500 294
0295 P0095 18A9 GETNJE JMP* GET22 ERROR, GO N6500 295
0296 P0096 C8EC EXPGET LDA* EDVAL N6500 296
0297 P0097 E8EF LDQ* SIGNIN+1 IF SIGN FOR EXPONENT IS +, DO NOTHING N6500 297
0298 P0098 0143 SQZ EXPG1 OTHERWISE COMPLEMENT EXPONENT VALUE N6500 298
0299 P0099 0DFE INQ -1 N6500 299
0300 P009A 0141 SQZ EXPG1 N6500 300
0301 P009B 0864 TCA A N6500 301
0302 P009C 0C05 EXPG1 ENQ 5 N6500 302
0303 P009D 6EB1 STA* (PARADD),Q SAVE EXPONENT VALUE N6500 303
0304 P009E 1C00 GETOUT JMP (GETINT) RETURN TO SENDER N6500 304
P009F FF60

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0306 * N6500 306
0307 ***** SET UP EXPONENT VALUE N6500 307
0308 * N6500 308
0309 P00A0 C8E3 GET100 LDA* NOED N6500 309
0310 P00A1 09FD INA -2 N6500 310
0311 P00A2 0131 SAM GET102 N6500 311
0312 P00A3 189B JMP* GET22 ERROR N6500 312
0313 P00A4 08DF GET102 RAO* NOED N6500 313
0314 P00A5 0A0A ENA 10 CALCULAT EXPONENT VALUE N6500 314
0315 P00A6 28DC MUI* EDVAL N6500 315
0316 P00A7 88E1 ADD* TEMP N6500 316
0317 P00A8 09CF INA -KARO N6500 317
0318 P00A9 68D9 STA* EDVAL N6500 318
0319 P00AA 189F JMP* GET27 TO REPEAT N6500 319

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0321 * N6500 321
0322 ***** CHARACTER IS COMMA N6500 322
0323 * N6500 323
0324 P00AB E8A0 GETMA LDQ* BASE RECALL PARAMETER BASE ADD. N6500 324
0325 P00AC 0D0C INQ FIELD N6500 325
0326 P00AD C8DB LDA* TEMP N6500 326
0327 P00AE 6622 STA- (ZERO),Q N6500 327
0328 P00AF C8DA LDA* HILO N6500 328
0329 P00B0 0DFD INQ BITFLG-FIELD N6500 329
0330 P00B1 6622 STA- (ZERO),Q SAVE BYTE POSITION FLAG N6500 330
0331 P00B2 C0FF LDA- I N6500 331
0332 P00B3 0D01 INQ BUFCNT-BITFLG N6500 332
0333 P00B4 6622 STA- (ZERO),Q SAVE BUFFER COUNTER N6500 333

```


GETINT

PAGE 8

DATE: 01/27/99

0334 P00B5 18D9

JMP* GETCOM

N6500334

0336
0337 0001 P *
0338 0002 P
0339 00C0 P
0340 P00B6 000A
0341

EQU GET300(* /96)
EQU GET400(GET300+1)
EQU GET500(GET400*96)
BSS (GET500-*)
END

N6500336
N6500337
N6500338
N6500339
N6500340
N6500341

PGM= 00C9 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0124, 0144, 0150, 0153, 0331
0072	AMONI	00F4	(000244)
0072	ADISP	00EA	(000234)
0072	LPMSK	0002	(000002) 0159, 0161
0072	NZERO	0012	(000018)
0072	ZROBIT	0033	(000051)
0073	FIVE	0043	(000067)
0073	SIX	0044	(000068)
0073	ZERO	0022	(000034) 0137, 0188, 0196, 0327, 0330, 0333
0073	ONEBIT	0023	(000035)
0073	SIXTEN	0027	(000039)
0074	COMMA	002C	(000044) 0173, 0176
0074	SLASH	002F	(000047)
0074	ASTRIC	002A	(000042)
0075	EIGHT	0026	(000038)
0075	NINE	0045	(000069)
0075	THREE	0004	(000004)
0075	ONE	0003	(000003)
0075	TWO	0024	(000036)
0076	TEN	0046	(000070)
0077	MASK	0003	(000003)
0080	KAR0	0030	(000048) 0176, 0180, 0195, 0317
0081	KAR9	0039	(000057) 0180
0082	KARE	0045	(000069) 0251
0083	KARD	0044	(000068) 0248, 0251
0084	KARPER	002E	(000046) 0236, 0248
0085	KARPOS	002B	(000043) 0216, 0219
0086	KARNEG	002D	(000045) 0219, 0236
0088	CHRSLV	0007	(000007)
0089	LNWD28	001C	(000028)
0090	LNCH16	0010	(000016)
0091	ASMOD	1000	(004096)
0092	MAXE	0007	(000007) 0252
0093	MAXD	000C	(000012) 0249, 0263
0096	HANDLE	0001	(000001)
0097	MSG	0002	(000002) 0120
0098	SCMMOR	0003	(000003)
0099	IOERR	0004	(000004)

0100	LISTLU	0005	{000005)			
0101	COMOLU	0006	{000006)			
0102	NEWMLU	0007	{000007)			
0103	PROG1	0008	{000008)			
0104	PROG2	0009	{000009)			
0105	BITFLG	000A	{000010)	0147, 0329, 0332		
0106	BUFCNT	000B	{000011)	0149, 0332		
0107	FIELD	000C	{000012)	0325, 0329		
0108	SLASHF	0010	{000016)			
0109	BUFEMT	0011	{000017)	0284		
0110	BUFFER	0012	{000018)	0145		

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0069	GETINT	0000	0069, 0122, 0123, 0126, 0304
0137	GET1	0014	0140
0143	GET3	0018	0139
0151	GET5	0020	0205
0154	GET10	0023	0151
0159	GET12	0028	0157
0172	GET15	0020	0162
0176	GET17	0031	0174
0180	GET18	0035	0178
0184	GET19	0038	0177, 0181
0187	GET20	0038	0185
0191	GET22	003F	0229, 0242, 0259, 0295, 0312
0194	GET25	0041	0190
0204	GET27	004A	0226, 0234, 0244, 0268, 0319
0208	BASE	004C	0118, 0143, 0285, 0324
0209	EXTMSG	004D	0121, 0192
0210	NOFDIG	004E	0117, 0135, 0189, 0255
0211	PARADD	004F	0125, 0187, 0199, 0202, 0233, 0267, 0289, 0303
0214	GET30	0050	0179, 0182
0221	GET31	0057	0217
0227	GET32	005D	0222
0229	GET34	005F	0224
0230	GET36	0060	0228
0236	GET40	0065	0220
0240	GET42	0069	
0242	GET44	006B	0239
0243	GET45	006C	0241
0248	GET47	006E	0237
0254	GET50	0074	0250
0259	GET51	0079	0253, 0256
0260	GET53	007A	0258
0266	GET56	0080	0264
0271	EDVAL	0083	0133, 0296, 0315, 0318
0272	NOED	0084	0134, 0293, 0309, 0313
0273	EDIN	0085	0129, 0184, 0221, 0240, 0257, 0260, 0291
0274	SIGNIN	0086	0131, 0132, 0223, 0225, 0227, 0230, 0297
0275	FRACTL	0088	0130, 0200, 0238, 0243
0276	TEMP	0089	0160, 0172, 0194, 0214, 0316, 0326
0277	HILO	008A	0148, 0155, 0204, 0328
0278	BUFADD	008B	0146, 0156
0283	GETEND	008C	0163

0289	GETCOM	008F	0334
0295	GETNUE	0095	0290
0296	EXPGET	0096	0294
0302	EXPG1	009C	0298, 0300
0304	GETOUT	009E	0292
0309	GET100	00A0	0186
0313	GET102	00A4	0311
0324	GETMA	00AB	0175
0337	GET300	0001	0338
0338	GET400	0002	0339
0339	GET500	00C0	0340

JP JOB, *ASSEM
ABORTED

Address	Offset	Label	Description	Value
0050				
0051	00F4	EQU	AMONI(\$F4),ADISP(\$EA),LPMSK(2),NZERO(\$12),ZROBIT(\$33)	N6600050
	00EA			N6600051
	0002			
	0012			
	0033			
0052	0043	EQU	FIVE(\$43),SIX(\$44),ZERO(\$22),ONEBIT(\$23),SIXTEN(\$27)	N6600052
	0044			
	0022			
	0023			
	0027			
0053	002C	EQU	COMMA(\$2C),SLASH(\$2F),ASTRIC(\$2A)	N6600053
	002F			
	002A			
0054	0026	EQU	EIGHT(\$26),NINE(\$45),THREE(4),ONE(3),TWO(\$24)	N6600054
	0045			
	0004			
	0003			
	0024			
0055	0046	EQU	TEN(\$46)	**MSOS4.0**N6600055
0056	08C2	EQU	MASSLUI(\$8C2)	N6600056
0057	18FD	EQU	INCOM(\$18FD) INPUT COMMENT UNIT	N6600057
0058	0007	EQU	CHRSLV(7) LEVEL OF THIS PROGRAM	116*4360*****
0059	00E9	EQU	EXTBV4(\$E9)	N6600059
0061			SUBROUTINE POINTER (FOR REQUEST)	N6600061
0062	0002	EQU	GETFLD(2) "GETFLD" --- GET FIELD SUBROUTINE	N6600062
0063	0003	EQU	ASCHEX(3) "ASCHEC" --- ASC TO HEX.	N6600063
0064	0008	EQU	GETINT(8) "GETINT" --- GET SINGLE/DOUBLE PRECISION VALUE	N6600064
0065	0708	EQU	FLOATZ(1800) SIZE OF FLOATING POINT PACKAGE	N6600065
0067			PARAMETER LOCATION (OFFSET FROM BASE)	N6600067
0068	0001	EQU	HANDLE(1) "HANDLE"	N6600068
0069	0002	EQU	BMSG(2) "MSG" ENTRY	N6600069
0070	0003	EQU	SOMMOR(3) "SOMMOR" ENTRY	N6600070
0071	0004	EQU	IOERR(4) "IOERR" ENTRY	N6600071
0072	0005	EQU	LISTLU(5) LIST OUTPUT --- "LISTLU"	N6600072
0073	0006	EQU	COMOLU(6) "COMOLU"	N6600073
0074	0007	EQU	NEWMLU(7) "NEWMLU" --- NEW MM LU	N6600074
0075	0008	EQU	PROG1(8) "PROG1"	N6600075
0076	0009	EQU	PROG2(9) "PROG2"	N6600076
0077	000A	EQU	BITFLG(10) "BITFLG"	N6600077
0078	000B	EQU	BUFCNT(11) "BUFCNT"	N6600078
0079	000C	EQU	FIELD(12) "FIELD"	N6600079
0080	0010	EQU	SLASHF(16) "SLASHF"	N6600080
0081	0011	EQU	BUFEMT(17) "BUFEMT"	N6600081
0082	0012	EQU	BUFFER(18) "BUFFER"	N6600082
0084				N6600084

0085
0086
0087

*
*

PROGRAM START

N6600085
N6600086
N6600087

0089 P0000 0B00
0090 P0001 4800
P0002 008A
0091 P0003 682A
0092 P0004 60FF
0093 P0005 8112
0094 P0006 686B
0095 P0007 C106
0096 P0008 802F
0097 P0009 681D
0098 P000A C102
0099 P000B 6823
0100 P000C 0A00
0101 P000D 684B

FLCVSG NOP 0 ENTRY
STQ QSAVE
STA* BASE
STA- I
ADD- BUFFER, I
STA* BUFADD
LDA- COMOLU, I ASSEMBLE OUTPUT LU
ADD- ONEBIT*12
STA* OTLU
LDA- 3MSG, I
STA* EXTMSG
ENA 0
STA* COUNT

N6600089
N6600090
N6600091
N6600092
N6600093
N6600094
N6600095
N6600096
N6600097
N6600098
N6600099
N6600100
N6600101

0103
0104
0105
0106 P000E 583F
0107 P000F C000
0108 P0010 4E45
P0011 6821
0110 P0012 C000
P0013 5720
0111 P0014 681F
0112 P0015 C000
P0016 4F4C
0113 P0017 6824
0114 P0018 C000
P0019 4420
0115 P001A 6822
0116 P001B C83E
0117 P001C E83E
0118 P001D 5802
0119 P001E 1841

*

*
*
HED RTJ* FILSP TO FILL BUFFER WITH SPACE
EQU NOPAR(HED)
H1 LDA =ANE INSERT 'NEW'
STA* BUF+3
LDA =AW
STA* BUF+4
LDA =AOL INSERT 'OLD'
STA* BUF+12
LDA =AD
STA* BUF+13
LDA* MESTB GET BUFFER LOC. AND SIZE FOR PRINT
LDQ* MESTB*1
JSTPNT RTJ* PNT
JMP* GETPAR

N6600103
N6600104
N6600105
N6600106
N6600107
N6600108
N6600109
N6600110
N6600111
N6600112
N6600113
N6600114
N6600115
N6600116
N6600117
N6600118
N6600119

0121
0122 P001F 0B00
0123 P0020 6808
0124 P0021 4806

PNT NOP 0 ENTRY
STA* MB
STQ* SIZ

N6600121
N6600122
N6600123
N6600124

0126
0127 P0022 54F4
0128 P0023 0007

*
OUTPUT DATA
OUTMES RTJ- (AMONI)
WRCD1 ADC \$D00+CHRSLV F-WRITE

N6600126
N6600127
N6600128

0129	P0024	0007		ADC	RT1-WRCD1	RETURN		N6600129
0130	P0025	0000		NUM	0	THREAD		N6600130
0131	P0026	0000	OTLU	NUM	0	LU ITO BE FILLED)		N6600131
0132	P0027	0011	SIZ	NUM	17	SIZE		N6600132
0133	P0028	000C	MB	ADC	BUF-WRCD1	BUFFER		N6600133
0134	P0029	14EA		JMP-	(ADISF)			N6600134
0136			*			RETURN FROM PRINT, CHECK FOR ERROR/NEXT STEP		N6600136
0137	P002A	0171	RT1	SQM	BAD			N6600137
0138	P002B	1CF3		JMP*	(PNT)	RETURN TO CALLER		N6600138
0139	P002C	1876	BAD	JMP*	IOE			N6600139
0141			*			CONSTANTS AND STORAGE		N6600141
0142	P002D	0000	BASE	NUM	0			N6600142
0143	P002E	0000	EXTMSG	NUM	0			N6600143
0144			*			MESSAGE		N6600144
0145	P002F	2020	BUF	ALF	17,			N6600145
	P0030	2020						
	P0031	2020						
	P0032	2020						
	P0033	2020						
	P0034	2020						
	P0035	2020						
	P0036	2020						
	P0037	2020						
	P0038	2020						
	P0039	2020						
	P003A	2020						
	P003B	2020						
	P003C	2020						
	P003D	2020						
	P003E	2020						
	P003F	2020						
0146		0011		EQU	MES1(*-BUF)			N6600146
0147	P0040	5645	ME2	ALF	4,VERIFY			N6600147
	P0041	5249						
	P0042	4659						
	P0043	2020						
0148		0004		EQU	MES2(*-ME2)			N6600148
0149	P0044	4442	ME3	ALF	9,DB REQUEST ABORT			N6600149
	P0045	2052						
	P0046	4551						
	P0047	5545						
	P0048	5354						
	P0049	2041						
	P004A	424F						
	P004B	5254						
	P004C	2020						
0150		0009		EQU	MES3(*-ME3)			N6600150
0152			*			FILL BUFFER WITH SPACE		N6600152
0153	P004D	0B00	FILSP	NOP	0	ENTRY		N6600153
0154	P004E	0C10		ENQ	16			N6600154

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0155 P004F C000 LDA =A FILL BUFFER WITH SPACE N6600155
      P0050 2020
0156 P0051 6ADD FIL1 STA* BUF,Q N6600156
0157 P0052 0DFE INQ -1 N6600157
0158 P0053 0171 SQM FIL3 N6600158
0159 P0054 18FC JMP* FIL1 N6600159
0160 P0055 1CF7 FIL3 JMP* (FILSP) EXIT N6600160

0162 P0056 0000 NEWVA NUM 0 N6600162
0163 P0057 0000 OLDVA NUM 0 N6600163
0164 P0058 0000 COUNT NUM 0 N6600164
0165 P0059 000C MESTB ADC BUF-WRCD1 N6600165
0166 P005A 0011 ADC MES1 N6600166
0167 P005B 001D ADC ME2-WRCD1 N6600167
0168 P005C 0004 ADC MES2 N6600168
0169 P005D 0021 ADC ME3-WRCD1 N6600169
0170 P005E 0009 ADC MES3 N6600170

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0172 * N6600172
0173 **** GET PARAMETERS N6600173
0174 * N6600174
0175 P005F CCA0 GETPAR LDA* (FLCVSG) GET NEW VALUE ADDRESS N6600175
0176 P0060 889F ADD* FLCVSG N6600176
0177 P0061 68F4 STA* NEWVA N6600177
0178 P0062 089D RAO* FLCVSG BUMP TO NEXT PARAMETER N6600178
0179 P0063 EC9C LDQ* (FLCVSG) N6600179
0180 P0064 F898 ADQ* FLCVSG N6600180
0181 P0065 C622 LDA- (ZERO),Q N6600181
0182 P0066 68F0 STA* OLDVA N6600182
0183 P0067 D898 RAO* FLCVSG SET EXIT N6600183

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0185 * N6600185
0186 ***** REQUEST SPACE TO BRING IN FLOATING POINT PACKAGE N6600186
0187 P0068 54F4 LSP12 RTJ- (AMONI) N6600187
0188 P0069 1547 LSPCAL ADC $1540+CHRSLV N6600188
0189 P006A 0006 ADC LSPACE-LSPCAL N6600189
0190 P006B 0000 NUM 0 N6600190
0191 P006C 0000 LSP13 NUM 0 CORE LOCATION OF REQUESTED SPACE N6600191
0192 P006D 0708 ADC FLOATZ N6600192
0193 P006E 14EA JMP- (ADISP) N6600193
0194 * N6600194
0195 P006F 0162 LSPACE SQP LSP15 SPACE BE GRANTED, DO SOMETHING N6600195
0196 P0070 1832 JMP* IOE TO ERROR (I/O ERROR) N6600196
0197 P0071 0000 BUFADD NUM 0 N6600197
0198 * N6600198
0199 P0072 4816 LSP15 STQ* LSP25 SET LOC. WHERE PROGRAM TO BE READ. N6600199
0200 P0073 4852 STQ* LSP40 N6600200
0201 P0074 482D STQ* LSP31 N6600201
0202 P0075 5801 RTJ* SELF GENERATE RETURN ADD. N6600202
0203 P0076 0900 SELF NOP 0 N6600203

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0204 P0077 C8FE LDA* SELF N6600204
0205 P0078 0928 INA LSP30-SELF N6600205
0206 P0079 680B STA* LSP24 N6600206
0207 P007A C813 LDA* OFTB GENERATE "MMADDR" LOCATION N6600207
0208 P007B 9813 SUB* OFTB+1 N6600208
0209 P007C 88B1 ADD* EXTMSG N6600209
0210 P007D 0822 TRA Q N6600210
0211 P007E C811 LDA* FLTADD GET FLOAT PACKAGE SECTOR ADD. N6600211
0212 P007F 5622 RTJ- (ZERO),Q TO "MMADDR" FOR MM ADD. CONVERSION N6600212
0213 P0080 680A STA* LSP26 SAVE LSB N6600213
0214 P0081 4808 STQ* LSP26-1 N6600214
0215 P0082 54F4 RTJ- (AMONI) N6600215
0216 P0083 0807 LSP20 ADC $800+CHRSLV N6600216
0217 P0084 0000 LSP24 NUM 0 RETURN (TO BE FILLED) N6600217
0218 P0085 0000 NUM 0 THREAD N6600218
0219 P0086 08C2 ADC MASSLU N6600219
0220 P0087 0708 ADC FLOATZ N6600220
0221 P0088 0000 LSP25 NUM 0 FLOAT PACKAGE ADD. (TO BE FILLED) N6600221
0222 P0089 0000 NUM 0 N6600222
0223 P008A 0000 LSP26 NUM 0 SECTOR ADD. (TO BE FILLED) N6600223
0224 P008B 14EA JMP- (ADISF) N6600224
0225 P008C 0000 QSAVE NUM 0 N6600225
0226 008C P EQU REQTYP(QSAVE) N6600226

0228 * N6600228
0229 P008D 7FFF X OFTB ADC MMADDR 0. "MMADDR" N6600229
0230 P008E 7FFF X ADC MSG 1. "MSG" N6600230
0231 P008F 7FFF X FLTADD ADC ECONV E- OR F-FORMAT CONVERSION -- SINGLE N6600231

0233 * N6600233
0234 P0090 0B00 SAVDA NOP 0 ENTRY N6600234
0235 P0091 60FF STA- I N6600235
0236 P0092 0C00 ENQ 0 N6600236
0237 P0093 CA53 SAV1 LDA* VALUE+2,Q N6600237
0238 P0094 0FC8 ALS 8 ASSEMBLE INTO 2-CHAR./WORD N6600238
0239 P0095 8A52 ADD* VALUE+3,Q N6600239
0240 P0096 6998 STA* BUF,I N6600240
0241 P0097 0814 TRQ A N6600241
0242 P0098 09F3 INA -12 CHECK IF ALL IN N6600242
0243 P0099 0123 SAP SAV2 N6600243
0244 P009A 0D02 INQ 2 N6600244
0245 P009B 00FF RAO- I N6600245
0246 P009C 18F6 JMP* SAV1 N6600246
0247 P009D 1CF2 SAV2 JMP* (SAVDA) RETURN N6600247

0249 * N6600249
0250 P009E 0166 LSP30 SQP LSP35 MM TRANSFER OK, SKIP N6600250
0251 P009F 54F4 RTJ- (AMONI) RELEASE CORE N6600251
0252 P00A0 1800 NUM $1800 N6600252
0253 P00A1 0000 LSP31 NUM 0 N6600253
0254 P00A2 E88A IOE LDQ* BASE I/O ERROR ENCOUNTERED , EXIT N6600254
0255 P00A3 E204 LDQ- IOERR,Q EXIT TO "IOERR" N6600255

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0256 P00A4 1622      JMP- (ZERO),Q
0257 *
0258 *****          FLOAT PACKAGE IS IN CORE, CONVERT NO.
0259 *
0260 P00A5 E8B2      LSP35 LDQ* COUNT
0261 P00A6 CEAF      LDA* (NEWVA),Q      GET NEW VALUE FOR CONVERSION
0262 P00A7 683D      STA* VALUE
0263 P00A8 0D01      INQ 1
0264 P00A9 CEAC      LDA* (NEWVA),Q
0265 P00AA 683B      STA* VALUE+1
0266 P00AB 5CF5      RTJ* (LSP31)
0267 P00AC 0038      ADC VALUE-*
0268 P00AD 0A00      ENA 0              MOVE "NEW" VALUE IN E-FORMAT INTO OUTPUT
0269 P00AE 58E1      RTJ* SAVDA
0270 *
0271 P00AF E8A8      LDQ* COUNT
0272 P00B0 CEAE      LDA* (OLDVA),Q    GET OLD VALUE AND CONVERT
0273 P00B1 6833      STA* VALUE
0274 P00B2 0D01      INQ 1
0275 P00B3 CEA3      LDA* (OLDVA),Q
0276 P00B4 6831      STA* VALUE+1
0277 P00B5 5CEB      RTJ* (LSP31)
0278 P00B6 002E      ADC VALUE-*

0280 *              RETURN FROM CONVERSION (FLOAT TO E-FORMAT)
0281 P00B7 0A09      ENA 9
0282 P00B8 58D7      RTJ* SAVDA
0283 P00B9 C89F      TOPT LDA* MESTB
0284 P00BA E89F      LDQ* MESTB+1
0285 P00BB 5800      RTJ PNT
0286 P00BD C89A      LDA* COUNT        UP DATE NO. BEEN CONVERTED COUNT BY 2
0287 P00BE 0902      INA 2
0288 P00BF 6898      STA* COUNT
0289 P00C0 98CB      SUB* QSAVE
0290 P00C1 0101      SAZ ENDCON        TO RELEASE CORE,... ETC.
0291 P00C2 18E2      JMP* LSP35        NOT DONE, TO REPEAT

0293 *
0294 P00C3 54F4      ENDCON RTJ- (AMONI)  RELEASE CORE
0295 P00C4 1800      NUM $1800
0296 P00C5 0000      LSP40 NUM 0        ADD. (TO BE FILLED)

0298 *              REQUEST CONFIRMATION
0299 P00C6 C894      NEDCON LDA* MESTB#2
0300 P00C7 E894      LDO* MESTB#3
0301 P00C8 5800      RTJ PNT
0302 P00C9 FF55      ENA 0
0303 P00CA 0A00      STA* REQTYP
0304 P00CB 68C0      RTJ- (AMONI)
0305 P00CD 0907      FRDCD ADC $900#CHRSLV  F-READ

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N6600256
N6600257
N6600258
N6600259
N6600260
N6600261
N6600262
N6600263
N6600264
N6600265
N6600266
N6600267
N6600268
N6600269
N6600270
N6600271
N6600272
N6600273
N6600274
N6600275
N6600276
N6600277
N6600278
N6600280
N6600281
N6600282
N6600283
N6600284
N6600285
N6600286
N6600287
N6600288
N6600289
N6600290
N6600291
N6600293
N6600294
N6600295
N6600296
N6600298
N6600299
N6600300
N6600301
N6600302
N6600303
N6600304
N6600305

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0306 P00CE 0007      ADC GETIN-FRDCD      N6600306
0307 P00CF 0000      NUM 0                N6600307
0308 P00D0 18FD      ADC INCOM             N6600308
0309 P00D1 0001      NUM 1                N6600309
0310 P00D2 7FBE      ADC REQTYP-FRDCD    N6600310
0311 P00D3 14EA      JMP- (ADIS F)       N6600311
0312 *
0313 P00D4 0161      *GETIN SQP INOK      N6600312
0314 P00D5 18CC      JMP* IOE            N6600313
0315 P00D6 C000      INOK LDA =AOK      N6600314
0316 P00D7 4F48      SUB* REQTYP         N6600315
0317 P00D8 98B3      SAN GIVEUP          N6600316
0318 P00DA 1C00      JMP (FLCVSG)        ABORT REQUEST AFTER PRINTING MESSAGE
0319 P00DB FF24      GIVEUP LDA* MESTB+4 TO PRINT ABORT MESSAGE
0320 P00DD E380      LDQ* MESTB+5
0321 P00DE 5800      RTJ PNT
0322 P00DF FF3F      LDQ BASE           N6600319
0323 P00E0 E800      LDQ- SOMMOR,Q      N6600320
0324 P00E1 FF4B      JMP- (ZERO),Q     GET "SOMMOR" ADDRESS AND EXIT
0326 P00E2 E203      N6600321
0327 P00E3 1622      N6600322
0326 *
0327 P00E4 0010      VALUE BZS VALUE(16) N6600323
0329 *
0330 EQU SU13(*96)     N6600324
0331 EQU SB13(SU13+1) N6600326
0332 EQU DB13(SB13*96) N6600327
0333 P00F4 002C      BSS (DB13-*)      N6600329
0334 END              N6600330
                                N6600331
                                N6600332
                                N6600333
                                N6600334

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PGM= 0120 (288) 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) 0092, 0235, 0245
0051	AMONI	00F4	(000244) 0127, 0187, 0215, 0251, 0294, 0304
0051	ADISP	00EA	(000234) 0134, 0193, 0224, 0311
0051	LPMSK	0002	(000002)
0051	NZERO	0012	(000018)
0051	ZROBIT	0033	(000051)
0052	FIVE	0043	(000067)
0052	SIX	0044	(000068)
0052	ZERO	0022	(000034) 0181, 0212, 0256, 0324
0052	ONEBIT	0023	(000035) 0096
0052	SIXTEN	0027	(000039)
0053	COMMA	002C	(000044)
0053	SLASH	002F	(000047)
0053	ASTRIC	002A	(000042)
0054	EIGHT	0026	(000038)
0054	NINE	0045	(000069)
0054	THREE	0004	(000004)
0054	ONE	0003	(000003)
0054	TWO	0024	(000036)
0055	TEN	0046	(000070)
0056	MASSLU	08C2	(002242) 0219
0057	INCOM	18FD	(006397) 0308
0058	CHRSLV	0007	(000007) 0128, 0188, 0216, 0305
0059	EXTBV4	00E9	(000233)
0062	GETFLD	0002	(000002)
0063	ASCHEX	0003	(000003)
0064	GETINT	0008	(000008)
0065	FLOATZ	0708	(001800) 0192, 0220
0068	HANDLE	0001	(000001)
0069	BMSG	0002	(000002) 0098
0070	SOMMOR	0003	(000003) 0323
0071	IOERR	0004	(000004) 0255
0072	LISTLU	0005	(000005)
0073	COMOLU	0006	(000006) 0095
0074	NEWMLU	0007	(000007)
0075	PROG1	0008	(000008)
0076	PROG2	0009	(000009)
0077	BITFLG	000A	(000010)

0078	BUFCNT	0008	(000011)	
0079	FIELD	000C	(000012)	
0080	SLASHF	0010	(000016)	
0081	BUFEMT	0011	(000017)	
0082	BUFFER	0012	(000018)	0093
0146	MES1	0011	(000017)	0166
0148	MES2	0004	(000004)	0168
0150	MES3	0009	(000009)	0170

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	FLCVSG	0000	0043, 0175, 0176, 0178, 0179, 0180, 0183, 0318
0106	HED	000E	0107
0107	NOPAR	000E	
0108	H1	000F	
0118	JSTPNT	001D	
0122	PNT	001F	0118, 0138, 0285, 0301, 0321
0127	OUTMES	0022	
0128	WRCD1	0023	0129, 0133, 0165, 0167, 0169
0131	OTLU	0026	
0132	SIZ	0027	0124
0133	MB	0028	0123
0137	RT1	002A	0129
0139	BAD	002C	0137
0142	BASE	002D	0091, 0254, 0322
0143	EXTMSG	002E	0099, 0209
0145	BUF	002F	0109, 0111, 0113, 0115, 0133, 0146, 0156, 0165, 0240
0147	ME2	0040	0148, 0167
0149	ME3	0044	0150, 0169
0153	FILSP	004D	0106, 0160
0156	FIL1	0051	0159
0160	FIL3	0055	0158
0162	NEWVA	0056	0177, 0261, 0264
0163	OLDVA	0057	0182, 0272, 0275
0164	COUNT	0058	0101, 0260, 0271, 0286, 0288
0165	MESTB	0059	0116, 0117, 0283, 0284, 0299, 0300, 0319, 0320
0175	GETPAR	005F	0119
0187	LSP12	0068	
0188	LSPCAL	0069	0189
0191	LSP13	006C	
0195	LSPACE	006F	0189
0197	BUFADD	0071	0094
0199	LSP15	0072	0195
0203	SELF	0076	0202, 0204, 0205
0216	LSP20	0083	
0217	LSP24	0084	0206
0221	LSP25	0088	0199
0223	LSP26	008A	0213, 0214
0225	QSAVE	008C	0090, 0226, 0289
0226	REQTYP	008C	0303, 0310, 0316
0229	OFTB	008D	0207, 0208
0231	FLTADD	008F	0211

0234 SAVDA 0090
0237 SAV1 0093
0247 SAV2 0090
0250 LSP30 009E
0253 LSP31 00A1
0254 IOE 00A2
0260 LSP35 00A5
0283 TOPT 00B9
0294 ENDCON 00C3
0296 LSP40 00C5
0299 NEDCON 00C6
0305 FRDCD 00CD
0313 GETIN 00D4
0315 INOK 00D6
0319 GIVEUP 00DC
0327 VALUE 00E4
0330 SU13 0002
0331 SB13 0003
0332 DB13 0120

0247, 0269, 0282

0246
0243
0205
0201, 0266, 0277
0139, 0196, 0314
0250, 0291

0290
0200

0306, 0310

0306
0313
0317

0237, 0239, 0262, 0265, 0267, 0273, 0276, 0278

0331
0332
0333

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0046	ECONV	008F	0231
0047	MMADDR	008D	0229
0048	MSG	008E	0230


```

0050      *
0051      00F4      EQU      AMONI($F4),ADISP($EA),LPMSK(2),NZERO($12),ZROBIT($33)
          00EA
          0002
          0012
          0033
0052      0043      EQU      FIVE($43),SIX($44),ZERO($22),ONEBIT($23),SIXTEN($27)
          0044
          0022
          0023
          0027
0053      002C      EQU      COMMA($2C),SLASH($2F),ASTRIC($2A)
          002F
          002A
0054      0026      EQU      EIGHT($26),NINE($45),THREE(4),ONE(3),TWO($24)
          0045
          0004
          0003
          0024
0055      0046      EQU      TEN($46)
0056      08C2      EQU      MASSLU($8C2)
0057      18FD      EQU      INCOM($18FD) INPUT COMMENT UNIT
0058      0007      EQU      CHRSLV(7)   LEVEL OF THIS PROGRAM.
0059      00E9      EQU      EXTBV4($E9)

```

N6700050
N6700051

N6700052

N6700053

N6700054

N6700055
N6700056
N6700057
116*4360*****
N6700059

```

0061      *
0062      0002      EQU      GETFLD(2)   "GETFLD" --- GET FIELD SUBROUTINE
0063      0003      EQU      ASCHEX(3)   "ASCHEX" --- ASC TO HEX.
0064      0008      EQU      GETINT(8)  "GETINT" --- GET SINGLE/DOUBLE PRECISION VALUE
0065      0708      EQU      FLOATZ(1800) SIZE OF FLOATING POINT PACKAGE

```

N6700061
N6700062
N6700063
N6700064
N6700065

```

0067      *
0068      0001      EQU      HANDLE(1)   "HANDLE"
0069      0002      EQU      BMSG(2)     "MSG" ENTRY
0070      0003      EQU      SOMMOR(3)   "SOMMOR" ENTRY
0071      0004      EQU      IOERR(4)    "IOERR" ENTRY
0072      0005      EQU      LISTLU(5)   LIST OUTPUT --- "LISTLU"
0073      0006      EQU      COMOLU(6)   "COMOLU"
0074      0007      EQU      NEWMLU(7)   "NEWMLU" --- NEW MM LU
0075      0008      EQU      PROG1(8)    "PROG1"
0076      0009      EQU      PROG2(9)    "PROG2"
0077      000A      EQU      BITFLG(10)  "BITFLG"
0078      000B      EQU      BUFCNT(11)  "BUFCNT"
0079      000C      EQU      FIELD(12)   "FIELD"
0080      0010      EQU      SLASHF(16)  "SLASHF"
0081      0011      EQU      BUFEMT(17)  "BUFEMT"
0082      0012      EQU      BUFFER(18)  "BUFFER"

```

N6700067
N6700068
N6700069
N6700070
N6700071
N6700072
N6700073
N6700074
N6700075
N6700076
N6700077
N6700078
N6700079
N6700080
N6700081
N6700082

```

0084      *

```

N6700084

```

0085          *****
0086          *
0087          *
                                *****
                                PROGRAM   START
                                *****
                                N6700085
                                N6700086
                                N6700087

```

```

0089 P0000 0800  FLCVDB NOP 0          ENTRY
0090 P0001 4800  STQ  QSAVE
0091 P0002 008F
0092 P0003 682A  STA* BASE
0093 P0004 60FF  STA- I
0094 P0005 8112  ADD- BUFFER,I
0095 P0006 6870  STA* BUFADD
0096 P0007 C106  LDA- COMOLU,I  ASSEMBLE OUTPUT LU
0097 P0008 802F  ADD- ONEBIT+12
0098 P0009 681D  STA* OTLU
0099 P000A C102  LDA- BMSG,I
0099 P000B 6823  STA* EXTMSG
0100 P000C 0A00  ENA 0
0101 P000D 6850  STA* COUNT
                                N6700089
                                N6700090
                                N6700091
                                N6700092
                                N6700093
                                N6700094
                                N6700095
                                N6700096
                                N6700097
                                N6700098
                                N6700099
                                N6700100
                                N6700101

```

```

0103          *
0104          *****
0105          *
                                INSERT  HEADING
0106 P000E 5844  HED  RTJ* FILSP  TO FILL BUFFER WITH SPACE
0107 P000F 000E  EQU  NOPAR(HED)
0108 P000F C000  H1  LDA  =ANE  INSERT  'NEW'
0109 P0010 4E45
0110 P0011 6822  STA* BUF+4
0110 P0012 0000  LDA  =AW
                                N6700109
                                N6700110
0111 P0014 6820  STA* BUF+5
0112 P0015 0000  LDA  =AOL  INSERT  'OLD'
0113 P0016 4F4C
0113 P0017 6828  STA* BUF+16
0114 P0018 0000  LDA  =AD
                                N6700113
                                N6700114
0115 P001A 6826  STA* BUF+17
0116 P001B 0843  LDA* MESTB  GET BUFFER LOC. AND SIZE FOR PRINT
0117 P001C E843  LDQ* MESTB+1
0118 P001D 5802  JSTPNT RTJ* PNT
0119 P001E 1846  JMP* GETPAR
                                N6700115
                                N6700116
                                N6700117
                                N6700118
                                N6700119

```

```

0121          *****
0122 P001F 0B00  PNT  NOP 0          ENTRY
0123 P0020 6808  STA* MB
0124 P0021 4806  STQ* SIZ
                                N6700121
                                N6700122
                                N6700123
                                N6700124

```

