```
0001                    NAM  CYFT          DECK-ID N84  MSOS 5.0                  SUMMARY-110N8400001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                        N8400002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    N8400003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                         N8400004

0006                    ENT  CYFT                                                     N8400006
0007                *                                                                 N8400007
0008 P0000 0B00 CYFT    NOP                                                           N8400008
0009 P0001 5800 GO      RTJ  READ                                                     N8400009
     P0002 00A4
0010 P0003 C000 ZZ      LDA  =A N          SET UP PARAMETER TO CAL LOOK               N8400010
     P0004 204E
0011 P0005 6800         STA  PARA1+1       FOR NAM CARD                               N8400011
     P0006 0144
0012 P0007 C000         LDA  =ANA                                                     N8400012
     P0008 4E41
0013 P0009 6800         STA  PARA2+1                                                  N8400013
     P000A 0151
0014 P000B C000         LDA  =AM                                                      N8400014
     P000C 4D20
0015 P000D 6800         STA  PARA3+1                                                  N8400015
     P000E 0153
0016 P000F C000         LDA  =AAM                                                     N8400016
     P0010 414D
0017 P0011 6800         STA  PARA4+1                                                  N8400017
     P0012 0155
0018 P0013 5800         RTJ  LOOK          Q RETURNS WITH NUMBER OF                   N8400018
     P0014 012B
0019 P0015 1803         JMP* MOVE          WORDS SEARCHED BEFORE A FIND               N8400019
0020 P0016 18EA         JMP* GO                                                       N8400020
0021 P0017 18E9         JMP* GO            RETURNS AT P WITH FIND,                    N8400021
0022                *                                P+1 WITH NO FIND               N8400022
0023                *                                P+2 WITH BLANK FIND            N8400023
0024                *                                                               N8400024
0025 P0018 CA00 MOVE    LDA  CRDIN,Q                                                  N8400025
     P0019 00D6
0026 P001A 9000         SUB  =A            CHECK FOR TWO BLANKS                       N8400026
     P001B 2020
0027 P001C 0112         SAN  LL                                                       N8400027
0028 P001D 0D01 BMPQ    INQ  1                                                        N8400028
0029 P001E 18F9         JMP* MOVE                                                     N8400029
0030 P001F CA00 LL      LDA  CRDIN,Q                                                  N8400030
     P0020 00CF
0031 P0021 A000         AND  =N$FF00                                                  N8400031
     P0022 FF00
0032 P0023 9000         SUB  =N$2000       CHECK FOR BLANK/X                          N8400032
     P0024 2000
0033 P0025 0111         SAN  MM                                                       N8400033
0034 P0026 1866         JMP* ODD           YES, BLANK X                               N8400034
0035 P0027 CA00 MM      LDA  CRDIN,Q                                                  N8400035
     P0028 00C7
0036 P0029 9000         SUB  =AM           CHECK FOR M/BLANK                          N8400036
     P002A 4D20
```

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0037 P002B 0111          SAN  NN                                        N8400037
0038 P002C 18F0          JMP* BMPQ                                      N8400038
0039 P002D CA00   NN     LDA  CRDIN,Q       EVEN  MOVE TREE WORDS       N8400039
     P002E 00C1
0040 P002F 680D          STA* DCK           TO DCK/ AND HOL/            N8400040
0041 P0030 6834          STA* HOL           CARDS                       N8400041
0042 P0031 0D01          INQ  1                                         N8400042
0043 P0032 CA00          LDA  CRDIN,Q                                   N8400043
     P0033 00BC
0044 P0034 6809          STA* DCK+1                                     N8400044
0045 P0035 6830          STA* HOL+1                                     N8400045
0046 P0036 0D01          INQ  1                                         N8400046
0047 P0037 CA00          LDA  CRDIN,Q                                   N8400047
     P0038 00B7
0048 P0039 6805          STA* DCK+2                                     N8400048
0049 P003A 682C          STA* HOL+2                                     N8400049
0050 P003B 1864          JMP* INSERT                                    N8400050
0051 P003C 5858   DCK    ALF  20,XXXXXX DCK/ I,C                        N8400051
     P003D 5858
     P003E 5858
     P003F 2044
     P0040 434B
     P0041 2F20
     P0042 492C
     P0043 4320
     P0044 2020
     P0045 2020
     P0046 2020
     P0047 2020
     P0048 2020
     P0049 2020
     P004A 2020
     P004B 2020
     P004C 2020
     P004D 2020
     P004E 2020
     P004F 2020
0052 P0050 2020          ALF  20,                                       N8400052
     P0051 2020
     P0052 2020
     P0053 2020
     P0054 2020
     P0055 2020
     P0056 2020
     P0057 2020
     P0058 2020
     P0059 2020
     P005A 2020
     P005B 2020
     P005C 2020
     P005D 2020
     P005E 2020
     P005F 2020
     P0060 2020
```

```
          P0061 2020
          P0062 2020
          P0063 2020
0053      P0064 5858   HOL     ALF  20,XXXXXX HOL/                    N8400053
          P0065 5858
          P0066 5858
          P0067 2048
          P0068 4F4C
          P0069 2F20
          P006A 2020
          P006B 2020
          P006C 2020
          P006D 2020
          P006E 2020
          P006F 2020
          P0070 2020
          P0071 2020
          P0072 2020
          P0073 2020
          P0074 2020
          P0075 2020
          P0076 2020
          P0077 2020
0054      P0078 2020           ALF  20,                               N8400054
          P0079 2020
          P007A 2020
          P007B 2020
          P007C 2020
          P007D 2020
          P007E 2020
          P007F 2020
          P0080 2020
          P0081 2020
          P0082 2020
          P0083 2020
          P0084 2020
          P0085 2020
          P0086 2020
          P0087 2020
          P0088 2020
          P0089 2020
          P008A 2020
          P008B 2020
0055      P008C 40FF   ODD     STQ- I                                 N8400055
0056      P008D C962           LDA* CRDIN,I        2031  XXXX         N8400056
0057      P008E D0FF           RAO- I                                 N8400057
0058      P008F E960           LDQ* CRDIN,I        2031  3233         N8400058
0059      P0090 0FE8           LLS  8              3132  33XX         N8400059
0060      P0091 6802           STA* HOL            SAVE  WORD ONE     N8400060
0061      P0092 68A9           STA* DCK                               N8400061
0062      P0093 0FE8           LLS  8              3233  XXXX         N8400062
0063      P0094 D0FF           RAO- I                                 N8400063
0064      P0095 E95A           LDQ* CRDIN,I       2333  3435          N8400064
```

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0065 P00096 0FE8          LLS  8              3334  35XX                                  N8400065
0066 P00097 68CD          STA* HOL+1          SAVE WORD TWO                         N8400066
0067 P00098 68A4          STA* DCK+1                                                N8400067
0068 P00099 0FE8          LLS  8              3435  XXXX                            N8400068
0069 P0009A D0FF          RAO- I                                                    N8400069
0070 P0009B E954          LDQ* CRDIN,I        3435  3620                            N8400070
0071 P0009C 0FE8          LLS  8              3536  20XX                            N8400071
0072 P0009D 68C8          STA* HOL+2          SAVE WORD THREE                       N8400072
0073 P0009E 689F          STA* DCK+2                                                N8400073
0074 P0009F 0B00    INSERT NOP  0                                                    N8400074
0075 P00A0 582E           RTJ* WRDCK          INSERT DCK/ CARD                      N8400075
0076 P00A1 5822           RTJ* WRHOL          INSERT HOL/ CARD                      N8400076
0077 P00A2 5816           RTJ* WRITE        COPY NAM CARD                           N8400077
0078 P00A3 5836           RTJ* LSDCK          LIST CURRENT DCK/ CARD                N8400078
0079 P00A4 1800           JMP  ENDLK          GO LOOK FOR END CARD                  N8400079
     P00A5 00D0
0080                *                                                             N8400080
0081 P00A6 0B00    READ   NOP  0                                                    N8400081
0082                      FREAD  $F9,YY,CRDIN,40,A,,,I,,1 READ A CARD    **MSOS 4.0N8400082
0082 P00A7 54F4
0082 P00A8 4800
0082 P00A9 00B0 P
     P00AA 0000
0082 P00AB 18F9
0082 P00AC 0028
     P00AD 00EF P
0083                      EXIT                                                    N8400083
0083 P00AE 54F4
0083 P00AF 0A00
0084 P00B0 C8FA    YY     LDA* READ+5                                              N8400084
0085 P00B1 0125           SAP  YZ          BIT 15 SYA ERROR                      N8400085
0086 P00B2 0FC1           ALS  1           YES                                   N8400086
0087 P00B3 0123           SAP  YZ       BIT 14 SAY FEWER WORDS                   N8400087
0088                *          YES                                               N8400088
0089                *    ERROR + FEWER WORDS  = END OF FILE                      N8400089
0090                *                                                           N8400090
0091 P00B4 5830           RTJ* WREND        WRITE FINAL END/                    N8400091
0092                      EXIT                                                    N8400092
0092 P00B5 54F4
0092 P00B6 0A00
0093 P00B7 1CEE    YZ     JMP* (READ)                                              N8400093
0094                *                                                             N8400094
0095 P00B8 0B00    WRITE  NOP  0                  COPY CARD                       N8400095
0096                      FWRITE $FA,WW,CRDIN,40,A,,,I,,1                 **MSOS 4.0N8400096
0096 P00B9 54F4
0096 P00BA 4C00
0096 P00BB 00C2 P
     P00BC 0000
0096 P00BD 18FA
0096 P00BE 0028
     P00BF 00EF P
0097                      EXIT                                                    N8400097
0097 P00C0 54F4
```

```
0097 P00C1 0A00
0098 P00C2 1CF5    WW      JMP* (WRITE)                                          N8400098
0099               *                                                             N8400099
0100 P00C3 0B00    WRHOL   NOP  0                INSERT HOL/ CARD               N8400100
0101               *       FWRITE  $FA,VV,HOL,40,A,,,I,,1          **MSOS 4.0N8400101
0101 P00C4 54F4
0101 P00C5 4C00
0101 P00C6 00CD P
     P00C7 0000
0101 P00C8 18FA
0101 P00C9 0028
     P00CA 0064 P
0102               *       EXIT                                                  N8400102
0102 P00CB 54F4
0102 P00CC 0A00
0103 P00CD 1CF5    VV      JMP* (WRHOL)                                          N8400103
0104               *                                                             N8400104
0105 P00CE 0B00    WRDCK   NOP  0                INSERT DCK/ CARD              N8400105
0106               *       FWRITE $FA,UU,DCK,40,A,,,I,,1           **MSOS 4.0N8400106
0106 P00CF 54F4
0106 P00D0 4C00
0106 P00D1 00D8 P
     P00D2 0000
0106 P00D3 18FA
0106 P00D4 0028
     P00D5 003C P
0107               *       EXIT                                                  N8400107
0107 P00D6 54F4
0107 P00D7 0A00
0108 P00D8 1CF5    UU      JMP* (WRDCK)                                          N8400108
0109               *                                                             N8400109
0110 P00D9 0B00    LSDCK   NOP  0                LIST DCK/ CARD INSERTED       N8400110
0111               *       FWRITE $FB,TT,DCK,13,A,,,I,,1           **MSOS 4.0N8400111
0111 P00DA 54F4
0111 P00DB 4C00
0111 P00DC 00E3 P
     P00DD 0000
0111 P00DE 18FB
0111 P00DF 000D
     P00E0 003C P
0112               *       EXIT                                                  N8400112
0112 P00E1 54F4
0112 P00E2 0A00
0113 P00E3 1CF5    TT      JMP* (LSDCK)                                          N8400113
0114               *                                                             N8400114
0115 P00E4 0B00    WREND   NOP  0                WRITE END/ CARD               N8400115
0116               *       FWRITE  $FA,SS,END,40,A,,,I,,1          **MSOS 4.0N8400116
0116 P00E5 54F4
0116 P00E6 4C00
0116 P00E7 00EE P
     P00E8 0000
0116 P00E9 18FA
0116 P00EA 0028
     P00EB 0191 P
```

```
0117                        EXIT                                                    N8400117
0117 P00EC 54F4
0117 P00ED 0A00
0118 P00EE 1CF5     SS      JMP* (WREND)                                            N8400118
0119 P00EF 0050             BZS  CRDIN(80)                                          N8400119
0120                *                                                               N8400120
0121 P013F 0B00     LOOK    NOP  0                                                  N8400121
0122 P0140 0842             CLR  Q                                                  N8400122
0123 P0141 CAAD             LDA* CRDIN,Q                                            N8400123
0124 P0142 A000             AND  =N$FF00                                            N8400124
     P0143 FF00
0125 P0144 9000             SUB  =N$2000        CHECK FIRST COLUMN                  N8400125
     P0145 2000
0126 P0146 0101             SAZ  TEST                                               N8400126
0127 P0147 182C             JMP* CPYOUT                                             N8400127
0128 P0148 CAA6     TEST    LDA* CRDIN,Q                                            N8400128
0129 P0149 9000     PARA1   SUB  =A N           CHECK FOR N/ E                      N8400129
     P014A 204E
0130 P014B 0111             SAN  AA                                                 N8400130
0131 P014C 1818             JMP* XX             NAN/ END TEST                       N8400131
0132 P014D CAA1     AA      LDA* CRDIN,Q        NAM /END TEST                       N8400132
0133 P014E 9000             SUB  =N$2020        CHECK FOR SPACE*SPACE               N8400133
     P014F 2020
0134 P0150 0101             SAZ  BB                                                 N8400134
0135 P0151 1822             JMP* CPYOUT                                             N8400135
0136 P0152 0814     BB      TRQ  A                                                  N8400136
0137 P0153 09DF             INA  -32            CHECK FOR BLANK CARD                N8400137
0138 P0154 0113             SAN  CC                                                 N8400138
0139 P0155 D8E9             RAO* LOOK           BLANK FIND                          N8400139
0140 P0156 D8E8             RAO* LOOK                                               N8400140
0141 P0157 1CE7             JMP* (LOOK)                                             N8400141
0142 P0158 0D01     CC      INQ  1                                                  N8400142
0143 P0159 CA95             LDA* CRDIN,Q                                            N8400143
0144 P015A 9000     PARA2   SUB  =ANA           CHECK FOR NA/EN                     N8400144
     P015B 4E41
0145 P015C 0101             SAZ  DD                                                 N8400145
0146 P015D 18EA             JMP* TEST           TEST LOOP                           N8400146
0147 P015E 0D01     DD      INQ  1                                                  N8400147
0148 P015F CA8F             LDA* CRDIN,Q                                            N8400148
0149 P0160 9000     PARA3   SUB  =AM            M /D TEST                           N8400149
     P0161 4D20
0150 P0162 010F             SAZ  EE                                                 N8400150
0151 P0163 1810             JMP* CPYOUT                                             N8400151
0152 P0164 0D01     XX      INQ  1                                                  N8400152
0153 P0165 CA89             LDA* CRDIN,Q                                            N8400153
0154 P0166 9000     PARA4   SUB  =AAM           AM/ND TEST                          N8400154
     P0167 414D
0155 P0168 0101             SAZ  FF                                                 N8400155
0156 P0169 180A             JMP* CPYOUT                                             N8400156
0157 P016A 0D01     FF      INQ  1                                                  N8400157
0158 P016B CA83             LDA* CRDIN,Q                                            N8400158
0159 P016C A000             AND  =N$FF00                                            N8400159
     P016D FF00
```

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0160 P016E 9000          SUB  =N$2000      TEST FOR TRAILING BLANK                N8400160
     P016F 2000
0161 P0170 0101          SAZ  EE                                                  N8400161
0162 P0171 1802          JMP* CPYOUT                                              N8400162
0163 P0172 1CCC    EE    JMP* (LOOK)       FIND                                   N8400163
0164 P0173 D8CB    CPYOUT RAO* LOOK                                               N8400164
0165 P0174 1CCA          JMP* (LOOK)                                              N8400165
0166                     *                                                        N8400166
0167 P0175 0B00    ENDLK NOP  0                                                   N8400167
0168 P0176 5800          RTJ  READ                                                N8400168
     P0177 FF2E
0169 P0178 C000          LDA  =A E         SET UP PARAMETER TO                    N8400169
     P0179 2045
0170 P017A 68CF          STA* PARA1+1        LOOK FOR END CARD                    N8400170
0171 P017B C000          LDA  =AEN         CARD                                   N8400171
     P017C 454E
0172 P017D 68DD          STA* PARA2+1                                             N8400172
0173 P017E C000          LDA  =AD                                                 N8400173
     P017F 4420
0174 P0180 68E0          STA* PARA3+1                                             N8400174
0175 P0181 C000          LDA  =AND                                                N8400175
     P0182 4E44
0176 P0183 68E3          STA* PARA4+1                                             N8400176
0177 P0184 58BA          RTJ* LOOK                                                N8400177
0178 P0185 1806          JMP* TRY2         FIND           P                       N8400178
0179 P0186 1802          JMP* TRY1         NO FIND        P+1                     N8400179
0180 P0187 18ED          JMP* ENDLK        BLANK FIND     P+2                     N8400180
0181 P0188 5800    TRY1  RTJ  WRITE                                               N8400181
     P0189 FF2E
0182 P018A 18EA          JMP* ENDLK                                               N8400182
0183 P018B 5800    TRY2  RTJ  WRITE          COPY END CARD                        N8400183
     P018C FF2B
0184 P018D 5800          RTJ  WREND          WRITE END/ CARD                      N8400184
     P018E FF55
0185 P018F 1800          JMP  GO             GO LOOK FOR NAM CARD AGAIN           N8400185
     P0190 FE70
0186                     *                                                        N8400186
0187 P0191 2020    END   ALF  20,      END/                                       N8400187
     P0192 2020
     P0193 2020
     P0194 2045
     P0195 4E44
     P0196 2F20
     P0197 2020
     P0198 2020
     P0199 2020
     P019A 2020
     P019B 2020
     P019C 2020
     P019D 2020
     P019E 2020
     P019F 2020
     P01A0 2020
     P01A1 2020
```

```
                P01A2 2020
                P01A3 2020
                P01A4 2020
0188            P01A5 2020          ALF  20,                                    N8400188
                P01A6 2020
                P01A7 2020
                P01A8 2020
                P01A9 2020
                P01AA 2020
                P01AB 2020
                P01AC 2020
                P01AD 2020
                P01AE 2020
                P01AF 2020
                P01B0 2020
                P01B1 2020
                P01B2 2020
                P01B3 2020
                P01B4 2020
                P01B5 2020
                P01B6 2020
                P01B7 2020
                P01B8 2020
0189                            END  CYFT                                       N8400189

PGM=  01B9 (    441)   COM = 0000 (      0)   DAT = 0000 (      0)
```

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

DEF.LINE	NAME	VALUE		REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	0055, 0057, 0063, 0069

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	CYFT	0000	0006
0009	GO	0001	0020, 0021, 0185
0010	ZZ	0003	
0025	MOVE	0018	0019, 0029
0028	BMPQ	001D	0038
0030	LL	001F	0027
0035	MM	0027	0033
0039	NN	002D	0037
0051	DCK	003C	0040, 0044, 0048, 0061, 0067, 0073, 0106, 0111
0053	HOL	0064	0041, 0045, 0049, 0060, 0066, 0072, 0101
0055	ODD	008C	0034
0074	INSERT	009F	0050
0081	READ	00A6	0009, 0084, 0093, 0168
0084	YY	00B0	0082
0093	YZ	00B7	0085, 0087
0095	WRITE	00B8	0077, 0098, 0181, 0183
0098	WW	00C2	0096
0100	WRHOL	00C3	0076, 0103
0103	VV	00CD	0101
0105	WRDCK	00CE	0075, 0108
0108	UU	00D8	0106
0110	LSDCK	00D9	0078, 0113
0113	TT	00E3	0111
0115	WREND	00E4	0091, 0118, 0184
0118	SS	00EE	0116
0119	CRDIN	00EF	0025, 0030, 0035, 0039, 0043, 0047, 0056, 0058, 0064, 0070, 0082, 0096, 0123, 0128, 0132, 0143 0148, 0153, 0158
0121	LOOK	013F	0018, 0139, 0140, 0141, 0163, 0164, 0165, 0177
0128	TEST	0148	0126, 0146
0129	PARA1	0149	0011, 0170
0132	AA	014D	0130
0136	BB	0152	0134
0142	CC	0158	0138
0144	PARA2	015A	0013, 0172
0147	DD	015E	0145
0149	PARA3	0160	0015, 0174
0152	XX	0164	0131
0154	PARA4	0166	0017, 0176
0157	FF	016A	0155
0163	EE	0172	0150, 0161
0164	CPYOUT	0173	0127, 0135, 0151, 0156, 0162

0167	ENDLK	0175	0079, 0180, 0182
0181	TRY1	0188	0179
0183	TRY2	018B	0178
0187	END	0191	0116

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

AA	0132	BB	0136	BMPQ	0028	CC	0142	CPYOUT	0164	CRDIN	0119	CYFT	0006	DCK	0051	DD	0147
EE	0163	END	0187	ENDLK	0167	FF	0157	GO	0009	HOL	0053	I	0000	INSERT	0074	LL	0030
LOOK	0121	LSDCK	0110	MM	0035	MOVE	0025	NN	0039	ODD	0055	PARA1	0129	PARA2	0144	PARA3	0149
PARA4	0154	READ	0081	SS	0118	TEST	0128	TRY1	0181	TRY2	0183	TT	0113	UU	0108	VV	0103
WRDCK	0105	WREND	0115	WRHOL	0100	WRITE	0095	WW	0098	XX	0152	YY	0084	YZ	0093	ZZ	0010

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0001                    NAM  LCOSY          DECK-ID N85  MSOS 5.0          SUMMARY-110N8500001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                  N8500002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA               N8500003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                    N8500004

0006                    ENT  LCOSY                                                N8500006
0007 P00C0 00C1         BSS  INBUF(193),OUTBUF(6)                                 N8500007
     P00C1 0006
0008 P00C7 2043    CMATCH ALF  3, CSY/                                            N8500008
     P00C8 5359
     P00C9 2F20
0009 P00CA 2045    EOL    ALF  3, END/                                            N8500009
     P00CB 4E44
     P00CC 2F20
0010 P00CD 2020    ENDMSG ALF  12,     END OF COSY LIBRARY                        N8500010
     P00CE 2020
     P00CF 2045
     P00D0 4E44
     P00D1 204F
     P00D2 4620
     P00D3 434F
     P00D4 5359
     P00D5 204C
     P00D6 4942
     P00D7 5241
     P00D8 5259
0011 P00D9 0B00    LCOSY  NOP  0                                                  N8500011
0012 P00DA 5858           RTJ* TYPEIT                                             N8500012
0013 P00DB E000           LDQ  =N192                                              N8500013
     P00DC 00C0
0014 P00DD 0A00    CLEAR  ENA  0                                                  N8500014
0015 P00DE 6A00           STA  INBUF,Q                                            N8500015
     P00DF FF20
0016 P00E0 0DFE           INQ  -1                                                 N8500016
0017 P00F1 0171           SQM  1                                                  N8500017
0018 P00E2 18FA           JMP* CLEAR                                              N8500018
0019                      FREAD $F9,0,INBUF,193,A,0,0,I,0,1      **MSOS 4.0N8500019
0019 P00E3 54F4
0019 P00E4 4800
0019 P00E5 0000
     P00E6 0000
0019 P00E7 18F9
0019 P00E8 00C1
     P00E9 0000 P
0020 P00EA C8FB           LDA* *-4                                                N8500020
0021 P00EB 0101           SAZ  1                                                  N8500021
0022 P00EC 18FD           JMP* *-2                                                N8500022
0023 P00ED C800           LDA  INBUF+3                                            N8500023
     P00EE FF14
0024 P00EF 98DA           SUB* EOL                                                N8500024
0025 P00F0 0101           SAZ  1                                                  N8500025
0026 P00F1 1814           JMP* CCK                                                N8500026
```

```
0027 P00F2 C800          LDA  INBUF+4                                        N8500027
     P00F3 FF10
0028 P00F4 98D6          SUB* EOL+1                                          N8500028
0029 P00F5 0101          SAZ  1                                              N8500029
0030 P00F6 180F          JMP* CCK                                            N8500030
0031 P00F7 C800          LDA  INBUF+5                                        N8500031
     P00F8 FF0C
0032 P00F9 98D2          SUB* EOL+2                                          N8500032
0033 P00FA 0101          SAZ  1                                              N8500033
0034 P00FB 180A          JMP* CCK                                            N8500034
0035                     FWRITE $FB,0,ENDMSG,12,A,0,0,I,0,1      **MSOS 4.0N8500035
0035 P00FC 54F4
0035 P00FD 4C00
0035 P00FE 0000
     P00FF 0000
0035 P0100 18FB
0035 P0101 000C
     P0102 00CD P
0036                     EXIT                                                N8500036
0036 P0103 54F4
0036 P0104 0A00
0037 P0105 C800    CCK   LDA  INBUF+3                                        N8500037
     P0106 FEFC
0038 P0107 98BF          SUB* CMATCH                                         N8500038
0039 P0108 0101          SAZ  1                                              N8500039
0040 P0109 18D1          JMP* CLEAR-2                                        N8500040
0041 P010A C800          LDA  INBUF+4                                        N8500041
     P010B FEF8
0042 P010C 98BB          SUB* CMATCH+1                                       N8500042
0043 P010D 0101          SAZ  1                                              N8500043
0044 P010E 18CC          JMP* CLEAR-2                                        N8500044
0045 P010F C800          LDA  INBUF+5                                        N8500045
     P0110 FEF4
0046 P0111 98B7          SUB* CMATCH+2                                       N8500046
0047 P0112 0101          SAZ  1                                              N8500047
0048 P0113 18C7          JMP* CLEAR-2                                        N8500048
0049 P0114 0C05          ENQ  5                                              N8500049
0050 P0115 CA00    MOVE  LDA  INBUF,Q                                        N8500050
     P0116 FEE9
0051 P0117 6AA9          STA* OUTBUF,Q                                       N8500051
0052 P0118 0DFE          INQ  -1                                             N8500052
0053 P0119 0171          SQM  1                                              N8500053
0054 P011A 18FA          JMP* MOVE                                           N8500054
0055                     FWRITE $FB,0,OUTBUF,6,A,0,0,I,0,1       **MSOS 4.0N8500055
0055 P011B 54F4
0055 P011C 4C00
0055 P011D 0000
     P011E 0000
0055 P011F 18FB
0055 P0120 0006
     P0121 00C1 P
0056 P0122 5800          RTJ  PUNIT   SEE IF WE PUNCH DCK CARDS              N8500056
     P0123 00C7
```

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0057 P0124 C8F9          LDA* *-6                                                    N8500057
0058 P0125 0101          SAZ  1                                                      N8500058
0059 P0126 18FD          JMP* *-2                                                    N8500059
0060 P0127 18B3          JMP* CLEAR-2                                                N8500060
0061 P0128 200D  TYPOUT  ALF  10, $R DCK/ I ,H ,C                                    N8500061
     P0129 2044
     P012A 434B
     P012B 2F20
     P012C 4920
     P012D 2C48
     P012E 202C
     P012F 4320
     P0130 2020
     P0131 2020
0062 P0132 0B00  TYPEIT NOP                                                          N8500062
0063                      FWRITE   $FC,0,TYPOUT,10,A,0,0,I,0,1          **MSOS 4.0N8500063
0063 P0133 54F4
0063 P0134 4C00
0063 P0135 0000
     P0136 0000
0063 P0137 18FC
0063 P0138 000A
     P0139 0128 P
0064                      FREAD  $FD,0,TYBUFF,8,A,0,0,I,0,1             **MSOS 4.0N8500064
0064 P013A 54F4
0064 P013B 4800
0064 P013C 0000
     P013D 0000
0064 P013E 18FD
0064 P013F 0008
     P0140 0164 P
0065 P0141 C8FB          LDA* *-4  PICKUP THREAD WORD                                N8500065
0066 P0142 0101          SAZ  1                                                      N8500066
0067 P0143 18FD          JMP* *-2  LOOP ON BUSY                                      N8500067
0068 P0144 C820          LDA*  TYBUFF                                                N8500068
0069 P0145 C822          TRA  Q                                                      N8500069
0070 P0146 A82F          AND* NUMCK          $1010                                   N8500070
0071 P0147 B82E          EOR* NUMCK                                                  N8500071
0072 P0148 0107          SAZ  NUM010                                                 N8500072
0073 P0149 0A00          ENA  0                                                      N8500073
0074 P014A 0FE8          LLS  8                                                      N8500074
0075 P014B 09D0          INA  -$2F                                                   N8500075
0076 P014C 0101          SAZ  1                                                      N8500076
0077 P014D 18E5          JMP* TYPEIT+1  ERROR OUTPUT AGAIN                           N8500077
0078 P014E 681F          STA* DCKFLG          CLR  FLAG                              N8500078
0079 P014F 1CE2  TYPE10  JMP* (TYPEIT)                                               N8500079
```

```
0081                    *
0082                    *       THIS PART OF THE PROGRAM LOOKS FOR A SLASH
0083                    *
0084                    *
0085  P0150  481D    NUM010 STQ* DCKFLG
0086  P0151  481D           STQ* BUILD              STORE I PARAMETERS
0087  P0152  E813           LDQ* TYBUFF+1
0088  P0153  0FE8           LLS  8
0089  P0154  481D           STQ* HOLD1              CHAR1 OF H PARAMETER
0090  P0155  09D3           INA  -$2C               CHECK FOR COMMA
0091  P0156  0101           SAZ  1                  COMMA
0092  P0157  18DB           JMP* TYPEIT+1           ERROR
0093  P0158  E819           LDQ* HOLD1
0094  P0159  0FA8           QLS  8
0095  P015A  C80C           LDA* TYBUFF+2
0096  P015B  0FE8           LLS  8
0097  P015C  0814           TRQ  A                  Q= H PARAMETER
0098  P015D  A818           AND* NUMCK
0099  P015E  B817           EOR* NUMCK
0100  P015F  0103           SAZ  3
0101  P0160  0AFF           ENA  -0
0102  P0161  680E           STA* BUILD+1
0103  P0162  1822           JMP*  NUM030   THIS SHOULD BE RIGHT
0104  P0163  1813           JMP* NUM020
0105  P0164  0009           BZS  TYBUFF(9)
0106  P016D  0000    DCKFLG NUM  0
0107  P016E  0003           BZS  BUILD(3)
0108  P0171  0000    HOLD1  NUM  0
0109  P0172  493D    CONTRL ALF  1,I=
0110  P0173  483D           ALF  1,H=
0111  P0174  433D           ALF  1,C=
0112  P0175  1010    NUMCK  NUM  $1010
0113                    *
0114                    *
0115                    *
0116                    *
0117  P0176  48F8    NUM020 STQ* BUILD+1            THIS IS FOR XX,XX,XX
0118  P0177  E8EF           LDQ* TYBUFF+3           PICKUP C= PARAMETERS
0119  P0178  0814           TRQ  A
0120  P0179  A8FB           AND* NUMCK
0121  P017A  B8FA           EOR* NUMCK
0122  P017B  0106           SAZ  NUM025             IS IT A NUMBER
0123  P017C  0A00           ENA  0
0124  P017D  0FE8           LLS  8
0125  P017E  09D0           INA  -$2F
0126  P017F  0101           SAZ  1  CHECK FOR SLASH IF NOT ERROR
0127  P0180  18B2           JMP* TYPEIT+1
0128  P0181  0CFF           ENQ  -0        NO,   FLAG WITH NEG ZERO,
0129  P0182  48ED    NUM025 STQ* BUILD+2  YES IA FOR XX,/,XX
0130  P0183  1810           JMP* NUM050  BUILD CARD
0131  P0184  E8E1    NUM030 LDQ* TYBUFF+2
0132  P0185  0A00           ENA  0
0133  P0186  0FE8           LLS  8
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N8500081
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N8500132
N8500133
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0134 P0187 09D3          INA  -$2C                                        N8500134
0135 P0188 0101          SAZ  1                                           N8500135
0136 P0189 18A9          JMP* TYPEIT+1                                    N8500136
0137 P018A C8DB          LDA* TYBUFF+2      BUILD C PARAMETER             N8500137
0138 P018B E8DB          LDQ* TYBUFF+3                                    N8500138
0139 P018C 0FF8          LLS  8                                           N8500139
0140 P018D 0822          TRA  Q                                           N8500140
0141 P018E A8E6          AND* NUMCK         IS IT NUMERIC                 N8500141
0142 P018F B8E5          EOR* NUMCK                                       N8500142
0143 P0190 0101          SAZ  1                                           N8500143
0144 P0191 18A1          JMP* TYPEIT+1      ERROR                         N8500144
0145 P0192 48D0          STQ* BUILD+2       YES ITS A NUMBER              N8500145
```

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0147                    *
0148                    *       THIS PART OF THE PROGRAM PICKS UP THE LU                                N8500147
0149                    *       AND ORS THEM WITH THE RIGHT PARAMETER AND STICKS IT IN                  N8500148
0150                    *       THE CARD FEILD                                                          N8500149
0151  P0193 0C00        NUM050  ENQ   0                                                                 N8500150
0152  P0194 40FF                STQ-  I                 ZERO I                                        N8500151
0153  P0195 C9D8                LDA*  BUILD,I                                                         N8500152
0154  P0196 0133                SAM   NUM055                                                          N8500153
0155  P0197 E832                LDQ*  COMMA                                                           N8500154
0156  P0198 0142                SQZ   2                                                               N8500155
0157  P0199 1831                JMP*  NUM070                                                          N8500156
0158  P019A 1805        NUM055  JMP*  NUM060                                                          N8500157
0159  P019B E9D6                LDQ*  CONTRL,I                                                       N8500158
0160  P019C 680C                STA*  FEILD+1                                                       N8500159
0161  P019D 480A                STQ*  FEILD                                                         N8500160
0162  P019E 482B                STQ*  COMMA                                                         N8500161
0163  P019F D0FF        NUM060  RAO-  I                                                               N8500162
0164  P01A0 18F4                JMP*  NUM050+2                                                       N8500163
0165  P01A1 2020        CARD    ALF   3,                                                            N8500164
      P01A2 2020                                                                                    N8500165
      P01A3 2020
0166  P01A4 2044        DCKK    ALF   3, DCK/                                                         N8500166
      P01A5 434B
      P01A6 2F20
0167  P01A7 2020        FEILD   ALF 10,                                                               N8500167
      P01A8 2020
      P01A9 2020
      P01AA 2020
      P01AB 2020
      P01AC 2020
      P01AD 2020
      P01AE 2020
      P01AF 2020
      P01B0 2020
0168  P01B1 2020                ALF 5,                                                              N8500168
      P01B2 2020
      P01B3 2020
      P01B4 2020
      P01B5 2020
0169  P01B6 2020                ALF 5,                                                              N8500169
      P01B7 2020
      P01B8 2020
      P01B9 2020
      P01BA 2020
0170  P01BB 2020                ALF 5,                                                              N8500170
      P01BC 2020
      P01BD 2020
      P01BE 2020
      P01BF 2020
0171  P01C0 2020                ALF 5,                                                              N8500171
      P01C1 2020
      P01C2 2020
      P01C3 2020
      P01C4 2020
```

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0172 P01C5 2020          ALF  4,                                                  N8500172
     P01C6 2020
     P01C7 2020
     P01C8 2020
0173 P01C9 0000  COMMA   NUM  0                                                   N8500173
0174 P01CA 0A2C  NUM070  ENA  $2C                ,                              N8500174
0175 P01CB E9A6          LDQ* CONTRL,I           Z=                             N8500175
0176 P01CC 0FE8          LLS  8                  ,Z                             N8500176
0177 P01CD 68DB          STA* FEILD+2                                           N8500177
0178 P01CE 0844          CLR  A                  ZERO A                         N8500178
0179 P01CF 0FE8          LLS  8                  =                              N8500179
0180 P01D0 E99D          LDQ* BUILD,I            XX                             N8500180
0181 P01D1 0FE8          LLS  8                  *                              N8500181
0182 P01D2 68D7          STA* FEILD+3            =X                             N8500182
0183               *     Q NOWS HAS LAST CHAR                                   N8500183
0184               *                                                            N8500184
0185 P01D3 C0FF          LDA- I                                                 N8500185
0186 P01D4 09FD          INA  -2                                                N8500186
0187 P01D5 0134          SAM  NUM080                                            N8500187
0188 P01D6 0D20          INQ  $20                                               N8500188
0189 P01D7 48D3          STQ* FEILD+4                                           N8500189
0190 P01D8 1C00  NUM075  JMP  (TYPEIT)                                          N8500190
     P01D9 FF58
0191 P01DA 0D2C  NUM080  INQ  $2C                                               N8500191
0192 P01DB 4800          STQ  FEILD+4                                           N8500192
     P01DC FFCE
0193 P01DD D0FF          RAO- I                                                 N8500193
0194 P01DE C98F          LDA* BUILD,I                                           N8500194
0195 P01DF 0900          INA  0                                                 N8500195
0196 P01E0 0105          SAZ  NUM090    SLASH IN C PARA                         N8500196
0197 P01E1 E900          LDQ  CONTRL,I   FEILD SHOULD EQUAL                     N8500197
     P01E2 FF8F
0198 P01E3 48C8          STQ* FEILD+5                                           N8500198
0199 P01E4 68C8          STA* FEILD+6          I=XX,H=XX,C=XX                   N8500199
0200 P01E5 18F2          JMP* NUM075                                            N8500200
0201 P01E6 0DF3  NUM090  INQ  -$C   SET COMMA BACK TO BLANK                     N8500201
0202 P01E7 4800          STQ  FEILD+4                                           N8500202
     P01E8 FFC2
0203 P01E9 18EE          JMP* NUM075                                            N8500203
0204 P01EA 0B00  PUNIT   NOP                                                    N8500204
0205 P01EB C881          LDA* DCKFLG                                            N8500205
0206 P01EC 0111          SAN  1                                                 N8500206
0207 P01ED 1CFC          JMP* (PUNIT)                                           N8500207
0208 P01EE CC02          ENQ 2                                                  N8500208
0209 P01EF CA00  PUT020  LDA  OUTBUF,Q   MOVE THE NAME TO PUNCH BUFFER          N8500209
     P01F0 FED0
0210 P01F1 6A00          STA  CARD,Q                                            N8500210
     P01F2 FFAE
0211 P01F3 0142          SQZ  2                                                 N8500211
0212 P01F4 0DFE          INQ  -1                                                N8500212
0213 P01F5 18F9          JMP* PUT020                                            N8500213
0214                     FWRITE $FA,0,CARD,40,A,0,0,I,0,1      **MSOS 4.0N8500214
0214 P01F6 54F4
```

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0214 P01F7 4C00
0214 P01F8 0000
     P01F9 0000
0214 P01FA 18FA
0214 P01FB 0028
     P01FC 01A1 P
0215 P01FD C8FB          LDA* *-4                                          N8500215
0216 P01FE 0101          SAZ 1      SKIP IF POSTIVE ZERO                   N8500216
0217 P01FF 18FD          JMP* *-2                                          N8500217
0218 P0200 1CE9          JMP* (PUNIT)                                      N8500218
0219                     END  LCOSY                                        N8500219

PGM=  0201 (   513)   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)	0152, 0163, 0185, 0193

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	LCOSY	00D9	0006
0007	INBUF	0000	0015, 0019, 0023, 0027, 0031, 0037, 0041, 0045, 0050
0007	OUTBUF	00C1	0051, 0055, 0209
0008	CMATCH	00C7	0038, 0042, 0046
0009	EOL	00CA	0024, 0028, 0032
0010	ENDMSG	00CD	0035
0014	CLEAR	00DD	0018, 0040, 0044, 0048, 0060
0037	CCK	0105	0026, 0030, 0034
0050	MOVE	0115	0054
0061	TYPOUT	0128	0063
0062	TYPEIT	0132	0012, 0077, 0079, 0092, 0127, 0136, 0144, 0190
0079	TYPE10	014F	
0085	NUM010	0150	0072
0105	TYBUFF	0164	0064, 0068, 0087, 0095, 0118, 0131, 0137, 0138
0106	DCKFLG	016D	0078, 0085, 0205
0107	BUILD	016E	0086, 0102, 0117, 0129, 0145, 0153, 0180, 0194
0108	HOLD1	0171	0089, 0093
0109	CONTRL	0172	0159, 0175, 0197
0112	NUMCK	0175	0070, 0071, 0098, 0099, 0120, 0121, 0141, 0142
0117	NUM020	0176	0104
0129	NUM025	0182	0122
0131	NUM030	0184	0103
0151	NUM050	0193	0130, 0164
0158	NUM055	019A	0154
0163	NUM060	019F	0158
0165	CARD	01A1	0210, 0214
0166	DCKK	01A4	
0167	FEILD	01A7	0160, 0161, 0177, 0182, 0189, 0192, 0198, 0199, 0202
0173	COMMA	01C9	0155, 0162
0174	NUM070	01CA	0157
0190	NUM075	01D8	0200, 0203
0191	NUM080	01DA	0187
0201	NUM090	01E6	0196
0204	PUNIT	01EA	0056, 0207, 0218
0209	PUT020	01EF	0213

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

BUILD	0107	CARD	0165	CCK	0037	CLEAR	0014	CMATCH	0008	COMMA	0173	CONTRL	0109	DCKFLG	0106	DCKK	0166
ENDMSG	0010	EOL	0009	FEILD	0167	HOLD1	0108	I	0000	INBUF	0007	LCOSY	0006	MOVE	0050	NUM010	0085
NUM020	0117	NUM025	0129	NUM030	0131	NUM050	0151	NUM055	0158	NUM060	0163	NUM070	0174	NUM075	0190	NUM080	0191
NUM090	0201	NUMCK	0112	OUTBUF	0007	PUNIT	0204	PUT020	0209	TYBUFF	0105	TYPE10	0079	TYPEIT	0062	TYPOUT	0061

```
0001                    NAM  LISTR          DECK-ID N86  MSOS 5.0                 SUMMARY-110N8600001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N8600002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N8600003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                           N8600004

0006                *                                                                     N8600006
0007                *                                                                     N8600007
0008                *     THIS PROGRAM WILL LIST RELOCATABLE                              N8600008
0009                *     NAME BLOCKS AND CONTROL STATEMENTS                              N8600009
0010                *     FROM THE STANDARD INPUT DEVICE ON                               N8600010
0011                *     THE STANDARD LIST DEVICE.                                       N8600011
0012                *                                                                     N8600012
0013                *                                                                     N8600013
0014                        ENT       LISTR                                             N8600014
0015 P0000 0B00     LISTR   NOP                                                         N8600015
0016                      FWRITE $FB,LISTR1,TOP,1,A,0,0,I,,1                **MSOS 4.0N8600016
0016 P0001 54F4
0016 P0002 4C00
0016 P0003 0009 P
     P0004 0000
0016 P0005 18FB
0016 P0006 0001
     P0007 0182 P
0017 P0008 14EA             JMP- (*EA)                                                  N8600017
0018 P0009 0B00     LISTR1  NOP                                                         N8600018
0019 P000A 5800             RTJ       INP             INPUT                             N8600019
     P000B 00C3
0020 P000C 0102             SAZ       ERR             0  ERROR MESSAGE                 N8600020
0021 P000D 0125             SAP       PLUS            +1 NAME BLOCK                    N8600021
0022 P000E 0132           SAM  INDR           -1 * BLOCK                              N8600022
0023 P000F 1800     ERR     JMP  ERRA                                                   N8600023
     P0010 009A
0024 P0011 1800     INDR    JMP  MINUS                                                  N8600024
     P0012 00AC
0025                *                                                                   N8600025
0026                *                                                                   N8600026
0027                *     THIS IS THE PLUS ROUTINE                                      N8600027
0028                *     IT IS USED WHEN A NAME                                        N8600028
0029                *     BLOCK IS FOUND ON THE RELO. INPUT                             N8600029
0030                *                                                                   N8600030
0031                *                                                                   N8600031
                                                                                        N8600032
0032 P0013 0B00     PLUS    NOP
0033 P0014 C000             LDA       =N$2020         BLANK THREE WORDS                 N8600033
     P0015 2020
0034 P0016 6800             STA       BUFR                                              N8600034
     P0017 0157
0035 P0018 6800             STA       BUFR+1                                            N8600035
     P0019 0156
0036 P001A 6800             STA       BUFR+2                                            N8600036
     P001B 0155
0037 P001C 6800             STA       BUFR+3                                            N8600037
     P001D 0154
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0038 P001E 6800                STA     BUFR+7                                  N8600038
     P001F 0156
0039 P0020 6800                STA     BUFR+8                                  N8600039
     P0021 0155
0040 P0022 6800                STA     BUFR+9                                  N8600040
     P0023 0154
0041 P0024 6800                STA     BUFR+10                                 N8600041
     P0025 0153
0042 P0026 6800                STA     BUFR+11                                 N8600042
     P0027 0152
0043 P0028 6800                STA     BUFR+12                                 N8600043
     P0029 0151
0044 P002A 6800                STA     BUFR+13                                 N8600044
     P002B 0150
0045 P002C 5800                RTJ     BLKOUT                                  N8600045
     P002D 0004
0046 P002E 5800                RTJ     MOVE                                    N8600046
     P002F 00DB
0047 P0030 E81B                LDQ*    ARCNT                                   N8600047
0048 P0031 5841                RTJ*    INCR                                    N8600048
0049 P0032 E81A                LDQ*    ATRCNT                                  N8600049
0050 P0033 583F                RTJ*    INCR                                    N8600050
0051 P0034 5800  CHKTR         RTJ     INP                                     N8600051
     P0035 0099
0052 P0036 0101                SAZ     YES                NOT NAME OR * BLOCK  N8600052
0053 P0037 1878                JMP* ERRA1                                      N8600053
0054 P0038 C800  YES           LDA     BUFR                                    N8600054
     P0039 0135
0055 P003A 9000                SUB     =N$C050            TRA BLOCK MASK       N8600055
     P003B C050
0056 P003C 0105                SAZ     TRA                SKIP IF TRA BLOCK    N8600056
0057 P003D E80E                LDQ*    ARCNT                                   N8600057
0058 P003E 5834                RTJ*    INCR                                    N8600058
0059 P003F E80D                LDQ*    ATRCNT                                  N8600059
0060 P0040 5832                RTJ*    INCR                                    N8600060
0061 P0041 18F2                JMP*    CHKTR                                   N8600061
0062 P0042 E809  TRA           LDQ*    ARCNT                                   N8600062
0063 P0043 582F                RTJ*    INCR                                    N8600063
0064 P0044 E808                LDQ*    ATRCNT                                  N8600064
0065 P0045 582D                RTJ*    INCR                                    N8600065
0066 P0046 E804                LDQ*    ALCNT                                   N8600066
0067 P0047 582B                RTJ*    INCR                                    N8600067
0068 P0048 5805                RTJ*    DUMP                                    N8600068
0069 P0049 18BF                JMP* LISTR1                                     N8600069
0070 P004A 0132 P ALCNT        ADC     LCNT+1                                  N8600070
0071 P004B 015B P ARCNT        ADC     RCNT+1                                  N8600071
0072 P004C 0164 P ATRCNT       ADC     TRCNT+1                                 N8600072
0073                           *                                               N8600073
0074                           *                                               N8600074
0075                           *       THIS IS THE DUMP SUBROUTINE             N8600075
0076                           *       IT DUMPS A RECORD TO THE STD. LIST OUT   N8600076
0077                           *       IT ALSO CLEARS THE RECORD COUNT         N8600077
0078                           *       REGISTER AND HAS A SEL. STOP LOC.       N8600078
```

```
0079                    *
0080                    *                                                                   N8600079
0081 P004D 0B00   DUMP      NOP                                                           N8600080
0082                        FWRITE $FB,BB,RECORD,41,B,,,I,,1                              N8600081
0082 P004E 54F4                                                          **MSOS 4.0N8600082
0082 P004F 4C00
0082 P0050 0057 P
     P0051 0000
0082 P0052 08FB
0082 P0053 0029
     P0054 0130 P
0083                        EXIT                                                          N8600083
0083 P0055 54F4
0083 P0056 0A00
0084 P0057 C000   BB        LDA       =N$2B20                                             N8600084
     P0058 2B20
0085 P0059 6800             STA       REC2            STORE PLUS SIGN                   N8600085
     P005A 00EB
0086                        FWRITE $FB,ZZ,REC2,41,B,,,I,,1  STANDARD LIST OUT           N8600086
0086 P005B 54F4                                                          **MSOS 4.0N8600086
0086 P005C 4C00
0086 P005D 0064 P
     P005E 0000
0086 P005F 08FB
0086 P0060 0029
     P0061 0145 P
0087                        EXIT                                                          N8600087
0087 P0062 54F4
0087 P0063 0A00
0088 P0064 C000   ZZ        LDA       =N$2020                                             N8600088
     P0065 2020
0089 P0066 6800             STA       REC2            REMOVE PLUS SIGN                  N8600089
     P0067 00DE
0090 P0068 C000             LDA       =N$3030         ZERO CODE                         N8600090
     P0069 3030
0091 P006A 6800             STA       RCNT                                              N8600091
     P006B 00EF
0092 P006C 6800             STA       RCNT+1                                            N8600092
     P006D 00EE
0093 P006E 0000             SLS       0                                                 N8600093
0094 P006F 1CDD             JMP*      (DUMP)                                            N8600094
0095                    *                                                               N8600095
0096                    *                                                               N8600096
0097                    *   THIS IS THE ASCII INCREMENT SUBROUTINE                      N8600097
0098                    *   IT COLLECTS AN ADDRESS PARAMETER                            N8600098
0099                    *   PASSED IN Q  AND UPDATES                                    N8600099
0100                    *   THE TWO WORD REGISTER BY 1 ASCII                            N8600100
0101                    *                                                               N8600101
0102                    *                                                               N8600102
0103 P0070 0001             BZS       PASS(1)                                           N8600103
0104 P0071 0001             BZS       SAVA(1)                                           N8600104
0105 P0072 0B00   INCR      NOP                                                         N8600105
0106 P0073 0A01             ENA       +1                                                N8600106
```

```
0107 P0074 68FB        STA*    PASS          STORE PASS GOUNT                N8600107
0108 P0075 0B00 PASS2  NOP     0              PASS TWO ENTRY POINT            N8600108
0109 P0076 4806        STQ*    ADRA+1        STORE COUNTER ADR.              N8600109
0110 P0077 4808        STQ*    ADRB+1        STORE COUNTER ADDRESS           N8600110
0111 P0078 481D        STQ*    ADRC+1        STORE COUNTER ADDRESS           N8600111
0112 P0079 4828        STQ*    ADRD+1        STORE COUNTER ADDRESS           N8600112
0113 P007A 482C        STQ*    ADRE+1        STORE COUNTER ADDRESS           N8600113
0114 P0078 D400 ADRA   RAO+      $7FFF          A      Q  INCR COUNTER        N8600114
     P007C 7FFF
0115 P007D 0844        CLR     A              0000   3X3X                     N8600115
0116 P007E E400 ADRB   LDQ+      $7FFF         CHECK COUNTER                  N8600116
     P007F 7FFF
0117 P0080 0FF0        LLS     16             3X3X   0000                     N3600117
0118 P0081 0FEC        LLS     12             X000   03X3                     N8600118
0119 P0082 68EE        STA*    SAVA                                           N8600119
0120 P0083 9000        SUB     =N$A000        XXXX   03X3                     N8600120
     P0084 A000
0121 P0085 011C        SAN     IND            SKIP,NO CARRY                  N8600121
0122               *                          IF A=0,CARRY                   N8600122
0123               *                            A      Q                     N8600123
0124 P0086 C8EA        LDA*    SAVA           X000   03X3                     N8600124
0125 P0087 0FEC        LLS     12             003X   3X00                     N8600125
0126 P0088 E000        LDQ     =N$3000                                        N8600126
     P0089 3000
0127 P008A 0901        INA     +1             003X   3X00                     N8600127
0128 P008B 68E5        STA*    SAVA           SAVE IN CASE OF NO CARRY       N8600128
0129               *                            A      Q                     N8600129
0130 P008C 9000        SUB     =N$003A        XXXX   3X00                     N8600130
     P008D 003A
0131 P008E 0114        SAN     IND+1          SKIP NO CARRY                  N8600131
0132 P008F 0A30        ENA     $30            CARRY A=0                      N8600132
0133               *                            A      Q                     N8600133
0134               *                          0030   3000                     N8600134
0135 P0090 0FE8        LLS     8              3030   0000                     N8600135
0136 P0091 1803        JMP*    ADRC                                           N8600136
0137 P0092 180B IND    JMP*    JPA                                            N8600137
0138 P0093 1810        JMP*    JPB                                            N8600138
0139 P0094 6400 ADRC   STA+      $7FFF         SET COUNER                     N8600139
     P0095 7FFF
0140 P0096 C8D9        LDA*    PASS           CHECK PASS COUNT               N8600140
0141 P0097 010A        SAZ     DONE           SKIP,END SECOND PASS           N8600141
0142 P0098 0844        CLR     A                                             N8600142
0143 P0099 68D6        STA*    PASS           SIGNAL END OF FIRST PASS       N8600143
0144 P009A E8E1        LDQ*    ADRA+1         COLLECT REGISTER ADR.          N8600144
0145 P009B 0DFE        INQ     -1             UPDATE COUNTER ADDRESS         N8600145
0146 P009C 18D8        JMP*    PASS2          PASS 2 ENTRY                   N8600146
0147               *                            A      Q                     N8600147
0148 P009D C8D3 JPA    LDA*    SAVA           X000   0303                     N8600148
0149 P009E 0FF0        LLS     16             0303   X000                     N8600149
0150 P009F 0FE4        LLS     4              303X   0000                     N8600150
0151 P00A0 6400 ADRD   STA+      $7FFF         SET COUNTER                    N8600151
     P00A1 7FFF
0152 P00A2 1CCF DONE   JMP*    (INCR)         RETURN                         N8600152
```

```
                       *                                        A      Q          N8600153
     P00A3 C8CD   JPB       LDA*      SAVA                     000X   3000        N8600154
     P00A4 0FE8             LLS       8                        3X30   0000        N8600155
     P00A5 6400   ADRE      STA         $7FFF                  SET COUNTER        N8600156
     P00A6 7FFF
     P00A7 1CCA             JMP*      (INCR)                   RETURN             N8600157
                       *                                                          N8600158
                       *                                                          N8600159
                       *    THIS IS THE ERROR SUBROUTINE                          N8600160
                       *    IT IS USED WHEN A BLOCK IS FOUND                      N8600161
                       *    THAT IS OUT OF LOGICAL ORDER                          N8600162
                       *    A NOTE IS ENTERED IN THE RECORD DUMP                  N8600163
                       *                                                          N8600164
                       *                                                          N8600165
     P00A8 5826   GON     RTJ* INP                                                N8600166
     P00A9 0115           SAN  ERRA1                                              N8600167
     P00AA E8A0   ERRA    LDQ* ARCNT                                              N8600168
     P00AB 58C6             RTJ*      INCR                                        N8600169
     P00AC F89F             LDQ*      ATRCNT                                      N8600170
     P00AD 58C4             RTJ*      INCR                                        N8600171
     P00AE 18F9           JMP* GON                                                N8600172
     P00AF E89A   ERRA1   LDQ* ALCNT                                              N8600173
     P00B0 58C1           RTJ* INCR             INCREMENT LINE COUNT              N8600174
     P00B1 0C0E           ENQ  14                                                 N8600175
     P00B2 CA00   AGO     LDA  EMSG,Q                                             N8600176
     P00B3 006E
     P00B4 6A00           STA  NME,Q            MOVE EMSG TO NME                  N8600177
     P00B5 007F
     P00B6 0142           SQZ  GONN                                               N8600178
     P00B7 0DFE           INQ  -1                                                 N8600179
     P00B8 18F9           JMP* AGO                                                N8600180
     P00B9 5893   GONN    RTJ* DUMP                                               N8600181
     P00BA C845   ERRA2   LDA* FLAG                                               N8600182
     P00BB 0132           SAM  MINUS                                              N8600183
     P00BC 1800           JMP  PLUS                                               N8600184
     P00BD FF55
                       *                                                          N8600185
                       *                                                          N8600186
                       *    THIS IS THE MINUS SUBROUTINE                          N8600187
                       *    IT IS USED  WHEN A * BLOCK                            N8600188
                       *    (CONTROL STATEMENT) IS FOUND                          N8600189
                       *    ON THE RELOCATABLE INPUT.                             N8600190
                       *                                                          N8600191
                       *                                                          N8600192
     P00BE 0B00   MINUS     NOP                                                   N8600193
     P00BF 5842             RTJ*      BLKOUT                                      N8600194
     P00C0 584A             RTJ*      MOVE                                        N8600195
     P00C1 E800           LDQ  ALCNT                                              N8600196
     P00C2 FF87
     P00C3 58AE             RTJ*      INCR                                        N8600197
     P00C4 E800           LDQ  ARCNT                                              N8600198
     P00C5 FF85
     P00C6 58AB           RTJ* INCR                                               N8600199
```

```
0200 P00C7 E800          LDQ  ATRCNT                                          N8600200
     P00C8 FF83
0201 P00C9 58A8          RTJ* INCR                                            N8600201
0202 P00CA 5800          RTJ  DUMP                                            N8600202
     P00CB FF81
0203 P00CC 1800          JMP  LISTR1                                          N8600203
     P00CD FF3B
0204                *                                                         N8600204
0205                *                                                         N8600205
0206                **     THIS IS THE INPUT SUBROUTINE                       N8600206
0207                **     FIRST IT CLEARS THE BUFR THEN                      N8600207
0208                **     IT DOES AN INPUT AND CHECKS THE                    N8600208
0209                **     TYPE OF RECORD READ.                               N8600209
0210                **     PARAMETERS ARE PASSED IN A                         N8600210
0211                **     -1 INDICATES A * BLOCK                             N8600211
0212                **     +1 INDICATES A NAME BLOCK                          N8600212
0213                **     0 INDICATES ALL OTHERS                             N8600213
0214                **                                                        N8600214
0215                *                                                         N8600215
0216 P00CE 0B00    INP     NOP                                                N8600216
0217 P00CF C000            LDA      =N$2020                                   N8600217
     P00D0 2020
0218 P00D1 0C0E            ENQ      +14                                       N8600218
0219 P00D2 6A00    DOIT    STA      BUFR,Q          BLANK BUFR AREA           N8600219
     P00D3 009B
0220 P00D4 0DFE            INQ      -1                                        N8600220
0221 P00D5 0141            SQZ      1                                         N8600221
0222 P00D6 18FB            JMP*     DOIT                                      N8600222
0223                       FREAD  $F9,AA,BUFR,15,B,,,I,,1  STD INPUT DEVICE  **MSOS 4.0N8600223
0223 P00D7 54F4
0223 P00D8 4800
0223 P00D9 00E0 P
     P00DA 0000
0223 P00DB 08F9
0223 P00DC 000F
     P00DD 016E P
0224                       EXIT                                              N8600224
0224 P00DE 54F4
0224 P00DF 0A00
0225 P00E0 0162    AA      SQP  AB-*-1                                       N8600225
0226                       EXIT 0          EXIT IF ERROR OR EOF              N8600226
0226 P00E1 54F4
0226 P00E2 0A00
0227 P00E3 0FF0    AB      LLS  16         STATUS TO A                       N8600227
0228 P00E4 A000            AND      =N$4000  BIT 14 SHORT READ MASK           N8600228
     P00E5 4000
0229 P00E6 0114            SAN      XX      SKIP IF SHORT READ                N8600229
0230 P00E7 C819            LDA*     BUFRAD                                    N8600230
0231 P00E8 090D            INA      +13     CALCULATE FAKE WORD COUNT         N8600231
0232 P00E9 6800            STA      BUFR+14 STORE FAKE WORD COUNT             N8600232
     P00EA 0092
0233 P00EB C800    XX      LDA      BUFR                                      N8600233
     P00EC 0082
```

```
0234 P00ED 0F48          ARS     8           DROP LOWER CHARACTER          N8600234
0235 P00EE 9000          SUB     =N$002A     MASK*                         N8600235
     P00EF 002A
0236 P00F0 0108          SAZ     PARA1       SKIP IF *                     N8600236
0237 P00F1 C800          LDA     BUFR                                      N8600237
     P00F2 007C
0238 P00F3 9000          SUB     =N$2050     MASK FOR NAME BLOCK           N8600238
     P00F4 2050
0239 P00F5 0106          SAZ     PARA2       SKIP IF NAME BLOCK            N8600239
0240 P00F6 0A00          ENA     0           CLEAR A                       N8600240
0241 P00F7 6808          STA*    FLAG        NOT NAME OR * BLOCK           N8600241
0242 P00F8 1CD5          JMP*    (INP)       RETURN                        N8600242
0243 P00F9 0AFE PARA1    ENA     -1          * BLOCK FLAG                  N8600243
0244 P00FA 6805          STA*    FLAG                                      N8600244
0245 P00FB 1CD2          JMP*    (INP)       RETURN                        N8600245
0246 P00FC 0A01 PARA2    ENA     1           NAME BLOCK FLAG               N8600246
0247 P00FD 6802          STA*    FLAG                                      N8600247
0248 P00FE 1CCF          JMP*    (INP)       RETURN                        N8600248
0249 P00FF 0001          BZS     FLAG(1)                                   N8600249
0250 P0100 016E P BUFRAD ADC     BUFR                                      N8600250
0251                     *                                                 N8600251
0252                     *                                                 N8600252
0253                     *       THIS IS THE BLANK OUT SUBROUTINE          N8600253
0254                     *       IT STORES BLANKS IN THE                   N8600254
0255                     *       OUTPUT RECORD AREA                        N8600255
0256                     *                                                 N8600256
0257                     *                                                 N8600257
0258 P0101 0B00 BLKOUT   NOP                                               N8600258
0259 P0102 C000          LDA     =N$2020     BLANKS                        N8600259
     P0103 2020
0260 P0104 0C0E          ENQ     14          LOOP COUNT                    N8600260
0261 P0105 6A2F SPIN     STA*    NME,Q       FILL                          N8600261
0262 P0106 0DFE          INQ     -1                                        N8600262
0263 P0107 0141          SQZ     GO          CHECK SPIN COUNT              N8600263
0264 P0108 18FC          JMP*    SPIN        LOOP AGAIN                    N8600264
0265 P0109 1CF7 GO       JMP*    (BLKOUT)    RETURN                        N8600265
0266                     *                                                 N8600266
0267                     *                                                 N8600267
0268                     *       THIS IS THE MOVE SUBROUTINE               N8600268
0269                     *       IT MOVES THE INPUT BUFFER AREA            N8600269
0270                     *       TO THE RECORD OUTPUT AREA                 N8600270
0271                     *       IT ALSO CHECKS FOR $FF IN                 N8600271
0272                     *       THE LAST CHARACTER AND THROWS             N8600272
0273                     *       IT OUT IF FOUND.                          N8600273
0274                     *                                                 N8600274
0275                     *                                                 N8600275
0276 P010A 0B00 MOVE     NOP                                               N8600276
0277 P010B C800          LDA     BUFR+14                                   N8600277
     P010C 0070
0278 P010D 98F2          SUB*    BUFRAD      CALCULATE WORD COUNT          N8600278
0279 P010E 0FF0          LLS     16          WORD COUNT TO Q               N8600279
0280 P010F CA00          LDA     BUFR,Q                                    N8600280
     P0110 005E
```

```
0281 P0111 A000           AND       =N$00FF                                    N8600281
     P0112 00FF
0282 P0113 9000           SUB       =N$00FF                                    N8600282
     P0114 00FF
0283 P0115 0115           SAN       AGAIN                                      N8600283
0284 P0116 CA00           LDA       BUFR,Q                                     N8600284
     P0117 0057
0285 P0118 A000           AND       =N$FF00                                    N8600285
     P0119 FF00
0286 P011A 1802           JMP*      AGAIN1                                     N8600286
0287 P011B CA53  AGAIN    LDA*      BUFR,Q                                     N8600287
0288 P011C 6A18  AGAIN1   STA*      NME,Q             MOVE THE DATA            N8600288
0289 P011D 0142           SQZ       RET               SKIP WHEN DONE           N8600289
0290 P011E 0DFE           INQ       -1                DECREMENT THE MODIFIER   N8600290
0291 P011F 18FB           JMP*      AGAIN             LOOP                     N8600291
0292 P0120 1CE9  RET      JMP*      (MOVE)            RETUNN                   N8600292
0293                      *                                                    N8600293
0294                      *   INPUT AND OUTPUT BUFFER AREA                     N8600294
0295                      *                                                    N8600295
0296 P0121 4F55  EMSG     ALF       15,OUT OF ORDER INPUT BLOCK                N8600296
     P0122 5420
     P0123 4F46
     P0124 204F
     P0125 5244
     P0126 4552
     P0127 2049
     P0128 4E50
     P0129 5554
     P012A 2042
     P012B 4C4F
     P012C 434B
     P012D 2020
     P012E 2020
     P012F 2020
0297 P0130 2B20  RECORD   ALF       1,+                                        N8600297
0298 P0131 3030  LCNT     NUM       $3030,$3030                                N8600298
     P0132 3030
0299 P0133 2020           NUM       $2020                                      N8600299
0300 P0134 2020  NME      ALF       15,                                        N8600300
     P0135 2020
     P0136 2020
     P0137 2020
     P0138 2020
     P0139 2020
     P013A 2020
     P013B 2020
     P013C 2020
     P013D 2020
     P013E 2020
     P013F 2020
     P0140 2020
     P0141 2020
     P0142 2020
```

```
0301 P0143 2020            NUM      $2020,$2020                    N8600301
     P0144 2020
0302 P0145 2020  REC2      ALF      21,                            N8600302
     P0146 2020
     P0147 2020
     P0148 2020
     P0149 2020
     P014A 2020
     P014B 2020
     P014C 2020
     P014D 2020
     P014E 2020
     P014F 2020
     P0150 2020
     P0151 2020
     P0152 2020
     P0153 2020
     P0154 2020
     P0155 2020
     P0156 2020
     P0157 2020
     P0158 2020
     P0159 2020
0303 P015A 3030  RCNT      NUM      $3030,$3030                    N8600303
     P015B 3030
0304 P015C 2020            NUM      $2020                          N8600304
0305 P015D 5245            ALF      4,RECORDS                      N8600305
     P015E 434F
     P015F 5244
     P0160 5320
0306 P0161 2020            NUM      $2020,$2020                    N8600306
     P0162 2020
0307 P0163 3030  TRCNT     NUM      $3030,$3030                    N8600307
     P0164 3030
0308 P0165 2020            NUM      $2020                          N8600308
0309 P0166 544F            ALF      7,TOTAL RECORDS.               N8600309
     P0167 5441
     P0168 4C20
     P0169 5245
     P016A 434F
     P016B 5244
     P016C 532E
0310 P016D 2E03            NUM      $2E03                          N8600310
0311 P016E 0014            BZS      BUFR(20)                       N8600311
0312 P0182 3120  TOP     ALF  1,1                                  N8600312
0313                       END      LISTR                          N8600313

PGM=  0183 (   387)   COM = 0000 (     0)   DAT = 0000 (     0)
```

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

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

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0014	LISTR	0000	0014
0018	LISTR1	0009	0016, 0069, 0203
0023	ERR	000F	0020
0024	INDR	0011	0022
0032	PLUS	0013	0021, 0184
0051	CHKTR	0034	0061
0054	YES	0038	0052
0062	TRA	0042	0056
0070	ALCNT	004A	0066, 0173, 0196
0071	ARCNT	004B	0047, 0057, 0062, 0168, 0198
0072	ATRCNT	004C	0049, 0059, 0064, 0170, 0200
0081	DUMP	004D	0068, 0094, 0181, 0202
0084	BB	0057	0082
0088	ZZ	0064	0086
0103	PASS	0070	0107, 0140, 0143
0104	SAVA	0071	0119, 0124, 0128, 0148, 0154
0105	INCR	0072	0048, 0050, 0058, 0060, 0063, 0065, 0067, 0152, 0157, 0169, 0171, 0174, 0197, 0199, 0201
0108	PASS2	0075	0146
0114	ADRA	007B	0109, 0144
0116	ADRB	007E	0110
0137	IND	0092	0121, 0131
0139	ADRC	0094	0111, 0136
0148	JPA	009D	0137
0151	ADRD	00A0	0112
0152	DONE	00A2	0141
0154	JPB	00A3	0138
0156	ADRE	00A5	0113
0166	GON	00A8	0172
0168	ERRA	00AA	0023
0173	ERRA1	00AF	0053, 0167
0176	AGO	00B2	0180
0181	GONN	00B9	0178
0182	ERRA2	00BA	
0193	MINUS	00BE	0024, 0183
0216	INP	00CE	0019, 0051, 0166, 0242, 0245, 0248
0219	DOIT	00D2	0222
0225	AA	00E0	0223
0227	AB	00E3	0225
0233	XX	00EB	0229
0243	PARA1	00F9	0236
0246	PARA2	00FC	0239

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0249    FLAG     00FF          0182, 0241, 0244, 0247
0250    BUFRAD   0100          0230, 0278
0258    BLKOUT   0101          0045, 0194, 0265
0261    SPIN     0105          0264
0265    GO       0109          0263
0276    MOVE     010A          0046, 0195, 0292
0287    AGAIN    011B          0283, 0291
0288    AGAIN1   011C          0286
0292    RET      0120          0289
0296    EMSG     0121          0176
0297    RECORD   0130          0082
0298    LCNT     0131          0070
0300    NME      0134          0177, 0261, 0288
0302    REC2     0145          0085, 0086, 0089
0303    RCNT     015A          0071, 0091, 0092
0307    TRCNT    0163          0072
0311    BUFR     016E          0034, 0035, 0036, 0037, 0038, 0039, 0040, 0041, 0042, 0043, 0044, 0054, 0219, 0223, 0232, 0233
                               0237, 0250, 0277, 0280, 0284, 0287
0312    TOP      0182          0016
```

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

AA	0225	AB	0227	ADRA	0114	ADRB	0116	ADRC	0139	ADRD	0151	ADRE	0156	AGAIN	0287	AGAIN1	0288
AGO	0176	ALCNT	0070	ARCNT	0071	ATRCNT	0072	BB	0084	BLKOUT	0258	BUFR	0311	BUFRAD	0250	CHKTR	0051
DOIT	0219	DONE	0152	DUMP	0081	EMSG	0296	ERR	0023	ERRA	0168	ERRA1	0173	ERRA2	0182	FLAG	0249
GO	0265	GON	0166	GONN	0181	I	0000	INCR	0105	IND	0137	INDR	0024	INP	0216	JPA	0148
JPB	0154	LCNT	0298	LISTR	0014	LISTR1	0018	MINUS	0193	MOVE	0276	NME	0300	PARA1	0243	PARA2	0246
PASS	0103	PASS2	0108	PLUS	0032	RCNT	0303	REC2	0302	RECORD	0297	RET	0292	SAVA	0104	SPIN	0261
TOP	0312	TRA	0062	TRCNT	0307	XX	0233	YES	0054	ZZ	0088						

```
0001                    NAM  LULIST        DECK-ID N87  MSOS 5.0                SUMMARY-132********
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N8700002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N8700003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                           N8700004

0006                *   IDENTIFIES EQUIPMENTS FOR SYSTEM LOGICAL UNITS FOR MSOS 4.1       N8700006
0007                *   1700 MASS STORAGE OPERATING SYSTEM VERSION 4.1                    N8700007
0008                *   SMALL COMPUTER DEVELOPMENT DIVISION, LA JOLLA, CALIFORNIA         N8700008
0009                *   COPYRIGHT CONTROL DATA CORPORATION 1973                           N8700009

0011                *       THIS PROGRAM MUST BE RUN AS A JOB OR                          N8700011
0012                *       ADDED TO THE PROGRAM LIBRARY.                                 N8700012
0013                *       IT OPERATES BY MAKING A STATUS REQUEST FOR EACH LU            N8700013

0015        0046            EQU  TEN($46),SEVEN($5),FIVE($43),SIX($44)                    N8700015
            0005
            0043
            0044
0016                        EXT  SYSMON,SYSDAY,SYSYER,SYSID                               N8700016
0017        0002            EQU  LPMASK(2)                                                N8700017
0018        00F4            EQU  AMONI($F4)                                               N8700018
0019                        EXT  LOG1A                                                    N8700019
0020                        ENT  LULIST                                                   N8700020
0021        0000 P          EQU  LULIST(*)                                                N8700021
0022 P0000 8C0F             ENQ  15              MOVE SYSTEM ID                           N8700022
0023 P0001 C600 X MOVID.    LDA+ SYSID,Q         FROM SYSDAT INTO                         N8700023
     P0002 7FFF X
0024 P0003 6A00             STA  MSGID2,Q        MESSAGE BUFFER                           N8700024
     P0004 00C3
0025 P0005 0DFE             INQ  -1                                                       N8700025
0026 P0006 0171             SQM  IDMOVD                                                   N8700026
0027 P0007 18F9             JMP* MOVID                                                    N8700027
0028 P0008 C000 X IDMOVD    LDA  =XSYSMON        MOVE SYSTEM DATE                         N8700028
     P0009 7FFF X
0029 P000A 6800             STA  MSGID3+1        INTO MESSAGE BUFFER                      N8700029
     P000B 00CD
0030 P000C C000 X           LDA  =XSYSYER                                                 N8700030
     P000D 7FFF X
0031 P000E 6800             STA  MSGID3+4                                                 N8700031
     P000F 00CC
0032 P0010 E000             LDQ  =N$2F2F                                                  N8700032
     P0011 2F2F
0033 P0012 C000 X           LDA  =XSYSDAY                                                 N8700033
     P0013 7FFF X
0034 P0014 0FF8             LLS  8                                                        N8700034
0035 P0015 6800             STA  MSGID3+3                                                 N8700035
     P0016 00C4
0036 P0017 4800             STQ  MSGID3+2                                                 N8700036
     P0018 00C1
0037 P0019 54F4             RTJ- (AMONI)         FWRITE HEADING PART 1                    N8700037
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0038 P001A 4C00          NUM  $4C00                                  N8700038
0039 P001B 0000          NUM  0                                      N8700039
0040 P001C 0000          NUM  0                                      N8700040
0041 P001D 18FB          NUM  $18FB                                  N8700041
0042 P001E 0027          NUM  39                                     N8700042
0043 P001F C0B5 P        ADC  MSGIDO                                 N8700043
0044 P0020 54F4          RTJ- (A10NI)                                N8700044
0045 P0021 4C00          NUM  $4C00          FWRITE HEADING PART 2   N8700045
0046 P0022 0000    T0    ADC  0,0,$18FB                              N8700046
     P0023 0000
     P0024 18FB
0047 P0025 0024          ADC  LL,M1                                  N8700047
     P0026 0091 P
0048 P0027 C8FB    L0    LDA* T0*1           LOOP ON THREAD          N8700048
0049 P0028 0101          SAZ  A                                      N8700049
0050 P0029 18FD          JMP* L0                                     N8700050
0051 P002A C80D    A     LDA* B                                      N8700051
0052 P002B 0901          INA  1              ADD 1 TO LU IN REQUEST  N8700052
0053 P002C 680B          STA* B                                      N8700053
0054 P002D 9400 X        SUB  LOG1A          IS IT LAST LU           N8700054
     P002E 7FFF X
0055 P002F 0101          SAZ  ZZ                                     N8700055
0056 P0030 0128          SAP  EXIT                                   N8700056
0057 P0031 E806    ZZ    LDQ* B              LOGICAL UNIT            N8700057
0058 P0032 E600 X        LDQ* LOG1A,Q        GET LOCATION OF PHYSTAB N8700058
     P0033 002E X
0059 P0034 E208          LDQ- 8,Q            GET WORD 8 OF PHYSTAB   N8700059
0060 P0035 4803          STQ* XQ             (REQUEST STATUS - TYPE CODE) N8700060
0061 P0036 1805          JMP* D              GO TO PRINT SECTION     N8700061
0062 P0037 0000    B     NUM  0                                      N8700062
0063 P0038 0000    XQ    NUM  0                                      N8700063
0064               EXIT  EXIT                                        N8700064
0064 P0039 54F4
0064 P003A 0A00

0066 P003B C8FC    D     LDA* XQ             STATUS WORD             N8700066
0067 P003C A000          AND  =N$07F0        GET TYPE CODE           N8700067
     P003D 07F0
0068 P003E 0F44          ARS  4                                      N8700068
0069 P003F 09AF          INA  -ALFN                                  N8700069
0070 P0040 0131          SAM  TYPE           IF LESS THAN MAX TYPE CODE N8700070
0071 P0041 0A00          ENA  0              SET UP FOR MAX TYPE CODE N8700071
0072 P0042 0950    TYPE  INA  ALFN                                   N8700072
0073 P0043 0FC4          ALS  4              MULTIPLY BY 16          N8700073
0074 P0044 8000          ADD  =XALF                                  N8700074
     P0045 00F0 P
0075 P0046 6806          STA* E              START OF EQUIP TYPE MSG N8700075
0076 P0047 C8EF          LDA* B              COVERT LU TO ASCII      N8700076
0077 P0048 5841          RTJ* CONVRT                                 N8700077
0078 P0049 6848          STA* M1                                     N8700078
0079 P004A 0C10          ENQ  16                                     N8700079
0080 P004B 582D          RTJ* MOVE                                   N8700080
0081 P004C 00F0 P E      ADC  ALF                                    N8700081
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0082 P004D 0093 P        ADC  M1B                                          N8700082

0084 P004E C8E9          LDA* XQ          STATUS WORD                     N8700084
0085 P004F A044          AND- SIX         GET R/W CODE                    N8700085
0086 P0050 0F41          ARS  1                                           N8700086
0087 P0051 2043          MUI- FIVE                                        N8700087
0088 P0052 8000          ADD  =XARF                                       N8700088
     P0053 00DC P
0089 P0054 6803          STA* F           START OF R/W MSG                N8700089
0090 P0055 0C05          ENQ  5                                           N8700090
0091 P0056 5822          RTJ* MOVE                                        N8700091
0092 P0057 00DC P F      ADC  ARF                                         N8700092
0093 P0058 00A4 P        ADC  M1A                                         N8700093

0095 P0059 C8DE          LDA* XQ                                          N8700095
0096 P005A 0F4B          ARS  11                                          N8700096
0097 P005B A005          AND- SEVEN       A = CLASS CODE                  N8700097
0098 P005C 2005          MUI- SEVEN                                       N8700098
0099 P005D 8000          ADD =XARL                                        N8700099
     P005E 0600 P
0100 P005F 6803          STA* F2                                          N8700100
0101 P0060 0C07          ENQ  7                                           N8700101
0102 P0061 5817          RTJ* MOVE        MOVE CLASS CODE MESSAGE TO OUT BUFFER N8700102
0103 P0062 0600 P F2     ADC  ARL                                         N8700103
0104 P0063 00AA P        ADC  M1F                                         N8700104


0106 P0064 E802          LDQ* B                                           N8700106
0107 P0065 E600 X        LDQ+ LOG1A,Q                                     N8700107
     P0066 0033 X
0108 P0067 C207          LDA- 7,Q                                         N8700108
0109 P0068 0F47          ARS  7                                           N8700109
0110 P0069 A006          AND- LPMASK+4                                    N8700110
0111 P006A 581F          RTJ* CONVRT      CONVERT TO ASCII                N8700111
0112 P006B 6849          STA* M1G+2       STORE IT IN OUTPUT LINE         N8700112
0113                *                                                     N8700113
0114 P006C 54F4          RTJ- (AMONI)                                     N8700114
0115 P006D 4C00          NUM  $4C00       FWRITE REQUEST                  N8700115
0116 P006E 0000    T1    ADC  0,0,$18FB                                   N8700116
     P006F 0000
     P0070 18FB
0117 P0071 0024          ADC  LL,M1                                       N8700117
     P0072 0091 P
0118 P0073 C8FB    L1    LDA* T1+1        WAIT                            N8700118
0119 P0074 0101          SAZ  GOBCK                                       N8700119
0120 P0075 18FD          JMP* L1                                          N8700120
0121 P0076 1800    GOBCK JMP  A           RETURN TO START                 N8700121
     P0077 FFB2
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0123 P0078 0000    MOVE   NUM  0              SUBROUTINE TO MOVE BLOCK OF CORE   N8700123
0124 P0079 C8FE           LDA* MOVE                                              N8700124
0125 P007A 60FF           STA- I                                                 N8700125
0126 P007B C4FF           LDA- 1I)                                               N8700126
0127 P007C 6809           STA* MOVL+1                                            N8700127
0128 P007D C101           LDA- 1,I                                               N8700128
0129 P007E 6809           STA* MOVL1+1                                           N8700129
0130 P007F 0DFE    MOVC   INQ -1                                                 N8700130
0131 P0080 0163           SQP  MOVL-*-1                                          N8700131
0132 P0081 D8F6           RAO* MOVE                                              N8700132
0133 P0082 D8F5           RAO* MOVE                                              N8700133
0134 P0083 1CF4           JMP* (MOVE)                                            N8700134
0135 P0084 C600    MOVL   LDA+ MOVE,Q                                            N8700135
     P0085 0078 P
0136 P0086 6600    MOVL1  STA+ MOVE,Q                                            N8700136
     P0087 0078 P
0137 P0088 18F6           JMP* MOVC                                              N8700137

0139               *            HEX TO ASCII CONVERSION                        N8700139
0140               *            A-REG = $00 TO $63 ON ENTRY                    N8700140
0141               *            ROUTINE CONVERTS TO DECIMAL                    N8700141
0142               *            AND RETURNS WITH ASCII CHARS IN A              N8700142

0144 P0089 0000    CONVRT NUM  0              HEX TO ASC CONVERSION              N8700144
0145 P008A 0C00           ENQ  0                                                 N8700145
0146 P008B 3046           DVI- TEN           MSB IN A, LSB IN Q                  N8700146
0147 P008C 0FC8           ALS  8                                                 N8700147
0148 P008D 0834           AAQ  A                                                 N8700148
0149 P008E 8000           ADD  =N$3030       TWO ASCII CHARS IN A-REG            N8700149
     P008F 3030
0150 P0090 1CF8           JMP* (CONVRT)                                          N8700150

0152 P0091 4C55    M1     ALF  2,LU.                                             N8700152
     P0092 2E20
0153 P0093 4551    M1B    ALF  17,EQUIPMENT DESCRIPTION                          N8700153
     P0094 5549
     P0095 5040
     P0096 454E
     P0097 5420
     P0098 4445
     P0099 5343
     P009A 5249
     P009B 5054
     P009C 494F
     P009D 4E20
     P009E 2020
     P009F 2020
     P00A0 2020
     P00A1 2020
     P00A2 2020
     P00A3 2020
0154 P00A4 5245    M1A    ALF  06,READ/WRITE                                     N8700154
     P00A5 4144
```

```
                P00A6 2F57
                P00A7 5249
                P00A8 5445
                P00A9 2020
0155            P00AA 434C    M1F     ALF   08,CLASS CODE                                   N8700155
                P00AB 4153
                P00AC 5320
                P00AD 434F
                P00AE 4445
                P00AF 2020
                P00B0 2020
                P00B1 2020
0156            P00B2 2045    M1G     ALF   03, EQ NO                                      N8700156
                P00B3 5120
                P00B4 4E4F
0157                  0024    LL      EQU   LL(*-M1)                                      N8700157
0158            P00B5 0C0D    MSGID0  NUM   $0C0D          TOP OF FORM                    N8700158
0159            P00B6 4D53    MSGID1  ALF   17,MSOS 5.0 LOGICAL UNIT LISTING FOR         N8700159
                P00B7 4F53
                P00B8 2035
                P00B9 2E30
                P00BA 204C
                P00BB 4F47
                P00BC 4943
                P00BD 414C
                P00BE 2055
                P00BF 4E49
                P00C0 5420
                P00C1 4C49
                P00C2 5354
                P00C3 494E
                P00C4 4720
                P00C5 464F
                P00C6 5220
0160            P00C7 2020    MSGID2  ALF   16,                                           N8700160
                P00C8 2020
                P00C9 2020
                P00CA 2020
                P00CB 2020
                P00CC 2020
                P00CD 2020
                P00CE 2020
                P00CF 2020
                P00D0 2020
                P00D1 2020
                P00D2 2020
                P00D3 2020
                P00D4 2020
                P00D5 2020
                P00D6 2020
0161            P00D7 2020    MSGID3  ALF   5,  MM/DD/YY                                  N8700161
                P00D8 4D4D
                P00D9 2F44
                P00DA 442F
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      P00DB 5959


0163        00DC P ARF    EQU  ARF(*)                                    N8700163
0164  P00DC 5246          ALF  05,RFIELD = 0                             N8700164
      P00DD 4945
      P00DE 4C44
      P00DF 203D
      P00E0 2030
0165  P00E1 5245          ALF  05,READ  ONLY                             N8700165
      P00E2 4144
      P00E3 2020
      P00E4 4F4E
      P00E5 4C59
0166  P00E6 5752          ALF  05,WRITE ONLY                             N8700166
      P00E7 4954
      P00E8 4520
      P00E9 4F4E
      P00EA 4C59
0167  P00EB 5245          ALF  05,READ/WRITE                             N8700167
      P00EC 4144
      P00ED 2F57
      P00EE 5249
      P00EF 5445
0168        00F0 P ALF    EQU  ALF(*)                                    N8700168
0169  P00F0 3137          ALF  16,1711 TELETYPEWRITER                    N8700169
      P00F1 3131
      P00F2 2054
      P00F3 454C
      P00F4 4554
      P00F5 5950
      P00F6 4557
      P00F7 5249
      P00F8 5445
      P00F9 5220
      P00FA 2020
      P00FB 2020
      P00FC 2020
      P00FD 2020
      P00FE 2020
      P00FF 2020
0170  P0100 3137          ALF  16,1721/1722 PAPER TAPE READER      1     N8700170
      P0101 3231
      P0102 2F31
      P0103 3732
      P0104 3220
      P0105 5041
      P0106 5045
      P0107 5220
      P0108 5441
      P0109 5045
      P010A 2052
      P010B 4541
```