```

0126          *
0127 P0022 54F4  OUTMES RTJ- (AMONI)  OUTPUT DATA
0128 P0023 0D07  WRCD1 ADC  $D00#CHRSLV  F-WRITE
                                N6700126
                                N6700127
                                N6700128

```


0129	P0024	0007		ADC	RT1-WRCD1	RETURN	N6700129
0130	P0025	0000		NUM	0	THREAD	N6700130
0131	P0026	0000	OTLU	NUM	0	LU (TO BE FILLED)	N6700131
0132	P0027	0015	SIZ	NUM	21	SIZE	N6700132
0133	P0028	000C	MB	ADC	BUF-WRCD1	BUFFER	N6700133
0134	P0029	14EA		JMP-	(ADISF)		N6700134
0136			*			RETURN FROM PRINT, CHECK FOR ERROR/NEXT STEP	N6700136
0137	P002A	0171	RT1	SQM	BAD		N6700137
0138	P002B	1CF3		JMP*	(PNT)	RETURN TO CALLER	N6700138
0139	P002C	187B	BAD	JMP*	IOE		N6700139
0141			*			CONSTANTS AND STORAGE	N6700141
0142	P002D	0000	BASE	NUM	0		N6700142
0143	P002E	0000	EXTMSG	NUM	0		N6700143
0144			*			MESSAGE	N6700144
0145	P002F	2020	BUF	ALF	17,		N6700145
	P0030	2020					
	P0031	2020					
	P0032	2020					
	P0033	2020					
	P0034	2020					
	P0035	2020					
	P0036	2020					
	P0037	2020					
	P0038	2020					
	P0039	2020					
	P003A	2020					
	P003B	2020					
	P003C	2020					
	P003D	2020					
	P003E	2020					
	P003F	2020					
0146	P0040	2020		ALF	5,		N6700146
	P0041	2020					
	P0042	2020					
	P0043	2020					
	P0044	2020					
0147		0016		EQU	MES1(*-BUF)		N6700147
0148	P0045	5645	ME2	ALF	4,VERIFY		N6700148
	P0046	5249					
	P0047	4659					
	P0048	2020					
0149		0004		EQU	MES2(*-ME2)		N6700149
0150	P0049	4442	ME3	ALF	9,08 REQUEST ABORT		N6700150
	P004A	2052					
	P004B	4551					
	P004C	5545					
	P004D	5354					
	P004E	2041					
	P004F	424F					
	P0050	5254					
	P0051	2020					

```

0151      0009      EQU  MES3(*-ME3)                                N6700151
0153      *
0154      P0052 0B00      FILSP  NOP  0          FILL BUFFER WITH SPACE
0155      P0053 0C14      ENQ    20          ENTRY
0156      P0054 C000      LDA    =A          FILL BUFFER WITH SPACE
0157      P0055 2020
0157      P0056 6AD8      FIL1   STA*  BUF,Q
0158      P0057 00FE      INQ    -1
0159      P0058 0171      SQM    FIL3
0160      P0059 18FC      JMP*  FIL1
0161      P005A 1CF7      FIL3   JMP*  (FILSP)      EXIT                                N6700161

0163      P005B 0000      NEWVA  NUM  0                                N6700163
0164      P005C 0000      OLDVA  NUM  0                                N6700164
0165      P005D 0000      COUNT  NUM  0                                N6700165
0166      P005E 000C      MESTB  ADC  BUF-WRCD1                            N6700166
0167      P005F 0016      ADC    MES1                                N6700167
0168      P0060 0022      ADC    ME2-WRCD1                            N6700168
0169      P0061 0004      ADC    MES2                                N6700169
0170      P0062 0026      ADC    ME3-WRCD1                            N6700170
0171      P0063 0009      ADC    MES3                                N6700171
    
```

```

0173      *
0174      ****
0175      *
0176      P0064 C09B      GETPAR  LDA*  (FLCVDB)      GET NEW VALUE ADDRESS
0177      P0065 889A      ADD*  FLCVDB
0178      P0066 68F4      STA*  NEWVA
0179      P0067 D898      RAO*  FLCVDB      BUMP INDEX TO NEXT PARAMETER
0180      P0068 EC97      LDQ*  (FLCVDB)
0181      P0069 F896      ADQ*  FLCVDB
0182      P006A C622      LDA-  (ZERO),Q
0183      P006B 68F0      STA*  OLDVA
0184      P006C D893      RAO*  FLCVDB      SET EXIT                                N6700184
    
```

```

0186      *
0187      *****
0188      P006D 54F4      LSP12  RTJ-  (AMONI)
0189      P006E 1547      LSPCAL  ADC  $1540+CHRSLV
0190      P006F 0006      ADC  LSPACE-LSPCAL
0191      P0070 0000      NUM    0
0192      P0071 0000      LSP13  NUM  0          CORE LOCATION OF REQUESTED SPACE
0193      P0072 0708      ADC  FLOATZ
0194      P0073 14EA      JMP-  (ADISP)
0195      *
0196      P0074 0162      LSPACE  SQP  LSP15      SPACE BE GRANTED, DO SOMETHING
0197      P0075 1832      JMP*  IOE          TO ERROR (I/O ERROR)
0198      P0076 0000      BUFADD  NUM  0
0199      *
    
```

```

0200 P0077 4816 LSP15 STQ* LSP25
0201 P0078 4858 STQ* LSP40
0202 P0079 482D STQ* LSP31
0203 P007A 5801 RTJ* SELF
0204 P007B 0B00 SELF NOP 0
0205 P007C C8FE LDA* SELF
0206 P007D 0928 INA LSP30-SELF
0207 P007E 680B STA* LSP24
0208 P007F C813 LDA* OFTB
0209 P0080 9813 SUB* OFTB+1
0210 P0081 88AC ADD* EXTMSG
0211 P0082 B822 TRA Q
0212 P0083 C811 LDA* FLTADD
0213 P0084 5622 RTJ- (ZERO),Q
0214 P0085 680A STA* LSP26
0215 P0086 4808 STQ* LSP26-1
0216 P0087 54F4 RTJ- (AMONI)
0217 P0088 0807 LSP20 ADC $800+CHRSLV
0218 P0089 0000 LSP24 NUM 0
0219 P008A 0000 NUM 0
0220 P008B 08C2 ADC MASSLU
0221 P008C 0708 ADC FLOATZ
0222 P008D 0000 LSP25 NUM 0
0223 P008E 0000 NUM 0
0224 P008F 0000 LSP26 NUM 0
0225 P0090 14EA JMP- (ADISF)
0226 P0091 0000 QSAVE NUM 0
0227 0091 P EQU REQTYPIQSAVE)

```

SET LOC. WHERE PROGRAM TO BE READ

GENERATE RETURN ADD.

GENERATE "MMADDR" LOCATION

GET FLOAT PACKAGE SECTOR-ADD.
TO "MMADDR" FOR MM ADD. CONVERSION
SAVE LSB

RETURN (TO BE FILLED)
THREAD

FLOAT PACKAGE ADD. (TO BE FILLED)

SECTOR ADD. (TO BE FILLED)

```

0. "MMADDR"
1. "MSG"
D- OR F-FORMAT CONVERSION -- DOUBLE

```

ENTRY

ASSEMBLE INTO 2-CHAR./WORD

CHECK IF ALL IN

RETURN

MM TRANSFER OK, SKIP

```

N6700200
N6700201
N6700202
N6700203
N6700204
N6700205
N6700206
N6700207
N6700208
N6700209
N6700210
N6700211
N6700212
N6700213
N6700214
N6700215
N6700216
N6700217
N6700218
N6700219
N6700220
N6700221
N6700222
N6700223
N6700224
N6700225
N6700226
N6700227

```

```

N6700229
N6700230
N6700231
N6700232

```

```

N6700234
N6700235
N6700236
N6700237
N6700238
N6700239
N6700240
N6700241
N6700242
N6700243
N6700244
N6700245
N6700246
N6700247
N6700248

```

```

0229 *
0230 P0092 7FFF X OFTB ADC MMADDR
0231 P0093 7FFF X ADC MSG
0232 P0094 7FFF X FLTADD ADC DCONV

0234 *
0235 P0095 0B00 SAVDA NOP 0
0236 P0096 60FF STA- I
0237 P0097 0C00 ENQ 0
0238 P0098 CA5C SAV1 LDA* VALUE+3,Q
0239 P0099 0FC8 ALS 8
0240 P009A 8A5B ADD* VALUE+4,Q
0241 P009B 6993 STA* BUF,I
0242 P009C 0002 INQ 2
0243 P009D 0814 TRQ A
0244 P009E 09EB INA -20
0245 P009F 0122 SAV SAP SAV2
0246 P00A0 00FF RAO- I
0247 P00A1 18F6 JMP* SAV1
0248 P00A2 1CF2 SAV2 JMP* (SAVDA)

```

```

0250 *
0251 P00A3 0166 LSP30 SQP LSP35

```

```

N6700250
N6700251

```

```

0252 P00A4 54F4 RTJ- (AMONI) RELEASE CORE
0253 P00A5 1800 NUM $1800
0254 P00A6 0000 LSP31 NUM 0
0255 P00A7 E885 IOE LDQ* BASE I/O ERROR ENCOUNTERED , EXIT
0256 P00A8 E204 LDQ- IOERR,Q EXIT TO "IOERR"
0257 P00A9 1622 JMP- (ZERO),Q
0258 *
0259 *****
0260 *
0261 P00AA E8B2 LSP35 LDQ* COUNT
0262 P00AB CEAF LDA* (NEWVA),Q GET NEW VALUE FOR CONVERSION
0263 P00AC 6845 STA* VALUE
0264 P00AD 0D01 INQ 1
0265 P00AE CEAC LDA* (NEWVA),Q
0266 P00AF 6843 STA* VALUE+1
0267 P00B0 0D01 INQ 1
0268 P00B1 CEA9 LDA* (NEWVA),Q
0269 P00B2 6841 STA* VALUE+2
0270 P00B3 5CF2 RTJ* (LSP31)
0271 P00B4 003D ADC VALUE-*
0272 P00B5 0A00 ENA 0 MOVE NEW VALUE IN D-FORMAT INTO OUTPUT
0273 P00B6 58DE RTJ* SAVDA
0274 *
0275 P00B7 E8A5 LDQ* COUNT
0276 P00B8 CEA3 LDA* (OLDVA),Q GET OLD VALUE AND CONVERT
0277 P00B9 6838 STA* VALUE
0278 P00BA 0D01 INQ 1
0279 P00BB CEAD LDA* (OLDVA),Q
0280 P00BC 6836 STA* VALUE+1
0281 P00BD 0D01 INQ 1
0282 P00BE CE9D LDA* (OLDVA),Q
0283 P00BF 6834 STA* VALUE+2
0284 P00C0 5CE5 RTJ* (LSP31)
0285 P00C1 0030 ADC VALUE-*

0287 * RETURN FROM CONVERSION (FLOAT TO D-FORMAT)
0288 P00C2 0A0C ENA 12
0289 P00C3 58D1 RTJ* SAVDA
0290 P00C4 C899 TOPT LDA* MESTB
0291 P00C5 E899 LDQ* MESTB+1
0292 P00C6 5800 RTJ PNT
0293 P00C7 FF57
0294 P00C8 C894 LDA* COUNT UP DATE NO. BEEN CONVERTED COUNT BY 2
0295 P00C9 0903 INA 3
0296 P00CA 6892 STA* COUNT
0297 P00CB 98C5 SUB* QSAVE
0298 P00CC 0101 SAZ ENDCON TO RELEASE CORE,... ETC.
0299 P00CD 18DC JMP* LSP35 NOT DONE, TO REPEAT

0300 *
0301 P00CE 54F4 ENDCON RTJ- (AMONI) RELEASE CORE
0302 P00CF 1800 NUM $1800

```

```

N6700252
N6700253
N6700254
N6700255
N6700256
N6700257
N6700258
N6700259
N6700260
N6700261
N6700262
N6700263
N6700264
N6700265
N6700266
N6700267
N6700268
N6700269
N6700270
N6700271
N6700272
N6700273
N6700274
N6700275
N6700276
N6700277
N6700278
N6700279
N6700280
N6700281
N6700282
N6700283
N6700284
N6700285
N6700287
N6700288
N6700289
N6700290
N6700291
N6700292
N6700293
N6700294
N6700295
N6700296
N6700297
N6700298
N6700300
N6700301
N6700302

```

```

0303 P0000 0000 LSP40 NUM 0 ADD. (TO BE FILLED) N6700303
0305 * REQUEST CONFIRMATION N6700305
0306 P0001 C88E NEDCON LDA* MESTB+2 N6700306
0307 P0002 E88E LDQ* MESTB+3 N6700307
0308 P0003 5800 RTJ PNT N6700308
P0004 FF4A
0309 P0005 0A00 ENA 0 N6700309
0310 P0006 68BA STA* REQ TYP N6700310
0311 P0007 54F4 RTJ- (AMONI) N6700311
0312 P0008 0907 FRDCD ADC $900*CHRSLV F-READ N6700312
0313 P0009 0007 ADC GETIN-FRDCD N6700313
0314 P000A 0000 NUM 0 N6700314
0315 P000B 18FD ADC INCOM N6700315
0316 P000C 0001 NUM 1 1 WORD N6700316
0317 P000D 7FB8 ADC REQ TYP-FRDCD N6700317
0318 P000E 14EA JMP- (ADISP) N6700318
0319 * N6700319
0320 P000F 0161 GETIN SQP INOK N6700320
0321 P00E0 18C6 JMP* IOE N6700321
0322 P00E1 C000 INOK LDA =AOK N6700322
P00E2 4F4B
0323 P00E3 98AD SUB* REQ TYP N6700323
0324 P00E4 0112 SAN GIVEUP ABORT REQUEST AFTER PRINTING MESSAGE N6700324
0325 P00E5 1C00 JMP (FLCVDB) RETURN TO CALLER N6700325
P00E6 FF19
0326 P00E7 C800 GIVEUP LDA MESTB+4 TO PRINT ABORT MESSAGE N6700326
P00E8 FF79
0327 P00E9 E800 LDQ MESTB+5 N6700327
P00EA FF78
0328 P00EB 5800 RTJ PNT N6700328
P00EC FF32
0329 P00ED E800 LDQ BASE N6700329
P00EE FF3E
0330 P00EF E203 LDQ- SOMMOR,Q GET "SOMMOR" ADDRESS AND EXIT N6700330
0331 P00F0 1622 JMP- (ZERO),Q N6700331
0333 * N6700333
0334 P00F1 0018 VALUE BZS VALUE(24) N6700334

0336 * N6700336
0337 0002 P EQU SU14(* /96) N6700337
0338 0003 P EQU SB14(SU14+1) N6700338
0339 0120 P EQU DB14(SB14*96) N6700339
0340 P0109 0017 BSS (DB14-*) N6700340
0341 END N6700341

```

EQUIVALENCES

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0092, 0236, 0246
0051	AMONI	00F4	(000244) 0127, 0188, 0216, 0252, 0301, 0311
0051	ADISP	00EA	(000234) 0134, 0194, 0225, 0318
0051	LPMSK	0002	(000002)
0051	NZERO	0012	(000018)
0051	ZROBIT	0033	(000051)
0052	FIVE	0043	(000067)
0052	SIX	0044	(000068)
0052	ZERO	0022	(000034) 0182, 0213, 0257, 0331
0052	ONEBIT	0023	(000035) 0096
0052	SIXTEN	0027	(000039)
0053	COMMA	002C	(000044)
0053	SLASH	002F	(000047)
0053	ASTRIC	002A	(000042)
0054	EIGHT	0026	(000038)
0054	NINE	0045	(000069)
0054	THREE	0004	(000004)
0054	ONE	0003	(000003)
0054	TWO	0024	(000036)
0055	TEN	0046	(000070)
0056	MASSLU	08C2	(002242) 0220
0057	INCOM	18FD	(006397) 0315
0058	CHRSLV	0007	(000007) 0128, 0189, 0217, 0312
0059	EXTBV4	00E9	(000233)
0062	GETFLD	0002	(000002)
0063	ASCHEX	0003	(000003)
0064	GETINT	0008	(000008)
0065	FLOATZ	0708	(001800) 0193, 0221
0068	HANDLE	0001	(000001)
0069	BMSG	0002	(000002) 0098
0070	SOMMOR	0003	(000003) 0330
0071	IOERR	0004	(000004) 0256
0072	LISTLU	0005	(000005)
0073	COMOLU	0006	(000006) 0095
0074	NEWMLU	0007	(000007)
0075	PROG1	0008	(000008)
0076	PROG2	0009	(000009)
0077	BITFLG	000A	(000010)

0078	BUFCNT	000B	(000011)	
0079	FIELD	000C	(000012)	
0080	SLASHF	0010	(000016)	
0081	BUFEMT	0011	(000017)	
0082	BUFFER	0012	(000018)	0093
0147	MES1	0016	(000022)	0167
0149	MES2	0004	(000004)	0169
0151	MES3	0009	(000009)	0171

SYMBOLS

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	FLCVDB	0000	0043, 0176, 0177, 0179, 0180, 0181, 0184, 0325
0106	HED	000E	0107
0107	NOPAR	000E	
0108	H1	000F	
0118	JSTPNT	001D	
0122	PNT	001F	0118, 0138, 0292, 0308, 0328
0127	OUTMES	0022	
0128	WRCD1	0023	0129, 0133, 0166, 0168, 0170
0131	OTLU	0026	0097
0132	SIZ	0027	0124
0133	MB	0028	0123
0137	RT1	002A	0129
0139	BAD	002C	0137
0142	BASE	002D	0091, 0255, 0329
0143	EXTMSG	002E	0099, 0210
0145	BUF	002F	0109, 0111, 0113, 0115, 0133, 0147, 0157, 0166, 0241
0148	ME2	0045	0149, 0168
0150	ME3	0049	0151, 0170
0154	FILSP	0052	0106, 0161
0157	FIL1	0056	0160
0161	FIL3	005A	0159
0163	NEWVA	005B	0178, 0262, 0265, 0268
0164	OLDVA	005C	0183, 0276, 0279, 0282
0165	COUNT	005D	0101, 0261, 0275, 0293, 0295
0166	MESTB	005E	0116, 0117, 0290, 0291, 0306, 0307, 0326, 0327
0176	GETPAR	0064	0119
0188	LSP12	006D	
0189	LSPCAL	006E	0190
0192	LSP13	0071	
0196	LSPACE	0074	0190
0198	BUFADD	0076	0094
0200	LSP15	0077	0196
0204	SELF	007B	0203, 0205, 0206
0217	LSP20	0088	
0218	LSP24	0089	0207
0222	LSP25	008D	0200
0224	LSP26	008F	0214, 0215
0226	QSAVE	0091	0090, 0227, 0296
0227	REQTYP	0091	0310, 0317, 0323
0230	OFTB	0092	0208, 0209
0232	FLTADD	0094	0212

0235 SAVDA 0095
 0238 SAV1 0098
 0248 SAV2 00A2
 0251 LSP30 00A3
 0254 LSP31 00A6
 0255 IOE 00A7
 0261 LSP35 00AA
 0290 TOPT 00C4
 0301 ENDCON 00CE
 0303 LSP40 00D0
 0306 NEDCON 00D1
 0312 FRDCD 00D8
 0320 GETIN 00DF
 0322 INOK 00E1
 0326 GIVEUP 00E7
 0334 VALUE 00F1
 0337 SU14 0002
 0338 SB14 0003
 0339 DB14 0120

0248, 0273, 0289
 0247
 0245
 0206
 0202, 0270, 0284
 0139, 0197, 0321
 0251, 0298

0297
 0201

0313, 0317

0313
 0320
 0324
 0238, 0240, 0263, 0266, 0269, 0271, 0277, 0280, 0283, 0285
 0338
 0339
 0340

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0046	DCONV.	0094	0232
0047	MMADDR	0092	0230
0048	MSG	0093	0231

*** ALPHABETICAL SORT OF SYMBOLS ***

ADISP	0051	AMONI	0051	ASCHEX	0063	ASTRIC	0053	BAD	0139	BASE	0142	BITFLG	0077	BMSG	0069	BUF	0145
BUFADD	0198	BUFCNT	0078	BUFEMT	0081	BUFFER	0082	CHRSLV	0058	COMMA	0053	COMOLU	0073	COUNT	0165	DB14	0339
DCONV	0046	EIGHT	0054	ENDCON	0301	EXTBV4	0059	EXTMSG	0143	FIELD	0079	FIL1	0157	FIL3	0161	FILSP	0154
FIVE	0052	FLCVDB	0043	FLOATZ	0065	FLTADD	0232	FRDCD	0312	GETFLD	0062	GETIN	0320	GETINT	0064	GETPAR	0176
GIVEUP	0326	H1	0108	HANDLE	0068	HED	0106	I	0000	INCOM	0057	INOK	0322	IOE	0255	IOERR	0071
JSTPNT	0118	LISTLU	0072	LPMSK	0051	LSP12	0188	LSP13	0192	LSP15	0200	LSP20	0217	LSP24	0218	LSP25	0222
LSP26	0224	LSP30	0251	LSP31	0254	LSP35	0261	LSP40	0303	LSPACE	0196	LSPCAL	0189	MASSLU	0056	MB	0133
ME2	0148	ME3	0150	MES1	0147	MES2	0149	MES3	0151	MESTB	0166	MMADDR	0047	MSG	0048	NEDCON	0306
NEWMLU	0074	NEWVA	0163	NINE	0054	NOPAR	0107	NZERO	0051	OFTB	0230	OLDVA	0164	ONE	0054	ONEBIT	0052
OTLU	0131	OUTMES	0127	PNT	0122	PROG1	0075	PROG2	0076	QSAVE	0226	REQTYP	0227	RT1	0137	SAV1	0238
SAV2	0248	SAVDA	0235	SB14	0338	SELF	0204	SIX	0052	SIXTEN	0052	SIZ	0132	SLASH	0053	SLASHF	0080
SOMMOR	0070	SU14	0337	TEN	0055	THREE	0054	TOPT	0290	TWO	0054	VALUE	0334	WRCD1	0128	ZERO	0052

SUMMARY-110N6800001

0001
0002
0003
0004
0005
0006
0007
0008
0009
0010
0011
0012
0013
0014
0015
0016
0017
0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028

```

NAM  NAMEMS  DECK-ID N68  MSOS 5.0
*    MASS STORAGE OPERATING SYSTEM VERSION 5.0
*    SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
*    COPYRIGHT CONTROL DATA CORPORATION 1976
COMAND MAC A
      LOC X,N
      ADC N
      ALF A
      EQU N ('X'-1)
HEADNG MAC C
      LOC Y,M
      ADC M
      NUM 0
      ALF C
      EQU M ('Y'-1)

```

```

*****
*
* ROUTINE CONTAINS ALL COMMANDS OF
* THIS DEBUG, SOME INFORMATION IS
* ASSOCIATED WITH COMMAND
*
*****

```

0030
0031
0032
0033
0034

```

*
* *****
* MARCO ---- "COMAND" IS FOR DEBUG COMMAND LIST
*
* *****
* "HEADNG" IS FOR DEBUG HEADING
*

```

0036
0037
0038
0039
0040
0041
0042

```

*
* *****
* MESSAGE FORMAT
*
* COMMAND NAME --- DESCRIPTION
*
* *****
* MESSAGE MUST BE LIMITED TO 20 WORDS MAX.
*

```

0044
0045

```

*
* ENT NAMEMS ENTRY NAME

```

0047
0048
0049

```

*
* *****
* *****
* *****
* *****

```

N6800002
N6800003
N6800004
N6800005
N6800006
N6800007
N6800008
N6800009
N6800010
N6800011
N6800012
N6800013
N6800014
N6800015
N6800016
N6800017
N6800018
N6800019
N6800020
N6800021
N6800022
N6800023
N6800024
N6800025
N6800026
N6800027
N6800028

N6800030
N6800031
N6800032
N6800033
N6800034

N6800036
N6800037
N6800038
N6800039
N6800040
N6800041
N6800042

N6800044
N6800045

N6800047
N6800048
N6800049

0057 P002B 4154
 0058 P002C 4120
 0058 P002D 4C4F
 P002E 4144
 P002F 494E
 P0030 4720
 000B

COMAND ' LHX -- LOAD HEX CORE.'

N6800058

0058 P0031 000B
 0058 P0032 204C
 P0033 4858
 P0034 202D
 P0035 2D20
 P0036 4C4F
 P0037 4144
 P0038 2048
 P0039 4558
 P003A 2043
 P003B 4F52
 P003C 4520
 000B

COMAND ' LIT -- LOAD CORE INTEGER.'

N6800059

0058 P003D 000D
 0059 P003E 204C
 0059 P003F 4954
 P0040 202D
 P0041 2D20
 P0042 4C4F
 P0043 4144
 P0044 2043
 P0045 4F52
 P0046 4520
 P0047 494E
 P0048 5445
 P0049 4745
 P004A 5220
 000D

COMAND ' LAS -- LOAD ASCII TO CORE.'

N6800060

0059 P004B 000D
 0060 P004C 204C
 0060 P004D 4153
 P004E 202D
 P004F 2D20
 P0050 4C4F
 P0051 4144
 P0052 2041
 P0053 5343
 P0054 4949
 P0055 2054
 P0056 4F20
 P0057 434F
 P0058 5245
 000D

0060

0061
 0061 P0059 0011
 0061 P005A 204C
 P005B 5350
 P005C 202D
 P005D 2020
 P005E 4C4F
 P005F 4144
 P0060 2043
 P0061 4F52
 P0062 4520
 P0063 5349
 P0064 4E47
 P0065 4C45
 P0066 2050
 P0067 5245
 P0068 4349
 P0069 5349
 P006A 4F4E

COMAND ' LSP -- LOAD CORE SINGLE PRECISION.'

N6800061

0061
 0062 P006B 000C
 0062 P006C 204C
 0062 P006D 4450
 P006E 202D
 P006F 2D20
 P0070 4C4F
 P0071 4144
 P0072 2043
 P0073 4F52
 P0074 4520
 P0075 444F
 P0076 5542
 P0077 4C45
 0062 000C

COMAND ' LDP -- LOAD CORE DOUBLE.'

N6800062

0062
 0063 P0078 000B
 0063 P0079 0000
 0063 P007A 2020
 P007B 2020
 P007C 2032
 P007D 2044
 P007E 4154
 P007F 4120
 P0080 4455
 P0081 4050
 P0082 494E
 P0083 4720
 0063 000B

HEADNG ' 2 DATA DUMPING.'

N6800063

0063
 0064 P0084 000B
 0064 P0085 2044
 0064 P0086 5043
 P0087 202D

COMAND ' DPC -- DUMP CORE HEX.'

N6800064

P0088: 2D20
 P0089: 4455
 P008A: 4D50
 P008B: 2043
 P008C: 4F52
 P008D: 4520
 P008E: 4845
 P008F: 5820
 0064 000B

COMAND ' DIC -- DUMP CORE INTEGER.'

N6800065

0065 P0090 0000
 P0091 2044
 P0092 4943
 P0093 2020
 P0094 2D20
 P0095 4455
 P0096 4D50
 P0097 2043
 P0098 4F52
 P0099 4520
 P009A 494E
 P009B 5445
 P009C 4745
 P009D 5220
 0055 0000

COMAND ' DAS -- DUMP CORE ASCII.'

N6800066

0066 P009E 000C
 P009F 2044
 P00A0 4153
 P00A1 2020
 P00A2 2D20
 P00A3 4455
 P00A4 4D50
 P00A5 2043
 P00A6 4F52
 P00A7 4520
 P00A8 4153
 P00A9 4349
 P00AA 4920
 0066 000C

COMAND ' DSP -- DUMP CORE SINGLE.'

N6800067

0067 P00AB 000C
 P00AC 2044
 P00AD 5350
 P00AE 2020
 P00AF 2D20
 P00B0 4455
 P00B1 4D50
 P00B2 2043
 P00B3 4F52
 P00B4 4520
 P00B5 5349
 P00B6 4E47
 P00B7 4C45

0067 000C
 0068
 0068 P00B8 000C
 P00B9 2044
 P00BA 4450
 P00BB 202D
 P00BC 2020
 P00BD 4455
 P00BE 4050
 P00BF 2043
 P00C0 4F52
 P00C1 4520
 P00C2 444F
 P00C3 5542
 P00C4 4C45
 0068 000C

COMAND * DDP -- DUMP CORE DOUBLE.*

N6800068

0070
 0071
 0071 P00C5 0012
 0071 P00C6 0000
 0071 P00C7 2020
 P00C8 2024
 P00C9 2424
 P00CA 2040
 P00CB 4153
 P00CC 5320
 P00CD 5354
 P00CE 4F52
 P00CF 4147
 P00D0 4520
 P00D1 4F50
 P00D2 4552
 P00D3 4154
 P00D4 494F
 P00D5 4E53
 P00D6 2024
 P00D7 2424
 0071 0012

*
 HEADNG * TYPE 2 --- MASS STORAGE DATA
 \$\$\$ MASS STORAGE OPERATIONS \$\$\$.*

N6800070
N6800071

0071
 0072
 0072 P00D8 0011
 0072 P00D9 0000
 0072 P00DA 2020
 P00DB 2020
 P00DC 2031
 P00DD 2044
 P00DE 4154
 P00DF 4120
 P00E0 4C4F
 P00E1 4144
 P00E2 494E
 P00E3 472C
 P00E4 2040

HEADNG * 1 DATA LOADING, MASS MEMORY.*

N6800072

POOE5 4153
 POOE6 5320
 POOE7 4045
 POOE8 404F
 POOE9 5259

0072 0011

COMAND ' LHM -- LOAD MM HEX.'

N6800073

0073 POOEA 000A
 0073 POOEB 204C
 POOEC 484D
 POOED 202D
 POOEE 2020
 POOEF 4C4F
 POOF0 4144
 POOF1 204D
 POOF2 4D20
 POOF3 4845
 POOF4 5820

0073 000A

COMAND ' LIM -- LOAD MM INTEGER.'

N6800074

0074 POOF5 000C
 0074 POOF6 204C
 0074 POOF7 494D
 POOF8 202D
 POOF9 2020
 POOFA 4C4F
 POOFB 4144
 POOFC 204D
 POOFD 4D20
 POOFE 494E
 POOFF 5445
 PO100 4745
 PO101 5220

0074 000C

COMAND ' LAM -- LOAD MM ASCII.'

N6800075

0075 PO102 000B
 0075 PO103 204C
 0075 PO104 414D
 PO105 202D
 PO106 2020
 PO107 4C4F
 PO108 4144
 PO109 204D
 PO10A 4D20
 PO10B 4153
 PO10C 4349
 PO10D 4920

0075 000B

COMAND ' LSM -- LOAD MM SINGLE.'

N6800076

0076 PO10E 000B
 0076 PO10F 204C
 0076 PO110 534D
 PO111 202D
 PO112 2020

P0113 4C4F
 P0114 4144
 P0115 2040
 P0116 4D20
 P0117 5349
 P0118 4E47
 P0119 4C45
 000B

COMAND * LDM -- LOAD MM DOUBLE.*

N6800077

0076
 0077
 0077
 0077

P011A 000B
 P011B 204C
 P011C 444D
 P011D 202D
 P011E 2D20
 P011F 4C4F
 P0120 4144
 P0121 204D
 P0122 4D20
 P0123 444F
 P0124 5542
 P0125 4C45
 000B

HEADNG * 2 DATA LOADING, CORE IMAGE.*

N6800078

0077
 0078
 0078
 0078
 0078

P0126 0011
 P0127 0000
 P0128 2020
 P0129 2020
 P012A 2032
 P012B 2044
 P012C 4154
 P012D 4120
 P012E 4C4F
 P012F 4144
 P0130 494E
 P0131 472C
 P0132 2043
 P0133 4F52
 P0134 4520
 P0135 494D
 P0136 4147
 P0137 4520
 0011

COMAND * LHC -- LOAD CORE IMAGE HEX.*

N6800079

0078
 0079
 0079
 0079

P0138 000E
 P0139 204C
 P013A 4843
 P013B 202D
 P013C 2D20
 P013D 4C4F
 P013E 4144
 P013F 2043
 P0140 4F52
 P0141 4520
 P0142 494D

P0143 4147
 P0144 4520
 P0145 4845
 P0146 5820
 000E

0079
 0080
 0080
 0080

COMAND * LIC -- LOAD CORE IMAGE INTEGER.*

N6800080

P0147 0010
 P0148 204C
 P0149 4943
 P014A 202D
 P014B 2020
 P014C 4C4F
 P014D 4144
 P014E 2043
 P014F 4F52
 P0150 4520
 P0151 494D
 P0152 4147
 P0153 4520
 P0154 494E
 P0155 5445
 P0156 4745
 P0157 5220
 0010

0080
 0081
 0081
 0081

COMAND * LAC -- LOAD CORE IMAGE ASCII.*

N6800081

P0158 000F
 P0159 204C
 P015A 4143
 P015B 202D
 P015C 2020
 P015D 4C4F
 P015E 4144
 P015F 2043
 P0160 4F52
 P0161 4520
 P0162 494D
 P0163 4147
 P0164 4520
 P0165 4153
 P0166 4349
 P0167 4920
 000F

0081
 0082
 0082
 0082
 0082

HEADNG * 3 DATA LOADING, ORDINAL.*

N6800082

P0168 000F
 P0169 0000
 P016A 2020
 P016E 2020
 P016C 2033
 P016D 2044
 P016E 4154
 P016F 4120
 P0170 4C4F
 P0171 4144
 P0172 494E

0082
0083
0083
0083

P0173 472C
P0174 204F
P0175 5244
P0176 494E
P0177 414C
000F

COMAND ' LHO -- LOAD ORDINAL HEX.'

N6800083

0083
0084
0084
0084

P0178 000C
P0179 204C
P017A 484F
P017B 202D
P017C 2020
P017D 4C4F
P017E 4144
P017F 204F
P0180 5244
P0181 494E
P0182 414C
P0183 2048
P0184 4558
000C

COMAND ' LIO -- LOAD ORDINAL INTEGER.'

N6800084

0084
0085
0085
0085

P0185 000E
P0186 204C
P0187 494F
P0188 202D
P0189 2020
P018A 4C4F
P018B 4144
P018C 204F
P018D 5244
P018E 494E
P018F 414C
P0190 2049
P0191 4E54
P0192 4547
P0193 4552
000E

COMAND ' LAO -- LOAD ORDINAL ASCII.'

N6800085

P0194 000D
P0195 204C
P0196 414F
P0197 202D
P0198 2020
P0199 4C4F
P019A 4144
P019B 204F
P019C 5244
P019D 494E
P019E 414C
P019F 2041
P01A0 5343
P01A1 4949

0085 000D
 0086
 0086 P01A2 000E
 0086 P01A3 204C
 P01A4 534F
 P01A5 202D
 P01A6 2020
 P01A7 4C4F
 P01A8 4144
 P01A9 204F
 P01AA 5244
 P01AB 494E
 P01AC 414C
 P01AD 2053
 P01AE 494E
 P01AF 474C
 P01B0 4520
 000E

COMAND ' LSO -- LOAD ORDINAL SINGLE.'

N6800086

0086
 0087
 0087 P01B1 000E
 0087 P01B2 204C
 P01B3 444F
 P01B4 202D
 P01B5 2D20
 P01B6 4C4F
 P01B7 4144
 P01B8 204F
 P01B9 5244
 P01BA 494E
 P01BB 414C
 P01BC 2044
 P01BD 4F55
 P01BE 424C
 P01EF 4520
 000E

COMAND ' LOO -- LOAD ORDINAL DOUBLE.'

N6800087

0087
 0088
 0088 P01C0 0011
 0088 P01C1 0000
 0088 P01C2 2020
 P01C3 2020
 P01C4 2034
 P01C5 2044
 P01C6 4154
 P01C7 4120
 P01C8 4455
 P01C9 4050
 P01CA 494E
 P01CB 472C
 P01CC 204D
 P01CD 4153
 P01CE 5320
 P01CF 4D45
 P01D0 4D4F
 P01D1 5259

HEADNG ' 4 DATA DUMPING, MASS MEMORY.'

N6800088

0088 0011
 0089
 0089 P01D2 000A
 0089 P01D3 2044
 P01D4 4048
 P01D5 2020
 P01D6 2020
 P01D7 4455
 P01D8 4050
 P01D9 2040
 P01DA 4020
 P01DB 4845
 P01DC 5820

COMAND ' DMH -- DUMP MM HEX.'

N6800089

0089 000A
 0090
 0090 P01DD 000C
 0090 P01DE 2044
 P01DF 4049
 P01E0 2020
 P01E1 2020
 P01E2 4455
 P01E3 4050
 P01E4 2040
 P01E5 4020
 P01E6 494E
 P01E7 5445
 P01E8 4745
 P01E9 5220
 0090 000C

COMAND ' DMI -- DUMP MM INTEGER.'

N6800090

0091
 0091 P01EA 000B
 0091 P01EB 2044
 P01EC 4041
 P01ED 2020
 P01EE 2020
 P01EF 4455
 P01F0 4050
 P01F1 2040
 P01F2 4020
 P01F3 4153
 P01F4 4349
 P01F5 4920
 0091 000B

COMAND ' DMA -- DUMP MM ASCII.'

N6800091

0092
 0092 P01F6 000B
 0092 P01F7 2044
 P01F8 4053
 P01F9 2020
 P01FA 2020
 P01FB 4455
 P01FC 4050
 P01FD 2040
 P01FE 4020
 P01FF 5349

COMAND ' DMS -- DUMP MM SINGLE.'

N6800092

0092 P0200 4E47
 0093 P0201 4C45
 0093 000B

COMAND ' BMD -- DUMP MM DOUBLE.'

N6800093

0093 P0202 000B
 0093 P0203 2044
 P0204 4044
 P0205 2020
 P0206 2020
 P0207 4455
 P0208 4050
 P0209 2040
 P020A 4020
 P020B 444F
 P020C 5542
 P020D 4C45
 0093 000B

COMAND ' MSD -- MASS MEMORY DUMP BY SECTOR.'

N6800094

0094 P020E 0011
 0094 P020F 2040
 0094 P0210 5344
 P0211 2020
 P0212 2020
 P0213 4041
 P0214 5353
 P0215 2040
 P0216 4540
 P0217 4F52
 P0218 5920
 P0219 4455
 P021A 4050
 P021B 2042
 P021C 5920
 P021D 5345
 P021E 4354
 P021F 4F52
 0094 0011

HEADNG ' 5 MASS STORAGE READ/WRITE.'

N6800095

0095 P0220 0010
 0095 P0221 0000
 0095 P0222 2020
 0095 P0223 2020
 P0224 2035
 P0225 2040
 P0226 4153
 P0227 5320
 P0228 5354
 P0229 4F52
 P022A 4147
 P022B 4520
 P022C 5245
 P022D 4144
 P022E 2F57
 P022F 5249

0095 P0230 5445
 0096 0010
 0096 P0231 0000
 0096 P0232 2052
 P0233 4443
 P0234 202D
 P0235 2020
 P0236 5245
 P0237 4144
 P0238 2044
 P0239 4953
 P023A 4820
 P023B 544F
 P023C 2043
 P023D 4F52
 P023E 4520
 0096 0000

COMAND ' RDC -- READ DISK TO CORE.'

N6800096

0096
 0097
 0097 P023F 0009
 0097 P0240 2052
 P0241 444B
 P0242 2020
 P0243 2020
 P0244 5245
 P0245 4144
 P0246 2044
 P0247 4953
 P0248 4820
 0097 0009

COMAND ' RDK -- READ DISK.'

N6800097

0097
 0098
 0098
 0098 P0249 0000
 P024A 2057
 P024B 4344
 P024C 202D
 P024D 2020
 P024E 5752
 P024F 4954
 P0250 4520
 P0251 434F
 P0252 5245
 P0253 2054
 P0254 4F20
 P0255 4449
 P0256 534B
 0098 0000

COMAND ' WCD -- WRITE CORE TO DISK.'

N6800098

0098
 0099
 0099
 0099 P0257 0009
 P0258 2057
 P0259 444B
 P025A 202D
 P025B 2020
 P025C 5752
 P025D 4954

COMAND ' WDK -- WRITE DISK.'

N6800099

0099 P025E 4520
 P025F 4449
 P0260 534B
 0009

0101
 0102
 0102 P0261 0011
 0102 P0262 0000
 0102 P0263 2020
 P0264 2024
 P0265 2424
 P0266 2041
 P0267 5558
 P0268 494C
 P0269 4941
 P026A 5259
 P026B 204F
 P026C 5045
 P026D 5241
 P026E 5449
 P026F 4F4E
 P0270 5320
 P0271 2424
 P0272 2420
 0011

*

HEADNG ' TYPE 3 --- MISCELLANEOUS DATA
 \$\$\$ AUXILIARY OPERATIONS \$\$\$.'

N6800101
 N6800102

0102
 0103
 0103 P0273 0011
 0103 P0274 0000
 0103 P0275 2020
 P0276 2020
 P0277 2031
 P0278 204D
 P0279 4147
 P027A 4E45
 P027B 5449
 P027C 4320
 P027D 5441
 P027E 5045
 P027F 2053
 P0280 5441
 P0281 5445
 P0282 4045
 P0283 4E54
 P0284 5320
 0011

HEADNG ' 1 MAGNETIC TAPE STATEMENTS.'

N6800103

0103
 0104
 0104 P0285 000A
 0104 P0286 2041
 P0287 4446
 P0288 2020
 P0289 2020
 P028A 4144

COMAND ' ADF -- ADVANCE FILE.'

N6800104

	P028B	5641		
	P028C	4E43		
	P028D	4520		
	P028E	4649		
	P028F	4C45		
0104		000A		
0105			COMAND	' BSF -- BACKSPACE FILE.'
				N6800105
0105	P0290	000B		
0105	P0291	2042		
0105	P0292	5346		
	P0293	202D		
	P0294	202D		
	P0295	4241		
	P0296	434B		
	P0297	5350		
	P0298	4143		
	P0299	4520		
	P029A	4649		
	P029B	4C45		
		000B		
0105			COMAND	' ADR -- ADVANCE RECORD.'
0105				N6800106
0106	P029C	000B		
0106	P029D	2041		
0106	P029E	4452		
	P029F	202D		
	P02A0	2D2D		
	P02A1	4144		
	P02A2	5641		
	P02A3	4E43		
	P02A4	4520		
	P02A5	5245		
	P02A6	434F		
	P02A7	5244		
		000B		
0106			COMAND	' BSR -- BACKSPACE RECORD.'
0107				N6800107
0107	P02A8	000C		
0107	P02A9	2042		
0107	P02AA	5352		
	P02AB	202D		
	P02AC	202D		
	P02AD	4241		
	P02AE	434B		
	P02AF	5350		
	P02B0	4143		
	P02B1	4520		
	P02B2	5245		
	P02B3	434F		
	P02B4	5244		
		000C		
0107			COMAND	' WEF -- WRITE EOF.'
0108				N6800108
0108	P02B5	0009		
0108	P02B6	2057		
0108	P02B7	4546		
	P02B8	202D		

	P02B9	2020			
	P02BA	5752			
	P02BB	4954			
	P02BC	4520			
	P02BD	454F			
	P02BE	4620			
0108		0009			
0109			COMAND	' REW -- REWIND.'	N6800109
0109	P02BF	0007			
0109	P02C0	2052			
	P02C1	4557			
	P02C2	2020			
	P02C3	2020			
	P02C4	5245			
	P02C5	5749			
	P02C6	4E44			
0109		0007			
0110			COMAND	' UNL -- UNLOAD.'	N6800110
0110	P02C7	0007			
0110	P02C8	2055			
	P02C9	4E4C			
	P02CA	2020			
	P02CB	2020			
	P02CC	554E			
	P02CD	4C4F			
	P02CE	4144			
0110		0007			
0111			COMAND	' SLD -- SELECT DENSITY.'	N6800111
0111	P02CF	0008			
0111	P02D0	2053			
0111	P02D1	4C44			
	P02D2	2020			
	P02D3	2020			
	P02D4	5345			
	P02D5	4C45			
	P02D6	4354			
	P02D7	2044			
	P02D8	454E			
	P02D9	5349			
	P02DA	5459			
0111		0008			
0112			HEADNG	' 2 CORE.'	N6800112
0112	P02DB	0007			
0112	P02DC	0000			
0112	P02DD	2020			
	P02DE	2020			
	P02DF	2032			
	P02E0	2043			
	P02E1	4F52			
	P02E2	4520			
0112		0007			
0113			COMAND	' SCN -- SEARCH CORE FOR PATTERN.'	N6800113
0113	P02E3	0010			

0113 P02E4 2053
 P02E5 434E
 P02E6 202D
 P02E7 2D20
 P02E8 5345
 P02E9 4152
 P02EA 4348
 P02EB 2043
 P02EC 4F52
 P02ED 4520
 P02EE 464F
 P02EF 5220
 P02F0 5041
 P02F1 5454
 P02F2 4552
 P02F3 4E20
 0113 0010

COMAND ' SMN -- SEARCH MM PATTERN.'

N6800114

0114 P02F4 0000
 0114 P02F5 2053
 0114 P02F6 404E
 P02F7 202D
 P02F8 2D20
 P02F9 5345
 P02FA 4152
 P02FB 4348
 P02FC 2040
 P02FD 4020
 P02FE 5041
 P02FF 5454
 P0300 4552
 P0301 4E20
 0114 0000

COMAND ' SET -- SET PATTERN IN CORE.'

N6800115

0115 P0302 000E
 0115 P0303 2053
 0115 P0304 4554
 P0305 202D
 P0306 2D20
 P0307 5345
 P0308 5420
 P0309 5041
 P030A 5454
 P030B 4552
 P030C 4E20
 P030D 494E
 P030E 2043
 P030F 4F52
 P0310 4520
 0115 000E

COMAND ' SMP -- SET MM PATTERN.'

N6800116

0116 P0311 000B
 0116 P0312 2053
 0116 P0313 4D50

P0314 202D
 P0315 2020
 P0316 5345
 P0317 5420
 P0318 4040
 P0319 2050
 P031A 4154
 P031B 5445
 P031C 524E

0116
 0117
 0117
 0117

COMAND ' SPE -- SEARCH PARITY.'

N6800117

P031D 000B
 P031E 2053
 P031F 5045
 P0320 202D
 P0321 2020
 P0322 5345
 P0323 4152
 P0324 4348
 P0325 2050
 P0326 4152
 P0327 4954
 P0328 5920

0117
 0118
 0118
 0118

COMAND ' CPP -- CLEAR PROTECT BITS.'

N6800118

P0329 000D
 P032A 2043
 P032B 5050
 P032C 202D
 P032D 2020
 P032E 434C
 P032F 4541
 P0330 5220
 P0331 5052
 P0332 4F54
 P0333 4543
 P0334 5420
 P0335 4249
 P0336 5453

0118
 0119
 0119
 0119

COMAND ' SPP -- SET PROTECT BITS.'

N6800119

P0337 000C
 P0338 2053
 P0339 5050
 P033A 202D
 P033B 2020
 P033C 5345
 P033D 5420
 P033E 5052
 P033F 4F54
 P0340 4543
 P0341 5420
 P0342 4249
 P0343 5453

0119		0000		
0120			COMAND 'SCH -- SCHEDULE PROGRAM.'	N6800120
0120	P0344	0000		
0120	P0345	2053		
	P0346	4348		
	P0347	2020		
	P0348	2020		
	P0349	5343		
	P034A	4845		
	P034B	4455		
	P034C	4045		
	P034D	2050		
	P034E	524F		
	P034F	4752		
	P0350	4140		
		0000		
0120				
0121			COMAND 'ALC -- ALLOCATE CORE.'	N6800121
0121	P0351	0008		
0121	P0352	2041		
	P0353	4043		
	P0354	2020		
	P0355	2020		
	P0356	4140		
	P0357	404F		
	P0358	4341		
	P0359	5445		
	P035A	2043		
	P035B	4F52		
	P035C	4520		
		0008		
0121				
0122			COMAND 'REL -- RELEASE CORE.'	N6800122
0122	P035D	000A		
0122	P035E	2052		
0122	P035F	4540		
	P0360	2020		
	P0361	2020		
	P0362	5245		
	P0363	4045		
	P0364	4153		
	P0365	4520		
	P0366	434F		
	P0367	5245		
		000A		
0122				
0123			COMAND 'PTH -- PRINT THREAD.'	N6800123
0123	P0368	000A		
0123	P0369	2050		
	P036A	5448		
	P036B	2020		
	P036C	2020		
	P036D	5052		
	P036E	494E		
	P036F	5420		
	P0370	5448		
	P0371	5245		

0123 P0372 4144
0124 000A

COMAND ' DAC -- DUMP ALLOCATE CORE MAP.'

N6800124

0124 P0373 000F
0124 P0374 2044
0124 P0375 4143
P0376 2020
P0377 2020
P0378 4455
P0379 4050
P037A 2041
P037B 4C4C
P037C 4F43
P037D 4154
P037E 4520
P037F 434F
P0380 5245
P0381 204D
P0382 4150
0124 000F

COMAND ' DPT -- DUMP PARTITION CORE.'

N6800125

0125 P0383 000E
0125 P0384 2044
0125 P0385 5054
P0386 2020
P0387 2020
P0388 4455
P0389 4050
P038A 2050
P038B 4152
P038C 5449
P038D 5449
P038E 4F4E
P038F 2043
P0390 4F52
P0391 4520
0125 000E

HEADNG ' 3 MOVE DATA.'

N6800126

0126 P0392 0009
0126 P0393 0000
0126 P0394 2020
0126 P0395 2020
P0396 2033
P0397 2040
P0398 4F56
P0399 4520
P039A 4441
P039B 5441
0126 0009

COMAND ' MBC -- MOVE BLOCK OF CORE.'

N6800127

0127 P039C 000D
0127 P039D 2040
0127 P039E 4243
P039F 2020

P03A0 2D2D
 P03A1 4D4F
 P03A2 5645
 P03A3 2042
 P03A4 4C4F
 P03A5 434B
 P03A6 204F
 P03A7 4620
 P03A8 434F
 P03A9 5245
 0000

0127
 0128
 0128
 0128

COMAND ' MMM -- MOVE MM TO MM.'

N6800128

P03AA 000B
 P03AB 204D
 P03AC 404D
 P03AD 202D
 P03AE 2D2D
 P03AF 4D4F
 P03B0 5645
 P03B1 204D
 P03B2 4D2D
 P03B3 544F
 P03B4 204D
 P03B5 4D2D
 000B

0128
 0129
 0129
 0129

HEADNG ' 4 COMPARE DATA.'

N6800129

P03B6 000B
 P03B7 0000
 P03B8 202D
 P03B9 202D
 P03BA 2034
 P03BB 2043
 P03BC 4F4D
 P03BD 5041
 P03BE 5245
 P03BF 2044
 P03C0 4154
 P03C1 412D
 000B

0129
 0130
 0130
 0130

COMAND ' CCC -- COMPARE CORE TO CORE.'

N6800130

P03C2 000E
 P03C3 2043
 P03C4 4343
 P03C5 202D
 P03C6 2D2D
 P03C7 434F
 P03C8 4D50
 P03C9 4152
 P03CA 452D
 P03CB 434F
 P03CC 5245
 P03CD 2054
 P03CE 4F2D
 P03CF 434F

0130 P03D0 5245
0131 000E

COMAND ' CCM -- COMPARE CORE TO MM.'

N6800131

0131 P03D1 0000
0131 P03D2 2043
0131 P03D3 4340
P03D4 2020
P03D5 2020
P03D6 434F
P03D7 4050
P03D8 4152
P03D9 4520
P03DA 434F
P03DB 5245
P03DC 2054
P03DD 4F20
P03DE 4040
0000

COMAND ' CMM -- COMPARE MM TO MM.'

N6800132

0131 P03DF 0000
0132 2043
0132 P03E0 4040
0132 P03E1 2020
P03E2 2020
P03E3 2020
P03E4 434F
P03E5 4050
P03E6 4152
P03E7 4520
P03E8 4040
P03E9 2054
P03EA 4F20
P03EB 4040
0000

HEADNG ' 5 OTHER.'

N6800133

0132 P03EC 0007
0133 P03ED 0000
0133 P03EE 2020
0133 P03EF 2020
P03F0 2035
P03F1 204F
P03F2 5448
P03F3 4552
0007

COMAND ' ADH -- ADD HEX NUMBERS.'

N6800134

0133 P03F4 0000
0134 P03F5 2041
0134 P03F6 4448
0134 P03F7 2020
P03F8 2020
P03F9 4144
P03FA 4420
P03FB 4845
P03FC 5820
P03FD 4E55

0134 P03FE 4D42
 0135 P03FF 4552
 0135 P0400 5320
 0135 000C

COMAND ' SBH -- SUBTRACT HEX NUMBERS.'

N6800135

0135 P0401 000E
 0135 P0402 2053
 0135 P0403 4248
 P0404 202D
 P0405 202D
 P0406 5355
 P0407 4254
 P0408 5241
 P0409 4354
 P040A 2048
 P040B 4558
 P040C 204E
 P040D 554D
 P040E 4245
 P040F 5253
 000E

COMAND ' MLU -- CHANGE MM LU.'

N6800136

0136 P0410 000A
 0136 P0411 204D
 0136 P0412 4C55
 P0413 202D
 P0414 202D
 P0415 4348
 P0416 414E
 P0417 4745
 P0418 204D
 P0419 4D20
 P041A 4C55
 000A

COMAND ' CLU -- CHANGE LIST UNIT.'

N6800137

0137 P041B 000C
 0137 P041C 2043
 0137 P041D 4C55
 P041E 202D
 P041F 202D
 P0420 4348
 P0421 414E
 P0422 4745
 P0423 204C
 P0424 4953
 P0425 542D
 P0426 554E
 P0427 4954
 000C

COMAND ' CWA -- CONVERT WORD ADDRESS TO SECTOR.'

N6800138

0138 P0428 0013
 0138 P0429 2043
 0138 P042A 5741
 P042B 202D

P042C 2020
 P042D 434F
 P042E 4E56
 P042F 4552
 P0430 5420
 P0431 574F
 P0432 5244
 P0433 2041
 P0434 4444
 P0435 5245
 P0436 5353
 P0437 2054
 P0438 4F20
 P0439 5345
 P043A 4354
 P043B 4F52
 0013

0138
 0139
 0139
 0139

COMAND ' LST -- LIST COMMANDS.'

N6800139

P043C 000B
 P043D 204C
 P043E 5354
 P043F 202D
 P0440 2020
 P0441 4C49
 P0442 5354
 P0443 2043
 P0444 4F4D
 P0445 4041
 P0446 4E44
 P0447 5320
 000B

0139
 0140
 0140
 0140
 0140

HEADNG ' OFF -- EXIT DEBUG.'

N6800140

P0448 000A
 P0449 0000
 P044A 204F
 P044B 4646
 P044C 202D
 P044D 2020
 P044E 4558
 P044F 4954
 P0450 2044
 P0451 4542
 P0452 5547
 000A

0140
 0141
 0141
 0141
 0141

HEADNG ' DX -- AENORMAL EXIT AFTER MI.'

N6800141

P0453 0010
 P0454 0000
 P0455 2044
 P0456 5820
 P0457 202D
 P0458 2020
 P0459 4142
 P045A 4E4F
 P045B 524D

P045C 414C
 P045D 2045
 P045E 5849
 P045F 5420
 P0460 4146
 P0461 5445
 P0462 5220
 P0463 4049
 0141 0010

0143 *
 0144 P0464 0001 NUM 1,\$FFFF TYPE 4 --- TERMINATOR
 P0465 FFFF TERMINATOR

N6800143
 N6800144

0146 *
 0147 000B P EQU SU15(*96)
 0148 000C P EQU SB15(SU15+1)
 0149 0480 P EQU SX15(SB15*96)
 0150 P0466 001A BSS (SX15-*)
 0151 END

N6800146
 N6800147
 N6800148
 N6800149
 N6800150
 N6800151

PGM= 0480 (1152) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	{0000255}
0001	{001	0013	{000019}
0002	{003	0010	{000016}
0003	{005	000B	{000011}
0004	{007	000B	{000011}
0005	{009	000D	{000013}
0006	{00B	000D	{000013}
0007	{00D	0011	{000017}
0008	{00F	000C	{000012}
0009	{011	000B	{000011}
0010	{013	000B	{000011}
0011	{015	000D	{000013}
0012	{017	000C	{000012}
0013	{019	000C	{000012}
0014	{01B	000C	{000012}
0015	{01D	0012	{000018}
0016	{01F	0011	{000017}
0017	{021	000A	{000010}
0018	{023	000C	{000012}
0019	{025	000B	{000011}
0020	{027	000B	{000011}
0021	{029	000B	{000011}
0022	{02B	0011	{000017}
0023	{02D	000E	{000014}
0024	{02F	0010	{000016}
0025	{031	000F	{000015}
0026	{033	000F	{000015}
0027	{035	000C	{000012}
0028	{037	000E	{000014}
0029	{039	000D	{000013}
0030	{03B	000E	{000014}
0031	{03D	000E	{000014}
0032	{03F	0011	{000017}
0033	{041	000A	{000010}
0034	{043	000C	{000012}
0035	{045	000B	{000011}
0036	{047	000B	{000011}
0037	{049	000B	{000011}

00094	4B	0011	(000017)	0094
00095	4D	0010	(000016)	0095
00096	4F	0000	(000013)	0096
00097	51	0009	(000009)	0097
00098	53	0000	(000013)	0098
00099	55	0009	(000009)	0099
01022	57	0011	(000017)	0102
01033	59	0011	(000017)	0103
01044	5B	000A	(000010)	0104
01055	5D	000B	(000011)	0105
01066	5F	000B	(000011)	0106
01077	61	000C	(000012)	0107
01088	63	0009	(000009)	0108
01099	65	0007	(000007)	0109
01100	67	0007	(000007)	0110
01111	69	000B	(000011)	0111
01113	6B	0007	(000007)	0112
01114	6D	0010	(000016)	0113
01115	6F	0000	(000013)	0114
01116	71	000E	(000014)	0115
01117	73	000B	(000011)	0116
01118	75	000B	(000011)	0117
01119	77	0000	(000013)	0118
01120	79	000C	(000012)	0119
01121	7B	000C	(000012)	0120
01122	7D	000B	(000011)	0121
01123	7F	000A	(000010)	0122
01124	81	000A	(000010)	0123
01125	83	000F	(000015)	0124
01126	85	000E	(000014)	0125
01127	87	0009	(000009)	0126
01128	89	0000	(000013)	0127
01129	8B	000B	(000011)	0128
01130	8D	000B	(000011)	0129
01131	8F	000E	(000014)	0130
01132	91	0000	(000013)	0131
01133	93	0000	(000012)	0132
01134	95	0007	(000007)	0133
01135	97	000C	(000012)	0134
01136	99	000E	(000014)	0135
01137	9B	000A	(000010)	0136
01138	9D	000C	(000012)	0137
01139	9F	0013	(000019)	0138
01140	A1	000B	(000011)	0139
01141	A3	000A	(000010)	0140
01142	A5	0010	(000016)	0141

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0045	NAMEMS	0000	0045
0053	000	0000	0053
0056	002	0014	0056
0057	004	0025	0057
0058	006	0031	0058
0059	008	003D	0059
0060	00A	0048	0060
0061	00C	0059	0061
0062	00E	0068	0062
0063	010	0078	0063
0064	012	0084	0064
0065	014	0090	0065
0066	016	009E	0066
0067	018	00AB	0067
0068	01A	00B8	0068
0071	01C	00C5	0071
0072	01E	00D8	0072
0073	020	00EA	0073
0074	022	00F5	0074
0075	024	0102	0075
0076	026	010E	0076
0077	028	011A	0077
0078	02A	0126	0078
0079	02C	0138	0079
0080	02E	0147	0080
0081	030	0158	0081
0082	032	0168	0082
0083	034	0178	0083
0084	036	0185	0084
0085	038	0194	0085
0086	03A	01A2	0086
0087	03C	01B1	0087
0088	03E	01C0	0088
0089	040	01D2	0089
0090	042	01DD	0090
0091	044	01EA	0091
0092	046	01F6	0092
0093	048	0202	0093
0094	04A	020E	0094
0095	04C	0220	0095
0096	04E	0231	0096

0097	{50	023F	0097
0098	{52	0249	0098
0099	{54	0257	0099
0102	{56	0261	0102
0103	{58	0273	0103
0104	{5A	0285	0104
0105	{5C	0290	0105
0106	{5E	029C	0106
0107	{60	02A8	0107
0108	{62	02B5	0108
0109	{64	02BF	0109
0110	{66	02C7	0110
0111	{68	02CF	0111
0112	{6A	02DB	0112
0113	{6C	02E3	0113
0114	{6E	02F4	0114
0115	{70	0302	0115
0116	{72	0311	0116
0117	{74	031D	0117
0118	{76	0329	0118
0119	{78	0337	0119
0120	{7A	0344	0120
0121	{7C	0351	0121
0122	{7E	035D	0122
0123	{80	0368	0123
0124	{82	0373	0124
0125	{84	0383	0125
0126	{86	0392	0126
0127	{88	039C	0127
0128	{8A	03AA	0128
0129	{8C	03B6	0129
0130	{8E	03C2	0130
0131	{90	03D1	0131
0132	{92	03DF	0132
0133	{94	03EC	0133
0134	{96	03F4	0134
0135	{98	0401	0135
0136	{9A	0410	0136
0137	{9C	041B	0137
0138	{9E	0428	0138
0139	{A0	043C	0139
0140	{A2	0448	0140
0141	{A4	0453	0141
0147	SU15	000B	0148
0148	SB15	000C	0149
0149	SX15	0480	0150

*** ALPHABETICAL SORT OF SYMBOLS ***

I	0000	NAMEMS	0045	SB15	0148	SU15	0147	SX15	0149	{00	0053	{01	0053	{02	0056	{03	0056
{04	0057	{05	0057	{06	0058	{07	0058	{08	0059	{09	0059	{0A	0060	{0B	0060	{0C	0061
{0D	0061	{0E	0062	{0F	0062	{10	0063	{11	0063	{12	0064	{13	0064	{14	0065	{15	0065
{16	0066	{17	0066	{18	0067	{19	0067	{1A	0068	{1B	0068	{1C	0071	{1D	0071	{1E	0072
{1F	0072	{20	0073	{21	0073	{22	0074	{23	0074	{24	0075	{25	0075	{26	0076	{27	0076
{28	0077	{29	0077	{2A	0078	{2B	0078	{2C	0079	{2D	0079	{2E	0080	{2F	0080	{30	0081
{31	0081	{32	0082	{33	0082	{34	0083	{35	0083	{36	0084	{37	0084	{38	0085	{39	0085
{3A	0086	{3B	0086	{3C	0087	{3D	0087	{3E	0088	{3F	0088	{40	0089	{41	0089	{42	0090
{43	0090	{44	0091	{45	0091	{46	0092	{47	0092	{48	0093	{49	0093	{4A	0094	{4B	0094
{4C	0095	{4D	0095	{4E	0096	{4F	0096	{50	0097	{51	0097	{52	0098	{53	0098	{54	0099
{55	0099	{56	0102	{57	0102	{58	0103	{59	0103	{5A	0104	{5B	0104	{5C	0105	{5D	0105
{5E	0106	{5F	0106	{60	0107	{61	0107	{62	0108	{63	0108	{64	0109	{65	0109	{66	0110
{67	0110	{68	0111	{69	0111	{6A	0112	{6B	0112	{6C	0113	{6D	0113	{6E	0114	{6F	0114
{70	0115	{71	0115	{72	0116	{73	0116	{74	0117	{75	0117	{76	0118	{77	0118	{78	0119
{79	0119	{7A	0120	{7B	0120	{7C	0121	{7D	0121	{7E	0122	{7F	0122	{80	0123	{81	0123
{82	0124	{83	0124	{84	0125	{85	0125	{86	0126	{87	0126	{88	0127	{89	0127	{8A	0128
{8B	0128	{8C	0129	{8D	0129	{8E	0130	{8F	0130	{90	0131	{91	0131	{92	0132	{93	0132
{94	0133	{95	0133	{96	0134	{97	0134	{98	0135	{99	0135	{9A	0136	{9B	0136	{9C	0137
{9D	0137	{9E	0138	{9F	0138	{A0	0139	{A1	0139	{A2	0140	{A3	0140	{A4	0141	{A5	0141


```

0050 P0000 0B00 DCONV NOP 0 ENTRY
0051 P0001 CCFE LDA* (DCONV)
0052 P0002 88FD ADD* DCONV
0053 P0003 6805 STA* LAZ
0054 P0004 D8FB RAO* DCONV SET EXIT
0055 P0005 0154 SQN LAY SKIP ON FLOAT TO INTEGER
0056 P0006 5800 RTJ LAZY2
      P0007 7FFF
      P0008 0D00
      P0009 1CF6

```

X X

```

LAZ NUM 0 RETURN
LAZEXT JMP* (DCONV)

```

```

*****
*
* ROUTINE TO CONVERT DOUBLE PRECISION
* VALUE TO D-FORMAT
*
*****

```

"LBUFER" ASSIGNMENT :

```

WORDS 01-03 FLOATING VALUE (D.P.)
       04-04 SIGN
       05-05 ' 0 '
       06-06 ' . '
       07-18 12 DIGITS OF VALUE
       19-19 ' D '
       20-20 SIGN
       21-22 EXPONENT DIGITS

```

```

0085
0086
0087

```

```

***** PROGRAM START *****

```

```

0089 P000A 4864 LAY STQ* QSAVE SAVE Q-REQ.
0090 P000B 6862 P1 STA* CALPAR
0091 P000C 60FF STA- I
      *
0093 P000D 0C03 INT1 ENQ 3
0094 P000E 0A30 ENA $30
0095 P000F 6301 STA- 1,B
0096 P0010 0D01 INQ 1
0097 P0011 0814 TRQ A
0098 P0012 09EA INA -21

```

```

N6900050
N6900051
N6900052
N6900053
N6900054
N6900055
N6900056
N6900057
N6900058
N6900059
N6900060
N6900061
N6900062
N6900063
N6900064
N6900065
N6900066
N6900067
N6900068
N6900069
N6900070
N6900071
N6900072
N6900073
N6900074
N6900075
N6900076
N6900077
N6900078
N6900079
N6900080
N6900081
N6900082
N6900083
N6900085
N6900086
N6900087
N6900089
N6900090
N6900091
N6900092
N6900093
N6900094
N6900095
N6900096
N6900097
N6900098

```

0099 P0013 0101
 0100 P0014 18F9
 0101 P0015 0A2B
 0102 P0016 6103
 0103 P0017 6113
 0104 P0018 0A2E
 0105 P0019 6105
 0106 P001A 0A44
 0107 P001B 6112
 0108 P001C 0A20
 0109 P001D 6116
 0110 P001E 6117
 0111 P001F 0101
 0112 P0020 683F
 0113 P0021 C102
 0114 P0022 683E
 0115 P0023 C522
 0116 P0024 683A

INT2

SAB INT2
 JMP* INT1
 ENA \$2B
 STA- 3,I
 STA- 19,I
 ENA \$2E
 STA- 5,I
 ENA \$44
 STA- 18,I
 ENA \$20
 STA- 22,I
 STA- 23,I
 LDA- 1,I
 STA* VALUE+1
 LDA- 2,I
 STA* VALUE+2
 LDA- (ZERO),I
 STA* VALUE

INSERT 'D'

MOVE VALUE (D.P.) TO BUFFER

N6900099
 N6900100
 N6900101
 N6900102
 N6900103
 N6900104
 N6900105
 N6900106
 N6900107
 N6900108
 N6900109
 N6900110
 N6900111
 N6900112
 N6900113
 N6900114
 N6900115
 N6900116

0118
 0119
 0120
 0121 P0025 0133
 0122 P0026 011C
 0123 P0027 E847
 0124 P0028 18E0
 0125
 0126
 0127 P0029 0900
 0128 P002A 010B
 0129 P002B 0A20
 0130 P002C 6103
 0131 P002D 5800
 P002E 7FFF
 0132 P002F 5B7D
 0133 P0030 002E
 0134 P0031 0020
 0135 P0032 4000
 0136
 0137 P0033 C82B
 0138 P0034 9011
 0139 P0035 0112
 0140 P0036 1800
 P0037 0088
 0141 P0038 8011
 0142 P0039 982E
 0143 P003A 0121
 0144 P003B 186D
 0145
 0146 P003C 0A01
 0147 P003D 6832

*

*

CHECK IF VALUE IS NEGATIVE

RETURN

SAM NEGV
 SAN CHKONE
 LDQ* QSAVE
 JMP* LAZEXT

NEGATIVE, SKIP
 SKIP IF IT IS NOT ZERO (0)
 RESTORE Q-REGISTER

*

CONVERT VALUE TO POSITIVE

NEGV INA 0
 SAZ TOSTAR
 ENA \$20
 STA- 3,I
 RTJ DFLOT

CHECK IF IT IS \$FFFF
 YES, SKIP
 SET NEGATIVE SIGN

X
X

NUM \$5B7D
 ADC VALUE-*
 ADC VALUE-*
 NUM \$4000

VALUE--VALUE

*

CHECK IF VALUE IS LESS THAN 1.0

CHKONE LDA* VALUE
 SUB- LPMSK+15
 SAN NORMAL
 TOSTAR JMP STAR

\$7FFF CHECK
 TO FILL BUFFER WITH *

NORMAL

ADD- LPMSK+15
 SUB* ONE
 SAP GRT1
 JMP* LESS1

SKIP WHEN 1.0 OR GREATER
LESS THAN ONE

*
GRT1

ENA 1
 STA* J

INITIALIZE FOR OBTAINING 10**I

N6900118
 N6900119
 N6900120
 N6900121
 N6900122
 N6900123
 N6900124
 N6900125
 N6900126
 N6900127
 N6900128
 N6900129
 N6900130
 N6900131
 N6900132
 N6900133
 N6900134
 N6900135
 N6900136
 N6900137
 N6900138
 N6900139
 N6900140
 N6900141
 N6900142
 N6900143
 N6900144
 N6900145
 N6900146
 N6900147

0148	P003E	C829		LDA* ONE	B=1.0	N6900148
0149	P003F	6825		STA* B		N6900149
0150	P0040	0A00		ENA 0		N6900150
0151	P0041	6824		STA* B+1		N6900151
0152	P0042	6824		STA* B+2		N6900152
0153			*			N6900153
0154	P0043	0A01	GRT3	ENA 1		N6900154
0155	P0044	682C		STA* INDEX		N6900155
0156	P0045	5800	X GRT5	RTJ DFLOT		N6900156
	P0046	002E	X			
0157	P0047	5B9D		NUM \$5B9D	MODE, LOAD, MULTIPLY, STORE	N6900157
0158	P0048	001C		ADC B-*	B=B*10.0	N6900158
0159	P0049	0021		ADC TEN-*		N6900159
0160	P004A	001A		ADC B-*		N6900160
0161	P004B	4000		NUM \$4000		N6900161
0162	P004C	C824		LDA* INDEX		N6900162
0163	P004D	9822		SUB* J		N6900163
0164	P004E	0102		SAZ GRT7		N6900164
0165	P004F	D821	GRT6	RAO* INDEX		N6900165
0166	P0050	18F4		JMP* GRT5		N6900166
0167			*			N6900167
0168			*****	A=VALUE/B	AND CHECK IF LESS THAN 1	N6900168
0169			*			N6900169
0170	P0051	5800	X GRT7	RTJ DFLOT		N6900170
	P0052	0046	X			
0171	P0053	5BAD		NUM \$5BAD	MODE, LOAD, DIVIDE, STORE	N6900171
0172	P0054	000A		ADC VALUE-*		N6900172
0173	P0055	000F		ADC B-*	A=VALUE/B	N6900173
0174	P0056	000B		ADC A-*		N6900174
0175	P0057	4000		NUM \$4000		N6900175
0176	P0058	C809		LDA* A	CHECK IF LESS THAN 1.0	N6900176
0177	P0059	980E		SUB* ONE		N6900177
0178	P005A	0121		SAP YETING		N6900178
0179	P005B	1816		JMP* SETEXP	YSE, SKIP	N6900179
0180	P005C	D813	YETING	RAO* J	OTHERWISE UPDATE INDEX AND REPEAT	N6900180
0181	P005D	18F1		JMP* GRT6		N6900181
0183			***	CONSTANTS AND STORAGES		N6900183
0184	P005E	0009		VALUE BZS VALUE(9)		N6900184
0185		0061	P	EQU A(VALUE+3)		N6900185
0186		0064	P	EQU B(VALUE+6)		N6900186
0187	P0067	40C0		ONE NUM \$40C0,0,0		N6900187
	P0068	0000				
	P0069	0000				
0188	P006A	4250	TEN	NUM \$4250,0,0		N6900188
	P006B	0000				
	P006C	0000				
0189	P006D	0000	CALPAR	NUM 0		N6900189
0190	P006E	0000	QSAVE	NUM 0		N6900190
0191	P006F	0000	J	NUM 0		N6900191
0192	P0070	0000	INDEX	NUM 0		N6900192

0242 P009B FFD4
 0243 P009C 5800 X
 P009D 0086 X
 0244 P009E 597E
 0245 P009F 7FC4
 0246 P00A0 7FRD
 0247 P00A1 DBAD
 0248 P00A2 7FBB
 0249 P00A3 7FC0
 0250 P00A4 7FC5
 0251 P00A5 7FBE
 0252 P00A6 4000
 0253 P00A7 18DD

ADC {INDEX-*}
 RTJ DFLOT
 NUM \$597E
 ADC B-*
 ADC VALUE-*
 NUM \$DBAD
 ADC VALUE-*
 ADC B-*
 ADC TEN-*
 ADC B-*
 NUM \$4000
 JMP* DIG2

MODE, MULTIPLY, COMPLEMENT, ADD
 VALUE=VALUE-INDEX*10
 STORE, LOAD, DIVIDE, STORE
 B=B/10.0
 STOP

N6900242
 N6900243
 N6900244
 N6900245
 N6900246
 N6900247
 N6900248
 N6900249
 N6900250
 N6900251
 N6900252
 N6900253

0255
 0256
 0257
 0258
 0259
 0260
 0261 P00A8 0C13
 0262 P00A9 0A2D
 0263 P00AA 6EC2
 0264 P00AB 0A00
 0265 P00AC 68C2
 0266 P00AD 5800 X
 P00AE 009D X
 0267 P00AF 5B9D
 0268 P00B0 7FA0
 0269 P00B1 7FR8
 0270 P00B2 7FAB
 0271 P00B3 4000
 0272
 0273 P00B4 C8A9
 0274 P00B5 98B1
 0275 P00B6 0136
 0276 P00B7 C8AF
 0277 P00B8 68AB
 0278 P00B9 0A00
 0279 P00BA 68AA
 0280 P00BB 68AA
 0281 P00BC 18BB
 0282
 0283 P00BD D8B1
 0284 P00BE 18EE

*

 *

 *
 LESS1 ENQ 19
 ENA \$20
 STA* (CALPAR),Q
 ENA 0
 STA* J
 X LES111 RTJ DFLOT
 X
 NUM \$5B9D
 ADC VALUE-*
 ADC TEN-*
 ADC VALUE-*
 NUM \$4000
 *
 LDA* VALUE
 SUB* ONE
 SAM LESS13
 LDA* ONE
 STA* B
 ENA 0
 STA* B+1
 STA* B+2
 JMP* CONVS
 *
 LESS13 RAO* J
 JMP* LES111

FRACTIONAL VALUE PROCESSING
 SET EXPONENT SIGN TO NEGATIVE
 MODE, LOAD, MULTIPLY, STORE
 VALUE = VALUE * 10.0
 CHECK IF VALUE GREATER/EQUAL TO 1.0
 NO, SKIP
 B=1.0
 TO ASSEMBLE EXP. AND 12-DIGIT

N6900255
 N6900256
 N6900257
 N6900258
 N6900259
 N6900260
 N6900261
 N6900262
 N6900263
 N6900264
 N6900265
 N6900266
 N6900267
 N6900268
 N6900269
 N6900270
 N6900271
 N6900272
 N6900273
 N6900274
 N6900275
 N6900276
 N6900277
 N6900278
 N6900279
 N6900280
 N6900281
 N6900282
 N6900283
 N6900284

0286

N6900286