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        P010C 4445
        P010D 5220
        P010E 2020
        P010F 2020
0171    P0110 3137      ALF  16,1723/1724 PAPER TAPE PUNCH        2          N8700171
        P0111 3233
        P0112 2F31
        P0113 3732
        P0114 3420
        P0115 5041
        P0116 5045
        P0117 5220
        P0118 5441
        P0119 5045
        P011A 2050
        P011B 554E
        P011C 4348
        P011D 2020
        P011E 2020
        P011F 2020
0172    P0120 3137      ALF  16,1752       DRUM UNIT             3          N8700172
        P0121 3532
        P0122 2020
        P0123 2020
        P0124 2020
        P0125 4452
        P0126 554D
        P0127 2055
        P0128 4E49
        P0129 5420
        P012A 2020
        P012B 2020
        P012C 2020
        P012D 2020
        P012E 2020
        P012F 2020
0173    P0130 3731      ALF  16,713,10/711-100/713-120 CRT        4          N8700173
        P0131 332C
        P0132 3130
        P0133 2F37
        P0134 3131
        P0135 2D31
        P0136 3030
        P0137 2F37
        P0138 3133
        P0139 2D31
        P013A 3230
        P013B 2043
        P013C 5254
        P013D 2020
        P013E 2020
        P013F 2020
0174    P0140 3137      ALF  16,1738/853  DISK UNIT (1.5M)        5          N8700174
        P0141 3338
```

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        P0142 2F38
        P0143 3533
        P0144 2020
        P0145 4449
        P0146 534B
        P0147 2055
        P0148 4E49
        P0149 5420
        P014A 2831
        P014B 2E35
        P014C 4D29
        P014D 2020
        P014E 2020
        P014F 2020
0175    P0150 3137      ALF  16,1751 DRUM                                  N8700175
        P0151 3531
        P0152 2044
        P0153 5255
        P0154 4D20
        P0155 2020
        P0156 2020
        P0157 2020
        P0158 2020
        P0159 2020
        P015A 2020
        P015B 2020
        P015C 2020
        P015D 2020
        P015E 2020
        P015F 2020
0176    P0160 3137      ALF  16,1739-1    CARTRIDGE DISK UNIT      7       N8700176
        P0161 3339
        P0162 2031
        P0163 2020
        P0164 2020
        P0165 4341
        P0166 5254
        P0167 5249
        P0168 4447
        P0169 4520
        P016A 4449
        P016B 534B
        P016C 2055
        P016D 4E49
        P016E 5420
        P016F 2020
0177    P0170 3137      ALF  16,1738/854  DISK UNIT (3.1M)                 N8700177
        P0171 3338
        P0172 2F38
        P0173 3534
        P0174 2020
        P0175 4449
        P0176 534B
        P0177 2055
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        P0178 4E49
        P0179 5420
        P017A 2833
        P017B 2E31
        P017C 4D29
        P017D 2020
        P017E 2020
        P017F 2020
0178    P0180 3137      ALF  16,1731/601 MAGNETIC TAPE                    N8700178
        P0181 3331
        P0182 2F36
        P0183 3031
        P0184 204D
        P0185 4147
        P0186 4E45
        P0187 5449
        P0188 4320
        P0189 5441
        P018A 5045
        P018B 2020
        P018C 2020
        P018D 2020
        P018E 2020
        P018F 2020
0179    P0190 534F      ALF  16,SOFTWARE  BUFFERING DEVICE      10         N8700179
        P0191 4654
        P0192 5741
        P0193 5245
        P0194 2020
        P0195 4255
        P0196 4646
        P0197 4552
        P0198 494E
        P0199 4720
        P019A 4445
        P019B 5649
        P019C 4345
        P019D 2020
        P019E 2020
        P019F 2020
0180    P01A0 434F      ALF  16,COSY UNIT                 11              N8700180
        P01A1 5359
        P01A2 2055
        P01A3 4E49
        P01A4 5420
        P01A5 2020
        P01A6 2020
        P01A7 2020
        P01A8 2020
        P01A9 2020
        P01AA 2020
        P01AB 2020
        P01AC 2020
        P01AD 2020
```

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        P01AE 2020
        P01AF 2020
0181    P01B0 3137      ALF  16,1728/430  CARD READER/PUNCH          12        N8700181
        P01B1 3238
        P01B2 2F34
        P01B3 3330
        P01B4 2020
        P01B5 4341
        P01B6 5244
        P01B7 2052
        P01B8 4541
        P01B9 4445
        P01BA 522F
        P01BB 5055
        P01BC 4E43
        P01BD 4820
        P01BE 2020
        P01BF 2020
0182    P01C0 534F      ALF  16,SOFTWARE  CORE ALLOCATOR             13        N8700182
        P01C1 4654
        P01C2 5741
        P01C3 5245
        P01C4 2020
        P01C5 434F
        P01C6 5245
        P01C7 2041
        P01C8 4C4C
        P01C9 4F43
        P01CA 4154
        P01CB 4F52
        P01CC 2020
        P01CD 2020
        P01CE 2020
        P01CF 2020
0183    P01D0 3137      ALF  16,1733-1/854 DISK UNIT (3.1M)           14        N8700183
        P01D1 3333
        P01D2 2D31
        P01D3 2F38
        P01D4 3534
        P01D5 2044
        P01D6 4953
        P01D7 4B20
        P01D8 554E
        P01D9 4954
        P01DA 2028
        P01DB 332E
        P01DC 3140
        P01DD 2920
        P01DE 2020
        P01DF 2020
0184    P01E0 3137      ALF  16,1733-2/856-2 DISK UNIT (2.2M)         16        N8700184
        P01E1 3333
        P01E2 2D32
        P01E3 2F38
```

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      P01E4 3536
      P01E5 2D32
      P01E6 2044
      P01E7 4953
      P01E8 4B20
      P01E9 554E
      P01EA 4954
      P01EB 2028
      P01EC 322E
      P01ED 3240
      P01EE 2920
      P01EF 2020
0185  P01F0 3137          ALF  16,1733-2/856-4 DISK UNIT (4.5M)        15          N8700185
      P01F1 3333
      P01F2 2D32
      P01F3 2F38
      P01F4 3536
      P01F5 2D34
      P01F6 2044
      P01F7 4953
      P01F8 4B20
      P01F9 554E
      P01FA 4954
      P01FB 2028
      P01FC 342E
      P01FD 354D
      P01FE 2920
      P01FF 2020
0186  P0200 3137           ALF  16,1742-30 LINE PRINTER                 17          N8700186
      P0201 3432
      P0202 2D33
      P0203 3020
      P0204 4C49
      P0205 4E45
      P0206 2050
      P0207 5249
      P0208 4E54
      P0209 +552
      P020A 2020
      P020B 2020
      P020C 2020
      P020D 2020
      P020E 2020
      P020F 2020
0187  P0210 3137           ALF  16,1742-120 LINE PRINTER                18          N8700187
      P0211 3432
      P0212 2D31
      P0213 3230
      P0214 204C
      P0215 494E
      P0216 4520
      P0217 5052
      P0218 494E
      P0219 5445
```

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      P021A 5220
      P021B 2020
      P021C 2020
      P021D 2020
      P021E 2020
      P021F 2020
0188  P0220 3137        ALF  16,1740/501  LINE PRINTER          19          N8700188
      P0221 3430
      P0222 2F35
      P0223 3031
      P0224 2020
      P0225 4C49
      P0226 4E45
      P0227 2050
      P0228 5249
      P0229 4E54
      P022A 4552
      P022B 2020
      P022C 2020
      P022D 2020
      P022E 2020
      P022F 2020
0189  P0230 3137        ALF  16,1732-2/615-73 MAG TAPE UNIT               N8700189
      P0231 3332
      P0232 2D32
      P0233 2F36
      P0234 3135
      P0235 2D37
      P0236 3320
      P0237 4D41
      P0238 4720
      P0239 5441
      P023A 5045
      P023B 2055
      P023C 4E49
      P023D 5420
      P023E 2020
      P023F 2020
0190  P0240 3137        ALF  16,1732-2/615-93 MAG TAPE UNIT               N8700190
      P0241 3332
      P0242 2D32
      P0243 2F36
      P0244 3135
      P0245 2D39
      P0246 3320
      P0247 4D41
      P0248 4720
      P0249 5441
      P024A 5045
      P024B 2055
      P024C 4E49
      P024D 5420
      P024E 2020
      P024F 2020
```

```
0191 P0250 3137          ALF  16,1732-1/1706/608 BUFR MAG. TAPE                N8700191
     P0251 3332
     P0252 2D31
     P0253 2F31
     P0254 3730
     P0255 362F
     P0256 3630
     P0257 3820
     P0258 4255
     P0259 4652
     P025A 2040
     P025B 4147
     P025C 2E20
     P025D 5441
     P025E 5045
     P025F 2020
0192 P0260 3137          ALF  16,1726/405  CARD READER              23         N8700192
     P0261 3236
     P0262 2F34
     P0263 3035
     P0264 2020
     P0265 4341
     P0266 5244
     P0267 2052
     P0268 4541
     P0269 4445
     P026A 5220
     P026B 2020
     P026C 2020
     P026D 2020
     P026E 2020
     P026F 2020
0193 P0270 3137          ALF  16,1732-1/608 MAG TAPE UNIT                24         N8700193
     P0271 3332
     P0272 2D31
     P0273 2F36
     P0274 3038
     P0275 204D
     P0276 4147
     P0277 2054
     P0278 4150
     P0279 4520
     P027A 554E
     P027B 4954
     P027C 2020
     P027D 2020
     P027E 2020
     P027F 2020
0194 P0280 3137          ALF  16,1732-1/609 MAG TAPE UNIT                25         N8700194
     P0281 3332
     P0282 2D31
     P0283 2F36
     P0284 3039
     P0285 204D
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                P0286 4147
                P0287 2054
                P0288 4150
                P0289 4520
                P028A 554E
                P028B 4954
                P028C 2020
                P028D 2020
                P028E 2020
                P028F 2020
0195            P0290 3137          ALF  16,1713      TELETYPE KEYBOARD          26          N8700195
                P0291 3133
                P0292 2020
                P0293 2020
                P0294 2020
                P0295 5445
                P0296 4C45
                P0297 5459
                P0298 5045
                P0299 204B
                P029A 4559
                P029B 424F
                P029C 4152
                P029D 4420
                P029E 2020
                P029F 2020
0196            P02A0 3137          ALF  16,1713      TTY PAPER TAPE PUNCH       27          N8700196
                P02A1 3133
                P02A2 2020
                P02A3 2020
                P02A4 2020
                P02A5 5454
                P02A6 5920
                P02A7 5041
                P02A8 5045
                P02A9 5220
                P02AA 5441
                P02AB 5045
                P02AC 2050
                P02AD 554E
                P02AE 4348
                P02AF 2020
0197            P02B0 3137          ALF  16,1713      TTY PAPER TAPE READER      28          N8700197
                P02B1 3133
                P02B2 2020
                P02B3 2020
                P02B4 2020
                P02B5 5454
                P02B6 5920
                P02B7 5041
                P02B8 5045
                P02B9 5220
                P02BA 5441
                P02BB 5045
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      P02BC 2052
      P02BD 4541
      P02BE 4445
      P02BF 5220
0198  P02C0 3137          ALF  16,1729-2    CARD READER              29          N8700198
      P02C1 3239
      P02C2 2D32
      P02C3 2020
      P02C4 2020
      P02C5 4341
      P02C6 5244
      P02C7 2052
      P02C8 4541
      P02C9 4445
      P02CA 5220
      P02CB 2020
      P02CC 2020
      P02CD 2020
      P02CE 2020
      P02CF 2020
0199  P02D0 3137          ALF  16,1732-1/1706/609 BUFR MAG TAPE      30          N8700199
      P02D1 3332
      P02D2 2D31
      P02D3 2F31
      P02D4 3730
      P02D5 362F
      P02D6 3630
      P02D7 3920
      P02D8 4255
      P02D9 4652
      P02DA 204D
      P02DB 4147
      P02DC 2054
      P02DD 4150
      P02DE 4520
      P02DF 2020
0200  P02E0 534F          ALF  16,SOFTWARE  DUMMY ALTERNATE DEVICE   31          N8700200
      P02E1 4654
      P02E2 5741
      P02E3 5245
      P02E4 2020
      P02E5 4455
      P02E6 4D4D
      P02E7 5920
      P02E8 414C
      P02E9 5445
      P02EA 524E
      P02EB 4154
      P02EC 4520
      P02ED 4445
      P02EE 5649
      P02EF 4345
0201  P02F0 3336          ALF  16,364-4/361-1 HDX COMM DEVICE                   N8700201
      P02F1 342D
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        P02F2 342F
        P02F3 3336
        P02F4 312D
        P02F5 3120
        P02F6 4844
        P02F7 5820
        P02F8 434F
        P02F9 4D4D
        P02FA 2044
        P02FB 4556
        P02FC 4943
        P02FD 4520
        P02FE 2020
        P02FF 2020
0202    P0300 3336      ALF  16,364-4/361-4 FDX COMM DEVICE                N8700202
        P0301 342D
        P0302 342F
        P0303 3336
        P0304 312D
        P0305 3420
        P0306 4644
        P0307 5820
        P0308 434F
        P0309 4D4D
        P030A 2044
        P030B 4556
        P030C 4943
        P030D 4520
        P030E 2020
        P030F 2020
0203    P0310 3137      ALF  16,1742-1 LINE PRINTER          34            N8700203
        P0311 3432
        P0312 2D31
        P0313 204C
        P0314 494E
        P0315 4520
        P0316 5052
        P0317 494E
        P0318 5445
        P0319 5220
        P031A 2020
        P031B 2020
        P031C 2020
        P031D 2020
        P031E 2020
        P031F 2020
0204    P0320 3137      ALF  16,1777 PAPER TAPE READER       36            N8700204
        P0321 3737
        P0322 2050
        P0323 4150
        P0324 4552
        P0325 2054
        P0326 4150
        P0327 4520
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                P0328 5245
                P0329 4144
                P0332A 4552
                P032B 2020
                P032C 2020
                P032D 2020
                P032E 2020
                P032F 2020
0205            P0330 5053      ALF  16,PSEUDO TAPE UNIT          35          N8700205
                P0331 4555
                P0332 444F
                P0333 2054
                P0334 4150
                P0335 4520
                P0336 554E
                P0337 4954
                P0338 2020
                P0339 2020
                P033A 2020
                P033B 2020
                P033C 2020
                P033D 2020
                P033E 2020
                P033F 2020
0206            P0340 3137      ALF  16,1777 PAPER TAPE PUNCH     37          N8700206
                P0341 3737
                P0342 2050
                P0343 4150
                P0344 4552
                P0345 2054
                P0346 4150
                P0347 4520
                P0348 5055
                P0349 4E43
                P034A 4820
                P034B 2020
                P034C 2020
                P034D 2020
                P034E 2020
                P034F 2020
0207            P0350 3137      ALF  16,1729-3 CARD READER        6           N8700207
                P0351 3239
                P0352 2D33
                P0353 2043
                P0354 4152
                P0355 4420
                P0356 5245
                P0357 4144
                P0358 4552
                P0359 2020
                P035A 2020
                P035B 2020
                P035C 2020
                P035D 2020
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      P035E 2020
      P035F 2020
0208  P0360 3137          ALF  16,1733-1/853 DISK UNIT (1.5M)          9          N8700208
      P0361 3333
      P0362 2D31
      P0363 2F38
      P0364 3533
      P0365 2044
      P0366 4953
      P0367 4820
      P0368 554F
      P0369 4954
      P036A 2028
      P036B 312E
      P036C 354D
      P036D 2920
      P036E 2020
      P036F 2020
0209  P0370 3137          ALF  16,1731/1706/601 BUF MAG TAPE                      N8700209
      P0371 3331
      P0372 2F31
      P0373 3730
      P0374 362F
      P0375 3630
      P0376 3120
      P0377 4255
      P0378 4620
      P0379 4D41
      P037A 4720
      P037B 5441
      P037C 5045
      P037D 2020
      P037E 2020
      P037F 2020
0210  P0380 3137          ALF  16,1726/1706/405 BUF CARD READER                   N8700210
      P0381 3236
      P0382 2F31
      P0383 3730
      P0384 362F
      P0385 3430
      P0386 3520
      P0387 4255
      P0388 4620
      P0389 4341
      P038A 5244
      P038B 2052
      P038C 4541
      P038D 4445
      P038E 5220
      P038F 2020
0211  P0390 3137          ALF  16,1747 DATA SET INTERFACE                         N8700211
      P0391 3437
      P0392 2044
      P0393 4154
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                P0394 4120
                P0395 5345
                P0396 5420
                P0397 494E
                P0398 5445
                P0399 5246
                P039A 4143
                P039B 4520
                P039C 2020
                P039D 2020
                P039E 2020
                P039F 2020
0212            P03A0 3137          ALF  16,1744/274 DIGIGRAPHIC CONSOLE                N8700212
                P03A1 3434
                P03A2 2F32
                P03A3 3734
                P03A4 2044
                P03A5 4947
                P03A6 4947
                P03A7 5241
                P03A8 5048
                P03A9 4943
                P03AA 2043
                P03AB 4F4E
                P03AC 534F
                P03AD 4C45
                P03AE 2020
                P03AF 2020
0213            P03B0 3135          ALF  16,1536 LOW LEVEL ANALOG INPUT                 N8700213
                P03B1 3336
                P03B2 204C
                P03B3 4F57
                P03B4 204C
                P03B5 4556
                P03B6 454C
                P03B7 2041
                P03B8 4E41
                P03B9 4C4F
                P03BA 4720
                P03BB 494E
                P03BC 5055
                P03BD 5420
                P03BE 2020
                P03BF 2020
0214            P03C0 3135          ALF  16,1501 HIGH LEVEL ANALOG INPUT                N8700214
                P03C1 3031
                P03C2 2048
                P03C3 4947
                P03C4 4820
                P03C5 4C45
                P03C6 5645
                P03C7 4C20
                P03C8 414E
                P03C9 414C
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                P03CA 4F47
                P03CB 2049
                P03CC 4E50
                P03CD 5554
                P03CE 2020
                P03CF 2020
0215            P03D0 3135          ALF  16,1536 REMOTE LOW LEVEL ANALOG INP          N8700215
                P03D1 3336
                P03D2 2052
                P03D3 454D
                P03D4 4F54
                P03D5 4520
                P03D6 4C4F
                P03D7 5720
                P03D8 4C45
                P03D9 5645
                P03DA 4C20
                P03DB 414E
                P03DC 414C
                P03DD 4F47
                P03DE 2049
                P03DF 4E50
0216            P03E0 3135          ALF  16,1544 DIGITAL INPUT UNIT                 N8700216
                P03E1 3434
                P03E2 2044
                P03E3 4947
                P03E4 4954
                P03E5 414C
                P03E6 2049
                P03E7 4E50
                P03E8 5554
                P03E9 2055
                P03EA 4E49
                P03EB 5420
                P03EC 2020
                P03ED 2020
                P03EE 2020
                P03EF 2020
0217            P03F0 3135          ALF  16,1553 DIGITAL OUTPUT UNIT                N8700217
                P03F1 3533
                P03F2 2044
                P03F3 4947
                P03F4 4954
                P03F5 414C
                P03F6 204F
                P03F7 5554
                P03F8 5055
                P03F9 5420
                P03FA 554E
                P03FB 4954
                P03FC 2020
                P03FD 2020
                P03FE 2020
                P03FF 2020
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0218 P0400 3135          ALF  16,1555 RELAY OUTPUT UNIT                    N8700218
     P0401 3535
     P0402 2052
     P0403 454C
     P0404 4159
     P0405 204F
     P0406 5554
     P0407 5055
     P0408 5420
     P0409 554E
     P040A 4954
     P040B 2020
     P040C 2020
     P040D 2020
     P040E 2020
     P040F 2020
0219 P0410 3135          ALF  16,1566 DIGITAL-TO-ANALOG CONVERTER          N8700219
     P0411 3636
     P0412 2044
     P0413 4947
     P0414 4954
     P0415 414C
     P0416 2054
     P0417 4F20
     P0418 414E
     P0419 414C
     P041A 4F47
     P041B 2043
     P041C 4F4E
     P041D 5645
     P041E 5254
     P041F 4552
0220 P0420 3135          ALF  16,1547 EVENTS COUNTER                       N8700220
     P0421 3437
     P0422 2045
     P0423 5645
     P0424 4E54
     P0425 5320
     P0426 434F
     P0427 554E
     P0428 5445
     P0429 5220
     P042A 2020
     P042B 2020
     P042C 2020
     P042D 2020
     P042E 2020
     P042F 2020
0221 P0430 3135          ALF  16,1595 SERIAL I/O                           N8700221
     P0431 3935
     P0432 2053
     P0433 4552
     P0434 4941
     P0435 4C20
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      P0436 492F
      P0437 4F20
      P0438 2020
      P0439 2020
      P043A 2020
      P043B 2020
      P043C 2020
      P043D 2020
      P043E 2020
      P043F 2020
0222  P0440 3137        ALF  16,1732-3/616-72 MAG TAPE                    N8700222
      P0441 3332
      P0442 2D33
      P0443 2F36
      P0444 3136
      P0445 2D37
      P0446 3220
      P0447 4D41
      P0448 4720
      P0449 5441
      P044A 5045
      P044B 2020
      P044C 2020
      P044D 2020
      P044E 2020
      P044F 2020
0223  P0450 3137        ALF  16,1732-3/616-92 MAG TAPE                    N8700223
      P0451 3332
      P0452 2D33
      P0453 2F36
      P0454 3136
      P0455 2D39
      P0456 3220
      P0457 4D41
      P0458 4720
      P0459 5441
      P045A 5045
      P045B 2020
      P045C 2020
      P045D 2020
      P045E 2020
      P045F 2020
0224  P0460 3137        ALF  16,1743-2 ASYN COMM CONTR                    N8700224
      P0461 3433
      P0462 2D32
      P0463 2041
      P0464 5359
      P0465 4E20
      P0466 434F
      P0467 4D4D
      P0468 2043
      P0469 4F4E
      P046A 5452
      P046B 2020
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                P046C 2020
                P046D 2020
                P046E 2020
                P046F 2020
0225            P0470 3137          ALF  16,1745/211 CRT                    N8700225
                P0471 3435
                P0472 2F32
                P0473 3131
                P0474 2043
                P0475 5254
                P0476 2020
                P0477 2020
                P0478 2020
                P0479 2020
                P047A 2020
                P047B 2020
                P047C 2020
                P047D 2020
                P047E 2020
                P047F 2020
0226            P0480 3137          ALF  16,1725-1 CARD PUNCH              N8700226
                P0481 3235
                P0482 2D31
                P0483 2043
                P0484 4152
                P0485 4420
                P0486 5055
                P0487 4E43
                P0488 4820
                P0489 2020
                P048A 2020
                P048B 2020
                P048C 2020
                P048D 2020
                P048E 2020
                P048F 2020
0227            P0490 3137          ALF  16,1720-1 PAPER TAPE READER       N8700227
                P0491 3230
                P0492 2D31
                P0493 2050
                P0494 4150
                P0495 4552
                P0496 2054
                P0497 4150
                P0498 4520
                P0499 5245
                P049A 4144
                P049B 4552
                P049C 2020
                P049D 2020
                P049E 2020
                P049F 2020
0228            P04A0 3137          ALF  16,1720-1 PAPER TAPE PUNCH        N8700228
                P04A1 3230
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      P04A2 2D31
      P04A3 2050
      P04A4 4150
      P04A5 4552
      P04A6 2054
      P04A7 4150
      P04A8 4520
      P04A9 5055
      P04AA 4E43
      P04AB 4820
      P04AC 2020
      P04AD 2020
      P04AE 2020
      P04AF 2020
0229  P04B0 4D41          ALF  16,MAGNETIC TAPE SIMULATOR                    N8700229
      P04B1 474E
      P04B2 4554
      P04B3 4943
      P04B4 2054
      P04B5 4150
      P04B6 4520
      P04B7 5349
      P04B8 4D55
      P04B9 4C41
      P04BA 544F
      P04BB 5220
      P04BC 2020
      P04BD 2020
      P04BE 2020
      P04BF 2020
0230  P04C0 3137          ALF  16,1732-3 LONG RECORD MAG TAPE 7TRK           N8700230
      P04C1 3332
      P04C2 2D33
      P04C3 204C
      P04C4 4F4E
      P04C5 4720
      P04C6 5245
      P04C7 434F
      P04C8 5244
      P04C9 204D
      P04CA 4147
      P04CB 2054
      P04CC 4150
      P04CD 4520
      P04CE 3754
      P04CF 524B
0231  P04D0 3138          ALF  16,1810-1 LIAT CRT/PRINTER                    N8700231
      P04D1 3130
      P04D2 2D31
      P04D3 204C
      P04D4 4941
      P04D5 5420
      P04D6 4352
      P04D7 542F
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        P04D8 5052
        P04D9 494E
        P04DA 5445
        P04DB 5220
        P04DC 2020
        P04DD 2020
        P04DE 2020
        P04DF 2020
0232    P04E0 3138      ALF  16,1829-30/60 CARD READER                    N8700232
        P04E1 3239
        P04E2 2D33
        P04E3 302F
        P04E4 3630
        P04E5 2043
        P04E6 4152
        P04E7 4420
        P04E8 5245
        P04E9 4144
        P04EA 4552
        P04EB 2020
        P04EC 2020
        P04ED 2020
        P04EE 2020
        P04EF 2020
0233    P04F0 3138      ALF  16,1827-30/60 LINE PRINTER                  N8700233
        P04F1 3237
        P04F2 2D33
        P04F3 302F
        P04F4 3630
        P04F5 204C
        P04F6 494E
        P04F7 4520
        P04F8 5052
        P04F9 494E
        P04FA 5445
        P04FB 5220
        P04FC 2020
        P04FD 2020
        P04FE 2020
        P04FF 2020
0234    P0500 3138      ALF  16,1860-72 LCTT 7TK MAG TAPE                N8700234
        P0501 3630
        P0502 2037
        P0503 3220
        P0504 4043
        P0505 5454
        P0506 2037
        P0507 5448
        P0508 204D
        P0509 4147
        P050A 2054
        P050B 4150
        P050C 4520
        P050D 2020
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        P050E 2020
        P050F 2020
0235    P0510 3138      ALF  16,1860-92 LCTT 9TK MAG TAPE                    N8700235
        P0511 3630
        P0512 2039
        P0513 3220
        P0514 4043
        P0515 5454
        P0516 2039
        P0517 544B
        P0518 204D
        P0519 4147
        P051A 2054
        P051B 4150
        P051C 4520
        P051D 2020
        P051E 2020
        P051F 2020
0236    P0520 3138      ALF  16,1832-5 CASSETTE MAG TAPE                    N8700236
        P0521 3332
        P0522 2035
        P0523 2043
        P0524 4153
        P0525 5345
        P0526 5454
        P0527 4520
        P0528 4041
        P0529 4720
        P052A 5441
        P052B 5045
        P052C 2020
        P052D 2020
        P052E 2020
        P052F 2020
0237    P0530 3138      ALF  16,1835-5 FLEXIBLE DISK                        132*5418********
        P0531 3335
        P0532 2035
        P0533 2046
        P0534 4045
        P0535 5849
        P0536 424C
        P0537 4520
        P0538 4449
        P0539 5348
        P053A 2020
        P053B 2020
        P053C 2020
        P053D 2020
        P053E 2020
        P053F 2020
0238    P0540 3138      ALF  16,1833-1 STORAGE MODULE DRIVE 25MB            N8700238
        P0541 3333
        P0542 2031
        P0543 2053
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        P0544 544F
        P0545 5241
        P0546 4745
        P0547 204D
        P0548 4F44
        P0549 554C
        P054A 4520
        P054B 4452
        P054C 4956
        P054D 4520
        P054E 3235
        P054F 4D42
0239    P0550 3138      ALF  16,1833-1 STORAGE MODULE DRIVE 50MB          N8700239
        P0551 3333
        P0552 2031
        P0553 2053
        P0554 544F
        P0555 5241
        P0556 4745
        P0557 204D
        P0558 4F44
        P0559 554C
        P055A 4520
        P055B 4452
        P055C 4956
        P055D 4520
        P055E 3530
        P055F 4D42
0240    P0560 4431      ALF  16,D18ECM EXTENDED CORE DRIVER               N8700240
        P0561 3845
        P0562 4340
        P0563 2045
        P0564 5854
        P0565 454E
        P0566 4445
        P0567 4420
        P0568 434F
        P0569 5245
        P056A 2044
        P056B 5249
        P056C 5645
        P056D 5220
        P056E 2020
        P056F 2020
0241    P0570 5053      ALF  16,PSEUDO DISK DRIVER                        N8700241
        P0571 4553
        P0572 444F
        P0573 2044
        P0574 4953
        P0575 4B20
        P0576 4452
        P0577 4956
        P0578 4552
        P0579 2020
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                P057A 2020
                P057B 2020
                P057C 2020
                P057D 2020
                P057E 2020
                P057F 2020
0242            P0580 3138          ALF  16,1843-2 8 CHANNEL CLA                    132*5418********
                P0581 3433
                P0582 2D32
                P0583 2038
                P0584 2043
                P0585 4841
                P0586 4E4E
                P0587 454C
                P0588 2043
                P0589 4C41
                P058A 2020
                P058B 2020
                P058C 2020
                P058D 2020
                P058E 2020
                P058F 2020
0243            P0590 3138          ALF  16,1866-14 CARTRIDGE DISK                  132*5418********
                P0591 3636
                P0592 2D31
                P0593 3420
                P0594 4341
                P0595 5254
                P0596 5249
                P0597 4447
                P0598 4520
                P0599 4449
                P059A 534B
                P059B 2020
                P059C 2020
                P059D 2020
                P059E 2020
                P059F 2020
0244            P05A0 3138          ALF  16,1866-12 CARTRIDGE DISK                  132*5418********
                P05A1 3636
                P05A2 2031
                P05A3 3220
                P05A4 4341
                P05A5 5254
                P05A6 5249
                P05A7 4447
                P05A8 4520
                P05A9 4449
                P05AA 534B
                P05AB 2020
                P05AC 2020
                P05AD 2020
                P05AE 2020
                P05AF 2020
```

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0245 P05B0 3138          ALF  16,1827-7 MATRIX PRINTER                    132*5418********
     P05B1 3237
     P05B2 2037
     P05B3 204D
     P05B4 4154
     P05B5 5249
     P05B6 5820
     P05B7 5052
     P05B8 494E
     P05B9 5445
     P05BA 5220
     P05BB 2020
     P05BC 2020
     P05BD 2020
     P05BE 2020
     P05BF 2020
0246 P05C0 3530          ALF  16,501-12 TAB CARD PUNCH                   132*5418********
     P05C1 312D
     P05C2 3132
     P05C3 2054
     P05C4 4142
     P05C5 2043
     P05C6 4152
     P05C7 4420
     P05C8 5055
     P05C9 4E43
     P05CA 4820
     P05CB 2020
     P05CC 2020
     P05CD 2020
     P05CE 2020
     P05CF 2020
0247 P05D0 5350          ALF  16,SPOOLED PRINTER DRIVER                  132*5418********
     P05D1 4F4F
     P05D2 4C45
     P05D3 4420
     P05D4 5052
     P05D5 494E
     P05D6 5445
     P05D7 5220
     P05D8 4452
     P05D9 4956
     P05DA 4552
     P05DB 2020
     P05DC 2020
     P05DD 2020
     P05DE 2020
     P05DF 2020
0248 P05E0 3138          ALF  16,1843-1 2 CHANNEL CLA                    132*5418********
     P05E1 3433
     P05E2 2D31
     P05E3 2032
     P05E4 2043
     P05E5 4841
```

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                P05E6 4E4E
                P05E7 454C
                P05E8 2043
                P05E9 4C41
                P05EA 2020
                P05EB 2020
                P05EC 2020
                P05ED 2020
                P05EE 2020
                P05EF 2020
0249                     *        PUT ALL NEW ENTERIES BEFORE THIS CARD                    N8700242
0250                0500         EQU  ALFNLG(*-ALF),ALFNT(ALFNLG/16)                      N8700243
                    0050
0251            P05F0 554E       ALF  16,UNDEFINED UNIT TYPE              38              N8700244
                P05F1 4445
                P05F2 4649
                P05F3 4E45
                P05F4 4420
                P05F5 554E
                P05F6 4954
                P05F7 2054
                P05F8 5950
                P05F9 4520
                P05FA 2020
                P05FB 2020
                P05FC 2020
                P05FD 2020
                P05FE 2020
                P05FF 2020

0253            P0600 4E4F   ARL     ALF  07,NO CLASS CODE                               N8700246
                P0601 2043
                P0602 4C41
                P0603 5353
                P0604 2043
                P0605 4F44
                P0606 4520
0254            P0607 4D41           ALF  07,MAGNETIC TAPE                               N8700247
                P0608 474E
                P0609 4554
                P060A 4943
                P060B 2054
                P060C 4150
                P060D 4520
0255            P060E 4D41           ALF  07,MASS STORAGE                                N8700248
                P060F 5353
                P0610 2053
                P0611 544F
                P0612 5241
                P0613 4745
                P0614 2020
0256            P0615 4341           ALF  07,CARD RDR/PUNCH                              N8700249
                P0616 5244
```

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                P0617 2052
                P0618 4452
                P0619 2F50
                P061A 554E
                P061B 4348
0257            P061C 5041          ALF  07,PAPER TAPE I/O                          N8700250
                P061D 5045
                P061E 5220
                P061F 5441
                P0620 5045
                P0621 2049
                P0622 2F4F
0258            P0623 4C49          ALF  07,LINE PRINTER                            N8700251
                P0624 4E45
                P0625 2050
                P0626 5249
                P0627 4E54
                P0628 4552
                P0629 2020
0259            P062A 5445          ALF  07,TELETYPE                                N8700252
                P062B 4C45
                P062C 5459
                P062D 5045
                P062E 2020
                P062F 2020
                P0630 2020
0260            P0631 5544          ALF  07,UD CLASS CODE                           N8700253
                P0632 2043
                P0633 4C41
                P0634 5353
                P0635 2043
                P0636 4F44
                P0637 4520
0261                                END  LULIST                                     N8700254

PGM=  0638 (  1592)   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)	0125, 0126
0015	TEN	0046	(000070)	0146
0015	SEVEN	0005	(000005)	0097, 0098
0015	FIVE	0043	(000067)	0087
0015	SIX	0044	(000068)	0085
0017	LPMASK	0002	(000002)	0110
0018	AMONI	00F4	(000244)	0037, 0044, 0114
0157	LL	0024	(000036)	0047, 0117
0250	ALFNLG	0500	(001280)	0250
0250	ALFN	0050	(000080)	0069, 0072

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0020	LULIST	0000	0020
0023	MOVID	0001	0027
0028	IDMOVD	0008	0026
0046	T0	0022	0048
0048	L0	0027	0050
0051	A	002A	0049, 0121
0057	ZZ	0031	0055
0062	B	0037	0051, 0053, 0057, 0076, 0106
0063	XQ	0038	0060, 0066, 0084, 0095
0064	EXIT	0039	0056
0066	D	003B	0061
0072	TYPE	0042	0070
0081	E	004C	0075
0092	F	0057	0089
0103	F2	0062	0100
0116	T1	006E	0118
0118	L1	0073	0120
0121	GOBCK	0076	0119
0123	MOVE	0078	0080, 0091, 0102, 0124, 0132, 0133, 0134, 0135, 0136
0130	MOVC	007F	0137
0135	MOVL	0084	0127, 0131
0136	MOVL1	0086	0129
0144	CONVRT	0089	0077, 0111, 0150
0152	M1	0091	0047, 0078, 0117, 0157
0153	M1B	0093	0082
0154	M1A	00A4	0093
0155	M1F	00AA	0104
0156	M1G	00B2	0112
0158	MSGID0	00B5	0043
0159	MSGID1	00B6	
0160	MSGID2	00C7	0024
0161	MSGID3	00D7	0029, 0031, 0035, 0036
0163	ARF	00DC	0088, 0092
0168	ALF	00F0	0074, 0081, 0250
0253	ARL	0600	0099, 0103

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0016	SYSMON	0009	0028
0016	SYSDAY	0013	0033
0016	SYSYER	000D	0030
0016	SYSID	0002	0023
0019	LOG1A	0066	0054, 0058, 0107

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

A	0051	ALF	0168	ALFN	0250	ALFNLG	0250	AMONI	0018	ARF	0163	ARL	0253	B	0062	CONVRT	0144
D	0066	E	0081	EXIT	0064	F	0092	F2	0103	FIVE	0015	GOBCK	0121	I	0000	IDMOVD	0028
L0	0048	L1	0118	LL	0157	LOG1A	0019	LPMASK	0017	LULIST	0020	M1	0152	M1A	0154	M1B	0153
M1F	0155	M1G	0156	MOVC	0130	MOVE	0123	MOVID	0023	MOVL	0135	MOVL1	0136	MSGID1	0159	MSGID2	0160
MSGID3	0161	MSGIDO	0158	SEVEN	0015	SIX	0015	SYSDAY	0016	SYSID	0016	SYSMON	0016	SYSYER	0016	T0	0046
T1	0116	TEN	0015	TYPE	0072	XQ	0063	ZZ	0057								

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0001                    NAM  OPSORT          DECK-ID N88  MSOS 5.0          SUMMARY-110N8800001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                    N8800002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                 N8800003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                      N8800004

0006                *   1700 OPERAND SORT FOR MSOS  JULY  1969                       N8800006

0008                    ENT  OPSORT                                                  N8800008
0009                    ENT  BGNRD                                                   N8800009
0010        00F9        EQU  STDINP($F9)                                             N8800010
0011        00B3        EQU  STDSCR($B3)    STANDARD SCRATCH                         N8800011
0012        00FB        EQU  STDOUT($FB)                                             N8800012
0013        00FC        EQU  STDOCD($FC)                                             N8800013
0014        00EA        EQU  DISP($EA)                                               N8800014
0015        0024  BIT2    EQU  BIT2($24)                                           N8800015
0016        0028        EQU  BIT6($28)                                               N8800016
0017        0030        EQU  BIT14($30)                                              N8800017
0018        001A  HFF00   EQU  HFF00($1A)                                          N8800018
0019        000A  H00FF   EQU  H00FF($A)                                           N8800019
0020        0006  H000F   EQU  H000F($6)                                           N8800020
0021        0042  H7FFF   EQU  H7FFF($42)                                          N8800021
0022        0012  HFFFF   EQU  HFFFF($12)                                          N8800022
0023        001E  HF000   EQU  HF000($1E)                                          N8800023
0024        0046  A       EQU  A($46)                                              N8800024
0025 P0000  0A01  BGNRD   ENA  1                                                   N8800025
0026 P0001  6800          STA  PRGNAM                                              N8800026
     P0002  018C
0027 P0003  0A00          ENA  0                                                   N8800027
0028 P0004  6800          STA  OPFLG                                               N8800028
     P0005  00B3
0029                      FREAD  STDINP,NUMCK,BUFF,50,A,0,1,I,,1                   **MSOS 4.0N8800029
0029 P0006  54F4
0029 P0007  4801
0029 P0008  000E P
     P0009  0000
0029 P000A  18F9
0029 P000B  0032
     P000C  00C4 P
0030 P000D  14EA          JMP- (DISP)                                              N8800030
0031 P000E  C800    NUMCK LDA  BUFF+1                                              N8800031
     P000F  00B6
0032 P0010  9800          SUB  BLANKS         LOCATION FIELD BLANK                 N8800032
     P0011  00A4
0033 P0012  0111          SAN  1                                                   N8800033
0034 P0013  18F2          JMP* BGNRD+6        YES,READ NEXT RECORD                 N8800034
0035 P0014  C800          LDA  BUFF                                                N8800035
     P0015  00AF
0036 P0016  9800          SUB  ASTKS          ERRORS ON LIST OUTPUT PRIOR          N8800036
     P0017  009F
0037 P0018  0111          SAN  1              TO NAM CARD                          N8800037
0038 P0019  18EC          JMP* BGNRD+6        YES,READ NEXT RECORD                 N8800038
0039 P001A  C800          LDA  BUFF+1                                              N8800039
     P001B  00AA
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0040 P001C E800          LDQ  PRGNAM                                          N8800040
     P001D 0171
0041 P001E 0145          SQZ  NUMCK1      HAS THE NAM CARD BEEN READ          N8800041
0042 P001F 0F48          ARS  8           NO,CONTINUE SEARCH                  N8800042
0043 P0020 A00A          AND- H00FF                                           N8800043
0044 P0021 098F          INA  -$40                                            N8800044
0045 P0022 0131          SAM  1           MEMORY MAP                          N8800045
0046 P0023 18E2          JMP* BGNRD+6                                         N8800046
0047 P0024 C800 NUMCK1   LDA  BUFF+1                                          N8800047
     P0025 00A0
0048 P0026 0F48          ARS  8                                               N8800048
0049 P0027 B030          EOR- BIT14       NO,OUTPUT A BLANK PLUS              N8800049
0050 P0028 6800          STA  CHRBF+2     ONE CHAR. OF LOC. FLD.              N8800050
     P0029 0093
0051 P002A C800          LDA  BUFF+1                                          N8800051
     P002B 009A
0052 P002C 0FC8          ALS  8                                               N8800052
0053 P002D A01A          AND- HFF00                                           N8800053
0054 P002E 6800          STA  CHRBF+3     OUTPUT 2ND CHAR OF LOC. FLD.        N8800054
     P002F 008E
0055 P0030 C800          LDA  BUFF+2                                          N8800055
     P0031 0095
0056 P0032 0FC8          ALS  8                                               N8800056
0057 P0033 A01A          AND- HFF00                                           N8800057
0058 P0034 6800          STA  BUFF                                            N8800058
     P0035 008F
0059 P0036 C800          LDA  CHRBF+4                                         N8800059
     P0037 0087
0060 P0038 A01A          AND- HFF00                                           N8800060
0061 P0039 9800          SUB  BUFF        IS THIS RECORD WITHIN A             N8800061
     P003A 008A
0062 P003B 0111          SAN  1           MACRO                               N8800062
0063 P003C 18C9          JMP* BGNRD+6     YES,READ NEXT RECORD                N8800063
0064 P003D C800          LDA  BUFF+2                                          N8800064
     P003E 0088
0065 P003F 0F48          ARS  8                                               N8800065
0066 P0040 B87D          EOR* CHRBF+3                          **MSOS 4.0N8800066
0067 P0041 687C          STA* CHRBF+3     OUTPUT 3RD CHAR. OF LOC.            **MSOS 4.0N8800067
0068 P0042 C800          LDA  BUFF+2                                          N8800068
     P0043 0083
0069 P0044 0FC8          ALS  8                                               N8800069
0070 P0045 A01A          AND- HFF00                                           N8800070
0071 P0046 0920          INA  $20                                             N8800071
0072 P0047 6877          STA* CHRBF+4     OUTPUT LAST CHAR OF LOC.            N8800072
0073 P0048 0C0A          ENQ  10                                              N8800073
0074 P0049 40FF          STQ- I                                               N8800074
0075 P004A C97A          LDA* BUFF,I      LOCATE TO THE FIRST WORD            **MSOS 4.0N8800075
0076 P004B A01A          AND- HFF00       OF LABEL FLD.                       N8800076
0077 P004C B000          EOR  =N$2A00     CHECK FOR AN ASTERIK                N8800077
     P004D 2A00
0078 P004E 0111          SAN  1                                               N8800078
0079 P004F 18B3          JMP* BGNRD+3     COMMENT CARD GET NEXT REC.          N8800079
0080 P0050 C974 NXTWRD   LDA* BUFF,I                                          N8800080
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0081  P0051  A01A            AND-  HFF00       CHECK FOR A BLANK CHAR.          N8800081
0082  P0052  B030            EOR-  BIT14       TERMINATING A FIELD              N8800082
0083  P0053  0113            SAN   3                                            N8800083
0084  P0054  0A01            ENA   1           SWITCH CHAR.FLAG                 N8800084
0085  P0055  6862            STA*  CHRFLG                                       N8800085
0086  P0056  180A            JMP*  OPCDSR                                       N8800086
0087  P0057  C96D            LDA*  BUFF,I                                       N8800087
0088  P0058  A00A            AND-  H00FF                                        N8800088
0089  P0059  09DF            INA   -$20                                         N8800089
0090  P005A  0113            SAN   3                                            N8800090
0091  P005B  0A00            ENA   0                                            N8800091
0092  P005C  685B            STA*  CHRFLG      SWITCH CHAR. FLAG                N8800092
0093  P005D  1803            JMP*  OPCDSR                                       N8800093
0094  P005E  D0FF            RAO-  I                                            N8800094
0095  P005F  18F0            JMP*  NXTWRD                                       N8800095
0096  P0060  E857  OPCDSR    LDQ*  CHRFLG      BEGIN CHECK FOR NON-BLANK        N8800096
0097  P0061  0146            SQZ   CNTSR       CHAR.- 1ST WRD. OF OPCODE        N8800097
0098  P0062  C962            LDA*  BUFF,I                                       N8800098
0099  P0063  A00A            AND-  H00FF                                        N8800099
0100  P0064  B028            EOR-  BIT6                                         N8800100
0101  P0065  011A            SAN   FLDCK                                        N8800101
0102  P0066  0844            CLR   A                                            N8800102
0103  P0067  6850            STA*  CHRFLG      SWITCH CHAR. FLAG                N8800103
0104  P0068  D0FF  CNTSR     RAO-  I                                            N8800104
0105  P0069  C95B            LDA*  BUFF,I                                       N8800105
0106  P006A  A01A            AND-  HFF00                                        N8800106
0107  P006B  B030            EOR-  BIT14                                        N8800107
0108  P006C  0113            SAN   FLDCK                                        N8800108
0109  P006D  0C01            ENQ   1                                            N8800109
0110  P006E  4849            STQ*  CHRFLG      SWITCH CHAR FLAG                 N8800110
0111  P006F  18F2            JMP*  OPCDSR+2                                     N8800111
0112  P0070  E848  FLDCK     LDQ*  OPFLG       SEARCHING FOR OPERAND OR         N8800112
0113  P0071  0141            SQZ   1           OPCODE                           N8800113
0114  P0072  1800            JMP   OPRND       OPERAND                          N8800114
      P0073  0097
0115  P0074  C0FF  ENDCD     LDA-  I                                            N8800115
0116  P0075  6843            STA*  OPFLG                                       N8800116
0117  P0076  C841            LDA*  CHRFLG      END CARD CHECK                   N8800117
0118  P0077  0101            SAZ   1                                            N8800118
0119  P0078  181D            JMP*  CNTSR1                                       N8800119
0120  P0079  C94B            LDA*  BUFF,I                                       N8800120
0121  P007A  9838            SUB*  EN                                          N8800121
0122  P007B  0113            SAN   3                                            N8800122
0123  P007C  C949            LDA*  BUFF+1,I                                     N8800123
0124  P007D  9837            SUB*  DBLK                                        N8800124
0125  P007E  0104            SAZ   COMP                                         N8800125
0126  P007F  C945            LDA*  BUFF,I                                       N8800126
0127  P0080  683A            STA*  CHRBF       OUTPUT OPCODE                    N8800127
0128  P0081  D0FF            RAO-  I                                            N8800128
0129  P0082  180D            JMP*  COMP1                                        N8800129
0130  P0083  0A01  COMP      ENA   1           END CARD FOUND, WRITE ALL        N8800130
0131  P0084  6800            STA   LSTRD       PARTIALLY FILLED BUFFERS         N8800131
      P0085  1029
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0132 P0086 0A00          ENA  0              ON MASS STORAGE                N8800132
0133 P0087 6800          STA  SECAD2                                         N8800133
     P0088 1025
0134 P0089 C800          LDA  BFTAB                                          N8800134
     P008A 0105
0135 P008B 6800          STA  SECAD                                          N8800135
     P008C 101E
0136 P008D 1800          JMP  WRTSC5                                         N8800136
     P008E 1050
0137 P008F C935  COMP1   LDA* BUFF,I            OPCODE NOT END CARD        N8800137
0138 P0090 682B          STA* CHRBF+1                                        N8800138
0139 P0091 5865  COMP2   RTJ* MCROCK            CHECK RECORD FOR MACRO      N8800139
0140 P0092 0A01          ENA  1                                              N8800140
0141 P0093 6825          STA* OPFLG             NOT A MACRO                 N8800141
0142 P0094 18CB          JMP* OPCDSR            GO CHECK FOR 1ST OPERAND    N8800142
0143 P0095 0844  CNTSR1  CLR  A                                              N8800143
0144 P0096 6821          STA* CHRFLG                                         N8800144
0145 P0097 C92D          LDA* BUFF,I                                         N8800145
0146 P0098 0C00          ENQ  0                                              N8800146
0147 P0099 0FE8          LLS  8                 HALF WORD SEARCH            N8800147
0148 P009A 6820          STA* CHRBF                                          N8800148
0149 P009B D0FF          RAO- I                                              N8800149
0150 P009C C928          LDA* BUFF,I                                         N8800150
0151 P009D 0F48          ARS  8                                              N8800151
0152 P009E B81C          EOR* CHRBF                                          N8800152
0153 P009F 681B          STA* CHRBF                                          N8800153
0154 P00A0 9812          SUB* EN                                             N8800154
0155 P00A1 0114          SAN  4                                              N8800155
0156 P00A2 C922          LDA* BUFF,I            END CARD RECORD             N8800156
0157 P00A3 9810          SUB* ND                                             N8800157
0158 P00A4 0111          SAN  1                                              N8800158
0159 P00A5 18DD          JMP* COMP                                           N8800159
0160 P00A6 C91E          LDA* BUFF,I            NO, OUTPUT ONE WORD         N8800160
0161 P00A7 0C00          ENQ  0                                              N8800161
0162 P00A8 0FE8          LLS  8                                              N8800162
0163 P00A9 6812          STA* CHRBF+1                                        N8800163
0164 P00AA D0FF          RAO- I                                              N8800164
0165 P00AB C919          LDA* BUFF,I            OUTPUT THE 2ND WORD         N8800165
0166 P00AC 0F48          ARS  8                                              N8800166
0167 P00AD B80E          EOR* CHRBF+1                                        N8800167
0168 P00AE 680D          STA* CHRBF+1                                        N8800168
0169 P00AF 0A01          ENA  1                                              N8800169
0170 P00B0 6807          STA* CHRFLG            SWITCH CHAR. FLAG           N8800170
0171 P00B1 18DF          JMP* COMP2             CHECK FOR MACRO             N8800171
0172 P00B2 454E  EN      NUM  $454E                                          N8800172
0173 P00B3 4E44  ND      NUM  $4E44                                          N8800173
0174 P00B4 4420  DBLK    NUM  $4420                                          N8800174
0175 P00B5 2020  BLANKS  NUM  $2020                                          N8800175
0176 P00B6 2A2A  ASTKS   NUM  $2A2A                                          N8800176
0177 P00B7 0000  CHRFLG  NUM  0                                              N8800177
0178 P00B8 0000  OPFLG   NUM  0                                              N8800178
0179 P00B9 0000  COUNT   NUM  0                                              N8800179
0180 P00BA 000A  CHRBF   BSS  CHRBF(10)                                      N8800180
```

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0181 P00C4 0032 BUFF   BSS  BUFF(50)                                    N8800181
0182 P00F6 0000 MCROCK 0    0                                          N8800182
0183 P00F7 C8C3         LDA* CHRBF+1                                    N8800183
0184 P00F8 0F44         ARS  4                                          N8800184
0185 P00F9 A006         AND- H000F                                      N8800185
0186 P00FA B024         EOR- BIT2                                       N8800186
0187 P00FB 0111         SAN  1              IS THIS RECORD A MACRO      N8800187
0188 P00FC 1CF9         JMP* (MCROCK)                                   N8800188
0189 P00FD 0C00         ENQ  0              YES                         N8800189
0190 P00FE C8C6         LDA* BUFF+1                                     N8800190
0191 P00FF 6A00         STA  TITLE,Q                                    N8800191
     P0100 00D5
0192 P0101 0D01         INQ  1                                          N8800192
0193 P0102 C8C3         LDA* BUFF+2         PICK UP THE LOCATION OF     N8800193
0194 P0103 6A00         STA  TITLE,Q        THIS MACRO                  N8800194
     P0104 00D1
0195 P0105 0D02         INQ  2                                          N8800195
0196 P0106 C8B1         LDA* OPFLG                                      N8800196
0197 P0107 60FF         STA- I                                          N8800197
0198 P0108 1800         JMP  DONE1-1                                    N8800198
     P0109 00B6
0199 P010A E8AC OPRND   LDQ* CHRFLG                                     N8800199
0200 P010B 0145         SQZ  LFTPN-*-1                                  N8800200
0201 P010C A00A         AND- H00FF          CHECK FIRST OPERAND WORD    N8800201
0202 P010D 09D7         INA  -$28           FOR A LEFT PAREN.           N8800202
0203 P010E 0111         SAN  1                                          N8800203
0204 P010F 1811         JMP* OPRND2                                     N8800204
0205 P0110 1812         JMP* OPRND4                                     N8800205
0206 P0111 C9B2 LFTPN   LDA* BUFF,I                                     N8800206
0207 P0112 A01A         AND- HFF00                                      N8800207
0208 P0113 B000         EOR  =N$2800                                    N8800208
     P0114 2800
0209 P0115 0101         SAZ  LFTPN1                                     N8800209
0210 P0116 1802         JMP* OPRND1                                     N8800210
0211 P0117 180B LFTPN1  JMP* OPRND4                                     N8800211
0212 P0118 0CFA OPRND1  ENQ  -5             OUTPUT COMPLETE WORDS       N8800212
0213 P0119 C9AA         LDA* BUFF,I                                     N8800213
0214 P011A 6AA9         STA* CHRBF+10,Q                                 N8800214
0215 P011B D0FF         RAO- I                                          N8800215
0216 P011C 0D01         INQ  1                                          N8800216
0217 P011D 0161         SQP  1              CHAR. BUFFER FILLED         N8800217
0218 P011E 18FA         JMP* OPRND1+1                                   N8800218
0219 P011F 180F         JMP* BUFAD          YES,                        N8800219
0220 P0120 D0FF OPRND2  RAO- I                                          N8800220
0221 P0121 18F6         JMP* OPRND1                                     N8800221
0222 P0122 0A00 OPRND4  ENA  0                                          N8800222
0223 P0123 6895         STA* COUNT                                      N8800223
0224 P0124 E99F OPRND5  LDQ* BUFF,I         OUTPUT HALF WORDS           N8800224
0225 P0125 D0FF         RAO- I                                          N8800225
0226 P0126 C99D         LDA* BUFF,I                                     N8800226
0227 P0127 0F68         LRS  8                                          N8800227
0228 P0128 E890         LDQ* COUNT                                      N8800228
0229 P0129 6A95         STA* CHRBF+5,Q                                  N8800229
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0230 P012A D88E          RAO* COUNT                                  N8800230
0231 P012B 0DFB          INQ  -4          BUFFER FILLED              N8800231
0232 P012C 0141          SQZ  1                                      N8800232
0233 P012D 18F6          JMP* OPRND5      NO,                        N8800233
0234 P012E 0C00 BUFAD    ENQ  0           SELECT PROPER OPERAND      N8800234
0235 P012F 485C          STQ* BFADD       BUFFER                     N8800235
0236 P0130 485C          STQ* BFADD1                                 N8800236
0237 P0131 C88D          LDA* CHRBF+5                                N8800237
0238 P0132 0FC1          ALS  1                                      N8800238
0239 P0133 0131          SAM  1                                      N8800239
0240 P0134 1811          JMP* BUFAD2                                 N8800240
0241 P0135 0FC1          ALS  1                                      N8800241
0242 P0136 0121          SAP  1                                      N8800242
0243 P0137 1837          JMP* PRNOUT      ILLEGAL CHAR. IN OPERAND   N8800243
0244 P0138 0FC1          ALS  1           FLD. PRINT ERROR MESSAGE   N8800244
0245 P0139 0127          SAP  BUFAD1-*-1                             N8800245
0246 P013A 0F4B          ARS  11                                     N8800246
0247 P013B A006          AND- H000F                                  N8800247
0248 P013C 09F4          INA  -$B                                    N8800248
0249 P013D 0131          SAM  1                                      N8800249
0250 P013E 1818          JMP* BUFAD4                                 N8800250
0251 P013F 0C02          ENQ  2           SET INDEX FOR CHAR. P-Z    N8800251
0252 P0140 1810          JMP* BUFAD3                                 N8800252
0253 P0141 0C01 BUFAD1   ENQ  1           SET INDEX FOR CHAR. A-O    N8800253
0254 P0142 0AFE          ENA  -1                                     N8800254
0255 P0143 6849          STA* BFADD1      ELIMINATE / CHAR.          N8800255
0256 P0144 180C          JMP* BUFAD3                                 N8800256
0257 P0145 0FC1 BUFAD2   ALS  1                                      N8800257
0258 P0146 0131          SAM  1                                      N8800258
0259 P0147 1827          JMP* PRNOUT      ILLEGAL CHAR.              N8800259
0260 P0148 0FC1          ALS  1                                      N8800260
0261 P0149 0131          SAM  1                                      N8800261
0262 P014A 1811          JMP* BUFAD5                                 N8800262
0263 P014B 0F4B          ARS  11                                     N8800263
0264 P014C A006          AND- H000F                                  N8800264
0265 P014D 09F5          INA  -10                                    N8800265
0266 P014E 0125          SAP  5                                      N8800266
0267 P014F 0C00          ENQ  0           SET INDEX FOR CHAR. 0-9    N8800267
0268 P0150 C800 BUFAD3   LDA  CHRBF+5                                N8800268
     P0151 FF6D
0269 P0152 0FC4          ALS  4                                      N8800269
0270 P0153 1844          JMP* BFCNT                                  N8800270
0271 P0154 09FC          INA  -3                                     N8800271
0272 P0155 0103          SAZ  3                                      N8800272
0273 P0156 0C07 BUFAD4   ENQ  7           SET INDEX FOR ODD CHARS.   N8800273
0274 P0157 0A00          ENA  0                                      N8800274
0275 P0158 183F          JMP* BFCNT                                  N8800275
0276 P0159 0C03          ENQ  3                                      N8800276
0277 P015A 18FC          JMP* *-3                                    N8800277
0278 P015B 0F4B BUFAD5   ARS  11                                     N8800278
0279 P015C A006          AND- H000F                                  N8800279
0280 P015D 09F5          INA  -10                                    N8800280
0281 P015E 0121          SAP  1                                      N8800281
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0282 P015F 18F6          JMP* BUFAD4                                          N8800282
0283 P0160 0113          SAN  3                                               N8800283
0284 P0161 0C04          ENQ  4              SET INDEX FOR CHAR. *            N8800284
0285 P0162 0A00          ENA  0                                               N8800285
0286 P0163 1834          JMP* BFCNT                                           N8800286
0287 P0164 09FE          INA  -1                                              N8800287
0288 P0165 0122          SAP  2                                               N8800288
0289 P0166 0C05          ENQ  5              SET INDEX FOR CHAR. +            N8800289
0290 P0167 18FA          JMP* *-5                                             N8800290
0291 P0168 09FD          INA  -2                                              N8800291
0292 P0169 0113          SAN  3                                               N8800292
0293 P016A 0C06          ENQ  6              SET INDEX FOR CHAR. -            N8800293
0294 P016B 0A00          ENA  0                                               N8800294
0295 P016C 182B          JMP* BFCNT                                           N8800295
0296 P016D 18E8          JMP* BUFAD4                                          N8800296
0297               PRNOUT FWRITE STDOCD,PNOUT1,ERRMGE,20,A,0,1,I,,1  **NSOS 4.0N8800297
0297 P016E 54F4
0297 P016F 4C01
0297 P0170 0176 P
     P0171 0000
0297 P0172 18FC
0297 P0173 0014
     P0174 0177 P
0298 P0175 14EA          JMP- (DISP)                                          N8800298
0299 P0176 14EA    PNOUT1 JMP- (DISP)                                          N8800299
0300 P0177 2020    ERRMGE ALF  20,  ILLEGAL CHARACTER WAS DETECTED             N8800300
     P0178 494C
     P0179 4C45
     P017A 4741
     P017B 4C20
     P017C 4348
     P017D 4152
     P017E 4143
     P017F 5445
     P0180 5220
     P0181 5741
     P0182 5320
     P0183 4445
     P0184 5445
     P0185 4354
     P0186 4544
     P0187 2020
     P0188 2020
     P0189 2020
     P018A 2020
0301 P018B 0000    BFADD  ADC  0                                             N8800301
0302 P018C 0000    BFADD1 ADC  0                                             N8800302
0303 P018D 0000    BFADD5 NUM  0                                             N8800303
0304 P018E 0000    PRGNAM NUM  0                                             N8800304
0305 P018F 01EE P  BFTAB  ADC  OUTBF     STARTING BUFFER ADDRESS'S           N8800305
0306 P0190 057C P         ADC  OUTBF1                                        N8800306
0307 P0191 0AD1 P         ADC  OUTBF2                                        N8800307
0308 P0192 0EBA P         ADC  OUTBF3                                        N8800308
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0309 P0193 0F15 P          ADC  OUTBF4                                          N8800309
0310 P0194 0F70 P          ADC  OUTBF5                                          N8800310
0311 P0195 0FCB P          ADC  OUTBF6                                          N8800311
0312 P0196 1026 P          ADC  OUTBF7                                          N8800312
0313 P0197 EAF7   BFCNT    LDQ* BFTAB,Q                                         N8800313
0314 P0198 48F2            STQ* BFADD                                           N8800314
0315 P0199 0F4C            ARS  12                                              N8800315
0316 P019A A006            AND- H000F                                           N8800316
0317 P019B 88F0            ADD* BFADD1                                          N8800317
0318 P019C 0FF0            LLS  16                                              N8800318
0319 P019D 0146   BFADD2   SQZ  BFADD3-*-1    CYCLE THROUGH TO THE             N8800319
0320 P019E 0A5B            ENA  91                                              N8800320
0321 P019F 68ED            STA* BFADD5                                          N8800321
0322 P01A0 88EA            ADD* BFADD         DESIRED BUFFER                    N8800322
0323 P01A1 68E9            STA* BFADD                                           N8800323
0324 P01A2 0DFE            INQ  -1                                              N8800324
0325 P01A3 18F9            JMP* BFADD2                                          N8800325
0326 P01A4 6800   BFADD3   STA  SECAD                                           N8800326
     P01A5 0F05
0327 P01A6 095A            INA 90             CHECK THE 91ST WORD OF THE        N8800327
0328 P01A7 68E4            STA* BFADD1        DESIRED BUFFER FOR NEXT           N8800328
0329 P01A8 0A0A            ENA  10            AVAILABLE STORAGE LOCATION        N8800329
0330 P01A9 2CE2            MUI* (BFADD1)                  **MSOS 4.0N8800330
0331 P01AA 88E0            ADD* BFADD                                           N8800331
0332 P01AB 68DF            STA* BFADD                                           N8800332
0333 P01AC 0C09            ENQ  9                                               N8800333
0334 P01AD CA00   BFADD4   LDA  CHRBF,Q                                         N8800334
     P01AE FF0B
0335 P01AF 6EDB            STA* (BFADD),Q     * OPERAND TO THE PROPER           N8800335
0336 P01B0 0DFE            INQ  -1                                              N8800336
0337 P01B1 0171            SQM  DONE          BUFFER                            N8800337
0338 P01B2 18FA            JMP* BFADD4                                          N8800338
0339 P01B3 DCD8   DONE     RAO* (BFADD1)                                        N8800339
0340 P01B4 CCD7            LDA* (BFADD1)      BUFFER FULL                       N8800340
0341 P01B5 09F6            INA  -9                                              N8800341
0342 P01B6 0132            SAM  2                                               N8800342
0343 P01B7 1800            JMP  WRTSC         YES,OUTPUT BUFFER TO MS.          N8800343
     P01B8 0EF8
0344 P01B9 C8D4            LDA* PRGNAM        NO,IS THIS THE FIRST LEGAL        N8800344
0345 P01BA 0111            SAN  1             RECORD                            N8800345
0346 P01BB 1818            JMP* DONE2+2                                         N8800346
0347 P01BC 0A0A            ENA  10                                              N8800347
0348 P01BD 60FF            STA- I                                               N8800348
0349 P01BE 0C00            ENQ  0             YES, OUTPUT THE NAM CARD          N8800349
0350 P01BF 48CE            STQ* PRGNAM                                          N8800350
0351 P01C0 C900   DONE1    LDA  BUFF,I                                          N8800351
     P01C1 FF02
0352 P01C2 E8CB            LDQ* PRGNAM                                          N8800352
0353 P01C3 6A12            STA* TITLE,Q                                         N8800353
0354 P01C4 0DE6            INQ  -25                                             N8800354
0355 P01C5 0143            SQZ  3                                               N8800355
0356 P01C6 D0FF            RAO- I                                               N8800356
0357 P01C7 D8C6            RAO* PRGNAM                                          N8800357
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0358 P01C8 18F7          JMP* DONE1                                          N8800358
0359                     FWRITE STDOUT,DONE2,TITLE,25,A,0,1,I,,1   **MSOS 4.0N8800359
0359 P01C9 54F4
0359 P01CA 4C01
0359 P01CB 01D1 P
     P01CC 0000
0359 P01CD 18FB
0359 P01CE 0019
     P01CF 01D5 P
0360 P01D0 14EA          JMP- (DISP)                                         N8800360
0361 P01D1 0A00   DONE2  ENA  0                                              N8800361
0362 P01D2 688B          STA* PRGNAM                                         N8800362
0363 P01D3 1800          JMP  BGNRD+3                                        N8800363
     P01D4 FE2E
0364 P01D5 2020   TITLE  ALF  25,                                            N8800364
     P01D6 2020
     P01D7 2020
     P01D8 2020
     P01D9 2020
     P01DA 2020
     P01DB 2020
     P01DC 2020
     P01DD 2020
     P01DE 2020
     P01DF 2020
     P01E0 2020
     P01E1 2020
     P01E2 2020
     P01E3 2020
     P01E4 2020
     P01E5 2020
     P01E6 2020
     P01E7 2020
     P01E8 2020
     P01E9 2020
     P01EA 2020
     P01EB 2020
     P01EC 2020
     P01ED 2020
0365 P01EE 038E   OUTBF  BZS  OUTBF(910)                                     N8800365
0366 P057C 0555   OUTBF1 BZS  OUTBF1(1365)                                   N8800366
0367 P0AD1 03E9   OUTBF2 BZS  OUTBF2(1001)                                   N8800367
0368 P0EBA 005B   OUTBF3 BZS  OUTBF3(91)                                     N8800368
0369 P0F15 005B   OUTBF4 BZS  OUTBF4(91)                                     N8800369
0370 P0F70 005B   OUTBF5 BZS  OUTBF5(91)                                     N8800370
0371 P0FCB 005B   OUTBF6 BZS  OUTBF6(91)                                     N8800371
0372 P1026 005B   OUTBF7 BZS  OUTBF7(91)                                     N8800372
0373 P1081 0029   SAT    BZS  SAT(41)                             **MSOS 4.0N8800373
0374 P10AA 0000   SECAD  ADC  0                                              N8800374
0375 P10AB 0000          NUM  0                                              N8800375
0376 P10AC 0000   SECAD1 ADC  0                                              N8800376
0377 P10AD 0000   SECAD2 NUM  0                                              N8800377
0378 P10AE 0000   LSTRD  NUM  0                                              N8800378
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0379 P10AF 0001   WRTSC2 NUM  1                                          **MSOS 4.0N8800379
0380 P10B0 C800   WRTSC  LDA  BFADD                                                N8800380
     P10B1 F0D9
0381 P10B2 09AF          INA  -80                                                   N8800381
0382 P10B3 9800          SUB  BFTAB                                                 N8800382
     P10B4 F0DA
0383 P10B5 0C00          ENQ  0                                                     N8800383
0384 P10B6 3800          DVI  BFADD5                                                N8800384
     P10B7 F0D5
0385 P10B8 0822          TRA  Q              STORE CONTENTS OF SAT FOR              N8800385
0386 P10B9 CAC7          LDA* SAT,Q          THIS CHAR. IN WRD.90 OF BF             N8800386
0387 P10BA 6C00          STA  (BFADD1)                                              N8800387
     P10BB F0D0
0388 P10BC C8F2          LDA* WRTSC2         UPDATE THE SAT TABLE                   N8800388
0389 P10BD 6AC3          STA* SAT,Q                                                 N8800389
0390 P10BE C8EB   WRTSC1 LDA*  SECAD                                        **MSOS 4.0N8800390
0391 P10BF 680B          STA*  WRIT1+6                                      **MSOS 4.0N8800391
0392 P10C0 C8EA          LDA* SECAD+1                                       **MSOS 4.0N8800392
0393 P10C1 680A          STA*  WRIT1+7                                      **MSOS 4.0N8800393
0394 P10C2 C8EC          LDA* WRTSC2                                        **MSOS 4.0N8800394
0395 P10C3 6809          STA*  WRIT1+8                                      **MSOS 4.0N8800395
0396              WRIT1  FWRITE  STDSCR,WRTSC3,,91,A,0,0,I,,1               **MSOS 4.0N8800396
0396 P10C4 54F4
0396 P10C5 4C00
0396 P10C6 10CE P
     P10C7 0000
0396 P10C8 18B3
0396 P10C9 005B
     P10CA 0000
0397 P10CB 0000          ADC  0                                             **MSOS 4.0N8800397
0398 P10CC 0000          ADC  0                                             **MSOS 4.0N8800398
0399 P10CD 14EA          JMP- (DISP)                                                N8800399
0400 P10CE D8E0   WRTSC3 RAO* WRTSC2         UPDATE SECTOR ADDRESS                  N8800400
0401 P10CF C8DE          LDA* LSTRD          HAS ENDCARD BEEN READ                  N8800401
0402 P10D0 0115          SAN  5                                                     N8800402
0403 P10D1 0A00          ENA  0              CLEAR WORD 90 OF THE WRITTEN BUFFER    N8800403
0404 P10D2 6C00          STA  (BFADD1)                                              N8800404
     P10D3 F0B8
0405 P10D4 1800          JMP  BGNRD#3                                               N8800405
     P10D5 EF2D
0406 P10D6 D8D6   WRTSC4 RAO* SECAD2         UPDATE THE SECTOR COUNT                N8800406
0407 P10D7 C8D5          LDA* SECAD2                                                N8800407
0408 P10D8 09D6          INA  -41                                                   N8800408
0409 P10D9 0131          SAM  1                                                     N8800409
0410 P10DA 1814          JMP* BGSRT                                                 N8800410
0411 P10DB 0A5B          ENA  91                                                    N8800411
0412 P10DC 88CD          ADD* SECAD                                                 N8800412
0413 P10DD 68CC          STA* SECAD                                                 N8800413
0414 P10DE 0A5A   WRTSC5 ENA  90                                                    N8800414
0415 P10DF 88CA          ADD* SECAD                                                 N8800415
0416 P10E0 68CB          STA* SECAD1                                                N8800416
0417 P10E1 CCCA          LDA* (SECAD1)       DOES THIS BUFFER CONTAIN               N8800417
0418 P10E2 0111          SAN  1              CURRENT DATA                           N8800418
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0419 P10E3 18F2          JMP* WRTSC4        NO,                                  N8800419
0420 P10E4 20046         MUI- A                                                  N8800420
0421 P10E5 0822          TRA  Q                                                  N8800421
0422 P10E6 C042          LDA- H7FFF         MARK END OF CURRENT DATA             N8800422
0423 P10E7 6EC2          STA* (SECAD),Q     IN THIS BUFFER                       N8800423
0424 P10E8 F8C4          LDQ* SECAD2                                             N8800424
0425 P10E9 CA97          LDA* SAT,Q         UPDATE THE SECTOR TABLE              N8800425
0426 P10EA 6CC1          STA* (SECAD1)                                           N8800426
0427 P10EB C8C3          LDA* WRTSC2                                             N8800427
0428 P10EC 6A94          STA* SAT,Q         ENTRY FOR THIS CHAR.                 N8800428
0429 P10ED 1800          JMP* WRTSC1                                             N8800429
0430 P10EE 0C00 BGSRT    ENQ  0                                                  N8800430
0431 P10EF 4800          STQ  STCNT                                  **MSOS 4.0N8800431
     P10F0 0082
0432 P10F1 C800 BGSRT1   LDA  STPRG                                  **MSOS 4.0N8800432
     P10F2 007C
0433 P10F3 687C          STA* STADD                                              N8800433
0434 P10F4 C000          LDA  =XSRTLG                                **MSOS 4.0N8800434
     P10F5 0E93
0435 P10F6 687B          STA* STADD2                                 **MSOS 4.0N8800435
0436 P10F7 E87B          LDQ* STCNT         BEGIN RELOAD OF EACH OPER-           N8800436
0437 P10F8 CA88          LDA* SAT,Q         AND TYPE FOR SORTING                 N8800437
0438 P10F9 0102          SAZ  2                                                  N8800438
0439 P10FA 6873          STA* STADD1                                             N8800439
0440 P10FB 180B          JMP* DSKRD                                              N8800440
0441 P10FC D876 BGSRTA   RAO* STCNT                                  **MSOS 4.0N8800441
0442 P10FD C875          LDA* STCNT                                              N8800442
0443 P10FE 09D6          INA  -41           HAVE ALL CHAR.TYPES BEEN             N8800443
0444 P10FF 0135          SAM  BGSRT2                                             N8800444
0445 P1100 0A01          ENA  1                                                  N8800445
0446 P1101 68AC          STA* LSTRD                                              N8800446
0447 P1102 C87C          LDA* LIST                                               N8800447
0448 P1103 1800          JMP  SORT4D+3                                           N8800448
     P1104 00C7
0449 P1105 18EB BGSRT2   JMP* BGSRT1        NO                                  N8800449
0450 P1106 C869 DSKRD    LDA* STADD                                  **MSOS 4.0N8800450
0451 P1107 680B          STA* DSKRED+6                               **MSOS 4.0N8800451
0452 P1108 C868          LDA* STADD+1                                **MSOS 4.0N8800452
0453 P1109 680A          STA* DSKRED+7                               **MSOS 4.0N8800453
0454 P110A C863          LDA* STADD1                                 **MSOS 4.0N8800454
0455 P110B 6809          STA* DSKRED+8                               **MSOS 4.0N8800455
0456                DSKRED   FREAD  STDSCR,DSKRD1,,91,A,0,0,I,,1     **MSOS 4.0N8800456
0456 P110C 54F4
0456 P110D 4800
0456 P110E 1116 P
     P110F 0000
0456 P1110 18B3
0456 P1111 005B
     P1112 0000
0457 P1113 0000          ADC  0                                      **MSOS 4.0N8800457
0458 P1114 0000          ADC  0                                      **MSOS 4.0N8800458
0459 P1115 14EA          JMP- (DISP)                                             N8800459
0460 P1116 C800 DSKRD1   LDA  LSTRD         LAST SECTOR WRITTEN FOR              **MSOS 4.0N8800460
     P1117 FF96
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0461 P1118 0111          SAN  1          THIS CHAR.                          N8800461
0462 P1119 1818          JMP* DSKRD2      NO                                 N8800462
0463 P111A 0C00          ENQ  0                                              N8800463
0464 P111B CA00 DSKRD3   LDA  OUTBF,Q     CHECK FOR LAST USEFUL    **MSOS 4.0N8800464
     P111C F0D1
0465 P111D B042          EOR- H7FFF       RECORD TO BE SORTED                N8800465
0466 P111E 0107          SAZ  DSKRD4                                         N8800466
0467 P111F 0D01          INQ  1                                              N8800467
0468 P1120 0814          IRQ  A                                              N8800468
0469 P1121 09AE          INA  -81                                            N8800469
0470 P1122 0112          SAN  2           DID LAST SECTOR CONTAIN            N8800470
0471 P1123 0D09          INQ  9           EXACTLY 90 WORDS                   N8800471
0472 P1124 1802          JMP* DSKRD4      YES                                N8800472
0473 P1125 18F5          JMP* DSKRD3                                         N8800473
0474 P1126 F848 DSKRD4   ADQ* STPRG                                         N8800474
0475 P1127 4848          STQ* STADD                                         N8800475
0476 P1128 0A00          ENA  0                                             N8800476
0477 P1129 6800          STA  LSTRD       CLEAR LAST SECTOR FLAG            N8800477
     P112A FF83
0478 P112B C800          LDA  OUTBF+90    GET NEXT SECTOR NUMBER   **MSOS 4.0N8800478
     P112C F11B
0479 P112D 0111          SAN  1           NEXT SECTOR = ZERO                 N8800479
0480 P112E 1816          JMP* SORT                                           N8800480
0481 P112F 683E          STA* STADD1      NO                                 N8800481
0482 P1130 18D5          JMP* DSKRD                                          N8800482
0483 P1131 0A5A DSKRD2   ENA  90                                            N8800483
0484 P1132 883D          ADD* STADD                                         N8800484
0485 P1133 683C          STA* STADD                                         N8800485
0486 P1134 CC3B          LDA* (STADD)     LAST SECTOR WRITTEN FOR           N8800486
0487 P1135 0111          SAN  1           THIS CHAR                         N8800487
0488 P1136 180E          JMP* SORT                                          N8800488
0489 P1137 6836          STA* STADD1                                        N8800489
0490 P1138 C837          LDA* STADD                                         N8800490
0491 P1139 9835          SUB* STPRG       ONE PASS SORT CAPACITY            N8800491
0492 P113A 9837          SUB* STADD2      REACHED                           N8800492
0493 P113B 0137          SAM  DSKRD5                                        N8800493
0494 P113C CC33          LDA* (STADD)     YES,SETUP FOR MULTI-PASS          N8800494
0495 P113D E835          LDQ* STCNT       SORT                              N8800495
0496 P113E 6A00          STA  SAT,Q                                         N8800496
     P113F FF41
0497 P1140 0DFE          INQ  -1                                            N8800497
0498 P1141 4831          STQ* STCNT                                         N8800498
0499 P1142 1802          JMP* SORT                                          N8800499
0500 P1143 18C2 DSKRD5   JMP* DSKRD       NO,GET NEXT SECTOR                N8800500
0501 P1144 0C00 SORT     ENQ  0                                             N8800501
0502 P1145 40FF          STQ- I                                             N8800502
0503 P1146 0A5A          ENA  90                                            N8800503
0504 P1147 6820          STA* BFFL1                                         N8800504
0505 P1148 C827          LDA* STADD       DETERMINE NUMBER OF WORDS         N8800505
0506 P1149 0905          INA  5                                             N8800506
0507 P114A 9824          SUB* STPRG                                         N8800507
0508 P114B 682B          STA* SRTAD                                         N8800508
0509 P114C 3046          DVI- A           TO BE SORTED                      N8800509
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0510 P114D 682A          STA* SRTAD1                                                    N8800510
0511 P114E 0C00          ENQ  0                                                         N8800511
0512 P114F 0005          INQ  5                                                         N8800512
0513 P1150 CA00   SORT1  LDA  OUTBF,Q      PICK UP FIRST SORT ENTRY                   **MSOS 4.0N8800513
     P1151 F09C
0514 P1152 0126          SAP  SORT2        PREVIOUS WINNER GET NEXT                       N8800514
0515 P1153 0D0A          INQ  10           RECORD                                         N8800515
0516 P1154 0814          TRQ  A                                                           N8800516
0517 P1155 9821          SUB* SRTAD                                                       N8800517
0518 P1156 0111          SAN  1                                                           N8800518
0519 P1157 1847          JMP* SORT4                                                       N8800519
0520 P1158 18F7          JMP* SORT1                                                       N8800520
0521 P1159 481F   SORT2  STQ* SAVE         SAVE ADDRESS OF THE WINNER                     N8800521
0522 P115A 681F          STA* SAVE1        SAVE THE WINNER                                N8800522
0523 P115B 0D0A   SORT3  INQ  10                                                          N8800523
0524 P115C 0814          TRQ  A                                                           N8800524
0525 P115D 681D          STA* SAVE3        SAVE ADDRESS OF OPONENT                        N8800525
0526 P115E 9818          SUB* SRTAD                                                       N8800526
0527 P115F 0111          SAN  1                                                           N8800527
0528 P1160 183E          JMP* SORT4                                                       N8800528
0529 P1161 CA00          LDA  OUTBF,Q                                                 **MSOS 4.0N8800529
     P1162 F08B
0530 P1163 0121          SAP  1            OPONENT A PREVIOUS WINNER                      N8800530
0531 P1164 18F6          JMP* SORT3        YES GET NEXT OPONENT                           N8800531
0532 P1165 9814          SUB* SAVE1        COMPARE THE TWO VALUES                         N8800532
0533 P1166 0123          SAP  3                                                           N8800533
0534 P1167 CA00          LDA  OUTBF,Q                                                 **MSOS 4.0N8800534
     P1168 F085
0535 P1169 18EF          JMP* SORT2                                                       N8800535
0536 P116A 0111          SAN  1                                                           N8800536
0537 P116B 1815          JMP* CMPR         = VALUES CONT. THE COMPARE                     N8800537
0538 P116C 18EE          JMP* SORT3        WINNER CONTINUES                               N8800538
0539       0E93          EQU  SRTLG(OUTBF7-OUTBF*91)                                  **MSOS 4.N8800539
0540 P116D 0001   STADD1 NUM  1                                                       **MSOS 4.0N8800540
0541 P116E 01EE P STPRG  ADC  OUTBF                                                  **MSOS 4.0N8800541
0542 P116F 0000   STADD  ADC  0                                                           N8800542
0543 P1170 0000          NUM  0                                                           N8800543
0544 P1171 0000   STADD2 NUM  0                                                       **MSOS 4.0N8800544
0545 P1172 0000   STCNT  NUM  0                                                           N8800545
0546 P1173 0000   BFFL   NUM  0                                                           N8800546
0547 P1174 0000   BFFL1  NUM  0                                                           N8800547
0548 P1175 0000   BFFL2  NUM  0                                                           N8800548
0549 P1176 0000   SRTAD  NUM  0                                                           N8800549
0550 P1177 0000   SRTAD1 NUM  0                                                           N8800550
0551 P1178 0000   SAVE   NUM  0                                                           N8800551
0552 P1179 0000   SAVE1  NUM  0                                                           N8800552
0553 P117A 0000   SAVE3  NUM  0                                                           N8800553
0554 P117B 0000   SAVEA  NUM  0                                                           N8800554
0555 P117C 0000   SAVE3A NUM  0                                                           N8800555
0556 P117D 0000   SAVE3B NUM  0                                                           N8800556
0557 P117E 1026 P LIST   ADC  OUTBF7                                                      N8800557
0558 P117F 1026 P ENDBF7 ADC  OUTBF7                                                      N8800558
0559 P1180 C8F7   CMPR   LDA* SAVE          COMPARE THE LAST FOUR                         N8800559
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0560 P1181 68F9          STA* SAVEA          WORDS OF THE OPERAND TO                    N8800560
0561 P1182 C8F7          LDA* SAVE3          DETERMINE A WINNER                         N8800561
0562 P1183 68F8          STA* SAVE3A                                                    N8800562
0563 P1184 0904          INA  4                                                         N8800563
0564 P1185 68F7          STA* SAVE3B                                                    N8800564
0565 P1186 E8F4 CMPR1    LDQ* SAVEA                                                     N8800565
0566 P1187 0D01          INQ  1                                                         N8800566
0567 P1188 48F2          STQ* SAVEA                                                     N8800567
0568 P1189 CA00          LDA  OUTBF,Q                                **MSOS 4.0N8800568
     P118A F063
0569 P118B E8F0          LDQ* SAVE3A                                                    N8800569
0570 P118C 0D01          INQ  1                                                         N8800570
0571 P118D 48EE          STQ* SAVE3A                                                    N8800571
0572 P118E 9A00          SUB  OUTBF,Q                                **MSOS 4.0N8800572
     P118F F05E
0573 P1190 0122          SAP  2                                                         N8800573
0574 P1191 E8E8          LDQ* SAVE3          WINNER CONTINUES                           N8800574
0575 P1192 18C8          JMP* SORT3                                                     N8800575
0576 P1193 0104          SAZ  4                                                         N8800576
0577 P1194 E8E5          LDQ* SAVE3                                                     N8800577
0578 P1195 CA00          LDA  OUTBF,Q        OPONENT CONTINUES                **MSOS 4.0N8800578
     P1196 F057
0579 P1197 18C1          JMP* SORT2                                                     N8800579
0580 P1198 0814          TRQ  A                                                         N8800580
0581 P1199 98E3          SUB* SAVE3B         HAVE ALL THE OPERAND WORDS                 N8800581
0582 P119A 0101          SAZ  1              BEEN COMPARED                              N8800582
0583 P119B 18EA          JMP* CMPR1                                                     N8800583
0584 P119C E8DD          LDQ* SAVE3          BOTH VALUES ARE EQUAL SAVE                 N8800584
0585 P119D 18BD          JMP* SORT3          THE WINNER + CONT. SEARCH                  N8800585
0586 P119E 0A0A SORT4    ENA  10                                                        N8800586
0587 P119F 80FF          ADD- I                                                         N8800587
0588 P11A0 68D4          STA* BFFL2                                                     N8800588
0589 P11A1 98D2          SUB* BFFL1          OUTPUT BUFFER FULL                         N8800589
0590 P11A2 0112          SAN  2                                                         N8800590
0591 P11A3 0A01          ENA  1              YES                                        N8800591
0592 P11A4 68CE          STA* BFFL                                                      N8800592
0593 P11A5 E8D2          LDQ* SAVE                                                      N8800593
0594 P11A6 0DFA          INQ  -5                                                        N8800594
0595 P11A7 CA00 SORT4A   LDA  OUTBF,Q                                **MSOS 4.0N8800595
     P11A8 F045
0596 P11A9 6900          STA  OUTBF7,I                                                  N8800596
     P11AA FE7B
0597 P11AB D0FF          RAO- I                                                         N8800597
0598 P11AC C0FF          LDA- I                                                         N8800598
0599 P11AD 98C7          SUB* BFFL2                                                     N8800599
0600 P11AE 0111          SAN  1                                                         N8800600
0601 P11AF 1803          JMP* SORT4B                                                    N8800601
0602 P11B0 0D01          INQ  1                                                         N8800602
0603 P11B1 18F5          JMP* SORT4A                                                    N8800603
0604 P11B2 E8C5 SORT4B   LDQ* SAVE                                                      N8800604
0605 P11B3 C012          LDA- HFFFF          SET WINNER NEGATIVE                        N8800605
0606 P11B4 6A00          STA  OUTBF,Q                                **MSOS 4.0N8800606
     P11B5 F038
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0607 P11B6 C8BC          LDA* BFFL                                          N8800607
0608 P11B7 0116          SAN  SORT4C                                        N8800608
0609 P11B8 09FE          INA  -1                                            N8800609
0610 P11B9 88BD          ADD* SRTAD1        HAVE ALL OPERANDS OF THIS       N8800610
0611 P11BA 68BC          STA* SRTAD1        CHAR. TYPE BEEN SORTED          N8800611
0612 P11BB 0111          SAN  1                                             N8800612
0613 P11BC 1802          JMP* SORT4C                                        N8800613
0614 P11BD 1890          JMP* SORT1-2                                       N8800614
0615 P11BE C8BF  SORT4C  LDA*  LIST                          **MSOS 4.0N8800615
0616 P11BF 6807          STA*  SRT4C+6                       **MSOS 4.0N8800616
0617             SRT4C   FWRITE STDOUT,SORT4D,,10,A,0,0,I,,1  **MSOS 4.0N8800617
0617 P11C0 54F4
0617 P11C1 4C00
0617 P11C2 11C8 P
     P11C3 0000
0617 P11C4 18FB
0617 P11C5 000A
     P11C6 0000
0618 P11C7 14EA          JMP- (DISP)                                        N8800618
0619 P11C8 C046  SORT4D  LDA- A                                             N8800619
0620 P11C9 88B4          ADD* LIST          OUTPUT SORTED OPERANDS TO       N8800620
0621 P11CA 68B3          STA* LIST          THE PRINTER                     N8800621
0622 P11CB 98B3          SUB* ENDBF7                                        N8800622
0623 P11CC 98A8          SUB* BFFL2                                         N8800623
0624 P11CD 0101          SAZ  1                                             N8800624
0625 P11CE 1818          JMP* SORT4F                                        N8800625
0626 P11CF C8AF          LDA* ENDBF7                                        N8800626
0627 P11D0 68AD          STA* LIST                                          N8800627
0628 P11D1 C800          LDA  LSTRD         HAVE ALL OPERAND TYPES          N8800628
     P11D2 FEDB
0629 P11D3 0101          SAZ  1             BEEN SORTED AND OUTPUT          N8800629
0630 P11D4 1813          JMP* ENDSRT                                        N8800630
0631 P11D5 0A00          ENA  0             NO                              N8800631
0632 P11D6 60FF          STA- I                                             N8800632
0633 P11D7 689B          STA* BFFL                                          N8800633
0634 P11D8 689C          STA* BFFL2                                         N8800634
0635 P11D9 C89D          LDA* SRTAD1                                        N8800635
0636 P11DA 0106          SAZ  SORT4E        SORT OF 90 WORDS OR LESS        N8800636
0637 P11DB 0AFE          ENA  -1                                            N8800637
0638 P11DC 889A          ADD* SRTAD1        ALL OPERANDS OF THIS CHAR.      N8800638
0639 P11DD 0103          SAZ  SORT4E        TYPE SORTED          45*780     N8800639
0640 P11DE 6898          STA* SRTAD1                                        N8800640
0641 P11DF 1800          JMP  SORT1-2                                       N8800641
     P11E0 FF6D
0642 P11E1 0A01  SORT4E  ENA  1                                             N8800642
0643 P11E2 6800          STA  LSTRD                                         N8800643
     P11E3 FECA
0644 P11E4 1800          JMP   BGSRTA                        **MSOS 4.0N8800644
     P11E5 FF16
0645 P11E6 18D7  SORT4F  JMP* SORT4C                                        N8800645
0646 P11E7 0191  ENDSRT  SWN  1   SWITCH SET EXIT IF NOT CONTINUE           N8800646
0647 P11E8 14EA          JMP- (DISP) END OF SORT                            N8800647
0648             *ZERO OUT BUFFERS AND SAT TABLE                 **MSOS 4.0N8800648
```