```

0287          *****
0288          *
0289 P00BF C8AD STAR LDA* CALPAR
0290 P00C0 60FF STA- I
0291 P00C1 0C02 ENQ 2
0292 P00C2 0A2A STAR1 ENA $2A ***
0293 P00C3 6301 STA- 1,B
0294 P00C4 0D01 INQ 1
0295 P00C5 0814 TRQ A
0296 P00C6 09EA INA -21 CHECK IF DONE
0297 P00C7 0101 SAZ STAR3
0298 P00C8 18F9 JMP* STAR1 TO REPEAT
0299 P00C9 1800 STAR3 JMP RETURN TO EXIT
          P00CA FF5C

```

```

N6900287
N6900288
N6900289
N6900290
N6900291
N6900292
N6900293
N6900294
N6900295
N6900296
N6900297
N6900298
N6900299

```

```

0301          *
0302          0002 P EQU DP01(*796)
0303          0003 P EQU DP02(DP01+1)
0304          0120 P EQU DP03(DP02*96)
0305 P00CB 0055 BSS (DP03-*)
0306          END

```

```

N6900301
N6900302
N6900303
N6900304
N6900305
N6900306

```

PGM= 0120 (288) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0091, 0290
0043	LPMSK	0002	(000002) 0138, 0141
0043	NO10	0046	(000070) 0208
0044	ZERO	0022	(000034) 0115

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0036	DCONV	0000	0036, 0051, 0052, 0054, 0058
0057	LAZ	0008	0053
0058	LAZEXT	0009	0124
0089	LAY	000A	0055
0090	P1	000B	
0094	INT1	000F	0100
0101	INT2	0015	0099
0123	RETURN	0027	0240, 0299
0127	NEGV	0029	0121
0137	CHKONE	0033	0122
0140	TOSTAR	0036	0128
0141	NORMAL	0038	0139
0146	GRT1	003C	0143
0154	GRT3	0043	
0156	GRT5	0045	0166
0165	GRT6	004F	0181
0170	GRT7	0051	0164
0180	YETING	005C	0178
0184	VALUE	005E	0112, 0114, 0116, 0133, 0134, 0137, 0172, 0185, 0186, 0225, 0246, 0248, 0268, 0270, 0273
0185	A	0061	0174, 0176, 0227, 0230
0186	B	0064	0149, 0151, 0152, 0158, 0160, 0173, 0202, 0204, 0226, 0245, 0249, 0251, 0277, 0279, 0280
0187	ONE	0067	0142, 0148, 0177, 0274, 0276
0188	TEN	006A	0159, 0203, 0250, 0269
0189	CALPAR	006D	0090, 0212, 0216, 0235, 0263, 0289
0190	QSAVE	006E	0089, 0123
0191	J	006F	0147, 0163, 0180, 0207, 0222, 0233, 0236, 0237, 0265, 0283
0192	INDEX	0070	0155, 0162, 0165, 0209, 0214, 0231, 0242
0200	SETEXP	0071	0179
0206	CONVS	0078	0281
0223	DIG2	0085	0253
0241	DIG6	0099	0239
0261	LESS1	00A8	0144
0266	LESS11	00AD	0284
0283	LESS13	00BD	0275
0289	STAR	00BF	0140
0292	STAR1	00C2	0298
0299	STAR3	00C9	0297
0302	DP01	0002	0303
0303	DP02	0003	0304
0304	DP03	0120	0305

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0039	LAZY2	0007	0056
0040	DFLOT	00AE	0131, 0156, 0170, 0200, 0223, 0243, 0266
0040	DFLT	009A	0241
0040	DFIX	008D	0229


```

0050 P0002 CCFD      LDA* (LAZY2)      GET PARAMETER
0051 P0003 0122      SAP P1
0052 P0004 88FB      ADD* LAZY2
0053 P0005 A011      AND- LPMSK+15
0054 P0006 6853      STA* CALPAR
0055 P0007 08F8      RAO* LAZY2      SET EXIT
0056 P0008 60FF      STA- I

***
0058 P0009 0C08      ENQ 8           INITIALIZED
0059 P000A 0A00      ENA 0
0060 P000B 6A45      INT1 STA* ZERO,Q
0061 P000C 0142      SQZ INT3
0062 P000D 0DFE      INQ -1
0063 P000E 18FC      JMP* INT1
0064 P000F 0A01      INT3 ENA 1
0065 P0010 684B      STA* K
0066 P0011 684C      STA* INDEX

*
0069 P0012 C101      *           CHECK IF ANY VALUE (INTEGER PART)
0070 P0013 0111      LDA- 1,I
0071 P0014 181C      SAN ING1
0072 P0015 181C      JMP* FRACTN      NO, (TO FRACTIONAL PROCESSING)

*
0074 P0016 6847      *           *****
0075 P0017 6847      *           *****
0076 P0018 6847      *           *****
0077 P0019 6847      *           *****
0078 P001A 6847      *           *****
0079 P001B 6847      *           *****
0080 P001C 6847      *           *****
0081 P001D 6847      *           *****
0082 P001E 6847      *           *****
0083 P001F 6847      *           *****
0084 P0020 6847      *           *****
0085 P0021 6847      *           *****
0086 P0022 6847      *           *****
0087 P0023 6847      *           *****
0088 P0024 6847      *           *****
0089 P0025 6847      *           *****
0090 P0026 6847      *           *****
0091 P0027 6847      *           *****
0092 P0028 6847      *           *****
0093 P0029 6847      *           *****
0094 P002A 6847      *           *****
0095 P002B 6847      *           *****
0096 P002C 6847      *           *****
0097 P002D 6847      *           *****

***
0083 P0016 C845      ***          GET ONE DIGIT AT A TIME AND ASSEMBLE
0084 P0017 0905      ING6 LDA* K
0085 P0018 8841      INA 5          GET INPUT DIGIT
0086 P0019 6807      ADD* CALPAR
0087 P001A 0A00      STA* INDGK
0088 P001B 9841      ENA 13        CALCULATE 10**I INDEX FOR CURRENT INTEGER
0089 P001C 2004      SUB* J
0090 P001D 6812      MUT- LPMSK+2  ( * 3 )
0091 P001E 5800      STA* D10
0092 P001F 7FFF      RTJ DFLT
X
X
0093 P0020 0000      INDGK NUM 0
0094 P0021 5800      RTJ DFLOT
X
X
0095 P0022 7FFF
0096 P0023 5F96      NUM $5F96     MODE, INDEX, MULTIPLY, NO INDEX
0097 P0024 0008      ADC D10-*
0098 P0025 0072      ADC DN010-3-*

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N7000050
N7000051
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N7000096
N7000097

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0098 P0026 ED40      NUM $ED40      ADD, STORE, STOP      N7000098
0099 P0027 002C      ADC  A-*             {A = A + LVALUE(K) }*(10**I))  N7000099
0100 P0028 002B      ADC  A-*             UPDATE POINTERS AND CHECK IF DONE  N7000100
0101 P0029 D832      RAO* K              N7000101
0102 P002A C832      LDA* J              N7000102
0103 P002B 09FE      INA  -1             N7000103
0104 P002C 6830      STA* J              N7000104
0105 P002D 0102      SAZ  FRACTN        YES, SKIP              N7000105
0106 P002E 18E7      JMP* ING6          NO, REPEAT            N7000106
0107 P002F 0000      NUM  0              N7000107

                                D10

*
0109                                *
0110                                *****
0111                                *
0112 P0030 0C02      FRACTN ENQ 2        CHECK IF ALL INPUT DIGITS BEEN ASSEMBLED  N7000109
0113 P0031 CE28      LDA* (CALPAR),Q    N7000110
0114 P0032 0111      SAN  FRO           SKIP, THERE IS FRACTIONAL PART          N7000111
0115 P0033 182B      JMP* EXPCHK        ALL DONE, GO                    N7000112
                                N7000113
                                N7000114
                                N7000115

*
0117                                *****
0118                                *
0119                                *
0120                                ***
0121                                *****
0122                                *
                                PROCESSING FRACTIONAL VALUE
0123 P0034 6828      FRO  STA* J        GET INPUT DIGIT AND FLOAT IT          N7000117
0124 P0035 C826      FR1  LDA* K        N7000118
0125 P0036 0905      INA  5             N7000119
0126 P0037 8822      ADD* CALPAR       N7000120
0127 P0038 6807      STA* FRV          N7000121
0128 P0039 0A0C      ENA  12           CALCULATE 10**I INDEX          N7000122
0129 P003A 9823      SUB* INDEX        N7000123
0130 P003B 2004      MUI- LPMSK+2     N7000124
0131 P003C 68F2      STA* D10          N7000125
0132 P003D 5800      RTJ  DFLT         N7000126
                                N7000127
                                N7000128
                                N7000129
                                N7000130
                                N7000131
                                N7000132
                                N7000133
                                N7000134
                                X
                                X
0133 P003F 0000      FRV  NUM  0        MODE, INDEX, DIVIDE, NO INDEX        N7000135
0134 P0040 5800      RTJ  DFLOT       N7000136
                                X
                                X
0135 P0042 5FA6      NUM  $5FA6       N7000137
0136 P0043 7FEB      ADC  D10-*       N7000138
0137 P0044 0053      ADC  DNO10-3-*   ADD, STORE, STOP            N7000139
0138 P0045 FD40      NUM  $ED40       N7000140
0139 P0046 000D      ADC  A-*         N7000141
0140 P0047 000C      ADC  A-*         N7000142
                                *
0141                                *
0142 P0048 C814      LDA* J           CHECK IF ALL FRACTIONAL DIGITS BEEN ASSEMBLED  N7000143
0143 P0049 09FE      INA  -1          N7000144
0144 P004A 6812      STA* J           N7000145
0145 P004B 0111      SAN  NOEXTY      NO, SKIP

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0146	P004C	1812		JMP*	EXPCHK	YES, SKIP	N7000146
0147	P004D	D80E	NOEXTY	RAO*	K		N7000147
0148	P004E	D80F		RAO*	INDEX		N7000148
0149	P004F	18E5		JMP*	FR1		N7000149

							N7000151
0151			*	CONSTANTS AND STORAGES			
0152	P0050	0009	ZERO	BZS	ZERO(9)		N7000152
0153		0053		EQU	A(ZERO+3)		N7000153
0154		0056		EQU	B(ZERO+6)		N7000154
0155	P0059	0000	CALPAR	NUM	0		N7000155
0156	P005A	0000	QSAVE	NUM	0		N7000156
0157	P005B	0000	K	NUM	0		N7000157
0158	P005C	0000	J	NUM	0		N7000158
0159	P005D	0000	INDEX	NUM	0		N7000159

0161			*				N7000161
0162			*****	*****			N7000162
0163			*				N7000163
0164			*				N7000164
0165			*****	CHECK IF EXPONENT IS USED			N7000165
0166			*				N7000166
0167	P005E	0C05	EXPCHK	ENQ	5		N7000167
0168	P005F	CEf9		LDA*	(CALPAR),Q		N7000168
0169	P0060	0900		INA	0		N7000169
0170	P0061	0111		SAN	EX1	YES, USED	N7000170
0171	P0062	1822		JMP*	DONE		N7000171
0172	P0063	68F9	EX1	STA*	INDEX		N7000172
0173	P0064	E857		LDQ*	ONE	B=1.0	N7000173
0174	P0065	48F0		STQ*	B		N7000174
0175	P0066	0C00		ENQ	0		N7000175
0176	P0067	48EF		STQ*	B+1		N7000176
0177	P0068	48EF		STQ*	B+2		N7000177
0178	P0069	0121		SAP	EXP3	SKIP ON POSITIVE	N7000178
0179	P006A	0864		TCA	A	COMPLEMENT VALUE	N7000179
0180	P006B	68F0	EXP3	STA*	J		N7000180
0181	P006C	010A		SAZ	EXP5		N7000181
0182			*	CALCULATE 10**I BASE ON EXPONENT VALUE			N7000182
0183	P006D	5800	X	RTJ	DFLOT		N7000183
	P006E	0041	X				
0184	P006F	5B9D		NUM	\$589D		N7000184
0185	P0070	7FE5		ADC	B-*		N7000185
0186	P0071	0047		ADC	TEN-*	B=B*10.0	N7000186
0187	P0072	7FE3		ADC	B-*		N7000187
0188	P0073	4000		NUM	\$4000		N7000188
0189	P0074	C8E7		LDA*	J		N7000189
0190	P0075	09FE		INA	-1		N7000190
0191	P0076	18F4		JMP*	EXP3		N7000191

0193			*				N7000193
0194	P0077	C8E5	EXP5	LDA*	INDEX	CHECK IF EXPONENT VALUE IS NEGATIVE	N7000194

0195	P0078	E000	LDQ	=N\$5B9D	YES, SKIP	N7000195
	P0079	5B9D				
0196	P007A	0121	SAP	EXP7	SKIP ON POSITIVE EXPONENT	N7000196
0197	P007B	0D10	INQ	\$10	(MODE, LOAD, DIVIDE, STORE)	N7000197
0198	P007C	4803	EXP7	STQ*	EXP8	N7000198
0199	P007D	5800	RTJ	DFLOT		N7000199
	P007E	006E				
	P007F	0000	EXP8	NUM	0	N7000200
0200	P0080	7FD2	ADC	A-*		N7000201
0201	P0081	7FD4	ADC	B-*	A=A*B OR A=A/B	N7000202
0202	P0082	7FD0	ADC	A-*		N7000203
0203	P0083	4000	NUM	\$4000		N7000204
0204	P0083	4000				

0206			*			N7000206
0207			*****	SAVE	VALUE BEFORE RETURN	N7000207
0208			*			N7000208
0209	P0084	0C03	DONE	ENQ	3	N7000209
0210	P0085	CE03		LDA*	(CALPAR),Q	N7000210
0211	P0086	09FD		INA	-2	N7000211
0212	P0087	0136		SAM	D2	N7000212
0213	P0088	5800		RTJ	DFLOT	N7000213
	P0089	007E				
0214	P008A	5B7D		NUM	\$5B7D	N7000214
0215	P008B	7FC7		ADC	A-*	N7000215
0216	P008C	7FC6		ADC	A-*	N7000216
0217	P008D	4000		NUM	\$4000	N7000217
0218	P008E	0C12	D2	ENQ	18	N7000218
0219	P008F	C8C3		LDA*	A	N7000219
0220	P0090	6EC8		STA*	(CALPAR),Q	N7000220
0221	P0091	0D01		INQ	1	N7000221
0222	P0092	C8C1		LDA*	A+1	N7000222
0223	P0093	6EC5		STA*	(CALPAR),Q	N7000223
0224	P0094	0D01		INQ	1	N7000224
0225	P0095	C8BF		LDA*	A+2	N7000225
0226	P0096	6EC2		STA*	(CALPAR),Q	N7000226
0227	P0097	E8C2		LDQ*	QSAVE	N7000227
0228	P0098	1C00		JMP	(LAZY2)	N7000228
	P0099	FF66			RESTORE Q-REGISTER	
					RETURN	

0229			*			N7000229
0230			*****	10**11	THROUGH 10**10)	N7000230
0231			*			N7000231
0232	P009A	5200	DN010	NUM	\$5200,\$210B,\$A000,\$514A,\$817C,\$8000,\$4F77,\$3594,\$0000	N7000232
	P009B	210B				
	P009C	A000				
	P009D	514A				
	P009E	817C				
	P009F	8000				
	P00A0	4F77				
	P00A1	3594				
	P00A2	0000				
0233	P00A3	4DDF		NUM	\$4DDF,\$5E10,\$0000,\$4C4C,\$4B40,\$0000,\$4A7A,\$1200,\$0000	N7000233
	P00A4	5E10				

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P00A5 0000
P00A6 4C4C
P00A7 4B40
P00A8 0000
P00A9 4A7A
P00AA 1200
P00AB 0000
0234 P00AC 48E1 NUM $48E1,$A800,$0000,$474E,$2000,$0000,$457D,$0000,$0000 N7000234
P00AD A800
P00AE 0000
P00AF 474E
P00B0 2000
P00B1 0000
P00B2 457D
P00B3 0000
0235 P00B4 0000 NUM $43E4,$0000,$0000,$4250,$0000,$0000,$40C0,$0000,$0000 N7000235
P00B5 43E4
P00B6 0000
P00B7 0000
P00B8 4250
P00B9 0000
P00BA 0000
P00BB 40C0
P00BC 0000
P00BD 0000
0236 EQU TEN(DNO10*30) N7000236
0237 EQU ONE(DNO10*33) N7000237
P00B8 P
P00BB P

0239 EQU DP01(*'96) N7000239
0240 EQU DP02(DP01*1) N7000240
0241 EQU DP03(DP02*96) N7000241
0242 BSS (DP03-*) N7000242
0243 P00BE 0002 N7000243
0244 END N7000244

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PGM= 0000 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	{000255} 0056
0042	LPMSK	0002	{000002} 0053, 0090, 0130

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0036	LAZY2	0000	0036, 0050, 0052, 0055, 0228
0054	P1	0006	0051
0061	INT1	0008	0064
0065	INT3	000F	0062
0081	ING1	0015	0071
0084	ING6	0016	0106
0093	INDGK	0020	0087
0107	D10	002F	0091, 0096, 0131, 0136
0112	FRACTN	0030	0072, 0105
0123	FRQ	0034	0114
0124	FR1	0035	0149
0133	FRV	003F	0127
0147	NOEXTY	0040	0145
0152	ZERO	0050	0061, 0153, 0154
0153	A	0053	0099, 0100, 0139, 0140, 0201, 0203, 0215, 0216, 0219, 0222, 0225
0154	B	0056	0174, 0176, 0177, 0185, 0187, 0202
0155	CALPAR	0059	0054, 0086, 0113, 0126, 0168, 0210, 0220, 0223, 0226
0156	QSAVE	005A	0049, 0227
0157	K	005B	0066, 0084, 0101, 0124, 0147
0158	J	005C	0081, 0089, 0102, 0104, 0123, 0142, 0144, 0180, 0189
0159	INDEX	005D	0067, 0129, 0148, 0172, 0194
0167	EXPCHK	005E	0115, 0146
0172	EX1	0063	0170
0180	EXP3	006B	0178, 0191
0194	EXP5	0077	0181
0198	EXP7	007C	0196
0200	EXP8	007F	0198
0209	DONE	0084	0171
0218	D2	008E	0212
0232	DN010	009A	0097, 0137, 0236, 0237
0236	TEN	00B8	0186
0237	ONE	00BB	0173
0240	DP01	0001	0241
0241	DP02	0002	0242
0242	DP03	000C	0243

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0039	DFLOT	0089	0094, 0134, 0183, 0199, 0213
0039	DFLT	003E	0092, 0132


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0001      *      NAM ODDFLT      DECK-ID N71 MSOS 5.0      SUMMARY-110N7100001
0002      *      MASS STORAGE OPERATING SYSTEM VERSION 5.0      N7100002
0003      *      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA      N7100003
0004      *      COPYRIGHT CONTROL DATA CORPORATION 1976      N7100004

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0006      ***      THIS ROUTINE RUN ANYWHERE/NON-RETRANCE      N7100006
0007      *****      "DUMMY" BUFFER IS SET UP FOR MIN. CHANGE      N7100007
0008      ***      N7100008
0009      *****      DEBUG RUNS ON THE LOWER 32K, THEREFORE      N7100009
0010      *****      NO 65 K ADDRESSING IS NEEDED      N7100010
0011      *      N7100011
0012      *****      SPECIAL ARRANGEMENT --- DOES NOT USE LOW CORE      N7100012
0013      *      N7100013

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0015      *      E N T R Y      N A M E S      N7100015
0016      *      ENT DFIX      N7100016
0017      *      ENT DFLT      N7100017
0018      *      ENT AVOLA      N7100018
0019      *      ENT AVOLR      N7100019

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0021      *      E X T E R N A L S      N7100021
0022      *      EXT* DFLOT      N7100022

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0024      *      " E Q U "      T A B L E      N7100024
0025      *      EQU CELL2(41),CELL1(42),QS(25)      N7100025

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0026      EQU CELLO(43)      N7100026
0027      EQU G(3),SIGN(6),ERRORS(7)      N7100027

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0028      EQU ZERO($22),LPMSK(2)      N7100028

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0030      *      *****      P R O G R A M      S T A R T      *****      N7100030
0031      *      N7100031
0032      *      N7100032

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0034      *      N7100034
0035      P0000 0800      DFIX      NOP      0      ENTRY      N7100035
0036      P0000 0000      EQU      Q8FX(DFIX)      N7100036
0037      P0001 5860      RTJ*      AVOLA      GET BUFFER      N7100037
0038      P0002 4119      STQ-      QS,I      SAVE Q-REG.      N7100038
0039      P0003 CCFC      LDA*      (Q8FX)      N7100039
0040      P0004 0122      SAP      KLG65K      N7100040
0041      P0005 88FA      ADD*      Q8FX      N7100041
0042      P0006 A011      AND-      LPMSK+15      N7100042
0043      P0007 0822      KLG65K      TRA      Q      N7100043
0044      P0008 C622      FX5      LDA-      (ZERO),Q      N7100044
0045      P0009 612A      STA-      CELL1,I      N7100045

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0046 P000A 0001 INQ 1
0047 P000B C622 LDA- (ZERO),Q
0048 P000C 6129 STA- CELL2,I
0049 P000D 08F2 RAO* DFIX SET EXIT
0050 P000E C12A FIX LDA- CELL1,I
0051 P000F 0124 SAP FX1--*-1
0052 P0010 0864 TCA A COMPLEMENT A AND CELL2
0053 P0011 E129 LDQ- CELL2,I
0054 P0012 0852 TCQ Q
0055 P0013 4129 STQ- CELL2,I
0056 P0014 0C00 FX1 ENQ 0
0057 P0015 0FE2 LLS 2
0058 P0016 0152 SQN FX2--*-1
0059 P0017 0A00 ENA 0 LESS THAN UNITY, ZERO TO A
0060 P0018 1812 JMP* FX4
0061 P0019 0C00 FX2 ENQ 0
0062 P001A 0FE3 LLS 3
0063 P001B 0142 SQZ FX3--*-1
0064 P001C C011 LDA- LPMSK+15 GREATER THAN 2**16-1, $7FFF TO A
0065 P001D 180A JMP* FX6
0066 P001E E810 FX3 LDQ* LLS CONSTRUCT A SHIFT
0067 P001F 0FE4 LLS 4
0068 P0020 4805 STQ* SHIFT
0069 P0021 0C00 ENQ 0 LOW-ORDER BITS COME FROM WORD2
0070 P0022 0FE7 LLS 7
0071 P0023 C129 LDA- CELL2,I
0072 P0024 0F67 LRS 7
0073 P0025 0FE0 SHIFT LLS 0 COUNT FROM EXPONENT LOW 4 BITS
0074 P0026 0814 TRQ A ANSWER TO ACC
0075 P0027 E12A FX6 LDQ- CELL1,I
0076 P0028 0161 SQP FX4--*-1
0077 P0029 0864 TCA A COMPLEMENT
0078 P002A E119 FX4 LDQ- QS,I
0079 P002B 6101 STA- 1,I
0080 P002C 5844 RTJ* AVOLR RELEASE BUFFER
0081 P002D 1CD2 JMP* (DFIX) RETURN
0082 P002E 00FE LLS ADC $00FE

0084 * FIX TO FLOAT ENTRY N7100084

0086 *
0087 P002F 0B00 DFLT NOP 0 ENTRY
0088 002F EQU Q8FLOT(DFLT)
0089 P0030 5831 RTJ* AVOLA GET BUFFER
0090 P0031 4119 STQ- QS,I SAVE Q
0091 P0032 CCFC LDA* (Q8FLOT)
0092 P0033 0122 SAP FLO
0093 P0034 88FA ADD* Q8FLOT
0094 P0035 A011 AND- LPMSK+15
0095 P0036 0822 TRA Q
0096 P0037 C622 LDA- (ZERO),Q

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PSR 903

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0097 P0038 612A STA- CELL1,I
0098 P0039 08F5 RAO* Q8FLOT SKIP PARAMETER ADDRESS
0099 P003A C12A FLT LDA- CELL1,I
0100 P003B 0121 SAP FL1--*-1
0101 P003C 0864 TCA A COMPLEMENT
0102 P003D 0101 FL1 SAZ FL10
0103 P003E 1812 JMP* FL3
0104 P003F 6129 FL10 STA- CELL2,I INPUT WAS ZERO
0105 P0040 612A FL8 STA- CELL1,I
0106 P0041 C129 LDA- CELL2,I GET FIRST WORD
0107 P0042 0C00 ENQ 0
0108 P0043 0121 SAP SET0 SET THIRD WORD TO 0 IF FIRST IS +
0109 P0044 0CFF ENQ -0
0110 P0045 412B SET0 STQ- CELL0,I
0111 P0046 0CFF LDA- I
0112 P0047 0929 INA CELL2
0113 P0048 6804 STA* LOCEL2
0114 P0049 5800 RTJ DFLOT
      P004A 7FFF X
0115 P004B B400 NUM $B400
0116 P004C 0029 LOCEL2 ADC CELL2
0117 P004D E119 FL2 LDQ- QS,I
0118 P004E 5822 RTJ* AVOLR RELEASE BUFFER
0119 P004F 1CDF JMP* (Q8FLOT) RETURN
0120 P0050 E000 FL3 LDQ =N$8F EXPONENT FOR 15-BIT INPUT
      P0051 008F
0121 P0052 0FC1 FL4 ALS 1
0122 P0053 0132 SAM FL5--*-1
0123 P0054 0DFE INQ -1
0124 P0055 18FC JMP* FL4
0125 P0056 0FE7 FL5 LLS 7 MOST SIGNIFICANT 7BITS IN Q
0126 P0057 4129 STQ- CELL2,I
0127 P0058 E12A LDQ- CELL1,I
0128 P0059 0171 SQM FL6--*-1
0129 P005A 18E5 JMP* FL8
0130 P005B 0864 FL6 TCA A COMPLEMENT A
0131 P005C E129 LDQ- CELL2,I COMPLEMENT Q
0132 P005D 0852 TCQ Q
0133 P005E 4129 STQ- CELL2,I
0134 P005F 18E0 JMP* FL8
0135 P0060 0000 FL1XX NUM 0

0137 *
0138 * THIS ROUTINE IS DESIGNED TO ALLOW SIMULATED VOLATILE STORAGE
0139 * ALLOCATION (TEMPORARY DATA STORAGE) USED BY SUBPROGRAM DFLOT
0140 * WHEN RUNNING IN BACKGROUND MODE.
0141 *

0143 *
0144 P0061 0000 AVOLA 0 0 SIMULATED VOLATILE STORAGE ALLOCATION ROUTINE
0145 P0062 4815 STQ* BUFADD

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N7100097
N7100098
N7100099
N7100100
N7100101
N7100102
N7100103
N7100104
N7100105
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N7100134
N7100135

N7100137
N7100138
N7100139
N7100140
N7100141

N7100143
N7100144
N7100145

```

0146	P0063	5801		RTJ*	SELF		N7100146
0147	P0064	0B00	SELF	NOP	Q		N7100147
0148	P0065	E8FE		LDQ*	SELF	GENERATE BUFFER ADDRESS	N7100148
0149	P0066	0D14		INQ	BUF-SELF		N7100149
0150	P0067	48FC		STQ*	SELF		N7100150
0151	P0068	E0FF		LDQ-	I		N7100151
0152	P0069	4CFA		STQ*	(SELF)	SAVE I-REG.	N7100152
0153	P006A	E8F9		LDQ*	SELF		N7100153
0154	P006B	40FF		STQ-	I	SELF BUFFER ADDRESS TO I-REG.	N7100154
0155	P006C	6101		STA-	1,I		N7100155
0156	P006D	C80A		LDA*	BUFADD	SAVE Q-REG.	N7100156
0157	P006E	6102		STA-	2,I		N7100157
0158	P006F	1CF1		JMP*	(AVOLA)	RETURN TO CALLING PROGRAM	N7100158
0159	P0070	0000	AVOLR	D	0	SIMULATED VOLATILE STORAGE ALLOCATION ROUTINE	N7100159
0160	P0071	E0FF		LDQ-	I	BEGINNING LOCATION OF SIM. VOLATILE STORAGE	N7100160
0161	P0072	C202		LDA-	2,Q		N7100161
0162	P0073	60FF		STA-	I	RESTORE THE I REGISTER	N7100162
0163	P0074	C201		LDA-	1,Q	RESTORE THE A REGISTER	N7100163
0164	P0075	E622		LDQ-	(ZERO),Q	RESTORE THE Q REGISTER	N7100164
0165	P0076	1CF9		JMP*	(AVOLR)	RETURN TO CALLING PROGRAM	N7100165
0166	P0077	0078	P	BUFADD	ADC		N7100166
0167	P0078	002D		BUF	BZS	BUF(45)	N7100167

0169			*				N7100169
0170		0001	P	EQU	DP01(*796)		N7100170
0171		0002	P	EQU	DP02(DP01+1)		N7100171
0172		00C0	P	EQU	DP03(DP02*96)		N7100172
0173	P00A5	0018		BSS	(DP03-*)		N7100173
0174				END			N7100174

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255) 0111, 0151, 0154, 0160, 0162
0025	GELL2	0029	(000041) 0048, 0053, 0055, 0071, 0104, 0106, 0112, 0116, 0126, 0131, 0133
0025	GELL1	002A	(000042) 0045, 0050, 0075, 0097, 0099, 0105, 0127
0025	QS	0019	(000025) 0038, 0078, 0090, 0117
0026	CELLO	002B	(000043) 0110
0027	G	0003	(000003)
0027	SIGN	0006	(000006)
0027	ERRORS	0007	(000007)
0028	ZERO	0022	(000034) 0044, 0047, 0096, 0164
0028	LPMSK	0002	(000002) 0042, 0064, 0094

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	DFIX	0000	0016, 0036, 0049, 0081
0017	DFLT	002F	0017, 0088
0018	AVOLA	0061	0018, 0037, 0089, 0158
0019	AVOLR	0070	0019, 0080, 0118, 0165
0036	Q8FX	0000	0039, 0041
0043	KLG65K	0007	0040
0044	FX5	0008	
0050	FIX	000E	
0056	FX1	0014	0051
0061	FX2	0019	0058
0066	FX3	001E	0063
0073	SHIFT	0025	0068
0075	FX6	0027	0065
0078	FX4	002A	0060, 0076
0082	LLS	002E	0066
0088	Q8FLOT	002F	0091, 0093, 0098, 0119
0095	FL0	0036	0092
0099	FLT	003A	
0102	FL1	003D	0100
0104	FL10	003F	0102
0105	FL8	0040	0129, 0134
0110	SET0	0045	0108
0116	LOC EL2	004C	0113
0117	FL2	004D	
0120	FL3	0050	0103
0121	FL4	0052	0124
0125	FL5	0056	0122
0130	FL6	005B	0128
0135	FL1XX	0060	
0147	SELF	0064	0146, 0148, 0149, 0150, 0152, 0153
0166	BUFADD	0077	0145, 0156
0167	BUF	0078	0149, 0166
0170	DP01	0001	0171
0171	DP02	0002	0172
0172	DP03	000C	0173

EXTERNALS

DEF. LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0022	DFLOT	004A	0114

0001
0002
0003
0004

* NAM ODDFTN DECK-ID N72 MSOS 5.0
* MASS STORAGE OPERATING SYSTEM VERSION 5.0
* SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA
* COPYRIGHT CONTROL DATA CORPORATION 1976

SUMMARY-11 0N7200001
N7200002
N7200003
N7200004

0006

* 1700 ENCODE/DECODE ROUTINES

N7200006

0008
0009
0010
0011

* *****
***** THIS PACKAGE IS FOR DEBUG ONLY
***** IT DOES NOT USE LOW CORE LOCATION
*

N7200008
N7200009
N7200010
N7200011

0013
0014
0015
0016

* NON-REENTRANT/RUNANYWHERE
* REFER TO APPENDIX C OF ERS FOR C006 FOR
* DETAILS OF THIS PACKAGE.
* PROGRAMMING, LSD, CDC

N7200013
N7200014
N7200015
N7200016

0018
0019
0020
0021
0022
0023
0024
0025
0026
0027
0028
0029
0030
0031
0032
0033
0034
0035
0036
0037
0038
0039
0040

* * * * *
* * * * * POINT PKG.
* * * * * LIST OF FLOATING POINT OPERATION CODES.
* * * * * 0 XXX (NOT USED)
* * * * * 1 XXX (NOT USED)
* * * * * 2 XXX (NOT USED)
* * * * * 3 XXX (NOT USED)
* * * * * 4 FEND END OF CALLING SEQUENCE
* * * * * 5 CHMD CHANGE MODE REL/ABS
* * * * * 6 NIDX NO INDEX
* * * * * 7 FCOM COMPLEMENT
* * * * * 8 DFSUB SUBTRACT
* * * * * 9 DFMPY MULTIPLY
* * * * * A DFDIV DIVIDE
* * * * * B DFLDD LOAD
* * * * * C XXX (NOT USED)
* * * * * D DFLST STORE
* * * * * E DFADD ADD
* * * * * F INDX INDEX

N7200018
N7200019
N7200020
N7200021
N7200022
N7200023
N7200024
N7200025
N7200026
N7200027
N7200028
N7200029
N7200030
N7200031
N7200032
N7200033
N7200034
N7200035
N7200036
N7200037
N7200038
N7200039
N7200040

* * * * * G, THE PSUEDO ACCUMULATOR IS BROKEN UP INTO
* * * * * C, CI, D, AND DELTA

0042
0043

* * * * * ENT DFLOT ENTRY NAME
* * * * * ENTRY POINT TO FLOATING

N7200042
N7200043

0045
0046
0047

* * * * * EXT* AVOLA EXTERNALS
* * * * * GET TEMPORARY STORAGE (DUMY)
* * * * * EXT* AVOLR RELEASE TEMPORARY STORAGE (DUMMY)

N7200045
N7200046
N7200047

0049

* * * * * " E Q U " TABLE

N7200049

0050	0003	EQU	G(3),SIGN(6),ERRORS(7)	N7200050
	0006			
	0007			
0051	0008	EQU	F(8),A(11),AI(12)	N7200051
	000B			
	000C			
0052	000D	EQU	B(13),BETA(14),C(15)	N7200052
	000E			
	000F			
0053	0010	EQU	CI(16),D(17),DELTA(18)	N7200053
	0011			
	0012			
0054	0013	EQU	SHIFCT(19),P(20),RELADR(21)	N7200054
	0014			
	0015			
0055	0016	EQU	OPCNT(22),INDEX(23),OPCODE(24)	N7200055
	0017			
	0018			
0056	0019	EQU	QS(25),TEMPQ(26),TEMGP2(27)	N7200056
	001A			
	001B			
0057	001C	EQU	T1(28),T2(29),T3(30),MULDIV(31)	N7200057
	001D			
	001E			
	001F			
0058	0002	EQU	LPMSK(2),NZERO(\$12),ZERO(\$22),ONEBIT(\$23),ZROBIT(\$33)	N7200058
	0012			
	0022			
	0023			
	0033			

0060	*				N7200060
0061	*****	*****	PROGRAM	START	*****
0062	*				N7200062

0064	P0000	0000	DFLOT	0	0	ENTRY	N7200064
0065	P0001	5800	RTJ	AVOLA		TO GET BUFFER	N7200065
	P0002	7FFF					
0066	P0003	4119	STQ-	QS,I		SAVE Q	N7200066
0067							N7200067
0068	P0004	0844	CLR	A		CLR RELADR	N7200068
0069	P0005	6115	STA-	RELADR,I			N7200069
0070	P0006	0AFE	ENA	-1			N7200070
0071	P0007	6117	STA-	INDEX,I			N7200071
0072	P0008	0A00	ENA	0		CLEAR	N7200072
0073	P0009	611F	STA-	MULDIV,I		MULTIPLY/DIVIDE FLAG	N7200073
0074	P000A	C8F5	LDA*	DFLOT		SAVE RETURN ADDRESS	N7200074
0075	P000B	6114	STOREP	STA-	P,I	INTERPRETIVE LIST	N7200075
0076	P000C	0844	INTERP	CLR	A		N7200076
0077	P000D	6116	STA-	OPCNT,I			N7200077

0078			*	LDA- (P),I	GET OPCODE	N7200078
0079	P000E	E114		LDD- P,I	GET OPCODE FROM VOLATILE STORAGE AND	N7200079
0080	P000F	C622		LDA- (ZERO),Q	PLACE IN A REGISTER	N7200080
0081	P0010	6118		STA- OPCODE,I		N7200081
0082	P0011	D114		RAO- P,I	IF OPCNT GE. 3 GO TO INTERP	N7200082
0083	P0012	1807		JMP* DECODE		N7200083
0084			*		GET NEXT OPERATION CODE	N7200084
0085	P0013	C116	NXTOPC	LDA- OPCNT,I	IF OPCNT .GE. 3 GO TO INTERP	N7200085
0086	P0014	09FC		INA -3		N7200086
0087	P0015	0131		SAM A1-#-1		N7200087
0088	P0016	18F5		JMP* INTERP		N7200088
0089	P0017	0904	A1	INA 3+1	OTHERWISE INCREMENT OPCNT	N7200089
0090	P0018	6116		STA- OPCNT,I		N7200090

```

0092          *
0093 P0019 C118  DECODE LDA- OPCODE, I
0094 P001A 8842  CLR  Q
0095 P001B 0FE4  LLS  4
0096 P001C 6118  STA- OPCODE, I
0097          *
0098 P001D EA02  EXECUTE LDQ* FLINS, Q
0099 P001E 1A01  JMP*  FLINS, Q
0100 P001F 005F  FLINS  ADC  FEND-FLINS
0101 P0020 0060  ADC  FLIT-FLINS
0102 P0021 0060  ADC  FLIT-FLINS
0103 P0022 0060  ADC  FLIT-FLINS
0104 P0023 005F  ADC  FEND-FLINS
0105 P0024 0010  ADC  CHMD-FLINS
0106 P0025 0016  ADC  NIDX-FLINS
0107 P0026 008C  ADC  FCOM-FLINS
0108 P0027 0229  ADC  DFSUB-FLINS
0109 P0028 00AE  ADC  DFMPY-FLINS
0110 P0029 015B  ADC  DFDIV-FLINS
0111 P002A 001F  ADC  DFLDD-FLINS
0112 P002B 0060  ADC  FLIT-FLINS
0113 P002C 0056  ADC  DFLST-FLINS
0114 P002D 0233  ADC  DFADD-FLINS
0115 P002E 0018  ADC  INDX-FLINS

```

DECODE NEXT OPCODE

EXECUTE NEXT OPERATION

GET PROCESSOR ADD. ACCORDINGLY

- 0=END OF SEQUENCE
- 1=FIN RETURN TO USER
- 2=FIN RETURN TO USER
- 3=FIN RETURN TO USER
- 4=END OF SEQUENCE
- 5=CHANGE MODE ABS. OR REL.
- 6=NO INDEX
- 7=COMPLEMENT
- 8=SUBTRACT
- 9=MULTIPLY
- 10=DIVIDE
- 11=LOAD ACCUMULATOR
- 12=FIN RETURN TO USER
- 13=STORE ACCUMULATOR
- 14=ADD
- 15=INDEX

N7200092
N7200093
N7200094
N7200095
N7200096
N7200097
N7200098
N7200099
N7200100
N7200101
N7200102
N7200103
N7200104
N7200105
N7200106
N7200107
N7200108
N7200109
N7200110
N7200111
N7200112
N7200113
N7200114
N7200115

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0117          *
0118          *****
0119          *
0120 P002F C115  CHMD  LDA- RELADR, I
0121 P0030 8842  CLR  Q
0122 P0031 0111  SAN  A2-* -1
0123 P0032 0C01  ENQ  1
0124 P0033 4115  A2   STQ- RELADR, I
0125 P0034 18DE  JMP* NXTOPC
0126          *
0127 P0035 0AFE  NIDX  ENA  -1
0128 P0036 1806  JMP* STONDX
0129          *
0130 P0037 0AFE  INDX  ENA  -1
0131 P0038 6117  STA- INDEX, I
0132 P0039 587A  RTJ* OPERND
0133 P003A C201  LDA- 1, Q
0134 P003B 09FE  INA  -1
0135 P003C 6117  STONDX STA- INDEX, I
0136 P003D 18D5  JMP* NXTOPC

```

C H A N G E M O D E

ABSOLUTE/RELATIVE SWITCH IF RELADR=0, SET TO 1. OTHERWISE

NO INDEX OPERATION CODE

INDEX

RESET INDEX BEFORE CALLING OPERND

OPERND TO INDEX

OPERAND TO INDEX

N7200117
N7200118
N7200119
N7200120
N7200121
N7200122
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N7200135
N7200136

0139
0140
0141
0142 P003E 5875
0143 P003F C203
0144 P0040 6105
0145 P0041 C202
0146 P0042 6104
0147 P0043 C201
0148 P0044 0900
0149 P0045 6103
0150
0151
0152
0153 P0046 0C01
0154 P0047 0121
0155 P0048 0CFE
0156 P0049 4106
0157
0158 P004A E105
0159 P004B 411B
0160 P004C E104
0161 P004D 411A
0162 P004E 0127
0163 P004F 0864
0164 P0050 E11B
0165 P0051 0852
0166 P0052 411B
0167 P0053 E11A
0168 P0054 0852
0169 P0055 411A
0170 P0056 610F
0171 P0057 0111
0172 P0058 1815
0173 P0059 0FC1
0174 P005A B032
0175 P005B 0F48
0176 P005C 0900
0177 P005D 6112
0178 P005E C10F
0179 P005F E11A
0180 P0060 0FE8
0181 P0061 A011
0182 P0062 610F
0183 P0063 C11B
0184 P0064 E11A
0185 P0065 0FF7
0186 P0066 A011
0187 P0067 6110
0188 P0068 0FEF

```

*
*****          L O A D
*
DFLDD RTJ* OPERND
      LDA- 3,Q
      STA- G#2,I
      LDA- 2,Q
      STA- G+1,I
      LDA- 1,Q
      INA 0
      STA- G,I
              ELIMINATE MINUS ZERO
              OPERAND TO G
*
      LOAD OPERAND INTO G.
*
      UNPACK OPERAND INTO C, CI, D, AND DELTA.
*
      SAVE SIGN IN SIGN.
*
      ENQ 1
      SAP A3--1
      ENQ -1
      STQ- SIGN,I
      UNPACK FROM G INTO C, CI, D, AND DELTA
*
      LDQ- G+2,I
      STQ- TEMGP2,I      G+2
      LDQ- G+1,I
      STQ- TEMPQ,I      G+1
      SAP STEP2B--1
      ICA A      COMPLEMENT G
      LDQ- TEMGP2,I
      TCQ Q
      STQ- TEMGP2,I      COMPLEMENT G+2
      LDQ- TEMPQ,I
      TCQ Q
      STQ- TEMPQ,I      COMPLEMENT G+1
STEP2B STA- C,I
      SAN A4--1
      JMP* ARG0
*
      ALS 1
      EOR- ONEBIT+15    $8000
      ARS 8
      INA 0
      STA- DELTA,I
      LDA- C,I
      LDQ- TEMPQ,I
      LLS 8
      AND- LPMSK+15    $7FFF
      STA- C,I
      LDA- TEMGP2,I
      LDQ- TEMPQ,I
      LLS 23
      AND- LPMSK+15    $7FFF
      STA- CI,I
      LLS 15

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N7200139
N7200140
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N7200188

0189 P0069 A803
 0190 P006A 6111
 0191 P006B 18A7
 0192 P006C 7FC0
 0193 P006D 0844
 0194 P006E 610F
 0195 P006F 6110
 0196 P0070 6111
 0197 P0071 6112
 0198 P0072 0A01
 0199 P0073 6106
 0200 P0074 189E

H7FC0
 ARG0

AND# H7FC0
 STA- D,I
 JMP# NXTOPC
 NUM \$7FC0
 CLR A
 STA- C,I
 STA- CI,I
 STA- D,I
 STA- DELTA,I
 ENA 1
 STA- SIGN,I
 JMP# NXTOPC

ARGUMENT IS ZERO.

N7200189
 N7200190
 N7200191
 N7200192
 N7200193
 N7200194
 N7200195
 N7200196
 N7200197
 N7200198
 N7200199
 N7200200

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0203
0204
0205
0206 P0075 5811
0207 P0076 583D
0208 P0077 C103
0209 P0078 6201
0210 P0079 C104
0211 P007A 6202
0212 P007B C105
0213 P007C 6203
0214 P007D 1895
0215 P007E 5808
0216 P007F E119
0217 P0080 C114
0218 P0081 6804
0219 P0082 5800
      P0083 7FFF
      P0084 1C01
0220 P0085 0000
0221 P0086 0000
0222 P0087 E10F
0223
0224
0225 P0088 0154
0226 P0089 4103
0227 P008A 4104
0228 P008B 4105
0229 P008C 181D
0230 P008D C110
0231 P008E 0FC1
0232 P008F 0FE1
0233 P0090 A01B
0234 P0091 6104
0235 P0092 C112
0236 P0093 A00A
0237 P0094 B02A
0238 P0095 8104
0239 P0096 0FE7
0240 P0097 6103
0241 P0098 4104
0242 P0099 F110
0243 P009A C111
0244 P009B 0FC1
0245 P009C 0FE9
0246 P009D 4105
0247 P009E E106
0248 P009F 0169
0249 P00A0 C103
0250 P00A1 0864
0251 P00A2 6103

```

```

*
*****
*
DFLST RTJ* FLSTO
      RTJ* OPERND      GET ADDRESS OF OPERAND
      LDA- G,I
      STA- 1,Q
      LDA- G+1,I
      STA- 2,Q
      LDA- G+2,I
      STA- 3,Q
ANXT  JMP* NXTOPC
FEND  RTJ* FLSTO
FLIT  LDQ- QS,I
      LDA- P,I
      STA* DFEXIT
      RTJ  AVOLR
      JMP* (DFEXIT)    RETURN TO USER
DFEXIT NUM 0
FLTSTO 0
      LDQ- C,I
*      IF C IS ZERO, THEN ACCUMULATOR IS ZERO
      SQN FLST1-* -1
      STQ- G,I
      STQ- G+1,I
      STQ- G+2,I
      JMP* FLSTA
FLST1  LDA- CI,I
      ALS 1
      LLS 1
      AND- LPMSK+25    $FE00
      STA- G+1,I
      LDA- DELTA,I
      AND- LPMSK+8     $00FF
      EOR- ONEBIT#7    $0080
      ADD- G+1,I
      LLS 7
      STA- G,I
      STQ- G+1,I
      LDQ- CI,I
      LDA- D,I
      ALS 1
      LLS 9
      STQ- G+2,I
      LDQ- SIGN,I
      SQP FLSTA-* -1
      LDA- G,I
      TCA  A
      STA- G,I      IF SIGN IS NEG.

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N7200203
N7200204
N7200205
N7200206
N7200207
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N7200251

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0252 P00A3 C104
0253 P00A4 0864
0254 P00A5 6104
0255 P00A6 C105
0256 P00A7 0864
0257 P00A8 6105
0258 P00A9 0B00
0259 P00AA 1CDB

FLSTA

LDA- G+1,I
TCA A
STA- G+1,I
LDA- G+2,I
TCA A
STA- G+2,I
NOP 0
JMP* {FLTSTO}

COMPLEMENT G.

*** REMOVE FOREGROUND***
EXIT FROM REPACK OF ACCUMULATOR

N7200252
N7200253
N7200254
N7200255
N7200256
N7200257
N7200258
N7200259

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0262
0263
0264
0265 P00AB C10F
0266 P00AC 0111
0267 P00AD 18BF
0268 P00AE 0804
0269 P00AF B106
0270 P00B0 6106
0271 P00B1 18CB
0272 P00B2 0000
0273
0274
0275
0276
0277 P00B3 0000
0278 P00B4 E114
0279 P00B5 CEFC
0280 P00B6 6108
0281 P00B7 C115
0282 P00B8 0106
0283 P00B9 C108
0284 P00BA OFC1
0285 P00BB OF41
0286 P00BC 6108
0287 P00BD F108
0288 P00BE 1802
0289 P00BF E108
0290 P00C0 F117
0291 P00C1 D114
0292 P00C2 1CF0
0293 P00C3 0000
0294
0295
0296
0297
0298 P00C4 0127
0299 P00C5 0D01
0300 P00C6 A011
0301 P00C7 0164
0302 P00C8 D103
0303 P00C9 OFF0
0304 P00CA A011
0305 P00CB OFF0
0306 P00CC 1CF6
0307

```

```

*
*****
*
FCOM LDA- C,I
SAN ACMOK
JMP* ARG0
ACMOK SET A CHANGE SIGN
FOR- SIGN,I
STA- SIGN,I
JMP* ANXT
ALZERO NUM 0
*****
*** GET ADDRESS OF NEXT OPERAND
* 15 BIT ADDRESSING ARITHMETIC IS BEING USED.
* REFER TO E006, APENDIX ON 15 BIT ARITHMETIC
*
OPERND 0 0
LDQ- P,I
LDA* (ALZERO),Q
DIRECT STA- F,I
LDA- RELADR,I IF RELATIVE ADDRESS MODE.
SAZ ABSDIR--1 GO TO ABSOLUTE DIRECT
LDA- F,I SIGN EXTEND RELATIVE ADDRESS
ALS 1
ARS 1
STA- F,I
ADQ- F,I
A5 JMP* OPA:DR
ABS DIR LDQ- F,I
OPA:DR ADQ- INDEX,I
RAO- P,I
JMP* (OPERND) RETURN EFFECTIVE ADR -1 IN Q
CARRY 0 0
*
*
*
SAP SKP--1
INQ 1
AND- LPMSK+15
SQP SKP--1
RAO- G,I
LLS 16
AND- LPMSK+15
LLS 16
SKP JMP* (CARRY)

```

CHANGE SIGN

GET ADDRESS OF NEXT OPERAND

GET ADDRESS OF NEXT OPERAND
 15 BIT ADDRESSING ARITHMETIC IS BEING USED.
 REFER TO E006, APENDIX ON 15 BIT ARITHMETIC

IF RELATIVE ADDRESS MODE.
 GO TO ABSOLUTE DIRECT

SIGN EXTEND RELATIVE ADDRESS

EFFECTIVE ADDRESS -1 IN Q
 MOVE PSEUDO PROGRAM COUNTER
 RETURN EFFECTIVE ADR -1 IN Q

THIS ROUTINE ASSUMES THAT A SUM IS CONTAINED
 WITHIN THE QA REGISTER. A CHECK IS MADE FOR A
 CARRY IN THE A AND Q REGISTERS AND THE CARRY
 BITS ARE ADDED.
 CHECK FOR CARRY IN A REGISTER
 YES - ADD IN CARRY BIT
 MASK OFF CARRY BIT IN A REGISTER
 CHECK FOR CARRY IN Q REGISTER
 YES - ADD IN CARRY BIT
 EXCHANGE A AND Q REGISTERS
 MASK OFF CARRY BIT IN Q REGISTER
 RESTORE Q AND A REGISTERS
 NO - RETURN WITH Q AND A REGISTER IN PROPER
 FORMAT

MSOS4.0
 MSOS4.0
 MSOS4.0
 MSOS4.0

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N7200262
N7200263
N7200264
N7200265
N7200266
N7200267
N7200268
N7200269
N7200270
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N7200273
N7200274
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N7200299
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N7200301
N7200302
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N7200306
N7200307