```
0649 P11E9 E000          LDQ  =N3776                    **MSOS 4.0N8800649
     P11EA 0EC0
0650 P11EB 0A00          ENA  0                         **MSOS 4.0N8800650
0651 P11EC 6A00  ZBUFF   STA   OUTBF,Q                  **MSOS 4.0N8800651
     P11ED F000
0652 P11EE 0142          SQZ  2                                   N8800652
0653 P11EF 0DFE          INQ  -1                        **MSOS 4.0N8800653
0654 P11F0 13FB          JMP* ZBUFF                     **MSOS 4.0N8800654
0655 P11F1 0C0E          ENQ  14                        **MSOS 4.0N8800655
0656 P11F2 6A00  ZBUFF1  STA   STADD,Q                  **MSOS 4.0N8800656
     P11F3 FF7B
0657 P11F4 0142          SQZ  2                                   N8800657
0658 P11F5 0DFE          INQ  -1                        **MSOS 4.0N8800658
0659 P11F6 18FB          JMP* ZBUFF1                    **MSOS 4.0N8800659
0660 P11F7 6800          STA  CHRFLG                    **MSOS 4.0N8800660
     P11F8 EEBE
0661 P11F9 6800          STA  COUNT                     **MSOS 4.0N8800661
     P11FA EEBE
0662 P11FB 6800          STA  BFADD                     **MSOS 4.0N8800662
     P11FC EF8E
0663 P11FD 6800          STA  BFADD1                    **MSOS 4.0N8800663
     P11FE EF8D
0664 P11FF 6800          STA  BFADD5                    **MSOS 4.0N8800664
     P1200 EF8C
0665 P1201 0A01          ENA  1                                   N8800665
0666 P1202 6800          STA  STADD1                    **MSOS 4.0N8800666
     P1203 FF69
0667 P1204 6800          STA  WRTSC2                    **MSOS 4.0N8800667
     P1205 FEA9
0668 P1206 1800          JMP   BGNRD                    **MSOS 4.0N8800668
     P1207 EDF8
0669       0000 P        EQU  OPSORT(BGNRD)                       N8800669
0670                     END  BGNRD                               N8800670

PGM=  1208 (  4616)   COM = 0000 (     0)   DAT = 0000 (     0)
```

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

DEF.LINE	NAME	VALUE		REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	0074, 0094, 0104, 0115, 0128, 0149, 0164, 0197, 0215, 0220, 0225, 0348, 0356, 0502, 0587, 0597 0598, 0632
0010	STDINP	00F9	(000249)	0029
0011	STDSCR	00B3	(000179)	0396, 0456
0012	STDOUT	00FB	(000251)	0359, 0617
0013	STDOCD	00FC	(000252)	0297
0014	DISP	00EA	(000234)	0030, 0298, 0299, 0360, 0399, 0459, 0618, 0647
0015	BIT2	0024	(000036)	0186
0016	BIT6	0028	(000040)	0100
0017	BIT14	0030	(000048)	0049, 0082, 0107
0018	HFF00	001A	(000026)	0053, 0057, 0060, 0070, 0076, 0081, 0106, 0207
0019	H00FF	000A	(000010)	0043, 0088, 0099, 0201
0020	H000F	0006	(000006)	0185, 0247, 0264, 0279, 0316
0021	H7FFF	0042	(000066)	0422, 0465
0022	HFFFF	0012	(000018)	0605
0023	HF000	001E	(000030)	
0024	A	0046	(000070)	0420, 0509, 0619
0539	SRTLG	0E93	(003731)	0434

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0008	OPSORT	0000	0008
0009	BGNRD	0000	0009, 0034, 0038, 0046, 0063, 0079, 0363, 0405, 0668, 0669
0031	NUMCK	000E	0029
0047	NUMCK1	0024	0041
0080	NXTWRD	0050	0095
0096	OPCDSR	0060	0086, 0093, 0111, 0142
0104	CNTSR	0068	0097
0112	FLDCK	0070	0101, 0108
0115	ENDCD	0074	
0130	COMP	0083	0125, 0159
0137	COMP1	008F	0129
0139	COMP2	0091	0171
0143	CNTSR1	0095	0119
0172	EN	00B2	0121, 0154
0173	ND	00B3	0157
0174	DBLK	00B4	0124
0175	BLANKS	00B5	0032
0176	ASTKS	00B6	0036
0177	CHRFLG	00B7	0085, 0092, 0096, 0103, 0110, 0117, 0144, 0170, 0199, 0660
0178	OPFLG	00B8	0028, 0112, 0116, 0141, 0196
0179	COUNT	00B9	0223, 0228, 0230, 0661
0180	CHRBF	00BA	0050, 0054, 0059, 0066, 0067, 0072, 0127, 0138, 0148, 0152, 0153, 0163, 0167, 0168, 0183, 0214 0229, 0237, 0268, 0334
0181	BUFF	00C4	0029, 0031, 0035, 0039, 0047, 0051, 0055, 0058, 0061, 0064, 0068, 0075, 0080, 0087, 0098, 0105 0120, 0123, 0126, 0137, 0145, 0150, 0156, 0160, 0165, 0190, 0193, 0206, 0213, 0224, 0226, 0351
0182	MCROCK	00F6	0139, 0188
0199	OPRND	010A	0114
0206	LFTPN	0111	0200
0211	LFTPN1	0117	0209
0212	OPRND1	0118	0210, 0218, 0221
0220	OPRND2	0120	0204
0222	OPRND4	0122	0205, 0211
0224	OPRND5	0124	0233
0234	BUFAD	012F	0219
0253	BUFAD1	0141	0245
0257	BUFAD2	0145	0240
0268	BUFAD3	0150	0252, 0256
0273	BUFAD4	0156	0250, 0282, 0296
0278	BUFAD5	015B	0262
0297	PRNOUT	016E	0243, 0259
0299	PNOUT1	0176	0297

0300	ERRMGE	0177	0297
0301	BFADD	018B	0235, 0314, 0322, 0323, 0331, 0332, 0335, 0380, 0662
0302	BFADD1	018C	0236, 0255, 0317, 0328, 0330, 0339, 0340, 0387, 0404, 0663
0303	BFADD5	018D	0321, 0384, 0664
0304	PRGNAM	018E	0026, 0040, 0344, 0350, 0352, 0357, 0362
0305	BFTAB	018F	0134, 0313, 0382
0313	BFCNT	0197	0270, 0275, 0286, 0295
0319	BFADD2	019D	0325
0326	BFADD3	01A4	0319
0334	BFADD4	01AD	0338
0339	DONE	01B3	0337
0351	DONE1	01C0	0198, 0358
0361	DONE2	01D1	0346, 0359
0364	TITLE	01D5	0191, 0194, 0353, 0359
0365	OUTBF	01EE	0305, 0464, 0478, 0513, 0529, 0534, 0539, 0541, 0568, 0572, 0578, 0595, 0606, 0651
0366	OUTBF1	057C	0306
0367	OUTBF2	0AD1	0307
0368	OUTBF3	0EBA	0308
0369	OUTBF4	0F15	0309
0370	OUTBF5	0F70	0310
0371	OUTBF6	0FCB	0311
0372	OUTBF7	1026	0312, 0539, 0557, 0558, 0596
0373	SAT	1081	0386, 0389, 0425, 0428, 0437, 0496
0374	SECAD	10AA	0135, 0326, 0390, 0392, 0412, 0413, 0415, 0423
0376	SECAD1	10AC	0416, 0417, 0426
0377	SECAD2	10AD	0133, 0406, 0407, 0424
0378	LSTRD	10AE	0131, 0401, 0446, 0460, 0477, 0628, 0643
0379	WRTSC2	10AF	0388, 0394, 0400, 0427, 0667
0380	WRTSC	10B0	0343
0390	WRTSC1	10BE	0429
0396	WRIT1	10C4	0391, 0393, 0395
0400	WRTSC3	10CE	0396
0406	WRTSC4	10D6	0419
0414	WRTSC5	10DE	0136
0430	BGSRT	10EF	0410
0432	BGSRT1	10F1	0449
0441	BGSRTA	10FC	0644
0449	BGSRT2	1105	0444
0450	DSKRD	1106	0440, 0482, 0500
0456	DSKRED	110C	0451, 0453, 0455
0460	DSKRD1	1116	0456
0464	DSKRD3	111B	0473
0474	DSKRD4	1126	0466, 0472
0483	DSKRD2	1131	0462
0500	DSKRD5	1143	0493
0501	SORT	1144	0480, 0488, 0499
0513	SORT1	1150	0520, 0614, 0641
0521	SORT2	1159	0514, 0535, 0579
0523	SORT3	115B	0531, 0538, 0575, 0585
0540	STADD1	116D	0439, 0454, 0481, 0489, 0666
0541	STPRG	116E	0432, 0474, 0491, 0507
0542	STADD	116F	0433, 0450, 0452, 0475, 0484, 0485, 0486, 0490, 0494, 0505, 0656
0544	STADD2	1171	0435, 0492

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0545    STCNT    1172          0431, 0436, 0441, 0442, 0495, 0498
0546    BFFL     1173          0592, 0607, 0633
0547    BFFL1    1174          0504, 0589
0548    BFFL2    1175          0588, 0599, 0623, 0634
0549    SRTAD    1176          0508, 0517, 0526
0550    SRTAD1   1177          0510, 0610, 0611, 0635, 0638, 0640
0551    SAVE     1178          0521, 0559, 0593, 0604
0552    SAVE1    1179          0522, 0532
0553    SAVE3    117A          0525, 0561, 0574, 0577, 0584
0554    SAVEA    117B          0560, 0565, 0567
0555    SAVE3A   117C          0562, 0569, 0571
0556    SAVE3B   117D          0564, 0581
0557    LIST     117E          0447, 0615, 0620, 0621, 0627
0558    ENDBF7   117F          0622, 0626
0559    CMPR     1180          0537
0565    CMPR1    1186          0583
0586    SORT4    119E          0519, 0528
0595    SORT4A   11A7          0603
0604    SORT4B   11B2          0601
0615    SORT4C   11BE          0608, 0613, 0645
0617    SRT4C    11C0          0616
0619    SORT4D   11C8          0448, 0617
0642    SORT4E   11E1          0636, 0639
0645    SORT4F   11E6          0625
0646    ENDSRT   11E7          0630
0651    ZBUFF    11EC          0654
0656    ZBUFF1   11F2          0659
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*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

A	0024	ASTKS	0176	BFADD	0301	BFADD1	0302	BFADD2	0319	BFADD3	0326	BFADD4	0334	BFADD5	0303	BFCNT	0313
BFFL	0546	BFFL1	0547	BFFL2	0548	BFTAB	0305	BGNRD	0009	BGSRT	0430	BGSRT1	0432	BGSRT2	0449	BGSRTA	0441
BIT14	0017	BIT2	0015	BIT6	0016	BLANKS	0175	BUFAD	0234	BUFAD1	0253	BUFAD2	0257	BUFAD3	0268	BUFAD4	0273
BUFAD5	0278	BUFF	0181	CHRBF	0180	CHRFLG	0177	CMPR	0559	CMPR1	0565	CNTSR	0104	CNTSR1	0143	COMP	0130
COMP1	0137	COMP2	0139	COUNT	0179	DBLK	0174	DISP	0014	DONE	0339	DONE1	0351	DONE2	0361	DSKRD	0450
DSKRD1	0460	DSKRD2	0483	DSKRD3	0464	DSKRD4	0474	DSKRD5	0500	DSKRED	0456	EN	0172	ENDBF7	0558	ENDCD	0115
ENDSRT	0646	ERRMGE	0300	FLDCK	0112	H000F	0020	H00FF	0019	H7FFF	0021	HF000	0023	HFF00	0018	HFFFF	0022
I	0000	LFTPN	0206	LFTPN1	0211	LIST	0557	LSTRD	0378	MCROCK	0182	ND	0173	NUMCK	0031	NUMCK1	0047
NXTWRD	0080	OPCDSR	0096	OPFLG	0178	OPRND	0199	OPRND1	0212	OPRND2	0220	OPRND4	0222	OPRND5	0224	OPSORT	0008
OUTBF	0365	OUTBF1	0366	OUTBF2	0367	OUTBF3	0368	OUTBF4	0369	OUTBF5	0370	OUTBF6	0371	OUTBF7	0372	PNOUT1	0299
PRGNAM	0304	PRNOUT	0297	SAT	0373	SAVE	0551	SAVE1	0552	SAVE3	0553	SAVE3A	0555	SAVE3B	0556	SAVEA	0554
SECAD	0374	SECAD1	0376	SECAD2	0377	SORT	0501	SORT1	0513	SORT2	0521	SORT3	0523	SORT4	0586	SORT4A	0595
SORT4B	0604	SORT4C	0615	SORT4D	0619	SORT4E	0642	SORT4F	0645	SRT4C	0617	SRTAD	0549	SRTAD1	0550	SRTLG	0539
STADD	0542	STADD1	0540	STADD2	0544	STCNT	0545	STDINP	0010	STDOCD	0013	STDOUT	0012	STDSCR	0011	STPRG	0541
TITLE	0364	WRIT1	0396	WRTSC	0380	WRTSC1	0390	WRTSC2	0379	WRTSC3	0400	WRTSC4	0406	WRTSC5	0414	ZBUFF	0651
ZBUFF1	0656																

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0001                        NAM  DTLP          DECK-ID N89  MSOS 5.0          SUMMARY-110N8900001
0002                    *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                   N8900002
0003                    *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA               N8900003
0004                    *   COPYRIGHT CONTROL DATA CORPORATION 1976                     N8900004

0006                    *                                                              N8900006
0007                    *   THIS PROGRAM LOADS THE UTILITY PROGRAM                     N8900007
0008                    *                                                              N8900008
0009                    *   DSKTAP INTO CORE AND EXECUTES IT                           N8900009
0010                        ENT DTLP                                                   N8900010
0011 P0000 183E     DTLP    JMP* START                                  67*1465        N8900011
0012                GETFIL  GTFILE G1,NAME-GETFIL-1,FWA,,,,0,1,1        67*1465        N8900012
0012 P0001 54F4
0012 P0002 5A01
0012 P0003 000D P
     P0004 0000
0012 P0005 08C2
     P0006 0000
     P0007 003B P
0012 P0008 0000
     P0009 0039
0013 P000A 0000             NUM  0,0                                               67*1465  N8900013
     P000B 0000
0014 P000C 14EA             JMP- (*EA)                                             67*1465  N8900014
0015 P000D 54F4     G1      RTJ- (*F4)                                             67*1465  N8900015
0016 P000E 4C00             NUM  *4C00          FWRITE                             67*1465  N8900016
0017 P000F 002B P           ADC  COMP,0                                            67*1465  N8900017
     P0010 0000
0018 P0011 18FC             NUM  *18FC                                             67*1465  N8900018
0019 P0012 0016     LENM1   ADC  MSEND1-MESS1                                      67*1465  N8900019
0020 P0013 0015 P           ADC  MESS1                                             67*1465  N8900020
0021 P0014 14EA             JMP- (*EA)                                             67*1465  N8900021
0022 P0015 5455     MESS1   ALF  *,TURN OFF PROTEC SWITCH,TYPE CARRIAGE RETURN*    67*1465  N8900022
     P0016 524E
     P0017 204F
     P0018 4646
     P0019 2050
     P001A 524F
     P001B 5445
     P001C 4320
     P001D 5357
     P001E 4954
     P001F 4348
     P0020 2C54
     P0021 5950
     P0022 4520
     P0023 4341
     P0024 5252
     P0025 4941
     P0026 4745
     P0027 2052
     P0028 4554
     P0029 5552
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                P002A 4E20
0023                002B P MSEND1 EQU  MSEND1(*)                                    67*1465  N8900023
0024 P002B 54F4        COMP   RTJ- (SF4)                                           67*1465  N8900024
0025 P002C 4800               NUM  $4800          FREAD                            67*1465  N8900025
0026 P002D 0000               ADC  0,0                                                      N8900026
     P002E 0000
0027 P002F 18FD               NUM  $18FD,1                                        67*1465  N8900027
     P0030 0001
0028 P0031 0000 P             ADC  DTLP                                                     N8900028
0029 P0032 C8FB        COMP0  LDA* COMP+3                                                   N8900029
0030 P0033 0101               SAZ  1              WAIT FOR COMPLETION                      N8900030
0031 P0034 18FD               JMP* COMP0                                                   N8900031
0032 P0035 E8F9               LDQ* COMP+4                                                  N8900032
0033 P0036 0161               SQP  COMP1          CHECK FOR ERROR                          N8900033
0034 P0037 18D5               JMP* G1             REPEAT MESSAGE                           N8900034
0035 P0038 0500        COMP1  IIN  0              INHIBIT INTERRUPTS               67*1465  N8900035
0036 P0039 1400        JUMP   JMP+ 0                                                       N8900036
     P003A 0000
0037                003B P FWA    EQU  FWA(*)                                     67*1465  N8900037
0038 P003B 4453        NAME   ALF  3,DSKTAP                                        67*1465  N8900038
     P003C 4B54
     P003D 4150
0039 P003E C83F        START  LDA* LDADR          STARTING ADDRESS OF DSKTAP       67*1465  N8900039
0040 P003F 0136               SAM  M0A            IF UPPER BANK, OK                        N8900040
0041 P0040 9000               SUB  =N$1905        MUST BE .GE.$1905                        N8900041
     P0041 1905
0042 P0042 0121               SAP  M0             SKIP IF OK                               N8900042
0043 P0043 0A00               ENA  0                                                       N8900043
0044 P0044 8000        M0     ADD  =N$1905                                                 N8900044
     P0045 1905
0045 P0046 68C0        M0A    STA* GETFIL+6                                                N8900045
0046 P0047 68F2               STA* JUMP+1                                                  N8900046
0047 P0048 0842               CLR  Q                                              67*1465  N8900047
0048 P0049 40FF               STQ- I              CONVERT STARTING ADDRESS         67*1465  N8900048
0049 P004A 0FE4        M1     LLS  4              TO ASCII                         67*1465  N8900049
0050 P004B 0DF5               INQ  -10                                            67*1465  N8900050
0051 P004C 0171               SQM  M2                                             67*1465  N8900051
0052 P004D 0D07               INQ  7                                              67*1465  N8900052
0053 P004F 0D3A        M2     INQ  $3A                                            67*1465  N8900053
0054 P004F 4917               STQ* M4,I                                           67*1465  N8900054
0055 P0050 00FF               RAO- I                                              67*1465  N8900055
0056 P0051 E0FF               LDQ- I                                              67*1465  N8900056
0057 P0052 0DFB               INQ  -4                                             67*1465  N8900057
0058 P0053 0142               SQZ  M3                                             67*1465  N8900058
0059 P0054 0842               CLR  Q                                              67*1465  N8900059
0060 P0055 18F4               JMP* M1                                             67*1465  N8900060
0061 P0056 C810        M3     LDA* M4                                             67*1465  N8900061
0062 P0057 0FC8               ALS  8                                              67*1465  N8900062
0063 P0058 880F               ADD* M4+1                                           67*1465  N8900063
0064 P0059 6821               STA* ADR                                            67*1465  N8900064
0065 P005A C80E               LDA* M4+2                                           67*1465  N8900065
0066 P005B 0FC8               ALS  8                                              67*1465  N8900066
0067 P005C 880D               ADD* M4+3                                           67*1465  N8900067
```

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0068 P005D 681E          STA* ADR+1                          67*1465  N8900068
0069 P005E 54F4          RTJ- (SF4)                          67*1465  N8900069
0070 P005F 4C00          NUM  $4C00                          67*1465  N8900070
0071 P0060 0001 P        ADC  GETFIL                         67*1465  N8900071
0072 P0061 0000          NUM  0,$18FC                        67*1465  N8900072
     P0062 18FC
0073 P0063 0013  LENM    ADC  MSEND-MESS                     67*1465  N8900073
0074 P0064 006A P        ADC  MESS                           67*1465  N8900074
0075 P0065 14EA          JMP- (SEA)                          67*1465  N8900075
0076 P0066 0004  M4      BZS  M4(4)                          67*1465  N8900076
0077 P006A 4454  MESS    ALF  *,DTLP FIRST WORD ADDRESS WILL BE *  67*1465  N8900077
     P006B 4C50
     P006C 2046
     P006D 4952
     P006E 5354
     P006F 2057
     P0070 4F52
     P0071 4420
     P0072 4144
     P0073 4452
     P0074 4553
     P0075 5320
     P0076 5749
     P0077 4C4C
     P0078 2042
     P0079 4520
0078 P007A 2020  ADR     ALF  2,                             67*1465  N8900078
     P007B 2020
0079 P007C 0A0A          NUM  $0A0A                          67*1465  N8900079
0080       007D P MSEND  EQU  MSEND(*)                       67*1465  N8900080
0081 P007D 003B P LDADR  ADC  FWA                            67*1465  N8900081
0082                     END DTLP                                     N8900082

PGM=  007E (   126)   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)	0048, 0055, 0056

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	DTLP	0000	0010, 0028
0012	GETFIL	0001	0012, 0045, 0071
0015	G1	000D	0012, 0034
0019	LENM1	0012	
0022	MESS1	0015	0019, 0020
0023	MSEND1	002B	0019
0024	COMP	002B	0017, 0029, 0032
0029	COMP0	0032	0031
0035	COMP1	0038	0033
0036	JUMP	0039	0046
0037	FWA	003B	0012, 0081
0038	NAME	003B	0012
0039	START	003E	0011
0044	M0	0044	0042
0045	M0A	0046	0040
0049	M1	004A	0060
0053	M2	004E	0051
0061	M3	0056	0058
0073	LENM	0063	
0076	M4	0066	0054, 0061, 0063, 0065, 0067
0077	MESS	006A	0073, 0074
0078	ADR	007A	0064, 0068
0080	MSEND	007D	0073
0081	LDADR	007D	0039

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ADR	0078	COMP	0024	COMP0	0029	COMP1	0035	DTLP	0010	FWA	0037	G1	0015	GETFIL	0012	I	0000
JUMP	0036	LDADR	0081	LENM	0073	LENM1	0019	M0	0044	M0A	0045	M1	0049	M2	0053	M3	0061
M4	0076	MESS	0077	MESS1	0022	MSEND	0080	MSEND1	0023	NAME	0038	START	0039				

```
0001                    NAM  DSKTAP          DECK-ID N90  MSOS 5.0                SUMMARY-122********
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N9000002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N9000003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                           N9000004

0006                      ENT       DSKTAP                                              N9000006
0007                    ENT  FST                                                **MSOS 4.1**N9000007
0008                      EXT*      ENCDHX,DCODHX                                       N9000008
0009                      EXT*      EQCODE                                              N9000009
0010                      EXT*      CDRIVE                                              N9000010
0011                      EXT*      MDRIVE                                              N9000011
0012                      EXT*      MGDRIV                                              N9000012
0013                      EXT*      MGREAD                                              N9000013

0015                *       THIS PROGRAM REQUIRES THAT ONLY                  **MSOS 4.1**N9000015
0016                *       ONE OF THE MASS MEMORY DRIVERS $                 **MSOS 4.1**N9000016
0017                *        MDRIV4        1739                              **MSOS 4.1**N9000017
0018                *        MDRV55         856                              **MSOS 4.1**N9000018
0019                *        MDR52         1752                              **MSOS 4.1**N9000019
0020                *        DSKMMD       1733-1/1738                        **MSOS 4.1**N9000020
0021                *       BE LINKED                                         **MSOS 4.1**N9000021

0023        0C00    RECLEG EQU  RECLEG(3072)  MAXIMUM NUMBER OF WORDS PER RECORD   67*1466  N9000023
0024        0020    SECTRK EQU  SECTRK(32)    MAXIMUM NUMBER OF SECTORS PER RECORD 67*1466  N9000024
0025        0100    BUF1   EQU  BUF1($100)    STARTING ADDRESS OF BUFFER 1         67*1466  N9000025
0026        0D05    B2     EQU  B2(BUF1+RECLEG+5) STARTING ADDR OF VERIFY BUFFER   67*1466  N9000026
0027        0000 P         EQU       DSKTAP(*)                                              N9000027
0028  P0000 0500    START  IIN  0             CAUSE PROTECT ERROR IF CALLED AS      122*4841********
0029                *                        AN ITOS USER PROGRAM                  122*4841********
0030  P0001 5801           RTJ* *+1                                                122*4841********
0031  P0002 0000             NUM       0                                                    N9000029
0032  P0003 C8FE             LDA*      *-1                                                  N9000030
0033  P0004 09FD           INA  -2           SET UP ABSOLUTE                       122*4841********
0034  P0005 5800             RTJ       SETUP          ADDRESSES                             N9000032
      P0006 018D
0035  P0007 5800 X           RTJ       EQCODE    GET EQUIPMENT CODES FOR MAG TAPE **MSOS 4.0N9000033
      P0008 7FFF X
0036  P0009 C0C1           LDA- $C1            GET LSB SCRATCH                  **MSOS 4.1**N9000034
0037                *                        1 CARD DELETED                              N9000035
0038  P000A 5800 X           RTJ  ENCDHX       ENCODE IN ASCII                  **MSOS 4.1**N9000036
      P000B 7FFF X
0039  P000C 4800             STQ  SCRATH                                        **MSOS 4.1**N9000037
      P000D 019E
0040  P000E 6800             STA  SCRATH+1                                      **MSOS 4.1**N9000038
      P000F 019D
0041  P0010 0C10             ENQ  LMSG0                                         **MSOS 4.1**N9000039
0042  P0011 C800             LDA  AMSG0                                         **MSOS 4.1**N9000040
      P0012 0169
```

```
0043 P0013 5800 X         RTJ  CDRIVE        WRITE NO. SECTORS TO SCRATCH      **MSOS 4.1**N9000041
     P0014 7FFF X
0044                      *                        AND DISK                    **MSOS 4.0N9000042
0045 P0015 C800    RESTRT   LDA        AMSG1                                          N9000043
     P0016 0166
0046 P0017 0C25             ENQ        LMSG1                                          N9000044
0047 P0018 5800 X           RTJ        CDRIVE                                         N9000045
     P0019 0014 X
0048 P001A 5800             RTJ        BKGND                                          N9000046
     P001B 0156
0049 P001C C000           LDA  =XBUF1          INPUT BUFFER ADDRESS          67*1466  N9000047
     P001D 0100
0050 P001E 0C00             ENQ        0                                              N9000048
0051 P001F 5800 X           RTJ        CDRIVE                                         N9000049
     P0020 0019 X
0052 P0021 0C00             ENQ        0                                              N9000050
0053 P0022 CA0E    SRCH1    LDA*       TABL1,Q                                        N9000051
0054 P0023 0122             SAP        SRCH10-*-1                                     N9000052
0055 P0024 1800             JMP        ENDING           NOT IN TABLE                  N9000053
     P0025 0075
0056 P0026 B400    SRCH10   EOR        BUF1                                           N9000054
     P0027 0100
0057 P0028 0114             SAN        SRCH12-*-1                                     N9000055
0058 P0029 CA08             LDA*       TABL1+1,Q                                      N9000056
0059 P002A B400             EOR        BUF1+1                                         N9000057
     P002B 0101
0060 P002C 0102             SAZ         2               SKIP IF FOUND                 N9000058
0061 P002D 0D04    SRCH12   INQ        4                                              N9000059
0062 P002E 18F3             JMP*       SRCH1                                          N9000060
0063 P002F 1A03             JMP*       TABL1+2,Q                                      N9000061


0065 P0030 5341    TABL1    ALF        2,SAVE                                         N9000063
     P0031 5645
0066 P0032 1800             JMP        SAVSYS                                         N9000064
     P0033 0007
0067 P0034 4C4F             ALF        2,LOAD                                         N9000065
     P0035 4144
0068 P0036 1800             JMP        LODISK                                         N9000066
     P0037 00E5
0069 P0038 FFFF             NUM        -0               END OF TABLE                  N9000067
0070                      ************************************************************N9000068
0071                      *          SAVE OPTION                                     N9000069
0072                      ************************************************************N9000070
0073 P0039 0000    LAST     NUM        0                                              N9000071
0074 P003A 0A00    SAVSYS   ENA        0                DISK TO TAPE                  N9000072
0075 P003B 68FD             STA*       LAST                                           N9000073
0076 P003C C800             LDA        AMSG2            SAVE INFO                     N9000074
     P003D 0140
0077 P003E 0C16           ENQ  LMSG2           OUTPUT TAPE ON UNIT 0                 N9000075
0078                      *                        NUMBER OF SECTORS TO SAVE       N9000076
0079 P003F 5800 X           RTJ        CDRIVE                                         N9000077
     P0040 0020 X
```

```
0080 P0041 5800          RTJ       BKGND                                          N9000078
     P0042 012F
0081 P0043 C000        LDA  =XBUF1       INPUT BUFFER ADDRESS          67*1466  N9000079
     P0044 0100
0082 P0045 0C00          ENQ       0                                              N9000080
0083 P0046 5800 X        RTJ       CDRIVE    NUMBER OF SECTORS TO SAVE  **MSOS 4.0N9000081
     P0047 0040 X
0084 P0048 E400          LDQ       BUF1                                           N9000082
     P0049 0100
0085 P004A C400          LDA       BUF1+1                                         N9000083
     P004B 0101
0086 P004C 5800 X        RTJ       DCODHX    CONVERT NUMBER OF SECTORS FROM  **MSOS 4.0N9000084
     P004D 7FFF X
0087                  *                      ASCII TO HEXADECIMAL            **MSOS 4.0N9000085
0088 P004E 18EB          JMP*      SAVSYS                                         N9000086
0089                  *                  1 CARD DELETED                         N9000087
0090 P004F 0111          SAN       1                                              N9000088
0091 P0050 18E9          JMP*      SAVSYS                                         N9000089
0092 P0051 68E7          STA*      LAST      SET LAST EQUAL TO LAST SECTOR        N9000090
0093                  *                      TO SAVE                            N9000091
```

```
0095 P0052 5800            RTJ       DSKCHK    READ IN BAD SECTOR DIRECTORY     **MSOS 4.0N9000093
     P0053 0020
0096 P0054 0A20          ENA  SECTRK           SECTORS PER RECORD                 67*1466  N9000094
0097 P0055 6840          STA* TRKSEC           SET NO OF SECTORS TO READ                   N9000095
0098 P0056 5832  READ1   RTJ* DSKRD            READ DISK                                   N9000096
0099 P0057 5826          RTJ* WRTMGT           WRITE MAG TAPE                              N9000097
0100 P0058 5802            RTJ*       INCSEC    DONE YET                         **MSOS 4.0N9000098
0101 P0059 18FC            JMP*       READ1                                      **MSOS 4.0N9000099
0102 P005A 0B00  INCSEC    NOP        0                                          **MSOS 4.0N9000100
0103 P005B C0FF            LDA-       I                                          **MSOS 4.0N9000101
0104 P005C 8839          ADD* TRKSEC                                                       N9000102
0105 P005D 60FF            STA-       I                                          **MSOS 4.0N9000103
0106 P005E 0822          TRA  Q                CURRENT SECTOR IN Q                         N9000104
0107 P005F C8D9          LDA* LAST             LAST IN Q                                   N9000105
0108 P0060 5806          RTJ* COMPV4           COMPARE FOR DONE                            N9000106
0109 P0061 0103          SAZ  DIKOFF           EQUAL, SO DONE                              N9000107
0110 P0062 0900          INA  0                                                            N9000108
0111 P0063 0101          SAZ  DIKOFF                                                       N9000109
0112 P0064 1CF5          JMP* (INCSEC)         MORE TO DO, SO CONTINUE                     N9000110
0113 P0065 1832  DIKOFF  JMP* DSKOFF           ALL DONE                                    N9000111


0115                     ***************************************************************  N9000113
0116                     *                     ADDRESS COMPARE ROUTINE                   *  N9000114
0117                     *                     SAME AS IN TRVEC                          *  N9000115
0118                     *                                                               *  N9000116
0119                     *           A .GT. Q  DIFFERENCE RETURNED IN A                  *  N9000117
0120                     *           A .EQ. Q  A EQUAL 0                                 *  N9000118
0121                     *           A .LT. Q  A SET TO $FFFF                            *  N9000119
0122                     ***************************************************************  N9000120

0124 P0066 0B00  COMPV4  NOP  0                ENTRY                                       N9000122
0125 P0067 0132          SAM  AUPPER           A .GT. $7FFF                                N9000123
0126 P0068 0165          SQP  BTHSAM           BOTH .LT. $8000                             N9000124
0127 P0069 1808          JMP* QBIGER           Q .GT. $7FFF                                N9000125
0128 P006A 0173  AUPPER  SQM  BTHSAM           BOTH .GT. $7FFF                             N9000126
0129 P006B 0852          TCQ  Q                A .GT. Q                                    N9000127
0130 P006C 0834          AAQ  A                DIFFERENCE IN A                             N9000128
0131 P006D 1805          JMP* ABIGER                                                       N9000129
0132 P006E 0852  BTHSAM  TCQ  Q                                                           N9000130
0133 P006F 0834          AAQ  A                                                           N9000131
0134 P0070 0121          SAP  ABIGER                                                      N9000132
0135 P0071 0804  QBIGER  SET  A                                                           N9000133
0136 P0072 1CF3  ABIGER  JMP* (COMPV4)         RETURN                                      N9000134
```

```
0138 P0073 0000   DSKCHK   NUM        0                                          N9000136
0139 P0074 0A00            ENA        0          INITIALIZE SECTOR HOLDER        N9000137
0140 P0075 60FF            STA-       I          SAVE IN I          **MSOS 4.0N9000138
0141 P0076 6800            STA        FST                                        N9000139
     P0077 0005
0142 P0078 C000          LDA  =XBUF1                                  67*1466   N9000140
     P0079 0100
0143 P007A 6819            STA*       ABUFF                                      N9000141
0144 P007B 1CF7   CD110    JMP*       (DSKCHK)   EXIT FROM DSKCHK                N9000142
0145 P007C 0000   FST    NUM  0                FIRST TIME FLAG      **MSOS 4.1**N9000143
```

```
0147 P007D 0B00   WRTMGT  NOP       0          WRITE MAG TAPE ROUTINE                          N9000145
0148 P007E C000   CD130   LDA  =XBUF1          SET UP A AND Q TO WRITE          67*1466        N9000146
     P007F 0100
0149              *                            MAG TAPE                        **MSOS 4.0N9000147
0150 P0080 E000   RECORD  LDQ       =XRECLEG   LENGTH OF BUFFER                **MSOS 4.0N9000148
     P0081 0C00
0151 P0082 5800 X         RTJ       MGDRIV     WRITE MAG TAPE                              N9000149
     P0083 7FFF X
0152 P0084 0112           SAN       CD155      ANY ERRORS                                  N9000150
0153 P0085 1800           JMP       MTERR1     YES                             **MSOS 4.0N9000151
     P0086 00DE
0154 P0087 1CF5   CD155   JMP*      (WRTMGT)                                               N9000152


0156 P0088 0B00   DSKRD   NOP       0          READ FROM DISK                              N9000154
0157 P0089 C80A           LDA*      ABUFF      GET ADDRESS TO READ INTO                    N9000155
0158 P008A E000           LDQ  =XRECLEG        READ REC LENGTH                 **MSOS 4.1**N9000156
     P008B 0CC0
0159 P008C 5800 X         RTJ       MDRIVE     READ FROM DISK                              N9000157
     P008D 7FFF X
0160 P008E 0112   ERRCK   SAN       DSKEXT     ANY ERRORS                      **          N9000158
0161 P008F 1800           JMP       DSKERR     YES                             **MSOS 4.0N9000159
     P0090 00C7
0162 P0091 1CF6   DSKEXT  JMP*      (DSKRD)    EXIT FROM DSKRD                             N9000160


0164 P0092 0000   SECOND  NUM       0                                                      N9000162
0165 P0093 0000   ABUFF   NUM       0          CURRENT BUFFER ADDRESS                      N9000163
0166 P0094 0000   SAVEI   NUM       0                                                      N9000164
0167 P0095 0000   TRKSEC  NUM       0          SECTOR COUNTER                              N9000165
0168 P0096 0000   ISAV    NUM       0          TEMPORARY STORAGE FOR I         **MSOS 4.0N9000166
```

```
0170                    ********************************************************************      N9000168
0171                    *       WRITE END OF FILE MARK.                                    *      N9000169
0172                    ********************************************************************      N9000170
0173 P0097 0A00   DSKOFF  ENA     0                                                               N9000171
0174 P0098 5800 X         RTJ     MGDRIV                                                          N9000172
     P0099 0083 X
0175 P009A C800   ENDING  LDA     AMSG3     END MESSAGE V FOR VERIFY                              N9000173
     P009B 00E3
0176                    *                   A FOR AUTOLOAD                                      N9000174
0177 P009C 0C24           ENQ     LMSG3                                                           N9000175
0178 P009D 5800 X         RTJ     CDRIVE                                                          N9000176
     P009E 0047 X
0179 P009F 5800           RTJ     BKGND                                                           N9000177
     P00A0 00D1
0180 P00A1 0C00           ENQ     0                                                               N9000178
0181 P00A2 C000         LDA  =XBUF1                                          67*1466              N9000179
     P00A3 0100
0182 P00A4 5800 X         RTJ     CDRIVE                                                          N9000180
     P00A5 009E X
0183 P00A6 C400           LDA     BUF1                                                            N9000181
     P00A7 0100
0184 P00A8 0F48           ARS     8                                                               N9000182
0185 P00A9 09BE           INA     -$41                                                            N9000183
0186 P00AA 0111           SAN     1         SKIP IF NOT A                                         N9000184
0187 P00AB 1806           JMP*    AUTLOD                                                          N9000185
0188 P00AC 09EA           INA     $41-$56                                                         N9000186
0189 P00AD 0111           SAN     1         SKIP IF NOT V                                         N9000187
0190 P00AE 1809           JMP*    VERIFY    JUMP TO VERIFY                                        N9000188
0191 P00AF 1800           JMP     RESTRT                                                          N9000189
     P00B0 FF64
0192                    ********************************************************************      N9000190
0193 P00B1 0C00   AUTLOD  ENQ     0                 AUTOLOAD SIMULATE                             N9000191
0194 P00B2 40FF           STQ-    I                                                               N9000192
0195 P00B3 48DF         STQ* ABUFF                                          **MSOS 4.1**        N9000193
0196 P00B4 58D3         RTJ* DSKRD                                          **MSOS 4.1**        N9000194
0197 P00B5 1400   DOLOAD  JMP+    0                                                               N9000195
     P00B6 0000
0198                    *                   JMP TO LOCATION ZERO TO                             N9000196
0199                    *                   SIMULATE AUTOLOAD                                   N9000197
```

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0201                    ************************************************************      N9000199
0202                    *        VERIFY-COMPARE TAPE TO DISK                       *      N9000200
0203                    ************************************************************      N9000201
0204 P00B7 C800   VERIFY   LDA      AMSG4                                                  N9000202
     P00B8 00C7
0205 P00B9 0C10            ENQ      LMSG4                                                  N9000203
0206 P00BA 5800 X          RTJ      CDRIVE    VERIFY TAPE ON UNIT 0                        N9000204
     P00BB 00A5 X
0207 P00BC 0AFF            ENA      -0                                                     N9000205
0208 P00BD 6400            STA      BUF1                                                   N9000206
     P00BE 0100
0209 P00BF C000          LDA  =XBUF1        BUFFER ADDRESS                  67*1466       N9000207
     P00C0 0100
0210 P00C1 0C00            ENQ      0                                                      N9000208
0211 P00C2 5800 X          RTJ      CDRIVE    READ CARRIAGE RETURN                         N9000209
     P00C3 00BB X
0212 P00C4 C400            LDA      BUF1                                                   N9000210
     P00C5 0100
0213 P00C6 0131            SAM      1                                                      N9000211
0214 P00C7 18EF            JMP*     VERIFY                                                 N9000212
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0216 P00C8 58AA          RTJ* DSKCHK                                                  N9000214
0217 P00C9 0A20          ENA  SECTRK        NUMBER OF SECTORS          67*1466      N9000215
0218 P00CA 68CA          STA* TRKSEC                                                 N9000216
0219       00CB P VFYLOP EQU  VFYLOP(*)                                              N9000217
0220 P00CB 5811            RTJ*     MAGTRD                                         N9000218
0221 P00CC 58BB          RTJ* DSKRD                                                  N9000219
0222 P00CD E000    VFY200  LDQ      =XRECLEG-1                 **MSOS 4.0N9000220
     P00CE 0BFF
0223 P00CF C600    VFY210  LDA      BUF1,Q                                         N9000221
     P00D0 0100
0224 P00D1 B600            EOR      B2,Q                                           N9000222
     P00D2 0D05
0225 P00D3 0101            SAZ      VFY230                                         N9000223
0226 P00D4 1814          JMP* VFYERR                                               N9000224
0227 P00D5 0DFE    VFY230  INQ      -1                                             N9000225
0228 P00D6 0171            SQM      1                                              N9000226
0229 P00D7 18F7            JMP*     VFY210                                         N9000227
0230       00D8 P BMPSEC EQU  BMPSEC(*)                 **MSOS 4.1**N9000228
0231 P00D8 C0FF            LDA-     I                                              N9000229
0232 P00D9 88BB          ADD* TRKSEC                                               N9000230
0233 P00DA 60FF            STA-     I                                              N9000231
0234 P00DB 18EF          JMP* VFYLOP                                               N9000232
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0236 P00DC 0B00    MAGTRD   NOP        0                                          N9000234
0237 P00DD C000             LDA  =XB2          BUFFER ADDRESS (VERIFY)    67*1466  N9000235
     P00DE 00D5
0238 P00DF 0C00             ENQ        0                                          N9000236
0239 P00E0 5800 X           RTJ        MGREAD                                     N9000237
     P00E1 7FFF X
0240 P00E2 0114             SAN        VFY140                                     N9000238
0241 P00E3 0151             SQN        VFY120                                     N9000239
0242 P00E4 1828           JMP* VFYEND                                           N9000240
0243 P00E5 1800    VFY120   JMP        MTERR1                                     N9000241
     P00E6 007E
0244 P00E7 1CF4    VFY140   JMP*       (MAGTRD)                                   N9000242
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0246 P00E8 0F70    VFYERR LRS  16              Q TO A - CLEAR Q                MSOS 4.1**  N9000244
0247 P00E9 3000           DVI  =N96            COMPUTE SECTORS                 **MSOS 4.1**N9000245
     P00EA 0060
0248 P00EB 4809           STQ* VFYWRD                                          **MSOS 4.1**N9000246
0249 P00EC 80FF           ADD- I               ADD CURRENT BASE SECTOR         **MSOS 4.1**N9000247
0250 P00ED 5800 X           RTJ       ENCDHX                                                N9000248
     P00EE 000B X
0251 P00EF 4800           STQ  MSEC            STORE ASCII OF SECTOR           **MSOS 4.1**N9000249
     P00F0 0130
0252 P00F1 6800           STA  MSEC+1                                          **MSOS 4.1**N9000250
     P00F2 012F
0253 P00F3 C000    VER120   LDA       =N0                                                   N9000251
     P00F4 0000
0254          00F4 P VFYWRD EQU  VFYWRD(*-1)                                  **MSOS 4.1**N9000252
0255 P00F5 5800 X           RTJ       ENCDHX                                                N9000253
     P00F6 00EE X
0256 P00F7 4800           STQ  WADR            STORE ASCII WORD ADDRESS        **MSOS 4.1**N9000254
     P00F8 012F
0257 P00F9 6800           STA  WADR+1                                          **MSOS 4.1**N9000255
     P00FA 012E
0258 P00FB C800             LDA       AMSG5                                               N9000256
     P00FC 0084
0259 P00FD 0C35             ENQ       LMSG5                                               N9000257
0260 P00FE 5800 X           RTJ       CDRIVE                                              N9000258
     P00FF 00C3 X
0261 P0100 0AFF             ENA       -0                                                  N9000259
0262 P0101 6400             STA       BUF1                                                N9000260
     P0102 0100
0263 P0103 C000           LDA  =XBUF1            BUFFER ADDRESS                  67*1466   N9000261
     P0104 0100
0264 P0105 0C00             ENQ       0                                                   N9000262
0265 P0106 5800 X           RTJ       CDRIVE                                              N9000263
     P0107 00FF X
0266 P0108 C400             LDA       BUF1                                                N9000264
     P0109 0100
0267 P010A 0131           SAM  1                 DO NOT CONTINUE                 **MSOS 4.1**N9000265
0268 P010B 18CC           JMP* BMPSEC            CONTINUE WITH VERIFY            **MSOS 4.1**N9000266
0269 P010C C0FF    VFYEND   LDA-      I                    ALL RECORDS CHECK               N9000267
0270 P010D 5800 X           RTJ       ENCDHX                                              N9000268
     P010E 00F6 X
0271 P010F 4800             STQ       MSG6                                                N9000269
     P0110 0141
0272 P0111 6800             STA       MSG6+1                                              N9000270
     P0112 0140
0273 P0113 C86E           LDA* AMSG6                                                      N9000271
0274 P0114 0C0C             ENQ       LMSG6                                               N9000272
0275 P0115 5800 X           RTJ       CDRIVE                                              N9000273
     P0116 0107 X
0276 P0117 0A00           ENA  0                 REWIND TAPE                     N9000274
0277 P0118 5800 X           RTJ       MGREAD                                              N9000275
     P0119 00E1 X
0278 P011A 1800             JMP       ENDING                                              N9000276
     P011B FF7E
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0279                ************************************************************                N9000277
0280                *        LOAD  THE DISK                                      *                N9000278
0281                ************************************************************                N9000279


0283 P011C C866    LODISK LDA* AMSG7          COPY TAPE TO DISK                                   N9000281
0284 P011D 0C0F             ENQ        LMSG7                                                     N9000282
0285 P011E 5800 X           RTJ        CDRIVE     INPUT TAPE ON UNIT 0                           N9000283
     P011F 0116 X
0286 P0120 5851           RTJ* BKGND                                                           N9000284
0287 P0121 C000           LDA  =XBUF1                                          67*1466         N9000285
     P0122 0109
0288 P0123 0C00             ENQ        0                                                       N9000286
0289 P0124 5800 X           RTJ        CDRIVE                                                  N9000287
     P0125 011F X
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0291 P0126 5800            RTJ       DSKCHK                                          N9000289
     P0127 FF4B
0292 P0128 0A20          ENA  SECTRK                                                67*1466  N9000290
0293 P0129 6800            STA       TRKSEC                                        **MSOS 4.0N9000291
     P012A FF6A
0294 P012B 5807   WRITE1   RTJ*       RDTAPE    READ MAG TAPE                       **MSOS 4.0N9000292
0295 P012C 5811            RTJ*      DISKWR    WRITE DISK                          **MSOS 4.0N9000293
0296 P012D C0FF            LDA-      I                                             **MSOS 4.0N9000294
0297 P012E 8800            ADD       TRKSEC    INCREASE SECTOR COUNT               **MSOS 4.0N9000295
     P012F FF65
0298 P0130 60FF            STA-      I                                             **MSOS 4.0N9000296
0299 P0131 18F9            JMP*      WRITE1                                        **MSOS 4.0N9000297
0300 P0132 0B00   RDTAPE   NOP       0                                             **MSOS 4.0N9000298
0301 P0133 C000          LDA  =XBUF1                                                67*1466  N9000299
     P0134 0100
0302 P0135 0C00            ENQ       0                                             **MSOS 4.0N9000300
0303 P0136 5800 X          RTJ       MGREAD                                        **MSOS 4.0N9000301
     P0137 0119 X
0304 P0138 0113            SAN       LOD140                                        **MSOS 4.0N9000302
0305 P0139 0151            SQN       LOD120                                        **MSOS 4.0N9000303
0306 P013A 180D          JMP* LODEND                                                          N9000304
0307 P013B 1829   LOD120 JMP* MTERR1                                                         N9000305
0308 P013C 1CF5   LOD140   JMP*      (RDTAPE)                                      **MSOS 4.0N9000306
0309 P013D 0B00   DISKWR   NOP       0                                             **MSOS 4.0N9000307
0310 P013E C800            LDA       ABUFF                                         **MSOS 4.0N9000308
     P013F FF53
0311 P0140 E000          LDQ  =X(-RECLEG)   WRITE - REC LENGTH                    **MSOS 4.1**N9000309
     P0141 F3FF
0312 P0142 5800 X          RTJ       MDRIVE                                        **MSOS 4.0N9000310
     P0143 008D X
0313 P0144 0111   ERRCHK   SAN       LOD10                                         **MSOS 4.0N9000311
0314 P0145 1812          JMP* DSKERR                                                          N9000312
0315 P0146 1CF6   LOD10    JMP*      (DISKWR)                                      **MSOS 4.0N9000313


0317 P0147 C0FF   LODEND   LDA-      I                                                    N9000315
0318 P0148 5800 X          RTJ       ENCDHX                                               N9000316
     P0149 010E X
0319 P014A 4800            STQ       MSG8                                                 N9000317
     P014B 0121
0320 P014C 6800            STA       MSG8+1                                               N9000318
     P014D 0120
0321 P014E C835            LDA*      AMSG8                                                N9000319
0322 P014F 0C0B            ENQ       LMSG8          PRINT SECTOR COUNT                    N9000320
0323 P0150 5800 X          RTJ       CDRIVE                                               N9000321
     P0151 0125 X
0324 P0152 0A00            ENA       0                                                    N9000322
0325                  *                           REWIND MAG TAPE                       N9000323
0326 P0153 5800 X          RTJ       MGREAD                                               N9000324
     P0154 0137 X
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0327 P0155 1800            JMP       ENDING                                    N9000325
     P0156 FF43

0329 P0157 0814   DSKERR TRQ  A                 RETURNED STATUS TO A            N9000327
0330 P0158 5800 X      RTJ  ENCDHX              CONVERT TO ASCII FOR PRINTOUT   N9000328
     P0159 0149 X
0331 P015A 4800            STQ  DSTAT           STORE IN MESSAGE                N9000329
     P015B 0122
0332 P015C 6800            STA  DSTAT+1                                         N9000330
     P015D 0121
0333 P015E 0826            LDA* AMSG90                                          N9000331
0334 P015F 0C09              ENQ       LMSG90                                    N9000332
0335 P0160 5800 X            RTJ       CDRIVE                                    N9000333
     P0161 0151 X
0336 P0162 1800              JMP       RESTRT                                    N9000334
     P0163 FEB1

0338 P0164 0814   MTERR1 TRQ  A                 STATUS TO A                     N9000336
0339 P0165 5800 X      RTJ  ENCDHX              CONVERT TO ASCII FOR PRINTOUT   N9000337
     P0166 0159 X
0340 P0167 4800            STQ  TSTAT           STORE IN MESSAGE                N9000338
     P0168 011E
0341 P0169 6800            STA  TSTAT+1                                         N9000339
     P016A 011D
0342 P016B 081A            LDA* AMSG91          ADDRESS OF MESSAGE              N9000340
0343 P016C 0C09              ENQ       LMSG91                                    N9000341
0344 P016D 5800 X            RTJ       CDRIVE                                    N9000342
     P016E 0161 X
0345 P016F 1800              JMP       RESTRT                                    N9000343
     P0170 FEA4
0346 P0171 7FFF   BKGND    ADC       -0                BACKGROUND BUF1 TO      N9000344
0347 P0172 E000   BGBUF  LDQ  =XRECLEG-1                          67*1466       N9000345
     P0173 0BFF
0348 P0174 0AFF            ENA       -0                                         N9000346
0349 P0175 6600   BKG100   STA       BUF1,Q                                     N9000347
     P0176 0100
0350 P0177 0DFE            INQ       -1                                         N9000348
0351 P0178 0171            SQM       1                                          N9000349
0352 P0179 18FB            JMP*      BKG100                                     N9000350
0353 P017A 1CF6            JMP*      (BKGND)                                    N9000351
0354       017B P ADLST1   EQU       ADLST1(*)                                  N9000352
0355 P017B 0001   AMSG0  BSS  AMSG0                          **MSOS 4.1**     N9000353
0356 P017C 0001            BSS       AMSG1,AMSG2,AMSG3,AMSG4,AMSG5              N9000354
     P017D 0001
     P017E 0001
     P017F 0001
     P0180 0001
0357 P0181 0001            BSS       AMSG6,AMSG7,AMSG8                          N9000355
     P0182 0001
     P0183 0001
0358 P0184 0001          BSS  AMSG90,AMSG91                                     N9000356
     P0185 0001
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0359          0186 P ADLST2 EQU  ADLST2(*)                                                    N9000357
0360 P0186    0190           ADC  MSG0-START                          **MSOS 4.1**N9000358
0361 P0187    01AD             ADC        MSG1-START                                        N9000359
0362 P0188    01D2             ADC        MSG2-START                                        N9000360
0363 P0189    01E8             ADC        MSG3-START                                        N9000361
0364 P018A    020C             ADC        MSG4-START                                        N9000362
0365 P018B    021C             ADC        MSG5-START                                        N9000363
0366 P018C    0251             ADC        MSG6-START                                        N9000364
0367 P018D    025D             ADC        MSG7-START                                        N9000365
0368 P018E    026C             ADC        MSG8-START                                        N9000366
0369 P018F    0277             ADC        MSG90-START                                       N9000367
0370 P0190    0280             ADC        MSG91-START                                       N9000368
0371 P0191    FFFF             NUM   -0          * END OF TABLE                 **MSOS 4.0N9000369
0372 P0192    0000    BASE     NUM   0                                                       N9000370
0373 P0193    7FFF    SETUP    ADC   -0                                                      N9000371
0374 P0194    68FD             STA*  BASE                                                    N9000372
0375 P0195    0C00             ENQ   0                                                       N9000373
0376 P0196    CAFF    SET100   LDA*  ADLST2,Q                                               N9000374
0377 P0197    0121             SAP   1                                                       N9000375
0378 P0198    1CFA             JMP*  (SETUP)                                                 N9000376
0379 P0199    88F8             ADD*  BASE                                                    N9000377
0380 P019A    6AE0             STA*  ADLST1,Q                                               N9000378
0381 P019B    0D01             INQ   1                                                       N9000379
0382 P019C    18F9             JMP*  SET100                                                  N9000380
0383 P019D    5343    MSG0     ALF   *,SCRATCH SECTOR IN $C1 IS --*           **MSOS 4.1**N9000381
     P019E    5241
     P019F    5443
     P01A0    4820
     P01A1    5345
     P01A2    4354
     P01A3    4F52
     P01A4    2049
     P01A5    4E20
     P01A6    2443
     P01A7    3120
     P01A8    4953
     P01A9    2020
     P01AA    2D20
0384 P01AB    0002    SCRATH BZS  SCRATH(2)                                 **MSOS 4.1**N9000382
0385          0010           EQU  LMSG0(*-MSG0)                            **MSOS 4.1**N9000383
0386 P01AD    5459    MSG1     ALF       14,TYPE LOAD FOR TAPE-TO-DISK,                    N9000384
     P01AE    5045
     P01AF    204C
     P01B0    4F41
     P01B1    4420
     P01B2    464F
     P01B3    5220
     P01B4    5441
     P01B5    5045
     P01B6    2D54
     P01B7    4F2D
     P01B8    4449
     P01B9    534B
     P01BA    2C20
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0387 P01BB 5341            ALF       11,SAVE FOR DISK-TO-TAPE                          N9000385
     P01BC 5645
     P01BD 2046
     P01BE 4F52
     P01BF 2044
     P01C0 4953
     P01C1 4B2D
     P01C2 544F
     P01C3 2D54
     P01C4 4150
     P01C5 4520
0388 P01C6 000A            NUM  $000A          CARRIAGE RETURN LINE FEED      **MSOS 4.1**N9000386
0389 P01C7 4F52            ALF  *,OR A CARRIAGE RETURN*                        **MSOS 4.1**N9000387
     P01C8 2041
     P01C9 2043
     P01CA 4152
     P01CB 5249
     P01CC 4147
     P01CD 4520
     P01CE 5245
     P01CF 5455
     P01D0 524E
0390 P01D1 0707            NUM  $0707          DOUBLE BELL                    **MSOS 4.1**N9000388
0391       0025              EQU       LMSG1(*-MSG1)                                 N9000389
0392 P01D2 4F55    MSG2    ALF  12,OUTPUT TAPE ON UNIT 0.                           N9000390
     P01D3 5450
     P01D4 5554
     P01D5 2054
     P01D6 4150
     P01D7 4520
     P01D8 4F4E
     P01D9 2055
     P01DA 4E49
     P01DB 5420
     P01DC 302E
     P01DD 2020
0393 P01DE 484F            ALF       8,HOW MANY SECTORS                                N9000391
     P01DF 5720
     P01E0 4D41
     P01E1 4E59
     P01E2 2053
     P01E3 4543
     P01E4 544F
     P01E5 5253
0394 P01E6 3F20              NUM       $3F20                                           N9000392
0395 P01E7 0707            NUM  $0707          DOUBLE BELL                    **MSOS 4.1**N9000393
0396       0016              EQU       LMSG2(*-MSG2)                                 N900039+
0397 P01E8 5459    MSG3      ALF       12,TYPE V FOR VERIFY, A FOR                     N9000395
     P01E9 5045
     P01EA 2056
     P01EB 2046
     P01EC 4F52
     P01ED 2056
     P01EE 4552
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                P01EF 4946
                P01F0 592C
                P01F1 2041
                P01F2 2046
                P01F3 4F52
0398            P01F4 2041          ALF     5, AUTOLOAD.                                    N9000396
                P01F5 5554
                P01F6 4F4C
                P01F7 4F41
                P01F8 442E
0399            P01F9 0D0A          NUM     $0D0A           CARRIAGE RETURN LINE FEED       **MSOS 4.1**N9000397
0400            P01FA 204F          ALF     *, OR A CARRIAGE RETURN*                        **MSOS 4.1**N9000398
                P01FB 5220
                P01FC 4120
                P01FD 4341
                P01FE 5252
                P01FF 4941
                P0200 4745
                P0201 2052
                P0202 4554
                P0203 5552
                P0204 4E20
0401            P0205 2020          ALF     $,  TO RESTART$                                 **MSOS 4.1**N9000399
                P0206 544F
                P0207 2052
                P0208 4553
                P0209 5441
                P020A 5254
0402            P020B 0707          NUM     $0707           DOUBLE BELL                     **MSOS 4.1**N9000400
0403                  0024          EQU     LMSG3(*-MSG3)                                   N9000401
0404            P020C 5645  MSG4    ALF     12,VERIFY TAPE ON UNIT 0.                       N9000402
                P020D 5249
                P020E 4659
                P020F 2054
                P0210 4150
                P0211 4520
                P0212 4F4E
                P0213 2055
                P0214 4E49
                P0215 5420
                P0216 302E
                P0217 2020
0405            P0218 5245          ALF     2,READY                                         N9000403
                P0219 4144
0406            P021A 593F          NUM     $593F                                           N9000404
0407            P021B 0707          NUM     $0707           DOUBLE BELL                     **MSOS 4.1**N9000405
0408                  0010          EQU     LMSG4(*-MSG4)                                   N9000406
0409            P021C 2053  MSG5    ALF     $, SECTOR $                                     **MSOS 4.1**N9000407
                P021D 4543
                P021E 544F
                P021F 5220
0410            P0220 0002  MSEC    BZS     MSEC(2)                                         **MSOS 4.1**N9000408
0411            P0222 2057          ALF     $, WORD -- $                                    **MSOS 4.1**N9000409
                P0223 4F52
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                P0224 4420
                P0225 2D2D
                P0226 2020
0412            P0227 0002   WADR   BZS  WADRI2)                          **MSOS 4.1**N9000410
0413            P0229 2D2D          ALF  $, -- DOES NOT COMPARE.$          **MSOS 4.1**N9000411
                P022A 2D20
                P022B 444F
                P022C 4553
                P022D 204E
                P022E 4F54
                P022F 2043
                P0230 4F4D
                P0231 5041
                P0232 5245
                P0233 2E20
0414            P0234 0D0A          NUM  $0D0A          CARRIAGE RETURN LINE FEED  **MSOS 4.1**N9000412
0415            P0235 2020            ALF        $,  TYPE C TO CONTINUE.$                        N9000413
                P0236 5459
                P0237 5045
                P0238 2043
                P0239 2054
                P023A 4F20
                P023B 434F
                P023C 4E54
                P023D 494E
                P023E 5545
                P023F 2E20
0416            P0240 4F52          ALF  $,OR A CARRIAGE RETURN TO ABORT. $  **MSOS 4.1**N9000414
                P0241 2041
                P0242 2043
                P0243 4152
                P0244 5249
                P0245 4147
                P0246 4520
                P0247 5245
                P0248 5455
                P0249 524E
                P024A 2054
                P024B 4F20
                P024C 4142
                P024D 4F52
                P024E 542E
                P024F 2020
0417            P0250 0707          NUM  $0707          DOUBLE BELL            **MSOS 4.1**N9000415
0418                  0035            EQU        LMSG5(*-MSG5)                           N9000416
0419            P0251 5858   MSG6     ALF        $,XXXX SECTORS VERIFIED, $              N9000417
                P0252 5858
                P0253 2053
                P0254 4543
                P0255 544F
                P0256 5253
                P0257 2056
                P0258 4552
                P0259 4946
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                P025A 4945
                P025B 442C
                P025C 2020
0420                000C            EQU     LMSG6(*-MSG6)                                   N9000418
0421            P025D 494E  MSG7    ALF     $,INPUT TAPE ON UNIT 0. $                       N9000419
                P025E 5055
                P025F 5420
                P0260 5441
                P0261 5045
                P0262 204F
                P0263 4E20
                P0264 554E
                P0265 4954
                P0266 2030
                P0267 2E20
0422            P0268 5245          ALF     2,READY                                         N9000420
                P0269 4144
0423            P026A 593F          NUM     $593F                                           N9000421
0424            P026B 0707        NUM   $0707         DOUBLE BELL           **MSOS 4.1**N9000422
0425                000F            EQU     LMSG7(*-MSG7)                                   N9000423
0426            P026C 5858  MSG8    ALF     $,XXXX SECTORS LOADED  $                        N9000424
                P026D 5858
                P026E 2053
                P026F 4543
                P0270 544F
                P0271 5253
                P0272 204C
                P0273 4F41
                P0274 4445
                P0275 4420
                P0276 2020
0427                000B              EQU     LMSG8(*-MSG8)                                 N9000425
0428            P0277 4449  MSG90   ALF   *,DISK ERROR (*                                    N9000426
                P0278 534B
                P0279 2045
                P027A 5252
                P027B 4F52
                P027C 2028
0429            P027D 2020  DSTAT   ALF   2,                                                N9000427
                P027E 2020
0430            P027F 2920          ALF   *,)*                                              N9000428
0431                0009              EQU     LMSG90(*-MSG90)                               N9000429
0432            P0280 5441  MSG91   ALF   *,TAPE ERROR (*                                    N9000430
                P0281 5045
                P0282 2045
                P0283 5252
                P0284 4F52
                P0285 2028
0433            P0286 2020  TSTAT   ALF   2,                                                N9000431
                P0287 2020
0434            P0288 2920          ALF   *,)*                                              N9000432
0435                0009              EQU     LMSG91(*-MSG91)                               N9000433
0436                                    END     DSKTAP                                        N9000434

PGM=  0289 (   649)   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)	0103, 0105, 0140, 0194, 0231, 0233, 0249, 0269, 0296, 0298, 0317
0023	RECLEG	0C00	(003072)	0026, 0150, 0158, 0222, 0311, 0347
0024	SECTRK	0020	(000032)	0096, 0217, 0292
0025	BUF1	0100	(000256)	0026, 0049, 0056, 0059, 0081, 0084, 0085, 0142, 0148, 0181, 0183, 0208, 0209, 0212, 0223, 0262 0263, 0266, 0287, 0301, 0349
0026	B2	0D05	(003333)	0224, 0237
0385	LMSG0	0010	(000016)	0041
0391	LMSG1	0025	(000037)	0046
0396	LMSG2	0016	(000022)	0077
0403	LMSG3	0024	(000036)	0177
0408	LMSG4	0010	(000016)	0205
0418	LMSG5	0035	(000053)	0259
0420	LMSG6	000C	(000012)	0274
0425	LMSG7	000F	(000015)	0284
0427	LMSG8	000B	(000011)	0322
0431	LMSG90	0009	(000009)	0334
0435	LMSG91	0009	(000009)	0343

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	DSKTAP	0000	0006
0007	FST	007C	0007, 0141
0028	START	0000	0360, 0361, 0362, 0363, 0364, 0365, 0366, 0367, 0368, 0369, 0370
0045	RESTRT	0015	0191, 0336, 0345
0053	SRCH1	0022	0062
0056	SRCH10	0026	0054
0061	SRCH12	002D	0057
0065	TABL1	0030	0053, 0058, 0063
0073	LAST	0039	0075, 0092, 0107
0074	SAVSYS	003A	0066, 0088, 0091
0098	READ1	0056	0101
0102	INCSEC	005A	0100, 0112
0113	DIKOFF	0065	0109, 0111
0124	COMPV4	0066	0108, 0136
0128	AUPPER	006A	0125
0132	BTHSAM	006E	0126, 0128
0135	QBIGER	0071	0127
0136	ABIGER	0072	0131, 0134
0138	DSKCHK	0073	0095, 0144, 0216, 0291
0144	CD110	007B	
0147	WRTMGT	007D	0099, 0154
0148	CD130	007E	
0150	RECORD	0080	
0154	CD155	0087	0152
0156	DSKRD	0088	0098, 0162, 0196, 0221
0160	ERRCK	008E	
0162	DSKEXT	0091	0160
0164	SECOND	0092	
0165	ABUFF	0093	0143, 0157, 0195, 0310
0166	SAVEI	0094	
0167	TRKSEC	0095	0097, 0104, 0218, 0232, 0293, 0297
0168	ISAV	0096	
0173	DSKOFF	0097	0113
0175	ENDING	009A	0055, 0278, 0327
0193	AUTLOD	00B1	0187
0197	DOLOAD	00B5	
0204	VERIFY	00B7	0190, 0214
0219	VFYLOP	00CB	0234
0222	VFY200	00CD	
0223	VFY210	00CF	0229
0227	VFY230	00D5	0225

0230	BMPSEC	00D8	0268
0236	MAGTRD	00DC	0220, 0244
0243	VFY120	00E5	0241
0244	VFY140	00E7	0240
0246	VFYERR	00E8	0226
0253	VER120	00F3	
0254	VFYWRD	00F4	0248
0269	VFYEND	010C	0242
0283	LODISK	011C	0068
0294	WRITE1	012B	0299
0300	RDTAPE	0132	0294, 0308
0307	LOD120	013B	0305
0308	LOD140	013C	0304
0309	DISKWR	013D	0295, 0315
0313	ERRCHK	0144	
0315	LOD10	0146	0313
0317	LODEND	0147	0306
0329	DSKERR	0157	0161, 0314
0338	MTERR1	0164	0153, 0243, 0307
0346	BKGND	0171	0048, 0080, 0179, 0286, 0353
0347	BGBUF	0172	
0349	BKG100	0175	0352
0354	ADLST1	017B	0380
0355	AMSG0	017B	0042
0356	AMSG1	017C	0045
0356	AMSG2	017D	0076
0356	AMSG3	017E	0175
0356	AMSG4	017F	0204
0356	AMSG5	0180	0258
0357	AMSG6	0181	0273
0357	AMSG7	0182	0283
0357	AMSG8	0183	0321
0358	AMSG90	0184	0333
0358	AMSG91	0185	0342
0359	ADLST2	0186	0376
0372	BASE	0192	0374, 0379
0373	SETUP	0193	0034, 0378
0376	SET100	0196	0382
0383	MSG0	019D	0360, 0385
0384	SCRATH	01AB	0039, 0040
0386	MSG1	01AD	0361, 0391
0392	MSG2	01D2	0362, 0396
0397	MSG3	01E8	0363, 0403
0404	MSG4	020C	0364, 0408
0409	MSG5	021C	0365, 0418
0410	MSEC	0220	0251, 0252
0412	WADR	0227	0256, 0257
0419	MSG6	0251	0271, 0272, 0366, 0420
0421	MSG7	025D	0367, 0425
0426	MSG8	026C	0319, 0320, 0368, 0427
0428	MSG90	0277	0369, 0431
0429	DSTAT	027D	0331, 0332
0432	MSG91	0280	0370, 0435

0433 TSTAT 0286 0340, 0341

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0008	ENCDHX	0166	0038, 0250, 0255, 0270, 0318, 0330, 0339
0008	DCODHX	004D	0086
0009	EQCODE	0008	0035
0010	CDRIVE	016E	0043, 0047, 0051, 0079, 0083, 0178, 0182, 0206, 0211, 0260, 0265, 0275, 0285, 0289, 0323, 0335 0344
0011	MDRIVE	0143	0159, 0312
0012	MGDRIV	0099	0151, 0174
0013	MGREAD	0154	0239, 0277, 0303, 0326

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ABIGER	0136	ABUFF	0165	ADLST1	0354	ADLST2	0359	AMSG0	0355	AMSG1	0356	AMSG2	0356	AMSG3	0356	AMSG4	0356
AMSG5	0356	AMSG6	0357	AMSG7	0357	AMSG8	0357	AMSG90	0358	AMSG91	0358	AUPPER	0128	AUTLOD	0193	B2	0026
BASE	0372	BGBUF	0347	BKG100	0349	BKGND	0346	BMPSEC	0230	BTHSAM	0132	BUF1	0025	CD110	0144	CD130	0148
CD155	0154	CDRIVE	0010	COMPV4	0124	DCODHX	0008	DIKOFF	0113	DISKWR	0309	DOLOAD	0197	DSKCHK	0138	DSKERR	0329
DSKEXT	0162	DSKOFF	0173	DSKRD	0156	DSKTAP	0006	DSTAT	0429	ENCDHX	0008	ENDING	0175	EQCODE	0009	ERRCHK	0313
ERRCK	0160	FST	0007	I	0000	INCSEC	0102	ISAV	0168	LAST	0073	LMSG0	0385	LMSG1	0391	LMSG2	0396
LMSG3	0403	LMSG4	0408	LMSG5	0418	LMSG6	0420	LMSG7	0425	LMSG8	0427	LMSG90	0431	LMSG91	0435	LOD10	0315
LOD120	0307	LOD140	0308	LODEND	0317	LODISK	0283	MAGTRD	0236	MDRIVE	0011	MGDRIV	0012	MGREAD	0013	MSEC	0410
MSG0	0383	MSG1	0386	MSG2	0392	MSG3	0397	MSG4	0404	MSG5	0409	MSG6	0419	MSG7	0421	MSG8	0426
MSG90	0428	MSG91	0432	MTERR1	0338	QBIGER	0135	RDTAPE	0300	READ1	0098	RECLEG	0023	RECORD	0150	RESTRT	0045
SAVEI	0166	SAVSYS	0074	SCRATH	0384	SECOND	0164	SECTRK	0024	SET100	0376	SETUP	0373	SRCH1	0053	SRCH10	0056
SRCH12	0061	START	0028	TABL1	0065	TRKSEC	0167	TSTAT	0433	VER120	0253	VERIFY	0204	VFY120	0243	VFY140	0244
VFY200	0222	VFY210	0223	VFY230	0227	VFYEND	0269	VFYERR	0246	VFYLOP	0219	VFYWRD	0254	WADR	0412	WRITE1	0294
WRTNGT	0147																

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0001                    NAM  DSKEQC        DECK-ID N91  MSOS 5.0                SUMMARY-11 0N9100001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N9100002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N9100003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                           N9100004


0006                      ENT       EQCODE                                              N9100006
0007                      EXT*      EWES          MGREAD (MAG. TAPE DRIVER)             N9100007
0008                      EXT*      EWES1         MGDRIVE (MAG. TAPE DRIVER)            N9100008
0009                      EXT*      GENFC         MDRIVE (DISK DRIVER)                  N9100009
0010                      EXT*      CDRIVE        COMM. DRIVER - TTY -                  N9100010
0011                    EXT* DCODHX                                  **MSOS 4.1**N9100011
0012 P0000 0B00   EQCODE  NOP       0                                                   N9100012
0013 P0001 580E           RTJ* FSTPAS          CHECK FOR FIRST PASS                     N9100013
0014 P0002 5801             RTJ*    ABAD                                              N9100014
0015 P0003 0B00   ABAD      NOP     0                  BASE+1                         N9100015
0016 P0004 C8FE             LDA*    ABAD                                              N9100016
0017 P0005 09FC           INA     -3                                                  N9100017
0018 P0006 68FC             STA*    ABAD                                              N9100018
0019 P0007 0C05           ENQ  NMSG          NO OF MSGS                 **MSOS 4.1**N9100019
0020 P0008 0DFE   QN      INQ  -1                                       **MSOS 4.1**N9100020
0021 P0009 0179           SQM  QZ            ALL ABSOLUTIZED            **MSOS 4.1**N9100021
0022 P000A C8F8           LDA* ABAD                                     **MSOS 4.1**N9100022
0023 P000B 8A00             ADD     ADR,Q                ABSO. ADD. OF FIRST MESS.    N9100023
     P000C 0030
0024 P000D 6A2F             STA*    ADR,Q                                             N9100024
0025 P000E 18F9             JMP*    QN                                                N9100025
0026 P000F 0B00   FSTPAS NOP   0                                                       N9100026
0027 P0010 C82B           LDA* PAS1                                                   N9100027
0028 P0011 0131           SAM  QZ             SKIP IF SECOND PASS                     N9100028
0029 P0012 1CFC           JMP* (FSTPAS)                                               N9100029
0030 P0013 C829   QZ        LDA*    ADR                ADD. OF MESS. 1                N9100030
0031 P0014 0C13           ENQ  LMTMES        WORD COUNT 1                 **MSOS 4.1**N9100031
0032 P0015 5800 X           RTJ     CDRIVE             OUTPUT MESS. 1                 N9100032
     P0016 7FFF X
0033 P0017 C827             LDA*    ADR+2              ADD.OF BUFF. 1                 N9100033
0034 P0018 0C00             ENQ     0                                                 N9100034
0035 P0019 5800 X           RTJ     CDRIVE             INPUT   1                      N9100035
     P001A 0016 X
0036 P001B C822             LDA*    ADR+1              ADD. OF MESS.   2              N9100036
0037 P001C 0C14           ENQ  LDKMES        WORD COUNT 2                 **MSOS 4.1**N9100037
0038 P001D 5800 X           RTJ     CDRIVE             OUTPUT MESS.  2                N9100038
     P001E 001A X
0039 P001F C820             LDA*    ADR+3              ADD. OF BUFF.  2               N9100039
0040 P0020 0C00             ENQ     0                                                 N9100040
0041 P0021 5800 X           RTJ     CDRIVE             INPUT  2                       N9100041
     P0022 001E X
0042 P0023 E81E           LDQ* MTBUF         GET ASCII OF                 **MSOS 4.1**N9100042
0043 P0024 C81E           LDA* MTBUF+1       MT EQUIP CODE                **MSOS 4.1**N9100043
0044 P0025 5800 X         RTJ  DCODHX        CONVERT T6 HEX               **MSOS 4.1**N9100044
     P0026 7FFF X
0045 P0027 180F           JMP* ERREQP        INPUT ERROR                  **MSOS 4.1**N9100045
0046 P0028 6800 X         STA  EWES          STORE HEX                    **MSOS 4.1**N9100046
     P0029 7FFF X
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0047 P002A 6800 X          STA  EWES1          STORE HEX                    **MSOS 4.1**N9100047
     P002B 7FFF X
0048 P002C E819            LDQ* DKBUF          GET ASCII OF                 **MSOS 4.1**N9100048
0049 P002D C819            LDA* DKBUF+1        DISK EQUIP CODE              **MSOS 4.1**N9100049
0050 P002E 5800 X          RTJ  DCODHX         CONVERT TO HEX               **MSOS 4.1**N9100050
     P002F 0026 X
0051 P0030 1806            JMP* ERREQP         INPUT ERROR                  **MSOS 4.1**N9100051
0052 P0031 6800 X          STA  GENFC          DISK/DRUM                    **MSOS 4.1**N9100052
     P0032 7FFF X
0053 P0033 0804             SET A                                                        N9100053
0054 P0034 6807            STA* PAS1                                                    N9100054
0055 P0035 1CCA             JMP*       (EQCODE)                                        N9100055
0056 P0036 C80A   ERREQP LDA* AERREQ           GET ADDRESS OF MSG           **MSOS 4.1**N9100056
0057 P0037 0C0E            ENQ  LERREQ         GET LENGTH                   **MSOS 4.1**N9100057
0058 P0038 5800 X          RTJ  CDRIVE         COMMENT DRIVER               **MSOS 4.1**N9100058
     P0039 0022 X
0059 P003A 18D8            JMP* QZ             RE-ENTER PARAMETERS          **MSOS 4.1**N9100059
0060 P003B 0000   PAS1     NUM  0                                                       N9100060
0061 P003C 0049   ADR        ADC       MTMES-EQCODE                                    N9100061
0062 P003D 005C              ADC       DSKMES-EQCODE                                   N9100062
0063 P003E 0041              ADC       MTBUF-EQCODE                                    N9100063
0064 P003F 0045              ADC       DKBUF-EQCODE                                    N9100064
0065 P0040 0070   AERREQ ADC  ERRMSG-EQCODE                                  **MSOS 4.1**N9100065
0066       0005           EQU  NMSG(*-ADR)                                  **MSOS 4.1**N9100066
0067 P0041 0004              BZS       MTBUF(4),DKBUF(4)                               N9100067
     P0045 0004
0068 P0049 3420   MTMES      ALF       11,4 DIG. EQ. CODE FOR ..                       N9100068
     P004A 4449
     P004B 472E
     P004C 2045
     P004D 512E
     P004E 2043
     P004F 4F44
     P0050 4520
     P0051 464F
     P0052 5220
     P0053 2E2E
0069 P0054 0A0D              NUM       $0A0D                                           N9100069
0070 P0055 2020              ALF       6,  MAG. TAPE                                   N9100070
     P0056 4D41
     P0057 472E
     P0058 2054
     P0059 4150
     P005A 4520
0071 P005B 0707            NUM  $0707          BELL                         **MSOS 4.1**N9100071
0072       0013   LMTMES EQU  LMTMES(*-MTMES)                               **MSOS 4.1**N9100072
0073 P005C 3420   DSKMES   ALF       11,4 DIG. EQ. CODE FOR ..                       N9100073
     P005D 4449
     P005E 472E
     P005F 2045
     P0060 512E
     P0061 2043
     P0062 4F44
     P0063 4520
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      P0064 464F
      P0065 5220
      P0066 2E2E
0074  P0067 0A0D            NUM     $0A0D                                  N9100074
0075  P0068 2020            ALF   *,  MASS MEMORY*                **MSOS 4.1**N9100075
      P0069 4D41
      P006A 5353
      P006B 204D
      P006C 454D
      P006D 4F52
      P006E 5920
0076  P006F 0707            NUM   $0707           BELL             **MSOS 4.1**N9100076
0077        0014    LDKMES  EQU   LDKMES(*-DSKMES)                 **MSOS 4.1**N9100077
0078  P0070 494C    ERRMSG  ALF   *,ILLEGAL PARAMETERS SPECIFIED*   **MSOS 4.1**N9100078
      P0071 4C45
      P0072 4741
      P0073 4C20
      P0074 5041
      P0075 5241
      P0076 4D45
      P0077 5445
      P0078 5253
      P0079 2053
      P007A 5045
      P007B 4349
      P007C 4649
      P007D 4544
0079        000E            EQU   LERREQ(*-ERRMSG)                 **MSOS 4.1**N9100079
0080                          END                                              N9100080

PGM=   007E (    126)    COM = 0000 (      0)    DAT = 0000 (      0)
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E Q U I V A L E N C E S

DEF.LINE	NAME	VALUE		REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	
0066	NMSG	0005	(000005)	0019
0072	LMTMES	0013	(000019)	0031
0077	LOKMES	0014	(000020)	0037
0079	LERREQ	000E	(000014)	0057

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	EQCODE	0000	0006, 0055, 0061, 0062, 0063, 0064, 0065
0015	ABAD	0003	0014, 0016, 0018, 0022
0020	QN	0008	0025
0026	FSTPAS	000F	0013, 0029
0030	QZ	0013	0021, 0028, 0059
0056	ERREQP	0036	0045, 0051
0060	PAS1	003B	0027, 0054
0061	ADR	003C	0023, 0024, 0030, 0033, 0036, 0039, 0066
0065	AERREQ	0040	0056
0067	MTBUF	0041	0042, 0043, 0063
0067	DKBUF	0045	0048, 0049, 0064
0068	MTMES	0049	0061, 0072
0073	DSKMES	005C	0062, 0077
0078	ERRMSG	0070	0065, 0079

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0007	EWES	0029	0046
0008	EWES1	002B	0047
0009	GENFC	0032	0052
0010	GDRIVE	0039	0032, 0035, 0038, 0041, 0058
0011	DCODHX	002F	0044, 0050

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ABAD	0015	ADR	0061	AERREQ	0065	CDRIVE	0010	DCODHX	0011	DKBUF	0067	DSKMES	0073	EQCODE	0006	ERREQP	0056
ERRMSG	0078	EWES	0007	EWES1	0008	FSTPAS	0026	GENFC	0009	I	0000	LDKMES	0077	LERREQ	0079	LMTMES	0072
MTBUF	0067	MTMES	0068	NMSG	0066	PAS1	0060	QN	0020	QZ	0030						

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0001                        NAM  DSKDHX        DECK-ID 068  MSOS 5.0          SUMMARY-11 068000001
0002                   *    MASS STORAGE OPERATING SYSTEM VERSION 5.0                    068000002
0003                   *    SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                068000003
0004                   *    COPYRIGHT CONTROL DATA CORPORATION 1976                     068000004
0005                   *      COSY DECK NAME ** DSKDHX **                               068000005
0006                          ENT       DCODHX                                         068000006
0007          0020            EQU       SPACE($20)                                     068000007
0008 P0000 7FFF    DCODHX     ADC       -0                                             068000008
0009 P0001 4829               STQ*      C1                                             068000009
0010 P0002 682A               STA*      C3                                             068000010
0011 P0003 0FE8               LLS       8                                              068000011
0012 P0004 4827               STQ*      C2                                             068000012
0013 P0005 6828               STA*      C4                                             068000013
0014 P0006 0C00               ENQ       0                                              068000014
0015 P0007 4827               STQ*      KNTR                                           068000015
0016 P0008 4827               STQ*      NUM                                            068000016
0017 P0009 CA21    DHX100     LDA*      C1,Q                                           068000017
0018 P000A 0F48               ARS       8                                              068000018
0019 P000B 0101               SAZ       1                                              068000019
0020 P000C 0121               SAP       DHX120-*-1                                     068000020
0021 P000D 181A               JMP*      DHXEND                                         068000021
0022 P000E 09DF    DHX120     INA       -SPACE                                         068000022
0023 P000F 0111               SAN       1                                              068000023
0024 P0010 1811               JMP*      DHX200                                         068000024
0025 P0011 0920               INA       SPACE                                          068000025
0026 P0012 681E               STA*      TEMP1                                          068000026
0027 P0013 0C0F               ENQ       $F                                             068000027
0028 P0014 CA32    DHX140     LDA*      TABLE,Q                                        068000028
0029 P0015 B81B               EOR*      TEMP1                                          068000029
0030 P0016 0111               SAN       1                                              068000030
0031 P0017 1806               JMP*      DHX160                                         068000031
0032 P0018 0DFE               INQ       -1                                             068000032
0033 P0019 0171               SQM       1                                              068000033
0034 P001A 18F9               JMP*      DHX140                                         068000034
0035 P001B 0AFF    DHXERR     ENA       -0                                             068000035
0036 P001C 1CE3               JMP*      (DCODHX)                                       068000036
0037 P001D C812    DHX160     LDA*      NUM                                            068000037
0038 P001E 0FC4               ALS       4                                              068000038
0039 P001F 0834               AAQ       A                                              068000039
0040 P0020 680F               STA*      NUM                                            068000040
0041 P0021 D80D    DHX200     RAQ*      KNTR                                           068000041
0042 P0022 E80C               LDQ*      KNTR                                           068000042
0043 P0023 C200               LDA       =N-4,Q                                         068000043
     P0024 FFFB
0044 P0025 0121               SAP       DHXEND-*-1                                     068000044
0045 P0026 18E2               JMP*      DHX100                                         068000045
0046 P0027 C808    DHXEND     LDA*      NUM                                            068000046
0047 P0028 D8D7               RAQ*      DCODHX                                         068000047
0048 P0029 1CD6               JMP*      (DCODHX)                                       068000048
0049 P002A 0001               BSS       C1,C2,C3,C4,KNTR,NUM                           068000049
     P002B 0001
     P002C 0001
     P002D 0001
     P002E 0001
```

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     P002F 0001
0050 P0030 0001                BSS       TEMP1                                  06800050

0052                           ENT       ENCDHX                                 06800052
0053 P0031 7FFF   ENCDHX       ADC       -0                                     06800053
0054 P0032 0C00                ENQ       0                                      06800054
0055 P0033 0FE4                LLS       4                                      06800055
0056 P0034 EA12                LDQ*      TABLE,Q                                06800056
0057 P0035 0FA8                QLS       8                                      06800057
0058 P0036 48F3                STQ*      C1                                     06800058
0059 P0037 0C00                ENQ       0                                      06800059
0060 P0038 0FE4                LLS       4                                      06800060
0061 P0039 EA0D                LDQ*      TABLF,Q                                06800061
0062 P003A F8EF                ADQ*      C1                                     06800062
0063 P003B 48EE                STQ*      C1                                     06800063
0064 P003C 0C00                ENQ       0                                      06800064
0065 P003D 0FE4                LLS       4                                      06800065
0066 P003E EA08                LDQ*      TABLE,Q                                06800066
0067 P003F 0FA8                QLS       8                                      06800067
0068 P0040 0FE8                LLS       8                                      06800068
0069 P0041 0F24                QRS       4                                      06800069
0070 P0042 0FC8                ALS       8                                      06800070
0071 P0043 BA03                EOR*      TABLE,Q                                06800071
0072 P0044 E8E5                LDQ*      C1                                     06800072
0073 P0045 1CEB                JMP*      (ENCDHX)                               06800073
0074 P0046 0030   TABLE        NUM       $30,$31,$32,$33,$34,$35                06800074
     P0047 0031
     P0048 0032
     P0049 0033
     P004A 0034
     P004B 0035
0075 P004C 0036                NUM       $36,$37,$38,$39                        06800075
     P004D 0037
     P004E 0038
     P004F 0039
0076 P0050 0041                NUM       $41,$42,$43,$44,$45,$46                06800076
     P0051 0042
     P0052 0043
     P0053 0044
     P0054 0045
     P0055 0046
0077                           ENT       DCODEC                                 06800077
0078 P0056 7FFF   DCODEC       ADC       -0                                     06800078
0079 P0057 4828                STQ*      CH1                                    06800079
0080 P0058 6829                STA*      CH3                                    06800080
0081 P0059 0FE8                LLS       8                                      06800081
0082 P005A 4826                STQ*      CH2                                    06800082
0083 P005B 6827                STA*      CH4                                    06800083
0084 P005C 0C00                ENQ       0                                      06800084
0085 P005D 4826                STQ*      VAL                                    06800085
0086 P005E 4826                STQ*      DKT                                    06800086
0087 P005F CA20   DDC210       LDA*      CH1,Q                                  06800087
```