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0310
0311
0312
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0314
0315 P00CD 58E5
0316 P00CE 5800
P00CF 0129
0317
0318 P00D0 0106
0319 P00D1 0123
0320 P00D2 0804
0321 P00D3 B106
0322 P00D4 6106
0323
0324
0325 P00D5 C10F
0326 P00D6 0111
0327 P00D7 1895
0328 P00D8 210B
0329 P00D9 0FE1
0330 P00DA 0F41
0331 P00DB A011
0332 P00DC 611B
0333 P00DD 4103
0334 P00DE C111
0335 P00DF 210B
0336 P00E0 0FE1
0337 P00E1 0121
0338 P00E2 0D01
0339 P00E3 411A
0340 P00E4 C110
0341 P00E5 210C
0342 P00E6 0FE1
0343 P00E7 0121
0344 P00E8 0D01
0345 P00E9 4108
0346 P00EA C110
0347 P00EB 210B
0348 P00EC 0FE1
0349 P00ED 0F41
0350 P00EE A011
0351 P00EF 6109
0352 P00F0 4104
0353 P00F1 C11A
0354 P00F2 8108
0355 P00F3 58CF
0356 P00F4 610A
0357 P00F5 4104
0358 P00F6 C10F

```

*
*****
*           M U L T I P L Y
*
*           FLOATING POINT MULTIPLY OF F*G
*
DFMPY  RTJ* OPERND
RTJ    FLTSET          STEPS 1,2,3 AND 4 OF MPY OR DIV
*
*           IF F IS NEG., CHANGE SIGN.
*
SAZ    JMPOUT-*-1
SAP    FLT1-*-1
SET    A
FOR-   SIGN,I
STA-   SIGN,I
*
*           STEP 5.A.
FLT1   LDA-   C,I
        SAN   NOZERO-*-1
JMPOUT JMP*   ARGO
NOZERO MUI-   A,I
        LLS   1
        ARS   1
        AND-  LPMSK+15      $7FFF
        STA-  TEMPQ2,I     CA(LSB)
        STQ-  G,I         CA(MSB)
        LDA-  D,I
        MUI-  A,I
        LLS   1
        SAP   1          ROUND
        INQ   1
        STQ-  TEMPQ,I     DA(MSB) ROUNDED
        LDA-  CI,I
        MUI-  AI,I
        LLS   1
        SAP   1          ROUND
        INQ   1          CI*AI(MSB) ROUNDED
        STQ-  F,I
        LDA-  CI,I
        MUI-  A,I
        LLS   1
        ARS   1
        AND-  LPMSK+15      $7FFF
        STA-  F+1,I       CI*A (LSB)
        STQ-  G+1,I       CI*A (MSB)
        LDA-  TEMPQ,I     DA (MSB)
        ADD-  F,I         CIAI (MSB)
RTJ*   CARRY          FORMAT QA REGISTERS
        STA-  F+2,I       CIAI(MSB)+DA(MSB) IN
        STQ-  G+1,I       CIA*(MSB)
        LDA-  C,I

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N7200310
N7200311
N7200312
N7200313
N7200314
N7200315
N7200316
N7200317
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N7200356
N7200357
N7200358

0359 P00F7 2100
 0360 P00F8 0FE1
 0361 P00F9 0121
 0362 P00FA 0D01
 0363 P00FB 0814
 0364 P00FC F104
 0365 P00FD 810A
 0366 P00FE 58C4
 0367 P00FF 8109
 0368 P0100 58C2
 0369 P0101 4104
 0370 P0102 6105
 0371 P0103 C10F
 0372 P0104 210C
 0373 P0105 0FE1
 0374 P0106 0F41
 0375 P0107 A011
 0376 P0108 8105
 0377 P0109 58B9
 0378 P010A 6105
 0379
 0380 P010B 0814
 0381 P010C 8104
 0382 P010D 0122
 0383 P010E 0103
 0384 P010F A011
 0385 P0110 811B
 0386 P0111 0122
 0387 P0112 0103
 0388 P0113 A011
 0389 P0114 6104
 0390 P0115 C105
 0391 P0116 0FC1
 0392 P0117 F104
 0393 P0118 0FE1
 0394 P0119 6105
 0395 P011A 4104

MUI- B,I
 LLS 1
 SAP 1
 INQ 1
 TRQ A
 LDQ- G+1,I
 ADD- F+2,I
 RTJ* CARRY
 ADD- F+1,I
 RTJ* CARRY
 STO- G+1,I
 STA- G+2,I
 LDA- C,I
 MUI- A1,I
 LLS 1
 ARS 1
 AND- LPMSK+15
 ADD- G+2,I
 RTJ* CARRY
 STA- G+2,I
 *
 TRQ A
 ADD- G+1,I
 SAP SKP1--1
 RAO- G,I
 AND- LPMSK+15
 ADD- TEMGP2,I
 SAP SKP2--1
 RAO- G,I
 AND- LPMSK+15
 SKP1 STA- G+1,I
 SHIFTA LDA- G+2,I
 ALS 1
 LDQ- G+1,I
 LLS 1
 STA- G+2,I
 STQ- G+1,I

ROUND
 CB(MSB)
 CIA'(MSB)
 DA+CIAI+CB
 DA+CIAI+CB IN A + CIA'' IN Q
 CI*A (LSB)
 DA+CIAI+CB(MSB)+CIA(LSB) INA + CIA'''(MSB) IN Q
 CIA''' (MSB)
 DA+CIAI+CB(MSB) + CIA(LSB)
 \$7FFF CA*I IN QA REGISTERS
 LSB OF PRODUCT
 DA+CIAI+CB + CIA(LSB) + CAI(LSB)
 CAI'(MSB)
 CIA'''(MSB)
 IS THERE A CARRY
 ADD IN CARRY BIT-YES
 CAI'+CIA'''+CA(LSB)
 MSB OF PRODUCT
 ISB OF PRODUCT
 THIS LOGIC SQUEEZES OUT
 THE CARRY SLOTS IN
 CELLS G+1 AND G+2

N7200359
 N7200360
 N7200361
 N7200362
 N7200363
 N7200364
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 N7200394
 N7200395

0450	P0150	C105	STP6	LDA-	G#2,I	RESTORE LSB	N7200450
0451	P0151	A800	STEP6B	AND	H7FC0		N7200451
	P0152	FF19					
0452	P0153	4110		STQ-	CI,I	SAVE ISB IN C	N7200452
0453	P0154	6111		STA-	D,I	SAVE LSB IN D	N7200453
0454	P0155	C103		LDA-	G,I		N7200454
0455	P0156	610F		STA-	C,I	SAVE MSB IN C	N7200455
0456	P0157	C112		LDA-	DELTA,I		N7200456
0457	P0158	810E		ADD-	BETA,I		N7200457
0458	P0159	9113	COMBIN	SUB-	SHIFCT,I		N7200458
0459	P015A	6112		STA-	DELTA,I		N7200459
0460	P015B	0822		TRA	Q		N7200460
0461	P015C	0F47		ARS	7		N7200461
0462	P015D	0900		INA	0		N7200462
0463	P015E	0102		SAZ	TESTDV-*-1		N7200463
0464	P015F	1800		JMP	OVFUNF		N7200464
	P0160	00C3					
0465			*			UNDERFLW IF Q=-,A=0.	N7200465
0466	P0161	C11F	TESTDV	LDA-	MULDIV,I	MULTIPLY/DIVIDE FLAG	N7200466
0467	P0162	9023		SUB-	ONEBIT	\$0001	N7200467
0468	P0163	0102		SAZ	DIV-*-1		N7200468
0469	P0164	1800		JMP	NXTOPC	GO GET NEXT OPCODE	N7200469
	P0165	FEAD					
0470	P0166	C10F	DIV	LDA-	C,I	PLACE C, CI, D, AND DELTA INTO	N7200470
0471	P0167	610B		STA-	A,I	A, AI, B AND BETA	N7200471
0472	P0168	C110		LDA-	CI,I		N7200472
0473	P0169	610C		STA-	AI,I		N7200473
0474	P016A	C111		LDA-	D,I		N7200474
0475	P016B	610D		STA-	B,I		N7200475
0476	P016C	C112		LDA-	DELTA,I		N7200476
0477	P016D	610E		STA-	BETA,I		N7200477
0478	P016E	C11C		LDA-	T1,I	RESTORE C, CI, D, AND DELTA	N7200478
0479	P016F	610F		STA-	C,I		N7200479
0480	P0170	C11D		LDA-	T2,I		N7200480
0481	P0171	6110		STA-	CI,I		N7200481
0482	P0172	C11E		LDA-	T3,I		N7200482
0483	P0173	6111		STA-	D,I		N7200483
0484	P0174	C023		LDA-	ONEBIT	\$0001	N7200484
0485	P0175	6112		STA-	DELTA,I	SET DELTA TO 1 FOR MULTIPLY	N7200485
0486	P0176	C022		LDA-	ZERO	CLEAR	N7200486
0487	P0177	611F		STA-	MULDIV,I	MULTIPLY/DIVIDE FLAG	N7200487
0488	P0178	1800		JMP	FLT1		N7200488
	P0179	FF5B					

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0491          *
0492          *****
0493          *
0494 P017A 5800 DFDIV RTJ OPERND GET NEXT OPERAND ADDRESS
          P017B FF37
          P017C 587C          RTJ* FLTSET STEPS 1, 2, 3, AND 4 OF MPY OR DIV. AND NORMAL
0495          * SET A, AI, B, BETA, F, F+1, F+2
0496          *
0497 P017D 0112 SAN A6-* -1 IF F IS ZERO, GO TO DIVZER
0498 P017E 1800 JMP DIVZER
          P017F 00A2
0499 P0180 0123 A6 SAP FLT2-* -1
0500 P0181 0804 SET A
0501 P0182 B106 EOR- SIGN, I
0502 P0183 6106 STA- SIGN, I
0503 P0184 C10B FLT2 LDA- A, I
0504 P0185 9031 SUB- ONEBIT+14 $4000
0505 P0186 0101 SAZ PLUS1-* -1 IS FIRST WORD OF DENOMINATOR A + OR - 1
0506 P0187 1800 JMP* FLT3 NO
0507 P0188 C109 PLUS1 LDA- F+1, I YES
0508 P0189 0101 SAZ PLUS12-* -1
0509 P018A 180A JMP* FLT3
0510 P018B C10A PLUS12 LDA- F+2, I
0511 P018C 0101 SAZ PLUS13-* -1
0512 P018D 1807 JMP* FLT3
0513 P018E C10E PLUS13 LDA- BETA, I
0514 P018F 9023 SUB- ONEBIT
0515 P0190 0101 SAZ EXP01-* -1
0516 P0191 1803 JMP* FLT3
0517 P0192 1800 EXP01 JMP NXTOPC DENOMINATOR IS A +1.0--GET NEXT OPCODE
          P0193 FE7F
0518 P0194 C030 FLT3 LDA- ONEBIT+13 $2000
0519 P0195 6113 STA- SHIFCT, I TEMP STORAGE--MSB
0520 P0196 C10E LDA- BETA, I
0521 P0197 0864 TCA A
0522 P0198 0901 INA 1
0523 P0199 610E STA- BETA, I
0524 P019A C10B LDA- A, I
0525 P019B 0112 SAN FD2-* -1 IF A .EQ 0 GO TO ARG0
0526 P019C 1800 JMP ARG0
          P019D FECF
0527 P019E C10C FD2 LDA- AI, I
0528 P019F 0900 INA 0
0529 P01A0 210C MUI- AI, I -AI*AI IN QA REG
0530 P01A1 310B DVI- A, I (AI*AI)/A IN A REG. Q REG. CONTAINS REMAINDER
          * NO ROUNDING IS REQUIRED ON LSB
0531          *
0532 P01A2 0133 SAM FD3-* -1
0533 P01A3 0864 TCA A POS. A REG.
0534 P01A4 810D ADD- B, I B-(AI*AI)/A
0535 P01A5 180C JMP* NORM
0536 P01A6 A011 FD3 AND- LPMSK+15 NEG. A REG. $7FFF

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0537 P01A7 9100 SUB- B,I (-B+(AI*AI)/A - $8000)
0538 P01A8 0123 SAP FD4-*-1
0539 P01A9 8032 ADD- ONEBIT*15 NEG. A REG. $8000
0540 P01AA 0864 TCA A B-(AI*AI)/A
0541 P01AB 1806 JMP* NORM POS. A REG.
0542 P01AC E10C FD4 LDQ- AI,I
0543 P01AD 0DFE INQ -1
0544 P01AE 410C STQ- AI,I AI=AI-1
0545 P01AF 0101 SAZ NORM-*-1 A REG. = 0
0546 P01B0 0864 TCA A A.NE. 0 B-(AI*AI)/A
0547 P01B1 E10C NORM LDQ- AI,I
0548 *
0549 P01B2 0128 SAP STEP5E-*-1 FORM AI**2** -15 + (B-(AI*AI)/A)*2** -30
0550 P01B3 0DFE INQ -1 IF LOWER ACCUM IS NEGATIVE
0551 P01B4 8032 ADD- ONEBIT*15 DECREMENT UPPER BY 1
0552 P01B5 611A STA- TEMPQ,I $8000 - AND INCREMENT LOWER BY 1 TO PUT END
0553 P01B6 0164 SQP STEP5E-*-1 AROUND BORROW INTO PROPER POSITION
0554 P01B7 000F LDA- LPMSK*13 DECREMENT MSB BY 1 $1FFF
0555 P01B8 6113 STA- SHIFCT,I TEMP STORAGE
0556 P01B9 E011 LDQ- LPMSK*15 $7FFF
0557 P01BA C11A LDA- TEMPQ,I Q-A CONTAINS AI*2** -15+(B-AI*AI/A)*2** -30
0558 P01BR 0FC1 STEP5E ALS 1
0559 P01BC 0F61 LRS 1
0560 P01BD 310B DVI- A,I
0561 P01BE 0000 INQ 0
0562 P01BF 611A STA- TEMPQ,I 17A(AI*2** -15+(B-AI*AI/A)*2** -30) ISB
0563 P01C0 0844 CLR A
0564 P01C1 0F61 LRS 1
0565 P01C2 310B DVI- A,I ISB
0566 P01C3 E11A LDQ- TEMPQ,I
0567 P01C4 0FC1 ALS 1
0568 P01C5 0F62 LRS 2
0569 P01C6 0F41 ARS 1
0570 P01C7 A011 AND- LPMSK*15 $7FFF
0571 P01C8 611B STA- TEMGP2,I LSB
0572 P01C9 0814 TRQ A
0573 P01CA A010 AND- LPMSK*14
0574 P01CB 611A STA- TEMPQ,I ISB
0575 P01CC 0101 SAZ TST1-*-1 IS ISB ZERO
0576 P01CD 1803 JMP* CPROC NO
0577 P01CE C11B LDA- TEMGP2,I YES LSB
0578 P01CF 010F SAZ DONE-*-1 IS LSB ZERO
0579 P01D0 E113 CPROC LDQ- SHIFCT,I NO
0580 P01D1 C11A LDA- TEMPQ,I
0581 P01D2 0864 TCA A
0582 P01D3 0DFE INQ -1
0583 P01D4 4113 STQ- SHIFCT,I
0584 P01D5 8032 ADD- ONEBIT*15 $8000
0585 P01D6 611A STA- TEMPQ,I
0586 P01D7 E11B LDQ- TEMGP2,I
0587 P01D8 0146 SQZ DONE-*-1 IS LSB ZERO
0588 P01D9 09FE INA -1
0589 * Q REGISTER CONTAINS MSB

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0590 P01DA 611A
 0591 P01DB C11B
 0592 P01DC 0864
 0593 P01DD 8032
 0594 P01DE 611B
 0595 P01DF E113
 0596 P01E0 C11A
 0597 P01E1 0FC1
 0598 P01E2 0F61
 0599 P01E3 310B
 0600 P01E4 6103
 0601 P01E5 C11B
 0602 P01E6 0FC1
 0603 P01E7 0F61
 0604 P01E8 310B
 0605 P01E9 6104
 0606 P01EA 0844
 0607 P01EB 0F61
 0608 P01EC 310B
 0609 P01ED 6105
 0610 P01EE C10F
 0611 P01EF 611C
 0612 P01F0 C110
 0613 P01F1 611D
 0614 P01F2 C111
 0615 P01F3 611E
 0616 P01F4 C023
 0617 P01F5 611F
 0618 P01F6 1800
 P01F7 FF1D
 0619

DONE

*

STA- TEMPQ,I
 LDA- TEMGP2,I
 TCA A
 ADD- ONEBIT+15
 STA- TEMGP2,I
 LDQ- SHIFCT,I
 LDA- TEMPQ,I
 ALS 1
 LRS 1
 DVI- A,I
 STA- G,I
 LDA- TEMGP2,I
 ALS 1
 LRS 1
 DVI- A,I
 STA- G+1,I
 CLR A
 LRS 1
 DVI- A,I
 STA- G+2,I
 LDA- C,I
 STA- T1,I
 LDA- C1,I
 STA- T2,I
 LDA- D,I
 STA- T3,I
 LDA- ONEBIT
 STA- MULDIV,I
 JMP SHIFTA
 END OF FDIV

\$8000

Q REG CONTAINS MSB

MSB RESULT

ISB RESULT

LSB RESULT

\$0001

MULTIPLY/DIVIDE FLAG
SQUEEZE OUT CARRY SLOTS IN G+1 AND G+2

ISB N7200590
 N7200591
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 LSB N7200594
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 ISB N7200596
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 LSB N7200601
 N7200602
 N7200603
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0621 P01F8 0000 FLTSET 0 0
0622 P01F9 C203 LDA- 3,Q
0623 P01FA 610A STA- F#2,I
0624 P01FB 611B STA- TEMGP2,I F+2
0625 P01FC C202 LDA- 2,Q
0626 P01FD 6109 STA- F#1,I
0627 P01FE C201 LDA- 1,Q
0628 P01FF 6108 STA- F,I
0629 P0200 F109 LDQ- F#1,I
0630 P0201 411A STQ- TEMPQ,I F+1
0631 P0202 0127 SAP STEP2A-*--1
0632 P0203 E11B LDQ- TEMGP2,I
0633 P0204 0852 TCQ Q
0634 P0205 411B STQ- TEMGP2,I COMPLEMENT F+2
0635 P0206 F11A LDQ- TEMPQ,I
0636 P0207 0852 TCQ Q
0637 P0208 411A STQ- TEMPQ,I COMPLEMENT F+1
0638 P0209 0864 TCA A
0639 P020A 610B STEP2A STA- A,I
0640 *STEP2A IF F IS ZERO, GO TO ARGFO (SET BETA,A,B=0)
0641 P020B 0111 SAN A9-*--1
0642 P020C 1805 JMP* ARGFO
0643 P020D 0FC1 A9 ALS 1
0644 P020E B032 EOR- ONEBIT+15 $8000
0645 P020F 0F48 ARS 8
0646 P0210 0900 INA 0
0647 P0211 610E ARGFO STA- BETA,I
0648 P0212 C10B LDA- A,I
0649 P0213 E11A LDQ- TEMPQ,I F+1
0650 P0214 0FE8 LLS 8
0651 P0215 A011 AND- LPMSK+15 $7FFF
0652 P0216 610B STA- A,I
0653 P0217 C11B LDA- TEMGP2,I F+2
0654 P0218 F11A LDQ- TEMPQ,I F+1
0655 P0219 0FF7 LLS 23
0656 P021A A011 AND- LPMSK+15 $7FFF
0657 P021B 610C STA- AI,I
0658 P021C 0FEF LLS 15
0659 P021D A818 AND* RSLTB $7FC0
0660 P021E 610D STA- B,I
0661 P021F C108 LDA- F,I
0662 P0220 1CD7 JMP* (FLTSET)

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N7200662

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0664			*	DIVIDE CHECK WHEN DIVIDE BY ZERO		N7200664
0665	P0221	0C01	DIVZER	ENQ 1		N7200665
0666	P0222	1805		JMP* SETERR		N7200666
0667	P0223	0814	OVFUNF	TRQ A	OVERFLOW OR UNDERFLOW	N7200667
0668			*		OVERFLOW	N7200668
0669	P0224	0C00		ENQ 0		N7200669
0670	P0225	0121		SAP SETERR-*--1		N7200670
0671			*		UNDERFLOW	N7200671
0672	P0226	0C02		ENQ 2		N7200672
0673	P0227	C107	SETERR	LDA- ERRORS, I		N7200673
0674	P0228	AA19		AND* ERASE, Q		N7200674
0675	P0229	8A1B		ADD* SETBIT, Q		N7200675
0676	P022A	6107		STA- ERRORS, I		N7200676
0677	P022B	CA10		LDA* RSLTA, Q	SET F.P. ACCUMULATOR	N7200677
0678	P022C	610F		STA- G, I		N7200678
0679	P022D	CA08		LDA* RSLTAI, Q		N7200679
0680	P022E	6110		STA- CI, I		N7200680
0681	P022F	CA06		LDA* RSLTB, Q		N7200681
0682	P0230	6111		STA- D, I		N7200682
0683	P0231	CA0D		LDA* RSLTEX, Q		N7200683
0684	P0232	6112		STA- DELTA, I		N7200684
0685	P0233	1800	NXTOP3	JMP NXTOPC		N7200685
0686			*		OVERFLOW, UNDERFLOW	N7200686
0687	P0235	7FC0	RSLTB	NUM \$7FC0, \$7FC0, \$0000		N7200687
0688	P0237	0000				N7200688
0688	P0238	7FFF	RSLTAI	NUM \$7FFF, \$7FFF, \$0000		N7200688
0689	P0239	7FFF				N7200689
0689	P023A	0000				N7200689
0689	P023B	7FFF	RSLTA	NUM \$7FFF, \$7FFF, \$4000		N7200689
0690	P023C	7FFF				N7200690
0690	P023D	4000				N7200691
0690			*		EXPONENTS	N7200690
0691	P023E	007F	RSLTEX	NUM \$7F, \$7F, -\$7F		N7200691
0691	P023F	007F				N7200692
0692	P0240	FF80				N7200692
0692	P0241	7FFF	ERASE	NUM \$7FFF, \$BFFF, \$DFFF		N7200692
0693	P0242	BFFF				N7200693
0693	P0243	DFFF				N7200693
0693	P0244	8000	SETBIT	NUM \$8000, \$4000, \$2000		N7200693
0694	P0245	4000				N7200694
0694	P0246	2000				N7200694
0694	P0247	807F	H807F	NUM \$807F		N7200694

0697
0698
0699
0700
0701 P0248 5800
P0249 FE69
0702 P024A C203
0703 P024B 0864
0704 P024C 611B
0705 P024D C201
0706 P024E E202
0707 P024F 0864
0708 P0250 0852
0709 P0251 1807

*

*
*

S U B T R A C T

FLOATING POINT SUBTRACT G-F
GET NEXT OPERAND ADDRESS

DFSUB RTJ OPERNB

LDA- 3,Q
TCA A
STA- TEMGP2,I
LDA- 1,Q
LDQ- 2,Q
TCA A
TCQ Q
JMP* FADD2

COMPLEMENT F+2

CHANGE THE SIGN BEFORE
ENTERING THE ADD ROUTINE

N7200697
N7200698
N7200699
N7200700
N7200701

N7200702
N7200703
N7200704
N7200705
N7200706
N7200707
N7200708
N7200709


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0760 P027F 0864 TCA A COMPLEMENT C, CI, AND D
0761 P0280 6111 STA- D,I
0762 P0281 C110 LDA- CI,I
0763 P0282 0864 TCA A
0764 P0283 6110 STA- CI,I
0765 P0284 C10F LDA- C,I
0766 P0285 0864 TCA A
0767 P0286 610F STA- C,I
0768 P0287 C10F FADD21 LDA- C,I
0769 P0288 0119 SAN FA22-*--1 IF ACCUM IS ZERO, USE SECOND VALUE AS ANSWER
0770 P0289 C10E LDA- BETA,I
0771 P028A 6112 STA- DELTA,I
0772 P028B C10D LDA- B,I
0773 P028C 611A STA- TEMPQ,I
0774 P028D C10C LDA- AI,I
0775 P028E 6110 STA- CI,I
0776 P028F E10B LDQ- A,I
0777 P0290 1800 JMP STOCD
      P0291 00C9
0778 P0292 C112 FA22 LDA- DELTA,I FIRST WORD IS NOT ZERO
0779 P0293 910E SUB- BETA,I
0780 P0294 611A STA- TEMPQ,I TEMPQ=DELTA-BETA
      *
      * IF F .GE. G GO TO ADD STEP3 (ADDS3)
      *
0781
0782
0783
0784 P0295 0131 SAM 1
0785 P0296 1814 JMP* ADDS3
      * IF F .LT. G EXCHANGE EXPONENTS
0786
0787 P0297 C112 LDA- DELTA,I
0788 P0298 E10E LDQ- BETA,I
0789 P0299 610E STA- BETA,I BETA=DELTA
0790 P029A 4112 STQ- DELTA,I DELTA=BETA
      *
0791
0792 P029B C10B LDA- A,I
0793 P029C E10F LDQ- C,I
0794 P029D 610F STA- C,I C=A
0795 P029E 410B STQ- A,I A=C
0796 P029F C10C LDA- A+1,I
0797 P02A0 E110 LDQ- C+1,I
0798 P02A1 6110 STA- C+1,I C+1=A+1
0799 P02A2 410C STQ- A+1,I A+1=C+1
0800 P02A3 C10D LDA- A+2,I
0801 P02A4 E111 LDQ- C+2,I
0802 P02A5 6111 STA- C+2,I C+2=A+2
0803 P02A6 410D STQ- A+2,I A+2=C+2
      *
      * C, CI, D ARE NOW THE LARGER NUMBER
      * A, AI, B ARE NOW THE SMALLER NUMBER
0804
0805
0806 P02A7 C112 LDA- DELTA,I
0807 P02A8 910E SUB- BETA,I
0808 P02A9 611A STA- TEMPQ,I TEMPQ=DELTA-BETA
0809 P02AA 0822 TRA Q Q=DELTA-BETA
0810 P02AB 00D2 INQ -45
0811 * IF SHIFT .GE. 45

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N7200760
N7200761
N7200762
N7200763
N7200764
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      N7200810
      N7200811

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08112 P02AC 0178      SQM AS30-* -1
08113                * LEAVE THE LARGER NUMBER IN THE ACCUMULATOR
08114 P02AD C111      LDA- D,I
08115 P02AE 611A      STA- TEMPQ,I
08116 P02AF C110      LDA- CI,I
08117 P02B0 E1CF      LDQ- C,I
08118 P02B1 1800      JMP STOCD
                                N7200812
                                N7200813
                                N7200814
                                N7200815
                                N7200816
                                N7200817
                                N7200818

08119 P02B3 00A8      LRSINS LRS 0
08200 P02B4 7FF0      H7FF0 NUM $7FF0
08201                * STEP3
08202                AS30 LDQ- CI,I
08203                LDA- D,I
08204                LRS 4
08205                AND* H7FF0 $7FF0
08206                LDQ- C,I
08207                SQP L1-* -1
08208                EOR- LPMSK+4 $000F
08209                L1 STA- D,I D=0,11LSB,4 SIGN BITS
08300                LDA- CI,I
08301                LDQ- C,I
08302                LRS 2
08303                ARS 1
08304                AND- LPMSK+15 $7FFF
08305                STA- CI,I CI=0,15ISB
08306                TRQ A
08307                AND- LPMSK+15 $7FFF
08308                STA- C,I C=0SS,13MSB
08309                AS31 LDQ- AI,I
08400                LDA- B,I
08401                LRS 2
08402                STA- B,I B=10LSB,6SIGN BITS
08403                LDQ- A,I
08404                LDA- AI,I
08405                LRS 2
08406                STQ- A,I A=SSS,13MSB
08407                STA- AI,I AI=16ISB
08408                * STEP 4.
08409                * SHIFT SMALLER NUMBER RIGHT (ABS.(BETA-DELTA)),
08500                * AND SET THE SIGN OF MSB TO POSITIVE
08501                * SHIFT ISB RIGHT 1, AND SET THE SIGN OF ISB POSITIVE
08502                * SHIFT LSB RIGHT 1, AND SET THE SIGN OF LSB POSITIVE.
08503                * CLEAR THE CARRY TO BIT 15 AND ADD 1 TO MSB
08504                * POSITION THE SMALLER NUMBER
08505                *
08506                LDA- TEMPQ,I
08507                SUB- LPMSK+4 DELTA-BETA-15
08508                TRA Q
08509                ADD* LRSINS
08600                STQ* LRS2
08601                SAM 1 IF ((DELTA-BETA) .GE. 15) GO TO GE15
08602                JMP* GE15
08603                LDA- TEMPQ,I

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N7200862
N7200863

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0917 P0308 611A AS60 STA- TEMPQ,I      TEMPQ = COUNT FOR CARRYS INTO MSB
0918 P0309 C110 LDA- CI,I
0919 P030A 810C ADD- AI,I
0920 P030B 6110 STA- CI,I
0921 P030C 0123 SAP AS601-#-1
0922 P030D A011 AND- LPMSK+15 $7FFF - CLEAR THE CARRY BIT
0923 P030E 6110 STA- CI,I
0924 P030F D11A RAO- TEMPQ,I      TEMPQ=TEMPQ+1
0925 * STEP7
0926 P0310 E11A AS601 LDQ- TEMPQ,I
0927 P0311 F10B ADQ- A,I
0928 P0312 F10F ADQ- C,I
0929 P0313 016E SQP AS61-#-1
0930 * SUBTRACT END AROUND CARRY-INCREASE LSB BY 1
0931 P0314 F011 ADQ- LPMSK+15 $7FFF - CLEAR THE CARRY BIT
0932 P0315 C111 LDA- D,I
0933 P0316 0901 INA 1
0934 P0317 6111 STA- D,I
0935 P0318 0129 SAP AS61-#-1
0936 P0319 A011 AND- LPMSK+15 $7FFF - CLEAR THE CARRY BIT
0937 P031A 6111 STA- D,I
0938 P031B C110 LDA- CI,I
0939 P031C 0901 INA 1
0940 P031D 6110 STA- CI,I
0941 P031E 0123 SAP AS61-#-1
0942 P031F A011 AND- LPMSK+15 $7FFF - CLEAR THE CARRY BIT
0943 P0320 6110 STA- CI,I
0944 P0321 0D01 INQ 1
0945 P0322 410F AS61 STQ- C,I      INCREASE MSB BY 1 -
0946 P0323 C111 LDA- D,I      C = QVS,13MSB
0947 P0324 E110 LDQ- CI,I      SQUEEZE OUT LEADING ZERO BITS
0948 P0325 0FC1 ALS 1
0949 P0326 0FE1 LLS 1
0950 P0327 6111 STA- D,I      D = 10LSB,6 SIGN BITS
0951 P0328 4110 STQ- CI,I      CI = 16ISB
0952 P0329 C10F LDA- C,I
0953 P032A 0FC1 ALS 1
0954 P032B 0123 SAP T11-#-1
0955 P032C C111 LDA- D,I
0956 P032D 8004 EOR- LPMSK+2 $0003
0957 P032E 6111 STA- D,I      REPLACE SIGN BITS
0958 *
0959 * IF RESULT IS MINUS ZERO, GO TO ARGO
0960 * MINUS ZERO IS Q=7FFF, A=FFFE
0961 *
0962 P032F E10F T11 LDQ- C,I
0963 P0330 C110 LDA- CI,I
0964 P0331 F032 ADQ- ONEBIT+15 $8000
0965 P0332 0157 SQN AS62-#-1
0966 P0333 0900 INA 0
0967 P0334 0115 SAN AS62-#-1
0968 P0335 C111 LDA- D,I
0969 P0336 0900 INA 0

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FTN 3.1

0970 P0337 0112
 0971 P0338 1800
 P0339 FD33
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 0978 P033A 0FA1
 0979 P033B 0F6F
 0980 P033C 0872
 0981 P033D C110
 0982 P033E 017C
 0983 P033F E10F
 0984 P0340 411A
 0985 P0341 0FE2
 0986 P0342 410F
 0987 P0343 E110
 0988 P0344 C111
 0989 P0345 0FE2
 0990 P0346 4110
 0991 P0347 E11A
 0992 P0348 C111
 0993 P0349 0FE2
 0994 P034A 1800
 0995 P034B 0112
 0996 P034C E10F
 0997 P034D 411A
 0998 P034E 0FE1
 0999 P034F 410F
 1000 P0350 E110
 1001 P0351 C111
 1002 P0352 0FE1
 1003 P0353 4110
 1004 P0354 F11A
 1005 P0355 C111
 1006 P0356 0FE1
 1007 P0357 611A
 1008 P0358 C110
 1009 P0359 E10F
 1010
 1011 P035A 410F
 1012 P035B 016B
 1013 P035C 0864
 1014 P035D 0852
 1015 P035E 410F
 1016 P035F 6110
 1017 P0360 C11A
 1018 P0361 0864
 1019 P0362 A014
 1020 P0363 611A
 1021 P0364 C110

*
*
*
*
*

AS62

SHFT2

SHFT1

RESUME

*
STOCD

SAN AS62-*--1
 JMP ARG0
 *
 * STEP 7
 * SAVE SIGN S AND OVERFLOW V IN BITS 1 AND 0
 * IF S .EQ. V , THEN V IS SIGN EXTENSION
 * IF S .NE. V , THEN RESULT OVERFLOWED INTO V
 *
 QLS 1
 LRS 15
 EQ Q
 LDA- CI,I
 SQM SHFT1-*--1
 LDQ- C,I
 STQ- TEMPQ,I
 LLS 2
 STQ- C,I
 LDQ- CI,I
 LDA- D,I
 LLS 2
 STQ- CI,I
 LDQ- TEMPQ,I
 LDA- D,I
 LLS 2
 JMP* RESUME
 RAO- DELTA,I
 LDQ- C,I
 STQ- TEMPQ,I
 LLS 1
 STQ- C,I
 LDQ- CI,I
 LDA- D,I
 LLS 1
 STQ- CI,I
 LDQ- TEMPQ,I
 LDA- D,I
 LLS 1
 STA- TEMPQ,I
 LDA- CI,I
 LDQ- C,I
 * SAVE THE SIGN AND
 STG- C,I
 SQP POS-*--1
 TCA A
 TCQ Q
 STQ- C,I
 STA- CI,I
 LDA- TEMPQ,I
 TCA A
 AND- LPMSK#18
 STA- TEMPQ,I
 LDA- CI,I

CHECK IF SIGN AND OVERFLOW EQUAL (SAME=0,DIF=1)

S=V, SIGN EXTENSION
TEMPORARY STORAGE FOR C

S=V, OVERFLOW INTO V DELTA=DELTA+1

TEMPORARY STORAGE FOR C

THIRD WORD

SAVE THE SIGN AND MAGNITUDE OF THE RESULTS
C=A AND B IN A REG

COMPLEMENT AI OR CI
COMPLEMENT A OR C

KEEP IN A REG.
THIRD WORD

\$\$\$FC
THIRD WORD
RELOAD A REG.

N7200970
 N7200971
 N7200972
 N7200973
 N7200974
 N7200975
 N7200976
 N7200977
 N7200978
 N7200979
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 N7200981
 N7200982
 N7200983
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 N7201020
 N7201021


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1022 P0365 0CFE      ENQ  -1
1023 P0366 1802      JMP* STOSGN
1024                *      POSITIVE, SET SIGN=+1
1025 P0367 0C01      POS  1
1026 P0368 4106      STOSGN STQ- SIGN,I
1027 P0369 0C00      ENQ  0
1028 P036A 410E      STQ- BETA,I
1029 P036B E10F      LDQ- C,I      RESTORE Q
1030 P036C 0155      SQN  NORMAL-*--1
1031 P036D 0114      SAN  NORMAL-*--1
1032 P036E C11A      LDA- TEMPQ,I  THIRD WORD
1033 P036F 0112      SAN  NORMAL-*--1
1034 P0370 1800      JMP  ARGO      RESULT IS ZERO
      P0371 FCFB
1035 P0372 4103      NORMAL STQ- G,I
1036 P0373 C110      LDA- CI,I
1037 P0374 6104      STA- G+1,I
1038 P0375 C11A      LDA- TEMPQ,I  THIRD WORD
1039 P0376 6111      STA- D,I      THIRD WORD
1040 P0377 6105      STA- G+2,I
1041 P0378 1800      JMP  NRMLIZ
      P0379 FDA1

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N7201022
N7201023
N7201024
N7201025
N7201026
N7201027
N7201028
N7201029
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N7201031
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N7201033
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N7201037
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N7201039
N7201040
N7201041

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1043                *
1044                0009 P
1045                000A P
1046                03C0 P
1047 P037A 0046      EQU  DP01(*796)
1048                EQU  DP02(DP01+1)
                EQU  DP03(DP02*96)
                BSS   (DP03-*)
                END

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N7201043
N7201044
N7201045
N7201046
N7201047
N7201048

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PGM= 0300 (960) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)
0050	G	0003	(000003)
			0144, 0146, 0149, 0158, 0160, 0208, 0210, 0212, 0226, 0227, 0228, 0234, 0238, 0240, 0241, 0246
			0249, 0251, 0252, 0254, 0255, 0257, 0302, 0333, 0352, 0357, 0364, 0369, 0370, 0376, 0378, 0381
			0383, 0387, 0389, 0390, 0392, 0394, 0395, 0399, 0401, 0403, 0422, 0425, 0430, 0431, 0438, 0442
			0443, 0444, 0448, 0449, 0450, 0454, 0600, 0605, 0609, 1035, 1037, 1040
0050	SIGN	0006	(000006)
0050	ERRORS	0007	(000007)
0051	F	0008	(000008)
			0156, 0199, 0247, 0269, 0270, 0321, 0322, 0501, 0502, 0758, 1026
			0673, 0676, 0286, 0287, 0289, 0345, 0351, 0354, 0356, 0365, 0367, 0400, 0402, 0404, 0406, 0407
			0280, 0283, 0412, 0413, 0418, 0426, 0427, 0507, 0510, 0623, 0626, 0628, 0629, 0661, 0722, 0723
			0408, 0411, 0736, 0745, 0746, 0524, 0530, 0560, 0565, 0599, 0604, 0608, 0639, 0648, 0652, 0741
0051	A	000B	(000011)
0051	AI	000C	(000012)
			0328, 0335, 0347, 0471, 0503, 0524, 0530, 0560, 0565, 0599, 0604, 0608, 0639, 0648, 0652, 0741
			0776, 0792, 0795, 0796, 0799, 0800, 0803, 0843, 0846, 0874, 0882, 0885, 0893, 0896, 0927, 0875
			0341, 0372, 0473, 0527, 0529, 0542, 0544, 0547, 0657, 0750, 0774, 0839, 0844, 0847, 0869, 0875
			0879, 0884, 0892, 0919, 0751, 0772, 0840, 0842, 0868, 0873, 0889, 0902
0052	B	000D	(000013)
0052	BETA	000E	(000014)
0052	C	000F	(000015)
			0359, 0475, 0534, 0537, 0660, 0751, 0772, 0840, 0842, 0868, 0873, 0889, 0902
			0457, 0477, 0513, 0520, 0523, 0647, 0734, 0770, 0779, 0788, 0789, 0807, 1028
			0170, 0178, 0182, 0194, 0194, 0265, 0325, 0358, 0371, 0455, 0470, 0479, 0610, 0678, 0765, 0767
			0768, 0793, 0794, 0797, 0798, 0801, 0802, 0817, 0826, 0831, 0838, 0928, 0945, 0952, 0962, 0983
			0986, 0996, 0999, 1009, 1011, 1015, 1029, 0472, 0481, 0612, 0680, 0753, 0756, 0762, 0764, 0775
0053	CI	0010	(000016)
			0187, 0195, 0230, 0242, 0340, 0346, 0452, 0472, 0481, 0612, 0680, 0753, 0756, 0762, 0764, 0775
			0816, 0822, 0830, 0835, 0909, 0910, 0915, 0918, 0920, 0923, 0938, 0940, 0943, 0947, 0951, 0963
			0981, 0987, 0990, 1000, 1003, 1008, 1016, 1021, 1036, 0752, 0757, 0761, 0814, 0823, 0829, 0901
0053	D	0011	(000017)
			0190, 0196, 0243, 0334, 0453, 0474, 0483, 0614, 0682, 0752, 0757, 0761, 0814, 0823, 0829, 0901
			0903, 0906, 0932, 0934, 0937, 0946, 0950, 0955, 0957, 0968, 0988, 0992, 1001, 1005, 1039
			0177, 0197, 0235, 0446, 0456, 0459, 0476, 0485, 0684, 0771, 0778, 0787, 0790, 0806, 0995
0053	DELTA	0012	(000018)
0054	SHIFCT	0013	(000019)
0054	P	0014	(000020)
0054	RELADR	0015	(000021)
0055	OPCNT	0016	(000022)
0055	INDEX	0017	(000023)
0055	OPCODE	0018	(000024)
0056	QS	0019	(000025)
0056	TEMPQ	001A	(000026)
			0066, 0216, 0169, 0179, 0184, 0339, 0353, 0552, 0557, 0562, 0566, 0574, 0580, 0585, 0590, 0596
			0161, 0167, 0630, 0635, 0637, 0649, 0654, 0744, 0749, 0773, 0780, 0808, 0815, 0856, 0863, 0917, 0924, 0926
			0630, 0635, 0637, 0649, 0654, 0744, 0749, 0773, 0780, 0808, 0815, 0856, 0863, 0917, 0924, 0926
			0984, 0991, 0997, 1004, 1007, 1017, 1020, 1032, 1038, 0591, 0594, 0601, 0624, 0632, 0634, 0653
0056	TEMGP2	001B	(000027)
0057	T1	001C	(000028)
			0159, 0164, 0166, 0183, 0332, 0385, 0571, 0577, 0586, 0591, 0594, 0601, 0624, 0632, 0634, 0653
			0704, 0719, 0724, 0478, 0611

SYMBOLS

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	DFLOT	0000	0043, 0074
0075	STOREP	000B	
0076	INTERP	000C	0088
0085	NXTOPC	0013	0125, 0136, 0191, 0200, 0214, 0469, 0517, 0685
0089	A1	0017	0087
0093	DECODE	0019	0083
0098	EXECUT	0010	
0100	FLINS	001F	0098, 0099, 0100, 0101, 0102, 0103, 0104, 0105, 0106, 0107, 0108, 0109, 0110, 0111, 0112, 0113
			0114, 0115
0120	GHMD	002F	0105
0124	A2	0033	0122
0127	NIDX	0035	0106
0130	INDX	0037	0115
0135	STONDX	003C	0128
0142	DFLDD	003E	0111
0156	A3	0049	0154
0170	STEP2B	0056	0162
0173	A4	0059	0171
0192	H7FC0	006C	0189, 0451
0193	ARG0	006D	0172, 0267, 0327, 0526, 0971, 1034
0206	DFLST	0075	0113
0214	ANXT	007D	0271
0215	FEND	007E	0100, 0104
0216	FLIT	007F	0101, 0102, 0103, 0112
0221	DFEXIT	0085	0218, 0220
0222	FLTSTO	0086	0206, 0215, 0259
0230	FLST1	008D	0225
0258	FLSTA	00A9	0229, 0248
0265	FCOM	00AB	0107
0268	ACMOK	00AE	0266
0272	ALZERO	00B2	0279
0277	OPERND	00B3	0132, 0142, 0207, 0292, 0315, 0494, 0701, 0717
0280	DIRECT	00B6	
0287	A5	00BD	
0289	ABSDIR	00BF	0282
0290	OPADR	00C0	0288
0293	CARRY	00C3	0306, 0355, 0366, 0368, 0377
0306	SKP	00CC	0298, 0301
0315	DFMFY	00CD	0109
0325	FLT1	00D5	0319, 0488
0327	JMPOUT	00D7	0318

0328 NOZERO 0008
 0385 SKP1 0110
 0389 SKP2 0114
 0390 SHIFTA 0115
 0397 NRMLIZ 0118
 0404 STEP6 0122
 0417 H7F80 012F
 0418 STEP6A 0130
 0450 SIP6 0150
 0451 STEP6B 0151
 0458 GOMBIN 0159
 0466 TESTDV 0161
 0470 DIV 0166
 0494 OFDIV 017A
 0499 A6 0180
 0503 FLT2 0184
 0507 PLUS1 0188
 0510 PLUS12 018E
 0513 PLUS13 018E
 0517 EXPO1 0192
 0518 FLT3 0194
 0527 FD2 019E
 0536 FD3 01A6
 0542 FD4 01AC
 0547 NORM 01B1
 0558 STEP5E 01BB
 0577 IST1 01CE
 0579 CPROC 01D0
 0595 DONE 01DF
 0621 FLTSET 01F8
 0639 STEP2A 020A
 0643 A9 020D
 0647 ARGFO 0211
 0665 DIVZER 0221
 0667 OVFUNF 0223
 0673 SETERR 0227
 0685 NXTOP3 0233
 0687 RSLTB 0235
 0688 RSLTAI 0238
 0689 RSLTA 023B
 0691 RSLTEX 023E
 0692 ERASE 0241
 0693 SETBIT 0244
 0694 H807F 0247
 0701 DFSUB 0248
 0717 DFADD 0252
 0722 FADD2 0258
 0728 A10 025E
 0740 A11 026B
 0768 FADD21 0287
 0778 FA22 0292
 0809 ADDS3 02AA
 0819 LRSINS 02B3

0326
 0382
 0386
 0618
 1041
 0416
 0739
 0414
 0445
 0434, 0437

 0463
 0468
 0110
 0497
 0499
 0505
 0508
 0511
 0515
 0506, 0509, 0512, 0516
 0525
 0532
 0538
 0535, 0541, 0545
 0549, 0553
 0575
 0576
 0578, 0587
 0316, 0495, 0662
 0631
 0641
 0642
 0498
 0464
 0666, 0670
 0730
 0659, 0681
 0679
 0677
 0683
 0674
 0675
 0737
 0108
 0114
 0709
 0726
 0738
 0759
 0769
 0785
 0859, 0864

0820	H7FF0	02B4	0825
0822	AS30	02B5	0812
0829	L1	02B0C	0827
0839	AS31	02C6	
0870	LRS	02D0	0867
0876	LRS1	02E3	0865
0884	GE15	02EB	0862
0886	LRS2	02ED	0860
0900	STEP5	02F8	0883
0909	AS6	0300	0904
0917	AS60	0308	0912
0926	AS601	0310	0921
0945	AS61	0322	0929, 0935, 0941
0962	I11	032F	0954
0978	AS62	033A	0965, 0967, 0970
0983	SHFT2	033F	
0995	SHFT1	034B	0982
1007	RESUME	0357	0994
1011	STOCD	035A	0777, 0818
1025	POS	0367	1012
1028	STOSGN	0368	1023
1035	NORMAL	0372	1030, 1031, 1033
1044	DP01	0009	1045
1045	DP02	000A	1046
1046	DP03	03C0	1047

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0046	AVOLA	0002	0065
0047	AVOLR	0033	0219

*** ALPHABETICAL SORT OF SYMBOLS ***

A	0051	A1	0089	A10	0728	A11	0740	A2	0124	A3	0156	A4	0173	A5	0287	A6	0499
A9	0643	ABSDIR	0289	ACMOK	0268	ADDS3	0809	AI	0851	ALZERO	0272	ANXT	0214	ARG0	0193	ARGF0	0647
AS30	0822	AS31	0839	AS6	0909	AS60	0917	AS601	0926	AS61	0945	AS62	0978	AVOLA	0046	AVOLR	0047
B	0052	BETA	0052	C	0052	CARRY	0293	CHMD	0120	CI	0053	COMBIN	0458	CPROC	0579	D	0053
DECODE	0033	DELTA	0053	DFADD	0717	DFDIV	0494	DFEXIT	0221	DFLDD	0142	DFLOT	0043	DFLST	0206	DFMPY	0315
DFSUB	0701	DIRECT	0280	DIV	0470	DIVZER	0665	DONE	0595	DPG1	1044	DP02	1045	DP03	1046	ERASE	0692
ERRORS	0050	EXECUT	0098	EXPO1	0517	F	0051	FA22	0778	FADD2	0722	FADD21	0768	FCOM	0265	FD2	0527
FD3	0536	FD4	0542	FEND	0215	FLINS	0100	FLIT	0216	FLST1	0230	FLSTA	0258	FLT1	0325	FLT2	0503
FLT3	0518	FLTSET	0621	FLTSTO	0222	G	0050	GE15	0884	H7F80	0417	H7F00	0192	H7FF0	0820	H807F	0694
I	0000	INDEX	0055	INDX	0130	INTERP	0076	JMPOUT	0327	L1	0829	LPMSK	0058	LRS	0870	LRS1	0876
LRS2	0886	LRSINS	0819	MULDIV	0057	NIDX	0127	NORM	0547	NORMAL	1035	NOZERO	0328	NRMLIZ	0397	NXTOP3	0685
NXTOPC	0085	NZERO	0058	ONEBIT	0058	OPADR	0290	OPCNT	0055	OPCODER	0055	OPERND	0277	OVFUNF	0667	P	0054
PLUS1	0507	PLUS12	0510	PLUS13	0513	POS	1025	QS	0056	RELADR	0054	RESUME	1007	RSLTA	0689	RSLTAI	0688
RSLTB	0687	RSLTEX	0691	SETBIT	0693	SETERR	0673	SHFT1	0995	SHFT2	0983	SHIFCT	0054	SHIFTA	0390	SIGN	0050
SKP	0306	SKP1	0385	STEP2A	0639	STEP2B	0639	STEP5	0900	STEP5E	0900	STEP5E	0558	STEP6	0404	STEP6A	0418
STEP6B	0451	STOCD	1011	STONJX	0135	STOREP	0075	STOSGN	1026	STP6	0450	T1	0057	STEP6	0404	STEP6A	0418
T3	0057	TEMGP2	0056	TEMPQ	0056	TESTDV	0466	TST1	0577	ZERO	0058	ZROBIT	0058	T11	0962	T2	0057


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0100 P0010 6837 STA* B#1
0102 ***** FILL BUFFER WITH +0.0000000E+00
0103 *
0104 P0011 0C03 ENQ 3
0105 P0012 0A30 FILL1 ENA $30
0106 P0013 6722 STA- (ZERO),B
0107 P0014 0D01 INQ 1
0108 P0015 0814 TRQ A
0109 P0016 09EF INA -16
0110 P0017 0101 SAZ FILSIG
0111 P0018 18F9 JMP* FILL1
0112 *
0113 P0019 0A2B FILSIG ENA $2B INSERT '+'
0114 P001A 6102 STA- 2,I
0115 P001B 610D STA- 13,I
0116 P001C 0A2E ENA $2E INSERT '.'
0117 P001D 6104 STA- 4,I
0118 P001E 0A45 ENA $45 INSERT 'E'
0119 P001F 610C STA- 12,I

0121 *
0122 ***** CHECK IF VALUE IS NEGATIVE
0123 *
0124 P0020 C101 LDA- 1,I
0125 P0021 6845 STA* VALUE+1
0126 P0022 C522 LDA- (ZERO),I
0127 P0023 6842 STA* VALUE
0128 P0024 0134 SAM COMVAL TO COMPLEMENT VALUE
0129 P0025 011E SAN LESS1
0130 P0026 E802 RETURN LDQ* QSAVE RESTORE Q-REGISTER
0131 P0027 18E1 JMP* LAZEXT

0133 *
0134 P0028 0000 QSAVE NUM 0
0135 * COMPLEMENT VALUE
0136 P0029 090D CONVAL INA 0 CHECK FOR $FFFF
0137 P002A 010C SAZ TOSTAR
0138 P002B 5800 RTJ FLOT
0139 P002C 7FFF X
0140 P002D 5B7D NUM $5B7D MODE, LOAD, COMPLEMENT, STORE
0141 P002E 0037 ADC VALUE-*
0142 P002F 0036 ADC VALUE-*
0143 P0030 4000 NUM $4000 END OF SEQUENCE
0144 P0031 0A2D ENA $2D INSERT '-'
0145 P0032 0C02 ENQ 2
0145 P0033 6E31 STA* (CALPAR),Q

0147 ***** CHECK FI VALUE LESS THAN ONE
0148 P0034 C831 LESS1 LDA* VALUE (ONE IN FLOATING PT. = $40C0,0000)
0149 P0035 9011 SUR- LPMSK+15 CHECK FOR $7FFF
0150 P0036 0111 SAN NORMAL NO, SKIP

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N7300100
N7300102
N7300103
N7300104
N7300105
N7300106
N7300107
N7300108
N7300109
N7300110
N7300111
N7300112
N7300113
N7300114
N7300115
N7300116
N7300117
N7300118
N7300119

N7300121
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N7300138

N7300139
N7300140
N7300141
N7300142
N7300143
N7300144
N7300145

N7300147
N7300148
N7300149
N7300150

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0151 P0037 187D TOSTAR JMP* STAR TO FILL BUFFER WITH ***
0152 P0038 8011 NORMAL ADD- LPMSK*15
0153 P0039 980B SUB* ONE
0154 P003A 0102 SAZ EXT1
0155 P003B 012F SAP GRT1 GREATER THAN 1, SKIP
0156 P003C 1862 JMP* SMAL1 GO, VALUE LESS THAN 1.0
0157 P003D C829 EXT1 LDA* VALUE+1
0158 P003E 011C SAN GRT1 GREATER THAN 1, GO

* FOR VALUE = 1.0
0160
0161 P003F E825 LDQ* CALPAR
0162 P0040 0A31 ENA $31 SET UP +0.1000000E+01
0163 P0041 6205 STA- 5,Q
0164 P0042 620F STA- 15,Q
0165 P0043 18E2 JMP* RETURN TO EXIT

*
0167 *****
0168 ***** CONSTANTS AND STORAGE LOCATIONS
0169 *****
0170 P0044 4000 ONE NUM $4000,0 ONE IN FLOATING POINT
0171 P0045 0000
0172 P0046 0000 B NUM 0,0
0173 P0047 0000
0174 P0048 0000 INDEX NUM 0
0175 P0049 0000 A NUM 0,0
0176 P004A 0000

*
0175 *****
0176 ***** VALUE IS GREATER THAN ONE
0177 *****
0178 ***** CALCULATE EXPONENT VALUE SIZE) --- 10**I
0179 *****
0180 P004B 0A01 GRT1 ENA 1
0181 P004C 681D STA* J
0182 P004D C81A GRT11 LDA* TEN B=10.0
0183 P004E 68F7 STA* B
0184 P004F C819 LDA* TEN+1
0185 P0050 68F6 STA* B+1
0186
0187 X GRT15 RTJ FLOT CONVERT VALUE TO LESS THAN 1 (CAL. 10**I)
0188 P0051 5800 X
0189 P0052 002C X
0190 P0053 5BAD NUM $5BAD MODE, LOAD, DIVIDE, STORE
0191 P0054 0011 ADC VALUE-*
0192 P0055 7FF0 ADC B-* (A=VALUE/B)
0193 P0056 7FF0 ADC A-*
0194 P0057 4000 NUM $4000 STOP
0195 P0058 C8F0 LDA* A CHECK IF LESS THAN 1.0
0196 P0059 98EA SUB* ONE
0197 P005A 013F SAM EXPV YES, SKIP

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N7300151
N7300152
N7300153
N7300154
N7300155
N7300156
N7300157
N7300158
N7300160
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N7300192
N7300193
N7300194
N7300195

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0196 P005B 080E
 0197 P005C 5800 X
 P005D 0052 X
 0198 P005E 5B9D
 0199 P005F 7FE6
 0200 P0060 0007
 0201 P0061 7FE4
 0202 P0062 4000
 0203 P0063 18ED

RAO* J
 RTJ FLOT
 NUM \$5B9D
 ADC B-*
 ADC TEN-*
 ADC B-*
 NUM \$4000
 JMP* GRT15

NO, BUMP EXPONENT SCALE BY 1 AND REPEAT

CALCULATE B=B*10.0

N7300196
 N7300197
 N7300198
 N7300199
 N7300200
 N7300201
 N7300202
 N7300203

0205
 0206 P0064 0000
 0207 P0065 0000
 P0066 0000

*
 CAL PAR NUM 0
 VALUE NUM 0,0

CALLING PAR. ADDRESS (FILLED)

N7300205
 N7300206
 N7300207

0209
 0210 P0067 4250
 P0068 0000
 0211 P0069 0000

*
 TEN NUM \$4250,0
 J NUM 0

TEN IN FLOATING POINT

N7300209
 N7300210
 N7300211

0213
 0214
 0215
 0216 P006A 5800 X
 P006B 005D X
 0217 P006C 5BAD
 0218 P006D 7FD8
 0219 P006E 7FF8
 0220 P006F 7FD6
 0221 P0070 4000
 0222 P0071 0842
 0223 P0072 C8F6
 0224 P0073 3046
 0225 P0074 48D3
 0226 P0075 0C0E
 0227 P0076 0930
 0228 P0077 6EEC
 0229 P0078 0D01
 0230 P0079 C8CE
 0231 P007A 0930
 0232 P007B 6EE8

*

 *
 EXPV RTJ FLOT
 *
 CONVS
 LDA* J
 DVI- NO10
 STQ* INDEX
 ENQ 14
 INA \$30
 STA* (CALPAR),Q
 INQ 1
 LDA* INDEX
 INA \$30
 STA* (CALPAR),Q

SET UP EXPONENT VALUE

(B=B/10.0)

SEPARATE EXPONENT INTO TENTH AND UNIT

CONVERT EXPONENT VALUE INTO ASCII AND SAVE

N7300213
 N7300214
 N7300215
 N7300216
 N7300217
 N7300218
 N7300219
 N7300220
 N7300221
 N7300222
 N7300223
 N7300224
 N7300225
 N7300226
 N7300227
 N7300228
 N7300229
 N7300230
 N7300231
 N7300232

0234
 0235
 0236
 0237
 0238

*

 *

 *

 CONVERT VALUE INTO 7 DIGITS

N7300234
 N7300235
 N7300236
 N7300237
 N7300238

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0239          *
0240 P007C 0A00  DIGIT  ENA  0
0241 P007D 68CA  STA* INDEX
0242 P007E 5800  X DIG7  RTJ  FLOT
0243 P007F 006B  X
0243 P0080 5BA4  NUM  $5BA4  MODE, LOAD, DIVIDE, STOP
0244 P0081 7FE3  ADC  VALUE-*
0245 P0082 7FC3  ADC  B-*
0246 P0083 5800  X RTJ  Q8QFIX  J=VALUE/B
0246 P0084 7FFF  X
0247 P0085 68E3  STA* J
0248 P0086 0930  INA  $30  CONVERT VALUE (DIGIT) INTO ASCII
0249 P0087 E8C0  LDO* INDEX  SET UP INDEX AND SAVE DIGIT
0250 P0088 0D05  INQ  5
0251 P0089 6EDA  STA* (CALPAR),Q
0252 P008A D8BD  RAO* INDEX
0253 P008B C8BC  LDA* INDEX  CHECK IF ALL 7 DIGITS BEEN CONVERTED
0254 P008C 09F8  INA  -7
0255 P008D 0111  SAN  SEVEN  NO, SKIP
0256 P008E 1897  JMP* RETURN  TO EXIT
0257          *
0258 P008F 5800  X SEVEN RTJ  FLOT  FLOAT CURRENT DIGIT
0258 P0090 7FFF  X
0259 P0091 FFD7  ADC  (J-*)
0260 P0092 5800  X RTJ  FLOT
0260 P0093 007F  X
0261 P0094 597E  NUM  $597E  MODE, MULTIPLY, COMPLEMENT, ADD
0262 P0095 7FB0  ADC  B-*
0263 P0096 7FCE  ADC  VALUE-*
0264 P0097 DBAD  NUM  $DBAD  STORE, LOAD, DIVIDE, STORE
0265 P0098 7FCC  ADC  VALUE-*  (VALUE=VALUE-(FLOAT(J)*B)
0266 P0099 7FAC  ADC  B-*
0267 P009A 7FCC  ADC  TEN-*  B=B/10
0268 P009B 7FAA  ADC  B-*
0269 P009C 4000  NUM  $4000
0270 P009D 18E0  JMP* DIG7  TO REPEAT

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N7300239
N7300240
N7300241
N7300242
N7300243
N7300244
N7300245
N7300246
N7300247
N7300248
N7300249
N7300250
N7300251
N7300252
N7300253
N7300254
N7300255
N7300256
N7300257
N7300258
N7300259
N7300260
N7300261
N7300262
N7300263
N7300264
N7300265
N7300266
N7300267
N7300268
N7300269
N7300270

```

```

0272          *
0273          *****
0274          *
0275          *****
0276          *
0277          *****
0277          *
0278 P009E 0C0D  SMALL ENQ  13  SET EXPONENT SIGN TO '-'
0279 P009F 0A2D  ENA  $2D
0280 P00A0 6EC3  STA* (CALPAR),Q
0281          *
0282 P00A1 0A00  ENA  0  SEARCH FOR EXPONENT VALUE (SCALE FACTOR)
0283 P00A2 68C6  STA* J

```

```

N7300272
N7300273
N7300274
N7300275
N7300276
N7300277
N7300278
N7300279
N7300280
N7300281
N7300282
N7300283

```

```

0284 P00A3 5800 X SMAL5 RTJ FLOT
      P00A4 0093 X
0285 P00A5 5B9D NUM $5B9D
0286 P00A6 7FBE ADC VALUE-*
0287 P00A7 7FBF ADC TEN-* VALUE=VALUE*10.0
0288 P00A8 7FBC ADC VALUE-*
0289 P00A9 4000 NUM $4000
0290 *
0291 P00AA C8BA LDA* VALUE
0292 P00AB 9898 SUB* ONE
0293 P00AC 0122 SAP SMAL7 VALUE BEEN CONVERT TO 1.0 OR GREATER, SKIP
0294 P00AD D8BB RAO* J BUMP POINTER AND REPEAT
0295 P00AE 18F4 JMP* SMAL5
0296 *
0297 P00AF C894 SMAL7 LDA* ONE B=1.0
0298 P00B0 6895 STA* B
0299 P00B1 C893 LDA* ONE+1
0300 P00B2 6894 STA* B+1
0301 P00B3 18BD JMP* CONVS

```

N7300284
N7300285
N7300286
N7300287
N7300288
N7300289
N7300290
N7300291
N7300292
N7300293
N7300294
N7300295
N7300296
N7300297
N7300298
N7300299
N7300300
N7300301

```

0303 *
0304 *****
0305 *
0306 P00B4 C8AF STAR LDA* CALPAR SET UP BUFFER ADDRESS
0307 P00B5 60FF STA- I
0308 P00B6 0C01 ENQ 1
0309 P00B7 0A2A STAR1 ENA $2A LOAD ***
0310 P00B8 6301 STA- 1,B
0311 P00B9 0D01 INQ 1
0312 P00BA 0814 TRQ A
0313 P00BB 09F0 INA -15
0314 P00BC 0101 SAZ STAR3
0315 P00BD 18F9 JMP* STAR1
0316 P00BE 18CF STAR3 JMP* EX

```

N7300303
N7300304
N7300305
N7300306
N7300307
N7300308
N7300309
N7300310
N7300311
N7300312
N7300313
N7300314
N7300315
N7300316

```

0318 *
0319 EQU DP10(*'96)
0320 EQU DP11(DP10+1)
0321 EQU DP12(DP11*'96)
0322 P00BF 0001 BSS (DP12-*)
0323 END

```

N7300318
N7300319
N7300320
N7300321
N7300322
N7300323

PGM= 00C0 (192) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	{000255} 0096, 0307
0043	LPMSK	0002	{000002} 0149, 0152
0044	ZERO	0022	{000034} 0106, 0126
0045	NO10	0046	{000070} 0224

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0036	ECONV	0000	0036, 0052, 0053, 0055, 0059
0058	LAZ	0008	0054
0059	LAZEXT	0009	0131
0094	ETOI	000A	0056
0095	P1	000B	
0105	FILL1	0012	0111
0113	FILSIG	0019	0110
0130	RETURN	0026	0165, 0256
0134	QSAVE	0028	0094, 0130
0136	COMVAL	0029	0128
0148	LESS1	0034	0129
0151	TOSTAR	0037	0137
0152	NORMAL	0038	0150
0157	EXT1	003D	0154
0170	ONE	0044	0097, 0099, 0153, 0194, 0292, 0297, 0299
0171	B	0046	0098, 0100, 0183, 0185, 0190, 0199, 0201, 0218, 0220, 0245, 0262, 0266, 0268, 0298, 0300
0172	INDEX	0048	0225, 0230, 0241, 0249, 0252, 0253
0173	A	0049	0191, 0193
0180	GRT1	004P	0155, 0158
0182	GRT11	004D	
0187	GRT15	0051	0203
0206	CALPAR	0064	0095, 0145, 0161, 0228, 0232, 0251, 0280, 0306
0207	VALUE	0065	0125, 0127, 0140, 0141, 0148, 0157, 0189, 0244, 0263, 0265, 0286, 0288, 0291
0210	TEN	0067	0182, 0184, 0200, 0219, 0267, 0287
0211	J	0069	0181, 0196, 0223, 0247, 0259, 0283, 0294
0216	EXPV	006A	0195
0222	CONVS	0071	0301
0240	DIGIT	007C	
0242	DIG7	007E	0270
0256	EX	008E	0316
0258	SEVEN	008F	0255
0278	SMAL1	009E	0156
0284	SMAL5	00A3	0295
0297	SMAL7	00AF	0293
0306	STAR	00B4	0151
0309	STAR1	00B7	0315
0316	STAR3	00BE	0314
0319	DP10	0001	0320
0320	DP11	0002	0321
0321	DP12	000C	0322

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0039	LAZY1	0007	0057
0040	FLOT	00A4	0138, 0187, 0197, 0216, 0242, 0260, 0284
0040	FLOAT	0090	0258
0040	Q8QFIX	0084	0246


```

0052 P0001 4836      STQ* QSAVE          SAVE Q-REGISTER          N7400052
0053 P0002 CCFD      LDA* (LAZY1)        N7400053
0054 P0003 0122      SAP P1              N7400054
0055 P0004 88FB      ADD* LAZY1          N7400055
0056 P0005 A011      AND- LPMSK+15      N7400056
0057 P0006 6832      STA* CALPAR        SAVE CALLING PARAMETER ADD. N7400057
0058 P0007 D8F8      RAO* LAZY1          SET EXIT                  N7400058
0059 P0008 60FF      STA- I              N7400059

0061 *                I N I T I A L I Z E      P O I N T E R S      N7400061
0062 P0009 0A01      ENA 1              N7400062
0063 P000A 682F      STA* K              N7400063
0064 P000B 0A00      ENA 0              N7400064
0065 P000C 6827      STA* A              SET 'A' TO ZERO          N7400065
0066 P000D 6827      STA* A+1           N7400066

0068 *                N7400068
0069 ***                CHECK IF INTEGER VALUE USED N7400069
0070 *                N7400070
0071 P000E C101      LDA- 1,I           N7400071
0072 P000F 0111      SAN INTPRO         NO, GO                    N7400072
0073 P0010 1844      JMP* ANYEXP        N7400073
0074 P0011 6824      INTPRO STA* J      N7400074
0075 P0012 1828      JMP* HUNDER        N7400075

0077 *                N7400077
0078 ****                10**6 THROUGH 1      N7400078
0079 *                N7400079
0080 P0013 4A7A      DNO10 NUM $4A7A,$1200,$48E1,$A800,$474E,$2000,$457D,$0000 N7400080
      P0014 1200
      P0015 48E1
      P0016 A800
      P0017 474E
      P0018 2000
      P0019 457D
      P001A 0000
0081 P001B 43E4      NUM $43E4,$0000,$4250,$0000,$40C0,$0000 N7400081
      P001C 0000
      P001D 4250
      P001E 0000
      P001F 40C0
      P0020 0000

0082 *                N7400082
0083 *****                10**(-1) THROUGH 10**(-7) N7400083
0084 *                N7400084
0085 P0021 3E66      FNO1 NUM $3E66,$6666,$3CD1,$EB85,$3B41,$8937,$3968,$DB8C N7400085
      P0022 6666
      P0023 3CD1
      P0024 EB85
      P0025 3B41
      P0026 8937
      P0027 3968

```


0126	P0053	0000	010	NUM	0		N7400126
0128				*			N7400128
0129				*****		CHECK IF ANY FRACTIONAL VALUE	N7400129
0130				*			N7400130
0131	P0054	0C02		ANYEXP	ENQ 2	GET NO. OF FRACTIONAL DIGITS IF ANY	N7400131
0132	P0055	CEE2		LDA*	(CALPAR),Q		N7400132
0133	P0056	0111		SAN	CALFRA	TO CALCULATE FRACTIONAL VALUE	N7400133
0134	P0057	181D		JMP*	IFEXP	NO MORE INPUT DATA, GO	N7400134
0135				*			N7400135
0136	P0058	68DC		CALFRA	STA* J		N7400136
0137	P0059	0A01		ENA	1		N7400137
0138	P005A	68DB		STA*	INDEX		N7400138
0139				*			N7400139
0140				*****		CALCULATE A=A+FLOAT(LVALUE(K))*10 ^(-I)	N7400140
0141				*			N7400141
0142	P005B	C8DD		ASMFRA	LDA* K	GET INPTU INTEGE (FRACTION)	N7400142
0143	P005C	0905		INA	5		N7400143
0144	P005D	88DA		ADD*	CALPAR		N7400144
0145	P005E	6806		STA*	V2		N7400145
0146	P005F	C8D6		LDA*	INDEX		N7400146
0147	P0060	0FC1		ALS	1	CALCULATE INDEX FACTOR	N7400147
0148	P0061	68F1		STA*	D10		N7400148
0149	P0062	5800		RTJ	FLOAT	CONVERT OT FLOATING PCINT	N7400149
	P0063	0043	X				
	P0064	0000	X	V2	NUM 0		N7400150
0151	P0065	5800	X	RTJ	FLOT		N7400151
	P0066	0046	X				
0152	P0067	5F96		NUM	\$5F96	MODE, INDEX, MULTIPLY, NO INDEX	N7400152
0153	P0068	7FEA		ADC	D10-*		N7400153
0154	P0069	7FB5		ADC	FNO1-2-*		N7400154
0155	P006A	ED40		NUM	SED40	ADD, STORE, STOP	N7400155
0156	P006B	7FC7		ADC	A-*		N7400156
0157	P006C	7FC6		ADC	A-*		N7400157
0158	P006D	C8C7		LDA*	J	CHECK IF ALL DIGITS CONVERTED	N7400158
0159	P006E	09FE		INA	-1		N7400159
0160	P006F	0104		SAZ	IFEXP	DONE, SKIP	N7400160
0161	P0070	68C4		STA*	J	SAVE COUNT AND UPDATE POINTERS, REPEAT	N7400161
0162	P0071	D8C7		RAO*	K		N7400162
0163	P0072	D8C3		RAO*	INDEX		N7400163
0164	P0073	18E7		JMP*	ASMFRA	TO REPEAT	N7400164
0166				*			N7400166
0167				*****		CHECK IF EXPONENT USED	N7400167
0168				*			N7400168
0169	P0074	0C05		IFEXP	ENQ 5	GET EXPONENT VALUE IF ANY	N7400169
0170	P0075	CEC2		LDA*	(CALPAR),Q		N7400170
0171	P0076	0900		INA	0		N7400171
0172	P0077	0111		SAN	ASMEXP		N7400172
0173	P0078	1823		JMP*	ST550	GO, VALUE IS UNNSD OR ZERO	N7400173

```

0174 P0079 E000 ASMEXP LD0 =NS40C0 ASSEMBLE EXPONENT N7400174
      P007A 40C0
0175 P007B 48B5 STQ* B N7400175
0176 P007C 0C00 ENQ 0 N7400176
0177 P007D 48B4 STQ* B+1 N7400177
0178 P007E 68B7 STA* INDEX N7400178
0179 * CHECK IF VALUE IS NEGATIVE N7400179
0180 P007F 0121 SAP SAVEX SKIP ON POSITIVE (+) N7400180
0181 P0080 0864 TCA A COMPLEMENT VALUE N7400181
0182 P0081 68B3 SAVEX STA* J N7400182
0183 P0082 5800 RTJ FLOT N7400183
      P0083 0066 X
0184 P0084 5B9D NUM $5B9D N7400184
0185 P0085 7FAB ADC B-* N7400185
0186 P0086 7FA8 ADC TEN-* (B=B*10.0) N7400186
0187 P0087 7FA9 ADC B-* N7400187
0188 P0088 4000 NUM $4000 N7400188
0189 P0089 C8AB LDA* J N7400189
0190 P008A 09FE INA -1 N7400190
0191 P008B 0101 SAZ ST480 SKIP ON EXP. = 0, OTHERWISE CAL. 10**I N7400191
0192 P008C 18F4 JMP* SAVEX TO REPEAT N7400192
0193 * CHECK IF EXP. IS -, +, OR 0 N7400193
0194 P008D C8A8 ST480 LDA* INDEX FOR EXP. = 0 N7400194
0195 P008E 010C SAZ ST550 N7400195
0196 P008F E0C0 LDQ =N$5BAD N7400196
0197 P0091 0131 SAM ST500 FOR EXP. = - N7400197
0198 P0092 0DEF INQ -$10 SET TO $5B9D N7400198
0199 P0093 4803 ST500 STQ* ST502 N7400199
0200 P0094 5800 RTJ FLOT N7400200
      P0095 0083 X
0201 P0096 0000 ST502 NUM 0 FILLED N7400201
0202 P0097 7F9B ADC A-* N7400202
0203 P0098 7F98 ADC B-* A=A/B OR A=A*B N7400203
0204 P0099 7F99 ADC A-* N7400204
0205 P009A 4000 NUM $4000 N7400205
0207 * CHECK FOR SIGN AND SAVE VALUE N7400207
0208 ***** N7400208
0209 * N7400209
0210 P009B 0C03 ST550 ENQ 3 N7400210
0211 P009C CE9B LDA* (CALPAR),Q N7400211
0212 P009D 09FD INA -2 N7400212
0213 P009E 0136 SAM DONE COMPLEMENT VALUE WHEN SIGN IS NEGATIVE N7400213
0214 P009F 5800 RTJ FLOT N7400214
      P00A0 0095 X
0215 P00A1 5B7D NUM $5B7D N7400215
0216 P00A2 7F90 ADC A-* A=-A N7400216
0217 P00A3 7F8F ADC A-* N7400217
0218 P00A4 4000 NUM $4000 N7400218
0219 P00A5 0C0D DONE ENQ 13 SAVE VALUE IN CALLER BUFFER N7400219
0220 P00A6 C88C LDA* A N7400220
0221 P00A7 6E90 STA* (CALPAR),Q N7400221

```


0222 P00A8 0D01
 0223 P00A9 C88A
 0224 P00AA 6E8D
 0225 P00AB E88B
 0226 P00AC 1C00
 P00AD FF52

INQ 1
 LDA* A+1
 STA* (CALPAR),Q
 LDQ* QSAVE
 JMP (LAZY1)

RESTORE Q-REGISTER
 RETURN TO CALLER

N7400222
 N7400223
 N7400224
 N7400225
 N7400226

0228
 0229 0001 P *
 0230 0002 P
 0231 00C0 P
 0232 P00AE 0012
 0233

EQU DP10(*96)
 EQU DP11(DP10+1)
 EQU DP12(DP11*96)
 BSS (DP12-*)
 END

N7400228
 N7400229
 N7400230
 N7400231
 N7400232
 N7400233

PGM= 00C0 (192) 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) 0059
0045	LPMSK	0002	(000002) 0056

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0039	LAZY1	0000	0039, 0053, 0055, 0058, 0226
0057	P1	0006	0054
0074	INTPRO	0011	0072
0080	QNO10	0013	0115
0085	FNO1	0021	0154
0089	TEN	002F	0186
0091	B	0031	0175, 0177, 0185, 0187, 0203
0092	A	0033	0065, 0066, 0117, 0118, 0156, 0157, 0202, 0204, 0216, 0217, 0220, 0223
0093	J	0035	0074, 0107, 0121, 0123, 0136, 0158, 0161, 0182, 0189
0094	INDEX	0036	0138, 0146, 0163, 0178, 0194
0095	QSAVE	0037	0052, 0225
0096	CALPAR	0038	0057, 0104, 0132, 0144, 0170, 0211, 0221, 0224
0097	K	0039	0063, 0102, 0120, 0142, 0162
0102	HUNDER	003A	0075, 0125
0111	V	0044	0105
0126	D10	0053	0109, 0114, 0148, 0153
0131	ANYEXP	0054	0073, 0124
0136	CALFRA	0058	0133
0142	ASMFRA	005B	0164
0150	V2	0064	0145
0169	IFEXP	0074	0134, 0160
0174	ASMEXP	0079	0172
0182	SAVFX	0081	0180, 0192
0194	ST480	008D	0191
0199	ST500	0093	0197
0201	ST502	0096	0199
0210	ST550	009B	0173, 0195
0219	DONE	00A5	0213
0229	DP10	0001	0230
0230	DP11	0002	0231
0231	DP12	00C0	0232

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0042	FLOT	00A0	0112, 0151, 0183, 0200, 0214
0042	FLOAT	0063	0110, 0149

*** ALPHABETICAL SORT OF SYMBOLS ***

A	0092	ANYEXP	0131	ASMEXP	0174	ASMFRA	0142	B	0091	CALFRA	0136	CALPAR	0096	D10	0126	DNO10	0080
DONE	0219	DP10	0229	DP11	0230	DP12	0231	FLOAT	0042	FLOT	0042	FNO1	0085	HUNDER	0102	I	0000
IFEXP	0169	INDEX	0094	INTPRO	0074	J	0093	K	0097	LAZY1	0039	LPMSK	0045	P1	0057	QSAVE	0095
SAVEX	0182	ST480	0194	ST500	0199	ST502	0201	ST550	0210	TEN	0089	V	0111	V2	0150		

```

0001 * NAM ODFLOT DECK-ID N75 MSOS 5.0 SUMMARY-11 0N7500001
0002 * MASS STORAGE OPERATING SYSTEM VERSION 5.0 N7500002
0003 * SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA N7500003
0004 * COPYRIGHT CONTROL DATA CORPORATION 1976 N7500004

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```

0006 *** THIS ROUTINE RUN ANYWHERE/NON-RETRACE N7500006
0007 ***** "DUMMY" BUFFER IS SET UP FOR MIN. CHANGE N7500007
0008 ***** N7500008
0009 ***** DEBUG RUNS ON THE LOWER 32K, THEREFORE N7500009
0010 ***** NO 65 K ADDRESSING IS NEEDED N7500010
0011 * N7500011
0012 ***** SPECIAL ARRANGEMENT --- DOES NOT USE LOW CORE N7500012
0013 * N7500013

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0015 * CONTROL DATA CORPORATION, LA JOLLA DIVISION N7500015
0016 * 1700 FLOATING POINT PACKAGE FOR UTILITY FORTRAN, C006 N7500016
0017 * REFER TO APPENDIX C OF ERS FOR C006 FOR N7500017
0018 * DETAILS OF THIS PACKAGE. N7500018
0019 * POINT PKG. N7500019
0020 * LIST OF FLOATING POINT OPERATION CODES. N7500020
0021 * 0 XXX (NOT USED) N7500021
0022 * 1 XXX (NOT USED) N7500022
0023 * 2 XXX (NOT USED) N7500023
0024 * 3 XXX (NOT USED) N7500024
0025 * 4 FEND END OF CALLING SEQUENCE N7500025
0026 * 5 CHMD CHANGE MODE REL/ABS N7500026
0027 * 6 NIDX NO INDEX N7500027
0028 * 7 FCOM COMPLEMENT N7500028
0029 * 8 FSUB SUBTRACT N7500029
0030 * 9 FMPY MULTIPLY N7500030
0031 * A FDIV DIVIDE N7500031
0032 * B FLOD LOAD N7500032
0033 * C XXX (NOT USED) N7500033
0034 * D FLST STORE PSR 752 N7500034
0035 * E FADD ADD N7500035
0036 * F INDX INDEX N7500036
0037 * N7500037
0038 * G, THE PSUEDO ACCUMULATOR IS BROKEN UP INTO N7500038
0039 * C, D, AND DELTA. N7500039
0040 * N7500040

```

```

0042 * ENT FLOT ENTRY NAME N7500042
0043 * ENTRY POINT TO FLOATING N7500043
0045 * EXTERNALS N7500045
0047 * EXT# DBU N7500047
0049 * "EQU" TABLE N7500049

```

```

0050 0003 EQU G(3),SIGN(5),ERRORS(6),F(7) N7500050
      0005
      0006
0051 0007 EQU A(9),B(10),BETA(13),C(11),D(12),DELTA(14),SHIFCT(15) N7500051
      0009
      000A
      000D
      000B
      000C
      000E
      000F
0052 0010 EQU P(16),RELADR(18),INDEX(17),OPCODE(20),QS(21) N7500052
      0012
      0011
      0014
      0015
0053 0013 EQU OPCNT(19) N7500053
0054 * EQU LPMSK(2),CPMSK($12),ZERO($22) N7500054
0055 0002 EQU N7500055
      0012
      0022

```

```

0057 *
0058 ***** PROGRAM START ***** N7500057
0059 * N7500058
      * N7500059

```

```

0061 *
0062 P0000 0000 FLOT 0 0 ENTRY N7500061
0063 P0001 5800 X RTJ DBU SET UP DUMMY BUFFER N7500062
      P0002 7FFF X N7500063
0064 P0003 4115 * STQ- QS,I SAVE Q N7500064
0065 * CLR A CLR RELADR N7500065
0066 P0004 0844 STA- RELADR,I N7500066
0067 P0005 6112 ENA -1 N7500067
0068 P0006 0AFE STA- INDEX,I N7500068
0069 P0007 6111 LDA* FLOT SAVE RETURN ADDRESS N7500069
0070 P0008 C8F7 STOREP STA- P,I INTERPRETIVE LIST. N7500070
0071 P0009 6110 INTERP CLR A N7500071
0072 P000A 0844 STA- OPCNT,I N7500072
0073 P000B 6113 LDQ- P,I N7500073
0074 P000C E110 LDA- (ZERO),Q GET "OP" CODE N7500074
0075 P000D C622 STA- OPCODE,I N7500075
0076 P000E 6114 RAO- P,I N7500076
0077 P000F D110 JMP* DECODE N7500077
0078 P0010 1807 * GET NEXT OPERATION CODE N7500078
0079 * IF OPCNT GE. 3, GO TO INTERP N7500079
0080 P0011 C113 NXTOPC LDA- OPCNT,I N7500080
0081 P0012 09FC INA -3 N7500081
0082 P0013 0131 SAM A1- *-1 N7500082
0083 P0014 18F5 JMP* INTERP N7500083
0084 P0015 0904 A1 INA 3+1 OTHERWISE INCREMENT OPCNT N7500084
0085 P0016 6113 STA- OPCNT,I N7500085

```

```

0086          #          DECODE NEXT OPCODE          N7500086
0087 P0017 C114  # DECODE LDA- OPCODE, I          N7500087
0088 P0018 0842  #          CLR Q          N7500088
0089 P0019 0FE4  #          LLS 4          N7500089
0090 P001A 6114  #          STA- OPCODE, I          N7500090
0091          #          EXECUTE NEXT OPERATION          N7500091
0092 P001B EA 02  # EXECUT LDQ* FLINS,Q          GET PROCESSING ENTRY          N7500092
0093 P001C 1A01  #          JMP* SELF,Q          TO PROCESSOR          N7500093
0094          #          N7500094