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0088 P0060 0F48          ARS      8                                  06800088
0089 P0061 0101          SAZ      1                                  06800089
0090 P0062 0121          SAP      1                                  06800090
0091 P0063 1819          JMP*     DDC250                             06800091
0092 P0064 681B          STA*     CH1                                06800092
0093 P0065 09DF          INA      -SPACE                             06800093
0094 P0066 0111          SAN      1                                  06800094
0095 P0067 180F          JMP*     DDC230                             06800095
0096 P0068 0A0A          ENA      10                                 06800096
0097 P0069 281A          MUI*     VAL                                06800097
0098 P006A 6819          STA*     VAL                                06800098
0099 P006B C814          LDA*     CH1                                06800099
0100 P006C 09CF          INA      -$30                               06800100
0101 P006D 0121          SAP      1                                  06800101
0102 P006E 1806          JMP*     DDCERR                             06800102
0103 P006F 0822          TRA      Q                                  06800103
0104 P0070 8813          ADD*     VAL                                06800104
0105 P0071 6812          STA*     VAL                                06800105
0106 P0072 0DF5          INQ      -10                                06800106
0107 P0073 0172          SQM      DDC230-*-1                         06800107
0108 P0074 0AFF DDCERR   ENA      -0                                 06800108
0109 P0075 1CE0          JMP*     (DCODEC)                           06800109
0110 P0076 D80E DDC230   RAO*     DKT                                06800110
0111 P0077 E80D          LDQ*     DKT                                06800111
0112 P0078 C200          LDA      =N-4,Q                             06800112
     P0079 FFFB
0113 P007A 0121          SAP      DDC250-*-1                         06800113
0114 P007B 18E3          JMP*     DDC210                             06800114
0115 P007C C807 DDC250   LDA*     VAL                                06800115
0116 P007D D8D8          RAO*     DCODEC                             06800116
0117 P007E 1CD7          JMP*     (DCODEC)                           06800117
0118 P007F 0001          BSS      CH1,CH2,CH3,CH4                    06800118
     P0080 0001
     P0081 0001
     P0082 0001
0119 P0083 0001          BSS      VAL,DKT                            06800119
     P0084 0001
0120                     ENT      ENCDEC                             06800120
0121 P0085 7FFF ENCDEC   ADC      -0                                 06800121
0122 P0086 0133          SAM      EDCERR-*-1                         06800122
0123 P0087 68FB          STA*     VAL                                06800123
0124 P0088 981B          SUB*     MAXDEC                             06800124
0125 P0089 0134          SAM      EDC200-*-1                         06800125
0126 P008A C000 EDCERR   LDA      =A**                               06800126
     P008B 2A2A
0127 P008C 0822          TRA      Q                                  06800127
0128 P008D 1CF7          JMP*     (ENCDEC)                           06800128
0129 P008E C000 EDC200   LDA      =A00                               06800129
     P008F 3030
0130 P0090 68EE          STA*     CH1                                06800130
0131 P0091 68EE          STA*     CH2                                06800131
0132 P0092 C8F0          LDA*     VAL                                06800132
0133 P0093 0C00          ENQ      0                                  06800133
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0134 P0094 3810          DVI*    TEN                    06800134
0135 P0095 F8EA          ADQ*    CH2                    06800135
0136 P0096 48E9          STQ*    CH2                    06800136
0137 P0097 0C00          ENQ     0                      06800137
0138 P0098 380C          DVI*    TEN                    06800138
0139 P0099 0FA8          QLS     8                      06800139
0140 P009A F8E5          ADQ*    CH2                    06800140
0141 P009B 48E4          STQ*    CH2                    06800141
0142 P009C 0C00          ENQ     0                      06800142
0143 P009D 3807          DVI*    TEN                    06800143
0144 P009E F8E0          ADQ*    CH1                    06800144
0145 P009F 0FC8          ALS     8                      06800145
0146 P00A0 0872          EAQ     Q                      06800146
0147 P00A1 C8DE          LDA*    CH2                    06800147
0148 P00A2 1CE2          JMP*    (ENCDEC)               06800148
0149 P00A3 2710  MAXDEC  NUM     10000                  06800149
0150 P00A4 000A  TEN     NUM     10                     06800150
0151                     END                            06800151
```

PGM= 00A5 (165) 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)	
0007	SPACE	0020	(000032)	0022, 0025, 0093

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	DCODHX	0000	0006, 0036, 0047, 0048
0017	DHX100	0009	0045
0022	DHX120	000E	0020
0028	DHX140	0014	0034
0035	DHXERR	001B	
0037	DHX160	001D	0031
0041	DHX200	0021	0024
0046	DHXEND	0027	0021, 0044
0049	C1	002A	0009, 0017, 0058, 0062, 0063, 0072
0049	C2	002B	0012
0049	C3	002C	0010
0049	C4	002D	0013
0049	KNTR	002E	0015, 0041, 0042
0049	NUM	002F	0016, 0037, 0040, 0046
0050	TEMP1	0030	0026, 0029
0052	ENCDHX	0031	0052, 0073
0074	TABLE	0046	0028, 0056, 0061, 0066, 0071
0077	DCODEC	0056	0077, 0109, 0116, 0117
0087	DDC210	005F	0114
0108	DDCERR	0074	0102
0110	DDC230	0076	0095, 0107
0115	DDC250	007C	0091, 0113
0118	CH1	007F	0079, 0087, 0092, 0099, 0130, 0144
0118	CH2	0080	0082, 0131, 0135, 0136, 0140, 0141, 0147
0118	CH3	0081	0080
0118	CH4	0082	0083
0119	VAL	0083	0085, 0097, 0098, 0104, 0105, 0115, 0123, 0132
0119	DKT	0084	0086, 0110, 0111
0120	ENCDEC	0085	0120, 0128, 0148
0126	EDCERR	008A	0122
0129	EDC200	008E	0125
0149	MAXDEC	00A3	0124
0150	TEN	00A4	0134, 0138, 0143

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

C1	0049	C2	0049	C3	0049	C4	0049	CH1	0118	CH2	0118	CH3	0118	CH4	0118	DCODEC	0077
DCODHX	0006	DDC210	0087	DDC230	0110	DDC250	0115	DDCERR	0108	DHX100	0017	DHX120	0022	DHX140	0028	DHX160	0037
DHX200	0041	DHXEND	0046	DHXERR	0035	DKT	0119	EDC200	0129	EDCERR	0126	ENCDEC	0120	ENCDHX	0052	I	0000
KNTR	0049	MAXDEC	0149	NUM	0049	SPACE	0007	TABLE	0074	TEMP1	0050	TEN	0150	VAL	0119		

```
0001                        NAM  SPCALL          DECK-ID N92  MSOS 5.0          SUMMARY-110N9200001
0002                    *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                    N9200002
0003                    *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                N9200003
0004                    *   COPYRIGHT CONTROL DATA CORPORATION 1976                      N9200004

0006                        ENT  SETPV4                                                 N9200006
0007                    SETPV4 GTFILE COMP,NAME-SETPV4-1,FWA,FWA-SETPV4+1,0,,0,1,1      N9200007
0007 P0000 54F4
0007 P0001 5A01
0007 P0002 000F P
     P0003 0000
0007 P0004 08C2
     P0005 0011
     P0006 0010 P
0007 P0007 0000
     P0008 000B
0008 P0009 0000             ADC  0                                                      N9200008
0009 P000A 0000             ADC  0                                                      N9200009
0010 P000B 14EA             NUM  $14EA          JUMP TO DISPATCHER                      N9200010
0011 P000C 5354    NAME     ALF  3,STP1V4                                               N9200011
     P000D 5031
     P000E 5634
0012 P000F 1801    COMP     JMP* FWA                                                    N9200012
0013 P0010 5400    FWA      RTJ* 0                                                      N9200013
     P0011 0000
0014                        END  SETPV4                                                 N9200014

PGM=  0012 (    18)   COM = 0000 (     0)   DAT = 0000 (     0)
```

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

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

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	SETPV4	0000	0006, 0007, 0007
0011	NAME	000C	0007
0012	COMP	000F	0007
0013	FWA	0010	0007, 0007, 0012

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

COMP	0012	FWA	0013	I	0000	NAME	0011	SETPV4	0006

```
0001                        NAM  SPOLY1        DECK-ID N93  MSOS 5.0                SUMMARY-110N9300001
0002                    *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N9300002
0003                    *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N9300003
0004                    *   COPYRIGHT CONTROL DATA CORPORATION 1976                           N9300004


0006                    *     1700 MSOS VERSION 4.0 SETUP UTILITY                             N9300006
0007                        ENT  SETPV4                                                       N9300007
0008                        ENT  SUP                                                          N9300008
0009                        EXT  STPV4                                                        N9300009
0010                    SETPV4 GTFILE COMP,NAME-SETPV4-1,FWA,FWA-SETPV4+1,0,,0,1,1            N9300010
0010 P0000 54F4
0010 P0001 5A01
0010 P0002 000F P
     P0003 0000
0010 P0004 C8C2
     P0005 0011
     P0006 0010 P
0010 P0007 0000
     P0008 000B
0011 P0009 0000             ADC  0                                                            N9300011
0012 P000A 0000             ADC  0                                                            N9300012
0013 P000B 14EA             NUM  $14EA          JUMP TO DISPATCHER                            N9300013
0014 P000C 5354   NAME      ALF  3,STP1V4                                                     N9300014
     P000D 5031
     P000E 5634
0015 P000F 1801   COMP      JMP* FWA                                                          N9300015
0016 P0010 5400 X FWA       RTJ* STPV4                                                        N9300016
     P0011 7FFF X
                                                                                           N9300017
0017 P0012 0000   SUP       NUM  0                                                  MSOS4.1   N9300018
0018 P0013 0A00             ENA  0                                                  MSOS4.1   N9300019
0019 P0014 68F2             STA* SETPV4+7       CLEAR W2                            MSOS4.1   N9300020
0020 P0015 68F4             STA* SETPV4+10      CLEAR SECTOR ADDRESS                          N9300021
0021 P0016 C8F6             LDA* NAME+1                                                       N9300022
0022 P0017 0901             INA  1                                                            N9300023
0023 P0018 68F4             STA* NAME+1                                                       N9300024
0024 P0019 18E6             JMP* SETPV4                                                       N9300025
0025                        END  SETPV4


PGM=  001A (    26)   COM = 0000 (     0)   DAT = 0000 (     0)
```

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

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

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0007	SETPV4	0000	0007, 0010, 0010, 0019, 0020, 0024
0008	SUP	0012	0008
0014	NAME	000C	0010, 0021, 0023
0015	COMP	000F	0010
0016	FWA	0010	0010, 0010, 0015

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0009	STPV4	0011	0016

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

COMP	0015	FWA	0016	I	0000	NAME	0014	SETPV4	0007	STPV4	0009	SUP	0008		

1 RECORDS TRANSFERRED

```
      1              SUBROUTINE STPV4                                                  N9400001
      1             1                    /DECK-ID N94  MSOS 5.0          SUMMARY-110N9400002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                        N9400003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     N9400004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                          N9400005
      2             COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                        N9400006
      3             COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      N9400007
      4             COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             N9400008
      5             COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    N9400009
      6             COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        N9400010
      7             IEND=0                                                           N9400011
      8             IRDFLG=0                                                         N9400012
      9             IFATAL=0                                                         N9400013
     10             ICPMC=1                                                          N9400014
     11             IMCX=1                                                           N9400015
     12             IPB=1                                                            N9400016
     13             IPM=1                                                            N9400017
     14             ISCR=50                                                          N9400018
            C        MAIN PROGRAM READS ALL CONTROL CARDS                             N9400019
     15             IMODE=$1000                                                      N9400020
     16             IUNIT=$08F9                                                      N9400021
     17             DO 30 I=1,97                                                     N9400022
     18      30     IOBUF(I)=$2020                                                   N9400023
     19             CALL IREAD                                                       N9400024
     20             CALL CONPRT                                                      N9400025
            C        READ FIRST CONTROL STATEMENT                                   N9400026
     21             IF(IOBUF(1).EQ.$2A4C) GO TO 10                                   N9400027
     22             IERR=1                                                           N9400028
     23             CALL IERROR                                                      N9400029
     24             ASSEM $54F4,$4A00                                                N9400030
            C        EXIT IF *L NOT FIRST CONTROL STATEMENT                         N9400031
     25      10     CALL CONDEC                                                      N9400032
            C        DECODE AND SAVE CONTROL STATEMENT                              N9400033
     26      20     DO 21 I=1,97                                                     N9400034
     27      21     IOBUF(I)=$2020                                                   N9400035
     28             CALL IREAD                                                       N9400036
     29             CALL CONPRT                                                      N9400037
            C        PRINT OUT CONTROL STATEMENT                                    N9400038
     30             IF(IOBUF(1).EQ.$2A45) IEND=1                                     N9400039
     31             CALL CONDEC                                                      N9400040
     32             IF(IEND.EQ.0) GO TO 20                                           N9400041
            C FORCE LAST PAGE OF MASTER CONTROL TABLE WRITTEN TO DISK                N9400042
     33             CALL MCTDK                                                       N9400043
            C        CONTROL CARDS ALL READ NOW PUT THEM IN ORDER                   N9400044
     34             CALL ORDERM                                                      N9400045
            C        CONTROL CARDS IN ORDER NOW EXECUTE THEM                        N9400046
     35             CALL SUP                                                         N9400047
     36             END                                                              N9400048
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $005C (    92)

EXTERNALS
IREAD  CONPRT IERROR CONDEC MCTDK  ORDERM SUP
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
08F9 (2297)	0002	16
1000 (4096)	0001	15
2020 (8224)	0004	18,27
2A45 (10821)	0006	30
2A4C (10828)	0005	21

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	0003	16,18,26,27
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1,10
IDCTR	INTEGER	00DA C	1
IEND	INTEGER	0000	1,7,30,32
IERR	INTEGER	00CB C	1,22
IFATAL	INTEGER	00D4 C	1,9
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1,11
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1,15
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,18,21,27,30
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1,12
IPM	INTEGER	00D3 C	1,13
IRDFLG	INTEGER	0000 C	1,8
ISCR	INTEGER	0000 C	1,14
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1,16

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
CONDEC	SUBROUTINE	0039	25,31
CONPRT	SUBROUTINE	002C	18,29
IERROR	SUBROUTINE	0035	22
IREAD	SUBROUTINE	002A	18,28
MCTDK	SUBROUTINE	0051	32
ORDERM	SUBROUTINE	0053	32
SUP	SUBROUTINE	0055	32

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	0038	21,25
20	003A	25,32
21	003C	25,27
30	0021	16,18
STPV4	0058	1

```
      1            SUBROUTINE IERROR                                                  N9500001
      1           1          /DECK-ID N95  MSOS 5.0                  SUMMARY-11DN9500002
            C      MASS STORAGE OPERATING SYSTEM VERSION 5.0                         N9500003
            C      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      N9500004
            C      COPYRIGHT CONTROL DATA CORPORATION 1976                           N9500005
            C      ROUTINE TO PRINT OUT ERROR MESSAGES                               N9500006
            C      ERROR PASSED IN IERR                                              N9500007
            C      MAXIMUM NUMBER OF ERROR MESSAGES 15                               N9500008
      2            COMMON IROFLG,IMODE,IUNIT,IOBUF(97),IOCTR                         N9500009
      3            COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                       N9500010
      4            COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL              N9500011
      5            COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                     N9500012
      6            COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                         N9500013
      7            DIMENSION IE(6)                                                   N9500014
      8            DATAIE(1),IE(2),IE(3),IE(4),IE(5),IE(6)/                          N9500015
      8           *$202A,$2A2A,$2A2A,$4552,$524F,$5220/                              N9500016
      9            K=IERR                                                            N9500017
     10            IF(IERR.GT.9) GO TO 10                                            N9500018
     11            J=$2030+K                                                         N9500019
     12            GO TO 20                                                          N9500020
     13       10   K=IERR-10                                                         N9500021
     14            J=$3130+K                                                         N9500022
     15       20   ISODEV=$08FB                                                      N9500023
            C       SET PRINTER AS OUTPUT DEVICE                                    N9500024
     16            IOCTR=7                                                           N9500025
     17            DO 30 I=1,6                                                       N9500026
     18       30   IOBUF(I)=IE(I)                                                    N9500027
     19            IOBUF(7)=J                                                        N9500028
     20            CALL ASCOUT                                                       N9500029
            C       PRINT ERROR                                                     N9500030
            C       COMPUTED GO TO TO DETERMINE IF RETURN TO PROGRAM IS POSSIBLE    N9500031
            C       SOME ERRORS ARE DELAYED FATAL                                   N9500032
            C                                                                       N9500033
     21            GO TO (1,2,1,1,2,1,2,1,1,1) ,IERR                                 N9500034
            C       IMMEDIATELY FATAL ERRORS                                        N9500035
     22     1      ASSEM $54F4,$4A00                                                 N9500036
            C       DELAYED FATAL                                                   N9500037
     23        2   IFATAL=1                                                          N9500038
     24            RETURN                                                            N9500039
     25            END                                                               N9500040
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $0053 (    83)

EXTERNALS
ASCOUT
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
08FB (2299)	000A	15
2030 (8240)	0008	11
3130 (12592)	0009	14

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	000B	16,18
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IE	INTEGER	0000	1,8,18
IERR	INTEGER	00CB C	1,9,10,13,21
IFATAL	INTEGER	00D4 C	1,23
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,18,19
IOCTR	INTEGER	0064 C	1,16
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	0002 C	1
IPM	INTEGER	0003 C	1
IROFLG	INTEGER	0000 C	1
ISCR	INTEGER	0000 C	1
ISECT	INTEGER	0001 C	1
ISODEV	INTEGER	0065 C	1,15
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1
J	INTEGER	0007	10,11,14,19
K	INTEGER	0006	8,9,11,13,14

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
ASCOUT	SUBROUTINE	0031	19

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
1	0047	19,21,22
2	0049	19,21,23
10	0016	10,13
20	001C	11,15
30	0024	16,18
IERROR	004F	1

```
      1            SUBROUTINE MCTDK                                                  N9600001
      1           1                    /DECK-ID N96  MSOS 5.0          SUMMARY-110N9600002
            C      MASS STORAGE OPERATING SYSTEM VERSION 5.0                        N9600003
            C      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     N9600004
            C      COPYRIGHT CONTROL DATA CORPORATION 1976                          N9600005
            C                                                                       N9600006
            C      MASTER CONTROL TABLE ROUTINE                                     N9600007
            C                                                                       N9600008
            C      INPUT PARAMETERS                                                 N9600009
            C       ICPMC CURRENT PAGE TABLE IN CORE                                N9600010
            C       IMCX  INDEX TO CONTROL TABLE                                    N9600011
            C       IMASC PAGE IN CORE                                              N9600012
      2            COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       N9600013
      3            COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                     N9600014
      4            COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL            N9600015
      5            COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR                   N9600016
      6            COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                       N9600017
            C                                                                       N9600018
            C      COMPUTE SECTOR TO WRITE                                          N9600019
      7            ISECT=ICPMC                                                     N9600020
      8            CALL DISKW(ISECT,IMASC)                                         N9600021
            C      PARAMETERS SECTOR AND BUFFER ADDRESS                             N9600022
      9            ICPMC=ICPMC+1                                                   N9600023
     10            RETURN                                                          N9600024
     11            END                                                             N9600025
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $0010 (    16)

EXTERNALS
DISKW
```

***** L I S T O F S Y M B O L S *****

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IBF	INTEGER	00DC C	1
IBIM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1,7,9
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1,8
IMCX	INTEGER	0066 C	1
IMF	INTEGER	0688 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	0002 C	1
IPM	INTEGER	0093 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	0000 C	1
ISECT	INTEGER	0001 C	1,7,8
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
DISKW	SUBROUTINE	0005	7

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
MCTDK	000C	1

```
      1              SUBROUTINE GETPAG                                                 N9700001
      1             1                    /DECK-ID N97  MSOS 5.0          SUMMARY-110N9700002
                C     MASS STORAGE OPERATING SYSTEM VERSION 5.0                       N9700003
                C     SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    N9700004
                C     COPYRIGHT CONTROL DATA CORPORATION 1976                         N9700005
                C                                                                     N9700006
                C     GETS PAGE OF MASTER CONTROL TABLE SPECIFIED IN ICPMC            N9700007
      2               COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       N9700008
      3               COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                     N9700009
      4               COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL            N9700010
      5               COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                   N9700011
      6               COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                       N9700012
                C                                                                     N9700013
                C                                                                     N9700014
                C     COMPUTE SECTOR TO READ                                          N9700015
      7               ISECT=ICPMC                                                     N9700016
      8               CALL DISKR(ISECT,IMASC)                                         N9700017
      9               RETURN                                                          N9700018
     10               END                                                             N9700019
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $000F (    15)

EXTERNALS
DISKR
```

***** L I S T O F S Y M B O L S *****

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IBF	INTEGER	00DC C	1
IBIM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	0005 C	1,7
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	0004 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1,8
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	0008 C	1
IOBUF	INTEGER	0003 C	1
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	0000 C	1
ISECT	INTEGER	0001 C	1,7,8
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
DISKR	SUBROUTINE	0005	7

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
GETPAG	000B	1

```
      1              SUBROUTINE CONPRT                                                  N9800001
      1            1                 /DECK-ID N98  MSOS 5.0                SUMMARY-110N9800002
                C      MASS STORAGE OPERATING SYSTEM VERSION 5.0                       N9800003
                C      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    N9800004
                C      COPYRIGHT CONTROL DATA CORPORATION 1976                         N9800005
                C                                                                      N9800006
                C      ROUTINE TO PRINT OUT CONTROL STATEMENTS                         N9800007
                C                                                                      N9800008
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                        N9800009
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      N9800010
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             N9800011
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    N9800012
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        N9800013
      7              DO 10 I=IOCTR,1,-1                                               N9800014
      8       10     IOBUF(I+4)=IOBUF(I)                                              N9800015
      9              DO 11 I=1,4                                                      N9800016
     10       11     IOBUF(I)=$2020                                                   N9800017
     11              J=IOCTR+5                                                        N9800018
     12              DO 13 I=J,68                                                     N9800019
     13       13     IOBUF(I)=$2020                                                   N9800020
     14              ISODEV=$08FB                                                     N9800021
     15              IOCTR=IOCTR+4                                                    N9800022
     16              CALL ASCOUT                                                      N9800023
     17              IOCTR=IOCTR-4                                                    N9800024
     18              DO 20 I=1,IOCTR                                                  N9800025
     19       20     IOBUF(I)=IOBUF(I+4)                                              N9800026
     20              RETURN                                                           N9800027
     21              END                                                              N9800028
```

COMMON
BLANK $0C96 (3222)

PROGRAM LENGTH $0043 (67)

EXTERNALS
ASCOUT

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
08FB (2299)	0003	14
2020 (8224)	0001	10,13

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	0000	1,8,9,10,12,13,18,19
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0056 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,8,10,13,19
IOCTR	INTEGER	0064 C	1,7,11,15,17,18
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1,14
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1
J	INTEGER	0002	10,11,12

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
ASCOUT	SUBROUTINE	002E	15

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	0009	1,8
11	0013	8,10
13	0022	11,13
20	0037	17,19
CONPRT	003F	1

```
      1              SUBROUTINE REDCON                                                  N9900001
      1            1                 /DECK-ID N99  MSOS 5.0              SUMMARY-110N9900002
            C       MASS STORAGE OPERATING SYSTEM VERSION 5.0                          N9900003
            CC      SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                       N9900004
            CC      COPYRIGHT CONTROL DATA CORPORATION 1976                            N9900005
            CC                                                                         N9900006
            CC      READ CONTROL STATEMENT FROM IMASC                                  N9900007
            CC                                                                         N9900008
            CC      PARAMETERS                                                         N9900009
            CC        IMXC -INDEX TO FIRST WORD TO GET                                 N9900010
            CC        ICPMC -CURRENT PAGE IN CORE                                      N9900011
            C         ITMASC -4 WORD BUFFER TO STORE INTO                              N9900012
      2              COMMON IRDFLG,INODE,IUNIT,IOBUF(97),IOCTR                          N9900013
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                        N9900014
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL               N9900015
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                      N9900016
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                          N9900017
      7              DO 1 I=1,4                                                         N9900018
      8       1      ITMASC(I)=0                                                        N9900019
      9              ASSIGN 21 TO IRET                                                  N9900020
     10              J=1                                                                N9900021
     11       10     IPAGE=((IMCX-1)/96)+1                                              N9900022
     12              IF(IPAGE.EQ.ICPMC) GO TO 20                                        N9900023
            C         THE PAGE NEEDED IS NOT IN CORE GET IT                            N9900024
     13             ICPMC=IPAGE                                                        N9900025
     14             CALL GETPAG                                                        N9900026
            C                                                                          N9900027
            CC        CORRECT PAGE NOW IN CORE                                         N9900028
            C                                                                          N9900029
     15       20     K=IMCX-(ICPMC-1)*96                                                N9900030
     16              ITMASC(J)=IMASC(K)                                                 N9900031
            C                                                                          N9900032
            C         DETERMINE WHICH TYPE OF CONTROL THIS IS TO BRING IN REST          N9900033
     17             IMCX=IMCX+1                                                        N9900034
     18             GO TO IRET                                                         N9900035
     19       21    IF(ITMASC(1).EQ.1.OR.ITMASC(1).EQ.6) GO TO 24                      N9900036
     20             IF(ITMASC(1).EQ.5.OR.ITMASC(1).EQ.8) RETURN                        N9900037
     21             I=3                                                                N9900038
     22             GO TO 25                                                           N9900039
     23       24    I=4                                                                N9900040
     24       25    CONTINUE                                                           N9900041
     25             DO 30 J=2,I                                                        N9900042
     26             ASSIGN 30 TO IRET                                                  N9900043
     27             GO TO 10                                                           N9900044
     28       30    CONTINUE                                                           N9900045
     29             RETURN                                                             N9900046
     30             END                                                                N9900047
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $0058 (    88)

EXTERNALS
GETPAG
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
0060 (96)	0004	11,15

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	0000	1,8,21,23,25
IBF	INTEGER	00DC C	1
IBIM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1,12,13,15
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1,16
IMCX	INTEGER	0066 C	1,11,15,17
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1
IOCTR	INTEGER	0064 C	1
IPAGE	INTEGER	0003	10,11,12,13
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
IRET	INTEGER	0001	8,18,26
ISCR	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1,8,16,19,20
IUNIT	INTEGER	0002 C	1
J	INTEGER	0002	8,10,16,25
K	INTEGER	0005	15,15,16

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
GETPAG	SUBROUTINE	0025	13

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
1	0008	1,8
10	0016	10,27
20	0026	12,15
21	0032	8,19
24	0044	19,23
25	0046	21,24
30	004F	24,26,28
REDCON	0054	1

```
      1              SUBROUTINE CONDEC                                                  00100001
      1            1                    /DECK-ID 001  MSOS 5.0          SUMMARY-11000100002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                         00100003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      00100004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                           00100005
            C   CONTROL DECODER                                                        00100006
      2             COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                         00100007
      3             COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                       00100008
      4             COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL              00100009
      5             COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR                     00100010
      6             COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                         00100011
      7                EQUIVALENCE (IOBUF(1),IT)                                      00100012
      8                IC=0                                                           00100013
            C          C                                                              00100014
      9                IF(IT.EQ.$2A43) GO TO 5                                        00100015
            C          D                                                              00100016
     10                IF(IT.EQ.$2A44) GO TO 3                                        00100017
            C          E                                                              00100018
     11                IF(IT.EQ.$2A45) GO TO 8                                        00100019
            C          I                                                              00100020
     12                IF(IT.EQ.$2A49) GO TO 2                                        00100021
            C          L                                                              00100022
     13                IF(IT.EQ.$2A4C) GO TO 1                                        00100023
            C          O                                                              00100024
     14                IF(IT.EQ.$2A4F) GO TO 7                                        00100025
            C          R                                                              00100026
     15                IF(IT.EQ.$2A52) GO TO 4                                        00100027
            C          S                                                              00100028
     16                IF(IT.EQ.$2A53) GO TO 6                                        00100029
     17                IERR=2                                                         00100030
     18                CALL IERROR                                                    00100031
     19                RETURN                                                         00100032
     20           1    IC=1                                                           00100033
     21                GO TO 10                                                       00100034
     22           2    IC=2                                                           00100035
     23                GO TO 10                                                       00100036
     24           3    IC=3                                                           00100037
     25                GO TO 10                                                       00100038
     26           4    IC=4                                                           00100039
     27                GO TO 10                                                       00100040
     28           5    IC=5                                                           00100041
     29                GO TO 10                                                       00100042
     30           6    IC=6                                                           00100043
     31                GO TO 10                                                       00100044
     32           7    IC=7                                                           00100045
     33                GO TO 10                                                       00100046
     34           8    IC=8                                                           00100047
     35                GO TO 10                                                       00100048
     36          10    DO 11 I=1,4                                                    00100049
     37          11    ITMASC(I)=0                                                    00100050
     38                IPICNR=0                                                       00100051
     39                IPX=0                                                          00100052
     40                IENTRY=0                                                       00100053
     41                ITMASC(1)=IC                                                   00100054
```

```
      GO TO (30,30,30,30,20,40,30,20),IC                                00100055
C      *C AND *E PROCESSORS                                             00100056
20    IF(IOBUF(2).EQ.$2020.OR.IOCTR.EQ.1) GO TO 60                      00100057
      GO TO 41                                                          00100058
21    GO TO 60                                                          00100059
C      *S PROCESSOR                                                     00100060
40    IA=0                                                              00100061
      IF(IOBUF(2).EQ.$2C42) IA=1                                        00100062
      IF(IOBUF(2).EQ.$2C4D)IA=2                                         00100063
      IF(IA.EQ.0) GO TO 41                                              00100064
      ITMASC(1)=IC                                                      00100065
      ITMASC(2)=IA                                                      00100066
      GO TO 30                                                          00100067
41    IERR=2                                                            00100068
      CALL IERROR                                                       00100069
      RETURN                                                            00100070
C      JUMP TO PICK NEXT CHARACTER FROM CONTROL STMT                    00100071
30    ASSIGN 31 TO IPICNR                                               00100072
      GO TO 50                                                          00100073
31    CONTINUE                                                          00100074
      IF(IA.NE.$2C) GO TO 41                                            00100075
39    INUM=0                                                            00100076
311   ASSIGN 32 TO IPICNR                                               00100077
      GO TO 50                                                          00100078
32    IF(IA.GE.$30.AND.IA.LE.$39) GO TO 33                              00100079
      IF(INUM.EQ.0) GO TO 34                                            00100080
      DO 35 I=1,4                                                       00100081
      IF(ITMASC(I).EQ.0) GO TO 36                                       00100082
35    CONTINUE                                                          00100083
36    ITMASC(I)=INUM                                                    00100084
    IF(I.EQ.4) GO TO 60                                                 00100085
34    IF(IA.EQ.$2C) GO TO 39                                            00100086
      IF(IA.EQ.$20) GO TO 21                                            00100087
      IF(IA.NE.$2A) GO TO 41                                            00100088
      IF(ITMASC(1).EQ.0.OR.ITMASC(2).EQ.0) GO TO 41                     00100089
      IA=-IA                                                            00100090
      DO 37 I=1,4                                                       00100091
      IF(ITMASC(I).EQ.0) GO TO 38                                       00100092
37    CONTINUE                                                          00100093
38    ITMASC(I)=IA                                                      00100094
      ASSIGN 310 TO IPICNR                                              00100095
      GO TO 50                                                          00100096
310   IF(IA.NE.$20) GO TO 41                                            00100097
    GO TO 60                                                            00100098
33    INUM=INUM*10+IA-$30                                               00100099
      IF(INUM.GT.32767) GO TO 41                                        00100100
      GO TO 311                                                         00100101
C      PICK NEXT CHARACTER OUT OF IOBUF                                 00100102
50    IF(IENTRY.EQ.1) GO TO 51                                          00100103
      IENTRY=1                                                          00100104
      IF(IC.EQ.6) IPX=2                                                 00100105
    IPX=IPX+2                                                           00100106
51    IB=IPX/2+1                                                        00100107
      IA=IOBUF(IB)                                                      00100108
```

```
 92                IC=IPX/(2*IB-1)                                          00100109
 93                   IF(IC.EQ.0) GO TO 52                                  00100110
 94                   IA=AND(IA,$007F)                                      00100111
 95                   GO TO 53                                              00100112
 96        52         IA=AND(IA,$7F00)                                      00100113
 97                IA=IA/$100                                               00100114
 98        53         IF(IPX.GT.15) GO TO 41                                00100115
 99                   IPX=IPX+1                                             00100116
100                   GO TO IPICNR                                          00100117
           C           MASTER CONTROL TABLE STORE AREA                     00100118
           C           ITMASC IS PLACED IN IMASC                           00100119
           C           96 WORDS ARE KEPT IN CORE                           00100120
           C           PAGES OF 96 WORDS / SECTOR ARE ON DISK              00100121
           C           ICPMC IS THE CURRENT PAGE IN CORE                   00100122
101        60         GO TO (64,63,63,63,61,64,63,61),ITMASC(1)            00100123
102        61         I=1                                                  00100124
103                   GO TO 65                                             00100125
104        63         I=3                                                  00100126
105                   GO TO 65                                             00100127
106        64         I=4                                                  00100128
107                   GO TO 65                                             00100129
108        65         DO 66 IA=1,I                                         00100130
109                IF(ICPMC*96-IMCX) 70,69,69                              00100131
110         69     J=IMCX-96*(ICPMC-1)                                     00100132
111                IMASC(J)=ITMASC(IA)                                     00100133
112                IMCX=IMCX+1                                             00100134
113                   IF(IMCX.LE.4800) GO TO 66                            00100135
114                   IERR=6                                               00100136
115                   CALL IERROR                                          00100137
116         66     CONTINUE                                                00100138
117                   RETURN                                               00100139
           C           WRITE OUT NEXT PAGE TO DISK                         00100140
118        70         CALL MCIDK                                           00100141
           C           PARAMETERS FOR ABOVE                                00100142
           C           ICPMC,IMCX,IMASC                                    00100143
119                   GO TO 69                                             00100144
120                   END                                                  00100145
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $01A1 (   417)

EXTERNALS
IERROR MCTDK
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
000A (10)	0012	83
0050 (96)	0017	109,110
007F (127)	0015	94
12C0 (4800)	0019	113
2020 (8224)	000D	43
2A43 (10819)	0001	9
2A44 (10820)	0002	10
2A45 (10821)	0003	11
2A49 (10825)	0004	12
2A4C (10828)	0005	13
2A4F (10831)	0006	14
2A52 (10834)	0007	15
2A53 (10835)	0008	16
2C42 (11330)	000F	47
2C4D (11341)	0010	48
7F00 (32512)	0016	96
7FFF (32767)	0013	84

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	94,96
I	INTEGER	0009	36,37,65,66,68,69,75,76,78,102,104,106,108
IA	INTEGER	000E	46,46,47,48,49,51,59,63,70,71,72,74,78,81,83,91,94,96,97,108,111
IB	INTEGER	0014	90,90,91,92
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
IC	INTEGER	0000	7,8,20,22,24,26,28,30,32,34,41,42,50,88,92,93
ICPMC	INTEGER	0005 C	1,109,110
IDCTR	INTEGER	00DA C	1
IENTRY	INTEGER	000C	39,40,86,87
IERR	INTEGER	00CB C	1,17,53,114
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0057 C	1,111
IMCX	INTEGER	0066 C	1,109,110,112,113
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1

IMVC	INTEGER	00CE	C	1
IMVD	INTEGER	00CF	C	1
INUM	INTEGER	0011		59,60,64,68,83,84
INUNIT	INTEGER	00D8	C	1
IOBUF	INTEGER	0003	C	1,7,43,47,48,91
IOCTR	INTEGER	0064	C	1,43
IPASS	INTEGER	0C95	C	1
IPB	INTEGER	00D2	C	1
IPICNR	INTEGER	000A		37,38,56,61,79,100
IPM	INTEGER	0003	C	1
IPX	INTEGER	000B		38,39,88,89,90,92,98,99
IRDFLG	INTEGER	0000	C	1
ISCR	INTEGER	00D0	C	1
ISECT	INTEGER	0001	C	1
ISODEV	INTEGER	0065	C	1
IT	INTEGER	0003	C	7,9,10,11,12,13,14,15,16
ITMASC	INTEGER	00C7	C	1,37,41,50,51,66,68,73,76,78,101,111
IUNIT	INTEGER	0002	C	1
J	INTEGER	0018		110,110,111

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IERROR	SUBROUTINE	0191	17,54,115
MCTDK	SUBROUTINE	0197	118

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
1	0044	13,20
2	0047	12,22
3	004A	10,24
4	004D	15,26
5	0050	9,28
6	0053	16,30
7	0056	14,32
8	0059	11,34
10	005C	20,23,25,27,29,31,33,35,36
11	005E	36,37
20	007F	42,42,43
21	008D	43,71
30	00AF	41,42,52,56
31	00B4	56,58
32	00BF	60,63
33	010E	63,83
34	00DE	64,70
35	00D2	64,67
36	00D7	66,68

37	00FC	74,77
38	0101	76,78
39	00B8	59,70
40	008F	42,46
41	00A8	43,49,53,59,72,73,81,84,98
50	011A	56,62,80,86
51	0129	86,90
52	0142	93,96
53	0148	94,98
60	0150	43,45,69,82,101
61	0162	101,101,102
63	0166	101,101,104
64	0169	101,101,106
65	016C	102,105,107,108
66	0192	108,113,116
69	017C	109,109,110,119
70	0196	109,118
310	0109	78,81
311	00B8	60,85
CONDEC	019C	1

```
      1              SUBROUTINE ORDERM                                                  00200001
      1             1                /DECK-ID 002  MSOS 5.0          SUMMARY-110000200002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                         00200003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      00200004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                           00200005
      2             COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                          00200006
      3             COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                        00200007
      4             COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL               00200008
      5             COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                      00200009
      6             COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                          00200010
      7             EQUIVALENCE (ICM,ICX),(ILM,ILX)                                    00200011
      8             DIMENSION ITT(3)                                                   00200012
      9             ICPSN=1                                                            00200013
     10             IMCX=1                                                             00200014
     11             ICBIN=0                                                            00200015
     12             ICSORT=1                                                           00200016
     13             ICPMC=1                                                            00200017
     14             CALL GETPAG                                                        00200018
     15           1 CALL REDCON                                                        00200019
            C        READ CONTROL STATEMENT                                            00200020
            C        CHECK ORDER IF DONE SORTING                                       00200021
     16             IF(ITMASC(1).EQ.8) GO TO 100                                       00200022
            C        CHECK ORDER IF END STATEMENT READ                                 00200023
     17             IF(ITMASC(1).NE.2.AND.ITMASC(1).NE.3.AND.ITMASC(1).NE.4.AND.       00200024
     17            *ITMASC(1).NE.7)     GO TO 1                                       00200025
            C        ONLY INSERT,DELETE,REPLACE,AND OUTPUT WILL BE SORTED              00200026
     18             IF(ITMASC(1).EQ.3) GO TO 14                                        00200027
     19             IF(ITMASC(3)) 11,12,12                                             00200028
     20          11 IF(ICBIN.NE.0) GO TO 13                                            00200029
     21             IERR=7                                                             00200030
     22             CALL IERROR                                                        00200031
     23          13 ITMASC(3)=-ICBIN                                                   00200032
     24             ASSIGN 14 TO JRET                                                  00200033
     25             GO TO 52                                                           00200034
     26          18 ICSORT=ITMASC(3)                                                   00200035
     27             GO TO 19                                                           00200036
     28          12 IF(ITMASC(1).NE.2.AND.ITMASC(1).NE.4) GO TO 14                     00200037
     29             ICBIN=ICBIN+1                                                      00200038
     30             ITMASC(3) =ICBIN                                                   00200039
     31          14 IF(ITMASC(1).EQ.7) GO TO 18                                        00200040
     32             ICSORT=ITMASC(2)                                                   00200041
     33          19 CONTINUE                                                           00200042
     34             IF(ICSORT.GT.ICPSN.OR.(ICSORT.EQ.1.AND.ICPSN.EQ.1))GO TO 50        00200043
            C        THIS ENTRY NEEDS SORTUNG                                          00200044
     35             ISAVC=ICPSN                                                        00200045
     36             ISAVA=IMCX                                                         00200046
     37             ICPSN=1                                                            00200047
     38             IMCX=1                                                             00200048
            C        START SEARCHING FROM BEGINING OF TABLE                            00200049
            C        SAVE OLD ENTRY                                                    00200050
     39             DO 15 I=1,3                                                        00200051
     40          15 ITT(I)=ITMASC(I)                                                   00200052
     41          17 CALL REDCON                                                        00200053
     42             IF(ITMASC(1).NE.8) GO TO 16                                        00200054
```

```
      IMCX=IMCX-1                                                                00200055
      ITMASC(4)=8                                                                00200056
      DO 40 J=1,4                                                                00200057
      I=(IMCX-1)/96+1                                                            00200058
      ASSIGN 41 TO IRET                                                          00200059
      IF(I-ICPMC) 30,41,30                                                       00200060
 41   IMASC(IMCX)=ITMASC(J)                                                      00200061
 40   IMCX=IMCX+1                                                                00200062
      GO TO 25                                                                   00200063
C      CHECK ORDER IF DONE                                                       00200064
 43   ICPSN=ITMASC(3)                                                            00200065
      GO TO 44                                                                   00200066
 16   IF(ITMASC(1).NE.2.AND.ITMASC(1).NE.3.AND.ITMASC(1).NE.4.AND.               00200067
     *ITMASC(1).NE.7) GO TO 17                                                  00200068
      IF(ITMASC(1).EQ.7) GO TO 43                                                00200069
      ICPSN=ITMASC(2)                                                            00200070
 44   CONTINUE                                                                   00200071
      IF(ICPSN.LE.ICSORT) GO TO 17                                               00200072
      ISAVB=IMCX                                                                 00200073
C      ROOM MUST BE MADE IN MIDDLE OF TABLE FOR THIS ENRRY                       00200074
      M=ISAVA-1                                                                  00200075
      DO 21 K=M,ISAVB,-1                                                         00200076
      I=(K-4)/96+1                                                               00200077
      ASSIGN 22 TO IRET                                                          00200078
      IF(I-ICPMC)30,22,30                                                        00200079
 30   ICPMC=I                                                                    00200080
      CALL GETPAG                                                                00200081
      GO TO IRET                                                                 00200082
 22   ITMCX=(K-3)-(ICPMC-1)*96                                                   00200083
      J=IMASC(ITMCX)                                                             00200084
      I=(K-1)/96+1                                                               00200085
      ASSIGN 23 TO IRET                                                          00200086
      IF(I-ICPMC) 30,23,30                                                       00200087
 23   ITMCX=K-(ICPMC-1)*96                                                       00200088
      IMASC(ITMCX)=J                                                             00200089
      CALL MCTDK                                                                 00200090
      ICPMC=ICPMC-1                                                              00200091
C      PARAMETERS ICPMC,IMASC,IMCX                                               00200092
 21   CONTINUE                                                                   00200093
      DO 25 L=1,3                                                                00200094
      ASSIGN 24 TO IRET                                                          00200095
      K=ISAVB-4+L                                                                00200096
      I=(K-1)/96+1                                                               00200097
      IF(I-ICPMC)30,24,30                                                        00200098
 24   ITMCX=K-(ICPMC-1)*96                                                       00200099
      IMASC(ITMCX)=ITT(L)                                                        00200100
 25   CALL MCTDK                                                                 00200101
      ICPMC=ICPMC-1                                                              00200102
C      STORE THIS ENTRY ON MASS STORAGE                                          00200103
      IMCX=ISAVA                                                                 00200104
      ICPSN=ISAVC                                                                00200105
      GO TO 51                                                                   00200106
 50   ICPSN=ICSORT                                                               00200107
      ASSIGN 1 TO JRET                                                           00200108
```

```
 92              GO TO 52                                                        00200109
 93        51    GO TO 1                                                         00200110
 94        52    ITMCX=IMCX                                                      00200111
 95              IMCX=IMCX-1                                                     00200112
 96              I=(IMCX-1)/96+1                                                 00200113
 97              ASSIGN 53 TO IRET                                               00200114
 98              IF(I-ICPMC) 30,53,30                                            00200115
 99        53    I=IMCX-(ICPMC-1)*96                                             00200116
100              IMASC(I)=ITMASC(3)                                              00200117
101              CALL MCTDK                                                      00200118
102              ICPMC=ICPMC-1                                                   00200119
103              IMCX=ITMCX                                                      00200120
104              GO TO JRET                                                      00200121
          C       ******************************************************************00200122
          C          C H E C K  O R D E R  R O U T I N E                         00200123
          C       ******************************************************************00200124
105        100   ITT(1)=0                                                        00200125
          C       ERROR FLAG                                                    00200126
106              IMCX=1                                                          00200127
107              IL=0                                                            00200128
108              ILX=1                                                           00200129
109              ILN=0                                                           00200130
110              IC=0                                                            00200131
111              ICX=1                                                           00200132
112              ICN=0                                                           00200133
113              ICPMC=1                                                         00200134
114              CALL GETPAG                                                     00200135
115              CALL REDCON                                                     00200136
          C       GET NEXT CONTROL STATEMENT                                    00200137
116              IC=ITMASC(1)                                                    00200138
117              IF(IC.NE.2.AND.IC.NE.3.AND.IC.NE.4 ) GO TO 60                   00200139
118              ICX=ITMASC(2)                                                   00200140
119         60   IL=IC                                                           00200141
120              ILX=ICX                                                         00200142
121              ILN=ICN                                                         00200143
122         58   CALL REDCON                                                     00200144
123              IF(ITMASC(1).EQ.8) RETURN                                       00200145
124              GO TO 80                                                        00200146
          C                                                                     00200147
          C                                                                     00200148
125         81   IF(ICX.GE.ILX) GO TO 61                                         00200149
126              IF((IC.EQ.2.OR.IC.EQ.3.OR.IC.EQ.4).AND.                         00200150
126             *(IL.EQ.2.OR.IL.EQ.3.OR.IL.EQ.4)) GO TO 59                       00200151
127              GO TO 58                                                        00200152
128         59   IF(ITT(1).NE.0) GO TO 58                                        00200153
129              IERR=5                                                          00200154
130              CALL IERROR                                                     00200155
131              ITT(1)=1                                                        00200156
132              GO TO 60                                                        00200157
133         61   IF(IC.NE.2.AND.IC.NE.3.AND.IC.NE.4.AND.                         00200158
133             *IL.NE.2.AND.IL.NE.3.AND.IL.NE.4  ) GO TO 58                     00200159
          C                                                                     00200160
134              IF(IL.EQ.4.AND.IC.EQ.2) GO TO 62                                00200161
135              GO TO 63                                                        00200162
```

```
136        62    IF(ILX.LE.ICX) GO TO 64                                    00200163
137              GO TO 59                                                   00200164
138        63    IF(IL.EQ.2.AND.IC.EQ.4) GO TO 65                           00200165
139              GO TO 64                                                   00200166
140        65    IF(ILX.LT.ICX) GO TO 64                                    00200167
141              GO TO 59                                                   00200168
           C                                                               00200169
           C                                                               00200170
142        64    IF(IL.EQ.3.AND.IC.EQ.4) GO TO 66                           00200171
143              IF(IL.EQ.4.AND.IC.EQ.3) GO TO 67                           00200172
144              GO TO 68                                                   00200173
           C                                                               00200174
           C                                                               00200175
145        66    IF(ICX.LE.ILM.OR.ICX.LE.ILN) GO TO 59                      00200176
146              GO TO 68                                                   00200177
147        67    IF(ICM.LE.ILX.OR.ICN.LE.ILX.AND.ICN.NE.0) GO TO 59         00200178
           C                                                               00200179
           C                                                               00200180
148        68    IF(IL.EQ.2.AND.IC.EQ.3) GO TO 69                           00200181
149              IF(IL.EQ.3.AND.IC.EQ.2) GO TO 70                           00200182
150              GO TO 60                                                   00200183
           C                                                               00200184
151        69    IF(ICM.LE.ILX.OR.ICN.LE.ILX.AND.ICN.NE.0) GO TO 59         00200185
152              GO TO 60                                                   00200186
153        70    IF(ICX.LE.ILM.OR.ICX.LT.ILN) GO TO 59                      00200187
154              GO TO 60                                                   00200188
           C                                                               00200189
           C                                                               00200190
155        80    IC=ITMASC(1)                                               00200191
156              ICX=ITMASC(2)                                              00200192
157              IF(ITMASC(3)) 83,84,84                                     00200193
158        83    ICN=-ITMASC(3)                                             00200194
159              GO TO 85                                                   00200195
160        84    ICN=ITMASC(3)                                              00200196
161        85    CONTINUE                                                   00200197
           C                                                               00200198
162              IF(IL.EQ.3) GO TO 71                                       00200199
163              IF(ICX.GT.ILX) GO TO 60                                    00200200
164              GO TO 81                                                   00200201
           C                                                               00200202
165        71    IF(ICX.LT.ILN) GO TO 81                                    00200203
166              IF(IC.EQ.4) GO TO 81                                       00200204
167              GO TO 60                                                   00200205
168              END                                                        00200206
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $029B (   667)

EXTERNALS
GETPAG REDCON IERROR MCTDK
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
0060 (96)	000D	46,62,68,70,73,81,83,96,99

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	000B	38,40,46,48,62,64,65,70,72,81,82,96,98,99,100
IBF	INTEGER	000C C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
IC	INTEGER	0016	109,110,116,117,119,126,133,134,138,142,143,148,149,155,166
ICBIN	INTEGER	0006	10,11,20,23,29,30
ICM	INTEGER	0000	1,147,151
ICN	INTEGER	0017	111,112,121,147,151,158,160
ICPMC	INTEGER	00D5 C	1,13,48,64,65,68,72,73,76,82,83,86,98,99,102,113
ICPSN	INTEGER	0005	1,9,34,35,37,52,56,58,88,90
ICSORT	INTEGER	0007	11,12,26,32,34,58,90
ICX	INTEGER	0000	1,111,118,120,125,136,140,145,153,156,163,165
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1,21,129
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IL	INTEGER	0014	106,107,119,126,133,134,138,142,143,148,149,162
ILM	INTEGER	0001	1,145,153
ILN	INTEGER	0015	108,109,121,145,153,165
ILX	INTEGER	0001	1,108,120,125,136,140,147,151,163
IMASC	INTEGER	0067 C	1,49,69,74,84,100
IMCX	INTEGER	0066 C	1,10,36,38,43,46,49,50,59,87,94,95,96,99,103,106
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
IRET	INTEGER	000E	46,63,67,71,79,97

ISAVA	INTEGER	000A		35,36,60,87
ISAVB	INTEGER	000F		58,59,61,80
ISAVC	INTEGER	0009		34,35,88
ISCR	INTEGER	00D0	C	1
ISECT	INTEGER	00D1	C	1
ISODEV	INTEGER	0065	C	1
ITMASC	INTEGER	00C7	C	1,15,17,18,19,23,26,28,30,31,32,40,42,44,49,52,54,55,56,100,116,118,123,155,156,157,158,160
ITMCX	INTEGER	0012		68,68,69,73,74,83,84,94,103
ITT	INTEGER	0002		1,40,84,105,128,131
IUNIT	INTEGER	0002	C	1
J	INTEGER	000C		44,49,69,74
JRET	INTEGER	0008		24,91,104
K	INTEGER	0011		60,62,68,70,73,80,81,83
L	INTEGER	0013		78,80,84
M	INTEGER	0010		59,60,61

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
GETPAG	SUBROUTINE	01A1	13,66,114
IERROR	SUBROUTINE	01E1	21,130
MGTDK	SUBROUTINE	011C	74,85,101
REDCON	SUBROUTINE	01A3	13,41,115,122

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
1	0024	13,17,91,93
11	0042	19,20
12	0055	19,19,28
13	004A	20,23
14	005E	18,24,28,31
15	007E	38,40
16	0089	42,54
17	0088	40,54,58
18	0052	24,31
19	0065	26,33
21	0121	60,77
22	00F4	62,64,68
23	0110	70,72,73
24	013A	78,82,83
25	0145	50,78,85
30	00ED	48,48,64,65,72,82,98
40	00AD	44,50
41	00A9	46,48,49
43	00B5	50,55
44	00CD	52,57
50	0156	34,90

51	015E	88,93
52	0160	24,92,94
53	0174	96,98,99
58	01B8	121,127,128,133
59	01D9	126,128,137,141,145,147,151,153
60	01B2	117,119,132,150,152,154,163,167
61	01E5	125,133
62	0202	134,136
63	0208	134,138
64	0214	136,139,140,142
65	020F	138,140
66	0221	142,145
67	022E	143,147
68	023C	143,146,148
69	024B	148,151
70	025B	149,153
71	0287	162,165
80	026A	123,155
81	01C0	123,164,165,166
83	0275	157,158
84	0279	157,157,160
85	027B	158,161
100	0188	16,105
ORDERM	0296	1

```
0001                    NAM  IREAD          DECK-ID 003  MSOS 5.0                  SUMMARY-11000300001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                      00300002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                  00300003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                       00300004

0006    0000 C          COM   IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                    00300006
        0001 C
        0002 C
        0003 C
        0064 C
0007    0065 C          COM   ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                  00300007
        0066 C
        0067 C
        00C7 C
        00CB C
0008    00CC C          COM   IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL         00300008
        00CD C
        00CE C
        00CF C
        00D0 C
        00D1 C
        00D2 C
        00D3 C
        00D4 C
0009    00D5 C          COM   ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                00300009
        00D6 C
        00D7 C
        00D8 C
        00D9 C
        00DA C
0010    00DB C          COM   IBTM,IBF(1500),IMF(1500),IFX,IPASS                    00300010
        00DC C
        0688 C
        0C94 C
        0C95 C

0011                    ENT   IREAD,IWRITE                                          00300011
0012                    EXT   LOG1A                                                 00300012
0013         0022       EQU   ZERO($22)                                             00300013
0014         0023       EQU   ONEBIT($23)                                           00300014
0015         0002       EQU   LPMSK(2)                                              00300015
0016         0061  LEN   EQU   LEN(97)                                             00300016
0017         0003 C     EQU   BFR(IOBUF)     GENERAL READ-WRITE ROUTINE             00300017
0018 P0000   0000  CMODE NUM   0                                                   00300018
0019 P0001   0000  IREAD  NUM   0                                                   00300019
0020 P0002   0A01         ENA   1                                                   00300020
0021 P0003   68FC         STA* CMODE                                                00300021
0022 P0004   C400         LDA+ IRDFLG          HAS READ ALREADY BEEN DONE           00300022
     P0005   0000 C
0023 P0006   0104         SAZ   DOREAD                                              00300023
0024 P0007   0A00         ENA   0                                                   00300024
0025 P0008   6400         STA+ IRDFLG                                               00300025
     P0009   0000 C
```

```
0026 P000A 1CF6          JMP* (IREAD)      OUT IF READ FINISHED                    00300026
0027 P000B C000  DOREAD  LDA  =N$4801       READ REQUEST                            00300027
     P000C 4801
0028 P000D 6819          STA* REQ                                                  00300028
0029 P000E 0A61          ENA  LEN                                                  00300029
0030 P000F 681B          STA* UNIT+1                                               00300030
0031 P0010 C400          LDA+ IUNIT                                                00300031
     P0011 0002 C
0032 P0012 6803          STA* STATCD                                               00300032
0033 P0013 54F4          NUM  $54F4         SEE IF UNIT IS CARD READER             00300033
0034 P0014 4600          NUM  $4600                                                00300034
0035 P0015 0000  STATCD  NUM  0                                                    00300035
0036 P0016 0000          NUM  0                                                    00300036
0037 P0017 0814          TRQ  A                                                    00300037
0038 P0018 A000          AND  =N$3800                                              00300038
     P0019 3800
0039 P001A B000          EOR  =N$1800                                              00300039
     P001B 1800
0040 P001C 0113          SAN  DOREQ        NOT CARD READER CONTINUE AS USUAL       00300040
0041 P001D 8400          ADD+ IUNIT        YES FORCE FROMATTED BINARY READ         00300041
     P001E 0002 C
0042 P001F 1805          JMP* REQ-2                                                00300042
0043 P0020 C400  DOREQ   LDA+ IUNIT                                                00300043
     P0021 0002 C
0044 P0022 8400          ADD+ IMODE                                                00300044
     P0023 0001 C
0045 P0024 6805          STA* UNIT                                                 00300045
0046 P0025 54F4          RTJ- I$F4)                                                00300046
0047 P0026 0000  REQ     NUM  0            REQUEST CODE                            00300047
0048 P0027 0000          NUM  0                                                    00300048
0049 P0028 0000  THRD    NUM  0                                                    00300049
0050 P0029 0000  UNIT    NUM  0                                                    00300050
0051 P002A 0000          NUM  0                                                    00300051
0052 P002B 0003 C BEGN   ADC  BFR                                                  00300052
0053                     *                                                         00300053
0054 P002C C8FB  CHKTHR  LDA* THRD                                                 00300054
0055 P002D 0101          SAZ  DONE                                                 00300055
0056 P002E 18FD          JMP* CHKTHR                                               00300056
0057 P002F E8F9  DONE    LDQ* UNIT                                                 00300057
0058 P0030 0171          SQM  1                                                    00300058
0059 P0031 182F          JMP* NOCHAN       NOT MODE CHANGE                         00300059
0060 P0032 C8F6          LDA* UNIT                                                 00300060
0061 P0033 A000          AND- LPMSK+11     PICK UP LOGICAL UNIT                    00300061
0062 P0034 6804          STA* STATU        PUT IN STATUS REQUEST                   00300062
0063 P0035 6824          STA* BACKU        PUT IN BACK SPACE REQUEST               00300063
0064 P0036 54F4          NUM  $54F4        STATUS REQUEST                          00300064
0065 P0037 4600          NUM  $4600                                                00300065
0066 P0038 0000  STATU   NUM  0            LOGICAL UNIT                            00300066
0067 P0039 0000          NUM  0                                                    00300067
0068 P003A 6824          STA* STATSV       SAVE STATUS                             00300068
0069 P003B 0814          TRQ  A                                                    00300069
0070 P003C A000          AND  =N$3800      PICK OFF UNIT TYPE                      00300070
     P003D 3800
```

```
0071 P003E B02E          EOR- ONEBIT+11     TEST FOR MAG TAPE                          00300071
0072 P003F 0101          SAZ  1             YES A TAPE DEVICE                          00300072
0073 P0040 1820          JMP* NOCHAN        NO MODE CHANGE POSSIBLE                    00300073
0074 P0041 C81D          LDA* STATSV                                                   00300074
0075 P0042 A02E          AND- ONEBIT+11     TEST FOR EOF                               00300075
0076 P0043 0101          SAZ  1             NO  NOT E-O-F TRY PARITY                   00300076
0077 P0044 181C          JMP* NOCHAN        YES E-O-F CONTINUE                         00300077
0078 P0045 C819          LDA* STATSV                                                   00300078
0079 P0046 A02B          AND- ONEBIT+8      TEST FOR PARITY ERROR (MODE CHANGE)        00300079
0080 P0047 0111          SAN  1             YES MODE CHANGE NECESSARY                  00300080
0081 P0048 1818          JMP* NOCHAN        NO NOT A MODE CHANGE                       00300081
0082 P0049 C80F          LDA* UNIT                                                     00300082
0083 P004A A02F          AND- ONEBIT+12     PICK OFF OLD MODE                          00300083
0084 P004B B02F          EOR- ONEBIT+12     CHANGE TO OPPOSITE MODE                    00300084
0085 P004C 6400          STA+ IMODE                                                    00300085
     P0040 0001 C
0086 P004E C8B1 CKMOD    LDA* CMODE                                                    00300086
0087 P004F 09FE          INA  -1                                                       00300087
0088 P0050 0132          SAM  EXIT                                                     00300088
0089 P0051 68AE          STA* CMODE                                                    00300089
0090 P0052 1803          JMP* BACKUP                                                   00300090
0091 P0053 54F4 EXIT     NUM  $54F4                                                    00300091
0092 P0054 4A00          NUM  $4A00                                                    00300092
0093 P0055 54F4 BACKUP   NUM  $54F4         TAPE MOTION FOR BACK SPACE                 00300093
0094 P0056 5C00          NUM  $5C00                                                    00300094
0095 P0057 0000          NUM  0                                                        00300095
0096 P0058 0000 TRD      NUM  0                                                        00300096
0097 P0059 0000 BACKU    NUM  0             LOGICAL UNIT                               00300097
0098 P005A 1000          NUM  $1000         BACK SPACE 1 RECORD                        00300098
0099 P005B C8FC CTRD     LDA* TRD           HANG TILL DONE                             00300099
0100 P005C 0102          SAZ  2                                                        00300100
0101 P005D 18F0          JMP* CTRD                                                     00300101
0102 P005E 0000 STATSV   NUM  0             STATUS HOLDER                              00300102
0103 P005F 18C0          JMP* DOREQ                                                    00300103
0104                     *                                                             00300104
0105 P0060 C400 NOCHAN   LDA+ IUNIT                                                    00300105
     P0061 0002 C
0106 P0062 6803          STA* STCARD                                                   00300106
0107 P0063 54F4          NUM  $54F4                                                    00300107
0108 P0064 4600          NUM  $4600                                                    00300108
0109 P0065 0000 STCARD   NUM  0                                                        00300109
0110 P0066 0000          NUM  0                                                        00300110
0111 P0067 0814          TRQ  A                                                        00300111
0112 P0068 A000          AND  =N$3800                                                  00300112
     P0069 3800
0113 P006A B000          EOR  =N$1800                                                  00300113
     P006B 1800
0114 P006C 0101          SAZ  1                                                        00300114
0115 P006D 1816          JMP* NOMODE                                                   00300115
0116 P006E C400          LDA+ IUNIT                                                    00300116
     P006F 0002 C
0117 P0070 0FC4          ALS  4             IS LU CORE LOCATION OR ACTUAL UNIT NUMB    00300117
0118 P0071 0125          SAP  ACUNIT        NO ACTUAL LU NUMBER                        00300118
```

```
0119 P0072 0FC3          ALS  3              YES                    00300119
0120 P0073 0F48          ARS  8                                      00300120
0121 P0074 0822          TRA  Q                                      00300121
0122 P0075 E622          LDQ- (ZERO),Q                               00300122
0123 P0076 1803          JMP* ACUNIT+2                               00300123
0124 P0077 E400  ACUNIT  LDQ+ IUNIT                                  00300124
     P0078 0002 C
0125 P0079 E600 X        LDQ+ LOG1A,Q        PICK UP PHYSTAB ADR    00300125
     P007A 7FFF X
0126 P007B C209          LDA- 9,Q            PICK UP STATUS WORD    00300126
0127 P007C A026          AND- $26                                    00300127
0128 P007D 0102          SAZ  LDBIN                                  00300128
0129 P007E C02F          LDA- ONEBIT+12                              00300129
0130 P007F 1802          JMP* LDBIN+1                                00300130
0131 P0080 0A00  LDBIN   ENA  0                                      00300131
0132 P0081 6400          STA+ IMODE                                  00300132
     P0082 0001 C
0133 P0083 C400  NOMODE  LDA+ IOBUF+96                               00300133
     P0084 0063 C
0134 P0085 98A5          SUB* BEGN                                   00300134
0135 P0086 6400          STA+ IOCTR                                  00300135
     P0087 0064 C
0136 P0088 1C00          JMP  (IREAD)        RETURN TO CALLER       00300136
     P0089 FF77
0137                     *                                           00300137
0138 P008A 0000  IWRITE  NUM  0                                      00300138
0139 P008B C8FE          LDA* IWRITE                                 00300139
0140 P008C 6800          STA  IREAD                                  00300140
     P008D FF73
0141 P008E C000          LDA  =N$4C01                                00300141
     P008F 4C01
0142 P0090 6895          STA* REQ                                    00300142
0143 P0091 C400          LDA+ IOCTR                                  00300143
     P0092 0064 C
0144 P0093 6896          STA* UNIT+1                                 00300144
0145 P0094 1800          JMP  DOREQ                                  00300145
     P0095 FF8A
0146                     END                                         00300146
```

PGM= 0096 (150) COM = 0C96 (3222) DAT = 0000 (0)

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

DEF.LINE	NAME	VALUE		REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	
0013	ZERO	0022	(000034)	0122
0014	ONEBIT	0023	(000035)	0071, 0075, 0079, 0083, 0084, 0129
0015	LPMSK	0002	(000002)	0061
0016	LFN	0061	(000097)	0029

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	IRDFLG	0000	0022, 0025
0006	IMODE	0001	0044, 0085, 0132
0006	IUNIT	0002	0031, 0041, 0043, 0105, 0116, 0124
0006	IOBUF	0003	0017, 0133
0006	IOCTR	0064	0135, 0143
0007	ISODEV	0065	
0007	IMCX	0066	
0007	IMASC	0067	
0007	ITMASC	00C7	
0007	IERR	00CB	
0008	IMVA	00CC	
0008	IMVB	00CD	
0008	IMVC	00CE	
0008	IMVD	00CF	
0008	ISCR	00D0	
0008	ISECT	00D1	
0008	IPB	00D2	
0008	IPM	00D3	
0008	IFATAL	00D4	
0009	ICPMC	00D5	
0009	IBUNIT	00D6	
0009	IMUNIT	00D7	
0009	INUNIT	00D8	
0009	IFILE	00D9	
0009	IDCTR	00DA	
0010	IBTM	00DB	
0010	IBF	00DC	
0010	IMF	06B8	
0010	IFX	0C94	
0010	IPASS	0C95	
0011	IREAD	0001	0011, 0026, 0136, 0140
0011	IWRITE	008A	0011, 0139
0017	BFR	0003	0052
0018	CMODE	0000	0021, 0086, 0089
0027	DOREAD	000B	0023
0035	STATCD	0015	0032
0043	DOREQ	0020	0040, 0103, 0145
0047	REQ	0026	0028, 0042, 0142
0049	THRD	0028	0054
0050	UNIT	0029	0030, 0045, 0057, 0060, 0082, 0144
0052	BEGN	002B	0134

0054	CHKTHR	002C	0056
0057	DONE	002F	0055
0066	STATU	0038	0062
0086	CKMOD	004E	
0091	EXIT	0053	0088
0093	BACKUP	0055	0090
0096	TRD	0058	0099
0097	BACKU	0059	0063
0099	CTRD	005B	0101
0102	STATSV	005E	0068, 0074, 0078
0105	NOCHAN	0060	0059, 0073, 0077, 0081
0109	STCARD	0065	0106
0124	ACUNIT	0077	0118, 0123
0131	LOBIN	0080	0128, 0130
0133	NOMODE	0083	0115

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0012	LOG1A	007A	0125

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ACUNIT	0124	BACKU	0097	BACKUP	0093	BEGN	0052	BFR	0017	CHKTHR	0054	CKMOD	0086	CMODE	0018	CTRD	0099
DONE	0057	DOREAD	0027	DOREQ	0043	EXIT	0091	I	0000	IBF	0010	IBTM	0010	IBUNIT	0009	ICPMC	0009
IDCTR	0009	IERR	0007	IFATAL	0008	IFILE	0009	IFX	0010	IMASC	0007	IMCX	0007	IMF	0010	IMODE	0006
IMUNIT	0009	IMVA	0008	IMVB	0008	IMVC	0008	IMVD	0008	INUNIT	0009	IOBUF	0006	IOCTR	0006	IPASS	0010
IPB	0008	IPM	0008	IRDFLG	0006	IREAD	0011	ISCR	0008	ISECT	0008	ISODEV	0007	ITMASC	0007	IUNIT	0006
IWRITE	0011	LDBIN	0131	LEN	0016	LOG1A	0012	LPMSK	0015	NOCHAN	0105	NOMODE	0133	ONEBIT	0014	REQ	0047
STATCD	0035	STATSV	0102	STATU	0066	STCARD	0109	THRD	0049	TRD	0096	UNIT	0050	ZERO	0013		

```
0001                    NAM  ASCOUT        DECK-ID 004  MSOS 5.0          SUMMARY-11 00400001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                   00400002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA               00400003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                    00400004

0006                **       GENERAL ASCII OUT ROUTINE                           00400006
0007                **       PARAMETERS IOCTR,IOBUF,ISODEV                       00400007
0008          0000 C    COM    IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                 00400008
              0001 C
              0002 C
              0003 C
              0064 C
0009          0065 C    COM    ISODEV,IMCX,IMASC(96),ITMASC(4),IERR               00400009
              0066 C
              0067 C
              00C7 C
              00C8 C
0010          00CC C    COM    IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL      00400010
              00CD C
              00CE C
              00CF C
              00D0 C
              00D1 C
              00D2 C
              00D3 C
              00D4 C
0011          00D5 C    COM    ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR             00400011
              00D6 C
              00D7 C
              00D8 C
              00D9 C
              00DA C
0012          00DB C    COM    IBTM,IBF(1500),IMF(1500),IFX,IPASS                 00400012
              00DC C
              06B8 C
              0C94 C
              0C95 C
0013                    ENT  ASCOUT                                              00400013
0014                    ENT  WREOF                                               00400014
0015          0023      EQU  ONEBIT($23)                                         00400015
0016 P0000    0000 ASCOJT NUM  0                                                 00400016
0017 P0001    C400        LDA+ IOCTR          PICK UP NUM OF WORDS               00400017
     P0002    0064 C
0018 P0003    680A        STA* WORDS                                             00400018
0019 P0004    C400        LDA+ ISODEV         PICK UP UNIT                       00400019
     P0005    0065 C
0020 P0006    802F        ADD- ONEBIT+12      ADDIN ASCII BIT                    00400020
0021 P0007    6805        STA* UNIT                                              00400021
0022                  *                                                        00400022
0023 P0008    54F4        RTJ- ($F4)                                             00400023
0024 P0009    4C01        NUM $4C01                                              00400024
0025 P000A    0000        NUM  0                                                 00400025
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0026 P000B 0000    THRD   NUM  0                                        00400026
0027 P000C 0000    UNIT   NUM  0                                        00400027
0028 P000D 0000    WORDS  NUM  0                                        00400028
0029 P000E 0003 C         ADC  IOBUF          STARTING ADR              00400029
0030               *                                                    00400030
0031 P000F C8FB    CHKTHR LDA* THRD                                     00400031
0032 P0010 0101           SAZ  1                                        00400032
0033 P0011 18FD           JMP* CHKTHR                                   00400033
0034 P0012 1CED    LEAVE  JMP* (ASCOUT)                                 00400034
0035 P0013 0000    WREOF  NUM  0                                        00400035
0036 P0014 C400           LDA* INUNIT                                   00400036
     P0015 00D8 C
0037 P0016 6804           STA* STATU                                    00400037
0038 P0017 6810           STA* EOFU                                     00400038
0039 P0018 54F4           NUM  $54F4                                    00400039
0040 P0019 4600         NUM  $4600          STATUS REQUEST              00400040
0041 P001A 0000    STATU  NUM  0                                        00400041
0042 P001B 0000           NUM  0                                        00400042
0043 P001C 0814           TRQ  A                                        00400043
0044 P001D A000           AND  =N$3800                                  00400044
     P001E 3800
0045 P001F B000           EOR  =N$0800                                  00400045
     P0020 0800
0046 P0021 0101           SAZ  1                                        00400046
0047 P0022 1CF0           JMP* (WREOF)                                  00400047
0048 P0023 54F4           NUM  $54F4          WRITE EOF                 00400048
0049 P0024 5C00           NUM  $5C00                                    00400049
0050 P0025 0000           NUM  0                                        00400050
0051 P0026 0000    THR    NUM  0                                        00400051
0052 P0027 0000    EOFU   NUM  0                                        00400052
0053 P0028 2000           NUM  $2000                                    00400053
0054 P0029 C8FC           LDA* THR                                      00400054
0055 P002A 0101           SAZ  1                                        00400055
0056 P002B 18FD           JMP* *-2                                      00400056
0057 P002C 1CE6           JMP* (WREOF)                                  00400057
0058                      END                                           00400058

PGM=  002D (    45)   COM = 0C96 (  3222)   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)	
0015	ONEBIT	0023	(000035)	0020

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0008	IRDFLG	0000	
0008	IMODE	0001	
0008	IUNIT	0002	
0008	IOBUF	0003	0029
0008	IOCTR	0064	0017
0009	ISODEV	0065	0019
0009	IMGX	0066	
0009	IMASC	0067	
0009	ITMASC	00C7	
0009	IERR	00CB	
0010	IMVA	00CC	
0010	IMVB	00CD	
0010	IMVC	00CE	
0010	IMVD	00CF	
0010	ISCR	00D0	
0010	ISECT	00D1	
0010	IPB	00D2	
0010	IPM	00D3	
0010	IFATAL	00D4	
0011	ICPMC	00D5	
0011	IBUNIT	00D6	
0011	IMUNIT	00D7	
0011	INUNIT	00D8	0036
0011	IFILE	00D9	
0011	IDCTR	00DA	
0012	IBTM	00DB	
0012	IBF	00DC	
0012	IMF	06B8	
0012	IFX	0C94	
0012	IPASS	0C95	
0013	ASCOUT	0000	0013, 0034
0014	WREOF	0013	0014, 0047, 0057
0026	THRD	0008	0031
0027	UNIT	000C	0021
0028	WORDS	000D	0018
0031	CHKTHR	000F	0033
0034	LEAVE	0012	
0041	STATU	001A	0037
0051	THR	0026	0054
0052	EOFU	0027	0038

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ASCOUT	0013	CHKTHR	0031	EOFU	0052	I	0000	IBF	0012	IBTM	0012	IBUNIT	0011	ICPMC	0011	IDCTR	0011
IERR	0009	IFATAL	0010	IFILE	0011	IFX	0012	IMASC	0009	IMCX	0009	IMF	0012	IMODE	0008	IMUNIT	0011
IMVA	0010	IMVB	0010	IMVC	0010	IMVD	0010	INUNIT	0011	IOBUF	0008	IOCTR	0008	IPASS	0012	IPB	0010
IPM	0010	IRDFLG	0008	ISCR	0010	ISECT	0010	ISODEV	0009	ITMASC	0009	IUNIT	0008	LEAVE	0034	ONEBIT	0015
STATU	0041	THR	0051	THRD	0026	UNIT	0027	WORDS	0028	WREOF	0014						

```
0001                    NAM  PARAMS        DECK-ID 005  MSOS 5.0          SUMMARY-11 00500001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                   00500002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA               00500003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                    00500004

0006                    ENT  Q8PREP,Q8PKUP                                        00500006
0007          00DC      EQU  ENTAD($DC)                                           00500007
0008          00DD      EQU  PAD($DD)                                             00500008
0009                * PARAMETER PICK UP AND PASS ROUTINE                          00500009
0010                *                                                            00500010
0011  P0000 0000  Q8PREP NUM  0                                                   00500011
0012  P0001 CCFE        LDA* (Q8PREP)                                             00500012
0013  P0002 88FD        ADD* Q8PREP                                               00500013
0014  P0003 60DC        STA- ENTAD                                                00500014
0015  P0004 D8FB        RAO* Q8PREP                                               00500015
0016  P0005 1CFA        JMP* (Q8PREP)                                             00500016
0017  P0006 0000  Q8PKUP NUM  0                                                   00500017
0018  P0007 C4DC        LDA- (ENTAD)                                              00500018
0019  P0008 60DD        STA- PAD                                                  00500019
0020  P0009 C4DD        LDA- (PAD)                                                00500020
0021  P000A D4DC        RAO- (ENTAD)                                              00500021
0022  P000B 1CFA        JMP* (Q8PKUP)                                             00500022
0023                    END                                                       00500023

PGM=  000C (    12)   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)	
0007	ENTAD	00DC	(000220)	0014, 0018, 0021
0008	PAD	00DD	(000221)	0019, 0020

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	Q8PREP	0000	0006, 0012, 0013, 0015, 0016
0006	Q8PKUP	0006	0006, 0022

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ENTAD 0007 I 0000 PAD 0008 Q8PKUP 0006 Q8PREP 0006

```
0001                    NAM  DISKIO        DECK-ID 006  MSOS 5.0                SUMMARY-11 00600001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                        00600002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    00600003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                         00600004

0006        0000 C      COM   IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       00600006
            0001 C
            0002 C
            0003 C
            0064 C
0007        0065 C      COM   ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      00600007
            0066 C
            0067 C
            00C7 C
            00CB C
0008        00CC C      COM   IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             00600008
            00CD C
            00CE C
            00CF C
            00D0 C
            00D1 C
            00D2 C
            00D3 C
            00D4 C
0009        00D5 C      COM   ICPMC,IRUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    00600009
            00D6 C
            00D7 C
            00D8 C
            00D9 C
            00DA C
0010        00DB C      COM   IBTM,IBF(1500),IMF(1500),IFX,IPASS                        00600010
            00DC C
            06B8 C
            0C94 C
            0C95 C

0011                    ENT   DISKR,DISKW                                             00600011
0012                    EXT   IERROR                                                  00600012
0013                * READ AND WRITE DISK ROUTINE                                     00600013
0014                *                                                                 00600014
0015        0022        EQU   ZERO($22)                                               00600015
0016  P0000 0000  DISKR  NUM   0                                                       00600016
0017  P0001 C8FE        LDA*  DISKR          SAVE RETURN                              00600017
0018  P0002 6804        STA*  DISKW                                                   00600018
0019  P0003 C000        LDA   =N$4801         SET READ REQUEST                        00600019
      P0004 4801
0020  P0005 1804        JMP*  PARAMS         SET UP PARAMETERS                        00600020
0021                *                                                               00600021
0022  P0006 0000  DISKW NUM   0                                                       00600022
0023  P0007 C000        LDA   =N$4C01         SET WRITE REQ CODE                      00600023
      P0008 4C01
0024  P0009 4821  PARAMS STQ*  QSAVE                                                 00600024
0025  P000A 6813        STA*  REQST                                                  00600025
```

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0026 P000B ECFA          LDQ* (DISKW)                                    00600026
0027 P000C C622          LDA- (ZERO),Q                                   00600027
0028 P000D 6817          STA* LSB                                        00600028
0029 P000E E0F9          LDQ- $E9                                        00600029
0030 P000F C216          LDA- 22,Q          MAXSEC                       00600030
0031 P0010 9814          SUB* LSB           SUBTRACT SECTOR TRYING TO USE 00600031
0032 P0011 0125          SAP  ADROK         IS SECTOR LEGAL TO USE       00600032
0033 P0012 0A0A          ENA  10            NO-ISSUE ERROR 10            00600033
0034 P0013 6400          STA+ IERR                                       00600034
     P0014 00CB C
0035 P0015 5400 X        RTJ+ IERROR                                     00600035
     P0016 7FFF X
0036 P0017 0B00   ADROK  NOP  0                                          00600036
0037 P0018 D8ED          RAO* DISKW                                      00600037
0038 P0019 CCEC          LDA* (DISKW)       PICK UP BUFFER ADR           00600038
0039 P001A 6808          STA* ADR           PUT I N REQUEST              00600039
0040 P001B D8EA          RAO* DISKW                                      00600040
0041               *                                                     00600041
0042 P001C 54F4          RTJ- ($F4)                                      00600042
0043 P001D 0000   REQST  NUM  0             REQUEST CODE                 00600043
0044 P001E C000          NUM  0             COMP ADR                     00600044
0045 P001F 0000   THRD   NUM  0                                          00600045
0046 P0020 08B3          NUM  $08B3         MODE L.U.                    00600046
0047 P0021 0060          NUM  96            LENGTH                       00600047
0048 P0022 0000   ADR    NUM  0             STARTING ADR                 00600048
0049 P0023 0000          NUM  0                                          00600049
0050 P0024 0000   LSB    NUM  0             DISK SECTOR ADR              00600050
0051 P0025 C8F9   CHKTHR LDA* THRD                                       00600051
0052 P0026 0101          SAZ  1                                          00600052
0053 P0027 18FD          JMP* CHKTHR                                     00600053
0054 P0028 E802          LDQ* QSAVE         RESTORE Q                    00600054
0055 P0029 1CDC          JMP* (DISKW)                                    00600055
0056 P002A 0000   QSAVE  NUM  0                                          00600056
0057                     END                                             00600057

PGM=  002B (    43)   COM = 0C96 (  3222)   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)	
0015	ZERO	0022	(000034)	0027

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	IRDFLG	0000	
0006	IMODE	0001	
0006	IUNIT	0002	
0006	IOBUF	0003	
0006	IOCTR	0064	
0007	ISODEV	0065	
0007	IMCX	0066	
0007	IMASC	0067	
0007	ITMASC	00C7	
0007	IERR	00CB	0034
0008	IMVA	00CC	
0008	IMVB	00CD	
0008	IMVC	00CE	
0008	IMVD	00CF	
0008	ISCR	00D0	
0008	ISECT	00D1	
0008	IPB	00D2	
0008	IPM	00D3	
0008	IFATAL	00D4	
0009	ICPMC	00D5	
0009	IBUNIT	00D6	
0009	IMUNIT	00D7	
0009	INUNIT	00D8	
0009	IFILE	00D9	
0009	IDCTR	00DA	
0010	IBTM	00DB	
0010	IBF	00DC	
0010	IMF	06B8	
0010	IFX	0C94	
0010	IPASS	0C95	
0011	DISKR	0000	0011, 0017
0011	DISKW	0006	0011, 0018, 0026, 0037, 0038, 0040, 0055
0024	PARAMS	0009	0020
0036	ADROK	0017	0032
0043	REQST	001D	0025
0045	THRD	001F	0051
0048	ADR	0022	0039
0050	LSB	0024	0028, 0031
0051	CHKTHR	0025	0053
0056	QSAVE	002A	0024, 0054

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0012	IERROR	0016	0035

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ADR	0048	ADROK	0036	CHKTHR	0051	DISKR	0011	DISKW	0011	I	0000	IBF	0010	IBTM	0010	IBUNIT	0009
ICPMC	0009	IDCTR	0009	IERR	0007	IERROR	0012	IFATAL	0008	IFILE	0009	IFX	0010	IMASC	0007	IMCX	0007
IMF	0010	IMODE	0006	IMUNIT	0009	IMVA	0008	IMVB	0008	IMVC	0008	IMVD	0008	INUNIT	0009	IOBUF	0006
IOCTR	0006	IPASS	0010	IPB	0008	IPM	0008	IRDFLG	0006	ISCR	0008	ISECT	0008	ISODEV	0007	ITMASC	0007
IUNIT	0006	LSB	0050	PARAMS	0024	QSAVE	0056	REQST	0043	THRD	0045	ZERO	0015				

```
0001                        NAM  SPOLY2        DECK-ID 007  MSOS 5.0              SUMMARY-11 00700001
0002                    *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                      00700002
0003                    *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                  00700003
0004                    *   COPYRIGHT CONTROL DATA CORPORATION 1976                       00700004

0006                        ENT  SETPV4                                                   00700006
0007                        EXT  SUP                                                      00700007
0008                    SETPV4 GTFILE COMP,NAME-SETPV4-1,FWA,FWA-SETPV4+1,0,,0,1,1       00700008
0008  P0000 54F4
0008  P0001 5A01
0008  P0002 000F P
      P0003 0000
0008  P0004 08C2
      P0005 0011
      P0006 0010 P
0008  P0007 0000
      P0008 000B
0009  P0009 0000            ADC  0                                                        00700009
0010  P000A 0000            ADC  0                                                        00700010
0011  P000B 14EA            NUM  $14EA          JUMP TO DISPATCHER                        00700011
0012  P000C 5354    NAME    ALF  3,STP1V4                                                 00700012
      P000D 5031
      P000E 5634
0013  P000F 1801    COMP    JMP* FWA                                                      00700013
0014  P0010 5400 X  FWA     RTJ+ SUP                                                      00700014
      P0011 7FFF X
0015                        END  SETPV4                                                   00700015
```

PGM= 0012 (18) CON = 0000 (0) DAT = 0000 (0)

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

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

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	SETPV4	0000	0006, 0008, 0008
0012	NAME	000C	0008
0013	COMP	000F	0008
0014	FWA	0010	0008, 0008, 0013

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0007	SUP	0011	0014

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

COMP 0013 FWA 0014 I 0000 NAME 0012 SETPV4 0006 SUP 0007

```
      1              SUBROUTINE SUP                                                    00800001
      1             1                    /DECK-ID 008  MSOS 5.0          SUMMARY-110 00800002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                        00800003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     00800004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                          00800005
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                        00800006
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      00800007
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             00800008
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    00800009
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        00800010
      7              DIMENSION M(7)                                                   00800011
      8              DIMENSION N(9)                                                   00800012
      9              DIMENSION ITI(4)                                                 00800013
     10              DATA M(1),M(2),M(3),M(4),M(5),M(6),M(7) /                        00800014
     10             *$0D0A,$4D4F,$554E,$5420,$4D20,$5441,$5045/                       00800015
     11              DATA N(1),N(2),N(3),N(4),N(5),N(6),N(7),N(8),N(9) /              00800016
     11             *$0D0A,$4341,$5441,$4C4F,$4720,$4649,$4E49,$5348,$4544 /          00800017
     12              IF(IFATAL .EQ.0) GO TO 12                                        00800018
     13              ASSEM $54F4,$4A00                                                00800019
     14        12    IPB=1                                                            00800020
     15              IPM=1                                                            00800021
     16              ISFLAG=0                                                         00800022
     17              ISTAR=0                                                          00800023
     18              JUNITS=4                                                         00800024
     19              IFEX=0                                                           00800025
     20              IMCX=1                                                           00800026
     21        10    CALL REDCON                                                      00800027
     22              IF(ITMASC(1).EQ.1) GO TO 15                                      00800028
     23              IF(ITMASC(1).EQ.8) GO TO 11                                      00800029
     24              IF(ITMASC(1).EQ.6) GO TO 13                                      00800030
     25              IF(ITMASC(1).EQ.2.AND.ITMASC(3).LT.0.OR.ITMASC(1).EQ.4.AND.      00800031
     25             *ITMASC(3).LT.0) GO TO 14                                         00800032
     26              GO TO 10                                                         00800033
     27        13    ISFLAG=1                                                         00800034
     28              GO TO 10                                                         00800035
     29        14    ISTAR=1                                                          00800036
     30              GO TO 10                                                         00800037
     31        15    IBUNIT=ITMASC(2)                                                 00800038
     32              IMUNIT=ITMASC(3)                                                 00800039
     33              INUNIT=ITMASC(4)                                                 00800040
     34              IF(IBUNIT.EQ.IMUNIT) JUNITS=JUNITS-1                             00800041
     35              IF(IMUNIT.EQ.INUNIT) JUNITS=JUNITS-1                             00800042
     36              IF(IBUNIT.EQ.INUNIT) JUNITS=JUNITS-1                             00800043
     37              JUNITS=JUNITS-1                                                  00800044
     38              IF(JUNITS.EQ.0) JUNITS=1                                         00800045
     39              GO TO 10                                                         00800046
            C                                                                        00800047
            C        BUFFER IN AS INDICATED BY CONTROL STMTS AND UNIT SELECTIONS      00800048
            C                                                                        00800049
     40        11    IF(JUNITS.EQ.1.OR.ISFLAG.EQ.1) GO TO 16                          00800050
     41        17    IF(JUNITS.LE.2.OR.ISTAR.NE.0.OR.ISFLAG.NE.0) GO TO 18            00800051
     42              GO TO 19                                                         00800052
            C                                                                        00800053
            C        BUFFER IN M TAPE IF NECESSARY                                    00800054
```

```
                  DO 21 I=1,7                                                   00800055
          21      IOBUF(I)=M(I)                                                 00800056
                  IOCTR=7                                                       00800057
                  ISODEV=$08FC                                                  00800058
                  CALL ASCOUT                                                   00800059
                  IUNIT=$08FD                                                   00800060
                  IMODE=$1000                                                   00800061
                  CALL IREAD                                                    00800062
                  IDCTR=1                                                       00800063
                  CALL BUFIN                                                    00800064
                  GO TO 17                                                      00800065
C                                                                               00800066
C                 BUFFER IN B TAPE IF NECESSARY                                 00800067
          18      DO 22 I=1,7                                                   00800068
          22      IOBUF(I)=M(I)                                                 00800069
                  IOBUF(5)=$4220                                                00800070
                  IOCTR=7                                                       00800071
                  ISODEV=$08FC                                                  00800072
                  CALL ASCOUT                                                   00800073
                  IUNIT=$08FD                                                   00800074
                  IMODE=$1000                                                   00800075
                  CALL IREAD                                                    00800076
                  IDCTR=0                                                       00800077
                  CALL BUFIN                                                    00800078
                  GO TO 19                                                      00800079
C                                                                               00800080
C                 PICK UP NEXT CONTROL CARD                                     00800081
C                                                                               00800082
          19      IF(JUNITS.GT.2) GO TO 83                                      00800083
                  DO 82 I=1,7                                                   00800084
          82      IOBUF(I)=M(I)                                                 00800085
                  IOBUF(5)=$4E20                                                00800086
                  IOCTR=7                                                       00800087
                  ISODEV=$08FC                                                  00800088
                  CALL ASCOUT                                                   00800089
                  IUNIT=$08FD                                                   00800090
                  IMODE=$1000                                                   00800091
                  CALL IREAD                                                    00800092
          83      ISODEV=$08FB                                                  00800093
                  IMCX=1                                                        00800094
          20      CALL REDCON                                                   00800095
          30      IT=ITMASC(1)                                                  00800096
                  GO TO  (1,4,4,4,2,4,4,3) , IT                                 00800097
C                          L I D R C S O E                                      00800098
C                                                                               00800099
C                 *L ALREADY PROCESSED                                          00800100
C                                                                               00800101
           1      GO TO 20                                                      00800102
C                                                                               00800103
C                 *C PROCESSOR                                                  00800104
C                                                                               00800105
           2      IF(IFEX.EQ.0) GO TO 6                                         00800106
                  IERR=4                                                        00800107
                  CALL IERROR                                                   00800108
```

```
                C       ERROR ONLY 1 CATALOG ALLOWED /RUN , ERROR IF FATAL                00800109
                        DO 81 I=1,7                                                       00800110
                81      IOBUF(I)=M(I)                                                     00800111
                        IOCTR=7                                                           00800112
                        ISODEV=$08FC                                                      00800113
                        CALL ASCOUT                                                       00800114
                        IUNIT=$08FD                                                       00800115
                        IMODE=$1000                                                       00800116
                        CALL IREAD                                                        00800117
                        CALL ICAT                                                         00800118
                        DO 80 I=1,9                                                       00800119
                80      IOBUF(I)=N(I)                                                     00800120
                        IOCTR=9                                                           00800121
                        ISODEV=$08FC                                                      00800122
                        CALL ASCOUT                                                       00800123
                        IUNIT=$08FD                                                       00800124
                        IMODE=$1000                                                       00800125
                        CALL IREAD                                                        00800126
                        ISODEV=$08FB                                                      00800127
                        GO TO 20                                                          00800128
                C                                                                         00800129
                CC       *E PROCESSOR                                                     00800130
                C                                                                         00800131
                3       IF(IFEX.EQ.0) GO TO 89                                            00800132
                        CALL WREOF                                                        00800133
                89      ASSEM $54F4,$4A00                                                 00800134
                C                                                                         00800135
                C       *O,*I,*R,*D,*S PREPROCESSORS                                      00800136
                C                                                                         00800137
                4       ITMCX=IMCX                                                        00800138
                        DO 84 I=1,4                                                       00800139
                84      ITT(I)=ITMASC(I)                                                  00800140
                        IFEX=1                                                            00800141
                        IF(IT.EQ.7) GO TO 28                                              00800142
                24      CALL REDCON                                                       00800143
                        IF(ITMASC(1).NE.8) GO TO 25                                       00800144
                        IERR=9                                                            00800145
                        CALL IERROR                                                       00800146
                C        ERROR IF *E CARD FOUND BEFORE *O CARD                            00800147
                25      IF(ITMASC(1).NE.7) GO TO 24                                       00800148
                28      IF(ISFLAG.NE.0.OR.JUNITS.EQ.1) GO TO 26                           00800149
                        IF(ITMASC(2).GE.IPM) GO TO 27                                     00800150
                        IERR=4                                                            00800151
                        CALL IERROR                                                       00800152
                C       ERROR IF TRYING TO OUTPUT FROM LESS THAN CURRENT POSITION         00800153
                CC                                                                        00800154
                C       MOVE M UNIT TO FIRST OUTPUT POSITION                              00800155
                27      IF(IPM.EQ.ITMASC(2)) GO TO 26                                     00800156
                        IMVC=ITMASC(2)-IPM                                                00800157
                        IMVA=IMUNIT                                                       00800158
                        IMVB=0                                                            00800159
                        IMVD=0                                                            00800160
                        IMODE=0                                                           00800161
                        CALL MOVE                                                         00800162
```

```
128          26    IMCX=ITMCX                                                    00800163
129                IPM=ITMASC(2)                                                 00800164
130                DO 85 I=1,4                                                   00800165
131          85    ITMASC(I)=ITT(I)                                              00800166
132                GO TO 86                                                      00800167
133          29    CALL REDCON                                                   00800168
134          86    CONTINUE                                                      00800169
135                GO TO (1,31,31,31,2,70,90,3) ,ITMASC(1)                       00800170
136          31    IF(IPM.GE.ITMASC(2)) GO TO 32                                 00800171
137                IMVC=ITMASC(2)-IPM                                            00800172
138                IF(ISFLAG.NE.0.OR.JUNITS.EQ.1) GO TO 88                       00800173
139                IMVA=IMUNIT                                                   00800174
140                IMVB=INUNIT                                                   00800175
141                IMVD=0                                                        00800176
142                CALL MOVE                                                     00800177
143                GO TO 32                                                      00800178
144          88    IMVA=1                                                        00800179
145                IMVB=INUNIT                                                   00800180
146                IMVD=IPM                                                      00800181
147                CALL MOVE                                                     00800182
148          32    IF(ITMASC(1).EQ.3.AND.ITMASC(3).NE.0) GO TO 34                00800183
149                IPM=ITMASC(2)+1                                               00800184
150                GO TO 33                                                      00800185
151          34    IPM=ITMASC(3)+1                                               00800186
152          33    GO TO (1,50,40,50,2,70,90,3),ITMASC(1)                        00800187
C                                                                               00800188
C                 *D PROCESSOR                                                  00800189
C                                                                               00800190
153          40    IF(JUNITS.EQ.1) GO TO 29                                      00800191
154                IMVC=0                                                        00800192
155                IF(ITMASC(3).EQ.0) GO TO 42                                   00800193
156                IMVC=ITMASC(3)-ITMASC(2)                                      00800194
157          42    IMVC=IMVC+1                                                   00800195
158                IMVA=IMUNIT                                                   00800196
159                IMVB=0                                                        00800197
160                IMVD=0                                                        00800198
161                CALL MOVE                                                     00800199
162                GO TO 29                                                      00800200
C                                                                               00800201
C                 *I PROCESSOR                                                  00800202
C                                                                               00800203
163          50    IF(JUNITS.EQ.1) GO TO 51                                      00800204
C                  MOVE BINARY TO BE INSERTED AFTER TO N UNIT                   00800205
164                IMVA=IMUNIT                                                   00800206
165                IMVB=INUNIT                                                   00800207
166                IMVC=1                                                        00800208
167                IMVD=0                                                        00800209
168                CALL MOVE                                                     00800210
169                GO TO 52                                                      00800211
170          51    IMVA=1                                                        00800212
171                IMVB=INUNIT                                                   00800213
172                IMVC=1                                                        00800214
173                IMVD=ITMASC(2)                                                00800215
174                CALL MOVE                                                     00800216
```

```
175          52   IF(ISTAR.NE.0.OR.JUNITS.LE.2) GO TO 53                    00800217
             C      MOVE IS FROM REAL B UNIT                                 00800218
176                 IMVA=IBUNIT                                             00800219
177                 IMVB=INUNIT                                             00800220
178                 IMVC=1                                                  00800221
179                 IMVD=0                                                  00800222
180                 CALL MOVE                                               00800223
181                 GO TO 29                                                00800224
             C      MOVE IS FROM BUFIN OF B UNIT                             00800225
182          53   IMVA=0                                                    00800226
183                 IMVB=INUNIT                                             00800227
184                 IMVC=1                                                  00800228
185                 IF(ITMASC(3))54,55,55                                   00800229
186          54   IMVD=-ITMASC(3)                                           00800230
187                 GO TO 56                                                00800231
188          55   IMVD=ITMASC(3)                                            00800232
189          56   CALL MOVE                                                 00800233
190                 GO TO 29                                                00800234
             C                                                              00800235
             C      *R PROCESSOR                                            00800236
             C                                                              00800237
191          60   IF(JUNITS.EQ.1) GO TO 61                                  00800238
             C      MUST MOVE 1 BINARY FROM REAL M TO DUMMY                 00800239
192                 IMVA=IMUNIT                                             00800240
193                 IMVB=0                                                  00800241
194                 IMVD=0                                                  00800242
195                 IMVC=1                                                  00800243
196                 CALL MOVE                                               00800244
197          61   IF(ISTAR.NE.0.OR.JUNITS.LE.2) GO TO 62                    00800245
             C      MOVE 1 BINARY FROM REAL B UNIT                          00800246
198                 IMVA=IBUNIT                                             00800247
199                 IMVB=INUNIT                                             00800248
200                 IMVC=1                                                  00800249
201                 IMVD=0                                                  00800250
202                 CALL MOVE                                               00800251
203                 GO TO 29                                                00800252
             C      MOVE 1 BINARY FROM BUFIN OF B UNIT                      00800253
204          62   IMVA=0                                                    00800254
205                 IMVB=INUNIT                                             00800255
206                 IMVC=1                                                  00800256
207                 IF(ITMASC(3)) 63,64,64                                  00800257
208          63   IMVD=-ITMASC(3)                                           00800258
209                 GO TO 65                                                00800259
210          64   IMVD=ITMASC(3)                                            00800260
211          65   CALL MOVE                                                 00800261
212                 GO TO 29                                                00800262
             C                                                              00800263
             C      *S PROCESSOR                                            00800264
             C                                                              00800265
213          70   IMVC=0                                                    00800266
214                 IMVA=ITMASC(2)-1                                        00800267
215                 IMVB=INUNIT                                             00800268
216                 IF(ITMASC(4).EQ.0) GO TO 71                             00800269
217                 IMVC=ITMASC(4)-ITMASC(3)                                00800270
```

```
                      INVC=INVC+1                                                00800271
                      INVD=ITMASC(3)                                             00800272
                      CALL MOVE                                                  00800273
                      GO TO 29                                                   00800274
                                                                                 00800275
C                                                                                00800276
C      *0 SUM UP PROCESSOR                                                       00800277
C                                                                                00800278
               90     IF(ISFLAG.NE.0) GO TO 20                                   00800279
                      IF(ITMASC(3).EQ.0) GO TO 20                                00800280
                      INVC=ITMASC(3)-IPM+1                                       00800281
                      IF(JUNITS.EQ.1) GO TO 91                                   00800282
                      INVA=IMUNIT                                                00800283
                      INVB=INUNIT                                                00800284
                      INVD=0                                                     00800285
                      CALL MOVE                                                  00800286
                      IPM=ITMASC(3)+1                                            00800287
                      GO TO 20                                                   00800288
               91     INVA=1                                                     00800289
                      INVB=INUNIT                                                00800290
                      INVD=IPM                                                   00800291
                      CALL MOVE                                                  00800292
                      IPM=ITMASC(3)+1                                            00800293
                      GO TO 20                                                   00800294
                      END
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $02E4 (   740)

EXTERNALS
REDCON ASCOUT IREAD  BUFIN  IERROR ICAT   WREOF
MOVE
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
08FB (2299)	001E	76,102
08FC (2300)	0019	46,58,71,88,97
08FD (2301)	001A	48,60,73,90,99
1000 (4096)	001B	49,61,74,91,100
4220 (16928)	001C	56
4E20 (20000)	001D	69

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
I	INTEGER	0018	43,44,54,55,67,68,85,86,94,95,108,109,130,131
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1,31,34,36,176,198
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1,51,63
IERR	INTEGER	00CB C	1,83,114,119
IFATAL	INTEGER	00D4 C	1,12
IFEX	INTEGER	0017	18,19,82,104,110
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1,20,77,107,128
IME	INTEGER	0688 C	1
IMODE	INTEGER	0001 C	1,49,61,74,91,100,126
IMUNIT	INTEGER	00D7 C	1,32,34,35,123,139,158,164,192,226
IMVA	INTEGER	00CC C	1,123,139,144,158,164,170,176,182,192,198,204,214,226,232
IMVB	INTEGER	00CD C	1,124,140,145,159,165,171,177,183,193,199,205,215,227,233
IMVC	INTEGER	00CE C	1,122,137,154,156,157,166,172,178,184,195,200,206,213,217,218,224
IMVD	INTEGER	00CF C	1,125,141,146,160,167,173,179,186,188,194,201,208,210,219,228,234
INUNIT	INTEGER	0008 C	1,33,35,36,140,145,165,171,177,183,199,205,215,227,233
IOBUF	INTEGER	0003 C	1,44,55,56,68,69,86,95
IOCTR	INTEGER	0064 C	1,45,57,70,87,96
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	0002 C	1,14
IPM	INTEGER	0003 C	1,15,118,121,122,129,136,137,146,149,151,224,230,234,236
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISFLAG	INTEGER	0014	15,16,27,40,41,117,138,222
ISODEV	INTEGER	0065 C	1,46,58,71,76,88,97,102
ISTAR	INTEGER	0015	16,17,29,41,175,197
IT	INTEGER	001F	78,79,80,111

ITMASC	INTEGER	00C7	C	1,22,23,24,25,31,32,33,79,109,113,116,118,121,122,129,131,135,136,137,148,149,151,152,155,156,173,185,186,188,207,208,210,214,216,217,219,223,224,230,236
ITMCX	INTEGER	0020		107,107,128
ITT	INTEGER	0010		1,109,131
IUNIT	INTEGER	0002	C	1,48,60,73,90,99
JUNITS	INTEGER	0016		17,18,34,35,36,37,38,40,41,66,117,138,153,163,175,191,197,225
M	INTEGER	0000		1,10,44,55,68,86
N	INTEGER	0007		1,11,95

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
ASCOUT	SUBROUTINE	012F	46,59,72,89,98
BUFIN	SUBROUTINE	00BA	51,64
ICAT	SUBROUTINE	013A	92
IERROR	SUBROUTINE	018F	83,115,120
IREAD	SUBROUTINE	0138	49,62,75,92,101
MOVE	SUBROUTINE	0294	126,142,147,161,168,174,180,189,196,202,211,220,229,235
REDCON	SUBROUTINE	016F	20,78,112,133
WREOF	SUBROUTINE	0157	104

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
1	0110	79,81,135,152
2	0111	80,82,135,152
3	0153	80,104,135,152
4	015A	79,80,107
6	011A	82,85
10	0036	20,26,28,30,39
11	0080	23,40
12	0027	12,14
13	0052	24,27
14	0055	25,29
15	0058	22,31
16	0097	40,43
17	0089	40,53
18	00BC	41,54
19	00D8	41,65,66
20	00F9	77,81,103,222,223,231,237
21	009A	43,44
22	00BE	54,55
24	016E	111,116
25	0177	113,116
26	01A5	117,121,128
27	0190	118,121
28	0178	111,117
29	01B6	131,153,162,181,190,203,212,221

30	00FB	78
31	01CA	135,135,136
32	01E8	136,143,148
33	01F8	149,152
34	01F4	148,151
40	020C	152,153
42	021B	155,157
50	0228	152,163
51	0235	163,170
52	023E	168,175
53	0253	175,182
54	025D	185,186
55	0261	185,185,188
56	0263	186,189
60	0266	152,191
61	0271	191,197
62	0282	197,204
63	028C	207,208
64	0290	207,207,210
65	0293	208,211
70	0297	135,152,213
71	02A8	216,218
80	013D	92,95
81	011D	85,86
82	00DE	66,68
83	00F3	66,76
84	015F	107,109
85	01AD	129,131
86	01B7	131,134
88	01E1	138,144
89	0158	104,106
90	02AE	135,152,222
91	02D1	225,232
SUP	02DF	1

```
      1              SUBROUTINE BTOA                                                    00900001
      1             1                    /DECK-ID 009  MSOS 5.0          SUMMARY-110 00900002
            C         MASS STORAGE OPERATING SYSTEM VERSION 5.0                        00900003
            CC        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    00900004
            CC        COPYRIGHT CONTROL DATA CORPORATION 1976                         00900005
            CC                                                                        00900006
            CC        CONVERTS BINARY TO ASCII PLACES IT IN IOBUF(2,3,4)               00900007
            CC        INPUT PARAMETER IOCTR                                           00900008
            C                                                                         00900009
      2             COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       00900010
      3             COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                     00900011
      4             COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL            00900012
      5             COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR                   00900013
      6             COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                       00900014
      7             M=IOCTR                                                         00900015
      8             DO 10 I=1,3                                                     00900016
      9             N=M-(M/10)*10                                                   00900017
     10             M=M/10                                                          00900018
     11             N=N+$100*(M-(M/10)*10)+$3030                                    00900019
     12             M=M/10                                                          00900020
     13             L=5-I                                                           00900021
     14       10    IOBUF(L)=N                                                      00900022
     15             DO 20 I=2,4                                                     00900023
     16             IF(AND(IOBUF(I),$FF00).NE.$3000) GO TO 30                       00900024
     17             IOBUF(I)=AND(IOBUF(I),$FF)+$2000                                00900025
     18             IF(AND(IOBUF(I),$FF).NE.$30) GO TO 30                           00900026
     19       20    IOBUF(I)=$2020                                                  00900027
     20       30    IOBUF(1)=$2020                                                  00900028
     21             RETURN                                                          00900029
     22             END                                                             00900030
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $0057 (    87)
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
FF00 (-255)	0006	16
000A (10)	0003	9,9,10,11,12
00FF (255)	0008	17,18
2000 (8192)	0009	17
2020 (8224)	000A	19,20
3000 (12288)	0007	16
3030 (12336)	0004	11

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	16,17,18
I	INTEGER	0001	7,13,15,16,17,18,19
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1,7
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	0008 C	1
IOBUF	INTEGER	0003 C	1,14,16,17,18,19,20
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1

L	INTEGER	0005	12,13,14
M	INTEGER	0000	1,7,9,10,11,12
N	INTEGER	0002	8,9,11,14

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	002C	7,14
20	0045	14,19
30	004D	16,18,20
BTOA	0053	1

```
      1              SUBROUTINE ISTAT                                                  01000001
      1             1                /DECK-ID D10  MSOS 5.0          SUMMARY-110O1000002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                        01000003
            CC       SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     0100000+
            CC       COPYRIGHT CONTROL DATA CORPORATION 1976                          01000005
            CCC                                                                       01000006
            CC       PARAMETERS                                                       01000007
            CC        IN-IFILE UNIT TO TAKE STATUS ON                                 01000008
            CC        OUT-NON ZERO IF FILE MARK UP                                    01000009
            CC       STATUS TAKEN ON MAG TAPE DEVICES ONLY                            01000010
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                        01000011
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      01000012
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             01000013
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    01000014
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        01000015
            C         MONITOR STATUS REQUEST                                        01000016
      7              ASSEM $C400,+IFILE,$6803                                         01000017
      8              ASSEM $54F4,$4600,$0,$0                                          01000018
      9              ASSEM $6800,JSTAT                                                01000019
            C         SAVE STATUS                                                   01000020
     10              ASSEM $4800,JPTAB                                                01000021
            C         SAVE TYPE OF UNIT                                             01000022
     11              IFILE=0                                                          01000023
     12              IMTD=AND(JPTAB,$3800)                                            01000024
            C         CHECK IF MAG TAPE                                             01000025
     13              IF(IMTD.NE.$0800.AND.IMTD.NE.$1800) GO TO 10                     01000026
     14              IMTD=AND(JSTAT,$0800)                                            01000027
     15        20    IF(IMTD.NE.0) IFILE=1                                            01000028
     16              RETURN                                                           01000029
     17        10    IF(IMTD.NE.$2000) RETURN                                         01000030
     18              IMTD=AND(JSTAT,$0200)                                            01000031
     19              GO TO 20                                                         01000032
     20              END                                                              01000033
```

COMMON
BLANK $0C96 (3222)

PROGRAM LENGTH $0034 (52)

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
0200 (512)	0007	18
0800 (2048)	0004	13,14
1800 (6144)	0005	13
2000 (8192)	0006	17
3800 (14336)	0003	12

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	12,14,18
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IPUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1,7,11,15
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMTD	INTEGER	0002	11,12,13,14,15,17,18
IMUNIT	INTEGER	0007 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	0008 C	1
IOBUF	INTEGER	0003 C	1
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	0002 C	1
IPM	INTEGER	0003 C	1
IRDFLG	INTEGER	0000 C	1
ISCP	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1
JPTAB	INTEGER	0001	8,12
JSTAT	INTEGER	0000	8,14,18

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	0027	13,17
20	0021	14,19
ISTAT	0030	1

```
      1              SUBROUTINE SCIO                                                  01100001
      1             1                    /DECK-ID 011  MSOS 5.0          SUMMARY-110 01100002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                       01100003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    01100004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                         01100005
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       01100006
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                     01100007
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL            01100008
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR                   01100009
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                       01100010
            C        COMPUTE SECTOR TO WRITE                                         01100011
      7              ISECT=ISCR                                                      01100012
      8              CALL DISKW(ISECT,IOBUF)                                         01100013
      9              RETURN                                                          01100014
     10              END                                                             01100015
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $000F (    15)

EXTERNALS
DISKW
```

***** L I S T O F S Y M B O L S *****

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	0688 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	0007 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	0008 C	1
IOBUF	INTEGER	0003 C	1,8
IOCTR	INTEGER	0064 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1,7
ISECT	INTEGER	0001 C	1,7,8
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
DISKW	SUBROUTINE	0005	7

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
SCIO	000B	1

```
      1              SUBROUTINE SCRD                                                    01200001
      1             1                /DECK-ID 012  MSOS 5.0          SUMMARY-110      01200002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                         01200003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      01200004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                           01200005
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                         01200006
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                       01200007
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL              01200008
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                     01200009
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                         01200010
            C        COMPUTE SECTOR TO READ                                            01200011
      7              ISECT=ISCR                                                        01200012
      8              CALL DISKR(ISECT,IOBUF)                                           01200013
      9              RETURN                                                            01200014
     10              END                                                               01200015
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $000F (    15)

EXTERNALS
DISKR
```

***** L I S T O F S Y M B O L S *****

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IBF	INTEGER	00DC C	1
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,8
IOCTR	INTEGER	0054 C	1
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1,7
ISECT	INTEGER	00D1 C	1,7,8
ISODEV	INTEGER	0065 C	1
ITMASC	INTEGER	00C7 C	1
IUNIT	INTEGER	0002 C	1

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
DISKR	SUBROUTINE	0005	7

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
SCRD	000B	1

```
      1              SUBROUTINE ICAT                                                    01300001
      1             1                    /DECK-ID 013  MSOS 5.0          SUMMARY-110 01300002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                        01300003
            CC       SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     01300004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                          01300005
            C          **   **   **                                                   01300006
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                        01300007
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      01300008
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             01300009
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    01300010
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        01300011
      7              DIMENSION IBN(5),IRB(5),IUD(5),IAS(5)                            01300012
      8              DATA IBN(1),IBN(2),IBN(3),IBN(4),IBN(5)/                         01300013
      8             *$2042,$494E,$2043,$4F4E,$2020/                                   01300014
      9              DATA IRB(1),IRB(2),IRB(3),IRB(4),IRB(5)/                         01300015
      9             *$2052,$4540,$4F20,$4249,$4E20/                                   01300016
     10              DATA IUD(1),IUD(2),IUD(3),IUD(4),IUD(5)/                         01300017
     10             *$2055,$4420,$4249,$4E41,$5259/                                   01300018
     11              DATA IAS(1),IAS(2),IAS(3),IAS(4),IAS(5)/                         01300019
     11             *$2041,$5343,$4949,$2020,$2020/                                   01300020
     12              IOBUF(1)=$3120                                                   01300021
     13              IOCTR=1                                                          01300022
     14              ISODEV=$08FB                                                     01300023
     15              CALL ASCOUT                                                      01300024
     16              IA=0                                                             01300025
            C          HOLDER FOR MODE CHANGE                                        01300026
     17              IFILE=0                                                          01300027
     18              IDCTR=1                                                          01300028
     19              IUNIT=IMUNIT                                                     01300029
            C          DO READ IN BIN MODE IREAD WILL CHANGE THE MODE AS NECESSARY   01300030
     20              IMODE=0                                                          01300031
     21              IPRINT=0                                                         01300032
     22       61     ICMOD=IMODE                                                      01300033
     23              CALL IREAD                                                       01300034
     24       60     IF(ICMOD.NE.IMODE) GO TO 20                                      01300035
            C          TAKE STATUS FOR FILE MARK                                     01300036
     25       50     IFILE=IUNIT                                                      01300037
     26              CALL ISTAT                                                       01300038
     27              IF(IFILE.EQ.0) GO TO 21                                          01300039
     28              RETURN                                                           01300040
            C                                                                        01300041
            CC         ASTERISK BINARY CONTROL STATEMENT                             01300042
            C                                                                        01300043
     29       21     IF(AND(IOBUF(1),$7F00)-$2A00) 22,23,22                           01300044
     30       23     IPRINT=0                                                         01300045
     31              DO 24 I=59,1,-1                                                  01300046
     32       24     IOBUF(I+9)=IOBUF(I)                                              01300047
     33              DO 25 I=1,5                                                      01300048
     34       25     IOBUF(I+4)=IBN(I)                                                01300049
     35       31     CALL BTOA                                                        01300050
     36              IOCTR=IOCTR+9                                                    01300051
     37              ISODEV=$08FB                                                     01300052
     38              CALL ASCOUT                                                      01300053
     39              IDCTR=IDCTR+1                                                    01300054
```

```
                C       HAS MODE BEEN CHANGED                                   01300055
     40                 IF(ICMOD.NE.IMODE) GO TO 20                             01300056
     41                 GO TO 61                                                01300057
                C                                                               01300058
                CC      RELOCATABLE BINARY DATA AREA                            01300059
                C                                                               01300060
     42          22    IF(IOBUF(1).NE.$2050) GO TO 40                          01300061
                C*************************************************************01300062
     43                 DO 26 I=34,5,-1                                         01300063
                C*************************************************************01300064
     44          26    IOBUF(I+7)=IOBUF(I)                                     01300065
     45                 DO 27 I=1,5                                             01300066
     46          27    IOBUF(I+4)=IRB(I)                                       01300067
     47                 CALL BTOA                                               01300068
     48                 IOBUF(10)=$2020                                         01300069
     49                 IOBUF(11)=$2020                                         01300070
                C*************************************************************01300071
     50                 IOBUF(15)=$2020                                         01300072
     51                 IOBUF(16)=$2020                                         01300073
     52                 IOBUF(17)=$2020                                         01300074
     53                 IOCTR=41                                                01300075
                C*************************************************************01300076
     54                 ISODEV=$08FB                                            01300077
     55                 CALL ASCOUT                                             01300078
     56                 IDCTR=IDCTR+1                                           01300079
     57          32    CALL IREAD                                              01300080
     58                 IF(IOBUF(1).NE.$C050) GO TO 32                          01300081
     59                 IPRINT=0                                                01300082
     60                 GO TO 61                                                01300083
                C                                                               01300084
                CC      UNDEFINED BINARY BLOCK AREA                             01300085
                C                                                               01300086
     61          40    IF(IPRINT.NE.0) GO TO 61                                01300087
     62                 IPRINT=1                                                01300088
     63                 DO 33 I=1,5                                             01300089
     64          33    IOBUF(I+4)=IUD(I)                                       01300090
     65                 CALL BTOA                                               01300091
     66                 IOCTR=9                                                 01300092
     67                 ISODEV=$08FB                                            01300093
     68                 CALL ASCOUT                                             01300094
     69                 IDCTR=IDCTR+1                                           01300095
     70                 GO TO 61                                                01300096
                C                                                               01300097
                CC      ASCII RECORD AREA                                       01300098
                C                                                               01300099
     71          20    IPRINT=0                                                01300100
     72                 IFILE=IUNIT                                             01300101
     73                 CALL ISTAT                                              01300102
     74                 IF(IFILE.EQ.0) GO TO 41                                 01300103
     75                 RETURN                                                  01300104
     76          41    ICMOD=IMODE                                             01300105
     77                 DO 43 I=IOCTR,1,-1                                      01300106
     78          43    IOBUF(I+10)=IOBUF(I)                                    01300107
     79                 DO 42 I=1,5                                             01300108
```

```
80        42    IOBUF(I+4)=IAS(I)                                                01300109
81              IOBUF(10)=$2020                                                  01300110
82              CALL BTOA                                                        01300111
          C*************************************************************************701300112
83               IOCTR=IOCTR+10                                                  01300113
          C*************************************************************************701300114
84              ISODEV=$08FB                                                     01300115
85              CALL ASCOUT                                                      01300116
86              IOCTR=IOCTR+1                                                    01300117
87              CALL IREAD                                                       01300118
88              IFILE=IUNIT                                                      01300119
89              CALL ISTAT                                                       01300120
90              IF( IFILE.EQ.0) GO TO 44                                         01300121
91              RETURN                                                           01300122
92        44    IF(ICMOD.EQ.IMODE) GO TO 41                                      01300123
93              ICMOD=IMODE                                                      01300124
94              GO TO 60                                                         01300125
95              END                                                              01300126
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $011C (   284)

EXTERNALS
ASCOUT IREAD  ISTAT  BTOA
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE		ADDRESS	REFERENCED BY STATEMENT NB :
C050	(-16303)	001E	58
D5FF	(-10752)	001A	29
08FB	(2299)	0015	14,37,54,67,84
2020	(8224)	001D	48,49,50,51,52,81
2050	(8272)	001C	42
3120	(12576)	0014	12
7F00	(32512)	0019	29

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	29
I	INTEGER	001B	30,32,33,34,43,44,45,46,63,64,77,78,79,80
IA	INTEGER	0016	14,16
IAS	INTEGER	000F	1,11,80
IBF	INTEGER	00DC C	1
IBN	INTEGER	0000	1,8,34
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	0006 C	1
ICMOD	INTEGER	0018	21,22,24,40,76,92,93
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1,18,39,56,69,86
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1,17,25,27,72,74,88,90
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	06B8 C	1
IMODE	INTEGER	0001 C	1,20,22,24,40,76,92,93
IMUNIT	INTEGER	00D7 C	1,19
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
INUNIT	INTEGER	0008 C	1
IOBUF	INTEGER	0003 C	1,12,29,32,34,42,44,46,48,49,50,51,52,58,64,78,80,81
IOCTR	INTEGER	0064 C	1,13,36,53,66,77,83
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IPRINT	INTEGER	0017	20,21,30,59,61,62,71
IRB	INTEGER	0005	1,9,46

IRQFLG	INTEGER	0000 C	1
ISCR	INTEGER	00D0 C	1
ISECT	INTEGER	00D1 C	1
ISQDEV	INTEGER	0065 C	1,14,37,54,67,84
ITMASC	INTEGER	00C7 C	1
IUD	INTEGER	000A	1,10,64
IUNIT	INTEGER	0002 C	1,19,25,72,88

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
ASCOUT	SUBROUTINE	00A9	14,38,55,68,85
BTOA	SUBROUTINE	00FB	34,47,65,82
IREAD	SUBROUTINE	0104	22,57,87
ISTAT	SUBROUTINE	00D9	25,73,89

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
20	00D2	24,40,71
21	004C	27,29
22	0079	29,29,42
23	0051	29,30
24	0055	30,32
25	0061	32,34
26	007F	42,44
27	008B	44,46
31	006A	34
32	00AC	56,58
33	00C0	62,64
40	00B7	42,61
41	00DE	74,76,92
42	00EE	78,80
43	00E6	76,78
44	010C	90,92
50	0043	24
60	003D	22,94
61	0039	21,41,60,61,70
ICAT	0117	1

```
      1              SUBROUTINE BUFIN                                                  01400001
      1             1          /DECK-ID 014  MSOS 5.0                SUMMARY-110    01400002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                        01400003
            CC       SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                     01400004
            CC       COPYRIGHT CONTROL DATA CORPORATION 1976                          01400005
            C          **   **   **                                                  01400006
      2              COMMON IRDFLG,INODE,IUNIT,IOBUF(97),IOCTR                        01400007
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                      01400008
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL             01400009
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IDCTR                    01400010
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                        01400011
            C        ROUTINE TO STORE B OR M UNIT ON MASS STORAGE                     01400012
            CC       IDCTR IS INPUT PARAMETER                                         01400013
            CC         IDCTR=0  B UNIT TO BE STORED                                   01400014
            CC         IDCTR=+ OR -  M UNIT TO BE STORED                              01400015
            CC                                                                        01400016
            CC                                                                        01400017
            CC       VARIABLES--                                                      01400018
            CC         ISCR SCRATCH SECTOR INDICATOR                                  01400019
            CC       IBX B UNIT MASS STORAGE INDEX                                    01400020
            CC       IMX M UNIT MASS STORAGE INDEX                                    01400021
            CC                                                                        01400022
            C                                                                         01400023
      7              IMODE=0                                                          01400024
      8              IF(IDCTR)10,11,10                                                01400025
      9       10     IUNIT=IMUNIT                                                     01400026
     10              IMX=0                                                            01400027
     11              GO TO 12                                                         01400028
     12       11     IUNIT=IBUNIT                                                     01400029
     13              IBX=0                                                            01400030
     14       500    CONTINUE                                                         01400031
     15       12     CALL IREAD                                                       01400032
     16              IFILE=IUNIT                                                      01400033
     17              CALL ISTAT                                                       01400034
     18              IF(IFILE)13,13,20                                                01400035
            C          GO TO 20 TO WRITE LAST ENTRY IN INDEX TABLE AND EXIT          01400036
     19       13     ISAVE=IOBUF(96)                                                  01400037
     20              IOBUF(96)=IOCTR                                                  01400038
            C          SET LENGTH OF RECORD IN LAST WORD                             01400039
     21              L=AND(IOBUF(1),$7F00)                                            01400040
     22              IF(IMODE.EQ.$1000.OR.L.EQ.$2A00) GO TO 100                       01400041
     23              IF(IOBUF(1).EQ.$2050) GO TO 200                                  01400042
     24              GO TO 300                                                        01400043
            C                                                                         01400044
            CC         * BINARY CONTROL AND ASCII RECORD PROCESSOR                    01400045
            C                                                                         01400046
     25       100    IF(IMODE.NE.$1000) GO TO 110                                     01400047
     26              IOBUF(96)=-IOBUF(96)                                             01400048
            C          COMPLEMENT LENGTH IF ASCII RECORD                             01400049
     27       110    ISCR=ISCR+1                                                      01400050
     28              CALL SCIO                                                        01400051
     29              ASSIGN 114 TO IRTURN                                             01400052
     30              GO TO 240                                                        01400053
     31       114    GO TO 500                                                        01400054
```

```
                C                                                                  01400055
                CC      PARTII RBD PROCESSOR                                       01400056
                C                                                                  01400057
     32          200  ISCR=ISCR+1                                                  01400058
     33               ASSIGN 201 TO IRTURN                                         01400059
     34               GO TO 240                                                    01400060
     35          201  CALL SCIO                                                    01400061
     36          220  CALL IREAD                                                   01400062
     37               IFILE=IUNIT                                                  01400063
     38               CALL ISTAT                                                   01400064
     39               IF(IFILE.NE.0) GO TO 20                                      01400065
     40               IOBUF(96)=IOCTR                                              01400066
     41               IF(IOBUF(1).EQ.$C050) GO TO 230                              01400067
     42               ISCR=ISCR+1                                                  01400068
     43               CALL SCIO                                                    01400069
     44               GO TO 220                                                    01400070
     45          230  ISCR=ISCR+1                                                  01400071
     46               CALL SCIO                                                    01400072
     47               GO TO 500                                                    01400073
     48          240  IF(IOCTR.NE.0) GO TO 241                                     01400074
     49               IBX=IBX+1                                                    01400075
     50               IF(IBX.LE.1500) GO TO 401                                    01400076
     51               ASSEM $54F4,$4A00                                            01400077
     52          401  CONTINUE                                                     01400078
     53               IBF(IBX)=ISCR                                                01400079
     54               GO TO IRTURN                                                 01400080
     55          241  IMX=IMX+1                                                    01400081
     56               IF(IMX.LE.1500) GO TO 402                                    01400082
     57               ASSEM $54F4,$4A00                                            01400083
     58          402  CONTINUE                                                     01400084
     59               IMF(IMX)=ISCR                                                01400085
     60               GO TO IRTURN                                                 01400086
                C                                                                  01400087
                C       PART III ABSOLUTIZED 96 OR LESS BLOCKS                     01400088
                C                                                                  01400089
     61          300  ISCR=ISCR+1                                                  01400090
     62               ASSIGN 301 TO IRTURN                                         01400091
     63               GO TO 240                                                    01400092
     64          301  CALL SCIO                                                    01400093
     65               IF(IOCTR.NE.96) GO TO 310                                    01400094
     66               DO 302 I=2,96                                                01400095
     67          302  IOBUF(I)=0                                                   01400096
     68               IOBUF(1)=ISAVE                                               01400097
     69               ISCR=ISCR+1                                                  01400098
     70               CALL SCIO                                                    01400099
     71          310  CALL IREAD                                                   01400100
     72               ISAVE=IOBUF(96)                                              01400101
     73               IOBUF(96)=IOCTR                                              01400102
     74               IFILE=IUNIT                                                  01400103
     75               CALL ISTAT                                                   01400104
     76               IF(IFILE.NE.0) GO TO 20                                      01400105
                C       FINISH UP IF END OF READ IN                                01400106
     77               L=AND(IOBUF(1),$7F00)                                        01400107
     78               IF(L.EQ.$2A00.OR.L.EQ.$2050.OR.IMODE.EQ.$1000) GO TO 13      01400108
```

```
      ISCR=ISCR+1                                                                01400109
      GO TO 301                                                                  01400110
C                                                                                01400111
C     SUM UP AREA FORCE OUT LAST IBF OR IMF ENTRY TO COMPUTE LENGTH              01400112
C     OF LAST ENTRY                                                              01400113
C                                                                                01400114
   20 ISCR=ISCR+1                                                                01400115
      ASSIGN 21 TO IRTURN                                                        01400116
      GO TO 240                                                                  01400117
   21 RETURN                                                                     01400118
      END                                                                        01400119
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $00DA (   218)

EXTERNALS
IREAD  ISTAT  SCIO
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE		ADDRESS	REFERENCED BY STATEMENT NB :
C050	(-16303)	0009	41
050C	(1500)	000A	50,56
1000	(4096)	0005	22,25,78
2050	(8272)	0007	23,78
2A00	(10752)	0006	22,78
7F00	(32512)	0004	21,77

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	21,77
I	INTEGER	000B	65,67
IBF	INTEGER	00DC C	1,53
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	0006 C	1,12
IBX	INTEGER	0001	12,13,49,50,53
ICPMC	INTEGER	0005 C	1
IDCTR	INTEGER	00DA C	1,8,48
IERR	INTEGER	00CB C	1
IFATAL	INTEGER	00D4 C	1
IFILE	INTEGER	00D9 C	1,16,18,37,39,74,76
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0056 C	1
IMF	INTEGER	06B8 C	1,59
IMODE	INTEGER	0001 C	1,7,22,25,78
IMUNIT	INTEGER	00D7 C	1,9
IMVA	INTEGER	00CC C	1
IMVB	INTEGER	00CD C	1
IMVC	INTEGER	00CE C	1
IMVD	INTEGER	00CF C	1
IMX	INTEGER	0000	9,10,55,56,59
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,19,20,21,23,26,40,41,67,68,72,73,77
IOCTR	INTEGER	0064 C	1,20,40,65,73
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRDFLG	INTEGER	0000 C	1
IRTURN	INTEGER	0008	27,33,54,60,62,82
ISAVE	INTEGER	0002	19,19,68,72
ISCR	INTEGER	00D0 C	1,27,32,42,45,53,59,61,69,79,81
ISECT	INTEGER	00D1 C	1

ISODEV	INTEGER	0065	C	1
ITMASC	INTEGER	00C7	C	1
IUNIT	INTEGER	0002	C	1,9,12,16,37,74
L	INTEGER	0003		20,21,22,77,78

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IREAD	SUBROUTINE	00A2	15,36,71
ISTAT	SUBROUTINE	00AD	16,38,75
SCIO	SUBROUTINE	0049	27,35,43,46,64,70

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	0013	8,8,9
11	001A	8,12
12	001F	10,15
13	002C	18,18,19,78
20	00CD	18,39,76,81
21	0002	81,84
100	0040	22,25
110	0046	25,27
114	004E	27,31
200	004F	23,32
201	0054	32,35
220	0055	35,44
230	0065	41,45
240	0058	27,34,48,63,83
241	0077	48,55
300	0084	23,61
301	008A	61,64,80
302	0092	65,67
310	00A1	65,71
401	0071	50,52
402	007F	56,58
500	001F	13,31,47
BUFIN	0005	1

```
      1              SUBROUTINE MOVE                                                  01500001
      1             1                /DECK-ID 015  MSOS 5.0          SUMMARY-110    01500002
            C        MASS STORAGE OPERATING SYSTEM VERSION 5.0                       01500003
            C        SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                    01500004
            C        COPYRIGHT CONTROL DATA CORPORATION 1976                         01500005
      2              COMMON IRDFLG,IMODE,IUNIT,IOBUF(97),IOCTR                       01500006
      3              COMMON ISODEV,IMCX,IMASC(96),ITMASC(4),IERR                     01500007
      4              COMMON IMVA,IMVB,IMVC,IMVD,ISCR,ISECT,IPB,IPM,IFATAL            01500008
      5              COMMON ICPMC,IBUNIT,IMUNIT,INUNIT,IFILE,IOCTR                   01500009
      6              COMMON IBTM,IBF(1500),IMF(1500),IFX,IPASS                       01500010
            C        PARAMETERS                                                      01500011
            C        IMVA-MOVE FROM TO PRAM                                          01500012
            C        IMVB-MOVE TO PARAM                                              01500013
            C        IMVC-NUMBER OF UNITS TO MOVE                                    01500014
            C        IMVD-POSITION NUMBER IF ON DISK                                 01500015
            C                                                                        01500016
      7              DIMENSION ITIOB(96)                                             01500017
      8              J=IMVD                                                          01500018
      9              IF(J.LE.1500) GO TO 401                                         01500019
     10              ASSEM $54F4,$4A00                                               01500020
     11       401    CONTINUE                                                        01500021
     12              K=IMVC                                                          01500022
     13        10    IF(IMVD.NE.0) GO TO 200                                         01500023
     14        14    IF(K) 11,11,12                                                  01500024
     15        11    RETURN                                                          01500025
     16        12    IUNIT=IMVA                                                      01500026
     17              IF(IMVD.NE.0) GO TO 15                                          01500027
     18              CALL IREAD                                                      01500028
     19              GO TO 16                                                        01500029
     20        15    ASSIGN 16 TO IRET                                               01500030
            C                                                                        01500031
            C                                                                        01500032
     21        20    CALL SCRD                                                       01500033
     22              IF(IOBUF(96)) 70,71,71                                          01500034
     23        70    IMODE=$1000                                                     01500035
     24              GO TO 73                                                        01500036
     25        71    IMODE=0                                                         01500037
     26        73    CONTINUE                                                        01500038
     27              IOCTR=IOBUF(96)                                                 01500039
     28              IF(IOCTR.NE.96) GO TO 19                                        01500040
     29              DO 13 I=1,95                                                    01500041
     30        13    ITIOB(I)=IOBUF(I)                                               01500042
     31              ISCR=ISCR+1                                                     01500043
     32              CALL SCRD                                                       01500044
     33              IOBUF(96)=IOBUF(1)                                              01500045
     34              DO 18 I=1,95                                                    01500046
     35        18    IOBUF(I)=ITIOB(I)                                               01500047
     36              IOCTR=96                                                        01500048
     37        19    GO TO IRET                                                      01500049
            C                                                                        01500050
     38        16    IF(IOCTR)40,30,30                                               01500051
            C                                                                        01500052
            C         ASCII AND BINARY CONTROL STMT AREA                             01500053
            C                                                                        01500054
```

```
   40 IOCTR=-IOCTR                                                01500055
   41 IF(IMVB.EQ.0) GO TO 45                                      01500056
      IUNIT=IMVB                                                  01500057
      CALL IWRITE                                                 01500058
   45 K=K-1                                                       01500059
      IF(IMVD.NE.0) GO TO 49                                      01500060
      GO TO 10                                                    01500061
   49 J=J+1                                                       01500062
      GO TO 10                                                    01500063
C                                                                 01500064
C                                                                 01500065
   30 L=AND(IOBUF(1),$7F00)                                       01500066
      IF(IMODE.EQ.$1000) GO TO 41                                 01500067
      IF(L.EQ.$2A00) GO TO 41                                     01500068
      IF( IOBUF(1).NE.$2050) GO TO 50                             01500069
C                                                                 01500070
C      RBD BLOCK PROCESSING AREA                                  01500071
C                                                                 01500072
      IF(IMVB.EQ.0) GO TO 35                                      01500073
      IUNIT=IMVB                                                  01500074
      CALL IWRITE                                                 01500075
   35 IUNIT=IMVA                                                  01500076
      IF(IMVD.EQ.0) GO TO 36                                      01500077
      ISCR=ISCR+1                                                 01500078
      ASSIGN 37 TO IRET                                           01500079
      GO TO 20                                                    01500080
   36 CALL IREAD                                                  01500081
   37 IF(IMVB.EQ.0) GO TO 38                                      01500082
      IUNIT=IMVB                                                  01500083
      CALL IWRITE                                                 01500084
   38 IF(IOBUF(1).NE.$C050) GO TO 35                              01500085
      GO TO 45                                                    01500086
C                                                                 01500087
C      UNDEFINED BINARY BLOCK AREA                                01500088
C                                                                 01500089
   50 IF(IMVB.EQ.0) GO TO 56                                      01500090
      IUNIT=IMVB                                                  01500091
      CALL IWRITE                                                 01500092
   56 IF(IMVD.EQ.0) GO TO 55                                      01500093
      ISCR=ISCR+1                                                 01500094
      ASSIGN 51 TO IRET                                           01500095
      GO TO 20                                                    01500096
   55 IUNIT=IMVA                                                  01500097
      CALL IREAD                                                  01500098
      IFILE=IUNIT                                                 01500099
      CALL ISTAT                                                  01500100
      IF(IFILE.EQ.0) GO TO 51                                     01500101
      K=K-1                                                       01500102
      IF(K.EQ.0) RETURN                                           01500103
      IERR=8                                                      01500104
      CALL IERROR                                                 01500105
   51 L=AND(IOBUF(1),$7F00)                                       01500106
      IF(IOCTR    .LT.0.OR.L.EQ.$2A00.OR.IOBUF(1).EQ.$2050) GO TO 52  01500107
      IF(IMVB.EQ.0) GO TO 56                                      01500108
```

```
                IUNIT=IMVB                                                      01500109
                CALL IWRITE                                                     01500110
                GO TO 56                                                        01500111
          52    IRDFLG=1                                                        01500112
                GO TO 45                                                        01500113
C                                                                               01500114
C        DISK ADDRESS COMPUTATION AREA                                          01500115
C                                                                               01500116
         200    IF(IMVA.NE.0) GO TO 201                                         01500117
                ISCR=IBF(J)                                                     01500118
                GO TO 14                                                        01500119
         201    ISCR=IMF(J)                                                     01500120
                GO TO 14                                                        01500121
                END                                                             01500122
```

```
COMMON
BLANK $0C96 (  3222)

PROGRAM LENGTH $0169 (   361)

EXTERNALS
IREAD  SCRD   IWRITE ISTAT  IERROR
```

***** L I S T O F S Y M B O L S *****

CONSTANTS :

VALUE	ADDRESS	REFERENCED BY STATEMENT NB :
C050 (-16303)	006A	64
05DC (1500)	0061	9
1000 (4096)	0064	23,49
2050 (8272)	0069	51,83
2A00 (10752)	0058	50,83
7F00 (32512)	0067	48,82

VARIABLES :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
AND	INTR.FN.	7FFF	48,82
I	INTEGER	0065	28,30,34,35
IBF	INTEGER	00DC C	1,91
IBTM	INTEGER	00DB C	1
IBUNIT	INTEGER	00D6 C	1
ICPMC	INTEGER	00D5 C	1
IDCTR	INTEGER	00DA C	1
IERR	INTEGER	00C8 C	1,80
IFATAL	INTEGER	0004 C	1
IFILE	INTEGER	0039 C	1,75,77
IFX	INTEGER	0C94 C	1
IMASC	INTEGER	0067 C	1
IMCX	INTEGER	0066 C	1
IMF	INTEGER	0688 C	1,93
IMODE	INTEGER	0001 C	1,23,25,49
IMUNIT	INTEGER	00D7 C	1
IMVA	INTEGER	00CC C	1,16,55,73,90
IMVB	INTEGER	00CD C	1,40,41,52,53,61,62,66,67,84,85
IMVC	INTEGER	00CE C	1,12
IMVD	INTEGER	00CF C	1,8,13,17,44,56,69
INUNIT	INTEGER	00D8 C	1
IOBUF	INTEGER	0003 C	1,22,27,30,33,35,48,51,64,82,83
IOCTR	INTEGER	0064 C	1,27,28,36,38,39,83
IPASS	INTEGER	0C95 C	1
IPB	INTEGER	00D2 C	1
IPM	INTEGER	00D3 C	1
IRQFLG	INTEGER	0000 C	1,88
IRET	INTEGER	0063	20,37,58,71
ISCR	INTEGER	00D0 C	1,31,57,70,91,93
ISECT	INTEGER	00D1 C	1
ISODEV	INTEGER	0065 C	1
ITIOB	INTEGER	0000	1,30,35
ITMASC	INTEGER	00C7 C	1

IUNIT	INTEGER	0002 C	1,16,41,53,55,62,67,73,75,85
J	INTEGER	0050	1,8,9,46,91,93
K	INTEGER	0062	11,12,14,43,78,79
L	INTEGER	0066	48,48,50,82,83

EXTERNALS :

NAME	TYPE	ADDRESS	REFERENCED BY STATEMENT NB :
IERROR	SUBROUTINE	0132	80
IREAD	SUBROUTINE	0100	17,60,74
ISTAT	SUBROUTINE	0123	75
IWRITE	SUBROUTINE	014A	41,54,63,68,86
SCRD	SUBROUTINE	008F	20,32

LABELED STATEMENTS :

LABEL	ADDRESS	REFERENCED BY STATEMENT NB :
10	0076	12,45,47
11	007F	14,14,15
12	0081	14,16
13	00A2	28,30
14	007B	13,92,94
15	0083	17,20
16	008E	17,20,38
18	00B3	33,35
19	00BD	28,37
20	008E	20,59,72
30	0007	38,38,48
35	00F1	52,55,64
36	00FF	56,60
37	0101	57,61
38	0107	61,64
40	00C2	38,39
41	00C5	39,49,50
45	00CD	40,43,65,89
49	0004	44,46
50	010D	51,66
51	0133	70,77,82
52	014C	83,88
55	011C	69,73
56	0113	66,69,84,87
70	0094	22,23
71	0098	22,22,25
73	009A	23,26
200	0151	13,90
201	015C	90,93
401	0073	9,11
MOVE	0164	1

```
0001                    NAM  SILP          DECK-ID 016  MSOS 5.0                    SUMMARY-11 001600001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                              01600002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                          01600003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                               01600004

0006                *                        THIS PROGRAM IS USED TO BRING IN     **MSOS 4.001600006
0007                **                       THE SYSTEM INITIALIZER.              **MSOS 4.001600007
0008                **                                                            **MSOS 4.001600008
0009                **                       SINCE THE SYSTEM INITIALIZER ONLY    **MSOS 4.001600009
0010                **                       RUNS IN THE LOWER 32K THIS PROGRAM   **MSOS 4.001600010
0011                **                       MUST BRING IN THE SYSTEM INIALIALIZER**MSOS 4.001600011
0012                **                       AND CHECK TO SEE WHAT THE START OF   **MSOS 4.001600012
0013                **                       UNPROTECTED IS.                      **MSOS 4.001600013
0014                **                                                            **MSOS 4.001600014
0015                **            SILP READS THE INITIALIZER FILE INTO UNPROTECTED   68*1537  01600015
0016                **            CORE, MOVES THE FILE TO HIGHEST LOCATION          68*1537  01600016
0017                **            AVAILABLE IN BANK 0, INHIBITS INTERRUPTS,         68*1537  01600017
0018                **            AND EXECUTES THE INITIALIZER.                     68*1537  01600018
0019                **                                                              68*1537  01600019
0020                **            MESSAGES FROM SILP SPECIFY WHAT THE STARTING      68*1537  01600020
0021                **            ADDRESS OF SI WILL BE, AND INSTRUCT THE OPERATOR  68*1537  01600021
0022                *             TO TURN OFF PROTEC SWITCH.                        68*1537  01600022

0024                    ENT  SILP                                                             01600024

0026                **      'LENGTH' MUST BE EQU TO NO LESS THAN INITIALIZER LENGTH 68*1537  01600026

0028                        ************************                                68*1537  01600028
0029            2300    LENGTH EQU  LENGTH($2300)                                   68*1537  01600029
0030                        ************************                                68*1537  01600030

0032 P0000 185F     SILP    JMP* S1                 PRINT OUT FWA MESSAGE           68*1537  01600032
0033                        GETFIL GTFILE G1,NAME-GETFIL-1,FWA,,,,0,1,1              68*1537  01600033
0033 P0001 54F4
0033 P0002 5A01
0033 P0003 000D P
     P0004 0000
0033 P0005 08C2
     P0006 0000
     P0007 005C P
0033 P0008 0000
     P0009 005A
0034 P000A 0000             NUM  0,0                                                 68*1537  01600034
     P000B 0000
0035 P000C 14EA             JMP- (*EA)                                               68*1537  01600035
0036 P000D 54F4     G1      RTJ- (*F4)                                               68*1537  01600036
0037 P000E 4C00             NUM  $4C00          FWRITE                               68*1537  01600037
0038 P000F 002D P           ADC  COMP                                                68*1537  01600038
0039 P0010 0000             NUM  0                                                   68*1537  01600039
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0040 P0011 18FC          NUM  $18FC                                                    68*1537  01600040
0041 P0012 0018   LENMES ADC  MESEND-MESS2                                           68*1537  01600041
0042 P0013 0015 P        ADC  MESS2                                                   68*1537  01600042
0043 P0014 14EA          JMP- (SEA)                                                  68*1537  01600043
0044 P0015 5455   MESS2  ALF  *,TURN OFF PROTEC SWITCH AND TYPE CARRIAGE RETURN*    68*1537  01600044
     P0016 524E
     P0017 204F
     P0018 4646
     P0019 2050
     P001A 524F
     P001B 5445
     P001C 4320
     P001D 5357
     P001E 4954
     P001F 4348
     P0020 2041
     P0021 4E44
     P0022 2054
     P0023 5950
     P0024 4520
     P0025 4341
     P0026 5252
     P0027 4941
     P0028 4745
     P0029 2052
     P002A 4554
     P002B 5552
     P002C 4E20
0045      002D P MESEND EQU  MESEND(*)                                               68*1537  01600045
0046 P002D 54F4   COMP   RTJ- (SF4)                                                 68*1537  01600046
0047 P002E 4800          NUM  $4800          FREAD                                  68*1537  01600047
0048 P002F 0035 P        ADC  COMP1                                                 68*1537  01600048
0049 P0030 0000          NUM  0,$18FD                                               68*1537  01600049
     P0031 18FD
0050 P0032 0001          NUM  1                                                     68*1537  01600050
0051 P0033 0015 P        ADC  MESS2                                                 68*1537  01600051
0052 P0034 14EA          JMP- (SEA)                                                 68*1537  01600052
0053 P0035 0500   COMP1  IIN  0              INHIBIT INTERRUPTS                     68*1537  01600053
0054 P0036 C825          LDA* WORDB1         GET FIRST WORD ADDRESS OF SI           68*1537  01600054
0055 P0037 8000          ADD  =XLENGTH                                              68*1537  01600055
     P0038 2300
0056 P0039 0842          CLR  Q                                                     68*1537  01600056
0057 P003A 012F          SAP  BANK0          SKIP IF FILE IS ALL IN BANK 0          68*1537  01600057
0058                *                                                              68*1537  01600058
0059                *        PART OR ALL IN BANK 1 - START MOVE FROM FWA            68*1537  01600059
0060                *                                                              68*1537  01600060
0061 P003B C011   BANK1  LDA- $11            7FFF                                   68*1537  01600061
0062 P003C 9000          SUB  =XLENGTH       FORM NEW FWA                           68*1537  01600062
     P003D 2300
0063 P003E 60FF          STA- I              NEW FWA IN 'I'                         68*1537  01600063
0064 P003F CC1C   MOVEDN LDA* (WORDB1)       MOVE FROM BANK 1 TO BANK 0             68*1537  01600064
0065 P0040 6722          STA- ($22),B        START MOVE FROM FIRST WORD OF SI       68*1537  01600065
0066 P0041 C000          LDA  =XLENGTH                                              68*1537  01600066
     P0042 2300
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0067 P0043 0874          EAQ  A                                          68*1537  01600067
0068 P0044 0104          SAZ  DONEDN                                     68*1537  01600068
0069 P0045 0D01          INQ  1              INCREMENT 'Q' AND           68*1537  01600069
0070 P0046 D800          RAO  WORDB1         CURRENT WORD ADDRESS        68*1537  01600070
     P0047 0014
0071 P0048 18F6          JMP* MOVEDN                                     68*1537  01600071
0072 P0049 1522  DONEDN  JMP- (*22),I        EXECUTE SI AT NEW FWA       68*1537  01600072
0073                     *                                               68*1537  01600073
0074                     *       ALL IN BANK 0 - START MOVE FROM LWA     68*1537  01600074
0075                     *                                               68*1537  01600075
0076 P004A C0F5  BANK0   LDA- $F5            TOP OF CORE                 68*1537  01600076
0077 P004B 0121          SAP  1              SKIP IF 32K OR LESS         68*1537  01600077
0078 P004C C011          LDA- $11            7FFF                        68*1537  01600078
0079 P004D 60FF          STA- I              NEW LWA IN 'I'              68*1537  01600079
0080 P004E CC0C  MOVEUP  LDA* (WORDB0)       MOVE FROM BANK 0 TO TOP OF BANK 0 68*1537  01600080
0081 P004F 6722          STA- (*22),B        START MOVE FROM LAST WORD OF SI 68*1537  01600081
0082 P0050 C000          LDA  =XLENGTH                                   68*1537  01600082
     P0051 2300
0083 P0052 0834          AAQ  A                                          68*1537  01600083
0084 P0053 0105          SAZ  DONEUP                                     68*1537  01600084
0085 P0054 0DFE          INQ  -1             DECREMENT 'Q' AND           68*1537  01600085
0086 P0055 C805          LDA* WORDB0         CURRENT WORD ADDRESS        68*1537  01600086
0087 P0056 09FE          INA  -1                                         68*1537  01600087
0088 P0057 6803          STA* WORDB0                                     68*1537  01600088
0089 P0058 18F5          JMP* MOVEUP                                     68*1537  01600089
0090 P0059 1722  DONEUP  JMP- (*22),B                                    68*1537  01600090
0091                     *                                               68*1537  01600091
0092 P005A 235C P WORDB0 ADC  FWA+LENGTH     LAST WORD ADDRESS OF SI FILE 68*1537  01600092
0093 P005B 005C P WORDB1 ADC  FWA            FIRST WORD ADDRESS OF SI FILE 68*1537  01600093
0094          005C P FWA  EQU  FWA(*)                                    68*1537  01600094
0095 P005C 5349  NAME    ALF  3,SI          FILE INITIALLY LOADED HERE  68*1537  01600095
     P005D 2020
     P005E 2020
0096 P005F C0F5  S1      LDA- $F5            TOP OF CORE                 68*1537  01600096
0097 P0060 0121          SAP  S2                                         68*1537  01600097
0098 P0061 C011          LDA- $11                                        68*1537  01600098
0099 P0062 90000 S2      SUB  =XLENGTH                                   68*1537  01600099
     P0063 2300
0100 P0064 0842          CLR  Q              STARTING ADDRESS IN 'A'     68*1537  01600100
0101 P0065 40FF          STQ- I                                          68*1537  01600101
0102 P0066 0FE4  M1      LLS  4              CONVERT START ADDRESS       68*1537  01600102
0103 P0067 0DF5          INQ  -10            TO ASCII CODE               68*1537  01600103
0104 P0068 0171          SQM  M2             AND STUFF INTO MESSAGE      68*1537  01600104
0105 P0069 0D07          INQ  7                                          68*1537  01600105
0106 P006A 0D3A  M2      INQ  $3A                                        68*1537  01600106
0107 P006B 4917          STQ* M4,I                                       68*1537  01600107
0108 P006C D0FF          RAO- I                                          68*1537  01600108
0109 P006D E0FF          LDQ- I                                          68*1537  01600109
0110 P006E 0DFB          INQ  -4                                         68*1537  01600110
0111 P006F 0142          SQZ  M3                                         68*1537  01600111
0112 P0070 0842          CLR  Q                                          68*1537  01600112
0113 P0071 18F4          JMP* M1                                         68*1537  01600113
0114 P0072 C810  M3      LDA* M4                                         68*1537  01600114
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0115 P0073 0FC8          ALS  8                                          68*1537  01600115
0116 P0074 880F          ADD* M4+1                                       68*1537  01600116
0117 P0075 6826          STA* ADR                                        68*1537  01600117
0118 P0076 C80E          LDA* M4+2                                       68*1537  01600118
0119 P0077 0FC8          ALS  8                                          68*1537  01600119
0120 P0078 880D          ADD* M4+3                                       68*1537  01600120
0121 P0079 6823          STA* ADR+1                                      68*1537  01600121
0122 P007A 54F4          RTJ- (SF4)          PRINT ADDRESS MESSAGE       68*1537  01600122
0123 P007B 4C00          NUM  $4C00          FWRITE                      68*1537  01600123
0124 P007C 0001 P        ADC  GETFIL         COMP, GET SI FILE           68*1537  01600124
0125 P007D 0000          NUM  0                                          68*1537  01600125
0126 P007E 18FC          NUM  $18FC                                      68*1537  01600126
0127 P007F 001F  MESLEN  ADC  ENDMES-MESS1                               68*1537  01600127
0128 P0080 0086 P        ADC  MESS1                                      68*1537  01600128
0129 P0081 14EA          JMP- (SEA)                                      68*1537  01600129
0130 P0082 0004  M4      BZS  M4(4)                                      68*1537  01600130
0131 P0086 5448  MESS1   ALF  *,THE INITIALIZER WILL BE MOVED TO LOCATION *68*1537  01600131
     P0087 4520
     P0088 494E
     P0089 4954
     P008A 4941
     P008B 4C49
     P008C 5A45
     P008D 5220
     P008E 5749
     P008F 4C4C
     P0090 2042
     P0091 4520
     P0092 4D4F
     P0093 5645
     P0094 4420
     P0095 544F
     P0096 204C
     P0097 4F43
     P0098 4154
     P0099 494F
     P009A 4E20
0132 P009B 2020  ADR     ALF  2,                                         68*1537  01600132
     P009C 2020
0133 P009D 2041          ALF  *, AND EXECUTED*                           68*1537  01600133
     P009E 4E44
     P009F 2045
     P00A0 5845
     P00A1 4355
     P00A2 5445
     P00A3 4420
0134 P00A4 0A0D          NUM  $0A0D                                      68*1537  01600134
0135       00A5 P ENDMES EQU  ENDMES(*)                                  68*1537  01600135
0136                     END     SILP                                  **MSOS 4.001600136

PGM=  00A5 (   165)   COM = 0000 (     0)   DAT = 0000 (     0)
```

EQUIVALENCES

DEF.LINE	NAME	VALUE		REFERENCED AT LINE NUMBER
0000	I	00FF	(000255)	0063, 0079, 0101, 0108, 0109
0029	LENGTH	2300	(008960)	0055, 0062, 0066, 0082, 0092, 0099

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0024	SILP	0000	0024
0033	GETFIL	0001	0033, 0124
0036	G1	000D	0033
0041	LENMES	0012	
0044	MESS2	0015	0041, 0042, 0051
0045	MESEND	002D	0041
0046	COMP	002D	0038
0053	COMP1	0035	0048
0061	BANK1	003B	
0064	MOVEDN	003F	0071
0072	DONEDN	0049	0068
0076	BANK0	004A	0057
0080	MOVEUP	004E	0089
0090	DONEUP	0059	0084
0092	WORDB0	005A	0080, 0086, 0088
0093	WORDB1	005B	0054, 0064, 0070
0094	FWA	005C	0033, 0092, 0093
0095	NAME	005C	0033
0096	S1	005F	0032
0099	S2	0062	0097
0102	M1	0066	0113
0106	M2	006A	0104
0114	M3	0072	0111
0127	MESLEN	007F	
0130	M4	0082	0107, 0114, 0116, 0118, 0120
0131	MESS1	0086	0127, 0128
0132	ADR	009B	0117, 0121
0135	ENDMES	00A5	0127