```

```

0096          #          *****          PROCESSING JUMP TABLE          N7500096
0097          #          FLINS          N7500097
0098 P001D 0026  # ADC FEND-SELF 00 = END OF SEQUENCE          N7500098
0099 P001E 002A  # ADC DONE-SELF 01 = FIN          N7500099
0100 P001F 002A  # ADC DONE-SELF 02 = FIN          N7500100
0101 P0020 002A  # ADC DONE-SELF 03 = FIN          N7500101
0102 P0021 0026  # ADC FEND-SELF 04 = END OF SEQUENCE          N7500102
0103 P0022 0010  # ADC CHMD-SELF 05 = CHANGE MODE (ABS. OR REL.)          N7500103
0104 P0023 0016  # ADC NIDX-SELF 06 = NO INDEX          N7500104
0105 P0024 0069  # ADC FCOM-SELF 07 = COMPLEMENT          N7500105
0106 P0025 015D  # ADC FSUB-SELF 08 = SUBTRACT          N7500106
0107 P0026 0089  # ADC FMPY-SELF 09 = MULTIPLY          N7500107
0108 P0027 00E0  # ADC FDIV-SELF 10 = DIVIDE          N7500108
0109 P0028 002B  # ADC FLDD-SELF 11 = LOAD ACCUMULATOR          N7500109
0110 P0029 002A  # ADC DONE-SELF 12 = DONE          N7500110
0111 P002A 001F  # ADC FLST-SELF 13 = STORE          N7500111
0112 P002B 0164  # ADC FADD-SELF 14 = ADD          N7500112
0113 P002C 0018  # ADC INDX-SELF 15 = INDEX          N7500113
0114          # EQU SELF(FLINS)          N7500114

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0116          #          *****          CHANGE MODE (ABS. OR REL.)          N7500116
0117          #          CHMD          N7500117
0118          #          LDA- RELADR, I          ABSOLUTE/RELATIVE SWITCH          N7500118
0119 P002D C112  #          CLR Q          IF RELADR=0, SET TO 1. OTHERWISE          N7500119
0120 P002E 0842  #          SAN A2-* -1          N7500120
0121 P002F 0111  #          ENQ 1          N7500121
0122 P0030 0C01  #          STQ- RELADR, I          N7500122
0123 P0031 4112  #          JMP* NXTOPC          N7500123
0124 P0032 18DE  #          N7500124

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0126          #          *****          NO INDEX          N7500126
0127          #          NIDX          N7500127
0128          #          ENA -1          N7500128
0129 P0033 0AFE  #          JMP* STONDX          N7500129
0130 P0034 1806  #          N7500130

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0132          #          *****          INDEX          N7500132
0133          #          N7500133
0134          #          N7500134

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0135 P0035 0AFE  INDX  ENA  -1          RESET INDEX BEFORE CALLING OPERND      N7500135
0136 P0036 6111          STA- INDEX,I          N7500136
0137 P0037 5856          RTJ# OPERND          OPERND TO INDEX          N7500137
0138 P0038 C201          LDA- 1,Q            OPERAND TO INDEX          N7500138
0139 P0039 09FE          INA  -1          N7500139
0140 P003A 6111  STONDX STA- INDEX,I          N7500140
0141 P003B 18D5          JMP# NXTOPC         N7500141

0143          *          N7500143
0144          ***** STORE          N7500144
0145          *          N7500145
0146          *          FLOATING STORE          N7500146
0147          *          N7500147
0147 P003C 003C P FLST  EQU  FLST(*)          REPACK ACCUMULATOR          N7500148
0148 P003C 5831          RTJ# FLTSTO          GET ADDRESS OF OPERAND          N7500149
0149 P003D 5850          RTJ# OPERND          G TO OPERAND          N7500150
0150 P003E C103  FOK  LDA- G,I          N7500151
0151 P003F 6201          STA- 1,Q            N7500152
0152 P0040 C104          LDA- G+1,I          N7500153
0153 P0041 6202          STA- 2,Q            N7500154
0154 P0042 18CE  ANXT JMP# NXTOPC

0156          *          N7500156
0157          *          END OF SEQUENCE          N7500157
0158          *          N7500158
0159 P0043 582A  FEND  RTJ# FLTSTO          REPACK ACCUMULATOR BEFORE  N7500159

0161 P0044 E110  FLIT  LDQ- P,I          SAVE RETURN ADDRESS          N7500161
0162 P0045 48BA          STQ* FLOT           RESTORE Q-REGISTER          N7500162
0163 P0046 E115          LDQ- QS,I           RETURN                       N7500163
0164 P0047 1CB8  DONE JMP# (FLOT)          N7500164
0165          *          N7500165

0167          *          N7500167
0168          *          LOAD ACCUMULATOR          N7500168
0169          *          N7500169
0170 P0048 5845  FLDD  RTJ# OPERND          N7500170
0171 P0049 C202          LDA- 2,Q            N7500171
0172 P004A 6104          STA- G+1,I          N7500172
0173 P004B C201          LDA- 1,Q            N7500173
0174 P004C 0900          INA  0             ELIMINATE MINUS ZERO          N7500174
0175 P004D 6103          STA- G,I            OPERAND TO G                N7500175
0176          *          LOAD OPERAND INTO G.          N7500176
0177          *          UNPACK OPERAND INTO C,D AND DELTA.  N7500177
0178          *          SAVE SIGN IN SIGN.          N7500178
0179 P004E 0C01          ENQ  1             N7500179
0180 P004F 0121          SAP  A3-*-1        N7500180
0181 P0050 0CFE          ENQ  -1            N7500181
0182 P0051 4105  A3  STQ- SIGN,I          N7500182
0183          *          PACK C,D, AND DELTA INTO G.          N7500183

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0184 P0052 E104 LDQ- G+1,I
0185 P0053 0122 SAP STEP2B--*-1
0186 P0054 0864 TCA A
0187 P0055 0852 TCQ Q
0188 P0056 610B STEP2B STA- C,I
0189 P0057 0111 SAN A4--*-1
0190 P0058 180E JMP* ARG0
G191 P0059 0FC1 A4 ALS 1
0192 P005A B032 EOR- ZERO+16
0193 P005B 0F48 ARS 8
0194 P005C 0900 INA 0
0195 P005D 610E STA- DELTA,I
0196 P005E C10B LDA- C,I
0197 P005F 0FE8 LLS 8
0198 P0060 A011 AND- LPMSK+15
0199 P0061 610B STA- C,I
0200 P0062 0FEF LLS 15
0201 P0063 A86B AND* H7F80
0202 P0064 610C STA- D,I
0203 P0065 18AB JMP* NXTOPC
0204 P0066 0844 ARG0 CLR A ARGUMENT IS ZERO.
0205 P0067 610B STA- C,I
0206 P0068 610C STA- D,I
0207 P0069 610E STA- DELTA,I
0208 P006A 0A01 ENA 1
0209 P006B 6105 STA- SIGN,I
0210 P006C 18A4 JMP* NXTOPC
0211 P006D 0000 FLTST0 0
0212 P006E E10B * LDQ- C,I
0213 * IF C IS ZERO, THEN ACCUMULATOR IS ZERO
0214 P006F 0153 SQN FLST1--*-1
0215 P0070 4103 STQ- G,I
0216 P0071 4104 STQ- G+1,I
0217 P0072 1813 JMP* FLSTA
0218 P0073 C10C FLST1 LDA- D,I
0219 P0074 0FC1 ALS 1
0220 P0075 0FE1 LLS 1
0221 P0076 6104 STA- G+1,I
0222 P0077 C10E LDA- DELTA,I
0223 P0078 A00A AND- LPMSK+8
0224 P0079 802A EOR- ZERO+8
0225 P007A 8104 ADD- G+1,I
0226 P007B 0FE7 LLS 7
0227 P007C 6103 STA- G,I
0228 P007D 4104 STQ- G+1,I
0229 P007E E105 LDQ- SIGN,I
0230 P007F 0165 SQP FLSTA--*-1
0231 P0080 0864 TCA A
0232 P0081 6103 STA- G,I IF SIGN IS NEG.
0233 P0082 C104 LDA- G+1,I COMPLEMENT G.
0234 P0083 0864 TCA A
0235 P0084 6104 STA- G+1,I
0236 P0085 1CE7 FLSTA JMP* (FLTST0) EXIT FROM REPACK OF ACCUMULATOR

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N7500236

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0238
0239
0240
0241 P0086 C10B
0242 P0087 0111
0243 P0088 18DD
0244 P0089 0804
0245 P008A B105
0246 P008B 6105
0247 P008C 18B5
0248
0249
0250
0251
0252 P008D 0000
0253 P008E E110
0254 P008F C622
0255 P0090 0128
0256 P0091 6107
0257 P0092 C112
0258 P0093 0112
0259 P0094 E107
0260 P0095 1802
0261 P0096 F107
0262 P0097 E622
0263 P0098 1809
0264 P0099 6107
0265 P009A C112
0266 P009B 0104
0267 P009C 0171
0268 P009D F032
0269 P009E F107
0270 P009F 1802
0271 P00A0 E107
0272 P00A1 F111
0273 P00A2 C011
0274 P00A3 08B2
0275 P00A4 D110
0276 P00A5 1CE7

*
*****
*
FCOM LDA- C,I
SAN ACMOK
JMP* ARGO
ACMOK SET A
FOR- SIGN,I
STA- SIGN,I
JMP* ANXT

*
*****
*
OPERND 0
LDQ- P,I
LDA- (ZERO),Q
SAP DIRECT-*--1
STA- F,I
LDA- RELADR,I
SAN RELIND-*--1
ABSIND LDQ- F,I
JMP* INDIR
RELIND ADQ- F,I
INDIR LDQ- (ZERO),Q
JMP* OPA DR
DIRECT STA- F,I
LDA- RELADR,I
SAZ ABSDIR-*--1
RELDIR SQM A5-*--1
ADQ- ZERO+16
A5 ADQ- F,I
JMP* OPA DR
ABSDIR LDQ- F,I
OPA DR ADQ- INDEX,I
LDA- LPMSK+15
LAQ Q
KL65K RAO- P,I
JMP* (OPERND)

*
*****
*
COMPLEMENT

GET ADDRESS OF NEXT OPERAND
GET ADDRESS OF NEXT OPERAND
15 BIT ADDRESSING ARITHMETIC IS BEING USED.
REFER TO E006, APENDIX ON 15 BIT ARITHMETIC

GO TO DIRECT
SAVE ADDRESS IN F
IF RELATIVE ADDRESS MODE,
GO TO RELATIVE INDIRECT
OTHERWISE ABSOLUTE
(USE 15 BIT ARITHMETIC)

IF RELATIVE ADDRESS MODE,
GO TO ABSOLUTE DIRECT
(USE 15 BIT ARITHMETIC)

EFFECTIVE ADDRESS -1 IN Q

MOVE PSEUDO PROGRAM COUNTER
RETURN EFFECTIVE ADR -1 IN Q

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PSR 752
FTN 3.0

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0278
0279
0280
0281 P00A6 58E6
0282 P00A7 5800
0283 P00A8 0090
0284
0285
0286 P00A9 0106
0287 P00AA 0123
0288 P00AB 0804

*
*****
*
FMPY RTJ* OPERND
RTJ FLTSET STEPS 1,2,3 AND 4 OF MPY OR DIV

*
*****
*
IF F IS NEG., CHANGE SIGN.
SAZ JMPOUT-*--1
SAP FLT1-*--1
SET A

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N7500278
N7500279
N7500280
N7500281
N7500282
N7500283
N7500284
N7500285
N7500286

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0287 P00AC B105 EOR- SIGN,I
0288 P00AD 6105 STA- SIGN,I
0289 *
0290 * STEP 5.A.
0291 P00AE C10B FLT1 LDA- C,I
0292 P00AF 0111 SAN NOZERO-*--1
0293 P00B0 18B5 JMPOUT JMP* ARG0
0294 P00B1 2109 NOZERO MUI- A,I
0295 P00B2 0FE1 LLS 1
0296 P00B3 0F41 ARS 1
0297 P00B4 A011 AND- LPMSK+15
0298 P00B5 6108 STA- F+1,I C*A(LSB)
0299 P00B6 4103 STQ- G,I C*A(MSB)
0300 P00B7 C10B LDA- C,I
0301 P00B8 210A MUI- B,I
0302 P00B9 0FE1 LLS 1
0303 P00BA 4107 STO- F,I
0304 * STEP 5C
0305 P00BB C109 LDA- A,I
0306 P00BC 210C MUI- D,I
0307 P00BD 0FE1 LLS 1
0308 P00BE 0814 TRQ A
0309 P00BF E103 LDQ- G,I
0310 P00C0 8107 ADD- F,I
0311 P00C1 5834 RTJ* TSTBOR
0312 P00C2 8108 ADD- F+1,I
0313 P00C3 5832 RTJ* TSTBOR
0314 * ROUND AND TRUNCATE TO 23 BITS.
0315 P00C4 0FC1 ROUND ALS 1
0316 P00C5 0FF0 LLS 16
0317 P00C6 6103 STA- G,I
0318 * STEP 5E
0319 P00C7 0A00 NORMAL ENA 0 NORMALIZE G AND G+1 ACCUM
0320 P00C8 610F STA- SHIFCT,I COMBINE EXPONENTS BETA AND DELTA
0321 P00C9 C103 LDA- G,I
0322 P00CA 0FE1 STEP6 LLS 1
0323 P00CB 0133 SAM STEP6A-*--1
0324 P00CC D10F RAO- SHIFCT,I
0325 P00CD 18FC JMP* STEP6
0326 P00CE 7F80 H7F80 NUM $7F80
0327 P00CF 0FEF STEP6A LLS 15
0328 P00D0 410B STQ- C,I MOST SIGNIFICANT BITS
0329 P00D1 0F41 ARS 1
0330 P00D2 A011 AND- LPMSK+15
0331 P00D3 610C STA- D,I
0332 * LEAST SIGNIFICANT BITS IN D
0333 P00D4 C10E LDA- DELTA,I
0334 P00D5 810D ADD- BETA,I
0335 P00D6 910F COMBIN SUB- SHIFCT,I
0336 P00D7 610E STA- DELTA,I
0337 P00D8 0822 TRA Q
0338 P00D9 0F47 ARS 7
0339 P00DA 0900 INA 0

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N7500287
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0390 P0106 E10B
 0391 P0107 C10C
 0392 P0108 OFC1
 0393 P0109 OF61
 0394 P010A OF41
 0395 P010B 410B
 0396 P010C A85C
 0397 P010D 610C
 0398 P010E C10D
 0399 P010F 0864
 0400 P0110 0901
 0401 P0111 610D
 0402 P0112 C10B
 0403
 0404 P0113 0112
 0405 P0114 180D
 P0115 FF50
 0406 P0116 0864
 0407 P0117 0900
 0408 P0118 210A
 0409 P0119 3109
 0410 P011A 0D00
 0411 P011B 0FF0
 0412 P011C 0864
 0413 P011D 0FC1
 0414 P011E 9109
 0415 P011F 0131
 0416 P0120 0DFE
 0417 P0121 0814
 0418 P0122 810C
 0419
 0420 P0123 E10B
 0421 P0124 0122
 0422 P0125 0DFE
 0423 P0126 884C
 0424
 0425
 0426
 0427
 0428 P0127 0FC1
 0429 P0128 0F61
 0430 P0129 3109
 0431 P012A 0D00
 0432 P012B 6103
 0433 P012C 0844
 0434 P012D 0F61
 0435 P012E 3109
 0436 P012F 0D00
 0437 P0130 0FF0
 0438
 0439
 0440 P0131 0FC1
 0441 P0132 9109

LDQ- C,I
 LDA- D,I
 ALS 1
 LRS 1
 ARS 1
 STQ- C,I
 AND* RSTLA
 STA- D,I
 LDA- BETA,I
 TCA A
 INA 1
 STA- BETA,I
 LDA- C,I
 * IF C.E.0, GO TO ARGO.
 SAN FD2-*--1
 JMP ARGO
 *
 FD2 TCA A
 INA 0
 MUI- B,I
 DVI- A,I
 INQ 0
 LLS 16
 TCA A
 ALS 1
 SUB- A,I
 * SAM A7-*--1
 INQ -1
 TRQ A
 ADD- D,I
 *
 LDQ- C,I
 SAP STEP5E-*--1
 INQ -1
 ADD* H8000
 *
 *
 *
 *
 STEP5E ALS 1
 LRS 1
 DVI- A,I
 INQ 0
 STA- G,I
 CLR A
 LRS 1
 DVI- A,I
 INQ 0
 LLS 16
 *
 *
 ALS 1
 SUB- A,I

SHIFT C,D TO 14 BITS AND 9 BITS
 TO GUARANTEE DIVISION WITH NO
 OVERFLOW
 7FFF
 -BETA + 1=BETA
 FORM -C*B
 (REMAINDER MUST BE NEGATIVE)
 IF 2*R.GE.C, DECREMENT RESULT
 BY 1
 ROUNDED
 D-(C*B/A)
 FORM C+ ABOVE*2**--15
 IF LOWER ACC IS NEG, DECREMENT.
 UPPER BY 1 AND INCREMENT
 LOWER BY
 1 TO PUT THE END AROUND
 BORROW INTO
 PROPER POSITION.
 ROUND REMAINDER IN A IF A.
 GE. 1/2, ROUND Q UP BY 1.

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 N7500391
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 N7500393
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0442 P0133 0131 SAM A8--1
0443 P0134 0D01 INQ 1
0444 P0135 0814 A8 TRQ A
0445 P0136 E103 LDQ- G,I
0446 P0137 188C JMP* ROUND
0447 #
0448 P0138 0D00 FLTSET 0 0
0449 P0139 C202 LDA- 2,Q
0450 P013A 6108 STA- F+1,I
0451 P013E C201 LDA- 1,Q
0452 P013C 6107 STA- F,I
0453 P013D E108 LDQ- F+1,I
0454 P013E 0122 SAP STEP2A--1
0455 P013F 0864 TCA A
0456 P0140 0852 TCQ Q
0457 P0141 6109 STEP2A STA- A,I
0458 # IF F IS ZERO, GO TO ARGFO (SET BETA,A,B=0)
0459 P0142 0111 SAN A9--1
0460 P0143 1305 JMP* ARGFO
0461 P0144 0FC1 A9 ALS 1
0462 P0145 B82D EOR* H8000
0463 P0146 0F48 ARS 8
0464 P0147 0900 INA 0
0465 P0148 610D ARGFO STA- BETA,I
0466 P0149 C109 LDA- A,I
0467 P014A 0FE8 LLS 8
0468 P014B A81D AND* RSLTA 7FFF
0469 P014C 6109 STA- A,I
0470 P014D 0FEF LLS 15
0471 P014E A800 AND H7F80
0472 P014F FF7E
0472 P0150 610A STA- B,I
0473 P0151 C107 LDA- F,I
0474 P0152 1CE5 JMP* (FLTSET)
0475 # DIVIDE CHECK WHEN DIVIDE BY ZERO
0476 P0153 0C01 DIVZER ENQ 1
0477 P0154 1805 JMP* SETERR
0478 P0155 0814 OVFUNF TRQ A
0479 # OVERFLOW OR UNDERFLOW
0480 P0156 0C00 ENQ 0
0481 P0157 0121 SAP SETERR--1
0482 # UNDERFLOW
0483 P0158 0C02 SETERR ENQ 2
0484 P0159 C106 LDA- ERRORS,I
0485 P015A AA15 AND* ERASE,Q
0486 P015B 8A17 ADD* SETBIT,Q
0487 P015C 6106 STA- ERRORS,I
0488 P015D CA0B LDA* RSLTA,Q
0489 P015E 6108 STA- C,I
0490 P015F CA06 LDA* RSLTB,Q
0491 P0160 610C STA- D,I
0492 P0161 CA0A LDA* RSLTEX,Q
0493 P0162 610E STA- DELTA,I

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ROUND, TRUNCATE AND
NORMALIZE THE RESULTS
END OF FDIV

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OVERFLOW OR UNDERFLOW

SET F.P. ACCUMULATOR

0494	P0163 1800	NXTOP3 JMP	NXTOPC		N7500494
	P0164 FEAC				
0495		*	OVERFLOW, UNDERFLOW		N7500495
0496	P0165 7F80	RSLTB NUM	\$7F80,\$7F80,\$0000		N7500496
	P0166 7F80				
	P0167 0000				
0497	P0168 7FFF	RSLTA NUM	\$7FFF,\$7FFF,\$4000		N7500497
	P0169 7FFF				
	P016A 4000				
0498	0168 P	EQU	RSTLA (RSLTA)		N7500498
0499		*	EXPONENTS		N7500499
0500	P016B 007F	RSLTEX NUM	\$7F,\$7F,-\$7F		N7500500
	P016C 007F				
	P016D FF80				
0501	P016E 0F60	LRSINS LRS	0		N7500501
0502	P016F 7FFF	ERASE NUM	\$7FFF,\$BFFF,\$DFFF		N7500502
	P0170 BFFF				
	P0171 0FFF				
0503	P0172 8000	SETBIT NUM	\$8000,\$4000,\$2000		N7500503
	P0173 4000				
	P0174 2000				
0504	0172 P	EQU	H8000 (SETBIT)		N7500504
0505	P0175 7FE0	H7FE0 NUM	\$7FE0		N7500505
0506	P0176 7F10	H7F10 NUM	\$7F10		N7500506
0507	P0177 FFC0	HFFC0 NUM	\$FFC0		N7500507
0508	P0178 80EF	MH7F10 NUM	-\$7F10		N7500508
0509	P0179 807F	H807F NUM	\$807F		N7500509
0510	0165 P	EQU	MS88 (RSLTB)		N7500510
0512		*			N7500512
0513		*****	SUBTRACT		N7500513
0514		*			N7500514
0515		*	FLOATING POINT SUBTRACT G-F		N7500515
0516	P017A 5800	FSUB RTJ	OPERND GET NEXT OPERAND ADDRESS		N7500516
	P017B FF11				
0517	P017C C201	LDA- 1,Q			N7500517
0518	P017D E202	LDQ- 2,Q			N7500518
0519	P017E 0864	TCA A	CHANGE THE SIGN BEFORE		N7500519
0520	P017F 0852	TCQ Q	ENTERING THE ADD ROUTINE		N7500520
0521	P0180 1805	JMP* FADD2			N7500521
0523		*			N7500523
0524		*****	ADD		N7500524
0525		*			N7500525
0526		*			N7500526
0527		*	FLOATING POINT ADD G+F, RESULT IN G.		N7500527
0528	P0181 5800	FADD RTJ	OPERND		N7500528
	P0182 FF0A				
0529	P0183 C201	LDA- 1,Q			N7500529
0530	P0184 E202	LDQ- 2,Q			N7500530
0531	P0185 4108	FADD2 STQ-	F+1,I		N7500531


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0638 P01DC 0C01 ENQ 1
0639 P01DD F109 AS6 ADQ- A,I
0640 P01DE F10B ADQ- C,I
0641 P01DF 0165 SQP AS61-*-1
0642 * SUBTRACT END AROUND CARRY INCREASE LSB BY 1
0643 P01E0 F887 ADQ* RSTLA 7FFF
0644 P01E1 0901 INA 1
0645 P01E2 0122 SAP AS61-*-1
0646 P01E3 0D01 INQ 1
0647 P01E4 A883 AND* RSTLA 7FFF
0648 P01E5 0FC1 AS61 ALS 1
0649 P01E6 610C STA- D,I
0650 P01E7 410B STQ- C,I
0651 * IF RESULT IS MINUS ZERO, GO TO ARG0
0652 * MINUS ZERO IS Q=7FFF, A= FFFE.
0653 P01E8 F889 ADQ* H8000
0654 P01E9 0154 SQN AS62-*-1
0655 P01EA 0901 INA 1
0656 P01EB 0112 SAN AS62-*-1
0657 P01EC 1800 JMP ARG0
0658 P01ED FE78
0659 * STEP 7.
0660 * SAVE SIGNS AND OVERFLOW V IN BITS 1 AND 0
0661 * IF S .E. V, THEN V IS SIGN EXTENSION
0662 * IF S.NE.V, THEN RESULT OVERFLOWED INTO V.
0663 P01EF 0FE3 AS62 LLS 3
0664 P01EF A004 AND- LPMSK+2
0665 PG1F0 0822 TRA Q
0666 P01F1 C10C LDA- D,I
0667 P01F2 1A01 JMP* SHFCNT,Q
0668 *
0669 * SV
0670 * SHFCNT JMP* SHFT2 S=V, SHIFT LEFT 2
0671 * SHFT2 01 S NOT = V, NO SHIFT
0672 P01F4 1806 * JMP* SHFT1 S NOT = V, NO SHIFT
0673 * SHFT1 10
0674 P01F5 1805 * JMP* SHFT1 S=V, SHIFT LEFT 2
0675 * SHFT1 11 S=V, SHIFT LEFT 2
0676 P01F6 1801 JMP* SHFT2
0677 P01F7 E10B SHFT2 LDQ- C,I
0678 P01F8 0FE2 LLS 2
0679 P01F9 1804 JMP* STOCD
0680 P01FA D10E SHFT1 RAO- DELTA,I INCREMENT THE EXPONENT
0681 P01FE E10B LDQ- C,I
0682 P01FC 0FE1 LLS 1
0683 * SAVE THE SIGN AND MAGNITUDE OF THE RESULTS.
0684 P01FD 410B STQ- C,I
0685 P01FE 0167 SQP ADDS7A-*-1
0686 P01FF 0CFE ENQ -1 SIGN=-1
0687 P0200 4105 STQ- SIGN,I
0688 P0201 E10B LDQ- C,I RESTORE C
0689 P0202 0852 TCQ Q

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0690 P0203 0864      TCA  A
0691 P0204 A015      AND- CPMSK+3      $FFF8
0692 P0205 1804      JMP* ADDS7
0693 P0206 0C01      ADDS7A ENQ 1
0694 P0207 4105      STQ- SIGN,I
0695 P0208 E10B      LDQ- C,I
0696 P0209 0113      ADDS7 SAN  ADDS7B-*--1
0697 P020A 0152      *      SQN  ADDS7B-*--1
0698                                RESULT IS ZERO, GO TO ARG0
0699 P020B 1800      JMP  ARG0
0700 P020C FE59      ADDS7B STQ- G,I
0701 P020D 4103      STA- G+1,I
0702 P020E 6104      TRA  Q
0703 P020F 0822      ENA  D
0704 P0210 0A00      STA- BETA,I
0705 P0211 610D      JMP  NORMAL
0705 P0212 1800
0705 P0213 FE83

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N7500690
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N7500693
N7500694
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N7500696
N7500697
N7500698
N7500699

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N7500700
N7500701
N7500702
N7500703
N7500704
N7500705

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0707                                *
0708                                EQU  DP10(*/96)
0709                                EQU  DP11(DP10+1)
0710                                EQU  DP12(DP11*96)
0711 P0214 002C      BSS  (DP12-*)
0712                                END

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N7500707
N7500708
N7500709
N7500710
N7500711
N7500712

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PGM= 0240 (576) COM = 0000 (0) DAT = 0000 (0)

EQUIVALENCES

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0000	I	00FF	{0000255}
0050	G	0003	{0000003}
0050	SIGN	0005	(0000005)
0050	ERRORS	0006	(0000006)
0050	F	0007	{0000007}
0051	A	0009	(0000009)
0051	B	000A	(0000010)
0051	BETA	000D	{0000013}
0051	C	000B	{0000011}
0051	D	000C	(0000012)
0051	DELTA	000E	(0000014)
0051	SHIFCT	000F	(0000015)
0052	P	0010	(0000016)
0052	RELADR	0012	{0000018}
0052	INDEX	0011	(0000017)
0052	OPCODE	0014	(0000020)
0052	QS	0015	(0000021)
0053	OPCNT	0013	(0000019)
0055	LPMSK	0002	(0000002)
0055	CPMSK	0012	(0000018)
0055	ZERO	0022	{0000034}
			0150, 0152, 0172, 0175, 0184, 0215, 0216, 0221, 0225, 0227, 0228, 0232, 0233, 0235, 0299, 0309
			0317, 0321, 0432, 0445, 0700, 0701
			0182, 0209, 0229, 0245, 0246, 0287, 0288, 0387, 0388, 0552, 0687, 0694
			0484, 0487, 0256, 0259, 0261, 0264, 0269, 0271, 0298, 0303, 0310, 0312, 0450, 0452, 0453, 0473, 0531, 0532
			0542, 0543, 0294, 0305, 0409, 0414, 0430, 0435, 0441, 0457, 0466, 0469, 0548, 0567, 0580, 0583, 0614, 0631
			0639, 0301, 0408, 0472, 0549, 0566, 0584, 0587, 0615, 0628, 0634
			0334, 0398, 0401, 0465, 0541, 0564, 0570, 0576, 0577, 0591, 0704
			0188, 0198, 0199, 0205, 0212, 0241, 0291, 0300, 0328, 0350, 0353, 0356, 0390, 0395, 0402, 0420
			0489, 0557, 0559, 0562, 0581, 0582, 0600, 0603, 0612, 0640, 0650, 0677, 0681, 0684, 0688, 0695
			0202, 0206, 0218, 0306, 0331, 0342, 0346, 0349, 0391, 0397, 0418, 0491, 0550, 0553, 0556, 0585
			0586, 0599, 0604, 0609, 0633, 0649, 0665
			0195, 0207, 0222, 0333, 0336, 0357, 0359, 0493, 0565, 0569, 0575, 0578, 0590, 0680
			0320, 0324, 0335
			0071, 0074, 0077, 0161, 0253, 0275
			0067, 0119, 0123, 0257, 0265
			0069, 0136, 0140, 0272
			0076, 0087, 0090
			0064, 0163
			0073, 0080, 0085
			0198, 0223, 0273, 0297, 0330, 0368, 0371, 0663
			0691, 0075, 0192, 0224, 0254, 0262, 0268, 0355, 0360

S Y M B O L S

DEF. LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0043	FLOT	0000	0043, 0070, 0162, 0164
0071	STOREP	0009	
0072	INTERP	000A	0083
0080	NXTOPC	0011	0124, 0141, 0154, 0203, 0210, 0365, 0494
0084	A1	0015	0082
0087	DECODE	0017	0078
0092	EXECUT	001B	
0098	FLINS	001D	0092, 0114
0114	SELF	001D	0093, 0098, 0099, 0100, 0101, 0102, 0103, 0104, 0105, 0106, 0107, 0108, 0109, 0110, 0111, 0112
0119	CHMD	002D	0113
0123	A2	0031	0103
0129	NIDX	0033	0121
0135	INDX	0035	0104
0140	STONDX	003A	0113
0147	FLST	003C	0130
0150	FOK	003E	0111
0154	ANXT	0042	0247
0159	FEND	0043	0098, 0102
0161	FLIT	0044	
0164	DONE	0047	0099, 0100, 0101, 0110
0170	FLDD	0048	0109
0182	A3	0051	0180
0188	STEP2B	0056	0185
0191	A4	0059	0189
0204	ARGO	0066	0190, 0243, 0293, 0405, 0657, 0699
0211	FLTSTO	006D	0148, 0159, 0236
0218	FLST1	0073	0214
0236	FLSTA	0085	0217, 0230
0241	FCOM	0086	0105
0244	ACMOK	0089	0242
0252	OPERND	008D	0137, 0149, 0170, 0276, 0281, 0379, 0516, 0528
0259	ABSIND	0094	
0261	RELIND	0096	0258
0262	INDIR	0097	0260
0264	DIRECT	0099	0255
0267	RELDIR	009C	
0269	A5	009E	0267
0271	ABSDIR	00A0	0266
0272	OPADR	00A1	0263, 0270
0275	KL65K	00A4	

0281	FMPY	00A6	0107
0291	FLT1	00AE	0285
0293	JMPOUT	00B0	0284
0294	NOZERO	00B1	0292
0315	ROUND	00C4	0446
0319	NORMAL	00C7	0705
0322	STEP6	00CA	0325
0326	H7F80	00CE	0201, 0374, 0471
0327	STEP6A	00CF	0323
0335	COMBIN	00D6	
0342	G01	00DD	0340
0348	A100X	00E3	0344
0355	G02	00EA	0352
0365	FMPXIT	00F3	0347, 0354, 0361
0366	TSTBOR	00F5	0311, 0313, 0373
0373	ISTB	00FC	0367, 0370
0374	H7F8	00CE	0345
0379	FDIV	00FD	0108
0385	A6	0102	0382
0389	FLT2	0106	0385
0406	FD2	0116	0404
0417	A7	0121	0415
0428	STEP5E	0127	0421
0444	A8	0135	0442
0448	FLTSET	0138	0282, 0380, 0474
0457	STEP2A	0141	0454
0461	A9	0144	0459
0465	ARGFO	0148	0460
0476	DIVZER	0153	0384
0478	OVFUNF	0155	0341, 0363
0484	SETERR	0159	0477, 0481
0494	NXTOP3	0163	0537
0496	RSLTB	0165	0490, 0510
0497	RSLTA	0168	0468, 0488, 0498
0498	RSTLA	0168	0396, 0608, 0611, 0627, 0630, 0636, 0643, 0647
0500	RSLTEX	0168	0492
0501	LRSINS	016E	0593
0502	ERASE	016F	0485
0503	SETBIT	0172	0486, 0504
0504	H8000	0172	0423, 0462, 0538, 0653
0505	H7FE0	0175	
0506	H7F10	0176	
0507	HFFC0	0177	
0508	MH7F10	0178	
0509	H807F	0179	0544
0510	MS8B	0165	0546
0516	FSUB	017A	0106
0528	FADD	0181	0112
0531	FADD2	0185	0521
0535	A10	0189	0533
0538	A100	018C	0536
0547	A11	0195	0545
0560	FADD21	01A2	0554

0569	FA22	01A9	0563
0592	ADDS3	01BA	0573
0603	AS30	01C2	0597
0614	AS31	01CC	
0625	LRS	01DD	0594
0639	AS6	01DD	0635
0648	AS61	01EE	0641, 0645
0662	AS62	01EE	0654, 0656
0670	SHFCNT	01F3	0666
0677	SHFT2	01F7	0670, 0676
0680	SHFT1	01FA	0672, 0674
0684	STOCD	01FD	0568, 0601, 0679
0693	ADDS7A	0206	0685
0696	ADDS7	0209	0692
0700	ADDS7B	0200	0696, 0697
0708	DP19	0005	0709
0709	OP11	0006	0710
0710	OP12	0240	0711

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0047	DBU	0002	0063

*** ALPHABETICAL SORT OF SYMBOLS ***

A	0051	A1	0084	A10	0535	A100	0538	A100X	0348	A11	0547	A2	0123	A3	0182	A4	0191
A5	0239	A6	0385	A7	0417	A8	0444	A9	0461	ABSDIR	0271	ABSIND	0259	ACMOK	0244	ADDS3	0592
ADD57	0696	ADDS7A	0693	ADDS7B	0700	ANXT	0154	ARG0	0204	ARGFO	0465	AS30	0603	AS31	0614	AS6	0639
AS61	0648	AS62	0662	B	0051	BETA	0051	C	0051	CHMD	0119	CO1	0342	CO2	0355	COMBIN	0335
CP4SK	0055	D	0051	DBU	0047	DECODE	0087	DELTA	0051	DIRECT	0264	DIVZER	0476	DONE	0164	DP10	0708
DP11	0709	DP12	0710	ERASE	0502	ERRORS	0050	EXECUT	0092	F	0050	FA22	0569	FADD	0528	FADD2	0531
FADD21	0560	FCOM	0241	FD2	0406	FDIV	0379	FEND	0159	FLDD	0170	FLINS	0098	FLIT	0161	FLOT	0043
FLST	0147	FLST1	0218	FLSTA	0236	FLT1	0291	FLT2	0389	FLTSET	0448	FLTSTO	0211	FMPXIT	0365	FMPY	0281
FOK	0150	FSUB	0516	G	0050	H7F10	0506	H7F8	0374	H7F80	0326	H7FE0	0505	H8000	0504	H807F	0509
HFFCO	0507	I	0000	INDEX	0052	INDIR	0262	INDX	0135	INTERP	0072	JMPOUT	0293	KL65K	0275	LPMSK	0055
LRS	0625	LRSINS	0501	MH7F10	0508	MS8B	0510	NIDX	0129	NORMAL	0319	NOZERO	0294	NXTOP3	0494	NXTOPC	0080
OPADR	0272	OPCNT	0053	OPCODE	0052	OPERND	0252	OVFUNF	0478	P	0052	QS	0052	RELADR	0052	RELDIR	0267
RELIND	0261	ROUND	0315	RSLTA	0497	RSLTB	0496	RSLTEX	0500	RSTLA	0498	SELF	0114	SETBIT	0503	SETERR	0484
SHFCNT	0670	SHFT1	0680	SHFT2	0677	SHIFCT	0051	SIGN	0050	STEP2A	0457	STEP2B	0188	STEP5E	0428	STEP6	0322
STEP6A	0327	STOCD	0684	STONDX	0140	STOREP	0071	TSTB	0373	TSTBOR	0366	ZERO	0055				

0001		NAM ODFXFL	DECK-ID N76 MSOS 5.0	SUMMARY-110N7600001
0002	*	MASS STORAGE OPERATING SYSTEM VERSION 5.0		N7600002
0003	*	SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA		N7600003
0004	*	COPYRIGHT CONTROL DATA CORPORATION 1976		N7600004

0006	***	THIS ROUTINE RUN ANYWHERE/NON-RETRANCE	N7600006
0007	*****	"DUMMY" BUFFER IS SET UP FOR MIN. CHANGE	N7600007
0008	****		N7600008
0009	*****	DEBUG RUNS ON THE LOWER 32K, THEREFORE	N7600009
0010	*****	NO 65 K ADDRESSING IS NEEDED	N7600010
0011	*		N7600011
0012	*****	SPECIAL ARRANGEMENT --- DOES NOT USE LCW CORE	N7600012
0013	*		N7600013

0015	*	ENTRY NAMES	N7600015
0016		ENT Q8QFIX	N7600016
0017		ENT Q8FX	N7600017
0018		ENT Q8QFLT	N7600018
0019		ENT Q8FLOT	N7600019
0020		ENT IFIX	N7600020
0021		ENT FLOAT	N7600021
0022		ENT DBU	N7600022

0024	*	EXTERNALS	N7600024
0025		EXT* FLOT	N7600025

0027	*	"EQU" TABLE	N7600027
0028		EQU CELL2(41),CELL1(42),QS(21)	N7600028

0029		EQU G(3),SIGN(5),ERRORS(6)	N7600029
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0030		EQU ZERO(\$22),LPMSK(2)	N7600030
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0032	*	PROGRAM START	N7600032
0033	*****		N7600033
0034	*		N7600034

0036	P0000	DB00	Q8QFIX NOP	N7600036
0037	P0001	5867	RTJ* DBU	N7600037
0038	P0002	4115	STQ- QS,I	N7600038
0039	P0003	C103	LDA- G,I	N7600039
0040	P0004	612A	STA- CELL1,I	N7600040
0041	P0005	C104	LDA- G+1,I	N7600041
0042	P0006	6129	STA- CELL2,I	N7600042
0043	P0007	C8F8	LDA* Q8QFIX	N7600043
0044	P0008	6802	STA* Q8FX	N7600044
0045	P0009	180F	JMP* FIX	N7600045

SAVE Q
PARAMETER IS IN PSEUDO-ACC.

SAVE RETURN

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0047 *
0048 Q8FX NOP 0 ENTRY
0049 P000A 0800 RTJ* DBU
0050 P000B 585D STQ- QS,I SAVE Q-REG.
0051 P000C 4115 LDA* (Q8FX)
0052 P000D CCFC SAP KLG65K
0053 P000E 0122 ADD* Q8FX
0054 P000F 88FA AND- LPMSK+15
0055 P0010 A011 KLG65K TRA Q **FTN 3.0**
0056 P0011 0822 FX5 LDA- (ZERO),Q
0057 P0012 C622 STA- CELL1,I
0058 P0013 612A INQ 1
0059 P0014 0D01 LDA- (ZERO),Q
0060 P0015 C622 STA- CELL2,I
0061 P0016 6129 RAO* Q8FX RETURN 2 CELLS AFTER RTJ
0062 P0017 D8F2 FIX LDA- CELL1,I
0063 P0018 C12A SAP FX1--1 COMPLEMENT A AND CELL2
0064 P0019 0124 TCA A
0065 P001A 0864 LDQ- CELL2,I
0066 P001B E129 TCQ Q
0067 P001C 0852 STQ- CELL2,I
0068 P001D 4129 FX1 ENQ 0
0069 P001E 0C00 LLS 2
0070 P001F 0FE2 SQN FX2--1 LESS THAN UNITY, ZERO TO A
0071 P0020 0152 ENA 0
0072 P0021 0A00 JMP* FX4
0073 P0022 1812 FX2 ENQ 0
0074 P0023 0C00 LLS 3
0075 P0024 0FE3 SQZ FX3--1 GREATER THAN 2**16-1, $7FFF TO A
0076 P0025 0142 LDA- LPMSK+15
0077 P0026 C011 JMP* FX6 PSR 903
0078 P0027 180A FX3 LDQ* LLS CONSTRUCT A SHIFT
0079 P0028 E80F LLS 4
0080 P0029 0FE4 STQ* SHIFT LOW-ORDER BITS COME FROM WORD2
0081 P002A 4805 ENQ 0
0082 P002B 0C00 LLS 7
0083 P002C 0FE7 LDA- CELL2,I
0084 P002D C129 LRS 7
0085 P002E 0F67 SHIFT LLS 0 COUNT FROM EXPONENT LOW 4 BITS
0086 P002F 0FE0 TRQ A ANSWER TO ACC
0087 P0030 0814 FX6 LDQ- CELL1,I PSR 903
0088 P0031 E12A SQP FX4--1
0089 P0032 0161 TCA A COMPLEMENT
0090 P0033 0864 FX4 LDQ- QS,I
0091 P0034 E115 JMP* (Q8FX) RETURN
0092 P0035 10D4 LLS ADC $00FE
0094 *
0095 P0037 0800 Q8QFLT NOP FIX TO FLOAT ENTRY
0096 P0038 5830 RTJ* DBU

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0097	P0039	4115	STQ-	QS,I	SAVE Q	N7600097
0098	P003A	612A	STA-	CELL1,I		N7600098
0099	P003B	C8FB	LDA*	Q8QFLT	SAVE RETURN	N7600099
0100	P003C	6802	STA*	Q8FLOT		N7600100
0101	P003D	180C	JMP*	FLT		N7600101

0103			*			N7600103	
0104	P003E	0B00	Q8FLOT	NOP	0	ENTRY	N7600104
0105	P003F	5829		RTJ*	DBU		N7600105
0106	P0040	4115		STQ-	QS,I	SAVE Q	N7600106
0107	P0041	CCFC		LDA*	(Q8FLOT)		N7600107
0108	P0042	6122		SAP	FL0		N7600108
0109	P0043	88FA		ADD*	Q8FLOT		N7600109
0110	P0044	A011		AND-	LPMSK+15		N7600110
0111	P0045	0822	FL0	TRA	Q		N7600111
0112	P0046	C622		LDA-	(ZERO),Q		N7600112
0113	P0047	612A		STA-	CELL1,I		N7600113
0114	P0048	D8F5		RAO*	Q8FLOT	SKIP PARAMETER ADDRESS	N7600114
0115	P0049	C12A	FLT	LDA-	CELL1,I		N7600115
0116	P004A	0121		SAP	FL1-#-1		N7600116
0117	P004B	0864		TCA	A	COMPLEMENT	N7600117
0118	P004C	011B	FL1	SAN	FL3-#-1		N7600118
0119	P004D	6129		STA-	CELL2,I	INPUT WAS ZERO	N7600119
0120	P004E	612A	FL8	STA-	CELL2+1,I		N7600120
0121	P004F	00FF		LDA-	I		N7600121
0122	P0050	0929		INA	CELL2		N7600122
0123	P0051	6804		STA*	LOCEL2		N7600123
0124	P0052	5800	X	RTJ	FLOT		N7600124
	P0053	7FFF	X				
0125	P0054	B400		NUM	\$B400		N7600125
0126	P0055	0029	LOCEL2	ADC	CELL2		N7600126
0127	P0056	E115	FL2	LDQ-	QS,I		N7600127
0128	P0057	1CE6		JMP*	(Q8FLOT)	RETURN	N7600128
0129	P0058	ED00	FL3	LDQ	=N\$8F	EXPONENT FOR 15-BIT INPUT	N7600129
	P0059	008F					
0130	P005A	0FC1	FL4	ALS	1		N7600130
0131	P005B	0132		SAM	FL5-#-1		N7600131
0132	P005C	0DFE		INQ	-1		N7600132
0133	P005D	18FC		JMP*	FL4		N7600133
0134	P005E	0FE7	FL5	LLS	7	MOST SIGNIFICANT 7BITS IN Q	N7600134
0135	P005F	4129		STQ-	CELL2,I		N7600135
0136	P0060	E12A		LDQ-	CELL1,I		N7600136
0137	P0061	0171		SQM	FL6-#-1		N7600137
0138	P0062	18EB		JMP*	FL8		N7600138
0139	P0063	0864	FL6	TCA	A	COMPLEMENT A	N7600139
0140	P0064	E129		LDQ-	CELL2,I		N7600140
0141	P0065	0852		TCQ	Q	COMPLEMENT Q	N7600141
0142	P0066	4129		STQ-	CELL2,I		N7600142
0143	P0067	18E6		JMP*	FL8		N7600143

0145	000A P		EQU	IFIX(Q8FX)		N7600145
------	--------	--	-----	------------	--	----------

```

0146      003E P      EQU  FLOAT(Q8FLOT)
0148      *
0149      *
0150      *
0151      *
0152      *
0153      *
0154      *
0155      *
0156      *

```

```

N7600146
N7600148
N7600149
N7600150
N7600151
N7600152
N7600153
N7600154
N7600155
N7600156

```

```

*****
*
*   ROUTINE TO SET UP DUMMY BUFFER
*   FOR FLOATING POINT PACKAGE
*
*****

```

```

0158      *
0159      *****
0160      *

```

```

N7600158
N7600159
N7600160

```

```

***** PROGRAM START *****

```

```

0162 P0068 0800 DBU   NOP 0      ENTRY
0163 P0069 6808 STA* TEMP  SAVE A-REG.
0164 P006A 5801 RTJ# SELF  GENERATE BUFFER ADDRESS
0165 P006B 0800 SELF  NOP 0
0166 P006C C8FE LDA* SELF
0167 P006D 0907 INA  BUFFER-SELF
0168 P006E 60FF STA- I      SET IT TO I-REGISTER
0169 P006F C802 LDA* TEMP
0170 P0070 1CF7 JMP* (DBU)  RETURN
0171      *
0172 P0071 0000 TEMP  NUM  0
0173 P0072 002D BUFFER BZS  BUFFER(45)

```

```

N7600162
N7600163
N7600164
N7600165
N7600166
N7600167
N7600168
N7600169
N7600170
N7600171
N7600172
N7600173

```

```

0175      *
0176      0001 P      EQU  DP10(*96)
0177      0002 P      EQU  DP11(DP10+1)
0178      00C0 P      EQU  DP12(DP11*96)
0179 P009F 0021 BSS  (DP12-*)
0180      END

```

```

N7600175
N7600176
N7600177
N7600178
N7600179
N7600180

```

```

PGM= 00C0 ( 192) 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	(0000255) 0121, 0168
0028	CELL2	0029	(0000041) 0042, 0060, 0065, 0067, 0083, 0119, 0120, 0122, 0126, 0135, 0140, 0142
0028	CELL1	002A	(0000042) 0040, 0057, 0062, 0087, 0098, 0113, 0115, 0136
0028	QS	0015	(0000021) 0038, 0050, 0090, 0097, 0106, 0127
0029	G	0003	(0000003) 0039, 0041
0029	SIGN	0005	(0000005)
0029	ERRORS	0006	(0000006)
0030	ZERO	0022	(0000034) 0056, 0059, 0112
0030	LPMSK	0002	(0000002) 0054, 0076, 0110

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	Q8QFIX	0000	0016, 0043
0017	Q8FX	000A	0017, 0044, 0051, 0053, 0061, 0091, 0145
0018	Q8QFLT	0037	0018, 0099
0019	Q8FLOT	003E	0019, 0100, 0107, 0109, 0114, 0128, 0146
0020	IFIX	000A	0020
0021	FLOAT	003E	0021
0022	DBU	0068	0022, 0037, 0049, 0096, 0105, 0170
0055	KLG65K	0011	0052
0056	FX5	0012	
0062	FIX	0018	0045
0068	FX1	001E	0063
0073	FX2	0023	0070
0078	FX3	0028	0075
0085	SHIFT	002F	0080
0087	FX6	0031	0077
0090	FX4	0034	0072, 0088
0092	LLS	0036	0078
0111	FLO	0045	0108
0115	FLT	0049	0101
0118	FL1	004C	0116
0120	FL8	004E	0138, 0143
0126	LOC EL2	0055	0123
0127	FL2	0056	
0129	FL3	0058	0118
0130	FL4	005A	0133
0134	FL5	005E	0131
0139	FL6	0063	0137
0165	SELF	006B	0164, 0166, 0167
0172	TEMP	0071	0163, 0169
0173	BUFFER	0072	0167
0176	DP10	0001	0177
0177	DP11	0002	0178
0178	DP12	0000	0179

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0025	FLOT	0053	0124

*** ALPHABETICAL SORT OF SYMBOLS ***

BUFFER	0173	CELL1	0028	CELL2	0028	DBU	0022	DP10	0176	DP11	0177	DP12	0178	ERRORS	0029	FIX	0062
FLO	0111	FL1	0118	FL2	0127	FL3	0129	FL4	0130	FL5	0134	FL6	0139	FL8	0120	FLOAT	0021
FLOT	0025	FLT	0115	FX1	0068	FX2	0073	FX3	0078	FX4	0090	FX5	0056	FX6	0087	G	0029
I	0000	IFIX	0020	KLG65K	0055	LLS	0092	LOCEL2	0126	LPMSK	0030	Q8FLOT	0019	Q8FX	0017	Q8QFIX	0016
Q8QFLT	0018	QS	0028	SELF	0165	SHIFT	0085	SIGN	0029	TEMP	0172	ZERO	0030				