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ADR	0132	BANK0	0076	BANK1	0061	COMP	0046	COMP1	0053	DONEDN	0072	DONEUP	0090	ENDMES	0135	FWA	0094
G1	0036	GETFIL	0033	I	0000	LENGTH	0029	LENMES	0041	M1	0102	M2	0106	M3	0114	M4	0130
MESEND	0045	MESLEN	0127	MESS1	0131	MESS2	0044	MOVEDN	0064	MOVEUP	0080	NAME	0095	S1	0096	S2	0099
SILP	0024	WORDB0	0092	WORDB1	0093												

```
0001                NAM  CONTRL          DECK-ID 017  MSOS 5.0                SUMMARY-132********
0002           *    CONTROL STATEMENT PROCESSOR FOR SYSTEM INITIALIZER                01700002
0003           *    MASS STORAGE OPERATING SYSTEM VERSION 5.0                         01700003
0004           *    SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                      01700004
0005           *    COPYRIGHT CONTROL DATA CORPORATION 1976                           01700005



0008           *    E N T R Y    P O I N T    T A B L E                               01700008


0010                ENT  RSTART          STARTING ADDRESS OF SYSTEM INITIALIZER      01700010
0011                ENT  TCODE           FLAG FOR SYSTEM DIRECTORY CORE OR MASS LOAD 01700011
0012                ENT  IN              INPUT LOGICAL UNIT                         01700012
0013                ENT  OU              MASS STORAGE LOGICAL UNIT                  01700013
0014                ENT  CO              COMMENT DEVICE LOGICAL UNIT                01700014
0015                ENT  COMMA           ENTRY TO TEST FOR COMMA AS FIELD DEVIMETER 01700015
0016                ENT  VALID           ENTRY TO TEST FOR A VALID FIELD DELIMETER  01700016
0017                ENT  CM45            ENTRY TO READ IN NEXT CONTROL STATEMENT    01700017
0018                ENT  CM65            ROUTINE TO PROCESS NEXT CONTROL STATEMENT  01700018
0019                ENT  BACKGR          ROUTINE TO BACKROUND INPUT BUFFER TO ALL ONES 01700019
0020                ENT  LSSECT          NEXT AVAILABLE MASS STORAGE SECTOR         01700020
0021                ENT  TYPEQ           ROUTINE TO GET NEXT CONTROL STATEMENT      01700021
0022           *                         FROM COMMENT DEVICE                        01700022
0023                ENT  QTYPE           ROUTINE TO LOG ERRORS ON TTY               01700023
0024                ENT  ERFLAG          FLAG INDICATING IF ANY LOADER ERRORS OCCURED 01700024
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0026          *     E X T E R N A L   T A B L E                          01700026



0028          *                 EXTERNAL LOCATION IN 'IDRIV' TO PASS 'MSIZV4'      01700028
0029                EXT* I2MZV4       'IDRIV' LOCATION TO BE CONTAINED 'MSIZV4'    01700029
0030                EXT* I1           ROUTINE TO BUILD SYSTEM DIRECTORY            01700030
0031                EXT* I2           CONTROL MODULE FOR MASS STORAGE DRIVERS      01700031
0032                EXT* ISAV         STARTING ADDRESS OF LOADER TABLE             01700032
0033                EXT* CONENT       ROUTINE TO INITIALIZE LOADER TABLE           01700033
0034                EXT* CONMAS       ROUTINE TO INITIALIZE MASS STORAGE CONSTANTS 01700034
0035                EXT* CONMS1       ROUTINE TO BUILD PAGE FLAGS IN LDRTBL        01700035
0036                EXT* CONMS                                                     01700036
0037                EXT* ILOAD        START OF LOADER FUNCTION                     01700037
0038                EXT* TABLE        TABLE OF LOGICAL UNITS IN IDRIV              01700038
0039                EXT* IDRIV        CONTROL MODULE FOR INPUT DEVICE DRIVERS      01700039
0040                EXT* OETERM       ROUTINE TO TEST FOR FIELD TERMINATORS - IN I2 01700040
0041                EXT* MDRIV        MASS STORAGE DRIVER ENTRY                    01700041
0042                EXT* QCOM         COMMENT DRIVER ENTRY                         01700042
0043                EXT* TELOUT       ENTRY FOR TELETYPE OUTPUT - NOT COMMENT OUTPUT01700043
0044                EXT* IDRIV        INPUT DRIVER ENTRY                           01700044
0045                EXT* FORMFD       TOP OF FORM FUNCTION IN LPRINT               01700045
0046                EXT* SIB          STANDARD BINARY INPUT LOGICAL UNIT - IN IDRIV 01700046
0047                EXT* MASS         MASS STORAGE DEVICE LOGICAL UNIT - IN IDRIV  01700047
0048                EXT* COLU         COMMENT DEVICE LOGICAL UNIT - IN IDRIV       01700048
0049                EXT* EPTAPE       EQUIPMENT CODE FOR PAPER TAPE     **MSOS 4.1**01700049
0050                EXT* ECARD        EQUIPMENT CODE FOR CARD READER    **MSOS 4.1**01700050
0051                EXT* EMTAPE       EQUIPMENT CODE FOR MAG TAPE       **MSOS 4.1**01700051
0052                EXT* EMASS        EQUIPMENT CODE FOR MASS MEMORY               01700052
0053                EXT* ECOM         EQUIPMENT CODE FOR COMMENT        **MSOS 4.1**01700053
0054                EXT* EPRINT       EQUIPMENT CODE FOR PRINTER        **MSOS 4.1**01700054
0055                EXT* ENTSTR       ROUTINE TO STORE NEW ENTRY POINTS IN ILOAD    01700055
0056                EXT* DISKWR       ROUTINE TO STORE A WORD IN CSQ               01700056
0057                EXT* WRTOUT       ROUTINE TO WRITE OUT ALL PAGES THAT HAVE     01700057
0058          *                       BEEN MODIFIED                                01700058
0059                EXT* HEADR1        DATE BUFFER IN LPRINT                       01700059
0060                EXT* FNDSEC       ROUTINE TO CONVERT PAGE NUMBER TO SECTOR     01700060
0061                EXT* LENSDT       NUMBER OF CORE RESIDENT PAGES       66*1455  01700061
0062                EXT* DATBS0,DATLM0 DATA BASE AND LIMIT FOR PART 0              01700062
0063                EXT* DATBS1,DATLM1 DATA BASE AND LIMIT FOR PART 1              01700063
0064                EXT* PART1L       MODIFIED LENGTH OF PART1                     01700064
0065                EXT* PART1A       MODIFIED ADDRESS OF PART1                    01700065
0066                EXT* SIGNCK       65K SIGN CHECK ROUTINE                       01700066
0067                EXT* PART1C       STARTING SECTOR OF PART1 IMAGE               01700067
0068                EXT* PARSTR       START ADDRESS OF PARTITION LOAD              01700068
0069                EXT* QMASS        MASS MEMORY DRIVER ENTRY                     01700069
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0071                *     LOADER TABLE ENTRIES                                                    01700071
0072          0001        EQU  PGENUM(1)      CELL FOR PAGE NUMBER IN FLAG TABLE ENTRY          01700072
0073          0002        EQU  REFER(2)       NUMBER OF TIMES A PAGE HAS BEEN MODIFIED          01700073
0074          0003        EQU  MODIFY(3)      FLAG SAYING THAT THIS PAGE HAS BEEN MODIFIED      01700074


0076          0001        EQU  COMBAS(1)      RELOCATION BASE FOR COMMON STORAGE                01700076
0077          0002        EQU  DATBAS(2)      RELOCATION BASE FOR DATA STORAGE                  01700077
0078          0003        EQU  PROBAS(3)      RELOCATION BASE FOR PROGRAM BEING LOADED          01700078
0079          0004        EQU  COMLIM(4)      HIGHEST ADDRESS OF COMMON STORAGE +1              01700079
0080          0005        EQU  DATLIM(5)      HIGHEST ADDRESS OF DATA STORAGE +1                01700080
0081          0006        EQU  CSQLIM(6)      HIGHEST ADDRESS OF COMMAND SEQUENCE STORAGE +1    01700081
0082          0007        EQU  EXTCTR(7)      NEXT AVAILABLE LOCATION IN EXTERNAL TABLE         01700082
0083          0008        EQU  ENDSW(8)       =1 IF LAST BYTE IN RBD OR BZS BLOCK               01700083
0084          0009        EQU  ABRLSW(9)      0 IF ABSOLUTE EXTERNAL, 1 IF RELATIVE EXTERNAL    01700084
0085          000A        EQU  INPWRD(10)     END OF COMMAND SEQUENCE STORAGE                   01700085
0086          000B        EQU  INPREL(11)     CONTAINS RELATIVE FLAG FOR WORD OF COMMAND        01700086
0087                *                         SEQUENCE IN RBD OR BZS BLOCK                      01700087
0088          000C        EQU  CSQNUM(12)     NUMBER OF SECTORS RESERVED BEFORE START           01700088
0089                *                         OF COMMAND SEQUENCE STORAGE                       01700089
0090          000D        EQU  ENTPNT(13)     CONTAINS THE ADDRESS ASSOCIATED WITH THE          01700090
0091                *                         NAME IN A ENTRY OR EXTERNAL BLOCK                 01700091
0092          000E        EQU  LINK(14)       CONTAINS ADDRESS ASSOCIATED WITH NAME             01700092
0093                *                         IN LOADER TABLE                                   01700093
0094          000F        EQU  INPCTR(15)     USED TO ADDRESS CORE LOCATION OF COMMAND          01700094
0095                **                        SEQUENCE STORAGE AT LOAD TIME                     01700095
0096                **                        USED TO HOLD ADDRESS OF ENTRY FOR TABLE           01700096
0097                *                         SEARCH AND TABLE STORE ROUTINES                   01700097
0098          0010        EQU  NOTLNK(16)     FLAG =1 IF UNPATCHED EXTERNALS EXIST              01700098
0099          0011        EQU  ENDINP(17)     LAST STORAGE ADDRESS +1 AT END OF                 01700099
0100                *                         RELOCATABLE BINARY LOAD                           01700100
0101          0012        EQU  BLANKS(18)     ASCII CODE FOR TWO SPACES                         01700101
0102          0013        EQU  SYMSTR(19)     SET TO THE ASCII CODE FOR THE CHARACTERS IN       01700102
0103                **    EQU  SYMSTR+1(20)   THE FIELD BEING PROCESSED BY SCAN. IF FIELD       01700103
0104                **    EQU  SYMSTR+2(21)   IS NUMERIC SYMSTR=0.                              01700104
0105          0016        EQU  SCANSW(22)     IF BIT ZERO =0 AND FIELD BEING PROCESSED IS       01700105
0106                ***                       NUMERIC, THE NUMBER WILL BE PROCESSED AS          01700106
0107                ****                      DECIMAL UNLESS PRECEEDED BY $                     01700107
0108                ****                      IF BIT ZERO =1 AND FIELD BEING PROCESSED IS       01700108
0109                ****                      NUMERIC, THE NUMBER WILL BE PROCESSED AS          01700109
0110                ****                      HEXIDECIMAL REGARDLESS OF OCCURENCE OF $          01700110
0111          0017        EQU  BASE(23)       BASE OF SYSTEM INITIALIZER                        01700111
0112          0018        EQU  WRDCNT(24)     CHARACTER REFERENCE COUNTER - SET TO STORAGE       01700112
0113                *                         ADDRESS OF THE FIRST CHARACTER OF A FIELD         01700113
0114                ****                      TO BE PROCESSED. BIT ZERO IS R/L INDICATER        01700114
0115                ****                      0 = FIRST CHARACTER IN LEFT HALF OF WORD          01700115
0116                ****                      1 = FIRST CHARACTER IN RIGHT HALF OF WORD         01700116
0117          0019        EQU  COUNT1(25)     CHARACTER COUNTER- SET TO COMPLEMENT OF           01700117
0118                *                         MAXIMUM NUMBER OF CHARACTERS A FIELD MAY HAVE     01700118
0119          001A        EQU  BZSSW(26)      USED BY SUBROUTINES COMMON TO RBDPRO AND          01700119
0120                **                        BZSPRO TO DETERMINE BLOCK TYPE.                   01700120
0121                *                         0= RBD BLOCK    -1= BZS BLOCK                     01700121
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0122  001B        EQU  COUNT2(27)   COUNTER USED BY SCAN                                  01700122
0123  001B        EQU  BLKCNT(27)   BLOCK COUNTER CONTAINS WORD COUNT FOR                 01700123
0124          *                     NUMBER OF SEQUENTIAL LOCATIONS TO BE SET             01700124
0125          *                     TO ZERO IN A BZS BLOCK ENTRY                         01700125
0126  001C        EQU  SW6(28)      FLAGWORD FOR LOADER TABLE SEARCH ROUTINE             01700126
0127          *                     =0 MATCH HAS BEEN FOUND IN TABLE                     01700127
0128          *                     =- (NEGATIVE) MATCHING NAME NOT FOUND                01700128
0129  001D        EQU  ASAV(29)     TEMPORY STORAGE FOR A-REGISTER                       01700129
0130  001E        EQU  QSAV(30)     TEMPORY STORAGE FOR Q-REGISTER                       01700130
0131          *   EQU  ISAV(31)     TEMPORY STORAGE FOR I-REGISTER                       01700131
0132  0020        EQU  XFRNAM(32)   STORAGE OF SIX CHARACTER TRANSFER ADDRESS            01700132
0133  0023        EQU  NAME(35)     ASCII CODED INFORMATION                              01700133
0134  0027        EQU  SCHXIT(39)   EXIT FROM TABLE SEARCH ROUTINE                      01700134
0135  0028        EQU  TABSCH(40)   ENTRY ADDRESS FOR RTJ TO ROUTINE FOR                 01700135
0136          *                     SEARCHING LOADER TABLE FOR ENTRIES OR EXTERNAL       01700136
0137  002B        EQU  CENTAD(43)   ADDRESS OF ENTRY BEING CURRENTLY EXAMINED           01700137
0138          *                     IN ENTRY POINT TABLE                                 01700138
0139  002C        EQU  MAXENT(44)   LARGEST ADDRESS BEING USED IN ENTRY POINT TBL        01700139
0140  002D        EQU  TEMP(45)     TABLE OF TEMPORY LOCATIONS USED BY HASH              01700140
0141  0031        EQU  NOJUMP(49)   FLAG = 0 IF NO JUMP INSTRUCTION IS                  01700141
0142          *                     NEEDED TO JUMP AROUND DATA OR COMMON                 01700142
0143  0032        EQU  FLGLGN(50)   NUMBER OF CORE FLAGS PER PAGE                        01700143
0144  0033        EQU  BINASC(51)   STORAGE OF ASCII CODE FOR NUMBER CONVERSION          01700144
0145  0036        EQU  PRINT3(54)   ENTRY TO ERROR OUTPUT ROUTINE                        01700145
0146  0039        EQU  INPXC0(57)   CONTAINS ADDRESS CONSTANT INPUT                      01700146
0147  0039        EQU  INPADR(57)   SAME AS INPXC0 - ADDRESS OF INPUT BUFFER            01700147
0148  003A        EQU  INPXC1(58)   CONTAINS ADDRESS CONSTANT INPUT + 1                  01700148
0149  003B        EQU  PRINT2(59)   ENTRY TO FATAL ERROR OUTPUT ROUTINE                  01700149
0150  003E        EQU  INPXCC(62)   CONTAINS ADDRESS CONSTANT INPUT - 3                  01700150
0151  003F        EQU  NXTINP(63)   JMP INSTRUCTION TO READ NEXT BLOCK                   01700151
0152  0041        EQU  M7FFF(65)    MASK OF $7FFF                                        01700152
0153  0042        EQU  M8000(66)    MASK OF $8000                                        01700153
0154  0044        EQU  MFF00(68)    MASK OF $FF00                                        01700154
0155  0045        EQU  M00FF(69)    MASK OF $00FF                                        01700155
0156  0046        EQU  ASKII(70)    ASCII MODE SWITCH FOR 405 AND MAG TAPE               01700156
0157  0047        EQU  NEGSW(71)    SET BY SCAN TO VALUE OF LEGAL ALGEBRAIC SIGN         01700157
0158  0048        EQU  SCNTRM(72)   SET BY SCAN TO ASCII CODE FOR FIELD TERMINATOR       01700158
0159  0049        EQU  SCNINP(73)   SET BY SCAN TO THE BINARY VALUE OF A NUMERIC         01700159
0160          *                     OPERAND AFTER ITS CONVERSION FROM ASCII              01700160
0161  004A        EQU  SCNXIT(74)   EXIT FROM SCAN ROUTINE                               01700161
0162  004B        EQU  SCAN(75)     ENTRY TO SCAN ROUTINE                                01700162
0163  004E        EQU  CSNAME(78)   CODE FOR CONTROL STATEMENT BEING PROCESSED           01700163
0164          *                           =1      *Y  STATEMENT                        01700164
0165          *                           =2      *YM STATEMENT                        01700165
0166          *                           =3      *L  STATEMENT                        01700166
0167          *                           =4      *LP STATEMENT                        01700167
0168          *                           =5      *M  STATEMENT                        01700168
0169          *                           =6      *MP STATEMENT                        01700169
0170  004F        EQU  XCSNAM(79)   CODE FOR LAST CONTROL STATEMENT PROCESSED            01700170
0171  0050        EQU  INMED(80)    INPUT MEDIUM SWITCH                                  01700171
0172          *                     0 = USE COMMENT DEVICE                               01700172
0173          *                     1 = USE STANDARD BINARY INPUT DEVICE                 01700173
0174  0052        EQU  ADJOVF(82)   ENTRY CELL FOR ADDRESS ARITHMETIC SUBROUTINE         01700174
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0175  0055        EQU  EXTPCH(85)   FLAG - NEGATIVE IF EXTERNAL NOT PATCHED          01700175
0176  0056        EQU  NGRLSW(86)   FLAG - 0= POSITIVE RELOCATION                    01700176
0177        *                                1= NEGATIVE ADDRESS RELOCATION         01700177
0178  0057        EQU  ARIT15(87)   0 = USE 15 BIT ARITHMETIC                       01700178
0179        *                       1 = USE 16 BIT ARITHMETIC                      01700179
0180  0058        EQU  PRESET(88)   USED TO HOLD CONTENTS OF A WORD READ INTO CORE  01700180
0181        *                       BY THE PAGING ROUTINE DURING A TABLE SEARCH     01700181
0182  005A        EQU  CONVRT(90)   ENTRY FOR BINARY TO ASCII CONVERSION ROUTINE    01700182
0183  0065        EQU  AINPUT(101)  A-REGISTER CONTENTS UPON ENTRY TO LOADER        01700183
0184  0066        EQU  SYSPGE(102)  NUMBER OF SYSTEM PAGES                          01700184
0185  0068        EQU  LINK1(104)   ENTRY FOR LINK ROUTINE                          01700185
0186  006B        EQU  ENTPGS(107)  STARTING ADDRESS OF ENTRY POINT TABLE *EXTRA*   01700186
0187  006C        EQU  TOP(108)     HIGHEST CORE LOCATION AVAILABLE FOR THIS LOAD    01700187
0188  006D        EQU  PGEWRT(109)  FLAG =1 IF ANY PAGE WRITTEN TO MASS STORAGE     01700188
0189  006E        EQU  LGEPGE(110)  LARGEST COMMAND SEQUENCE PAGE USED              01700189
0190  006F        EQU  IGNORE(111)  FLAG SAYING TO IGNORE DUPLICATE ENTRY POINTS    01700190
0191        *                       WHEN LINKING *M OR *MP TO CREP OR CREP1         01700191
0192  0070        EQU  LNKSTR(112)  ADDRESS OF LINK TABLE                           01700192
0193  0071        EQU  LNKCTR(113)  NEXT AVAILABLE LOCATION IN LINK TABLE           01700193
0194  0072        EQU  LNKEND(114)  LAST ADDRESS +1 IN LINK TABLE                   01700194
0195  0073        EQU  ENTST0(115)  STARTING ADDRESS OF PART 0 ENTRY POINTS         01700195
0196  0074        EQU  ENTST1(116)  STARTING ADDRESS OF PART 1 ENTRY POINTS         01700196
0197  0076        EQU  EXTSTR(118)  WORD ADDRESS OF START OF EXTERNAL TABLE         01700197
0198  0077        EQU  CORADR(119)  LOWEST LOCATION AVAILABLE FOR USE BY LOADER     01700198
0199  0078        EQU  PRODAT(120)  FLAG - NON-ZERO IF PROTECTED DATA IS DECLARED   01700199
0200  0079        EQU  PROCOM(121)  FLAG - NON-ZERO IF PROTECTED COMMON DECLARED    01700200
0201  007A        EQU  PAGE(122)    LENGTH OF PAGE FOR MASS MEMORY - MUST BE        01700201
0202        *                       A MULTIPLE OF 96                               01700202
0203  007B        EQU  CSQCTR(123)  LAST ADDRESS OF PROGRAM COMMAND SEQUENCE        01700203
0204        *                       STORAGE +1                                     01700204
0205  007C        EQU  CEXTAD(124)  ADDRESS OF EXTERNAL BEING CURRENTLY PROCESSED   01700205
0206        *                       FROM EXTERNAL TABLE                            01700206
0207  007D        EQU  MINEXT(125)  FIRST WORD ADDRESS OF SYSTEM EXTERNAL TABLE     01700207
0208  007E        EQU  MAXEXT(126)  LAST WORD ADDRESS OF SYSTEM EXTERNAL TABLE      01700208
0209  007F        EQU  ENTSEC(127)  STARTING SECTOR OF ENTRY/EXTERNAL TABLES        01700209
0210  0080        EQU  CSQSEC(128)  STARTING SECTOR OF COMMAND SEQUENCE IMAGE       01700210
0211  0081        EQU  MAXPGE(129)  MAXIMUM PAGE NUMBER THAT CAN BE USED ON DISK    01700211
0212  0082        EQU  NOPAGE(130)  NUMBER OF PAGES IN CORE                         01700212
0213  0083        EQU  PARBAS(131)  ADDRESS OF STARTING PARTITION                   01700213
0214  0084        EQU  PARLIM(132)  LAST WORD ADDRESS +1 OF LAST PARTITION          01700214
0215  0085        EQU  STRSEC(133)  STARTING SECTOR OF IMAGE ON MASS MEMORY         01700215
0216  0086        EQU  MSDWCT(134)  NUMBER OF WORDS STORED ON MASS MEMORY           01700216
0217  0087        EQU  XFRADR(135)  TRANSFER ADDRESS OF NAME FROM XFR BLOCK         01700217
0218  0088        EQU  AHOLD(136)   TEMPORY                                         01700218
0219  0089        EQU  QHOLD(137)   TEMPORY                                         01700219
0220  008A        EQU  SECTOR(138)  NUMBER OF WORDS IN A SECTOR                     01700220
0221  008B        EQU  ECREP(139)   END ADDRESS OF CREP TABLE                       01700221
0222  008C        EQU  ECREP1(140)  END ADDRESS OF CREP1 TABLE                      01700222
0223  008D        EQU  EXTSWT(141)  FLAG - NON-ZERO IF PROCESSING EXTERNAL BLOCK    01700223
0224  008E        EQU  SAVEA(142)   TEMPORARY                                       01700224
0225  008F        EQU  JUMP(143)    JUMP FLAG FOR I1                                01700225
0226  0090        EQU  TEMP3(144)   TEMPORARY                                       01700226
0227  0091        EQU  FLGBSE(145)  BASE ADDRESS OF CORE FLAGS TABLE                01700227
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0228  0092        EQU  PROGCT(146)   LENGTH OF PROGRAM FROM NAM CARD          01700228
0229  0093        EQU  ONTAB(147)    *Y ORDINAL COUNTER FOR I1                01700229
0230  0094        EQU  MONTAB(148)   *YM COUNTER FOR I1                       01700230
0231  0095        EQU  FLGBS1(149)   INITIAL ADDRESS OF SYSTEM FLAG TABLE    01700231
0232  0096        EQU  INPUT(150)    INPUT BUFFER                             01700232
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0234                *          OPERATING SYSTEM INITIALIZER                                          01700234
0235                *             ERROR CODES                                                        01700235
0236                *                                                                                01700236
0237                * 1     ASTERISK INITIATOR MISSING                                              01700237
0238                * 2     NUMBER APPEARS IN NAME FIELD                                            01700238
0239                * 3     ILLEGAL CONTROL STATEMENT NAME                                          01700239
0240                * 4     INPUT MODE ILLEGAL                                                      01700240
0241                * 5     STATEMENT OTHER THAN *Y OR *YM PREVIOUSLY ENTERED                       01700241
0242                * 7     *Y NOT ENTERED PRIOR TO FIRST *L STATEMENT                              01700242
0243                * 6     STATEMENT OTHER THAN *Y PREVIOUSLY ENTERED                              01700243
0244                * 8     NAME APPEARS IN NUMBER FIELD                                            01700244
0245                * 9     ILLEGAL HEX CORE RELOCATION FIELD                                       01700245
0246                * A     ILLEGAL MASS STORAGE SECTOR NUMBER                                      01700246
0247                * B     NO DATA RETURN FROM LOADER                                              01700247
0248                * C     UNPATCHED EXTERNAL AT CONCLUSION OF SYS DIR LOAD                        01700248
0249                * D     UNPATCHED EXTERNAL AT CONCLUSION OF *L LOAD                             01700249
0250                * E     FIELD TERMINATOR INVALID                                                01700250
0251                * F     MORE THAN 120 CHARACTERS IN CONTROL STATEMENT                           01700251
0252                *10     ORDINAL NAME WITHOUT ORDINAL NUMBER                                     01700252
0253                *11     NAME APPEARED PREVIOUSLY IN LOADER TABLE                                01700253
0254                *12     INVALID ORDINAL NUMBER                                                  01700254
0255                *13     LOADER CONTROL STATEMENT OUT OF ORDER. CORRECT ORDER = L,LP,M,MP        01700255
0256                *14     DATA DECLARED DURING *M LOAD BUT NOT BY FIRST                           01700256
0257                *          SEGMENT.  INITIALIZATION RESTARTED.                                  01700257
0258                *15     ATTEMPT MADE TO ENTER DATA INTO LOCATION 0 OR                           01700258
0259                *          ABOVE LOCATION $FE.  INITIALIZATION RESTARTED.                       01700259
0260                *16     UNRECOVERABLE MASS STORAGE I/O ERROR                                    01700260
0261                *17     LOADER SLEWING ALL BLOCKS UNTIL NEXT  NAM  BLOCK.                       01700261
0262                *18     FIRST STATEMENT INPUT TO INITIALIZER DID NOT DEFINE                     01700262
0263                *          THE MASS STORAGE DEVICE.                                             01700263
0264                *19     UNABLE TO READ IN BAD SECTOR DIRECTORY                                  01700264
0265                *20     *S,ENDOV4,HHHH  NOT DEFINED BEFORE FIRST *L CONTROL STATEMENT           01700265
0266                *21     *S,MSIZV4,HHHH  NOT DEFINED BEFORE FIRST *LP CONTROL STATEMENT          01700266
0267                *22     ATTEMPT TO LOAD PART 1 CORE RESIDENT INTO UNAVAILABLE MEMORY            01700267
0268                *23     THE NAME USED IN THE SECOND FIELD OF A *M CONTROL STATEMENT             01700268
0269                *          WAS NOT PREVIOUSLY DEFINED AS AN ENTRY POINT                         01700269
0270                *24     THE ENTRY POINT SECTOR WAS NOT DEFINED AT THE START OF                  01700270
0271                *          INITIALIZATION AND IS NOT AVAILABLE TO THE INITIALIZER               01700271
0272                *25     ILLEGAL PARTITION NUMBER IN FIRST FIELD OF *MP STATEMENT                01700272
0273                *          OR ILLEGAL NUMBER OF PARTITIONS IN SECOND FIELD OF STATEMENT          01700273
0274                *26     AN ATTEMPT WAS MADE TO LOAD *MP PROGRAMS WHEN NO PARTITIONED            01700274
0275                *          CORE TABLE EXISTS IN SYSDAT                                          01700275
0276                *    ***************************************************************************01700276
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0278 P0000 5800 X RSTART RTJ  CONENT        INITIALIZE LOADER TABLE                                  01700278
     P0001 7FFF X
0279 P0002 0A05          ENA  5             SET STARTING AREA OF DISK                                01700279
0280 P0003 6800          STA  LSSECT                                                                 01700280
     P0004 0530
0281 P0005 C800 X        LDA  COLU          INITIALIZE COMMENT DEVICE LOGICAL UNIT                   01700281
     P0006 7FFF X
0282 P0007 6800          STA  CO                                                                     01700282
     P0008 04BD
0283 P0009 C800 X        LDA  SIB           INITIALIZE STANDARD BINARY INPUT LOGICAL UNIT            01700283
     P000A 7FFF X
0284 P000B 6800          STA  IN                                                                     01700284
     P000C 04B7
0285 P000D C800 X        LDA  MASS          INITIALIZE MASS STORAGE UNIT       **MSOS 4.1**          01700285
     P000E 7FFF X
0286 P000F 6800          STA  OU                                               **MSOS 4.1**          01700286
     P0010 04B4
0287 P0011 C800 X        LDA  CONFNT        PICKUP STARTING ADDRESS OF CONTROL                       01700287
     P0012 0001 X
0288 P0013 09FD          INA  -2                                                                     01700288
0289 P0014 515A          RTJ- CONVRT,I      CONVERT TO ASCII                                         01700289
0290 P0015 C133          LDA- BINASC,I      PICKUP FIRST WORD OF ADDRESS                             01700290
0291 P0016 681B          STA* SI+23         STORE IN OUTPUT BUFFER             **MSOS 4.1**          01700291
0292 P0017 C134          LDA- BINASC+1,I    PICKUP SECOND WORD OF ADDRESS                            01700292
0293 P0018 681A          STA* SI+24         STORE IN OUTPUT BUFFER             **MSOS 4.1**          01700293
0294 P0019 581B          RTJ* CNTR1         GENERATE BUFFER ADDRESS                                  01700294
0295 P001A 4D53    SI    ALF  14,MSOS 5.0 SYSTEM INITIALIZER                                         01700295
     P001B 4F53
     P001C 2035
     P001D 2E30
     P001E 2053
     P001F 5953
     P0020 5445
     P0021 4020
     P0022 494E
     P0023 4954
     P0024 4941
     P0025 4C49
     P0026 5A45
     P0027 5220
0296 P0028 0D0A          NUM  $0D0A         CARRIAGE RETURN - LINE FEED                              01700296
0297 P0029 4657          ALF  *,FWA OF CONTRL = *                                                    01700297
     P002A 4120
     P002B 4F46
     P002C 2043
     P002D 4F4E
     P002E 5452
     P002F 4C20
     P0030 3D20
0298 P0031 0000          NUM  0,0           RESERVED FOR ADDRESS OF CONTROL                          01700298
     P0032 0000
0299 P0033 0D0A          NUM  $0D0A         CARRIAGE RETURN - LINE FEED                              01700299
0300 P0034 0B00    CNTR1 NOP  0             STORAGE FOR RUN-TIME BUFFER ADDRESS                      01700300
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0301 P0035 C8FE        LDA* CNTR1          PICKUP BUFFER ADDRESS                          01700301
0302 P0036 0C1A  CNTR2 ENQ  26             PICKUP WORD COUNT              **MSOS 4.1**01700302
0303 P0037 5800 X      RTJ  TELOUT         OUTPUT MESSAGE TO TELETYPE                     01700303
     P0038 7FFF X
0304 P0039 5800  CNTR3 RTJ  BACKGR         BACKROUND INPUT BUFFER TO ALL ONES             01700304
     P003A 0402
0305 P003B 0844        CLR  A                                      **MSOS 4.1**01700305
0306 P003C 5800 X      RTJ  I2             INITIALIZE FOR AUTOLOAD **MSOS 4.1**01700306
     P003D 7FFF X
0307 P003E 5809        RTJ* CNTR9          JUMP AROUND BUFFER                             01700307
0308 P003F 0D0A        NUM  $0D0A          CARRIAGE RETURN - LINE FEED                    01700308
0309 P0040 4441  DATE1 ALF  7,DATE MM/DD/YY                                               01700309
     P0041 5445
     P0042 204D
     P0043 4D2F
     P0044 4444
     P0045 2F59
     P0046 5920
0310 P0047 0B00  CNTR9 NOP  0              RUN TIME BUFFER ADDRESS                        01700310
0311 P0048 0C08        ENQ  8              SETUP WORD COUNT                               01700311
0312 P0049 C8FD        LDA* CNTR9          PICKUP BUFFER ADDRESS                          01700312
0313 P004A 5800 X      RTJ  TELOUT         OUTPUT MESSAGE TO TELETYPE                     01700313
     P004B 0038 X
0314 P004C 0842        CLR  Q              SET FLAG FOR COMMENT INPUT                     01700314
0315 P004D C139        LDA- INPADR,I       SETUP POINTER TO BUFFER                        01700315
0316 P004E 5800 X      RTJ  QCOM           READ IN DATE                                   01700316
     P004F 7FFF X

0318 P0050 0C03        ENQ  3              MOVE DATE TO BUFFER IN LPRINT                  01700318
0319 P0051 C396  CNTR10 LDA- INPUT,B                                                      01700319
0320 P0052 0900        INA  0                                                             01700320
0321 P0053 6A00 X      STA  HEADR1,Q                                                      01700321
     P0054 7FFF X
0322 P0055 0DFE        INQ  -1                                                            01700322
0323 P0056 0171        SQM  CNTR11-*-1     SKIP OUT IF ENTIRE DATE MOVED                  01700323
0324 P0057 18F9        JMP* CNTR10         MOVE NEXT WORD OF DATE                         01700324
0325 P0058 5800 X CNTR11 RTJ CONMAS        INITIALIZE MASS STORAGE CONSTANTS              01700325
     P0059 7FFF X
0326 P005A 0844        CLR  A              ZERO THE FOLLOWING LOCATIONS                   01700326
0327 P005B 6800 X      STA  FORMFD                                                        01700327
     P005C 7FFF X
0328 P005D 6800        STA  YORDNL         CLEAR CORE RESIDENT ORDINAL COUNTER            01700328
     P005E 014A
0329 P005F 6800        STA  I1CALL                                                        01700329
     P0060 000B
0330 P0061 6800        STA  ERFLAG                                                        01700330
     P0062 08A9
0331 P0063 6800 X      STA  PART1C                                                        01700331
     P0064 7FFF X
0332 P0065 6800 X      STA  PART1L                                                        01700332
     P0066 7FFF X
0333 P0067 6800 X      STA  PART1A                                                        01700333
     P0068 7FFF X
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0334 P0069 6800          STA  FRSTLP                                    01700334
     P006A 016C
0335 P006B 6800          STA  PARDEF                                    01700335
     P006C 0165
0336 P006D 6800          STA  CRPFLG                                    01700336
     P006E 0164
0337 P006F 6800          STA  YPOINT                                    01700337
     P0070 0163
0338 P0071 6800          STA  ENDOV4                                    01700338
     P0072 0162
0339 P0073 6800          STA  PARTBL                                    01700339
     P0074 01E9
0340 P0075 6800          STA  LSTLOC                                    01700340
     P0076 01E8
0341 P0077 6800          STA  MSIZV4                                    01700341
     P0078 01E7
0342 P0079 6800          STA  MAXSEC                                    01700342
     P007A 03B4
0343 P007B 6800          STA  YCNTER                                    01700343
     P007C 0159
0344 P007D 6800          STA  ENTTMP                                    01700344
     P007E 0222
0345 P007F 6800          STA  STRTEX                                    01700345
     P0080 0221
0346 P0081 6800          STA  TEMPEX                                    01700346
     P0082 0220
0347 P0083 6800          STA  ENDEXT                                    01700347
     P0084 021F
0348 P0085 6800          STA  YMCNTR                                    01700348
     P0086 02D8
0349 P0087 6800          STA  YMORDN                                    01700349
     P0088 02D7
0350 P0089 6800          STA  PP                                        01700350
     P008A 037E
0351 P008B 6800          STA  NN                                        01700351
     P008C 037D
0352 P008D 6800          STA  SECVAL                                    01700352
     P008E 03A1
0353 P008F 6800          STA  BLDADD                                    01700353
     P0090 06A0
0354 P0091 6800          STA  PCOUNT                                    01700354
     P0092 069F
0355 P0093 6800          STA  PAGADD                                    01700355
     P0094 069E
0356 P0095 6800          STA  TMPSEC                                    01700356
     P0096 069D
0357 P0097 6800          STA  LENDC                                     01700357
     P0098 07C3
0358 P0099 6800          STA  LPENDC                                    01700358
     P009A 07C2
0359 P009B 6800 X        STA  DATBS0  CLEAR PART 0 DATA BASE            01700359
     P009C 7FFF X
0360 P009D 6800 X        STA  DATLM0  CLEAR PART 0 DATA LIMIT           01700360
     P009E 7FFF X
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0361 P009F 6800 X        STA  DATBS1      CLEAR PART 1 DATA BASE                01700361
     P00A0 7FFF X
0362 P00A1 6800 X        STA  DATLM1      CLEAR PART 1 DATA LIMIT               01700362
     P00A2 7FFF X
0363 P00A3 C000          LDA  =N$7FFF                                           01700363
     P00A4 7FFF
0364 P00A5 6C00          STA  (MSIZV4)                                          01700364
     P00A6 01B9
0365 P00A7 1802          JMP* CM20        GET NEXT CONTROL STATEMENT            01700365
0366 P00A8 002A   CMASKT NUM  $002A       MASK FOR ASTERISK                     01700366
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0368                    *    ***************************************************************01700368
0369                    *      BACKGROUND  BUFFER TO ALL ONES                                 01700369
0370                    *      SETUP CALL TO COMMENT OR INPUT MEDIUM DRIVER                   01700370
0371                    *    ***************************************************************01700371
0372 P00A9 5800         CM20   RTJ  BACKGR      BACKGROUND INPUT BUFFER                      01700372
     P00AA 0392
0373                    *                                                                   01700373
0374 P00AB C139         CM40   LDA- INPADR,I    ADDRESS OF INPUT BUFFER TO A                 01700374
0375 P00AC E150                LDQ- INMED,I     FETCH INPUT MEDIUM SWITCH                    01700375
0376 P00AD 0141                SQZ  CM44-*-1                                                 01700376
0377 P00AE 1809                JMP* CM50                                                     01700377
0378 P00AF 0C01         CM44   ENQ  1           NO ERROR IF Q = 1                            01700378
0379 P00B0 5800                RTJ  TYPEQ       TYPE Q                                       01700379
     P00B1 039B
0380 P00B2 0842         CM45   CLR  Q           Q ZERO FOR INPUT OPERATION                   01700380
0381 P00B3 5800 X              RTJ  QCOM           CALL COMMENT MEDIUM DRIVER                01700381
     P00B4 004F X
0382 P00B5 0117         CM45A  SAN  CM65                                  **MSOS 4.1**     01700382
0383 P00B6 18F8                JMP* CM44        TYPE Q, INTERROGATE COMM MEDIUM  **MSOS 4.1**01700383
0384 P00B7 0C60         CM50   ENQ  96             SETUP WORD COUNT FOR READ                 01700384
0385 P00B8 0864                TCA  A              A-= BINARY MODE FOR CARD READER           01700385
0386 P00B9 5800 X              RTJ  IDRIV       CALL INPUT MEDIUM DRIVER                     01700386
     P00BA 7FFF X
0387 P00BB 0111         CM60   SAN  CM65-*-1    NO DATA RETURN IF ZERO                       01700387
0388 P00BC 18F2                JMP* CM44        TYPE Q, INTERROGATE COMM MED                 01700388
0389 P00BD C139         CM65   LDA- INPADR,I    ADDR OF INPUT BUFFER                         01700389
0390 P00BE 0C1E                ENQ  30          PRINT 30 WORDS                               01700390
0391 P00BF 5800 X              RTJ  QCOM           CALL COMMENT DRIVER                       01700391
     P00C0 00B4 X
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0393                    *                                                                   01700393
0394                    *       TEST FIRST CHARACTER IN INPUT BUFFER FOR AN ASTERISK        01700394
0395                    *                                                                   01700395
0396 P00C1 E139         LDQ- INPADR,I      PICKUP ADDRESS OF INPUT BUFFER    **MSOS 4.1**01700396
0397 P00C2 C14E         LDA- CSNAME,I   CURRENT CONT STMNT NAME CODE                        01700397
0398 P00C3 614F         STA- XCSNAM,I     TO PREVIOUS                                     01700398
0399 P00C4 6DFE         INQ  -1             Q = ADDR OF INPUT BUFFER - 1                  01700399
0400 P00C5 C201         LDA- 1,Q        FETCH FIRST WORD OF INPUT BUFFER                  01700400
0401 P00C6 0F48         ARS  8          SHIFT OFF RIGHT HAND HALF                         01700401
0402 P00C7 B8E0         EOR* CMASKT        TEST FOR AN ASTERISK   (*)                      01700402
0403 P00C8 0102         SAZ  CM80-*-1   ZERO IMPLIES CHAR IS ASTERISK                     01700403
0404 P00C9 0A01         ENA  1          ASTERISK INITIATOR MISSING                        01700404
0405 P00CA 1820         JMP* CM195X+1   TYPE Q AND INTERROGATE COM MED                   01700405
0406 P00CB C139   CM80  LDA- INPADR,I   ADDRESS OF INPUT BUFFER                          01700406
0407 P00CC 0FC1         ALS  1          TO BITS (15 - 1)                                  01700407
0408 P00CD 0901         INA  1          SET RIGHT HALF WORD SWITCH TO ON                  01700408
0409 P00CE 6118         STA- WRDCNT,I   PLACE IN SCAN CONTROL WORD                        01700409
0410 P00CF 0A08         ENA  $8         LEADING + OR - ILLEG, NAME OR                     01700410
0411 P00D0 6116         STA- SCANSW,I   DEC NBR OK,  TO SCAN CONTROL WD                   01700411
0412 P00D1 0844         CLR  A          CLEAR A PRIOR TO CALLING SCAN                     01700412
0413 P00D2 514B         RTJ- SCAN,I     FETCH A CONTROL STATEMENT CODE                    01700413
0414 P00D3 C113         LDA- SYMSTR,I   ZERO IMPLIES A NUMBER                             01700414
0415 P00D4 9112         SUB- 18,I       TWO BLANKS  2020                                  01700415
0416 P00D5 0111         SAN  CM90-*-1   ZERO IMPLIES NO FIELD PRESENT                     01700416
0417 P00D6 1810         JMP* CM190      TEST FOR  *CR                                     01700417
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0419                    *       C O N T R O L   S T A T E M E N T   R E C O G N I Z E R          01700419

0421 P00D7 0842   CM90    CLR  Q              CLEAR TABLE INDEX                                 01700421
0422 P00D8 CA14   CM72    LDA* STTYP1,Q       PICKUP TABLE ENTRY                               01700422
0423 P00D9 0111           SAN  CM74-*-1       GO ON IF NOT AT END OF TABLE                     01700423
0424 P00DA 180F           JMP* CM195X         END OF TABLE - ERROR                             01700424
0425 P00DB B113   CM74    EOR- SYMSTR,I       COMPARE TABLE ENTRY TO INPUT                     01700425
0426 P00DC 0102           SAZ  CM76-*-1       ENTRY COMPARES CHECK SECOND WORD                 01700426
0427 P00DD 0D01           INQ  1              NO COMPARE, CHECK NEXT TABLE ENTRY               01700427
0428 P00DE 18F9           JMP* CM72                                                            01700428
0429 P00DF C112   CM76    LDA- BLANKS,I       MAKE SURE THAT SECOND WORD OF                    01700429
0430 P00E0 B114           EOR- SYMSTR+1,I     CONTROL STATEMENT IS BLANKS                      01700430
0431 P00E1 0101           SAZ  CM78-*-1                                                        01700431
0432 P00E2 1807           JMP* CM195X         ERROR UNRECOGNIZEABLE CONTROL STATEMENT          01700432
0433 P00E3 C14E   CM78    LDA- CSNAME,I       PICKUP CODE OF LAST CONTROL STATEMENT            01700433
0434 P00E4 0FA1           QLS  1              MULTIPLY TABLE INDEX BY TWO                      01700434
0435 P00E5 1A18           JMP* STTYP3,Q       GO TO PROCESS CONTROL STATEMENT                  01700435
0436 P00E6 C10B   CM190   LDA- INPREL,I    TEST FOR CARRIAGE RETURN                         01700436
0437 P00E7 E14E           LDQ- CSNAME,I    CONTROL STATEMENT NAME                           01700437
0438 P00E8 0152   CM195   SQN  CM196-*-1   NON-ZERO IMPLIES    *CR                           01700438
0439 P00E9 0A03   CM195X  ENA  3           ILLEGAL CONTROL STMNT NAME                       01700439
0440 P00EA 1843   HOP2    JMP* YM2            ZERO IMPLIES ILLEGAL STATEMENT, OUTPUT ERROR     01700440
0441 P00EB 18BD   CM195   JMP*  CM20          HANDLE ASTERISK FOLLOWED BY BLANK                01700441
0442                      *                   AS COMMENT CARD. COMMENT CARDS MUST BE           01700442
0443                      *                   FOLLOWED BY ANOTHER COMMENT CARD OR              01700443
0444                      *                   BY A CONTROL STATEMENT. THEY ARE NOT             01700444
0445                      *                   ALLOWED BETWEEN TWO PROGRAMS OR                  01700445
0446                      *                   IMMEDIATELY PRECEEDING A PROGRAM.                01700446


0448 P00EC 4C20   STTYP1  ALF  1,L            *L  CORE RESIDENT PART 0                         01700448
0449 P00ED 4C50           ALF  1,LP           *LP CORE RESIDENT PART 1                         01700449
0450 P00EE 4D20           ALF  1,M            *M  MASS RESIDENT PART 0                         01700450
0451 P00EF 4D50           ALF  1,MP           *MP MASS RESIDENT PART 1                         01700451
0452 P00F0 5320           ALF  1,S            *S  DEFINE ENTRY POINT                           01700452
0453 P00F1 5920           ALF  1,Y            *Y  DEFINE CORE RESIDENT DIRECTORY ENTRY         01700453
0454 P00F2 594D           ALF  1,YM           *YM DEFINE MASS RESIDENT DIRECTORY ENTRY         01700454
0455 P00F3 5620           ALF  1,V            *V  CONTROL TO STANDARD BINARY INPUT             01700455
0456 P00F4 5520           ALF  1,U            *U  CONTROL TO STANDARD COMENT DEVICE            01700456
0457 P00F5 4920           ALF  1,I            *I  ASSIGN STANDARD BINARY INPUT DEVICE          01700457
0458 P00F6 4F20           ALF  1,O            *O  ASSIGN STANDARD LIBRARY DEVICE               01700458
0459 P00F7 4320           ALF  1,C            *C  ASSIGN STANDARD LIST DEVICE                  01700459
0460 P00F8 5420           ALF  1,T            *T  END OF BINARY INPUT                          01700460
0461 P00F9 4420           ALF  1,D            *D DEFINE DATA                                   01700461
0462 P00FA 4720           ALF  1,G            *G  WRITE DISK ADDRESS TAGS                      01700462
0463 P00FB 4820           ALF  1,H            *H  PERFORM DISK SURFACE TEST                    01700463
0464 P00FC 0000           NUM  0              ***  END OF TABLE  ***                           01700464
0465 P00FD 1800   STTYP3  JMP  STARL          *L                                               01700465
     P00FE 003E
0466 P00FF 1800           JMP  STARLP         *LP                                              01700466
     P0100 00E7
0467 P0101 1800           JMP  STARM          *M                                               01700467
     P0102 015E
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0468 P0103 1800          JMP   STARMP        *MP                01700468
     P0104 025C
0469 P0105 1800          JMP   STARS         *S                 01700469
     P0106 03EC
0470 P0107 1800          JMP   STARY         *Y                 01700470
     P0108 0028
0471 P0109 1800          JMP   STARYM        *YM                01700471
     P010A 0020
0472 P010B 1800          JMP   STARV         *V                 01700472
     P010C 042F
0473 P010D 1800          JMP   STARU         *U                 01700473
     P010E 0427
0474 P010F 1800          JMP   STARI         *I                 01700474
     P0110 036A
0475 P0111 1800          JMP   STARO         *O                 01700475
     P0112 036A
0476 P0113 1800          JMP   STARC         *C                 01700476
     P0114 036A
0477 P0115 1800          JMP   START         *T                 01700477
     P0116 05AA
0478 P0117 1800          JMP   STARD         *D                 01700478
     P0118 042A
0479 P0119 1800          JMP   STARG         *G                 01700479
     P011A 0433
0480 P011B 1800          JMP   STARH         *H                 01700480
     P011C 0476
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0482                    *       R O U T I N E   T O   G E T   A   H E X I D E C I M A L      01700482
0483                    *                                                                    01700483
0484                    *       V A L U E   F R O M   A   F I E L D   O F   A                01700484
0485                    *                                                                    01700485
0486                    *       C O N T R O L   S T A T E M E N T   A N D   R E T U R N      01700486
0487                    *                                                                    01700487
0488                    *       I T S   B I N A R Y   V A L U E   I N   ' A '                01700488


0490 P011D 0B00   GETHEX NOP  0          ENTRY LOCATION FOR STORAGE OF RETURN ADDRESS  01700490
0491 P011E 0A09         ENA  9          SET BIT 0 OF SCANSW SAYING GET HEX FIELD      01700491
0492 P011F 6116         STA- SCANSW,I   SET BIT 3 OF SCANSW SAYING SAVE ASCII CODES   01700492
0493 P0120 0844         CLR  A                                                        01700493
0494 P0121 514B         RTJ- SCAN,I     CHECK INPUT FIELD                             01700494
0495 P0122 1CFA         JMP* (GETHEX)   RETURN TO CALLER WITH BINARY VALUE IN SCNINP  01700495




0497                    *       R O U T I N E   T O   C H E C K   F O R   C O M M A          01700497

0499                    *       C A L L I N G   S E Q U E N C E                              01700499


0501                    *       RTJ* COMMA      CALL ROUTINE                                 01700501
0502                    *       XXX             P+1 - ERROR RETURN, NO COMMA                 01700502
0503                    *       XXX             P+2 - NORMAL RETURN, COMMA DELIMETER FOUND   01700503


0505 P0123 0B00   COMMA NOP  0          ENTRY LOCATION FOR STORAGE OF RETURN ADDRESS  01700505
0506 P0124 5800 X       RTJ  OETERM     GO TO I1 TO FIND TERMINATOR TYPE              01700506
     P0125 7FFF X
0507 P0126 0DFD         INQ  -2         OETERM RETURNS 2 IN Q-REGISTER IF COMMA FOUND 01700507
0508 P0127 0151         SQN  1          SKIP IF NOT COMMA                             01700508
0509 P0128 D8FA         RAO* COMMA      UPDATE RETURN ADDRESS, COMMA FOUND            01700509
0510 P0129 1CF9         JMP* (COMMA)    RETURN TO CALLER                              01700510
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0512                    *     R O U T I N E   T O   P R O C E S S   * Y   O R   * Y M     01700512


0514 P012A 09FC   STARYM INA  -3          MAKE SURE CSNAME IS LESS THAN TWO MEANING      01700514
0515 P012B 0132        SAM  YM1-*-1       THAT STATEMENTS ARE IN ORDER                   01700515
0516 P012C 0A05        ENA  5             ERROR 5, STATEMENT OTHER THAN *Y OR *YM        01700516
0517 P012D 1834   YM2  JMP* LSTM4         PREVIOUSLY ENTERED                             01700517
0518 P012E 0A02   YM1  ENA  2             SET UP CONTROL STATEMENT NAME CODE             01700518
0519 P012F 1806        JMP* Y0            GO TO PROCESS ORDINAL                          01700519
0520 P0130 09FD   STARY  INA  -2          MAKE SURE THAT CSNAME IS LESS THAN OR EQUAL    01700520
0521 P0131 0132        SAM  Y1-*-1        TO ONE MEANING THAT ONLY *Y'S HAVE BEEN INPUT  01700521
0522 P0132 0A06        ENA  6             ERROR 6, STATEMENT OTHER THAN                  01700522
0523 P0133 18F9        JMP* YM2           *Y PREVIOUSLY DEFINED                          01700523
0524 P0134 0A01   Y1   ENA  1             SETUP CONTROL STATEMENT NAME CODE              01700524
0525 P0135 614E   Y0   STA- CSNAME,I      SAVE CODE FOR STATEMENT TYPE                   01700525
0526 P0136 E139        LDQ- INPXC0,I      LOAD Q WITH THE ADDRESS OF THE INPUT BUFFER    01700526
0527 P0137 5800 X      RTJ  I1            CALL I1 TO BUILD SYSTEM DIRECTORY              01700527
     P0138 7FFF X
0528 P0139 1800        JMP  CM20          READ NEXT CONTROL STATEMENT        **MSOS 4.1**01700528
     P013A FF6E
0529 P013B 0000   I1CALL NUM  0           ZERO IF MODULE I1 NOT CALLED                   01700529
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0531                    *    R O U T I N E   T O   P R O C E S S   *L   S T A T E M E N T 01700531


0533 P013C 0112   STARL  SAN  LSTM1-*-1     HAS I1 ALREADY RUN                                01700533
0534 P013D 0A07          ENA  7             ERROR 7, NO SYSTEM DIRECTORY BUILT                01700534
0535 P013E 1823          JMP* LSTM4         BEFORE PROGRAM LOAD                               01700535
0536 P013F 09FC   LSTM1  INA  -3                                                             01700536
0537 P0140 0134          SAM  LSTM3A-*-1    LAST STATEMENT WAS *Y OR *YM                      01700537
0538 P0141 0111          SAN  LSTM2         STATEMENT BAD                                     01700538
0539 P0142 1811          JMP* LSTM3D        LAST STATEMENT WAS *L                             01700539
0540 P0143 0A13   LSTM2  ENA  $13           STATEMENT IS OUT OF ORDER                         01700540
0541 P0144 181D          JMP* LSTM4                                                           01700541
0542 P0145 5804   LSTM3A RTJ* LSTM3B        PICKUP RUN-TIME ADDRESS OF ENTRY POINT NAME       01700542
0543 P0146 454E          ALF  3,END0V4      NAME FOR END ADDRESS OF PART 0                    01700543
     P0147 443D
     P0148 5634
0544 P0149 0B00   LSTM3B NOP  0             ENTRY POINT ADDRESS                               01700544
0545 P014A C8FE          LDA* LSTM3B                                                         01700545
0546 P014B 610F          STA- INPCTR,I      MAKE SURE THAT END OF PART 0 WAS DEFINED          01700546
0547 P014C 5128          RTJ- TABSGH,I      BEFORE BEGINNING *L LOAD                          01700547
0548 P014D E11C          LDQ- SW6,I         HAS THIS NAME BEEN DEFINED                        01700548
0549 P014E 0175          SQM  LSTM3C-*-1    NO, PRINT ERROR                                   01700549
0550 P014F 6104          STA- COMLIM,I      YES, SAVE AS UPPER BOUND FOR LOAD                 01700550
0551 P0150 616C          STA- TOP,I         SAVE AS END OF PART 0                             01700551
0552 P0151 6800          STA  END0V4        SAVE END ADDRESS OF PART 0                        01700552
     P0152 0082
0553 P0153 1803   LSTM3D JMP* LSTM4A        GO TO EXIMINE *L CONTROL STATEMENT                01700553
0554 P0154 0A20   LSTM3C ENA  $20           ERROR 20, *S,END0V4,HHHH NOT ENTERED              01700554
0555 P0155 180C          JMP* LSTM4         BEFORE THE FIRST *L CONTROL STATEMENT             01700555
0556 P0156 0A03   LSTM4A ENA  3             SET CSNAME=3, SAYING *L IS BEING PROCESSED        01700556
0557 P0157 614E          STA- CSNAME,I                                                       01700557
0558 P0158 58CA   LSTM40 RTJ* COMMA         IS FIELD DELIMETER A COMMA                        01700558
0559 P0159 180A          JMP* LSTM41        NO, CHECK FOR END OF STATEMENT                    01700559
0560 P015A 58C2          RTJ* GETHEX        YES, PICKUP THE LOAD ADDRESS                      01700560
0561 P015B C113          LDA- SYMSTR,I      MAKE SURE THAT THE FIELD IS NUMERIC               01700561
0562 P015C 0111          SAN  LSTM4Q        THIS FEILD NOT NUMERIC                            01700562
0563 P015D 181A          JMP* LSTM5         THIS FIELD NUMERIC, CHECK IF VALID                01700563
0564 P015E 9112   LSTM4Q SUB- BLANKS,I      IS THIS FIELD EMPTY                               01700564
0565 P015F 0108          SAZ  LSTM43-*-1    YES GO ON TO LOAD STAGE                           01700565
0566 P0160 0A08          ENA  8             ERROR 8, NAME APPEARS IN NUMBER FIELD             01700566
0567 P0161 1800   LSTM4  JMP  QTYPE                                                          01700567
     P0162 0315
0568 P0163 5800   LSTM41 RTJ  VALID         TEST FOR CARRIAGE RETURN OR BLANK DELIMETER       01700568
     P0164 037B
0569 P0165 0142          SQZ  LSTM43        TERMINATOR IS VALID                               01700569
0570 P0166 0A0E   LSTM42 ENA  $E            ERROR E, INVALID FIELD TERMINATOR                 01700570
0571 P0167 18F9          JMP* LSTM4                                                          01700571
0572 P0168 C103   LSTM43 LDA- PROBAS,I      IS THIS *L FOR SYSDAT                             01700572
0573 P0169 010C          SAZ  LSTM4X        YES                                               01700573
0574 P016A 90EB          SUB- $EB           NO, DOES *L IMMEDIATELY FOLLOW SYSDAT             01700574
0575 P016B 011A          SAN  LSTM4X        NO, JUST LOAD AT PROBAS                           01700575
0576 P016C C0EB          LDA- $EB           YES, INCREASE PROBAS PAST SYSTEM                  01700576
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0577 P016D 80E6          ADD- $E6          DIRECTORY                                    01700577
0578 P016E 6103          STA- PROBAS,I                                                  01700578
0579 P016F 0842          CLR  Q            COMPUTE NUMBER OF PAGES USED FOR           01700579
0580 P0170 3000          DVI  =N$60        SYSDAT AND DIRECTORY                       01700580
     P0171 0060
0581 P0172 0141          SQZ  EVPG                                                    01700581
0582 P0173 0901          INA  1                                                       01700582
0583 P0174 6800 X EVPG   STA  LENSDT       NUMBER OF CORE RESIDENT PAGES              01700583
     P0175 7FFF X
0584 P0176 182B   LSTM4X JMP* LSTM8        GO LOAD PROGRAM STARTING AT PROBAS         01700584
0585 P0177 C103   LSTM5  LDA- PROBAS,I     CHECK FOR A VALID LOAD ADDRESS             01700585
0586 P0178 010C          SAZ  LSTM6-*-1     SKIP IF LOADER PROGRAM BASE IS ZERO        01700586
0587 P0179 90EB          SUB- $EB           DOES THIS *L IMMEDIATELY FOLLOW THE SYSDAT 01700587
0588 P017A 011A          SAN  LSTM6-*-1     NO, COMPARE THE LOAD ADDRESS TO PROBAS     01700588
0589 P017B C0EB          LDA- $EB           YES, INCREASE PROBAS PAST THE SYSTEM       01700589
0590 P017C 80E6          ADD- $E6           DIRECTORY AND THEN COMPARE THE LOAD ADDRESS 01700590
0591 P017D 6103          STA- PROBAS,I      TO PROBAS                                  01700591
0592 P017E 0842          CLR  Q                                                       01700592
0593 P017F 3000          DVI  =N96          COMPUTE NUMBER OF PAGES USED FOR           01700593
     P0180 0060
0594 P0181 0141          SQZ  EVENPG        SYSDAT AND DIRECTORY                       01700594
0595 P0182 0901          INA  1                                                       01700595
0596 P0183 6800 X EVENPG STA  LENSDT       NUMBER OF CORE RESIDENT PAGES              01700596
     P0184 0175 X
0597 P0185 C149   LSTM6  LDA- SCNINP,I     HEX LOAD ADDRESS                           01700597
0598 P0186 E103          LDQ- PROBAS,I      LOAD PROGRAM BASE                          01700598
0599                     *                                                           01700599
0600                     *                  SIGN CHECK COMPARES A AND Q,             01700600
0601 P0187 5800 X        RTJ  SIGNCK        IF A.GT.Q OR A.EQ.Q, A RETURNS           01700601
     P0188 7FFF X
0602                     *                  A POSITIVE VALUE, IF A.LT.Q THEN         01700602
0603                     *                  A RETURNS NEGATIVE                       01700603
0604                     *                                                           01700604
0605 P0189 0121          SAP  LSTM7         NEW BASE IS GREATER THAN PROBAS           01700605
0606 P018A 1815          JMP* LSTM6A        ILLEGAL PROGRAM RELOCATION BASE          01700606
0607 P018B E847   LSTM7  LDQ* CRPFLG        IF WE ARE IN PART1 (*LP LOADS)           01700607
0608 P018C 015D          SQN  LSTM7X        NO NEED TO CHECK COMLIM                  01700608
0609 P018D C104          LDA- COMLIM,I      IS THE RELOCATION BASE BELOW THE         01700609
0610 P018E E149          LDQ- SCNINP,I      BEGINNING OF SYSTEM COMMON               01700610
0611 P018F 5800 X        RTJ  SIGNCK                                                 01700611
     P0190 0188 X
0612 P0191 0121          SAP  LSTM7A        YES, CONTINUE THE LOAD                   01700612
0613 P0192 180D          JMP* LSTM6A        ILLEGAL PROGRAM RELOCATION BASE          01700613
0614 P0193 E149   LSTM7A LDQ- SCNINP,I      UPDATE PROBAS TO THE NEW LOAD ADDRESS MAKING 01700614
0615 P0194 4103          STQ- PROBAS,I      THE AREA BETWEEN THE OLD AND NEW ADDRESSES 01700615
0616 P0195 417B          STQ- CSQCTR,I      UNAVAILABLE FOR LOADING                  01700616
0617 P0196 5800   LSTM7L RTJ  VALID         TEST FOR VALID RECORD TERMINATOR         01700617
     P0197 0348
0618 P0198 0148          SQZ  LSTM8-*-1     SKIP IF TERMINATOR IS VALID              01700618
0619 P0199 18CC          JMP* LSTM42        ERROR E, ILLEGAL FIELD TERMINATOR        01700619
0620 P019A 817B   LSTM7X ADD- CSQCTR,I      A-REG NOW CONTAINS RELATIVE DISTANCE     01700620
0621 P019B 617B          STA- CSQCTR,I      FROM PROBAS,I TO SCNINP,I                01700621
0622 P019C E149          LDQ- SCNINP,I       CSQCTR,I IN PART 1 LOADS CONTAINS       01700622
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0623 P019D 4103          STQ- PROBAS,I     AN ACCUMULATION OF PROGRAM LENGTHS                01700623
0624 P019E 18F7          JMP* LSTM7L       ADDED TO PART1L FOR LENGTH OF PART 1.             01700624
0625 P019F 0A09 LSTM6A   ENA  9            ILLEGAL PROGRAM RELOCATION BASE                   01700625
0626 P01A0 18C0          JMP* LSTM4        OUTPUT THE ERROR                                  01700626
0627 P01A1 D807 LSTM8    RAO* YORDNL       INCREMENT THE ORDINAL COUNTER                     01700627
0628 P01A2 E193          LDQ- ONTAB,I      PICKUP THE NEXT ADDRESS TO CHECK IN THE           01700628
0629                     *                 *Y ORDINAL TABLE                                  01700629
0630 P01A3 0143          SQZ  LSTM9-*-1    SKIP IF THERE WERE NO *Y STATEMENTS               01700630
0631 P01A4 C804          LDA* YORDNL       PICKUP THE ORDINAL OF THIS *L STATEMENT           01700631
0632 P01A5 9201          SUB- 1,Q          COMPARE IT TO THE NEXT ENTRY IN THE               01700632
0633                     *                 *Y ORDINAL TABLE                                  01700633
0634 P01A6 0102          SAZ  LSTM8A-*-1   SKIP IF THIS ORDINAL IS IN THE TABLE             01700634
0635 P01A7 1815 LSTM9    JMP* LSTM9A                                                         01700635
0636 P01A8 0000 YORDNL   NUM  0            ORDINAL OF CURRENT *L STATEMENT                   01700636
0637 P01A9 D193 LSTM8A   RAO- ONTAB,I      INCREMENT POINTER FOR ORDINAL TABLE               01700637
0638 P01AA D82B          RAO* YCNTER       INCREMENT COUNTER OF CORE RESIDENT ORDINALS       01700638
0639 P01AB 0A04          ENA  4            LENGTH OF SYSTEM DIRECTORY ENTRY TIMES            01700639
0640 P01AC 2829          MUI* YCNTER       COUNTER OF CORE RESIDENT ORDINALS EQUALS          01700640
0641 P01AD 0822          IRA  Q            THE INDEX TO THE SYSTEM DIRECTORY ENTRY           01700641
0642 P01AE 0DFC          INQ  -3           DECREMENT INDEX TO WORDQ OF ENTRY                 01700642
0643 P01AF C103          LDA- PROBAS,I     PICKUP RELOCATION BASE FOR PROGRAM BEING          01700643
0644 P01B0 66EB          STA- ($EB),Q      LOADED AND STORE IN WORD 2 OF THE SYSTEM          01700644
0645                     *                 DIRECTORY ENTRY                                   01700645
                                                                                             01700646
0646 P01B1 4822          STQ* YPOINT                                                         01700647
0647 P01B2 C14E          LDA- CSNAME,I     CHECK FOR *L OR *LP TO DETERMINE                  01700648
0648 P01B3 09FC          INA  -3           REQUEST CODE FOR SYSTEM DIRECTORY ENTRY           01700649
0649 P01B4 0103          SAZ  LSTM8B-*-1   *L                                                01700650
0650 P01B5 C000          LDA  =N$4200      *LP  REQUEST CODE NEEDS B-BIT SET = 4200
     P01B6 4200
0651 P01B7 1803          JMP* LSTM8C                                                         01700651
0652 P01B8 C000 LSTM8B   LDA  =N$200       *L   REQUEST CODE = 0200                          01700652
     P01B9 0200
0653 P01BA 0DFE LSTM8C   INQ  -1           DECREMENT POINTER TO START OF ENTRY               01700653
0654 P01BB 66EB          STA- ($EB),Q      STORE REQUEST CODE IN WORD 0 OF ENTRY             01700654
0655 P01BC C14E LSTM9A   LDA- CSNAME,I                                                       01700655
0656 P01BD 09FB          INA  -4           IS THIS A *LP STATEMENT                           01700656
0657 P01BE 0113          SAN  LSTM9B-*-1   NO,                                               01700657
0658 P01BF C817          LDA* FRSTLP       YES, IS THIS THE FIRST *LP                        01700658
0659 P01C0 0111          SAN  LSTM9B-*-1   NO, GO TO LOAD                                    01700659
0660 P01C1 5816          RTJ* LPBNDY       YES, GO TO SETUP AUTOLOAD PARAMETERS              01700660
0661 P01C2 0846 LSTM9B   CLR  A,Q          SETUP A RELOCATABLE LOAD FUNCTION                 01700661
0662 P01C3 5800 X        RTJ  ILOAD        LOAD THE PROGRAM                                  01700662
     P01C4 7FFF X
0663 P01C5 E80E          LDQ* YPOINT       PICKUP THE INDEX FOR THIS SYSTEM DIRECTORY        01700663
0664                     *                 ENTRY                                             01700664
0665 P01C6 C6EB          LDA- ($EB),Q      FETCH THE INITIAL EXECUTION ADDRESS FOR THIS      01700665
0666 P01C7 9102          SUB- DATBAS,I     BLOCK OF PROGRAMS AND COMPARE IT TO THE           01700666
0667 P01C8 0112          SAN  LSTM9D-*-1   RELOCATION BASE FOR DATA STORAGE                  01700667
0668 P01C9 C105          LDA- DATLIM,I     IF THEY ARE EQUAL RESET THE FIRST EXECUTABLE      01700668
0669 P01CA 66EB          STA- ($EB),Q      ADDRESS TO THE END OF THE DATA BLOCK              01700669
0670 P01CB C14E LSTM9D   LDA- CSNAME,I                                                       01700670
0671 P01CC 09FB          INA  -4           IS THIS A *LP                                     01700671
0672 P01CD 0111          SAN  LSTM9E-*-1   NO, GO TO GET NEXT STATEMENT                     01700672
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0673 P01CE D808          RAO* FRSTLP    YES, SET FLAG SAYING LP PROCESSED                    01700673
0674 P01CF 1800 LSTM9E   JMP  CM65      GO TO PROCESS THE NEXT CONTROL STATEMENT              01700674
     P01D0 FEEC
0675 P01D1 0000 PARDEF   NUM  0         FLAG SAYING IF PARTITIONS WERE DEFINED                01700675
0676 P01D2 0000 CRPFLG   NUM  0         FLAG INDICATING IF CREP1 OR CREP IS USED             01700676
0677 P01D3 0000 YPOINT   NUM  0         TEMPOTARY HOLDER FOR ORDINAL                         01700677
0678 P01D4 0000 ENDOV4   NUM  0         ENDING ADDRESS OF PART 0                             01700678
0679 P01D5 0000 YCNTER   NUM  0         COUNTER OF ORDINAL PROGRAMS                          01700679
0680 P01D6 0000 FRSTLP   NUM  0         FLAG INDICATING IF LP HAS BEEN PROCESSED             01700680

0682 P01D7 0B00 LPBNDY   NOP  0                                                              01700682
0683 P01D8 C103          LDA- PROBAS,I  PICKUP PROGRAM BASE FOR FIRST LP                     01700683
0684 P01D9 0842          CLR  Q                                                              01700684
0685 P01DA 3000          DVI  =N96      DEVIDE BY SECTOR LENGTH                              01700685
     P01DB 0060
0686 P01DC 8800          ADD  LSSECT    ADD STARTING SECTOR OF CORE IMAGE                    01700686
     P01DD 0357
0687 P01DE 6800 X        STA  PART1C    SAVE STARTING SECTOR OF PART1 CORE IMAGE             01700687
     P01DF 0064 X
0688 P01E0 4800 X        STQ  PART1L    SAVE INCREMENTAL PART OF PART 1 IMAGE                01700688
     P01E1 0066 X
0689 P01E2 0852          TCQ  Q                                                              01700689
0690 P01E3 F103          ADQ- PROBAS,I                                                       01700690
0691 P01E4 4800 X        STQ  PART1A    SAVE MODIFIED CORE ADDRESS OF PART1                  01700691
     P01E5 0068 X
0692 P01E6 1CF0          JMP* (LPBNDY)                                                       01700692
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0694                    *ROUTINE TO PROCESS *LP STATEMENT                    01700694



0696 P01E7 09FC   STARLP INA  -3          WAS THE LAST STATEMENT *L                    01700696
0697 P01E8 0107          SAZ  LP2-*-1     YES                                          01700697
0698 P01E9 09FE          INA  -1          NO, WAS THE LAST STATEMENT *LP               01700698
0699 P01EA 0103          SAZ  LP1-*-1     YES, GO TO PROCESS THIS *LP                  01700699
0700 P01EB 0A13          ENA  $13         NO, ERROR 13 CONTROL STATEMENT OUT OF ORDER  01700700
0701 P01EC 1800   LP0    JMP  LSTM4       OUTPUT THE ERROR                             01700701
     P01ED FF73
0702 P01EE 1800   LP1    JMP  LSTM40                                                   01700702
     P01EF FF68
0703 P01F0 0842   LP2    CLR  Q           ISSUE A PATCH ENTRY POINTS FUNCTION TO       01700703
0704 P01F1 0A01          ENA  1           LINK TOGETHER THE PART 0 ENTRY POINTS        01700704
0705 P01F2 5800 X        RTJ  ILOAD                                                    01700705
     P01F3 01C4 X
0706 P01F4 5800 X        RTJ  WRTOUT      WRITE OUT ALL PAGES THAT HAVE BEEN USED      01700706
     P01F5 7FFF X
0707 P01F6 C17B          LDA- CSQCTR,I    SAVE THE LENGTH OF PART 0 FOR USE AS A       01700707
0708 P01F7 6800          STA  LENDC       BOUND OF UNPROTECTED                         01700708
     P01F8 0663
0709 P01F9 C104          LDA- COMLIM,I    SAVE THE TOP OF SYSTEM COMMON AS BOUND       01700709
0710 P01FA 6800          STA  COMMO       OF UNPROTECTED                               01700710
     P01FB 065F
0711 P01FC 5804          RTJ* LP3         FIND THE STARTING ADDRESS OF THE PARTITIONED 01700711
0712 P01FD 5041          ALF  3,PARTBL    CORE TABLE                                   01700712
     P01FE 5254
     P01FF 424C
0713 P0200 0800   LP3    NOP  0                                                        01700713
0714 P0201 C8FE          LDA* LP3         PUT ADDRESS OF THE ENTRY POINT NAME          01700714
0715 P0202 610F          STA- INPCTR,I    INTO THE POINTER FOR THE ENTRY SEARCH ROUTINE01700715
0716 P0203 5128          RTJ- TABSCH,I    SEARCH FOR THE NAME                          01700716
0717 P0204 E11C          LDQ- SW6,I       IS PARTBL DEFINED                            01700717
0718 P0205 0161          SQP  LP4-*-1     YES, GO GET THE ADDRESS OF THE FIRST PARTITIONO1700718
0719 P0206 180D          JMP* LP6         NO, IS LSTLOC DEFINED                        01700719
0720 P0207 6856   LP4    STA* PARTBL      SAVE THE STARTING ADDRESS OF THE TABLE       01700720
0721 P0208 09FE          INA  -1                                                       01700721
0722 P0209 0822          TRA  Q           PICKUP THE FIRST WORD OF THE                 01700722
0723 P020A C201          LDA- 1,Q         PARTITIONED CORE TABLE                       01700723
0724 P020B 0125          SAP  LP5-*-1     SKIP IF ADDRESS LESS THAN $8000              01700724
0725 P020C 0900          INA  0                                                        01700725
0726 P020D 0113          SAN  LP5-*-1     SKIP IF ADDRESS NOT EQUAL $FFFF              01700726
0727 P020E 0A00          ENA  0           CLEAR THE PARTITIONED CORE FLAG INDICATING   01700727
0728 P020F 68C1          STA* PARDEF      NO PARTITIONS                                01700728
0729 P0210 1803          JMP* LP6                                                      01700729
0730 P0211 0A01   LP5    ENA  1           SET THE PARDEF FLAG SAYING THAT PARTITIONED   01700730
0731 P0212 68BE          STA* PARDEF      CORE EXISTS IN THIS SYSTEM                   01700731
0732 P0213 5804   LP6    RTJ* LP7         FIND THE LAST LOCATION OF PARTITIONED CORE +1 01700732
0733 P0214 4C53          ALF  3,LSTLOC                                                 01700733
     P0215 544C
     P0216 4F43
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0734 P0217 0B00    LP7     NOP  0                                                    01700734
0735 P0218 C8FE            LDA* LP7          STORE RUN TIME ADDRESS OF ENTRY POINT NAME    01700735
0736 P0219 610F            STA- INPCTR,I     INTO POINTER FOR ENTRY SEARCH ROUTINE        01700736
0737 P021A 5128            RTJ- TABSCH,I     SEARCH FOR NAME                              01700737
0738 P021B E11C            LDQ- SW6,I        IS LSTLOC DEFINED                            01700738
0739 P021C 0162            SQP  LP8-*-1      YES, CHECK IT FOR USE AS THE START OF *LP LOAD01700739
0740 P021D C8B6            LDA* ENDOV4       NO, USE ENDOV4 FOR *LP RELOCATION BASE       01700740
0741 P021E 1808            JMP* LP9                                                       01700741
0742 P021F 683F    LP8     STA* LSTLOC       SAVE THE ADDRESS OF LSTLOC                   01700742
0743 P0220 09FE            INA  -1                                                        01700743
0744 P0221 0822            TRA  Q            PICKUP LSTLOC TO SEE WHERE TO BEGIN          01700744
0745 P0222 C201            LDA- 1,Q          THE *LP LOADING                              01700745
0746 P0223 0122            SAP  LP9-*-1      SKIP IF LSTLOC LESS THAN $8000               01700746
0747 P0224 0900            INA  0                                                         01700747
0748 P0225 0102            SAZ  LP10-*-1     SKIP IF LSTLOC =$FFFF                        01700748
0749 P0226 6103    LP9     STA- PROBAS,I     USE LSTLOC AS THE PART 1 RELOCATION BASE     01700749
0750 P0227 1808            JMP* LP12A        GO TO PROCESS THE CONTROL STATEMENT          01700750
0751 P0228 C8A8    LP10    LDA* PARDEF       IS LSTLOC = $FFFF AND DO PARTITIONS EXIST    01700751
0752 P0229 0102            SAZ  LP11-*-1                                                  01700752
0753 P022A 0A22            ENA  $22          ERROR 22, ATTEMPT TO LOAD PART 1 CORE        01700753
0754 P022B 18C0            JMP* LP0          RESIDENT INTO NON-EXISTANT MEMORY            01700754
0755 P022C C104    LP11    LDA- COMLIM,I     IF THERE ARE NO PARTITIONS AND LSTLOC = FFFF  01700755
0756 P022D 0901            INA  1            THEN USE ENDOV4+1 AS RELOCATION BASE FOR     01700756
0757 P022E 6103            STA- PROBAS,I     PART 1 CORE RESIDENT                         01700757
0758 P022F 6106    LP12A   STA- CSQLIM,I     SAVE NEW COMMAND SEQUENCE LIMIT              01700758
0759 P0230 5802            RTJ* LP11A                                                     01700759
0760 P0231 1810            JMP* LP14A                                                     01700760
0761 P0232 0B00    LP11A   NOP  0                                                        01700761
0762 P0233 5804    LP12    RTJ* LP13         TEST TO DETERMINE IF MSIZV4 IS DEFINED       01700762
0763 P0234 4D53            ALF  3,MSIZV4                                                  01700763
     P0235 495A
     P0236 5634
0764 P0237 0B00    LP13    NOP  0                                                        01700764
0765 P0238 C8FE            LDA* LP13         PICKUP THE RUN-TIME ADDRESS OF THE NAME      01700765
0766 P0239 610F            STA- INPCTR,I                                                  01700766
0767 P023A 5128            RTJ- TABSCH,I     SEARCH FOR THE NAME MSIZV4                   01700767
0768 P023B E11C            LDQ- SW6,I        IS MSIZV4 DEFINED                            01700768
0769 P023C 0163            SQP  LP14-*-1     YES, SETUP NEW TOP OF CORE                   01700769
0770 P023D 0A21            ENA  $21          NO, ERROR 21  MSIZV4 NOT DEFINED             01700770
0771 P023E 1800            JMP  QTYPE                                                     01700771
     P023F 0238
0772 P0240 1CF1    LP14    JMP* (LP11A)                                                   01700772
0773 P0241 681E    LP14A   STA* MSIZV4       SAVE THE TOP OF CORE                         01700773
0774 P0242 6800  X         STA  I2MZV4       PASS 'MSIZV4' TO IDRIV FOR AUTOLOAD CLEAR PAR.01700774
     P0243 7FFF  X
0775 P0244 6160            STA- TOP,I        SETUP THE NEW TOP OF CORE FOR THE LOADER     01700775
0776 P0245 0A00            ENA  0                                                         01700776
0777 P0246 6178            STA- CSQCTR,I     CLEAR LENGTH OF PART1 CORE RESIDENT TO ZERO  01700777
0778 P0247 0A01            ENA  1                                                         01700778
0779 P0248 6889            STA* CRPFLG       SET FLAG SAYING USE PART1 ENTRY POINT TABLE  01700779
0780 P0249 6157            STA- ARIT16,I     SET THE ARITHMETIC TYPE FLAG TO 16 BIT       01700780
0781 P024A 0A04            ENA  4            SET CSNAME = 4 SAYING THAT A *LP IS          01700781
0782 P024B 614E            STA- CSNAME,I     BEING PROCESSED                              01700782
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0783 P024C C103          LDA- PROBAS,I      SAVE PROGRAM RELOCATION BASE                    01700783
0784 P024D 6800          STA  LPENDC                                                        01700784
     P024E 060E
0785 P024F 5803          RTJ* LP15          GO TO END CREP TABLE                            01700785
0786 P0250 1800          JMP  LSTM40        GO TO PROCESS THE CONTROL STATEMENT             01700786
     P0251 FF06
0787 P0252 0000  LP15    NOP  0            END THE CREP TABLE                              01700787
0788 P0253 C12C          LDA- MAXENT,I      SAVE THE ENDING ADDRESS OF THE CREP TABLE       01700788
0789 P0254 618B          STA- ECREP,I       FOR LATER USE IN PATCHING EXTERNALS             01700789
0790 P0255 0842          CLR  Q             COMPUTE THE STARTING ADDRESS FOR THE            01700790
0791 P0256 318A          DVI- SECTOR,I      CREP1 TABLE SO THAT THE TABLE BEGINS            01700791
0792 P0257 0914          INA  20            ON A SECTOR BOUNDARY STILL LEAVING              01700792
0793 P0258 218A          MUI- SECTOR,I      ROOM FOR FURTHER CREP ENTRIES                   01700793
0794 P0259 6174          STA- ENTST1,I      SAVE THE STARTING ADDRESS OF CREP1              01700794
0795 P025A 616B          STA- ENTPGS,I      SETUP THE NEW STARTING SECTOR OF ENTRY TABLE    01700795
0796 P025B 612C          STA- MAXENT,I      SETUP THE NEW MAXIMUM VALUE IN ENTRY TABLE      01700796
0797 P025C 1CF5          JMP* (LP15)                                                        01700797
0798 P025D 0000  PARTBL  NUM  0             ADDRESS OF PARTITIONED CORE TABLE               01700798
0799 P025E 0000  LSTLOC  NUM  0             ADDRESS OF WORD CONTAINING LWA+1 OF PARTITIONS01700799
0800 P025F 0000  MSIZV4  NUM  0             LAST WORD ADDRESS OF MEMORY                     01700800
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0802                    *  R O U T I N E   T O   P R O C E S S   *M   S T A T E M E N T S  01700802


0804 P0260 09FC    STARM  INA  -3          WAS THE LAST STATEMENT *L                      01700804
0805 P0261 0101           SAZ  M0-*-1      YES, COMPLETE IT                               01700805
0806 P0262 1812           JMP* M2          NO, TEST FOR *LP AS LAST ENTRY                 01700806
0807 P0263 0842    M0     CLR  Q           THE ENTRY POINTERS POINT TO THE CREP           01700807
0808 P0264 0A01           ENA  1           TABLE SO ISSUE A PATCH EXTERNAL FUNCTION TO    01700808
0809 P0265 5800 X         RTJ  ILOAD       LINK ALL OF CORE RESIDENT                      01700809
     P0266 01F3 X
0810 P0267 C178           LDA- CSQCTR,I    SAVE THE LENGTH OF PART 0 FOR USE AS A         01700810
0811 P0268 6800           STA  LENDC       BOUND OF UNPROTECTED                           01700811
     P0269 05F2
0812 P026A C104           LDA- COMLIM,I    SAVE THE TOP OF SYSTEM COMMON AS BOUND         01700812
0813 P026B 6800           STA  COMM0       OF UNPROTECTED                                 01700813
     P026C 05EE
0814 P026D 5800           RTJ  FMXSEC      MAKE SURE ENTRY SECTOR IS DEFINED              01700814
     P026E 01A2
0815 P026F 58E2           RTJ* LP15        GO TO END THE CREP TABLE                       01700815
0816 P0270 581A           RTJ* ENDET1      SETUP VALUES FOR TEMPORARY ENT/EXT TABLES      01700816
0817 P0271 5800 X M1      RTJ  CONMS       GO TO SETUP THE NEW PAGES                      01700817
     P0272 7FFF X
0818 P0273 183D           JMP* M7          GO TO PROCESS THE *M                           01700818
0819 P0274 09FE    M2     INA  -1          WAS THE LAST STATEMENT *LP                     01700819
0820 P0275 0101           SAZ  M3-*-1      YES,COMPLETE *LP PROCESSING                    01700820
0821 P0276 1833           JMP* M5          NO, GO TO CHECK FOR *M AS LAST STATEMENT       01700821
0822 P0277 C800 X M3      LDA  PART1L      UPDATE THE LENGTH OF PART 1                    01700822
     P0278 01E1 X
0823 P0279 817B           ADD- CSQCTR,I    IN THE AUTOLOAD PROGRAM                        01700823
0824 P027A 6800 X         STA  PART1L                                                     01700824
     P027B 0278 X
0825 P027C C178           LDA- CSQCTR,I    SAVE THE LENGTH OF PART1 FOR USE AS THE        01700825
0826 P027D 8800           ADD  LPENDC      LOWER BOUND OF UNPROTECTED CORE                01700826
     P027E 05DE
0827 P027F 6800           STA  LPENDC                                                     01700827
     P0280 05DC
0828 P0281 617B           STA- CSQCTR,I    UPDATE CSQCTR SO THE *M SECTORS ARE CORRECT    01700828
0829 P0282 5808           RTJ* ENDET1      CLOSE OFF CREP1 TABLE AND SAVE ITS ADDRESS     01700829
0830 P0283 5800           RTJ  LCREP       SETUP POUNTERS TO CREP TABLE                   01700830
     P0284 01AC
0831 P0285 5800           RTJ  FMXSEC      MAKE SURE ENTRY SECTOR IS DEFINED              01700831
     P0286 018A
0832 P0287 5800           RTJ  LCREP1      RESET POINTERS BACK TO CREP1 TABLE             01700832
     P0288 01AE
0833 P0289 181B           JMP* M3A         CONTINUE FINISHING *LP                         01700833
0834 P028A 0B00    ENDET1 NOP  0           ROUTINE TO FIND BOUNDS FOR TEMPORARY ENT/EXT   01700834
0835 P028B C16B           LDA- ENTPGS,I    TABLES USED FOR *M AND *MP PROCESSING          01700835
0836 P028C 6174           STA- ENTST1,I    SAVE THE STARTING ADDRESS OF THE ENTRY TABLE   01700836
0837 P028D C12C           LDA- MAXENT,I                                                   01700837
0838 P028E 618C           STA- ECREP1,I    SAVE THE ENDING ADDRESS OF THE CREP OR CREP1   01700838
0839 P028F 0842           CLR  Q           TABLE FOR LATER USE                            01700839
0840 P0290 318A           DVI- SECTOR,I    COMPUTE THE STARTING VALUE FOR THE             01700840
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0841 P0291 0901          INA  1          TEMPORARY ENTRY POINT TABLE SO THAT THE        01700841
0842 P0292 218A          MUI- SECTOR,I   TABLE BEGINS ON A SECTOR BOUNDARY.           01700842
0843 P0293 680D          STA* ENTTMP     SAVE THIS STARTING VALUE                      01700843
0844 P0294 616B          STA- ENTPGS,I   SETUP THE NEW STARTING SECTOR OF ENTRY TABLE  01700844
0845 P0295 612C          STA- MAXENT,I   SETUP THE NEW MAXIMUM VALUE OF ENTRY TABLE    01700845
0846 P0296 C176          LDA- EXTSTR,I   PICKUP THE START OF THE SYSTEM EXTERNAL       01700846
0847 P0297 680A          STA* STRTEX     TABLE AND SAVE IT LOCALLY                     01700847
0848 P0298 C107          LDA- EXTCTR,I   PICKUP THE END OF THE SYSTEM EXTERNAL         01700848
0849 P0299 680A          STA* ENDEXT     TABLE AND SAVE IT LOCALLY                     01700849
0850 P029A 0842          CLR  Q                                                        01700850
0851 P029B 318A          DVI- SECTOR,I   COMPUTE THE STARTING VALUE FOR THE TEMPORARY  01700851
0852 P029C 0901          INA  1          EXTERNAL TABLE SO THAT THE TABLE BEGINS       01700852
0853 P029D 218A          MUI- SECTOR,I   ON A NEW PAGE.                                01700853
0854 P029E 6804          STA* TEMPEX     SAVE THIS VALUE FOR SETTING UP THE            01700854
0855 P029F 1CEA          JMP* (ENDET1)   EXTERNAL TABLE BEFORE BEGINNING LOADING       01700855
0856 P02A0 0000 ENTTMP   NUM  0          STARTING VALUE OF TEMPORARY ENTRY POINT TABLE 01700856
0857 P02A1 0000 STRTEX   NUM  0          STARTING ADDRESS OF SYSTEM EXTERNAL TABLE     01700857
0858 P02A2 0000 TEMPEX   NUM  0          STARTING ADDRESS OF TEMPORARY EXTERNAL TABLE  01700858
0859 P02A3 0000 ENDEXT   NUM  0          END ADDRESS OF SYSTEM EXTERNAL TABLE          01700859
0860 P02A4 0842 M3A      CLR  Q          ISSUE A PATCH EXTERNALS FUNCTION TO LINK      01700860
0861 P02A5 0A01          ENA  1          THE PART 1 CORE RESIDENT                      01700861
0862 P02A6 5800 X        RTJ  ILOAD                                                    01700862
     P02A7 0266 X
0863                     *               5 CARDS DELETED                 132*5127******
0864 P02A8 18C8 M4       JMP* M1         GO TO PROCESS THE *M                          01700868
0865 P02A9 09FE M5       INA  -1         WAS THE LAST STATEMENT *M                     01700869
0866 P02AA 0103          SAZ  M6A-*-1    YES, HANDLE THIS *M                           01700870
0867 P02AB 0A13          ENA  $13        ERROR 13, OUT OF ORDER CONTROL STATEMENT      01700871
0868 P02AC 1800 M6       JMP  QTYPE      OUTPUT THE ERROR                              01700872
     P02AD 01CA
0869 P02AE 5800 X M6A    RTJ  WRTOUT     OUTPUT THE *M OR *MP PROGRAMS AND ENTRIES     01700873
     P02AF 01F5 X
0870 P02B0 C000 M7       LDA  =N$FFFF    LARGEST SIZE ALLOWED FOR *M AND *MP           01700874
     P02B1 FFFF
0871 P02B2 616C          STA- TOP,I      LOADS WILL BE $FFFF                           01700875
0872 P02B3 5802          RTJ* M7A        UPDATE LSSECT AND PAGES                       01700876
0873 P02B4 1813          JMP* M10A                                                     01700877
0874 P02B5 0B00 M7A      NOP  0                                                        01700878
0875 P02B6 C17B          LDA- CSQCTR,I   UPDATE LSSECT SO THAT THE NEXT *M OR *MP      01700879
0876 P02B7 5800          RTJ  NXTSEC     LOAD WILL BEGIN ON A NEW SECTOR               01700880
     P02B8 022F
0877 P02B9 C182          LDA- NOPAGE,I   PICKUP THE NUMBER OF PAGES IN CORE           01700881
0878 P02BA 6119          STA- COUNT1,I   SETUP THE COUNTER FOR THE PAGE BUILD ROUTINE  01700882
0879 P02BB 5800 X        RTJ  CONMS1     GO TO RESET THE PAGE FLAGS                    01700883
     P02BC 7FFF X
0880 P02BD E177          LDQ- CORADR,I   PICKUP THE STARTING ADDRESS OF THE PAGING     01700884
0881 P02BE 0844 M9       CLR  A          AREA IN CORE                                  01700885
0882 P02BF 6201          STA- 1,Q        CLEAR A WORD OF THE PAGING AREA               01700886
0883 P02C0 0D01          INQ  1                                                        01700887
0884 P02C1 0814          TRQ  A          HAS THE ENTIRE PAGING AREA BEEN CLEARED       01700888
0885 P02C2 9191          SUB- FLGBSE,I                                                 01700889
0886 P02C3 0101          SAZ  M10-*-1    YES, CONTINUE *M PROCESSING                   01700890
0887 P02C4 18F9          JMP* M9         NO, GO BACK TO CLEAR THE NEXT WORD            01700891
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0888 P02C5 617B    M10     STA- CSQCTR,I      CLEAR PROGRAM LENGTH TO ZERO                    01700892
0889 P02C6 1CEE            JMP* IM7A)                                                         01700893
0890 P02C7 0A05    M10A    ENA  5             SET CSNAME = 5  TO SAY THAT A *M IS             01700894
0891 P02C8 614E            STA- CSNAME,I      CURRENTLY BEING PROCESSED                       01700895
0892 P02C9 C800 X          LDA  DATBS0        GET DATA BASE FOR PART 0 LOAD                   01700896
     P02CA 009C X
0893 P02CB 6102            STA- DATBAS,I                                                      01700897
0894 P02CC C800 X          LDA  DATLM0        GET DATA LIMIT FOR PART 0 LOAD                  01700898
     P02CD 009E X
0895 P02CE 6105            STA- DATLIM,I                                                      01700899
0896 P02CF 5800            RTJ  COMMA         IS FIELD TERMINATOR A COMMA                     01700900
     P02D0 FE52
0897 P02D1 1802            JMP* M11           NO, CHECK FOR END OF STATEMENT                  01700901
0898 P02D2 1808            JMP* M13           YES, PICKUP NEXT FIELD                          01700902
0899 P02D3 5800    M11     RTJ  VALID         IS FIELD TERMINATOR BLANK OR CARRIAGE RETURN    01700903
     P02D4 0208
0900 P02D5 0142            SQZ  M12-*-1       YES, FINISH PROCESSING STATEMENT                01700904
0901 P02D6 1800    MTRMER  JMP  LSTM42        NO, ERROR E - INVALID FIELD TERMINATOR          01700905
     P02D7 FE8E
0902 P02D8 4103    M12     STQ- PROBAS,I      ABSOLUTIZE THE PROGRAM TO LOCATION 0            01700906
0903 P02D9 184E            JMP* M20A          GO TO LOAD THE PROGRAMS                         01700907
0904 P02DA 0A08    M13     ENA  8             SET BIT 3 OF SCAN SWITCH SAYING PICKUP AN       01700908
0905 P02DB 6116            STA- SCANSW,I      ASCII FIELD. SAVE THE ASCII CHARACTER CODES     01700909
0906 P02DC 0844            CLR  A             IN THE SYMSTR BLOCK AND IF THE FIELD IS         01700910
0907 P02DD 514B            RTJ- SCAN,I        NUMERIC, CONVERT THE NUMBER TO BINARY.          01700911
0908 P02DE C113            LDA- SYMSTR,I      IS THE FIELD NUMERIC                            01700912
0909 P02DF 011A            SAN  M15-*-1       NO, DETERMINE THE SECTOR ADDRESS                01700913
0910 P02E0 C800            LDA  ENDOV4        YES, IS IT A VALID PROGRAM BASE                 01700914
     P02E1 FEF2
0911 P02E2 9149            SUB- SCNINP,I                                                      01700915
0912 P02E3 0123            SAP  M14-*-1       PROGRAM BASE IS LESS THAN ENDOV4                01700916
0913 P02E4 0A09            ENA  9             ERROR 9, ILLEGAL HEX CORE RELOCATION BASE       01700917
0914 P02E5 1800    MERROR  JMP  QTYPE         OUTPUT ERROR MESSAGE                            01700918
     P02E6 0191
0915 P02E7 C149    M14     LDA- SCNINP,I      UPDATE THE PROGRAM RELOCATION BASE TO THE       01700919
0916 P02E8 6103            STA- PROBAS,I      VALUE SPECIFIED ON THE CONTROL STATEMENT        01700920
0917 P02E9 1827            JMP* M19           GO TO CHECK IF A SECTOR ADDRESS IS SPECIFIED    01700921
0918 P02EA C113    M15     LDA- SYMSTR,I      PICKUP THE FIELD TO SEE IF IT IS EMPTY          01700922
0919 P02EB 9112            SUB- BLANKS,I                                                      01700923
0920 P02EC 0112            SAN  M15A-*-1      SKIP IF FIELD IS NOT EMPTY                      01700924
0921 P02ED 6103            STA- PROBAS,I      FIELD IS EMPTY - ABSOLUTIZE PROGRAM TO ZERO     01700925
0922 P02EE 1822            JMP* M19           CHECK NEXT FIELD                                01700926
0923 P02EF C148    M15A    LDA- SCNTRM,I      IS THE ENTRY POINT NAME FOLLOWED                01700927
0924 P02F0 A000            AND  =N$7F         BY A PLUS SIGN  (ASCII CODE = $2B)              01700928
     P02F1 007F
0925 P02F2 09D4            INA  -$2B                                                          01700929
0926 P02F3 0101            SAZ  M16-*-1       YES, FIND THE SECTOR VALUE                      01700930
0927 P02F4 18E1            JMP* MTRMER        NO, ERROR 14 ILLEGAL FIELD TERMINATOR           01700931
0928 P02F5 C0FF    M16     LDA- I                                                             01700932
0929 P02F6 0913            INA  SYMSTR                                                        01700933
0930 P02F7 610F            STA- INPCTR,I      SETUP THE POINTER FOR THE LOADER TO SEARCH      01700934
0931 P02F8 5128            RTJ- TABSCH,I      FOR THE NAME ON THE CONTROL STATEMENT.          01700935
0932 P02F9 E11C            LDQ- SW6,I         IS THE NAME DEFINED                             01700936
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0933 P02FA 8162          SQP  M17-*-1    YES, COMPUTE THE SECTOR ADDRESS                    01700937
0934 P02FB 0A23          ENA  $23         ERROR 23, NAME USED IN *M CONTROL STATEMENT        01700938
0935 P02FC 18E8          JMP* MERROR      IS NOT A DEFINED ENTRY POINT                       01700939
0936 P02FD 5800  M17     RTJ  GETHEX      GET THE SPECIFIED SECTOR INCREMENT                 01700940
     P02FE FE1E
0937 P02FF C113          LDA- SYMSTR,I    IS THE FIELD NUMERIC                               01700941
0938 P0300 0102          SAZ  M18-*-1     YES, CONTINUE PROCESSING                           01700942
0939 P0301 0A08  M17A    ENA  8           NO, ERROR 8  NAME APPEARS IN NUMBER FIELD          01700943
0940 P0302 18E2          JMP* MERROR                                                         01700944
0941 P0303 C10D  M18     LDA- ENTPNT,I    PICKUP THE ENTRY POINT VALUE                       01700945
0942 P0304 8149          ADD- SGNINP,I    ADD THE SPECIFIED INCREMENT                        01700946
0943 P0305 6800          STA  SECVAL      SAVE THE SECTOR VALUE TEMPORARILY                  01700947
     P0306 0129
0944 P0307 5800          RTJ  CHKSEC      GO TO VERIFY THAT THE SECTOR IS VALID              01700948
     P0308 011A
0945 P0309 C800          LDA  SECVAL      UPDATE LSSECT TO THE NEW SECTOR VALUE              01700949
     P030A 0125
0946 P030B 6800          STA  LSSECT      GIVEN ON THE CONTROL STATEMENT                     01700950
     P030C 0228
0947 P030D 0A00          ENA  0                                                              01700951
0948 P030E 6103          STA- PROBAS,I    RESET THE PROGRAM BASE TO ZERO                     01700952
0949 P030F 180B          JMP* M19A        GO TO LOAD THE PROGRAM                             01700953
0950 P0310 5800  M19     RTJ  COMMA       IS THE FIELD DELIMETER A COMMA                     01700954
     P0311 FE11
0951 P0312 1808          JMP* M19A        NO, TEST FOR END OF STATEMENT                      01700955
0952 P0313 58J0          RTJ  GETHEX      YES, GO TO PICKUP THE SECTOR VALUE                 01700956
     P0314 FE08
0953 P0315 C113          LDA- SYMSTR,I    IS THE FIELD NUMERIC                               01700957
0954 P0316 0107          SAZ  M20-*-1     YES, CHECK ITS VALIDITY                            01700958
0955 P0317 9112          SUB- BLANKS,I    IS THE FIELD EMPTY                                 01700959
0956 P0318 010E          SAZ  M20A-*-1    YES, GO TO LOAD PROGRAMS                           01700960
0957 P0319 18E7          JMP* M17A        NO, ERROR - NAME APPEARS IN NUMBER FIELD           01700961
0958 P031A 5800  M19A    RTJ  VALID       IS TERMINATOR BLANK OR CARRIAGE RETURN             01700962
     P031B 01C4
0959 P031C 014A          SQZ  M20A-*-1    YES, GO TO PERFORM LOAD                            01700963
0960 P031D 18B8          JMP* MTRMER      NO, ERROR E - ILLEGAL TERMINATOR                   01700964
0961 P031E C149  M20     LDA- SGNINP,I    PICKUP THE VALUE GIVEN FOR THE PROGRAM             01700965
0962 P031F 6800          STA  SECVAL      ADDRESS ON MASS STORAGE.                           01700966
     P0320 010F
0963 P0321 5800          RTJ  CHKSEC      CHECK IF THE VALUE IS LEGAL                        01700967
     P0322 0100
0964 P0323 C800          LDA  SECVAL      UPDATE LSSECT TO THE VALUE GIVEN ON                01700968
     P0324 010B
0965 P0325 6800          STA  LSSECT      THE CONTROL STATEMENT                              01700969
     P0326 020E
0966 P0327 C800  M20A    LDA  ENTTMP      PICKUP THE ADDRESS OF THE TEMPORARY ENTRY          01700970
     P0328 FF77
0967 P0329 6168          STA- ENTPGS,I    POINT TABLE AND USE IT AS THE START AND            01700971
0968 P032A 612C          STA- MAXENT,I    END OF THE LOADER ENTRY POINT TABLE.               01700972
0969 P032B C800          LDA  TEMPEX      PICKUP THE ADDRESS OF THE TEMPORARY EXTERNAL       01700973
     P032C FF75
0970 P032D 6176          STA- EXTSTR,I    TABLE AND USE IT AS THE START AND END OF           01700974
0971 P032E 6107          STA- EXTCTR,I    THE LOADER EXTERNAL TABLE.                         01700975
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0972 P032F 0846    M20B   CLR  A,Q          SETUP THE ADDRESS ARITHMETIC FLAG TO TELL      01700976
0973 P0330 6157           STA- ARIT15,I     THE LOADER TO USE 15 BIT ARITHMETIC.           01700977
0974 P0331 5800 X         RTJ  ILOAD        ISSUE RBD LOAD FUNCTION                        01700978
     P0332 02A7 X
0975 P0333 0A01           ENA  1            SETUP AND ISSUE A PATCH EXTERNALS FUNCTION     01700979
0976 P0334 5800 X         RTJ  ILOAD        TO LINK ALL THE *M PROGRAMS                    01700980
     P0335 0332 X
0977               *                        8 CARDS DELETED                 132*5127******* 
0978 P0336 0143    M22    SQZ  M23-*-1      SKIP IF ALL EXTERNALS HAVE BEEN PATCHED        01700989
0979 P0337 0A02           ENA  2                                                           01700990
0980 P0338 5800 X         RTJ  ILOAD        ISSUE PRINT UNPATCHED EXTERNAL FUNCTION        01700991
     P0339 0335 X
0981 P033A D825    M23    RAO* YMORDN       INCREMENT THE *Y/*YM PROGRAM COUNTER           01700992
0982 P033B E194           LDQ- MONTAB,I     WERE THERE ANY *YM STATEMENTS                  01700993
0983 P033C 0151           SQN  M23A-*-1     YES, MAKE DIRECTORY ENTRY                      01700994
0984 P033D 181D           JMP* M26          NO, SKIP DIRECTORY BUILD                       01700995
0985 P033E C821    M23A   LDA* YMORDN       IS THIS LOAD TO BE PUT IN DIRECTORY            01700996
0986 P033F 9201           SUB- 1,Q          SUBTRACT THE YM ORDINAL IN MONTAB              01700997
0987 P0340 0101           SAZ  M25-*-1      SKIP IF DIRECTORY ENTRY TO BE MADE             01700998
0988 P0341 1819    M24    JMP* M26          GO TO GET NEXT CONTROL STATEMENT               01700999
0989 P0342 D194    M25    RAO- MONTAB,I     BUMP COUNTER FOR MASS STORAGE ORDINAL TABLE     01701000
0990 P0343 D81B           RAO* YMCNTR       BUMP THE ORDINAL COUNTER                       01701001
0991 P0344 0A07           ENA  7                                                           01701002
0992 P0345 2819           MUI* YMCNTR       COMPUTE AN INDEX TO THE SYSTEM DIRECTORY       01701003
0993 P0346 80E7           ADD- $E7          TO USE FOR BUILDING THIS ENTRY.                01701004
0994 P0347 09FE           INA  -1                                                          01701005
0995 P0348 0822           TRA  Q                                                           01701006
0996 P0349 C800           LDA  LSSECT       STORE THE PROGRAM SECTOR ADDRESS IN            01701007
     P034A 01EA
0997 P034B 66EB           STA- (*EB),Q      WORD SEVEN OF THE DIRECTORY ENTRY              01701008
0998 P034C 0DFD           INQ  -2                                                          01701009
0999 P034D C17B           LDA- CSQCTR,I     STORE THE PROGRAM LENGTH OF THE LOAD           01701010
1000 P034E 66EB           STA- (*EB),Q      IN WORD FIVE OF THE DIRECTORY ENTRY            01701011
1001 P034F C14E           LDA- CSNAME,I                                                    01701012
1002 P0350 09FA           INA  -5           IS THIS A *M LOAD                              01701013
1003 P0351 0108           SAZ  M26-*-1      YES, GO TO GET NEXT STATEMENT PROCESSED        01701014
1004 P0352 0DFC           INQ  -3           NO, PUT PROGRAM BASE IN WORD 2 OF DIRECTORY    01701015
1005 P0353 C800 X         LDA  PARSTR       USING START OF PARTITION ADDRESS               01701016
     P0354 7FFF X
1006 P0355 66EB           STA- (*EB),Q                                                     01701017
1007 P0356 C000           LDA  =N*4000                                                     01701018
     P0357 4000
1008 P0358 0DFE           INQ  -1                                                          01701019
1009 P0359 66EB           STA- (*EB),Q      SET D-BIT IN DIRECTORY                         01701020
1010               *                        SETUP THE POINTERS SO THE NEXT ENTRY POINT     01701021
1011 P035A 5800    M26    RTJ  LCREP        PROCESSED GOES INTO CREP IN CASE A *S FOLLOWS  01701022
     P035B 00D5
1012 P035C 1800           JMP  CM65                                                        01701023
     P035D FD5F
1013 P035E 0000    YMCNTR NUM  0            YM ORDINAL COUNTER                             01701024
1014 P035F 0000    YMORDN NUM  0            M/MP PROGRAM COUNTER                           01701025
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1016                    *ROUTINE TO PROCESS *MP STATEMENTS                      01701027



1018 P0360 09FC    STARMP INA  -3          WAS THE LAST STATEMENT *L                01701029
1019 P0361 0101           SAZ  MP0-*-1     YES, COMPLETE IT                         01701030
1020 P0362 1812           JMP* MP2         NO, CONTINUE CHECKING                    01701031
1021 P0363 0842    MP0    CLR  Q           ISSUE A PATCH EXTERNAL FUNCTION TO LINK  01701032
1022 P0364 0A01           ENA  1           TOGETHER ALL OF CORE RESIDENT. (IF *L WAS 01701033
1023 P0365 5800 X         RTJ  ILOAD       LAST THEN CORE RESIDENT IS PART 0 ONLY)   01701034
     P0366 0339 X
1024 P0367 C17B           LDA- CSQCTR,I    SAVE THE LENGTH OF PART 1 FOR USE AS A   01701035
1025 P0368 6800           STA  LENDC       BOUND OF UNPROTECTED                     01701036
     P0369 04F2
1026 P036A C104           LDA- COMLIN,I    SAVE THE TOP OF SYSTEM COMMON AS BOUND   01701037
1027 P036B 6800           STA  COMM0       OF UNPROTECTED                           01701038
     P036C 04EE
1028 P036D 5800           RTJ  FMXSEC      MAKE SURE ENTRY SECTOR IS DEFINED        01701039
     P036F 00A2
1029 P036F 5800    MP1    RTJ  ENDET1      COMPUTE START VALUES FOR TEMP ENT/EXT TABLES 01701040
     P0370 FF19
1030 P0371 5800 X         RTJ  CONMS       REALLOCATE CORE FOR NEW PAGES            01701041
     P0372 0272 X
1031 P0373 1810           JMP* MP4         GO TO PROCESS THE *MP CONTROL STATEMENT  01701042
1032 P0374 09FE    MP2    INA  -1          WAS THE LAST STATEMENT *LP               01701043
1033 P0375 0101           SAZ  MP2A-*-1    YES, COMPLETE THE *LP                    01701044
1034 P0376 180B           JMP* MP3A        NO, COMPLETE THE *M OR *MP               01701045
1035 P0377 5800    MP2A   RTJ  FMXSEC      MAKE SURE ENTRY                          01701046
     P0378 0098
1036 P0379 C17B           LDA- CSQCTR,I    SAVE THE LENGTH OF PART 1 FOR USE AS A   01701047
1037 P037A 6800           STA  LPENDC      BOUND OF UNPROTECTED                     01701048
     P037B 04E1
1038 P037C 0842           CLR  Q           YES, ISSUE A PATCH EXTERNALS FUNCTION    01701049
1039 P037D 0A01           ENA  1           TO LINK TOGETHER THE PART1 CORE RESIDENT 01701050
1040 P037E 5800 X         RTJ  ILOAD                                                01701051
     P037F 0366 X
1041                      *                4 CARDS DELETED                132*5127********
1042 P0380 18EE    MP3    JMP* MP1         GO TO PROCESS THIS *MP                   01701056


1044                      *       COME HERE AFTER COMPLETING *L OR *LP              01701058
1045                      *       FALL THROUGH TO HERE IF THE LAST STATEMENT WAS *M OR *MP 01701059
1046 P0381 5800 X MP3A    RTJ  WRTOUT      OUTPUT THE *M OR *MP PROGRAMS AND ENTRIES 01701060
     P0382 02AF X
1047 P0383 5800    MP4    RTJ  M7A         GO TO ALLOCATE TEMPORARY PAGES           01701061
     P0384 FF30
1048 P0385 5800           RTJ  GETHEX      PICKUP THE STARTING PARTITION NUMBER     01701062
     P0386 FD96
1049 P0387 C113           LDA- SYMSTR,I    IS THE FIELD NUMERIC                     01701063
1050 P0388 0103           SAZ  MP5-*-1     YES, ANALYZE THE PARAMETER               01701064
1051 P0389 0A08    MP4A   ENA  8           ERROR 8, NAME APPEARS IN NUMBER FIELD    01701065
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1052 P038A 1800    MPERR  JMP   QTYPE                                                    01701066
     P038B 00FC
1053 P038C C149    MP5    LDA-  SCNINP,I    SAVE THE STARTING PARTITION NUMBER         01701067
1054 P038D 6800           STA   PP                                                       01701068
     P038E 007A
1055 P038F 0132           SAM   MP6-*-1     SKIP IF PARTITION NUMBER IS NEGATIVE - ILLEGAL01701069
1056 P0390 09EF           INA   -16         IS THE PARTITION NUMBER LESS THAN 16        01701070
1057 P0391 0132           SAM   MP7-*-1     YES, THE NUMBER IS VALID  (0-15)           01701071
1058 P0392 0A25    MP6    ENA   $25         NO, ILLEGAL PARTITION NUMBER               01701072
1059 P0393 18F6           JMP*  MPERR       OUTPUT ERROR 9                             01701073
1060 P0394 5800    MP7    RTJ   COMMA       IS THE FIELD TERMINATOR A COMMA            01701074
     P0395 FD8D
1061 P0396 1820           JMP*  MPTERM      NO, OUTPUT ERROR E                         01701075
1062 P0397 5800           RTJ   GETHEX      YES, GET THE NEXT PARAMETER                01701076
     P0398 FD84
1063 P0399 C113           LDA-  SYMSTR,I    IS THE FIELD NUMERIC                       01701077
1064 P039A 0101           SAZ   MP8-*-1     YES, CHECK THE PARAMETER                   01701078
1065 P039B 18ED           JMP*  MP4A        NO, ERROR 8 - NAME APPEARS IN NUMBER FIELD 01701079
1066 P039C C149    MP8    LDA-  SCNINP,I    SAVE THE NUMBER OF PARTITIONS              01701080
1067 P039D 686C           STA*  NN                                                     01701081
1068 P039E 0133           SAM   MP9-*-1     SKIP IF NUMBER IS NEGATIVE - ILLEGAL       01701082
1069 P039F 8869           ADD*  PP          ADD THE STARTING PARTITION TO NUMBER OF    01701083
1070 P03A0 09EE           INA   -17         PARTITIONS AND CHECK FOR PARTITION OVERFLOW 01701084
1071 P03A1 0131           SAM   MP10-*-1    SKIP IF NUMBER IS VALID                    01701085
1072 P03A2 18EF    MP9    JMP*  MP6         ERROR 25, ILLEGAL PARTITION NUMBER         01701086
1073 P03A3 5800    MP10   RTJ   COMMA       IS THE TERMINATOR A COMMA                  01701087
     P03A4 FD7E
1074 P03A5 180E           JMP*  MP12        NO, CHECK FOR BLANK OR CARRIAGE RETURN     01701088
1075 P03A6 5800           RTJ   GETHEX      YES, PICKUP THE SECTOR NUMBER              01701089
     P03A7 FD75
1076 P03A8 C113           LDA-  SYMSTR,I    IS THE FIELD NUMERIC                       01701090
1077 P03A9 0101           SAZ   MP11-*-1    YES, CHECK IT FOR VALIDITY                 01701091
1078 P03AA 18DE           JMP*  MP4A        NO, ERROR 8 - NAME APPEARS IN NUMBER FIELD 01701092
1079 P03AB C149    MP11   LDA-  SCNINP,I    PICKUP THE SECTOR NUMBER FROM THE CONTROL  01701093
1080 P03AC 6800           STA   SECVAL      STATEMENT AND SAVE IT                      01701094
     P03AD 0082
1081 P03AE 5874           RTJ*  CHKSEC      MAKE SURE THAT THE SECTOR NUMBER IS LEGAL  01701095
1082 P03AF C800           LDA   SECVAL                                                 01701096
     P03B0 007F
1083 P03B1 6800           STA   LSSECT                                                 01701097
     P03B2 0182
1084 P03B3 5800    MP12   RTJ   VALID       IS TERMINATOR BLANK OR CARRIAGE RETURN     01701098
     P03B4 012B
1085 P03B5 0142           SQZ   MP13-*-1     YES, CONTINUE PROCESSING THE *MP           01701099
1086 P03B6 0A0E    MPTERM ENA   $E          NO, ERROR E - INVALID FIELD TERMINATOR     01701100
1087 P03B7 18D2           JMP*  MPERR                                                  01701101
1088 P03B8 C800    MP13   LDA   PARTBL      HAS PARTBL BEEN DEFINED FOR THE INITIALIZER01701102
     P03B9 FEA3
1089 P03BA 011F           SAN   MP15A-*-1    YES, FIND THE BOUNDS FOR THIS LOAD         01701103
1090 P03BB 5804           RTJ*  MP14         NO, SEE IF PARTBL IS DEFINED AS AN         01701104
1091 P03BC 5041           ALF   3,PARTBL     ENTRY POINT IN SYSDAT                      01701105
     P03BD 5254
     P03BE 424C
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1092 P03BF 0B00    MP14   NOP  0                                                    01701106
1093 P03C0 C8FE           LDA* MP14          PICKUP RUNTIME ADDRESS OF ENTRY POINT NAME   01701107
1094 P03C1 610F           STA- INPCTR,I      FOR TABLE SEARCH POINTER                    01701108
1095 P03C2 566E           RTJ* LCREP         SETUP THE POINTERS TO USE THE CREP TABLE    01701109
1096 P03C3 5128           RTJ- TABSCH,I      SEARCH CREP FOR PARTBL                      01701110
1097 P03C4 E11C           LDQ- SW6,I         WAS IT DEFINED                              01701111
1098 P03C5 0162           SQP  MP15-*-1      YES, SAVE ITS VALUE                         01701112
1099 P03C6 0A26           ENA  $26           NO, OUTPUT ERROR $26 - NO PARTBL IN SYSDAT   01701113
1100 P03C7 18C2           JMP* MPERR                                                     01701114
1101 P03C8 6800    MP15   STA  PARTBL        SAVE THE ADDRESS OF THE PARTITIONED CORE TABLE01701115
     P03C9 FE93
1102 P03CA E83E    MP15A  LDQ* PP            PICKUP THE STARTING ADDRESS FOR THE LOAD    01701116
1103 P03CB CE00           LDA  (PARTBL),Q                                               01701117
     P03CC FE90
1104 P03CD 6103           STA- PROBAS,I      SAVE THE PROGRAM RELOCATION BASE FOR THIS LOAD01701118
1105 P03CE 6800 X         STA  PARSTR        SAVE FOR CHECK ON NAME PRINT IN ILOAD       01701119
     P03CF 0354 X
1106 P03D0 C000           LDA  =N$FFFE       SET UPPER BOUND FOR THIS LOAD          117*4319********
     P03D1 FFFE
1107 P03D2 616C           STA- TOP,I         AND SAVE IT IN LOCATION TOP                 01701121
1108 P03D3 F836           ADQ* NN            ADD NO. PARTITIONS TO START PARTITION 117*4336********
1109 P03D4 CE00           LDA  (PARTBL),Q    PICK UP START OF NEXT PARTITION       117*4336********
     P03D5 FE87
1110 P03D6 6104           STA- COMLIM,I      SETUP UPPER BOUND OF COMMON FOR PARTITION   01701122
1111 P03D7 0A06           ENA  6             SETUP CSNAME = 6   SAYING THAT A            01701123
1112 P03D8 614E           STA- CSNAME,I      *MP IS BEING PROCESSED                      01701124
1113 P03D9 C800 X         LDA  DATBS1        GET DATA BASE FOR PART 1 LOAD               01701125
     P03DA 00A0 X
1114 P03DB 6102           STA- DATBAS,I                                                  01701126
1115 P03DC C800 X         LDA  DATLM1        GET DATA LIMIT FOR PART 1 LOAD              01701127
     P03DD 00A2 X
1116 P03DE 6105           STA- DATLIM,I                                                  01701128
1117 P03DF C800           LDA  ENTTMP        PICKUP THE STARTING ADDRESS FOR THE TEMPORARY 01701129
     P03E0 FEBF
1118 P03E1 616B           STA- ENTPGS,I      ENTRY POINT TABLE AND SAVE AS THE START AND 01701130
1119 P03E2 612C           STA- MAXENT,I      END OF THE TABLE FOR THIS LOAD.             01701131
1120 P03E3 C800           LDA  TEMPEX        PICK UP START OF TEMP. EXTERNAL       117*4337********
     P03E4 FEBD
1121 P03E5 6176           STA- EXTSTR,I      TABLE AND USE AS THE START AND END OF THE   01701133
1122 P03E6 6107           STA- EXTCTR,I      EXTERNAL TABLE FOR THIS LOAD                01701134
1123 P03E7 0A01           ENA  1             SETUP THE ADDRESS ARITHMETIC FLAG TO TELL   01701135
1124 P03E8 6157           STA- ARIT15,I      THE LOADER TO USE 16 BIT ARITHMETIC         01701136
1125 P03E9 C000           LDA  =X$1400       STORE JUMP INSTRUCTION AS FIRST TWO         01701137
     P03EA 1400
1126 P03EB 6800           STA  VALUE1           CSQ VALUES                               01701138
     P03EC 0021
1127 P03ED C103           LDA- PROBAS,I                                                  01701139
1128 P03EE 6183           STA- PARBAS,I      SAVE BASE ADDRESS                           01701140
1129 P03EF 581B           RTJ* STORE                                                     01701141
1130 P03F0 C000           LDA  =X($7FFF)                                                 01701142
     P03F1 FFFF
1131 P03F2 6800           STA  VALUE1        TEMPORARILY SET SECOND WORD $FFFF           01701143
     P03F3 001A
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1132 P03F4 D103          RAO- PROBAS,I      INCREMENT BASE COUNT                          01701144
1133 P03F5 C103          LDA- PROBAS,I                                                    01701145
1134 P03F6 5814          RTJ* STORE                                                       01701146
1135 P03F7 D103          RAO- PROBAS,I      INCREMENT BASE COUNT                          01701147
1136 P03F8 C17B          LDA- CSQCTR,I                                                    01701148
1137 P03F9 0902          INA  2                                                           01701149
1138 P03FA 617B          STA- CSQCTR,I      INCREMENT LENGTH TO INCLUDE 2 WORD JMP        01701150
1139 P03FB D131          RAO- NOJUMP,I      SET NOJUMP TO FLAG TRANSFER ADDRESS           01701151
1140                  *                     NEEDED FOR JUMP INSTRUCTION                   01701152
1141 P03FC 0846          CLR  A,Q                                                         01701153
1142 P03FD 5800 X MP16   RTJ  ILOAD         ISSUE RBD LOAD FUNCTION                       01701154
     P03FE 037F X
1143 P03FF 0A01          ENA  1             ISSUE PATCH EXTERNAL FUNCTION TO LINK THE     01701155
1144 P0400 5800 X        RTJ  ILOAD         PROGRAMS OF THIS LOAD TOGETHER                01701156
     P0401 03FE X
1145                  *                     8 CARDS DELETED                  132*5127********
1146 P0402 0143    MP18  SQZ  MP19-*-1      SKIP IF NO UNPATCHED EXTERNALS EXIST          01701165
1147 P0403 0A02          ENA  2             ISSUE PRINT UNPATCHED EXTERNALS FUNCTION      01701166
1148 P0404 5800 X        RTJ  ILOAD         BEFORE COMPLETING LOAD                        01701167
     P0405 0401 X
1149 P0406 1800    MP19  JMP  M23           GO TO TERMINATE THIS LOAD                     01701168
     P0407 FF32
1150 P0408 0000    PP    NUM  0             STARTING PARTITION NUMBER                     01701169
1151 P0409 0000    NN    NUM  0             NUMBER OF PARTITIONS TO USE                   01701170
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1153 P040A 0000    STORE NUM  0             SECTION TO STORE A WORD IN CSQ                01701172
1154 P040B 5800 X        RTJ  DISKWR                                                      01701173
     P040C 7FFF X
1155 P040D 0000    VALUE1 NUM 0                                                          01701174
1156 P040E 0000           NUM  0                                                         01701175
1157 P040F 1CFA           JMP* (STORE)                                                   01701176
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1159                *     R O U T I N E   T O   V E R I F Y   T H A T   A                01701178
1161                *     G I V E N   V A L U E   I S   G R E A T E R   T H A N          01701180
1163                *     L S S E C T   A N D   L E S S   T H A N   T H E                01701182
1165                *     V A L U E   O F   E N T R Y   P O I N T   S E C T O R .        01701184
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1167 P0410 0B00   FMXSEC NOP  0                                                        01701186
1168 P0411 E81D          LDQ* MAXSEC      HAS SECTOR BEEN DEFINED IN CONTRL          01701187
1169 P0412 0141          SQZ  CKSEC1      NO, SEE IF IT HAS BEEN OPERATOR DEFINED    01701188
1170 P0413 1CFC          JMP* (FMXSEC)    YES, RETURN TO CALLER                      01701189
1171 P0414 5804   CKSEC1 RTJ* CKSEC2                                                 01701190
1172 P0415 5345          ALF  3,SECTOR                                               01701191
     P0416 4354
     P0417 4F52
1173 P0418 0B00   CKSEC2 NOP  0                                                      01701192
1174 P0419 C8FE          LDA* CKSEC2      PICKUP THE RUN TIME ADDRESS OF THE ENTRY   01701193
1175 P041A 610F          STA- INPCTR,I    POINT NAME FOR THE TABLE SEARCH ROUTINE    01701194
1176 P041B 5128          RTJ- TABSCH,I    SEARCH TO SEE IF SECTOR HAS BEEN DEFINED   01701195
1177 P041C E11C          LDQ- SW6,I       IS SECTOR DEFINED                          01701196
1178 P041D 0162          SQP  CKSEC3-*-1  YES, SAVE ITS VALUE                        01701197
1179 P041E 0A24          ENA  $24         NO, ERROR SECTOR IS NOT DEFINED            01701198
1180 P041F 1858   CKSERR JMP* QTYPE                                                 01701199
1181 P0420 680E   CKSEC3 STA* MAXSEC      SAVE THE VALUE OF SECTOR                   01701200
1182 P0421 1CEE          JMP* (FMXSEC)                                               01701201
1183 P0422 0B00   CHKSEC NOP  0                                                      01701202
1184 P0423 C80C   CKSEC  LDA* SECVAL      IS THE NEW SECTOR VALUE GREATER THAN OR    01701203
1185 P0424 9800          SUB  LSSECT      EQUAL TO THE CURRENT VALUE OF LSSECT       01701204
     P0425 010F
1186 P0426 0122          SAP  CKSEC5-*-1  YES, CHECK FOR MASS STORAGE OVERFLOW       01701205
1187 P0427 0A0A   CKSEC4 ENA  $A          ERROR A, ILLEGAL SECTOR SPECIFIED ON       01701206
1188 P0428 18F6          JMP* CKSERR      INITIALIZER CONTROL STATEMENT              01701207
1189 P0429 C805   CKSEC5 LDA* MAXSEC      IS THE NEW SECTOR VALUE LESS THAN OR       01701208
1190 P042A 9805          SUB* SECVAL      EQUAL TO THE MAXIMUM SECTOR ALLOWABLE      01701209
1191 P042B 0121          SAP  CKSEC6-*-1  YES, RETURN TO CALLER                      01701210
1192 P042C 18FA          JMP* CKSEC4      NO, OUTPUT THE ERROR TO THE USER           01701211
1193 P042D 1CF4   CKSEC6 JMP* (CHKSEC)    RETURN TO CALLER                           01701212
1194 P042E 0000   MAXSEC NUM  0           MAXIMUM SYSTEM SECTOR SPECIFIED BY THE USER 01701213
1195 P042F 0000   SECVAL NUM  0           SECTOR VALUE SPECIFIED ON *M OR *MP        01701214
1196              *                       CONTROL STATEMENT                          01701215
```

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1198                *  ************************************************************* 01701217
1199                *     ROUTINE TO SETUP POINTERS FOR A LINK TO THE CREP TABLE     01701218
1200                *  ************************************************************* 01701219

1202 P0430 0B00  LCREP  NOP  0                                                        01701221
1203 P0431 C173         LDA- ENTST0,I     SET THE START OF THE ENTRY POINT TABLE      01701222
1204 P0432 616B         STA- ENTPGS,I     TO POINT TO THE START OF THE CREP TABLE.    01701223
1205 P0433 C18B         LDA- ECREP,I      SET THE END OF THE ENTRY POINT TABLE        01701224
1206 P0434 612C         STA- MAXENT,I     TO POINT TO THE END OF THE CREP TABLE       01701225
1207 P0435 1CFA         JMP* (LCREP)                                                  01701226

1209                *  ************************************************************* 01701228
1210                *     ROUTINE TO SETUP POINTERS FOR A LINK TO THE CREP1 TABLE    01701229
1211                *  ************************************************************* 01701230

1213 P0436 0B00  LCREP1 NOP  0                                                        01701232
1214 P0437 C174         LDA- ENTST1,I     SET THE START OF THE ENTRY POINT TABLE TO   01701233
1215 P0438 616B         STA- ENTPGS,I     POINT TO THE START OF THE CREP1 TABLE.      01701234
1216 P0439 C18C         LDA- ECREP1,I     SET THE END OF THE ENTRY POINT TABLE TO     01701235
1217 P043A 612C         STA- MAXENT,I     POINT TO THE END OF THE CREP1 TABLE.        01701236
1218 P043B 1CFA         JMP* (LCREP1)                                                 01701237
```

```
1220                    *    ***************************************************************01701239
1221                    *          ROUTINE FOR BACKGROUNDING INPUT BUFFER                    01701240
1222                    *    ***************************************************************01701241
1223 P043C 0000    BACKGR ADC  0              ADDR FROM WHENCE WE CAME                       01701242
1224 P043D E800 X          LDQ  ISAV             RESTORE INDEX I                             01701243
     P043E 7FFF X
1225 P043F C239            LDA- INPADR,Q      ADDR OF INPUT BUFFER                           01701244
1226 P0440 09FE            INA  -1                                                           01701245
1227 P0441 60FF            STA- I             TO INDEX I                                     01701246
1228 P0442 0C3B            ENQ  59                                                           01701247
1229 P0443 0804            SET  A             SET A TO ALL ONES                              01701248
1230 P0444 6301    BG10    STA- 1,B           ALL ONES TO INPUT BUFFER                       01701249
1231 P0445 0DFE            INQ  -1                                                           01701250
1232 P0446 0171            SQM  BG20-*-1      MINUS IMPLIES BUFFER BACKGROUNDED              01701251
1233 P0447 18FC            JMP* BG10                                                         01701252
1234 P0448 C800 X BG20     LDA  ISAV             RESTORE INDEX I                             01701253
     P0449 043E X
1235 P044A 60FF            STA- I                ONE OF CONTAB                               01701254
1236 P044B 1CF0            JMP* (BACKGR)      RETURN                                         01701255
```

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1238                    *    ***************************************************************** 01701257
1239                    *       ROUTINE FOR OUTPUTTING THE MESSAGE                             01701258
1240                    *                                    ERROR  XX                         01701259
1241                    *    ***************************************************************** 01701260
1242  P044C 0000        TYPEQ  ADC  0            A = ERROR NBR ON ENTRY                        01701261
1243  P044D 1823               JMP* TYPEQ9       Q = 0 IF ERROR, 1 OTHERWISE                   01701262
1244  P044E 0000        TYPEQ1 ADC  0                                                          01701263
1245  P044F 0141               SQZ  QERR-*-1                                                  01701264
1246  P0450 1815               JMP* QOUT                                                      01701265
1247  P0451 E800  X QERR       LDQ  ISAV            RESTORE INDEX I                           01701266
      P0452 0449  X
1248  P0453 40FF               STQ- I                                                         01701267
1249  P0454 515A               RTJ- CONVRT,I    CONVERT NBR IN A REG                          01701268
1250  P0455 E139               LDQ- INPADR,I    ADDR OF INPUT BUFFER                          01701269
1251  P0456 C134               LDA- BINASC+1,I     CONVERSION RESULTANT                       01701270
1252  P0457 0F48               ARS  8           TEST LEFT HALF CHARACTER                      01701271
1253  P0458 09CF               INA  -$30           FOR A ZERO                                 01701272
1254  P0459 0114               SAN  TYPEQ2-*-1    NON-ZERO IF NUMBER                         01701273
1255  P045A C134               LDA- BINASC+1,I     CHANGE ZERO TO A BLANK                     01701274
1256  P045B 9000               SUB  =N$1000                                                   01701275
      P045C 1000
1257  P045D 1802               JMP* TYPEQ3                                                    01701276
1258  P045E C134        TYPEQ2 LDA- BINASC+1,I     CONVERSION RESULTANT                       01701277
1259  P045F 6817        TYPEQ3 STA* ERNBR       STORE IN OUTPUT BUFFER                        01701278
1260  P0460 C8ED               LDA* TYPEQ1       ADDRESS OF QBUFR                              01701279
1261  P0461 0901               INA  1            ADDRESS OF EBUFR                              01701280
1262  P0462 0C05               ENQ  5            5 WORDS OUT                                   01701281
1263  P0463 5800  X            RTJ  TELOUT          OUTPUT MESSAGE TO TELETYPE                 01701282
      P0464 004B  X


1265                    *    ***************************************************************** 01701284
1266                    *       ROUTINE FOR OUTPUTTING Q TO THE COMMENT DEVICE                 01701285
1267                    *                                                                      01701286
1268                    *    ***************************************************************** 01701287
1269  P0465 C8E8        QOUT   LDA* TYPEQ1       ADDRESS OF QBUFR                              01701288
1270  P0466 E800  X            LDQ  ISAV            RESTORE INDEX I                           01701289
      P0467 0452  X
1271  P0468 40FF               STQ- I                                                         01701290
1272  P0469 0C01               ENQ  1                                                         01701291
1273  P046A 5800  X            RTJ  TELOUT          OUTPUT MESSAGE TO TELETYPE                01701292
      P046B 0464  X
1274  P046C 58CF               RTJ* BACKGR                                                    01701293
1275  P046D C139               LDA- INPADR,I    ADDR OF INPUT BUFFER                          01701294
1276  P046E 1800               JMP  CM45                                                      01701295
      P046F FC42
1277  P0470 58DD        TYPEQ9 RTJ* TYPEQ1                                                    01701296
1278  P0471 0A51        QBUFR  NUM  $0A51       LINE FEED AND CHARACTER Q                     01701297
1279  P0472 0A45        EBUFR  NUM  $0A45       LINE FEED AND CHAR   E                        01701298
1280  P0473 5252               ALF  3,RROR       ERROR MESSAGE                                 01701299
      P0474 4F52
```

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     P0475 2020
1281 P0476 0000   ERNBR  ADC  0          ASCII ERROR NBR                  01701300
1282 P0477 0842   QTYPE  CLR  Q          ERROR IF Q = 0                   01701301
1283 P0478 5800          RTJ  TYPEQ       TYPE ERROR AND Q, COMM MED       01701302
     P0479 FFD2
```

```
1285                *  ************************************************************01701304
1286                *     PROCESS *I, *O, AND *C CONTROL STATEMENTS                    01701305
1287                *                                                                  01701306
1288                *                  ACCEPTABLE LU ASSIGNMENTS                       01701307
1289                *                  INPUT.................LU                        01701308
1290                *                  PAPER TAPE            1                       01701309
1291                *                  CARD                   2          **MSOS 4.1**01701310
1292                *                  MAG TAPE              3           **MSOS 4.1**01701311
1293                *                                                                  01701312
1294                *                  OUTPUT................LU                        01701313
1295                *                  MASS MEMORY           4                       01701314
1296                *                  UNUSED(RESERVED)      5                       01701315
1297                *                                                                  01701316
1298                *                  LIST..................LU                        01701317
1299                *                  TELETYPE              6                       01701318
1300                *                  PRINTER               7                       01701319
1301                *                  DUMMY                 8                       01701320
1302                *  ************************************************************01701321

1304 P047A 0A00    STARI  ENA  0          PROCESS STATEMENT OF FORM *I,LU,EQUIP      01701323
1305 P047B 1804           JMP* SETIO                                                 01701324

1307 P047C 0A01    STARO  ENA  1          PROCESS STATEMENT OF FORM *O,LU,EQUIP      01701326
1308 P047D 1802           JMP* SETIO                                                 01701327

1310 P047E 0A02    STARC  ENA  2          PROCESS STATEMENT OF FORM *C,LU,EQUIP      01701329


1312 P047F 6843    SETIO  STA* SWTHIO     0=INPUT, 1=OUTPUT, 2=LIST                 01701331
1313 P0480 5800           RTJ  COMMA      IS DELIMETER A COMMA                       01701332
     P0481 FCA1
1314 P0482 183E           JMP* ILDEL      NO, TYPE ERROR E, Q                        01701333
1315 P0483 0A08           ENA  8          YES, PICKUP LOGICAL UNIT NUMBER            01701334
1316 P0484 6116           STA- SCANSW,I   SETTING BIT 3 OF SCANSW SAYS FETCH A NAME  01701335
1317 P0485 0844           CLR  A          OR DECIMAL NUMBER                          01701336
1318 P0486 5148           RTJ- SCAN,I                                                01701337
1319 P0487 C113           LDA- SYMSTR,I   IF SYMSTR EQUALS ZERO THE FIELD WAS NUMERIC01701338
1320 P0488 0102           SAZ  OKNB-*-1                                              01701339
1321 P0489 0A08    NOKNB  ENA  8          NAME APPEARS IN NUMBER FIELD               01701340
1322 P048A 1806           JMP* QTYPEX     TYPE ERROR 8, Q                            01701341
1323 P048B E149    OKNB   LDQ- SCNINP,I   PICKUP BINARY VALUE OF NUMBER             01701342
1324 P048C F800 X         ADQ  TABLE      IS THE NUMBER VALID (TABLE= -MAXLU-1 )     01701343
     P048D 7FFF X
1325 P048E 0173           SQM  LUOK-*-1   YES                                        01701344
1326 P048F 0A12    STIOER ENA  $12        NO, TYPE ERROR 12, Q                       01701345
1327 P0490 1800    QTYPEX JMP  QTYPE                                                 01701346
     P0491 FFE5
1328 P0492 E500    LUOK   LDQ  SCNINP,I                                             01701347
     P0493 0049
1329 P0494 5801           RTJ* ABS        CALCULATE THE ABSOLUTE ADDRESS  **MSOS 4.1**01701348
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1330 P0495 0000     ABS     NUM  0          OF THE L. U. TABLE                    **MSOS 4.1**01701349
1331 P0496 C8FE             LDA* ABS                                              **MSOS 4.1**01701350
1332 P0497 880C             ADD* REL                                              **MSOS 4.1**01701351
1333 P0498 880A             ADD* ATABLE                                           **MSOS 4.1**01701352
1334 P0499 0834             AAQ  A          ADDRESS OF THIS L.U. ENTRY            **MSOS 4.1**01701353
1335 P049A EA00 X           LDQ  TABLE,Q    REL. ADDRESS OF THIS L.U. DRIVER      **MSOS 4.1**01701354
     P049B 048D X
1336 P049C 0832             AAQ  Q                                                **MSOS 4.1**01701355
1337 P049D CE07             LDA* (ZERO),Q   IS THE REQUIRED MODULE LOADED         **MSOS 4.1**01701356
1338 P049E 0106             SAZ  DEVDEF     YES                                   **MSOS 4.1**01701357
1339 P049F 0900             INA  0                                                **MSOS 4.1**01701358
1340 P04A0 0114             SAN  DEVDEF-*-1 YES                                                01701359
1341 P04A1 18ED             JMP* STIOER     NO, OUTPUT ERROR 12, Q                             01701360
1342 P04A2 049B X ATABLE    ADC  TABLE                                            **MSOS 4.1**01701361
1343 P04A3 000D   REL       ADC  ATABLE-ABS                                       **MSOS 4.1**01701362
1344 P04A4 0000   ZERO      NUM  0                                                **MSOS 4.1**01701363
1345 P04A5 C500   DEVDEF    LDA  SCNINP,I                                         **MSOS 4.1**01701364
     P04A6 0049
1346 P04A7 E800             LDQ  SWTHIO                                                        01701365
     P04A8 001A
1347 P04A9 6A1A             STA* IN,Q       STORE ADDRESS OF DRIVER IN UNIT WORD               01701366
1348 P04AA 5835             RTJ* VALID      IS DELIMITER BLANK OR CARRIAGE RETURN              01701367
1349 P04AB 0151             SQN  OKNB1-*-1  NO, CHECK FOR COMMA                                01701368
1350 P04AC 1831             JMP* CM44EX     YES, TYPE Q AND INTERROGATE COMMENT MEDIUM         01701369
1351 P04AD 5800   OKNB1     RTJ  COMMA      IS DELIMETER A COMMA                               01701370
     P04AE FC74
1352 P04AF 1811             JMP* ILDEL      NO, OUTPUT ERROR E, Q                              01701371
1353 P04B0 5800             RTJ  GETHEX     YES, GET EQUIPMENT CODE                            01701372
     P04B1 FC6B
1354 P04B2 C113             LDA- SYMSTR,I   IS FIELD NUMERIC                                   01701373
1355 P04B3 0101             SAZ  OKNB2-*-1  YES                                                01701374
1356 P04B4 18D4             JMP* NOKNB      NO,OUTPUT ERROR 8, Q                               01701375
1357 P04B5 582A   OKNB2     RTJ* VALID      IS DELIMETER BLANK OR CARRIAGE RETURN              01701376
1358 P04B6 0141             SQZ  OKNB3-*-1  YES                                                01701377
1359 P04B7 1809             JMP* ILDEL      NO, OUTPUT ERROR E, Q                              01701378
1360 P04B8 C149   OKNB3     LDA- SCNINP,I   PICKUP FOUR DIGIT EQUIPMENT CODE                   01701379
1361 P04B9 E809             LDQ* SWTHIO     PICKUP INDEX TO CONTROL STATEMENT TYPE             01701380
1362 P04BA EA09             LDQ* IN,Q       PICKUP LOGICAL UNIT BEING SETUP BY STATEMENT       01701381
1363 P04BB 4807             STQ* SWTHIO     SAVE LOGICAL UNIT                                  01701382
1364 P04BC 0FA1             QLS  1          MULTIPLY LOGICAL UNIT BY THREE TO                  01701383
1365 P04BD F805             ADQ* SWTHIO     FORM INDEX TO UNIT TABLE                           01701384
1366 P04BE 1A05             JMP* IN,Q       STORE EQUIP CODE THEN GET NEXT STATEMENT           01701385
1367 P04BF 0000   DUMMY     NUM  0          SLOT FOR DUMMY DEVICES                             01701386
1368 P04C0 0A0E   ILDEL     ENA  14         ERROR E, ILLEGAL FIELD DELIMETER                   01701387
1369 P04C1 18B5   TYPIO     JMP* QTYPE      OUTPUT ERROR XX, Q                                 01701388
1370 P04C2 0000   SWTHIO    NUM  0          SWITCH DEFINING I/O DEVICE TYPE                    01701389
1371 P04C3 0000   IN        NUM  0          INPUT UNIT                                         01701390
1372 P04C4 0000   OU        NUM  0          OUTPUT UNIT                                        01701391
1373 P04C5 0000   CO        NUM  0          COMMENT UNIT                                       01701392
1374 P04C6 6800 X           STA  EPTAPE     SAVE EQUIPMENT FOR PAPER TAPE      **MSOS 4.1**01701393
     P04C7 7FFF X
1375 P04C8 1815             JMP* CM44EX                                                        01701394
1376 P04C9 6800 X           STA  ECARD      SAVE EQUIPMENT FOR CARD READER     **MSOS 4.1**01701395
     P04CA 7FFF X
```

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1377 P04CB 1812          JMP* CM44EX                                          01701396
1378 P04CC 6800 X        STA  EMTAPE      SAVE EQUIPMENT FOR MAG TAPE  **MSOS 4.1**01701397
     P04CD 7FFF X
1379 P04CE 180F          JMP* CM44EX                                          01701398
1380 P04CF 6800 X        STA  EMASS       SAVE EQUIPMENT FOR MASS MEMORY       01701399
     P04D0 7FFF X
1381 P04D1 180C          JMP* CM44EX                                          01701400
1382 P04D2 0B00          NOP  0           NO EQUIPMENT---UNUSED(RESERVED)      01701401
1383 P04D3 0B00          NOP  0                                                01701402
1384 P04D4 1809          JMP* CM44EX                                          01701403
1385 P04D5 6800 X        STA  ECOM        SAVE EQUIPMENT FOR COMMENT   **MSOS 4.1**01701404
     P04D6 7FFF X
1386 P04D7 1806          JMP* CM44EX                                          01701405
1387 P04D8 6800 X        STA  EPRINT      SAVE EQUIPMENT FOR PRINTER   **MSOS 4.1**01701406
     P04D9 7FFF X
1388 P04DA 1803          JMP* CM44EX                                          01701407
1389 P04DB 6800          STA  DUMMY       SLOT FOR DUMMY DEVICE          L.U. 8 01701408
     P04DC FFE2
1390 P04DD 1800   CM44EX JMP  CM44        NO, PROCESS NEXT CONTROL STATEMENT**MSOS 4.1**01701409
     P04DE FBD0
```

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1392                    *    ***************************************************************** 01701411
1393                    *      TEST FOR BLANK OR CARRIAGE RETURN AS FIELD TERM                 01701412
1394                    *    ***************************************************************** 01701413
1395 P04DF 0000    VALID  ADC  0              TEST FOR BLANK OR CARR RET                       01701414
1396 P04E0 5800 X         RTJ  OETERM         FETCH TERMINATOR                                 01701415
     P04F1 0125 X
1397 P04E2 0DFE           INQ  -1             TEST CONST FOR CARR RETURN                       01701416
1398 P04E3 0151           SQN  VAL10-*-1                                                       01701417
1399 P04E4 1CFA           JMP* (VALID)        CARRIAGE RETURN                                  01701418
1400 P04E5 0DFD    VAL10  INQ  -2             TEST CONST FOR BLANK                             01701419
1401 P04E6 1CF8           JMP* (VALID)        RETURN                                           01701420



1403                    *    ***************************************************************** 01701422
1404                    *      COMPUTE NEXT MASS STORAGE SECTOR NUMBER                         01701423
1405                    *    ***************************************************************** 01701424
1406 P04E7 0000    NXTSEC ADC  0                                                               01701425
1407 P04E8 0842           CLR  Q                                                               01701426
1408 P04E9 3000           DVI  =N96           96 WORDS PER SECTOR                              01701427
     P04EA 0060
1409 P04EB 0141           SQZ  NXT10-*-1      ZERO IMPLIES NO REMAINDER                        01701428
1410 P04EC 0901           INA  1                                                               01701429
1411 P04ED 8800    NXT10  ADD  LSSECT         LSB OF MASS STG SECT NBR                         01701430
     P04EE 0046
1412 P04EF 6800           STA  LSSECT         LSB OF MASS STG SECT NBR                         01701431
     P04F0 0044
1413 P04F1 1CF5           JMP* (NXTSEC)                                                        01701432
```

```
1415                    *     R O U T I N E   T O   P R O C E S S   * S , N A M E , H H H H  01701434
1417                    *     C O N T R O L   S T A T E M E N T                             01701436



1419                    *       STATEMENT   *S,NAME,H H H H   WHERE NAME IS A ONE TO SIX       01701438
1420                    *       CHARACTER NAME THAT WILL BE ENTERED INTO THE LOADER TABLE    01701439
1421                    *       WITH A VALUE OF H H H H. IF THE *S STATEMENT IS ENTERED BEFORE 01701440
1422                    *       THE FIRST *LP STATEMENT, THEN THE NAME AND ENTRY POINT WILL  01701441
1423                    *       RESIDE IN THE CREP TABLE AT TERMINATION OF INITIALIZATION.   01701442
1424                    *       IF THE *S STATEMENT FOLLOWS THE FIRST *LP STATEMENT, THEN    01701443
1425                    *       THE NAME AND VALUE WILL RESIDE IN THE CREP1 TABLE AFTER      01701444
1426                    *       INITIALIZATION IS COMPLETED.                                 01701445
1427                    *                                                                    01701446
1428  P04F2 5800        STARS   RTJ  COMMA          IS DELIMETER COMMA                       01701447
      P04F3 FC2F
1429  P04F4 18CB        SERR1   JMP* ILDEL          NO, TYPE ERROR E, Q                      01701448
1430  P04F5 0A08                ENA  8            SET BIT 3 OF SCAN SWITCH SAYING PICKUP AN  01701449
1431  P04F6 6116                STA- SCANSW,I     ASCII FIELD, SAVE THE ASCII CHARACTER CODES 01701450
1432  P04F7 0844                CLR  A            IN THE SYMSTR BLOCK, AND IF THE FIELD IS  01701451
1433  P04F8 514B                RTJ- SCAN,I       NUMERIC CONVERT THE NUMBER TO BINARY.     01701452
1434  P04F9 5800                RTJ  COMMA        IS FIELD DELIMETER A COMMA                01701453
      P04FA FC28
1435  P04FB 18F8                JMP* SERR1        NO, TYPE ERROR E, Q                       01701454
1436  P04FC C113                LDA- SYMSTR,I     YES, CHECK FOR NAME AND SAVE IT           01701455
1437  P04FD 0102                SAZ  SERR2-*-1    SYMSTR=0 IF A NUMERIC OPERAND WAS PROCESSED 01701456
1438  P04FE 9112                SUB- BLANKS,I     CHECK TO SEE IF NAME FIELD WAS BLANK      01701457
1439  P04FF 0112                SAN  SOK1-*-1     NOT BLANK                                 01701458
1440  P0500 0A02  SERR2         ENA  2            OUTPUT ERROR 2 - NUMBER APPEARS IN NAME FIELD 01701459
1441  P0501 18BF                JMP* TYPIO        OR NAME FIELD IS BLANK                    01701460
1442  P0502 C113  SOK1          LDA- SYMSTR,I     NAME OCCURRED SO SAVE IT                  01701461
1443  P0503 6806                STA* ENTRY                                                  01701462
1444  P0504 C114                LDA- SYMSTR+1,I                                             01701463
1445  P0505 6805                STA* ENTRY+1                                                01701464
1446  P0506 C115                LDA- SYMSTR+2,I                                             01701465
1447  P0507 6804                STA* ENTRY+2                                                01701466
1448  P0508 5805                RTJ* LOCENT       RETURN JUMP TO THE NEXT EXECUTABLE STATEMENT 01701467
1449  P0509 0003                BZS  ENTRY(3)     SO THE ADDRESS OF THE CODES FOR THIS NAME  01701468
1450  P050C 0000  VALUE         ADC  0            CAN BE PASSED TO THE LOADER               01701469
1451  P050D 0B00  LOCENT        NOP  0            ADDRESS OF ENTRY NAME IS STORED HERE BY RTJ 01701470
1452  P050E 5800                RTJ  GETHEX       PICKUP HEX FIELD                          01701471
      P050F FC0D
1453  P0510 58CE                RTJ* VALID        WAS DELIMETER CARRIAGE RETURN OR BLANK    01701472
1454  P0511 0141                SQZ  SOK2-*-1     YES                                       01701473
1455  P0512 18AD                JMP* ILDEL        NO, OUTPUT ERROR E, Q                     01701474
1456  P0513 C113  SOK2          LDA- SYMSTR,I     WAS FIELD NUMERIC                         01701475
1457  P0514 0113                SAN  TESTAL-*-1   NO                                        01701476
1458  P0515 C149                LDA- SCNINP,I     YES, PICKUP THE VALUE                     01701477
1459  P0516 68F5  VALU          STA* VALUE        AND SAVE IT                               01701478
1460  P0517 180C                JMP* LDRTAB       MAKE ENTRY TO LOADER TABLE                01701479
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1461 P0518 0F48    TESTAL ARS  8          COME HERE IF FIELD 2 IS NOT NUMERIC          01701480
1462 P0519 09AF           INA  -$50        IS THE FIELD P                               01701481
1463 P051A 0112           SAN  NOTP-*-1    NO                                           01701482
1464 P051B C103           LDA- PROBAS,I    IF FIELD CONTAINED P AS FIRST CHARACTER, THEN 01701483
1465 P051C 18F9           JMP* VALU        SET THE ENTRY POINT TO THE PROGRAM BASE      01701484
1466 P051D 09FC    NOTP   INA  -3          IS THE FIELD S                               01701485
1467 P051E 0101           SAZ  SOK3-*-1    NO,                                          01701486
1468 P051F 18E0           JMP* SERR2       ILLEGAL STATEMENT FORMAT                     01701487
1469 P0520 C800    SOK3   LDA  LSSECT      YES, PICKUP THE LSB OF CURRENT MASS STORAGE  01701488
     P0521 0013
1470 P0522 18F3           JMP* VALU        SECTOR AS VALUE FOR ENTRY POINT              01701489
1471 P0523 610D    LDRTAB STA- ENTPNT,I    VALUE ASSOCIATED WITH ENTRY POINT NAME       01701490
1472 P0524 C8E8           LDA* LOCENT                                                   01701491
1473 P0525 610F           STA- INPCTR,I    ADDRESS OF ENTRY POINT NAME                  01701492
1474 P0526 5128           RTJ- TABSCH,I    IS THIS NAME ALREADY IN THE LOADER TABLE     01701493
1475 P0527 E11C           LDQ- SW6,I                                                    01701494
1476 P0528 0171           SQM  NIN-*-1     NO, GO DOWN AND PUT IT INTO THE TABLE        01701495
1477 P0529 1809           JMP* CM20EX      YES, IGNORE THIS *S STATEMENT                01701496
1478 P052A 0A04    NIN    ENA  4                                                        01701497
1479 P052B 914E           SUB- CSNAME,I    IS THIS AN *M OR *MP LOAD                    01701498
1480 P052C 0123           SAP  NIN1-*-1    NO, STORE ENTRY                              01701499
1481 P052D C18B           LDA- ECREP,I     YES, BUMP END OF CREP TABLE                  01701500
1482 P052E 0904           INA  4                                                        01701501
1483 P052F 618B           STA- ECREP,I                                                  01701502
1484 P0530 5800  X NIN1   RTJ  ENTSTR      PUT NEW ENTRY POINT INTO TABLE               01701503
     P0531 7FFF  X
1485 P0532 1800    CM20EX JMP  CM20        GET NEXT CONTROL STATEMENT                   01701504
     P0533 FB75
1486 P0534 0000    LSSECT NUM  0           STARTING COMMAND SEQUENCE SECTOR             01701505
```

```
1489                    *                                                                    01701508
1490                    *  ***************************************************************  01701509
1491                    *                                                                    01701510
1492                    *                    PROCESS  *U  STATEMENT                          01701511
1493                    *                                                                    01701512
1494                    *  ***************************************************************  01701513
1495  P0535 58A9        STARU  RTJ* VALID          IS DELIMETER CR OR BLANK                  01701514
1496  P0536 015A               SQN  ILDEL2-*-1                                               01701515
1497  P0537 0844               CLR  A             YES, SET FOR INITIALIZER TO INTERROGATE    01701516
1498  P0538 6150               STA- INMED,I       COMMENT MEDIUM.                            01701517
1499  P0539 1800               JMP  CM44          *U..TYPE Q, INTERROGATE COMMENT MEDIUM     01701518
      P053A FB74
1500                    *                                                                    01701519
1501                    *  ***************************************************************  01701520
1502                    *                                                                    01701521
1503                    *                    PROCESS  *V  STATEMENT                          01701522
1504                    *                                                                    01701523
1505                    *  ***************************************************************  01701524
1506  P053B 58A3        STARV  RTJ* VALID          IS DELIMETER CR OR BLANK                  01701525
1507  P053C 0154               SQN  ILDEL2-*-1                                               01701526
1508  P053D 0A01               ENA  1             YES, SET FOR INITIALIZER TO INTERROGATE    01701527
1509  P053E 6150               STA- INMED,I       INPUT MEDIUM.                              01701528
1510  P053F 1800               JMP  CM20          BACKGROUND BUFFER, GET NEXT INPUT          01701529
      P0540 FB68
1511  P0541 18B2        ILDEL2 JMP* SERR1         TYPE ERROR E, Q                            01701530
1512                    *                                                                    01701531
1513                    *********************************************************            01701532
1514                    *                                                       *            01701533
1515                    *                PROCESS *D STATEMENT                   *            01701534
1516                    *                                                       *            01701535
1517                    *********************************************************            01701536
1518                    *                                                                    01701537
1519  P0542 589C        STARD  RTJ* VALID          IS DELIMITER CARRIAGE RETURN               01701538
1520                    *                          OR A BLANK                                01701539
1521  P0543 0141               SQZ  CONT                                                     01701540
1522  P0544 18FC               JMP* ILDEL2                                                   01701541
1523  P0545 0A00        CONT   ENA  0             ZERO TO RELOCATION                         01701542
1524  P0546 6102               STA- DATBAS,I      BASE FOR DATA STORAGE                      01701543
1525  P0547 6105               STA- DATLIM,I      HIGHEST ADDR.DATA STG+1                    01701544
1526  P0548 0846               CLR  A,Q                                                      01701545
1527  P0549 5800 X             RTJ  ILOAD         LOAD THE PROGRAM                           01701546
      P054A 0405 X
1528  P054B 1800               JMP  CM65          GO PROCESS NEXT CONTROL STATEMENT          01701547
      P054C FB70
```

```
1530                ********************************************************************************01701549
1531                *                                                                              *01701550
1532                *                          PROCESS *G STATEMENT                                *01701551
1533                *                                                                              *01701552
1534                ********************************************************************************01701553

1536 P054D 5891    STARG RTJ*  VALID          CHECK VALID DELIMITER                                 01701555
1537 P054E 0141           SQZ  VALOK                                                               01701556
1538 P054F 18F1           JMP* ILDEL2          ERROR * AND REQUEST WITH Q                          01701557
1539 P0550 E800  X VALOK  LDQ  EMASS           GET DISK STATUS ADDRESS                             01701558
     P0551 0400  X
1540 P0552 0230           INP  ERDISK-*        TAKE STATUS TO DETERMINE ACTIVE DISK                01701559
1541 P0553 5811           RTJ* WAT             GET ADDRESS                                         01701560
1542 P0554 454E           ALF  15,ENABLE ADDRESS WRITE--THEN CR                                    01701561
     P0555 4142
     P0556 4C45
     P0557 2041
     P0558 4444
     P0559 5245
     P055A 5353
     P055B 2057
     P055C 5249
     P055D 5445
     P055E 2D2D
     P055F 5448
     P0560 454E
     P0561 2043
     P0562 5220
1543 P0563 000A           NUM  $000A           CR,LF                                               01701562
1544 P0564 0000    WAT    NUM  0                                                                   01701563
1545 P0565 0C10           ENQ 16               WRITE 16 WORDS                                      01701564
1546 P0566 C8FD           LDA* WAT             OUTPUT BUFFER ADDRESS                               01701565
1547 P0567 5800  X        RTJ  TELOUT          WRITE MESSAGE                                       01701566
     P0568 0468  X
1548 P0569 0842           CLR  Q               READ CR ENTRY                                       01701567
1549 P056A C139           LDA- INPADR,I                                                            01701568
1550 P056B 5800  X        RTJ  QCOM                                                                01701569
     P056C 00C0  X
1551 P056D 0804           SET  A               SET FLAG FOR ADDRESS WRITE                          01701570
1552 P056E 5800  X        RTJ  QMASS           WRITE TAGS                                          01701571
     P056F 7FFF  X
1553 P0570 0102           SAZ  DKERR           (A)=0 INDICATES ERROR                               01701572
1554 P0571 1800           JMP  CM20            NO ERROR -- PRINT Q                                 01701573
     P0572 FB36
1555 P0573 5808   DKERR RTJ*  DSKER           PRINT ERROR                                         01701574
1556 P0574 4449           ALF  06,DISK ERROR                                                       01701575
     P0575 5348
     P0576 2045
     P0577 5252
     P0578 4F52
     P0579 2020
1557 P057A 00CA           NUM  $00D0                                                               01701576
```

```
1558 P057B 0000    DSKER  NUM  0                                        01701577
1559 P057C 0C07           ENQ  7              PRINT ERROR MESSAGE       01701578
1560 P057D C8FD           LDA* DSKER                                    01701579
1561 P057E 5800 X         RTJ  TELOUT                                   01701580
     P057F 0568 X
1562 P0580 1800           JMP  CM20           GO TO PRINT Q             01701581
     P0581 FB27
1563 P0582 0B00    ERDISK NOP  0              REJECT PATH               01701582
1564 P0583 5808           RTJ* DISKER                                   01701583
1565 P0584 4449           ALF  6,DISK REJECT                            01701584
     P0585 534B
     P0586 2052
     P0587 454A
     P0588 4543
     P0589 5420
1566 P058A 0D0A           NUM  $0D0A                                    01701585
1567 P058B 0000    DISKER NUM  0                                        01701586
1568 P058C 0C07           ENQ  7              PRINT REJECT MESSAGE      01701587
1569 P058D C8FD           LDA* DISKER                                   01701588
1570 P058E 5800 X         RTJ  TELOUT                                   01701589
     P058F 057F X
1571 P0590 1800           JMP  CM20           GO TO PRINT Q             01701590
     P0591 FB17
```

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1573                ********************************************************************************01701592
1574                *                                                                              *01701593
1575                *                          PROCESS *H STATEMENT                                *01701594
1576                *                                                                              *01701595
1577                ********************************************************************************01701596

1579 P0592 5800    STARH  RTJ  COMMA          IS DELIMITER A COMMA                                 01701598
     P0593 FB8F
1580 P0594 18AC           JMP* ILDEL2         NO, ERROR E                                          01701599
1581 P0595 5800           RTJ  GETHEX         GET STOP SECTOR                                      01701600
     P0596 FB86
1582 P0597 C113           LDA- SYMSTR,I       CHECK NUMERIC FIELD                                  01701601
1583 P0598 0102           SAZ  OKNH                                                                01701602
1584 P0599 1800           JMP  NOKNB          NO, ERROR 8                                          01701603
     P059A FEEE
1585 P059B C149    OKNH   LDA- SCNINP,I       SAVE STOP SECTOR NUMBER                              01701604
1586 P059C 6800           STA  TSECT                                                               01701605
     P059D 0121
1587 P059E 5800           RTJ  VALID          CHECK FOR CR OR BLANK                                01701606
     P059F FF3F
1588 P05A0 0141           SQZ  TERMH                                                               01701607
1589 P05A1 189F           JMP* ILDEL2         NO, ERROR E                                          01701608
1590 P05A2 0804    TERMH  SET  A              FIRST PATTERN - ALL ONES                             01701609
1591 P05A3 6826           STA* PTN                                                                 01701610
1592 P05A4 C0FF           LDA- I                                                                   01701611
1593 P05A5 683F           STA* PTNI           SAVE TABLE POINTER                                   01701612
1594 P05A6 581A           RTJ* SETPTN                                                              01701613
1595 P05A7 0804           SET  A                                                                   01701614
1596 P05A8 683B           STA* PTN1                                                                01701615
1597 P05A9 5821           RTJ* WPTN                                                                01701616
1598 P05AA 583B           RTJ* RPTN                                                                01701617
1599 P05AB C000           LDA  =N$5555        PATTERN $5555                                        01701618
     P05AC 5555
1600 P05AD 681C           STA* PTN                                                                 01701619
1601 P05AE 0844           CLR  A                                                                   01701620
1602 P05AF 6834           STA* PTN1                                                                01701621
1603 P05B0 5810           RTJ* SETPTN                                                              01701622
1604 P05B1 5819           RTJ* WPTN                                                                01701623
1605 P05B2 5833           RTJ* RPTN                                                                01701624
1606 P05B3 C000           LDA  =N$AAAA        PATTERN $AAAA                                        01701625
     P05B4 AAAA
1607 P05B5 6814           STA* PTN                                                                 01701626
1608 P05B6 580A           RTJ* SETPTN                                                              01701627
1609 P05B7 5813           RTJ* WPTN                                                                01701628
1610 P05B8 582D           RTJ* RPTN                                                                01701629
1611 P05B9 0844           CLR  A              PATTERN 0                                            01701630
1612 P05BA 680F           STA* PTN                                                                 01701631
1613 P05BB 5805           RTJ* SETPTN                                                              01701632
1614 P05BC 580E           RTJ* WPTN                                                                01701633
1615 P05BD 5828           RTJ* RPTN                                                                01701634
1616 P05BE 1800           JMP  CM20           COMPLETED                                            01701635
     P05BF FAE9
```

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1618 P05C0 0000   SETPTN NUM  0              SET BUFFER TO PATTERN                01701637
1619 P05C1 0C5F          ENQ  95                                                  01701638
1620 P05C2 C807          LDA* PTN            GET DATA PATTERN                    01701639
1621 P05C3 6A00  PTNSET  STA  PTNBUF,Q                                           01701640
     P05C4 009A
1622 P05C5 0DFE          INQ  -1                                                 01701641
1623 P05C6 0171          SOM  RTNPTN                                             01701642
1624 P05C7 18FB          JMP* PTNSET                                             01701643
1625 P05C8 1CF7  RTNPTN  JMP* (SETPTN)                                           01701644
1626 P05C9 0000  PTN     NUM  0                                                  01701645


1628 P05CA 0000  WPTN    NUM  0              WRITE DATA                          01701647
1629 P05CB 0C00          ENQ  0              SET ZERO SECTOR ADDRESS             01701648
1630 P05CC 40FF          STQ- I              SECTOR ADDRESS                      01701649
1631 P05CD 5801  LWPTN   RTJ* FWA                                                01701650
1632 P05CE 0000  FWA     NUM  0                                                  01701651
1633 P05CF C8FE          LDA* FWA            COMPUTE BUFFER ADDRESS              01701652
1634 P05D0 8000          ADD  =XPTNBUF-FWA                                       01701653
     P05D1 0090
1635 P05D2 0C9F          ENQ  -96                                                01701654
1636 P05D3 5800  X       RTJ  QMASS          WRITE SECTOR                        01701655
     P05D4 056F  X
1637 P05D5 0136          SAM  GODY           SKIP, NO ERROR                      01701656
1638 P05D6 0814          TRQ  A                                                  01701657
1639 P05D7 09F8          INA  -7                                                 01701658
1640 P05D8 0112          SAN  BADERR         SKIP NO COMPARE ERROR               01701659
1641 P05D9 C80A          LDA* PTN1                                               01701660
1642 P05DA 0131          SAM  GODY           FIRST WRITE--COMPARE OK             01701661
1643 P05DB 1869  BADERR  JMP* PTNERR         PRINT ERROR                         01701662
1644 P05DC D0FF  GODY    RAO- I              CHECK LIMITS                        01701663
1645 P05DD C0FF          LDA- I                                                  01701664
1646             *                           1 CARD DELETED                      01701665
1647 P05DE 9800          SUB  TSECT                                              01701666
     P05DF 00DF
1648 P05E0 0101          SAZ  WDONE          SKIP IF ALL WRITTEN                 01701667
1649 P05E1 18E8          JMP* LWPTN          DO MORE                             01701668
1650 P05E2 1CE7  WDONE   JMP* (WPTN)                                             01701669
1651 P05E3 0000  PTN1    NUM  0                                                  01701670
1652 P05E4 0000  PTN1    NUM  0                                                  01701671
1653             *                           1 CARD DELETED                      01701672


1655 P05E5 0000  RPTN    NUM  0              READ DATA                           01701674
1656 P05E6 0C00          ENQ  0              SET ZERO SECTOR ADDRESS             01701675
```

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1657 P05E7 4800          STO  CURSCT                                          01701676
     P05E8 00D7
1658 P05E9 40FF   LRPTN  STQ- I                                               01701677
1659 P05EA 5801          RTJ* RFWA                                            01701678
1660 P05EB 0000   RFWA   NUM  0              READ DATA SUBROUTINE             01701679
1661 P05EC C8FE          LDA* RFWA                                            01701680
1662 P05ED 8000          ADD  =XPTNBUF-RFWA  COMPUTE BUFFER ADDRESS           01701681
     P05EE 0073
1663 P05EF 0C60          ENQ  96                                              01701682
1664 P05F0 5800 X        RTJ  QMASS          READ SECTOR OF DATA              01701683
     P05F1 05D4 X
1665 P05F2 0131          SAM  RGODY                                           01701684
1666 P05F3 1851          JMP* PTNERR         DISK ERROR - PRINT MESSAGE AND EXIT 01701685
1667 P05F4 0C5F   RGODY  ENQ  95             LOOP TO CHECK PATTERN            01701686
1668 P05F5 CA69   RGODYA LDA* PTNBUF,Q                                        01701687
1669 P05F6 B8D2          EOR* PTN                                             01701688
1670 P05F7 0114          SAN  NOMTCH         ZERO INDICATES GOOD MATCH        01701689
1671 P05F8 0DFE          INQ  -1             SEE IF SECTOR DONE               01701690
1672 P05F9 0171          SQM  SECNXT                                          01701691
1673 P05FA 18FA          JMP* RGODYA         MORE THIS SECTOR                 01701692
1674 P05FB 183F   SECNXT JMP* BMPSCT         GO TO NEXT SECTOR                01701693
1675 P05FC C8E7   NOMTCH LDA* PTNI           FAILED SECTOR, RESTORE TABLE POINTER 01701694
1676 P05FD 60FF          STA- I                                               01701695
1677 P05FE C800          LDA  CURSCT                                          01701696
     P05FF 00C0
1678                     *                   1 CARD REMOVED FOR PSR 90*2673   01701697
1679 P0600 515A          RTJ- CONVRT,I       CONVERT TO ASCII                 01701698
1680 P0601 C133          LDA- BINASC,I       STORE IN MESSAGE BUFFER          01701699
1681 P0602 6823          STA* COMBUF+13                                       01701700
1682 P0603 C134          LDA- BINASC+1,I                                      01701701
1683 P0604 6822          STA* COMBUF+14                                       01701702
1684 P0605 0814          TRQ  A              FAILED WORD                      01701703
1685 P0606 515A          RTJ- CONVRT,I                                        01701704
1686 P0607 C133          LDA- BINASC,I                                        01701705
1687 P0608 6822          STA* COMBUF+18                                       01701706
1688 P0609 C134          LDA- BINASC+1,I                                      01701707
1689 P060A 6821          STA* COMBUF+19                                       01701708
1690 P060B CA53          LDA* PTNBUF,Q       BAD PATTERN READ                 01701709
1691 P060C 515A          RTJ- CONVRT,I                                        01701710
1692 P060D C133          LDA- BINASC,I                                        01701711
1693 P060E 6820          STA* COMBUF+22                                       01701712
1694 P060F C134          LDA- BINASC+1,I                                      01701713
1695 P0610 681F          STA* COMBUF+23                                       01701714
1696 P0611 C8B7          LDA* PTN            EXPECTED PATTERN                 01701715
1697 P0612 515A          RTJ- CONVRT,I                                        01701716
1698 P0613 C133          LDA- BINASC,I                                        01701717
1699 P0614 681E          STA* COMBUF+26                                       01701718
1700 P0615 C134          LDA- BINASC+1,I                                      01701719
1701 P0616 681D          STA* COMBUF+27                                       01701720
1702 P0617 581E          RTJ* COMMSG         PRINT MESSAGE                    01701721
1703 P0618 4449   COMBJF ALF  28,DISK COMPARE ERROR   SECT XXXX WORD XXXX IS XXXX SB XXXX 01701722
     P0619 534B
     P061A 2043
     P061B 4F4D
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         P061C 5041
         P061D 5245
         P061E 2045
         P061F 5252
         P0620 4F52
         P0621 2020
         P0622 2053
         P0623 4543
         P0624 5420
         P0625 5858
         P0626 5858
         P0627 2057
         P0628 4F52
         P0629 4420
         P062A 5858
         P062B 5858
         P062C 2049
         P062D 5320
         P062E 5858
         P062F 5858
         P0630 2053
         P0631 4220
         P0632 5858
         P0633 5858
1704     P0634 0D0A          NUM   $0D0A                                    01701723
1705     P0635 0000  COMMSG  NUM   0                                       01701724
1706     P0636 C8FE          LDA*  COMMSG                                  01701725
1707     P0637 0C1D          ENQ   29                                      01701726
1708     P0638 5800  X       RTJ   TELOUT                                  01701727
         P0639 058F  X
1709     P063A E800  BMPSCT  LDQ   CURSCT      LOOK AT NEXT SECTOR-ONE ERROR PER SECT  01701728
         P063B 0084
1710     P063C 0D01          INQ   1           HAVE ALL SECTORS BEEN READ    01701729
1711     P063D 4800          STQ   CURSCT                                    01701730
         P063E 0081
1712     P063F 0814          TRQ   A                                         01701731
1713                 *                        1 CARD DELETED                01701732
1714     P0640 987E          SUB*  TSECT                                     01701733
1715     P0641 0101          SAZ   RDONE       ZERO INDICATES ALL DONE       01701734
1716     P0642 18A6          JMP*  LRPTN       GO TO NEXT SECTOR             01701735
1717     P0643 1CA1  RDONE   JMP*  (RPTN)      RETURN - ALL READS DONE       01701736


1719     P0644 C89F  PTNERR  LDA*  PTNI        DISK FAILURE ERROR            01701738
1720     P0645 60FF          STA-  I                                         01701739
1721     P0646 0814          TRQ   A                                         01701740
1722     P0647 515A          RTJ-  CONVRT,I    CONVERT ERROR TO ASCII        01701741
1723     P0648 C133          LDA-  BINASC,I    STORE IN MESSAGE              01701742
1724     P0649 680B          STA*  DFAIL+7                                   01701743
1725     P064A C134          LDA-  BINASC+1,I                                01701744
1726     P064B 680A          STA*  DFAIL+8                                   01701745
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1727 P064C 580B          RTJ* FALMSG        PRINT MESSAGE                    01701746
1728 P064D 4449  DFAIL   ALF  09,DISK FAILURE  XXXX                          01701747
     P064E 534B
     P064F 2046
     P0650 4149
     P0651 4C55
     P0652 5245
     P0653 2020
     P0654 5858
     P0655 5858
1729 P0656 0D0A          NUM  $0D0A                                           01701748
1730 P0657 0000  FALMSG  NUM  0                                              01701749
1731 P0658 C8FF          LDA* FALMSG                                         01701750
1732 P0659 0C0A          ENQ  10                                             01701751
1733 P065A 5800 X        RTJ  TELOUT                                         01701752
     P065B 0639 X
1734 P065C 1800          JMP  CM20          FATAL ERROR, EXIT TO GET NEXT STATEMEN 01701753
     P065D FA4B
1735 P065E 0060  PTNBUF  BZS  PTNBUF(96)                                     01701754
1736 P06BE 0000  TSECT   NUM  0                                              01701755
1737 P06BF 0000  CURSCT  NUM  0                                              01701756
```

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1739                    *     R O U T I N E   T O   P R O C E S S   * T                    01701758



1741 P06C0 5800 X START RTJ  WRTOUT       WRITE OUT THE RESULT OF THE LAST *M OR *MP    01701760
     P06C1 0382 X
1742 P06C2 5800         RTJ  M7A          UPDATE LSSECT AND PAGES                       01701761
     P06C3 FBF1                                                                       01701762
1743 P06C4 0A00         ENA  0                                                         01701763
1744 P06C5 614E         STA- CSNAME,I     CLEAR CONTROL STATEMENT INDICATOR            01701764
1745 P06C6 6177         STA- CORADR,I     RESET THE START OF THE PAGING AREA TO ZERO   01701765
1746 P06C7 C195         LDA- FLGBS1,I     RESET THE BASE OF THE FLAG TABLE TO          01701766
1747 P06C8 6191         STA- FLGBSE,I     THE FLAGS FOR SYSTEM PAGES                   01701767
1748 P06C9 C166         LDA- SYSPGE,I     REBUILD THOSE PAGES WRITTEN OUT TO           01701768
1749 P06CA 6182         STA- NOPAGE,I     MAKE ROOM FOR *M AND *MP LOADS               01701769
1750 P06CB C800 X       LDA  LENSDT       SETUP COUNTER EQUAL TO THE COMPLIMENT66*1455  01701770
     P06CC 0184 X
1751 P06CD 0864         TCA  A            OF THE NUMBER OF PAGES (LENSDT)              01701771
1752 P06CE 6863         STA* PCOUNT                                                    01701772
1753 P06CF E191         LDQ- FLGBSE,I     PICKUP THE START OF THE FLAG TABLE           01701773
1754 P06D0 0A01   T0    ENA  1                                                         01701774
1755 P06D1 6203         STA- MODIFY,Q     SET THE MODIFIED FLAG FOR THIS PAGE          01701775
1756 P06D2 085F         RAO* PCOUNT       INCREMENT THE PAGE COUNTER                   01701776
1757 P06D3 C85E         LDA* PCOUNT       HAS THE FLAG BEEN SET FOR ALL LENSDT PAGES   01701777
1758 P06D4 0102         SAZ  T0A-*-1      YES                                          01701778
1759 P06D5 0D03         INQ  3            NO,INCREMENT POINTER TO THE NEXT SET OF FLAGS 01701779
1760 P06D6 18F9         JMP* T0           LOOP BACK TO SET NEXT FLAG                   01701780
1761 P06D7 C800   T0A   LDA  LSSECT       TEMPORARILY SAVE LSSECT                      01701781
     P06D8 FE5B                                                                       01701782
1762 P06D9 685A         STA*  TMPSEC                                                   01701783
1763 P06DA 0A05         ENA  5            RESTORE LSSECT SO IT WILL POINT TO           01701784
1764 P06DB 6800         STA  LSSECT       THE START OF CORE IMAGE                      01701785
     P06DC FE57                                                                       01701786
1765 P06DD C800 X       LDA  LENSDT       NUMBER OF CORE RESIDENT PAGES      66*1455   01701787
     P06DE 06CC X                                                                     01701788
1766 P06DF 2132         MUI- FLGLGN,I     MULTIPLY BY THE NUMBER OF FLAGS/PAGE AND     01701789
1767 P06E0 8191         ADD- FLGBSE,I     ADD ON THE BASE OF THE FLAG TABLE TO         01701790
1768 P06E1 684F         STA* BLDADD       FIND THE START OF THE PAGES TO REBUILD       01701791
1769 P06E2 C800 X       LDA  LENSDT       NUMBER OF CORE RESIDENT PAGES      66*1455   01701792
     P06E3 06DE X                                                                     01701793
1770 P06E4 9182         SUB- NOPAGE,I     COMPUTE A COUNTER FOR THE PAGES TO BE        01701794
1771 P06E5 684C         STA* PCOUNT       READ IN FROM MASS STORAGE                    01701795
1772 P06E6 C800 X       LDA  LENSDT       COMPUTE ADDRESS OF THE PAGE TO -   66*1455   01701796
     P06E7 06E3 X                                                                     01701797
1773 P06E8 217A         MUI- PAGE,I       BE READ IN
1774 P06E9 6849         STA* PAGADD
1775 P06EA E846   T1    LDQ* BLDADD       PICKUP THE BASE FLAG ADDRESS FOR REBUILD
1776 P06EB C201         LDA- PGENUM,Q     READ THE PAGE BACK INTO CORE
1777 P06EC 5800 X       RTJ  FNDSEC       CONVERT PAGE NUMBER TO SECTOR ADDRESS
     P06ED 7FFF X
1778 P06EE C844         LDA* PAGADD       PICKUP ADDRESS TO READ INTO
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1779 P06EF 5800 X        RTJ  MDRIV          READ THE PAGE INTO CORE                    01701798
     P06F0 7FFF X
1780 P06F1 E800 X        LDQ  ISAV                                                   01701799
     P06F2 0467 X
1781 P06F3 40FF          STQ- I              RESTORE THE I-REGISTER                  01701800
1782 P06F4 0111          SAN  T2-*-1         SKIP IF NO ERROR                        01701801
1783 P06F5 1824          JMP* T21            IRRECOVERABLE MASS STORAGE ERROR        01701802
1784 P06F6 D83B   T2     RAO* PCOUNT         INCREMENT THE PAGE COUNTER              01701803
1785 P06F7 C83A          LDA* PCOUNT         HAVE ALL PAGES BEEN READ BACK IN        01701804
1786 P06F8 0107          SAZ  T2A-*-1        YES, GO ON TO LINK STAGE                01701805
1787 P06F9 E837          LDQ* BLDADD         UPDATE THE POINTER TO THE FLAGS FOR THE 01701806
1788 P06FA 0003          INQ  3              NEXT PAGE TO REBUILD                    01701807
1789 P06FB 4835          STQ* BLDADD                                                 01701808
1790 P06FC C836          LDA* PAGADD         INCREMENT THE ADDRESS COUNTER TO THE    01701809
1791 P06FD 817A          ADD- PAGE,I         CORE ADDRESS FOR THE NEXT PAGE          01701810
1792 P06FE 6834          STA* PAGADD                                                 01701811
1793 P06FF 18EA          JMP* T1             GO TO GET NEXT PAGE                     01701812
1794 P0700 C800   T2A    LDA  STRTEX         RESTORE THE EXTERNAL POINTER TO THE START 01701813
     P0701 FB9F
1795 P0702 6176          STA- EXTSTR,I       OF THE SYSTEM EXTERNAL TABLE            01701814
1796 P0703 C800          LDA  ENDEXT         RESTORE THE EXTERNAL POINTER TO THE END 01701815
     P0704 FB9E
1797 P0705 6107          STA- EXTCTR,I       OF THE SYSTEM EXTERNAL TABLE            01701816
1798 P0706 5800          RTJ  LDCREP         SETUP POINTERS FOR A LINK TO CREP       01701817
     P0707 FD28
1799 P0708 5804          RTJ* T20                                                    01701818
1800 P0709 5354          ALF  3,STMSV4                                               01701819
     P070A 4D53
     P070B 5634
1801 P070C 0B00   T20    NOP  0                                                      01701820
1802 P070D C8FE          LDA* T20                                                    01701821
1803 P070E 610F          STA- INPCTR,I                                               01701822
1804 P070F 5128          RTJ- TABSCH,I       FIND THE ENTRY POINT STMSV4             01701823
1805 P0710 E11C          LDQ- SW6,I                                                  01701824
1806 P0711 0177          SQM  T21-*-1        SKIP IF STMSV4 NOT DEFINED              01701825
1807 P0712 5800 X        RTJ  I2             WRITE OUT THE AUTOLOAD SECTOR           01701826
     P0713 003D X
1808 P0714 E800 X        LDQ  ISAV                                                   01701827
     P0715 06F2 X
1809 P0716 40FF          STQ- I              RESTORE THE I-REGISTER                  01701828
1810 P0717 0101          SAZ  T21-*-1        SKIP IF ERROR                           01701829
1811 P0718 1804          JMP* T3                                                     01701830
1812 P0719 0A16   T21    ENA  $16            IRRECOVERABLE MASS STORAGE ERROR        01701831
1813 P071A 1800          JMP  QTYPE                                                  01701832
     P071B FD5B
1814 P071C C101   T3     LDA- COMBAS,I       SET START OF SYSTEM COMMON              01701833
1815 P071D 0C10          ENQ  16             INTO THE EXTENDED CORE TABLE.           01701834
1816 P071E 66E9          STA- (*E9),Q                                                01701835
1817 P071F 0C0A          ENQ  10             PICK UP UNPROTECTED FLAG FROM WORD      01701836
1818 P0720 E6E9          LDQ- (*E9),Q        10 OF EXTENDED CORE TABLE               01701837
1819 P0721 0151          SQN  T3A-*-1        SKIP IF UNPROTECTED IN PART1            01701838
1820 P0722 182B          JMP* T10            GO TO HANDLE UNPROTECTED IN PART 0      01701839
1821 P0723 C800   T3A    LDA  MSIZV4                                                 01701840
     P0724 FB3A
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1822 P0725 0102          SAZ  T5-*-1      SKIP IF MSIZV4 HAS NOT BEEN USED BY SI          01701841
1823 P0726 60F6   T4     STA- $F6         SET F6 TO MSIZV4  (END OF PART1)                01701842
1824 P0727 1804          JMP* T6                                                          01701843
1825 P0728 5800   T5     RTJ  LP11A       GO TO GET MSIZV4                                01701844
     P0729 FB08
1826 P072A 18FB          JMP* T4                                                          01701845
1827 P072B C800   T6     LDA  LPENDC      WERE THERE ANY *LP LOADS                        01701846
     P072C 0130
1828 P072D 0106          SAZ  T8-*-1      NO, USE LSTLOC FOR END OF PART1                 01701847
1829 P072E 60F7   T7     STA- $F7         YES, USE END OF *LP LOADS FOR END OF PART1      01701848
1830 P072F 182E          JMP* T11                                                         01701849
1831 P0730 0000   BLDADD NUM  0                                                          01701850
1832 P0731 0000   PCOUNT NUM  0                                                          01701851
1833 P0732 0000   PAGADD NUM  0                                                          01701852
1834 P0733 0000   TMPSEC NUM  0                                                          01701853
1835 P0734 C800   T8     LDA  LSTLOC      HAS LSTLOC BEEN DEFINED                         01701854
     P0735 FB28
1836 P0736 0101          SAZ  T8A-*-1     NO, SEE IF IT EXISTS                            01701855
1837 P0737 18F6          JMP* T7          YES, USE LSTLOC FOR F7                          01701856
1838 P0738 5800   T8A    RTJ  LCREP       POINT TO CREP TO FIND LSTLOC                    01701857
     P0739 FCF6
1839 P073A 5804          RTJ* T8B                                                         01701858
1840 P073B 4C53          ALF  3,LSTLOC                                                    01701859
     P073C 544C
     P073D 4F43
1841 P073E C800   T8B    NOP  0                                                          01701860
1842 P073F C8FE          LDA* T8B                                                        01701861
1843 P0740 610F          STA- INPCTR,I                                                   01701862
1844 P0741 5128          RTJ- TABSCH,I                                                   01701863
1845 P0742 E11C          LDO- SW6,I       IS LSTLOC DEFINED                              01701864
1846 P0743 0161          SQP  T8C-*-1     YES, USE IT AS THE START OF UNPROTECTED        01701865
1847 P0744 1806          JMP* T9          NO, USE ENDOV4 AS THE START OF UNPROTECTED      01701866
1848 P0745 09FE   T8C    INA  -1                                                         01701867
1849 P0746 0822          TRA  Q                                                          01701868
1850 P0747 C201          LDA- 1,Q         PICKUP THE VALUE OF LSTLOC                     01701869
1851 P0748 09FE          INA  -1          DECREMENT TO THE END OF PROTECTED               01701870
1852 P0749 18E4          JMP* T7                                                         01701871
1853 P074A C800   T9     LDA  ENDOV4      USE ENDOV4 FOR F7                              01701872
     P074B FA88
1854 P074C 18E1          JMP* T7                                                         01701873
1855 P074D C101   T10    LDA- COMBAS,I    SET F6 = START OF SYSTEM COMMON      61*1287   01701874
1856 P074E 0112          SAN  2                                                61*1287   01701875
1857 P074F C800          LDA  COMM0                                            61*1287   01701876
     P0750 010A
1858 P0751 60F6          STA- $F6                                                         01701877
1859 P0752 5800          RTJ  LCREP       SET ENTRY TABLE TO CREPO                        01701878
     P0753 FC0C
1860 P0754 5804          RTJ* TAG001                                                      01701879
1861 P0755 4152          ALF  3,AREAC                                                     01701880
     P0756 4541
     P0757 4320
1862 P0758 0000   TAG001 ADC  0                                                          01701881
1863 P0759 C8FE          LDA* TAG001                                                     01701882
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1864  P075A 610F          STA- INPCTR,I                                    01701883
1865  P075B 5128          RTJ- TABSCH,I     PICKUP ADDRESS OF AREAC        01701884
1866  P075C 60F7          STA- $F7                                         01701885
1867  P075D C0F6    T11   LDA- $F6          SETUP THE TEMPORARY BOUNDS OF UNPROTECTED 01701886
1868  P075E 60EC          STA- $EC                                         01701887
1869  P075F C0F7          LDA- $F7                                         01701888
1870  P0760 60ED          STA- $ED                                         01701889
1871  P0761 5861          RTJ* T13                                         01701890
1872  P0762 0060          BZS  OHS(96)                                     01701891
1873  P07C2 0B00    T13   NOP  0            ADDRESS OF 96 WORD BUFFER FOR I/O USE 01701892
1874  P07C3 C800          LDA  TMPSEC                                      01701893
      P07C4 FF6E
1875  P07C5 6800          STA  LSSECT       RESTORE NEXT AVAILABLE SECTOR  01701894
      P07C6 FD6D
1876                *                       3 CARDS DELETED                01701895
1877  P07C7 60C4          STA- $C4                                         01701896
1878  P07C8 0C9F          ENQ  -96                                         01701897
1879  P07C9 480A          STQ* T13A                                        01701898
1880  P07CA E8F7          LDQ* T13          PICKUP ADDRESS OF 96 WORD BUFFER 01701899
1881  P07CB 0D5E          INQ  94                                          01701900
1882  P07CC 0844    T13C  CLR  A                                           01701901
1883  P07CD 6201          STA- 1,Q          CLEAR A WORD OF THE BUFFER     01701902
1884  P07CE D805          RAQ* T13A                                        01701903
1885  P07CF 0DFE          INQ  -1                                          01701904
1886  P07D0 C803          LDA* T13A                                        01701905
1887  P07D1 3102          SAZ  T13B-*-1                                    01701906
1888  P07D2 18F9          JMP* T13C                                        01701907
1889  P07D3 0000    T13A  NUM  0                                           01701908
1890  P07D4 C8ED    T13B  LDA* T13                                         01701909
1891  P07D5 F800          LDQ  LSSECT                                      01701910
      P07D6 FD50
1892  P07D7 40FF          STQ- I                                           01701911
1893  P07D8 0C9F          ENQ  -96          WRITE THE FIRST SECTOR OF PROGRAM LIBRARY 01701912
1894  P07D9 5800  X       RTJ  MDRIV        DIRECTORY FOR LIBEDT           01701913
      P07DA 06F0  X
1895  P07DB 0112          SAN  T13D-*-1     SKIP IF NO ERROR               01701914
1896  P07DC 1800          JMP  T21          IRRECOVERABLE MASS STORAGE ERROR 01701915
      P07DD FF3B
1897  P07DE C800  X T13D  LDA  ISAV                                        01701916
      P07DF 0715  X
1898  P07E0 60FF          STA- I            RESTORE THE I-REGISTER         01701917
1899  P07E1 5805          RTJ* T14A                                        01701918
1900  P07E2 4441          ALF  3,DATBAS                                    01701919
      P07E3 5442
      P07E4 4153
1901  P07E5 0000    T14   NUM  0            ADDRESS OF SYSTEM DATA         01701920
1902  P07E6 0B00    T14A  NOP  0                                           01701921
1903  P07E7 C102          LDA- DATBAS,I                                    01701922
1904  P07E8 68FC          STA* T14                                         01701923
1905  P07E9 610D          STA- ENTPNT,I     SAVE THE ADDRESS ASSOCIATED WITH THE NAME 01701924
1906  P07EA C8FB          LDA* T14A                                        01701925
1907  P07EB 610F          STA- INPCTR,I                                    01701926
1908  P07EC 5800  X       RTJ  ENTSTR       SAVE DATBAS IN THE CREP TABLE  01701927
      P07ED 0531  X
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1909 P07EE C105          LDA- DATLIM,I    SAVE DATLIM IN EXTENDED COMM. REGION          01701928
1910 P07EF 0C19          ENQ  25          WORD 25                                       01701929
1911 P07F0 66F9          STA- ($E9),Q                                                   01701930
1912 P07F1 D800          RAO  LSSECT      INCREMENT SECTOR COUNTER PAST LIBRARY DIRECT. 01701931
     P07F2 FD41
1913 P07F3 C800          LDA  LSSECT                                                    01701932
     P07F4 FD3F
1914 P07F5 6805          STA* SWAPSC      SAVE STARTING SECTOR OF SWAP AREA             01701933
1915 P07F6 5805          RTJ* T12                                                       01701934
1916 P07F7 5357          ALF  3,SWAPAR                                                  01701935
     P07F8 4150
     P07F9 4152
1917 P07FA 0000  SWAPSC  NUM  0                                                        01701936
1918 P07FB 0800  T12     NOP  0                                                        01701937
1919 P07FC C8FD          LDA* SWAPSC                                                   01701938
1920 P07FD 610D          STA- ENTPNT,I    SAVE THE ADDRESS ASSOCIATED WITH THE NAME     01701939
1921 P07FE C8FC          LDA* T12                                                      01701940
1922 P07FF 610F          STA- INPCTR,I    STUFF SWAPAR INTO CREP                        01701941
1923 P0800 5800 X        RTJ  ENTSTR                                                    01701942
     P0801 07ED X
1924 P0802 C18B          LDA- ECREP,I     BUMP THE END OF THE CREP TABLE TO             01701943
1925 P0803 0908          INA  8           INCLUDE THE TWO NEW ENTRIES                   01701944
1926 P0804 6188          STA- ECREP,I                                                   01701945
1927 P0805 5800 X        RTJ  WRTOJT      UPDATE CREP WITH NEW ENTRIES                  01701946
     P0806 06C1 X
1928 P0807 C0F6          LDA- $F6                                                       01701947
1929 P0808 90F7          SUB- $F7                                                       01701948
1930 P0809 5800          RTJ  NXTSEC      FIND STARTING SECTOR FOR CREP                 01701949
     P080A FCDC
1931 P080B C800          LDA  LSSECT                                                    01701950
     P080C FD27
1932 P080D 0C06          ENQ  6           PUT THE STARTING SECTOR OF THE CREP TABLE     01701951
1933 P080E 66F9          STA- ($E9),Q     INTO WORD 6 OF THE EXTENDED CORE TABLE        01701952
1934 P080F 5800          RTJ  LCREP       PICKUP THE MOST RECENT LENGTH OF THE CREP     01701953
     P0810 FC1F
1935 P0811 C17F          LDA- ENTSEC,I    PICKUP STARTING SECTOR OF CREP                01701954
1936 P0812 5343          RTJ* MOVDSK      MOVE THE CREP TABLE UP ON THE DISK            01701955
1937 P0813 C120          LDA- MAXENT,I                                                  01701956
1938 P0814 9160          SUB- ENTPGS,I                                                  01701957
1939 P0815 0901          INA  1           ALLOW FOR TABLE TERMINATOR          132*5127********
1940 P0816 5800          RTJ  NXTSEC      COMPUTE SECTOR FOR THE CREP1 TABLE            01701958
     P0817 FCCF
1941 P0818 5800          RTJ  LCREP1      SETUP POINTERS FOR THE CREP1 TABLE            01701959
     P0819 FC1C
1942 P081A C120          LDA- MAXENT,I                                                  01701960
1943 P081B 9160          SUB- ENTPGS,I    IS THERE A CREP1 TABLE                        01701961
1944 P081C 8101          SAZ  T12AA-*-1   NO                                            01701962
1945 P081D 0123          SAP  T12A-*-1    YES,MOVE IT UP ON THE DISK                    01701963
1946 P081E 0C07  T12AA   ENQ  7           NO, STORE A ZERO IN WORD 7 OF THE             01701964
1947 P081F 66F9          STA- ($E9),Q     EXTENDED CORE TABLE AND GO ON TO SAT          01701965
1948 P0820 180F          JMP* T12B                                                      01701966
1949 P0821 C800  T12A    LDA  LSSECT                                                    01701967
     P0822 FD11
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1950  P0823 0C07          ENQ  7                PUT THE STARTING SECTOR OF THE CREP1          01701968
1951  P0824 66E9          STA- ($E9),Q          TABLE IN WORD 7 OF EXTENDED CORE TABLE       01701969
1952  P0825 C174          LDA- ENTST1,I         COMPUTE THE STARTING SECTOR OF CREP1         01701970
1953  P0826 0842          CLR  Q                                                             01701971
1954  P0827 318A          DVI- SECTOR,I                                                      01701972
1955  P0828 817F          ADD- ENTSEC,I                                                      01701973
1956  P0829 5834          RTJ* MOVDSK           MOVE THE CREP1 TABLE UP ON THE DISK          01701974
1957  P082A C12C          LDA- MAXENT,I                                                      01701975
1958  P082B 916B          SUB- ENTPGS,I                                                      01701976
1959  P082C 0901          INA  1                ALLOW FOR TABLE TERMINATOR      132*5127*******01701977
      P082D 5800
      P082E FCB8
1961  P082F C800    T12B  LDA  LSSECT                                                        01701978
      P0830 FD03
1962  P0831 0C14          ENQ  20               PUT START OF EF DATA IN WORD 20   **MSOS 4.1**01701979
1963  P0832 66E9          STA- ($E9),Q            OF EXT. CORE TABLE              **MSOS 4.1**01701980
1964  P0833 6854          STA* EFSECT           SAVE STARTING SECTOR OF EF DATA   **MSOS 4.1**01701981
1965  P0834 0963          INA  99               99 SECTORS OF EF DATA             **MSOS 4.1**01701982
1966  P0835 0CC5          ENQ  5                PUT STARTING SECTOR OF SAT IN WORD 5          01701983
1967  P0836 66E9          STA- ($E9),Q          OF EXTENDED CORE TABLE                       01701984
1968  P0837 6800          STA  TMPSEC           SAVE STARTING SECTOR OF SAT                  01701985
      P0838 FFFA
1969  P0839 091E                                                           **MSOS 4.1**01701986
1970  P083A 60C1          STA- $C1              PUT START OF SCRATCH IN C1                   01701987
1971  P083B 6840          STA* ENDSSY                                                        01701988
1972  P083C 0AC5          ENA  5                CORE IMAGE IS SECTOR 5                       01701989
1973  P083D 0C04          ENQ  4                PUT THE STARTING SECTOR OF THE CORE IMAGE    01701990
1974  P083E 66E9          STA- ($E9),Q          INTO WORD 4 OF THE EXTENDED CORE TABLE       01701991
1975  P083F C800          LDA  LPFNDC           IS THERE A PART1 CORE RESIDENT               01701992
      P0840 001C
1976  P0841 0101          SAZ  T22A-*-1         NO, USE 15 BIT ARITHMETIC FOR PATCHING       01701993
1977  P0842 0A01          ENA  1                YES, USE 16 BIT ARITHMETIC FOR PATCHING      01701994
1978  P0843 B157    T22A  STA- ARIT15,I                                                      01701995
1979                      *                     1 CARD DELETED                               01701996
1980  P0844 5800          RTJ  LCREP            PICKUP CREP POINTERS                         01701997
      P0845 FBEA
1981  P0846 0AC5          ENA  5                                                             01701998
1982  P0847 6800          STA  LSSECT           SETUP LSSECT TO POINT TO CORE IMAGE          01701999
      P0848 FCFB
1983  P0849 0A01          ENA  1                                                             01702000
1984  P084A 5800  X       RTJ  ILOAD            PATCH TO CREP USING 16 BIT ARITHMETIC        01702001
      P084B 054A  X
1985                      *                     5 CARDS DELETED                 132*5127*******
1986  P084C 0143          SQZ  T30-*-1          SKIP IF NO UNPATCHED EXTERNALS               01702007
1987  P084D 0A02          ENA  2                                                             01702008
1988  P084E 5800  X       RTJ  ILOAD            PRINT UNPATCHED EXTERNALS                    01702009
      P084F 084B  X
1989  P0850 0AC5    T30   ENA  5                SET LSSECT TO 5 POINT TO CORE IMAGE           01702010
1990  P0851 6800          STA  LSSECT                                                        01702011
      P0852 FCF1
1991  P0853 5800  X       RTJ  WRTOUT           WRITE CORE IMAGE AND CREP/CREP1 TABLES       01702012
      P0854 0806  X
1992  P0855 C800          LDA  TMPSEC                                                        01702013
      P0856 FEDC
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1993 P0857 6800          STA  LSSECT      RESTORE STARTING SECTOR OF SAT                  01702014
     P0858 FCDB
1994 P0859 1832          JMP* BLDSAT      GO TO BUILD SAT                                 01702015
1995 P085A 0000  COMMO   NUM  0                                                          01702016
1996 P085B 0000  LENDC   NUM  0           LENGTH OF PART 0                                01702017
1997 P085C 0000  LPENDC  NUM  0           LENGTH OF PART 1                                01702018
1998 P085D 0B00  MOVDSK  NOP  0                                                          01702019
1999 P085E 6825          STA* MOVE1       SAVE SECTOR TO MOVE FROM                        01702020
2000 P085F C12C          LDA- MAXENT,I                                                   01702021
2001 P0860 916B          SUB- ENTPGS,I    COMPUTE WORD LENGTH OF TABLE                   01702022
2002 P0861 0901          INA  1           ALLOW FOR TABLE TERMINATOR      132*5127******* 
2003 P0862 0842          CLR  Q                                                          01702023
2004 P0863 318A          DVI- SECTOR,I    CONVERT WORD LENGTH TO SECTOR LENGTH           01702024
2005 P0864 0141          SQZ  MOV1-*-1                                                   01702025
2006 P0865 0901          INA  1                                                          01702026
2007 P0866 0864  MOV1    TCA  A                                                          01702027
2008 P0867 681D          STA* MOVE2                                                      01702028
2009 P0868 C800          LDA  LSSECT                                                     01702029
     P0869 FCCA
2010 P086A 681B          STA* MOVE3                                                      01702030
2011 P086B C800  MOV2    LDA  T13         PICKUP ADDRESS OF 96 WORD BUFFER               01702031
     P086C FF55
2012 P086D E816          LDQ* MOVE1       PICKUP SECTOR ADDRESS FOR READ                 01702032
2013 P086E 40FF          STQ- I                                                          01702033
2014 P086F 0C60          ENQ  96          SETUP WORD COUNT OF 96                         01702034
2015 P0870 5800 X        RTJ  MDRIV       READ IN SECTOR                                 01702035
     P0871 07DA X
2016 P0872 E813          LDQ* MOVE3       PICKUP SECTOR TO WRITE ON                      01702036
2017 P0873 40FF          STQ- I                                                          01702037
2018 P0874 0C9F          ENQ  -96         COMPLEMENT WORD COUNT TO SIGNAL WRITE          01702038
2019 P0875 C800          LDA  T13         PICKUP BUFFER ADDRESS                          01702039
     P0876 FF4B
2020 P0877 5800 X        RTJ  MDRIV       WRITE OUT THE SECTOR                           01702040
     P0878 0871 X
2021 P0879 D80A          RAO* MOVE1       INCREMENT SECTOR TO READ                       01702041
2022 P087A D80A          RAO* MOVE2       INCREMENT SECTOR TO WRITE                      01702042
2023 P087B D80A          RAO* MOVE3       INCREMENT COMPLEMENT OF COUNT                  01702043
2024 P087C C808          LDA* MOVE2       HAVE ALL SECTORS BEEN MOVED                    01702044
2025 P087D 0101          SAZ  MOV3-*-1    YES - EXIT                                     01702045
2026 P087E 1BEC          JMP* MOV2        NO, LOOP BACK FOR NEXT SECTOR                  01702046
2027 P087F C800 X MOV3   LDA  ISAV                                                       01702047
     P0880 07DF X
2028 P0881 60FF          STA- I           RESTORE THE I-REGISTER                         01702048
2029 P0882 1CDA          JMP* (MOVDSK)                                                   01702049
2030 P0883 0000  MOVE1   NUM  0           SECTOR TO BE READ                              01702050
2031 P0884 0000  MOVE2   NUM  0           COMPLEMENT OF NUMBER OF SECTORS TO MOVE        01702051
2032 P0885 0000  MOVE3   NUM  0           SECTOR TO BE WRITTEN                           01702052
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                  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ******01702054
                  *                                                                 *****01702055
                  *       THIS ROUTINE WILL WRITE THE SECTOR AVAILABILITY           *****01702056
                  *       TABLE (SAT).  THIS IS A 30-SECTOR TABLE CONTAINING A PICTURE*****01702057
                  *       OF ALL THE SECTORS ON THE DISK.  ONE BIT REPRESENTS EACH  *****01702058
                  *       SECTOR.  IF THE BIT IS ON--THIS SECTOR IS  AVAILABLE FOR  *****01702059
                  *       STORAGE OF THE PROGRAM LIBRARY AND DIRECTORY.             *****01702060
                  *       IF THE BIT IS ZERO, THIS SECTOR IS USED, EITHER BY SWAP AREA*****01702061
                  *       SYSTEM LIBRARY, OR PROGRAM LIBRARY AND DIRECTORY.         *****01702062
                  *       THE TABLE IS UPDATED BY LIBEDT, AND IS USED TO FIND HOLES *****01702063
                  *       FOR PROGRAMS IN THE PROGRAM LIBRARY.                      *****01702064
                  *                                                                 *****01702065
                  * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * ******01702066
                  *                                                                 *****01702067
P0886 0100        SATGↃ  NUM  256            STARTING WORD OF SAT (LATER LAST BUSY SECTOR )01702068
                  *                          1-CARD DELETED                             01702069
P0887 0000        EFSECT NUM  0                                       **MSOS 4.1**01702070
P0888 0000        ENDBSY NUM  0              LAST SECTOR BUSY IN SAT                   01702071
                  *                          1-CARD DELETED                             01702072
P0889 0010        SIXTEN NUM  16                                                        01702073
P088A 0000        ENDSAT NUM  0                                                         01702074
P088B C000        BLDSAT LDA  =N$100         SETUP STARTING WORD OF SAT                01702075
P088C 0100
P088D 68F8               STA* SATGO                                                     01702076
P088E E117               LDQ- BASE,I                                                    01702077
P088F 0DF5               INQ  -10                                                       01702078
P0890 0844               CLR  A                                                         01702079
P0891 6201        SAT0   STA- 1,Q            CLEAR ALL OF CORE BELOW THE INITIALIZER   01702080
P0892 0DFE               INQ  -1             TO ZEROS                                  01702081
P0893 0141               SQZ  SAT1-*-1                                                  01702082
P0894 18FC               JMP* SAT0                                                      01702083
P0895 C000        SAT1   LDA  =N$100         MOVE EF DATA BLOCK OF ZEROS   **MSOS 4.1**01702084
P0896 0100
P0897 E8EF               LDQ* EFSECT         POINTS TO EF BLOCK            **MSOS 4.1**01702085
P0898 40FF               STQ- I                                            **MSOS 4.1**01702086
P0899 E000               LDQ  =N-9504        WRITE 99 SECTORS              **MSOS 4.1**01702087
P089A DADF
P089B 5800 X             RTJ  MDRIV                                        **MSOS 4.1**01702088
P089C 0878 X
P089D 0842               CLR  Q                                                         01702089
P089E C8E9               LDA* ENDBSY         COMPUTE THE BIT ADDRESS OF THE LAS**MSOS 4.1**01702090
P089F 38E9               DVI* SIXTEN         SECTOR TO SET BUSY                        01702091
P08A0 88E5               ADD* SATGO                                                     01702092
                   *                         1-CARD DELETED                             01702093
P08A1 68E4               STA* SATGO          SAVE LAST BUSY SECTOR                     01702094
P08A2 0804               SET  A                                                         01702095
P08A3 0147               SQZ  SAT3                                                      01702096
P08A4 0A01               ENA  1                                                         01702097
P08A5 0DEF               INQ  -16                                                       01702098
P08A6 0D01        SAT?   INQ  1              SET THE BITS FOR THE FIRST AVAILABLE SECTOR 01702099
P08A7 0143               SQZ  SAT3-*-1                                                  01702100
P08A8 0FC1               ALS  1                                                         01702101
P08A9 0901               INA  1              SKIP IF DONE WITH FIRST WORD              01702102
```

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2083 P08AA 18FB          JMP* SAT2          SET THE NEXT SECTOR AVAILABLE                                  01702103
2084 P08AB 6CDA   SAT3   STA* (SATGO)       SETUP THE FIRST WORD WITH AVAILABLE SECTORS                    01702104
2085 P08AC D8D9          RAO* SATGO                                                                        01702105
2086 P08AD C800          LDA  MAXSEC                                                                       01702106
     P08AE FB7F
2087 P08AF 0901          INA  1             INCREMENT MAXSEC FOR TOTAL SECTORS                             01702107
2088 P08B0 0842          CLR  Q                                                                            01702108
2089 P08B1 38D7          DVI* SIXTEN        FIND THE LAST WORD WITH AVAILABLE SECTORS                      01702109
2090 P08B2 88D9          ADD* BLDSAT+1      OFFSET LAST AVAILABLE WORD                                     01702110
2091               *                        1-CARD DELETED                                                 01702111
2092 P08B3 68D6          STA* ENDSAT                                                                       01702112
2093 P08B4 0844          CLR  A                                                                            01702113
2094 P08B5 0146          SQZ  SAT5-*-1                                                                     01702114
2095 P08B6 C000          LDA  =N$8000                                                                      01702115
     P08B7 8000
2096 P08B8 0DFE   SAT4   INQ  -1            SETUP LAST WORD WITH AVAILABLE SECTORS                         01702116
2097 P08B9 0142          SQZ  SAT5-*-1                                                                     01702117
2098 P08BA 0F41          ARS  1                                                                            01702118
2099 P08BB 18FC          JMP* SAT4                                                                         01702119
2100 P08BC 6CCD   SAT5   STA* (ENDSAT)                                                                     01702120
2101 P08BD 0804          SET  A             PICKUP FIRST WORD TO BE SET FOR                                01702121
2102 P08BE 6CC7   SAT6   STA* (SATGO)                                                                      01702122
2103 P08BF D8C6          RAO* SATGO         INCREMENT STORAGE ADDRESS                                      01702123
2104 P08C0 E8C5          LDQ* SATGO                                                                        01702124
2105 P08C1 0852          TCQ  Q                                                                            01702125
2106 P08C2 F8C7          ADQ* ENDSAT                                                                       01702126
2107 P08C3 0141          SQZ  SATDON-*-1                                                                   01702127
2108 P08C4 18F9          JMP* SAT6                                                                         01702128
2109 P08C5 E800   SATDON LDQ  LSSECT                                                                       01702129
     P08C6 FC6D
2110 P08C7 40FF          STQ- I                                                                            01702130
2111 P08C8 C000          LDA  =N$100                                                                       01702131
     P08C9 0100
2112 P08CA E000          LDQ  =N-2880       SETUP WRITE OF 30 SECTORS          **MSOS 4.1**01702132
     P08CB F4BF
2113 P08CC 5800 X        RTJ  MDRIV         WRITE SAT TABLE                                                01702133
     P08CD 089C X
2114 P08CE C83D          LDA* ERFLAG        WERE THERE ANY ERRORS                                          01702134
2115 P08CF 0101          SAZ  SAT9-*-1      NO, PRINT AUTOLOAD MESSAGE                                     01702135
2116 P08D0 181E          JMP* SAT10         YES, PRINT AUTOLOAD ERROR MESSAGE                              01702136
2117 P08D1 5817   SAT9   RTJ* SAT7                                                                         01702137
2118 P08D2 494E   SAT8   ALF  22,INITIALIZATION COMPLETED - YOU MAY AUTOLOAD                              01702138
     P08D3 4954
     P08D4 4941
     P08D5 4C49
     P08D6 5A41
     P08D7 5449
     P08D8 4F4E
     P08D9 2043
     P08DA 4F4D
     P08DB 504C
     P08DC 4554
     P08DD 4544
     P08DE 202D
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                P08DF 2059
                P08E0 4F55
                P08E1 204D
                P08E2 4159
                P08E3 2041
                P08E4 5554
                P08E5 4F4C
                P08E6 4F41
                P08E7 4420
2119  P08E8 0B00    SAT7    NOP  0                                          01702139
2120  P08E9 C8FE            LDA* SAT7          PICKUP BUFFER ADDRESS       01702140
2121  P08EA 0C16            ENQ  SAT7-SAT8                                 01702141
2122  P08EB 5800 X          RTJ  TELOUT                                    01702142
      P08EC 065B X
2123  P08ED 18FF            NUM  $18FF                                     01702143
2124  P08EE 5817    SAT10   RTJ* SAT11                                     01702144
2125  P08EF 4552            ALF  *,ERRORS OCCURED - YOU MAY ATTEMPT TO AUTOLOAD*  01702145
      P08F0 524F
      P08F1 5253
      P08F2 204F
      P08F3 4343
      P08F4 5552
      P08F5 4544
      P08F6 202D
      P08F7 2059
      P08F8 4F55
      P08F9 204D
      P08FA 4159
      P08FB 2041
      P08FC 5454
      P08FD 454D
      P08FE 5054
      P08FF 2054
      P0900 4F20
      P0901 4155
      P0902 544F
      P0903 4C4F
      P0904 4144
2126  P0905 0B00    SAT11   NOP  0                                          01702146
2127  P0906 C8FE            LDA* SAT11                                     01702147
2128  P0907 0C16            ENQ  SAT11-SAT10-1                             01702148
2129  P0908 5800 X          RTJ  TELOUT                                    01702149
      P0909 08EC X
2130  P090A 18FF            NUM  $18FF                                     01702150
2131  P090B 0000    ERFLAG  NUM  0                                         01702151
2132  P090C 0000    TCODE   NUM  0                                         01702152
2133                        END                                            01702153

PGM=  090D (  2317)   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)	0928, 1227, 1235, 1248, 1271, 1592, 1630, 1644, 1645, 1658, 1676, 1720, 1781, 1809, 1892, 1898 2013, 2017, 2028, 2066, 2110
0072	PGENUM	0001	(000001)	1776
0073	REFER	0002	(000002)	
0074	MODIFY	0003	(000003)	1755
0076	COMBAS	0001	(000001)	1814, 1855
0077	DATBAS	0002	(000002)	0666, 0893, 1114, 1524, 1903
0078	PROBAS	0003	(000003)	0572, 0578, 0585, 0591, 0598, 0615, 0623, 0643, 0683, 0690, 0749, 0757, 0783, 0902, 0916, 0921 0948, 1104, 1127, 1132, 1133, 1135, 1464
0079	COMLIM	0004	(000004)	0550, 0609, 0709, 0755, 0812, 1026, 1110
0080	DATLIM	0005	(000005)	0668, 0895, 1116, 1525, 1909
0081	CSQLIM	0006	(000006)	0758
0082	EXTCTR	0007	(000007)	0848, 0971, 1122, 1797
0083	ENDSW	0008	(000008)	
0084	ABRLSW	0009	(000009)	
0085	INPWRD	000A	(000010)	
0086	INPREL	000B	(000011)	0436
0088	CSQNUM	000C	(000012)	
0090	ENTPNT	000D	(000013)	0941, 1471, 1905, 1920
0092	LINK	000E	(000014)	
0094	INPCTR	000F	(000015)	0546, 0715, 0736, 0766, 0930, 1094, 1175, 1473, 1803, 1843, 1864, 1907, 1922
0098	NOTLNK	0010	(000016)	
0099	ENDINP	0011	(000017)	
0101	BLANKS	0012	(000018)	0429, 0564, 0919, 0955, 1438
0102	SYMSTR	0013	(000019)	0414, 0425, 0430, 0561, 0908, 0918, 0929, 0937, 0953, 1049, 1063, 1076, 1319, 1354, 1436, 1442 1444, 1446, 1456, 1582
0105	SCANSW	0016	(000022)	0411, 0492, 0905, 1316, 1431
0111	BASE	0017	(000023)	2057
0112	WRDCNT	0018	(000024)	0409
0117	COUNT1	0019	(000025)	0878
0119	BZSSW	001A	(000026)	
0122	COUNT2	001B	(000027)	
0123	BLKCNT	001B	(000027)	
0126	SW6	001C	(000028)	0548, 0717, 0738, 0768, 0932, 1097, 1177, 1475, 1805, 1845
0129	ASAV	001D	(000029)	
0130	QSAV	001E	(000030)	
0132	XFRNAM	0020	(000032)	
0133	NAME	0023	(000035)	

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0134    SCHXIT  0027   (000039)
0135    TABSCH  0028   (000040)   0547, 0716, 0737, 0767, 0931, 1096, 1176, 1474, 1804, 1844, 1865
0137    CENTAD  002B   (000043)
0139    MAXENT  002C   (000044)   0788, 0796, 0837, 0845, 0968, 1119, 1206, 1217, 1937, 1942, 1957, 2000
0140    TEMP    002D   (000045)
0141    NOJUMP  0031   (000049)   1139
0143    FLGLGN  0032   (000050)   1766
0144    BINASC  0033   (000051)   0290, 0292, 1251, 1255, 1258, 1680, 1682, 1686, 1688, 1692, 1694, 1698, 1700, 1723, 1725
0145    PRINT3  0036   (000054)
0146    INPXC0  0039   (000057)   0526
0147    INPADR  0039   (000057)   0315, 0374, 0389, 0396, 0406, 1225, 1250, 1275, 1549
0148    INPXC1  003A   (000058)
0149    PRINT2  003B   (000059)
0150    INPXCC  003E   (000062)
0151    NXTINP  003F   (000063)
0152    M7FFF   0041   (000065)
0153    M8000   0042   (000066)
0154    MFF00   0044   (000068)
0155    M00FF   0045   (000069)
0156    ASKII   0046   (000070)
0157    NEGSW   0047   (000071)
0158    SCNTRM  0048   (000072)   0923
0159    SCNINP  0049   (000073)   0597, 0610, 0614, 0622, 0911, 0915, 0942, 0961, 1053, 1066, 1079, 1323, 1328, 1345, 1360, 1458
                                  1585
0161    SCNXIT  004A   (000074)
0162    SCAN    004B   (000075)   0413, 0494, 0907, 1318, 1433
0163    CSNAME  004E   (000078)   0397, 0433, 0437, 0525, 0557, 0647, 0655, 0670, 0782, 0891, 1001, 1112, 1479, 1744
0170    XCSNAM  004F   (000079)   0398
0171    INMED   0050   (000080)   0375, 1498, 1509
0174    ADJOVF  0052   (000082)
0175    EXTPCH  0055   (000085)
0176    NGRLSW  0056   (000086)
0178    ARIT15  0057   (000087)   0780, 0973, 1124, 1978
0180    PRESET  0058   (000088)
0182    CONVRT  005A   (000090)   0289, 1249, 1679, 1685, 1691, 1697, 1722
0183    AINPUT  0065   (000101)
0184    SYSPGE  0066   (000102)   1748
0185    LINK1   0068   (000104)
0186    ENTPGS  006B   (000107)   0795, 0835, 0844, 0967, 1118, 1204, 1215, 1938, 1943, 1958, 2001
0187    TOP     006C   (000108)   0551, 0775, 0871, 1107
0188    PGEWRT  006D   (000109)
0189    LGEPGE  006E   (000110)
0190    IGNORE  006F   (000111)
0192    LNKSTR  0070   (000112)
0193    LNKCTR  0071   (000113)
0194    LNKEND  0072   (000114)
0195    ENTST0  0073   (000115)   1203
0196    ENTST1  0074   (000116)   0794, 0836, 1214, 1952
0197    EXTSTR  0076   (000118)   0846, 0970, 1121, 1795
0198    CORADR  0077   (000119)   0880, 1745
0199    PRODAT  0078   (000120)
0200    PROCOM  0079   (000121)
0201    PAGE    007A   (000122)   1773, 1791
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0203    CSQCTR   007B   (000123)   0616, 0620, 0621, 0707, 0777, 0810, 0823, 0825, 0828, 0875, 0888, 0999, 1024, 1036, 1136, 1138
0205    CEXTAD   007C   (000124)
0207    MINEXT   007D   (000125)
0208    MAXEXT   007E   (000126)
0209    ENTSEC   007F   (000127)   1935, 1955
0210    CSQSEC   0080   (000128)
0211    MAXPGE   0081   (000129)
0212    NOPAGE   0082   (000130)   0877, 1749, 1770
0213    PARBAS   0083   (000131)   1128
0214    PARLIM   0084   (000132)
0215    STRSEC   0085   (000133)
0216    MSDWCT   0086   (000134)
0217    XFRADR   0087   (000135)
0218    AHOLD    0088   (000136)
0219    QHOLD    0089   (000137)
0220    SECTOR   008A   (000138)   0791, 0793, 0840, 0842, 0851, 0853, 1954, 2004
0221    ECREP    008B   (000139)   0789, 1205, 1481, 1483, 1924, 1926
0222    ECREP1   008C   (000140)   0838, 1216
0223    EXTSWT   008D   (000141)
0224    SAVEA    008E   (000142)
0225    JUMP     008F   (000143)
0226    TEMP3    0090   (000144)
0227    FLGBSE   0091   (000145)   0885, 1747, 1753, 1767
0228    PROGCT   0092   (000146)
0229    ONTAB    0093   (000147)   0628, 0637
0230    MONTAB   0094   (000148)   0982, 0989
0231    FLGBS1   0095   (000149)   1746
0232    INPUT    0096   (000150)   0319
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S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0010	RSTART	0000	0010
0011	TCODE	090C	0011
0012	IN	04C3	0012, 0284, 1347, 1362, 1365
0013	OU	04C4	0013, 0286
0014	CO	04C5	0014, 0282
0015	COMMA	0123	0015, 0509, 0510, 0558, 0896, 0950, 1060, 1073, 1313, 1351, 1428, 1434, 1579
0016	VALID	04DF	0016, 0568, 0617, 0899, 0958, 1084, 1348, 1357, 1399, 1401, 1453, 1495, 1506, 1519, 1536, 1587
0017	CM45	00B2	0017, 1276
0018	CM65	00BD	0018, 0382, 0387, 0674, 1012, 1528
0019	BACKGR	043C	0019, 0304, 0372, 1236, 1274
0020	LSSECT	0534	0020, 0280, 0686, 0946, 0965, 0996, 1083, 1185, 1411, 1412, 1469, 1761, 1764, 1875, 1891, 1912 1913, 1931, 1949, 1961, 1982, 1990, 1993, 2009, 2109
0021	TYPEQ	044C	0021, 0379, 1283
0023	QTYPE	0477	0023, 0567, 0771, 0868, 0914, 1052, 1180, 1327, 1369, 1813
0024	ERFLAG	090B	0024, 0330, 2114
0295	SI	001A	0291, 0293
0300	CNTR1	0034	0294, 0301
0302	CNTR2	0036	
0304	CNTR3	0039	
0309	DATE1	0040	
0310	CNTR9	0047	0307, 0312
0319	CNTR10	0051	0324
0325	CNTR11	0058	0323
0366	CMASKT	00A8	0402
0372	CM20	00A9	0365, 0441, 0528, 1485, 1510, 1554, 1562, 1571, 1616, 1734
0374	CM40	00AB	
0378	CM44	00AF	0376, 0383, 0388, 1390, 1499
0382	CM45A	00B5	
0384	CM50	00B7	0377
0387	CM60	00BB	
0406	CM80	00CB	0403
0421	CM90	00D7	0416
0422	CM72	00D8	0428
0425	CM74	00DB	0423
0429	CM76	00DF	0426
0433	CM78	00E3	0431
0436	CM190	00E6	0417
0438	CM195	00E8	
0439	CM195X	00E9	0405, 0424, 0432
0440	HOP2	00EA	
0441	CM196	00EB	0438

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0448    STTYP1   00EC          0422
0465    STTYP3   00FD          0435
0490    GETHEX   011D          0495, 0560, 0936, 0952, 1048, 1062, 1075, 1353, 1452, 1581
0514    STARYM   012A          0471
0517    ¥M2      012D          0440, 0523
0518    YM1      012E          0515
0520    STARY    0130          0470
0524    ¥1       0134          0521
0525    ¥0       0135          0519
0529    I1CALL   013B          0329
0533    STARL    013C          0465
0536    LSTM1    013F          0533
0540    LSTM2    0143          0538
0542    LSTM3A   0145          0537
0544    LSTM3B   0149          0542, 0545
0553    LSTM3D   0153          0539
0554    LSTM3C   0154          0549
0556    LSTM4A   0156          0553
0558    LSTM40   0158          0702, 0786
0564    LSTM4Q   015E          0562
0567    LSTM4    0161          0517, 0535, 0541, 0555, 0571, 0626, 0701
0568    LSTM41   0163          0559
0570    LSTM42   0166          0619, 0901
0572    LSTM43   0168          0565, 0569
0583    EVPG     0174          0581
0584    LSTM4X   0176          0573, 0575
0585    LSTM5    0177          0563
0596    EVENPG   0183          0594
0597    LSTM6    0185          0586, 0588
0607    LSTM7    018B          0605
0614    LSTM7A   0193          0612
0617    LSTM7L   0196          0624
0620    LSTM7X   019A          0608
0625    LSTM6A   019F          0606, 0613
0627    LSTM8    01A1          0584, 0618
0635    LSTM9    01A7          0630
0636    ¥ORDNL   01A8          0328, 0627, 0631
0637    LSTM8A   01A9          0634
0652    LSTM8B   01B8          0649
0653    LSTM8C   01BA          0651
0655    LSTM9A   01BC          0635
0661    LSTM9B   01C2          0657, 0659
0670    LSTM9D   01CB          0667
0674    LSTM9E   01CF          0672
0675    PARDEF   01D1          0335, 0728, 0731, 0751
0676    CRPFLG   01D2          0336, 0607, 0779
0677    ¥POINT   01D3          0337, 0646, 0663
0678    END0V4   01D4          0338, 0552, 0740, 0910, 1853
0679    ¥CNTER   01D5          0343, 0638, 0640
0680    FRSTLP   01D6          0334, 0658, 0673
0682    LPBNDY   01D7          0660, 0692
0696    STARLP   01E7          0466
0701    LPD      01EC          0754
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0702	LP1	01EE	0699
0703	LP2	01F0	0697
0713	LP3	0200	0711, 0714
0720	LP4	0207	0718
0730	LP5	0211	0724, 0726
0732	LP6	0213	0719, 0729
0734	LP7	0217	0732, 0735
0742	LP8	021F	0739
0749	LP9	0226	0741, 0746
0751	LP10	0228	0748
0755	LP11	022C	0752
0758	LP12A	022F	0750
0761	LP11A	0232	0759, 0772, 1825
0762	LP12	0233	
0764	LP13	0237	0762, 0765
0772	LP14	0240	0769
0773	LP14A	0241	0760
0787	LP15	0252	0785, 0797, 0815
0798	PARTBL	025D	0339, 0720, 1088, 1101, 1103, 1109
0799	LSTLOC	025E	0340, 0742, 1835
0800	MSIZV4	025F	0341, 0364, 0773, 1821
0804	STARM	0260	0467
0807	M0	0263	0805
0817	M1	0271	0864
0819	M2	0274	0806
0822	M3	0277	0820
0834	ENDET1	028A	0816, 0829, 0855, 1029
0856	ENTTMP	02A0	0344, 0843, 0966, 1117
0857	STRTEX	02A1	0345, 0847, 1794
0858	TEMPEX	02A2	0346, 0854, 0969, 1120
0859	ENDEXT	02A3	0347, 0849, 1796
0860	M3A	02A4	0833
0864	M4	02A8	
0865	M5	02A9	0821
0868	M6	02AC	
0869	M6A	02AE	0866
0870	M7	02B0	0818
0874	M7A	02B5	0872, 0889, 1047, 1742
0881	M9	02BE	0887
0888	M10	02C5	0886
0890	M10A	02C7	0873
0899	M11	02D3	0897
0901	MTRMER	02D6	0927, 0960
0902	M12	02D8	0900
0904	M13	02DA	0898
0914	MERROR	02E5	0935, 0940
0915	M14	02E7	0912
0918	M15	02EA	0909
0923	M15A	02EF	0920
0928	M16	02F5	0926
0936	M17	02FD	0933
0939	M17A	0301	0957
0941	M18	0303	0938

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0950    M19      0310          0917, 0922
0958    M19A     031A          0949, 0951
0961    M20      031E          0954
0966    M20A     0327          0903, 0956, 0959
0972    M20B     032F
0978    M22      0336
0981    M23      033A          0978, 1149
0985    M23A     033E          0983
0988    M24      0341
0989    M25      0342          0987
1011    M26      035A          0984, 0988, 1003
1013    YMCNTR   035E          0348, 0990, 0992
1014    YMORDN   035F          0349, 0981, 0985
1018    STARMP   0360          0468
1021    MP0      0363          1019
1029    MP1      036F          1042
1032    MP2      0374          1020
1035    MP2A     0377          1033
1042    MP3      0380
1046    MP3A     0381          1034
1047    MP4      0383          1031
1051    MP4A     0389          1065, 1078
1052    MPERR    038A          1059, 1087, 1100
1053    MP5      038C          1050
1058    MP6      0392          1055, 1072
1060    MP7      0394          1057
1066    MP8      039C          1064
1072    MP9      03A2          1068
1073    MP10     03A3          1071
1079    MP11     03AB          1077
1084    MP12     03B3          1074
1086    MPTERM   03B6          1061
1088    MP13     03B8          1085
1092    MP14     03BF          1090, 1093
1101    MP15     03C8          1098
1102    MP15A    03CA          1089
1142    MP16     03FD
1146    MP18     0402
1149    MP19     0406          1146
1150    PP       0408          0350, 1054, 1069, 1102
1151    NN       0409          0351, 1067, 1108
1153    STORE    040A          1129, 1134, 1157
1155    VALUE1   040D          1126, 1131
1167    FMXSEC   0410          0814, 0831, 1028, 1035, 1170, 1182
1171    CKSEC1   0414          1169
1173    CKSEC2   0418          1171, 1174
1180    CKSERR   041F          1188
1181    CKSEC3   0420          1178
1183    CHKSEC   0422          0944, 0963, 1081, 1193
1184    CKSEC    0423
1187    CKSEC4   0427          1192
1189    CKSEC5   0429          1186
1193    CKSEC6   042D          1191
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1194	MAXSEC	042E	0342, 1168, 1181, 1189, 2086
1195	SECVAL	042F	0352, 0943, 0945, 0962, 0964, 1080, 1082, 1184, 1190
1202	LCREP	0430	0830, 1011, 1095, 1207, 1798, 1838, 1859, 1934, 1980
1213	LCREP1	0436	0832, 1218, 1941
1230	BG10	0444	1233
1234	BG20	0448	1232
1244	TYPEQ1	044E	1260, 1269, 1277
1247	QERR	0451	1245
1258	TYPEQ2	045E	1254
1259	TYPEQ3	045F	1257
1269	QOUT	0465	1246
1277	TYPEQ9	0470	1243
1278	QBUFR	0471	
1279	EBUFR	0472	
1281	ERNBR	0476	1259
1304	STARI	047A	0474
1307	STARO	047C	0475
1310	STARC	047E	0476
1312	SETIO	047F	1305, 1308
1321	NOKNB	0489	1356, 1584
1323	OKNB	048B	1320
1326	STIOER	048F	1341
1327	QTYPEX	0490	1322
1328	LUOK	0492	1325
1330	ABS	0495	1329, 1331, 1343
1342	ATABLE	04A2	1333, 1343
1343	REL	04A3	1332
1344	ZERO	04A4	1337
1345	DEVDEF	04A5	1338, 1340
1351	OKNB1	04AD	1349
1357	OKNB2	04B5	1355
1360	OKNB3	04B8	1358
1367	DUMMY	04BF	1389
1368	ILDFL	04C0	1314, 1352, 1359, 1429, 1455
1369	TYPIO	04C1	1441
1370	SWTHIO	04C2	1312, 1346, 1361, 1363, 1365
1390	CM44EX	04DD	1350, 1375, 1377, 1379, 1381, 1384, 1386, 1388
1400	VAL10	04E5	1398
1406	NXTSEC	04E7	0876, 1413, 1930, 1940, 1960
1411	NXT10	04ED	1409
1428	STARS	04F2	0469
1429	SERR1	04F4	1435, 1511
1440	SERR2	0500	1437, 1468
1442	SOK1	0502	1439
1449	ENTRY	0509	1443, 1445, 1447
1450	VALUE	050C	1459
1451	LOCENT	050D	1448, 1472
1456	SOK2	0513	1454
1459	VALU	0516	1465, 1470
1461	TESTAL	0518	1457
1466	NOTP	051D	1463
1469	SOK3	0520	1467
1471	LDRTAB	0523	1460

1478	NIN	052A	1476
1484	NIN1	0530	1480
1485	CM20EX	0532	1477
1495	STARU	0535	0473
1506	STARV	053B	0472
1511	ILDEL2	0541	1496, 1507, 1522, 1538, 1580, 1589
1519	STARD	0542	0478
1523	CONT	0545	1521
1536	STARG	054D	0479
1539	VALOK	0550	1537
1544	WAT	0564	1541, 1546
1555	DKERR	0573	1553
1558	DSKER	057B	1555, 1560
1563	ERDISK	0582	1540
1567	DISKER	058B	1564, 1569
1579	STARH	0592	0480
1585	OKNH	059B	1583
1590	TERMH	05A2	1588
1618	SETPTN	05C0	1594, 1603, 1608, 1613, 1625
1621	PTNSET	05C3	1624
1625	RTNPTN	05C8	1623
1626	PTN	05C9	1591, 1600, 1607, 1612, 1620, 1669, 1696
1628	WPTN	05CA	1597, 1604, 1609, 1614, 1650
1631	LWPTN	05CD	1649
1632	FWA	05CE	1631, 1633, 1634
1643	BADERR	05DB	1640
1644	GODY	05DC	1637, 1642
1650	WDONE	05E2	1648
1651	PTN1	05E3	1596, 1602, 1641
1652	PTNI	05E4	1593, 1675, 1719
1655	RPTN	05E5	1598, 1605, 1610, 1615, 1717
1658	LRPTN	05E9	1716
1660	RFWA	05EB	1659, 1661, 1662
1667	RGODY	05F4	1665
1668	RGODYA	05F5	1673
1674	SECNXT	05FB	1672
1675	NOMTCH	05FC	1670
1703	COMBUF	0618	1681, 1683, 1687, 1689, 1693, 1695, 1699, 1701
1705	COMMSG	0635	1702, 1706
1709	BMPSCT	063A	1674
1717	RDONE	0643	1715
1719	PTNERR	0644	1643, 1666
1728	DFAIL	064D	1724, 1726
1730	FALMSG	0657	1727, 1731
1735	PTNBUF	065E	1621, 1634, 1662, 1668, 1690
1736	TSECT	06BE	1586, 1647, 1714
1737	CURSCT	06BF	1657, 1677, 1709, 1711
1741	START	06C0	0477
1754	T0	06D0	1760
1761	T0A	06D7	1758
1775	T1	06EA	1793
1784	T2	06F6	1782
1794	T2A	0700	1786

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1801    T20     070C        1799, 1802
1812    T21     0719        1783, 1806, 1810, 1896
1814    T3      071C        1811
1821    T3A     0723        1819
1823    T4      0726        1826
1825    T5      0728        1822
1827    T6      072B        1824
1829    T7      072E        1837, 1852, 1854
1831    BLDADD  0730        0353, 1768, 1775, 1787, 1789
1832    PCOUNT  0731        0354, 1752, 1756, 1757, 1771, 1784, 1785
1833    PAGADD  0732        0355, 1774, 1778, 1790, 1792
1834    TMPSEC  0733        0356, 1762, 1874, 1968, 1992
1835    T8      0734        1828
1838    T8A     0738        1836
1841    T8B     073E        1839, 1842
1848    T8C     0745        1846
1853    T9      074A        1847
1855    T10     074D        1820
1862    TAG001  0758        1860, 1863
1867    T11     075D        1830
1872    OHS     0762
1873    T13     07C2        1871, 1880, 1890, 2011, 2019
1882    T13C    07CC        1888
1889    T13A    07D3        1879, 1884, 1886
1890    T13B    07D4        1887
1897    T13D    07DE        1895
1901    T14     07E5        1904
1902    T14A    07E6        1899, 1906
1917    SWAPSC  07FA        1914, 1919
1918    T12     07FB        1915, 1921
1946    T12AA   081E        1944
1949    T12A    0821        1945
1961    T12B    082F        1948
1978    T22A    0843        1976
1989    T30     0850        1986
1995    COMMD   085A        0710, 0813, 1027, 1857
1996    LENDC   085B        0357, 0708, 0811, 1025
1997    LPENDC  085C        0358, 0784, 0826, 0827, 1037, 1827, 1975
1998    MOVDSK  085D        1936, 1956, 2029
2007    MOV1    0866        2005
2011    MOV2    086B        2026
2027    MOV3    087F        2025
2030    MOVE1   0883        1999, 2012, 2021
2031    MOVE2   0884        2008, 2022, 2024
2032    MOVE3   0885        2010, 2016, 2023
2048    SATGO   0886        2056, 2072, 2074, 2084, 2085, 2102, 2103, 2104
2050    EFSECT  0887        1964, 2065
2051    ENDBSY  0888        1971, 2070
2053    SIXTEN  0889        2071, 2089
2054    ENDSAT  088A        2092, 2100, 2106
2055    BLDSAT  088B        1994, 2090
2060    SAT0    0891        2063
2064    SAT1    0895        2062
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2079	SAT2	08A6	2083
2084	SAT3	08AB	2076, 2080
2096	SAT4	08B8	2099
2100	SAT5	08BC	2094, 2097
2102	SAT6	08BE	2108
2109	SATDON	08C5	2107
2117	SAT9	08D1	2115
2118	SAT8	08D2	2121
2119	SAT7	08E8	2117, 2120, 2121
2124	SAT10	08EE	2116, 2128
2126	SAT11	0905	2124, 2127, 2128

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0029	I2MZV4	0243	0774
0030	I1	0138	0527
0031	I2	0713	0306, 1807
0032	ISAV	0880	1224, 1234, 1247, 1270, 1780, 1808, 1897, 2027
0033	CONENT	0012	0278, 0287
0034	CONMAS	0059	0325
0035	CONMS1	02BC	0879
0036	CONMS	0372	0817, 1030
0037	ILOAD	084F	0662, 0705, 0809, 0862, 0974, 0976, 0980, 1023, 1040, 1142, 1144, 1148, 1527, 1984, 1988
0038	TABLE	04A2	1324, 1335, 1342
0039	IDRIV	00BA	0386
0040	OETERM	04E1	0506, 1396
0041	MDRIV	08CD	1779, 1894, 2015, 2020, 2068, 2113
0042	QCOM	056C	0316, 0381, 0391, 1550
0043	TELOUT	0909	0303, 0313, 1263, 1273, 1547, 1561, 1570, 1708, 1733, 2122, 2129
0045	FORMFD	005C	0327
0046	SIB	000A	0283
0047	MASS	000E	0285
0048	COLU	0006	0281
0049	EPTAPE	04C7	1374
0050	ECARD	04CA	1376
0051	EMTAPE	04CD	1378
0052	EMASS	0551	1380, 1539
0053	ECOM	04D6	1385
0054	EPRINT	04D9	1387
0055	ENTSTR	0801	1484, 1908, 1923
0056	DISKWR	040C	1154
0057	WRTOUT	0854	0706, 0869, 1046, 1741, 1927, 1991
0059	HEADR1	0054	0321
0060	FNDSEC	06ED	1777
0061	LENSDT	06E7	0583, 0596, 1750, 1765, 1769, 1772
0062	DATBS0	02CA	0359, 0892
0062	DATLM0	02CD	0360, 0894
0063	DATBS1	03DA	0361, 1113
0063	DATLM1	03DD	0362, 1115
0064	PART1L	027B	0332, 0688, 0822, 0824
0065	PART1A	01E5	0333, 0691
0066	SIGNCK	0190	0601, 0611
0067	PART1C	01DF	0331, 0687
0068	PARSTR	03CF	1005, 1105
0069	QMASS	05F1	1552, 1636, 1664

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ABRLSW	0084	ABS	1330	ADJOVF	0174	AHOLD	0218	AINPUT	0183	ARIT15	0178	ASAV	0129	ASKII	0156	ATABLE	1342
BACKGR	0019	BADERR	1643	BASE	0111	BG10	1230	BG20	1234	BINASC	0144	BLANKS	0101	BLDADD	1831	BLDSAT	2055
BLKCNT	0123	BMPSCT	1709	BZSSW	0119	CENTAD	0137	CEXTAD	0205	CHKSEC	1183	CKSEC	1184	CKSEC1	1171	CKSEC2	1173
CKSEC3	1181	CKSEC4	1187	CKSEC5	1189	CKSEC6	1193	CKSERR	1180	CM190	0436	CM195	0438	CM195X	0439	CM196	0441
CM20	0372	CM20EX	1485	CM40	0374	CM44	0378	CM44EX	1390	CM45	0017	CM45A	0382	CM50	0384	CM60	0387
CM65	0018	CM72	0422	CM74	0425	CM76	0429	CM78	0433	CM80	0406	CM90	0421	CMASKT	0366	CNTR1	0300
CNTR10	0319	CNTR11	0325	CNTR2	0302	CNTR3	0304	CNTR9	0310	CO	0014	COLU	0048	COMBAS	0076	COMBUF	1703
COMLIM	0079	COMMO	1995	COMMA	0015	COMMSG	1705	CONENT	0033	CONMAS	0034	CONMS	0036	CONMS1	0035	CONT	1523
CONVRT	0182	CORADR	0198	COUNT1	0117	COUNT2	0122	CRPFLG	0676	CSNAME	0163	CSQCTR	0203	CSQLIM	0081	CSQNUM	0088
CSQSEC	0210	CURSCT	1737	DATBAS	0077	DATBS0	0062	DATBS1	0063	DATE1	0309	DATLIM	0080	DATLM0	0062	DATLM1	0063
DEVDEF	1345	DFAIL	1728	DISKER	1567	DISKWR	0056	DKERR	1555	DSKER	1558	DUMMY	1367	EBUFR	1279	ECARD	0050
ECOM	0053	ECREP	0221	ECREP1	0222	EFSECT	2050	EMASS	0052	EMTAPE	0051	ENDOV4	0678	ENDBSY	2051	ENDET1	0834
ENDEXT	0859	ENDINP	0099	ENDSAT	2054	ENDSW	0083	ENTPGS	0186	ENTPNT	0090	ENTRY	1449	ENTSEC	0209	ENTST0	0195
ENTST1	0196	ENTSTR	0055	ENTTMP	0856	EPRINT	0054	EPTAPE	0049	ERDISK	1563	ERFLAG	0024	ERNBR	1281	EVENPG	0596
EVPG	0583	EXTCTR	0082	EXTPCH	0175	EXTSTR	0197	EXTSWT	0223	FALMSG	1730	FLGBS1	0231	FLGBSE	0227	FLGLGN	0143
FMXSEC	1167	FNDSEC	0060	FORMFD	0045	FRSTLP	0680	FWA	1632	GETHEX	0490	GODY	1644	HEADR1	0059	HOP2	0440
I	0000	I1	0030	I1CALL	0529	I2	0031	I2MZV4	0029	IDRIV	0039	IGNORE	0190	ILDEL	1368	ILDEL2	1511
ILOAD	0037	IN	0012	INMEJ	0171	INPADR	0147	INPCTR	0094	INPREL	0086	INPUT	0232	INPWRD	0085	INPXC0	0146
INPXC1	0148	INPXCC	0150	ISAV	0032	JUMP	0225	LCREP	1202	LCREP1	1213	LDRTAB	1471	LENDC	1996	LENSDT	0061
LGEPGE	0189	LINK	0092	LINK1	0185	LNKCTR	0193	LNKEND	0194	LNKSTR	0192	LOCENT	1451	LP0	0701	LP1	0702
LP10	0751	LP11	0755	LP11A	0761	LP12	0762	LP12A	0758	LP13	0764	LP14	0772	LP14A	0773	LP15	0787
LP2	0703	LP3	0713	LP4	0720	LP5	0730	LP6	0732	LP7	0734	LP8	0742	LP9	0749	LPBNDY	0682
LPENDC	1997	LRPTN	1658	LSSECT	0020	LSTLOC	0799	LSTM1	0536	LSTM2	0540	LSTM3A	0542	LSTM3B	0544	LSTM3C	0554
LSTM3D	0553	LSTM4	0567	LSTM40	0558	LSTM41	0568	LSTM42	0570	LSTM43	0572	LSTM4A	0556	LSTM4Q	0564	LSTM4X	0584
LSTM5	0585	LSTM6	0597	LSTM6A	0625	LSTM7	0607	LSTM7A	0614	LSTM7L	0617	LSTM7X	0620	LSTM8	0627	LSTM8A	0637
LSTM8B	0652	LSTM8C	0653	LSTM9	0635	LSTM9A	0655	LSTM9B	0661	LSTM9D	0670	LSTM9E	0674	LUOK	1328	LWPTN	1631
M0	0807	M00FF	0155	M1	0817	M10	0883	M10A	0890	M11	0899	M12	0902	M13	0904	M14	0915
M15	0918	M15A	0923	M16	0928	M17	0936	M17A	0939	M18	0941	M19	0950	M19A	0958	M2	0819
M20	0961	M20A	0966	M20B	0972	M22	0978	M23	0981	M23A	0985	M24	0988	M25	0989	M26	1011
M3	0822	M3A	0860	M4	0864	M5	0865	M6	0868	M6A	0869	M7	0870	M7A	0874	M7FFF	0152
M8000	0153	M9	0881	MASS	0047	MAXENT	0139	MAXEXT	0208	MAXPGE	0211	MAXSEC	1194	MDRIV	0041	MERROR	0914
MFF00	0154	MINEXT	0207	MODIFY	0074	MONTAB	0230	MOV1	2007	MOV2	2011	MOV3	2027	MOVDSK	1998	MOVE1	2030
MOVE2	2031	MOVE3	2032	MP0	1021	MP1	1029	MP10	1073	MP11	1079	MP12	1084	MP13	1088	MP14	1092
MP15	1101	MP15A	1102	MP16	1142	MP18	1146	MP19	1149	MP2	1032	MP2A	1035	MP3	1042	MP3A	1046
MP4	1047	MP4A	1051	MP5	1053	MP6	1058	MP7	1060	MP8	1066	MP9	1072	MPERR	1052	MPTERM	1086
MSJWCT	0216	MSIZV4	0800	MTRMER	0901	NAME	0133	NEGSW	0157	NGRLSW	0176	NIN	1478	NIN1	1484	NN	1151
NOJUMP	0141	NOKNB	1321	NOMTCH	1675	NOPAGE	0212	NOTLNK	0098	NOTP	1466	NXT10	1411	NXTINP	0151	NXTSEC	1406
OETERM	0040	OHS	1872	OKNB	1323	OKNB1	1351	OKNB2	1357	OKNB3	1360	OKNH	1585	ONTAB	0229	OU	0013
PAGADD	1833	PAGE	0201	PARBAS	0213	PARDEF	0675	PARLIM	0214	PARSTR	0068	PART1A	0065	PART1C	0067	PART1L	0064
PARTBL	0798	PCOUNT	1832	PGENJM	0072	PGEWRT	0188	PP	1150	PRESET	0180	PRINT2	0149	PRINT3	0145	PROBAS	0078
PROCOM	0200	PRODAT	0199	PROGCT	0228	PTN	1626	PTN1	1651	PTNBUF	1735	PTNERR	1719	PTNI	1652	PTNSET	1621
QBUFR	1278	QCOM	0042	QERR	1247	QHOLD	0219	QMASS	0069	QOUT	1269	QSAV	0130	QTYPE	0023	QTYPEX	1327
RDONE	1717	REFER	0073	REL	1343	RFWA	1660	RGODY	1667	RGODYA	1668	RPTN	1655	RSTART	0010	RTNPTN	1625
SAT0	2060	SAT1	2064	SAT10	2124	SAT11	2126	SAT2	2079	SAT3	2084	SAT4	2096	SAT5	2100	SAT6	2102
SAT7	2119	SAT8	2118	SAT9	2117	SATDON	2109	SATGO	2048	SAVEA	0224	SCAN	0162	SCANSW	0105	SCHXIT	0134
SCNINP	0159	SCNTRM	0158	SCNXIT	0161	SECNXT	1674	SECTOR	0220	SECVAL	1195	SERR1	1429	SERR2	1440	SETIO	1312
SETPTN	1618	SI	0295	SIB	0046	SIGNCK	0066	SIXTEN	2053	SOK1	1442	SOK2	1456	SOK3	1469	STARC	1310
STARD	1519	STARG	1536	STARH	1579	STARI	1304	STARL	0533	STARLP	0696	STARM	0804	STARMP	1018	STARO	1307
STARS	1428	START	1741	STARJ	1495	STARV	1506	STARY	0520	STARYM	0514	STIOER	1326	STORE	1153	STRSEC	0215

STRTEX	0857	STTYP1	0448	STTYP3	0465	SW6	0126	SWAPSC	1917	SWTHIO	1370	SYMSTR	0102	SYSPGE	0184	T0	1754
T0A	1751	T1	1775	T10	1855	T11	1867	T12	1918	T12A	1949	T12AA	1946	T12B	1961	T13	1873
T13A	1889	T13B	1890	T13C	1882	T13D	1897	T14	1901	T14A	1902	T2	1784	T20	1801	T21	1812
T22A	1978	T2A	1794	T3	1814	T30	1989	T3A	1821	T4	1823	T5	1825	T6	1827	T7	1829
T8	1835	T8A	1838	T8B	1841	T8C	1848	T9	1853	TABLE	0038	TABSCH	0135	TAG001	1862	TCODE	0011
TELOUT	0043	TEMP	0140	TEMP3	0226	TEMPEX	0858	TERMH	1590	TESTAL	1461	TMPSEC	1834	TOP	0187	TSECT	1736
TYPEQ	0021	TYPEQ1	1244	TYPEQ2	1258	TYPEQ3	1259	TYPEQ9	1277	TYPIO	1369	VAL10	1400	VALID	0016	VALOK	1539
VALU	1459	VALUE	1450	VALUE1	1155	WAT	1544	WDONE	1650	WPTN	1628	WRDCNT	0112	WRTOUT	0057	XCSNAM	0170
XFRADR	0217	XFRNAM	0132	Y0	0525	Y1	0524	YCNTER	0679	YM1	0518	YM2	0517	YMCNTR	1013	YMORDN	1014
YORDNL	0636	YPOINT	0677	ZERO	1344												

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0001                NAM  ILOAD          DECK-ID 018  MSOS 5.0                  SUMMARY-132********  01800001
0002              *                                                                                 01800002
0003              *                                                                                 01800003
0004              *                                                                                 01800004
0005                                                                                                01800005
0006                ENT  SIGNCK        65K SIGN CHECK ROUTINE                                       01800006
0007                ENT  ILOAD                                                                      01800007
0008                ENT  WRTOUT                                                                     01800008
0009                ENT  LENSOT                                                                     01800009
0010                ENT  DISKWR                                                                     01800010
0011                ENT  FNDSEC                                                                     01800011
0012                EXT* ERFLAG                                                                     01800012
0013                EXT* LSSECT        NEXT AVAILABLE SECTOR FROM CONTRL                            01800013
0014                EXT* STRTBL        BIT TABLE SAYING WHICH ENT/EXT PAGES ARE USED.               01800014
0015                EXT* ISAV          STARTING ADDRESS OF LOADER TABLE                             01800015
0016                EXT* WRDADR                                                                     01800016
0017                EXT* MDRIV         MASS STORAGE DRIVER                                          01800017
0018                EXT* QCOM          INITIALIZER COMMENT DEVICE DRIVER **MSOS 4.1**               01800018
0019                EXT* TELOUT                                                                     01800019
0020                EXT* IDRIV         STANDARD BINARY INPUT DRIVER                                 01800020
0021                EXT* BACKGR                                                                     01800021
0022                EXT* QTYPE                                                                      01800022
0023                EXT* CM65                                                                       01800023
0024                ENT  PRNT3                                                                      01800024
0025                ENT  PRNT4                                                                      01800025
0026                ENT  PRNT5                                                                      01800026
0027                ENT  ADJOV1                                                                     01800027
0028                ENT  CNVERT                                                                     01800028
0029                ENT  LINK11                                                                     01800029
0030                ENT  ENTSTR        ROUTINE TO STORE AN ENTRY POINT IN LDR  TABLE                01800030
0031                ENT  FLGADR                                                                     01800031
0032                ENT  ISCAN                                                                      01800032
0033                ENT  SCHTBL                                                                     01800033
0034                ENT  RWFLAG                                                                     01800034
0035                ENT  PGEFLG                                                                     01800035
0036                ENT  SA                                                                         01800036
0037                ENT  SQ                                                                         01800037
0038                ENT  VALUE                                                                      01800038
0039                ENT  WORD                                                                       01800039
0040                ENT  PAGENO                                                                     01800040
0041                ENT  PARSTR        START ADDRESS OF PARTITION LOAD                              01800041
0042                ENT  LSTPGE                                                                     01800042
0043                ENT  MINREF                                                                     01800043
0044                ENT  MAXREF                                                                     01800044
0045                ENT  MINBAS                                                                     01800045
0046                ENT  ADPAGE                                                                     01800046
0047                ENT  FLGADR                                                                     01800047
0048                ENT  MINFLG                                                                     01800048
0049                ENT  NXTBLK                                                                     01800049
0050                ENT  DATBS0,DATLM0 DATA BASE AND LIMIT FOR PART 0                               01800050
0051                ENT  DATBS1,DATLM1 DATA BASE AND LIMIT FOR PART 1                               01800051
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0053  0022        EQU  ZERO($22)                                                  01800053
0054  0001        EQU  PGENUM(1)      CELL FOR PAGE NUMBER - IN FLAG TABLE ENTRY  01800054
0055  0002        EQU  REFER(2)       CELL FOR NUMBER OF TIMES A PAGE HAS BEEN    01800055
0056        *                         REFERENCED - IN FLAG TABLE ENTRY            01800056
0057  0003        EQU  MODIFY(3)      CELL TO INDICATE IF A PAGE HAS BEEN MODIFIED 01800057
0058        *                         WHILE IN CORE. - IN FLAG TABLE ENTRY        01800058
0059        *                         0 = NOT MODIFIED,  1 = MODIFIED             01800059
0060  0001        EQU  NUMSEC(1)      NUMBER OF SECTORS PER PAGE                  01800060
0061        *                         6 CARDS DELETED                66*1455      01800061
0062        *     LOADER TABLE ENTRIES                                            01800062
0063  0001        EQU  COMBAS(1)      RELOCATION BASE FOR COMMON STORAGE          01800063
0064  0002        EQU  DATBAS(2)      RELOCATION BASE FOR DATA STORAGE            01800064
0065  0003        EQU  PROBAS(3)      RELOCATION BASE FOR PROGRAM BEING LOADED    01800065
0066  0004        EQU  COMLIM(4)      HIGHEST ADDRESS OF COMMON STORAGE +1        01800066
0067  0005        EQU  DATLIM(5)      HIGHEST ADDRESS OF DATA STORAGE +1          01800067
0068  0006        EQU  CSQLIM(6)      HIGHEST ADDRESS OF COMMAND SEQUENCE STORAGE +01800068
0069  0007        EQU  EXTCTR(7)      NEXT AVAILABLE LOCATION IN EXTERNAL TABLE   01800069
0070  0008        EQU  ENDSW(8)       =1 IF LAST BYTE IN RBD OR BZS BLOCK         01800070
0071  0009        EQU  ABRLSW(9)      0 IF ABSOLUTE EXTERNAL, 1 IF RELATIVE EXTERNAL01800071
0072  0009        EQU  BGRLSW(9)      SWITCH TO INDICATE IF BACKWARD RELOCATION    01800072
0073        *                         IS SPECIFIED WITH 16-BIT ARITHMETIC 1=YES,0=NO01800073
0074  000A        EQU  INPWRD(10)     END OF COMMAND SEQUENCE STORAGE             01800074
0075  000B        EQU  INPREL(11)     CONTAINS RELATIVE FLAG FOR WORD OF COMMAND  01800075
0076        *                         SEQUENCE IN RBD OR BZS BLOCK                01800076
0077  000C        EQU  CSQNUM(12)     NUMBER OF SECTORS RESERVED BEFORE START     01800077
0078        *                         OF COMMAND SEQUENCE STORAGE                 01800078
0079  000D        EQU  ENTPNT(13)     CONTAINS THE ADDRESS ASSOCIATED WITH THE    01800079
0080        *                         NAME IN A ENTRY OR EXTERNAL BLOCK           01800080
0081  000E        EQU  LINK(14)       CONTAINS ADDRESS ASSOCIATED WITH NAME       01800081
0082        *                         IN LOADER TABLE                             01800082
0083  000F        EQU  INPCTR(15)     USED TO ADDRESS CORE LOCATION OF COMMAND    01800083
0084        **                        SEQUENCE STORAGE AT LOAD TIME               01800084
0085        **                        USED TO HOLD ADDRESS OF ENTRY FOR TABLE     01800085
0086        **                        SEARCH AND TABLE STORE ROUTINES             01800086
0087  0010        EQU  NOTLNK(16)     FLAG =1 IF UNPATCHED EXTERNALS EXIST        01800087
0088  0011        EQU  ENDINP(17)     LAST STORAGE ADDRESS +1 AT END OF           01800088
0089        *                         RELOCATABLE BINARY LOAD                     01800089
0090  0012        EQU  BLANKS(18)     ASCII CODE FOR TWO SPACES                   01800090
0091  0013        EQU  SYMSTR(19)     SET TO THE ASCII CODE FOR THE CHARACTERS IN  01800091
0092        **    EQU  SYMSTR+1(20)   THE FIELD BEING PROCESSED BY SCAN. IF FIELD 01800092
0093        **    EQU  SYMSTR+2(21)   IS NUMERIC SYMSTR=0.                        01800093
0094  0016        EQU  SCANSW(22)     IF BIT ZERO =0 AND FIELD BEING PROCESSED IS  01800094
0095        **                        NUMERIC, THE NUMBER WILL BE PROCESSED AS    01800095
0096        **                        DECIMAL UNLESS PRECEEDED BY $               01800096
0097        **                        IF BIT ZERO =1 AND FIELD BEING PROCESSED IS 01800097
0098        **                        NUMERIC, THE NUMBER WILL BE PROCESSED AS    01800098
0099        **                        HEXIDECIMAL REGARDLESS OF OCCURENCE OF $    01800099
0100  0017        EQU  BASE(23)       BASE OF SYSTEM INITIALIZER                  01800100
0101  0018        EQU  WRDCNT(24)     CHARACTER REFERENCE COUNTER - SET TO STORAGE 01800101
0102        *                         ADDRESS OF THE FIRST CHARACTER OF A FIELD   01800102
0103        **                        TO BE PROCESSED. BIT ZERO IS R/L INDICATER  01800103
0104        **                        0 = FIRST CHARACTER IN LEFT HALF OF WORD    01800104
0105        *                         1 = FIRST CHARACTER IN RIGHT HALF OF WORD   01800105
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0106  0019        EQU  COUNT1(25)   CHARACTER COUNTER- SET TO COMPLEMENT OF        01800106
0107          *                     MAXIMUM NUMBER OF CHARACTERS A FIELD MAY HAVE 01800107
0108  001A        EQU  BZSSW(26)    USED BY SUBROUTINES COMMON TO RBDPRO AND      01800108
0109          **                    BZSPRO TO DETERMINE BLOCK TYPE.               01800109
0110          **                    0= RBD BLOCK    -1= BZS BLOCK                 01800110
0111  001B        EQU  COUNT2(27)   COUNTER USED BY SCAN                          01800111
0112  001B        EQU  BLKCNT(27)   BLOCK COUNTER CONTAINS WORD COUNT FOR         01800112
0113          **                    NUMBER OF SEQUENTIAL LOCATIONS TO BE SET      01800113
0114          **                    TO ZERO IN A BZS BLOCK ENTRY                  01800114
0115  001C        EQU  SW6(28)      FLAGWORD FOR LOADER TABLE SEARCH ROUTINE      01800115
0116          **                    =0 MATCH HAS BEEN FOUND IN TABLE              01800116
0117          **                    =- (NEGATIVE) MATCHING NAME NOT FOUND         01800117
0118  001D        EQU  ASAV(29)     TEMPORY STORAGE FOR A-REGISTER                01800118
0119  001E        EQU  QSAV(30)     TEMPORY STORAGE FOR Q-REGISTER                01800119
0120          *   EQU  ISAV(31)     TEMPORY STORAGE FOR I-REGISTER                01800120
0121  0020        EQU  XFRNAM(32)   STORAGE OF SIX CHARACTER TRANSFER ADDRESS     01800121
0122  0023        EQU  NAME(35)     ASCII CODED INFORMATION                       01800122
0123  0027        EQU  SCHXIT(39)   EXIT FROM TABLE SEARCH ROUTINE               01800123
0124  0028        EQU  TABSCH(40)   ENTRY ADDRESS FOR RTJ TO ROUTINE FOR         01800124
0125          *                     SEARCHING LOADER TABLE FOR ENTRIES OR EXTERNAL01800125
0126  002B        EQU  CENTAD(43)   ADDRESS OF ENTRY BEING CURRENTLY EXAMINED     01800126
0127          *                     IN ENTRY POINT TABLE                          01800127
0128  002C        EQU  MAXENT(44)   LARGEST ADDRESS BEING USED IN ENTRY POINT TBL 01800128
0129  002D        EQU  TEMP(45)     TEMPORARY COUNTER                             01800129
0130  002E        EQU  TEMP1(46)    TEMPORARY COUNTER                             01800130
0131  002F        EQU  WMXSEC(47)   WORD ADDRESS OF MAXSEC IN ENT/EXT TABLE       01800131
0132  0030        EQU  NOTRAN(48)   FLAG = 0 IF TRANSFER ADDRESS IS NEEDED       01800132
0133  0031        EQU  NOJUMP(49)   FLAG = 0 IF NO JUMP INSTRUCTION IS NEEDED TO 01800133
0134          *                     JUMP AROUND DATA OR COMMON                    01800134
0135  0032        EQU  FLGLGN(50)   NUMBER OF CORE FLAGS PER PAGE                 01800135
0136  0033        EQU  BINASC(51)   STORAGE OF ASCII CODE FOR NUMBER CONVERSION   01800136
0137  0035        EQU  PR3XIT(53)                                                 01800137
0138  0036        EQU  PRINT3(54)   ENTRY TO ERROR OUTPUT ROUTINE                 01800138
0139  0039        EQU  INPXC0(57)   CONTAINS ADDRESS CONSTANT INPUT               01800139
0140  003A        EQU  INPXC1(58)   CONTAINS ADDRESS CONSTANT INPUT + 1           01800140
0141  003B        EQU  PRINT2(59)   ENTRY TO FATAL ERROR OUTPUT ROUTINE           01800141
0142  003E        EQU  INPXCC(62)   CONTAINS ADDRESS CONSTANT INPUT - 3           01800142
0143  003F        EQU  NXTINP(63)   JMP INSTRUCTION TO READ NEXT BLOCK            01800143
0144  0041        EQU  M7FFF(65)    MASK OF $7FFF                                 01800144
0145  0042        EQU  M8000(66)    MASK OF $8000                                 01800145
0146  0043        EQU  MFFFF(67)    MASK = $FFFF                                  01800146
0147  0044        EQU  MFF00(68)    MASK OF $FF00                                 01800147
0148  0045        EQU  M00FF(69)    MASK OF $00FF                                 01800148
0149  0046        EQU  ASKII(70)    ASCII MODE SWITCH FOR 405 AND MAG TAPE        01800149
0150  0047        EQU  NEGSW(71)    SET BY SCAN TO VALUE OF LEGAL ALGEBRAIC SIGN  01800150
0151  0048        EQU  SCNTRM(72)   SET BY SCAN TO ASCII CODE FOR FIELD TERMINATOR01800151
0152  0049        EQU  SCNINP(73)   SET BY SCAN TO BINARY VALUE OF A NUMERIC      01800152
0153          *                     OPERAND AFTER ITS CONVERSION FROM ASCII       01800153
0154  004A        EQU  SCNXIT(74)   EXIT FROM SCAN ROUTINE                        01800154
0155  004B        EQU  SCAN(75)     ENTRY TO THE SCAN ROUTINE                     01800155
0156  004E        EQU  CSNAME(78)   CODE FOR CONTROL STATEMENT BEING PROCESSED    01800156
0157  004F        EQU  XCSNAM(79)   CODE FOR LAST CONTROL STATEMENT PROCESSED     01800157
0158  0050        EQU  INMED(80)    INPUT MEDIUM SWITCH                           01800158
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                *               0 = COMMENT DEVICE                             01800159
                *               1 = BINARY INPUT DEVICE                        01800160
0051                EQU  ADJXIT(81)   EXIT FROM ADDRESS ARITHMETIC ROUTINE         01800161
0052                EQU  ADJOVF(82)   ENTRY CELL FOR ADDRESS ARITHMETIC SUBROUTINE 01800162
0055                EQU  EXTPCH(85)   FLAG - NEGATIVE IF EXTERNAL NOT PATCHED      01800163
0056                EQU  NGRLSW(86)   FLAG - 0= POSITIVE RELOCATION                01800164
                *                            1= NEGATIVE ADDRESS RELOCATION        01800165
0057                EQU  ARIT15(87)   0 = USE 15 BIT ARITHMETIC                    01800166
                *                     1 = USE 16 BIT ARITHMETIC                    01800167
0058                EQU  PRESET(88)   USED TO HOLD CONTENTS OF A WORD READ INTO CORE01800168
                *                     BY THE PAGING ROUTINE DURING A TABLE SEARCH  01800169
0059                EQU  CNVXIT(89)   EXIT FROM CONVERT ROUTINE                    01800170
005A                EQU  CONVRT(90)   ENTRY FOR BINARY TO ASCII CONVERSION ROUTINE 01800171
005D                EQU  PR4XIT(93)   EXIT FROM PRINTING PROGRAM NAME              01800172
005E                EQU  PRINT4(94)   ENTRY TO PRINT PROGRAM NAME                  01800173
0061                EQU  PR5XIT(97)                                                01800174
0062                EQU  PRINT5(98)   ROUTINE TO PRINT OUT ENTRY POINT NAMES       01800175
0065                EQU  AINPUT(101)  A-REGISTER CONTENTS UPON ENTRY TO LOADER     01800176
0067                EQU  LK1XIT(103)  EXIT FROM LINK ROUTINE                       01800177
0068                EQU  LINK1(104)   ENTRY FOR LINK ROUTINE                       01800178
006B                EQU  ENTPGS(107)  STARTING ADDRESS OF ENTRY POINT TABLE *EXTRA* 01800179
006C                EQU  TOP(108)     HIGHEST CORE LOCATION AVAILABLE FOR THIS LOAD 01800180
006D                EQU  PGEWRT(109)  FLAG =1 IF ANY PAGE WRITTEN TO MASS STORAGE  01800181
006E                EQU  LGEPGE(110)  LARGEST COMMAND SEQUENCE PAGE USED           01800182
006F                EQU  IGNORE(111)  FLAG SAYING TO IGNORE DUPLICATE ENTRY POINTS 01800183
                *                     WHEN LINKING *M OR *MP TO CREP OR CREP1      01800184
0070                EQU  LNKSTR(112)  ADDRESS OF LINK TABLE                        01800185
0071                EQU  LNKCTR(113)  NEXT AVAILABLE LOCATION IN LINK TABLE        01800186
0072                EQU  LNKEND(114)  LAST ADDRESS +1 IN LINK TABLE                01800187
0073                EQU  ENTST0(115)  STARTING ADDRESS OF PART0 ENTRY POINTS       01800188
0074                EQU  ENTST1(116)  STARTING ADDRESS OF PART1 ENTRY POINTS       01800189
0075                EQU  ADDR(117)    TEMPORARY USED BY PAGE                       01800190
0076                EQU  EXTSTR(118)  WORD ADDRESS OF START OF EXTERNAL TABLE      01800191
0077                EQU  CORADR(119)  LOWEST LOCATION AVAILABLE FOR USE BY LOADER  01800192
0078                EQU  PRODAT(120)  FLAG - NON-ZERO IF PROTECTED DATA IS DECLARED 01800193
0079                EQU  PROCOM(121)  FLAG - NON-ZERO IF PROTECTED COMMON DECLARED 01800194
007A                EQU  PAGE(122)    LENGTH OF PAGE FOR MASS MEMORY - MUST BE     01800195
                *                     A MULTIPLE OF 96                             01800196
007B                EQU  CSQCTR(123)  LAST ADDRESS OF PROGRAM COMMAND SEQUENCE     01800197
                *                     STORAGE +1                                   01800198
007C                EQU  CEXTAD(124)  ADDRESS OF EXTERNAL BEING CURRENTLY PROCESSED 01800199
                *                     FROM EXTERNAL TABLE                          01800200
007C                EQU  EXTADR(124)  SAME AS CEXTAD                               01800201
007D                EQU  MINEXT(125)  FIRST WORD ADDRESS OF SYSTEM EXTERNAL TABLE  01800202
007E                EQU  MAXEXT(126)  LAST WORD ADDRESS OF SYSTEM EXTERNAL TABLE   01800203
007F                EQU  ENTSEC(127)  STARTING SECTOR OF ENTRY/EXTERNAL TABLES     01800204
0080                EQU  CSQSEC(128)  STARTING SECTOR OF COMMAND SEQUENCE IMAGE    01800205
0081                EQU  MAXPGE(129)  MAXIMUM PAGE NUMBER THAT CAN BE USED ON DISK 01800206
0082                EQU  NOPAGE(130)  NUMBER OF PAGES IN CORE                      01800207
0083                EQU  PARBAS(131)  ADDRESS OF STARTING PARTITION                01800208
0084                EQU  PARLIM(132)  LAST WORD ADDRESS +1 OF LAST PARTITION       01800209
0085                EQU  STRSEC(133)  STARTING SECTOR OF IMAGE ON MASS MEMORY      01800210
0086                EQU  MSDWCT(134)  NUMBER OF WORDS STORED ON MASS MEMORY        01800211
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0212          0087          EQU   XFRADR(135)   TRANSFER ADDRESS OF NAME FROM XFR BLOCK          01800212
0213          0088          EQU   AHOLD(136)    TEMPORY                                         01800213
0214          0089          EQU   QHOLD(137)    TEMPORY                                         01800214
0215          008A          EQU   SECTOR(138)   NUMBER OF WORDS IN A SECTOR                     01800215
0216          008B          EQU   ECREP(139)    END ADDRESS OF CREP TABLE              132*5127********
0217          008C          EQU   ECREP1(140)   END ADDRESS OF CREP1 TABLE             132*5127********
0218          008D          EQU   EXTSWT(141)   FLAG - NON-ZERO IF PROCESSING EXTERNAL BLOCK  01800217
0219          008E          EQU   SAVEA(142)    TEMPORARY                                       01800218
0220          008F          EQU   JUMP(143)     JUMP FLAG FOR I1                                01800219
0221          0090          EQU   TEMP3(144)    TEMPORARY                                       01800220
0222          0091          EQU   FLGBSE(145)   BASE ADDRESS OF CORE FLAGS TABLE               01800221
0223          0092          EQU   PROGCT(146)   LENGTH OF PROGRAM FROM NAM CARD               01800222
0224          0093          EQU   ONTAB(147)    *Y ORDINAL COUNTER FOR I1                       01800223
0225          0094          EQU   MONTAB(148)   *YM COUNTER FOR I1                             01800224
0226          0095          EQU   FLGBS1(149)   INITIAL ADDRESS OF SYSTEM FLAG TABLE           01800225
0227          0096          EQU   INPUT(150)    INPUT BUFFER                                    01800226
0228 P0000    0001  LENSDT  BZS   LENSDT(1)     NUMBER OF PAGES USED FOR SYSDAT -    66*145501800227
0229                ***                         AND DIRECTORY (CORE RESIDENT PAGES)  66*145501800228
0230                ***                         SET UP AFTER AFTER SYSDAT IS LOADED  66*145501800229
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0232 P0001 0B00   ILOAD  NOP  0              RETURN ADDRESS OF CALLER                          01800231
0233 P0002 6165          STA- AINPUT,I       SAVE A-REGISTER PARAMETER                         01800232
0234 P0003 0C0F          ENQ  $F             MASK OFF THE LOADER FUNCTION CODE                 01800233
0235 P0004 08B6          LAQ  Q,A            AND SAVE IT IN BOTH REGISTERS                     01800234
0236 P0005 0FE1          LLS  1              MULTIPLY FUNCTION CODE BY TWO TO COMPENSATE       01800235
0237 P0006 09F9          INA  TYPELD-LASTFC  FOR TWO WORD JUMPS IN TABLE                       01800236
0238 P0007 0121          SAP  ILOAD1-*-1     SKIP IF FUNCTION CODE IS INVALID                  01800237
0239 P0008 1A04          JMP* TYPELD,Q       VALID FUNCTION, GO TO PROCESS                     01800238
0240 P0009 C000   ILOAD1 LDA  =A14           INVALID LOADER FUNCTION, INFORM OPERATOR          01800239
     P000A 3134
0241 P000B 113B          JMP- PRINT2,I       AND ABORT INITIALIZATION                          01800240


0243 P000C 1800   TYPELD JMP  LOADER         0 = RELOCATABLE BINARY LOAD                       01800242
     P000D 0005
0244 P000E 1800          JMP  LNKENT         1 = LINK PROGRAM ENTRY POINTS                     01800243
     P000F 025E
0245 P0010 1800          JMP  PRNEXT         2 = PRINT UNPATCHED EXTERNALS                     01800244
     P0011 03CD
0246       0012 P        EQU  LASTFC(*)      E N D   O F   F U N C T I O N   T A B L E         01800245
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0248                    *       B E G I N   R E L O C A T A B L E   B I N A R Y   L O A D     01800247

0250                    *       COME HERE TO CHECK FOR NAME BLOCK                             01800249

0252 P0012 C000    LOADER LDA   =XSW1A-SW1-1  SETUP THE JUMP INSTRUCTION SO THAT ONLY        01800251
     P0013 000A
0253 P0014 6805           STA*  SW1+1         A NAME BLOCK IS LEGAL                         01800252
0254 P0015 5800 X  NXTBLK RTJ   BACKGR        BACKROUND INPUT BUFFER TO ALL ONES            01800253
     P0016 7FFF X
0255 P0017 5803           RTJ*  NXTBIN        READ IN THE NEXT RECORD                       01800254
0256 P0018 1800    SW1    JMP   SW1           JUMP TO PROCESS THE BLOCK                     01800255
     P0019 FFFE
0257 P001A 0B00    NXTBIN NOP   0                                                          01800256
0258 P001B 0C00           ENQ   0             SET I/O MODE TO READ                          01800257
0259 P001C C139           LDA-  INPXCO,I      PICKUP STARTING BUFFER ADDRESS                01800258
0260 P001D 5800 X         RTJ   IDRIV         READ IN A BINARY RECORD                       01800259
     P001E 7FFF X
0261 P001F 0101           SAZ   LOAD12-*-1    SKIP IF ERROR                                 01800260
0262 P0020 1CF9           JMP*  (NXTBIN)                                                    01800261
0263 P0021 0A31    LOAD12 ENA   $31           ERROR 1, UNRECOGNIZEABLE INPUT                01800262
0264 P0022 113B           JMP-  PRINT2,I                                                    01800263
0265 P0023 C196    SW1A   LDA-  INPUT,I       TEST FOR THIS RECORD BEING A NAME BLOCK       01800264
0266 P0024 9000           SUB   =N$2050                                                     01800265
     P0025 2050
0267 P0026 0101           SAZ   1             SKIP IF NAME BLOCK                66*145501800266
0268 P0027 1815           JMP*  LOAD14                                          66*145501800267
0269 P0028 C14E           LDA-  CSNAME,I      TEST FOR *L LOAD                              01800268
0270 P0029 09FC           INA   -3                                                          01800269
0271 P002A 0110           SAN   LOAD13-*-1    SKIP IF NOT *L                                01800270
0272 P002B C103           LDA-  PROBAS,I                                                    01800271
0273 P002C 010B           SAZ   LOAD13-*-1    SKIP IF LOADING SYSDAT                        01800272
0274 P002D 90EB           SUB-  $EB           CHECK FOR PROBAS= START OF SYSTEM DIRECTORY    01800273
0275 P002E 0119           SAN   LOAD13-*-1    SKIP IF NOT START OF DIRECTORY                01800274
0276 P002F C0EB           LDA-  $EB           UPDADE PROBAS TO LOAD AROUND DIRECTORY        01800275
0277 P0030 80E6           ADD-  $E6                                                         01800276
0278 P0031 6103           STA-  PROBAS,I                                                    01800277
0279 P0032 0842           CLR   Q                                               66*145501800278
0280 P0033 3000           DVI   =N$60         COMPUTE NUM OF PAGES USED FOR     66*145501800279
     P0034 0060
0281 P0035 0141           SQZ   EVNP          SYSDAT AND DIRECTORY              66*145501800280
0282 P0036 0901           INA   1                                               66*145501800281
0283 P0037 68C8    EVNP   STA*  LENSDT        NUMBER OF CORE RESIDENT PAGES     66*145501800282
0284 P0038 C000    LOAD13 LDA   =XSW1B-SW1-1  SET JUMP INSTRUCTION FOR RBD,BZS, OR ENT      01800283
     P0039 002F
0285 P003A 68DE           STA*  SW1+1                                                     01800284
0286 P003B 1835           JMP*  NAMPRO        GO TO PROCESS NAME BLOCK                      01800285
0287 P003C C196    LOAD14 LDA-  INPUT,I       CHECK FOR CONTROL STATEMENT                   01800286
0288 P003D 0F48           ARS   8                                                           01800287
0289 P003E A000           AND   =N$7F                                                       01800288
     P003F 007F
0290 P0040 09D5           INA   -$2A          IS THE FIRST CHARACTER AN ASTERISK             01800289
0291 P0041 0102           SAZ   LOAD16-*-1    YES, SKIP                                     01800290
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0292 P0042 0A33   LOAD15 ENA  $33          ERROR 3,  OUT OF ORDER INPUT BLOCK        01800291
0293 P0043 113B          JMP- PRINT2,I                                               01800292
0294 P0044 C139   LOAD16 LDA- INPXC0,I                                               01800293
0295 P0045 0802          SET  Q                                                      01800294
0296 P0046 1C00          JMP  (ILOAD)       RETURN TO CONTROL                        01800295
     P0047 FFB9

0298                     *    COME HERE TO CHECK FOR BZS, RBD, OR ENT                01800297

0300 P0048 C196   SW1B   LDA- INPUT,I                                               01800299
0301 P0049 0842          CLR  Q                                                      01800300
0302 P004A 0FE3          LLS  3                                                      01800301
0303 P004B 0F4B          ARS  11                                                     01800302
0304 P004C 0141          SQZ  LOAD17-*-1                                             01800303
0305 P004D 0101          SAZ  LOAD18-*-1                                             01800304
0306 P004E 18F3   LOAD17 JMP* LOAD15        OUT OF ORDER INPUT BLOCK                 01800305
0307 P004F 0AFD   LOAD18 ENA  -2                                                    01800306
0308 P0050 0836          AAQ  A,Q                                                    01800307
0309 P0051 09FC          INA  -3                                                     01800308
0310 P0052 0128          SAP  SW1BJ1-*-1    SKIP IF NOT RBD, BZS, OR ENT             01800309
0311 P0053 0FA1          QLS  1                                                      01800310
0312 P0054 1A01          JMP* LOAD19,Q                                               01800311
0313 P0055 1800   LOAD19 JMP  RBDPRO        JUMP TO PROCESS RBD BLOCK                01800312
     P0056 00F4
0314 P0057 1800          JMP  BZSPRO        JUMP TO PROCESS BZS BLOCK                01800313
     P0058 00EE
0315 P0059 1800          JMP  ENTPRO        JUMP TO PROCESS ENT BLOCK                01800314
     P005A 01C2
0316 P005B C000   SW1BJ1 LDA  =XSW1C-SW1-1  SETUP JUMP FOR EXT OR XFR BLOCKS        01800315
     P005C 0045
0317 P005D 68BB          STA* SW1+1                                                  01800316
0318 P005E C196   SW1C   LDA- INPUT,I                                               01800317
0319 P005F 0842          CLR  Q                                                      01800318
0320 P0060 0FE3          LLS  3                                                      01800319
0321 P0061 0F4B          ARS  11                                                     01800320
0322 P0062 0101          SAZ  LOAD20-*-1    SKIP IF BITS 0-12 ARE ZERO               01800321
0323 P0063 18DE          JMP* LOAD15        OUT OF ORDER INPUT BLOCK                 01800322
0324 P0064 0DFA   LOAD20 INQ  -5            IS THIS AN EXT BLOCK                     01800323
0325 P0065 0152          SQN  LOAD21-*-1    NO, SKIP                                 01800324
0326 P0066 1800          JMP  EXTPRO        YES, PROCESS EXTERNAL BLOCK              01800325
     P0067 01D6
0327 P0068 0DFE   LOAD21 INQ  -1            IS THIS A XFR BLOCK                      01800326
0328 P0069 0141          SQZ  LOAD22-*-1    YES                                      01800327
0329 P006A 18D7          JMP* LOAD15        NO, OUT OF ORDER INPUT BLOCK             01800328
0330 P006B C000   LOAD22 LDA  =XSW1A-SW1-1  SETUP JUMP TO PROCESS NAME BLOCK        01800329
     P006C 000A
0331 P006D 68AB          STA* SW1+1                                                  01800330
0332 P006E 1800          JMP  XFRPRO        JUMP TO PROCESS XFR BLOCK                01800331
     P006F 01F2
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0334                    * T H I S   I S   T H E   N A M E   B L O C K   P R O C E S S O R  01800333


0336 P0070 C197   NAMPRO LDA- INPUT+1,I     PICKUP THE NUMBER OF WORDS OF COMMON              01800335
0337 P0071 0111          SAN  NAMP1-*-1     SKIP IF COMMON IS REQUESTED                       01800336
0338 P0072 1831          JMP* NAMP7         NO COMMON, GO TO CHECK FOR DATA                   01800337
0339 P0073 0121   NAMP1  SAP  NAMP2-*-1     IS COMMON DECLARATION .LT. $7FFF                  01800338
0340 P0074 1857          JMP* COMERR        NO, PRINT PROGRAM NAME AND TAKE ERROR EXIT        01800339
0341 P0075 C101   NAMP2  LDA- COMBAS,I      HAS COMMON BEEN PREVIOUSLY DECLARED               01800340
0342 P0076 0111          SAN  NAMP3-*-1     YES, MAKE SURE THAT THIS BLOCK IS LEGAL           01800341
0343 P0077 180D          JMP* NAMP4         NO, GO DOWN AND RESERVE THIS BLOCK                01800342
0344 P0078 C104   NAMP3  LDA- COMLIM,I      PICKUP THE ADDRESS OF THE TOP OF COMMON           01800343
0345 P0079 E101          LDQ- COMBAS,I      PICKUP THE ADDRESS OF THE BOTTOM OF COMMON        01800344
0346 P007A F197          ADQ- INPUT+1 ,I    ADD THE SIZE OF THE NEW COMMON DECLARATION        01800345
0347 P007B 411E          STQ- QSAV,I        TEMPORARILY SAVE Q                                01800346
0348 P007C 5800          RTJ  SIGNCK        TEST TO SEE IF NEW COMMON DECLARATION             01800347
     P007D 00BC
0349                     *                  IS SMALLER THAN THE PREVIOUS DECLARATION          01800348
0350 P007E 0131          SAM  FUDGE         A.GE.Q VALID COMMON DECLARATION                   01800349
0351 P007F 1824          JMP* NAMP7                                                           01800350
0352 P0080 0900   FUDGE  INA  0                                                  117*4319********
0353 P0081 0111          SAN  FUDGE1        SKIP IF NOT -0                      117*4319********
0354 P0082 1849          JMP* COMERR        ERROR, COMMON DECLARATION TOO BIG   117*4319********
0355 P0083 1820   FUDGE1 JMP* NAMP7                                            117*4319********


0357                     *        COME HERE FOR THE FIRST PROGRAM OF THE LOAD TO DECLARE COMMON  01800353

0359 P0084 C104   NAMP4  LDA- COMLIM,I      PICKUP THE UPPER BOUND OF COMMON                  01800355
0360 P0085 9197          SUB- INPUT+1,I     SUBTRACT THE LENGTH OF THE COMMON BLOCK BEING     01800356
0361 P0086 6101          STA- COMBAS,I      DECLARED AND USE THE RESULT AS THE BASE FOR       01800357
0362                     *                  ANY AND ALL COMMON DECLARED IN THIS LOAD          01800358
0363                     *                  MAKE SURE THAT THERE IS ROOM FOR BOTH THIS        01800359
0364 P0087 E106          LDQ- CSQLIM,I      COMMON BLOCK AND THE PROGRAM COMMAND SEQUENCE     01800360
0365 P0088 5800          RTJ  SIGNCK        IN CORE SIMULTANEOUSLY                            01800361
     P0089 00B0
0366 P008A 0124          SAP  NAMP6-*-1     SKIP IF THERE IS ROOM FOR BOTH                    01800362
0367 P008B 0900          INA  0                                                 117*4319********
0368 P008C 0112          SAN  NAMP6         SKIP IF NOT -0                      117*4319********
0369 P008D 1800          JMP  COROVF        NOT ENOUGH ROOM, SET CORE OVFL SWITCH             01800363
     P008E 0089
0370 P008F 0114   NAMP6  SAN  NAMP6A-*-1    GO TO CHECK DATA DECLARATION IF THERE IS          01800364
0371                     *                  ROOM FOR COMMAND SEQUENCE STORAGE                 01800365
0372 P0090 C199          LDA- INPUT+3,I     THERE IS NO ROOM FOR COMMAND SEQUENCE             01800366
0373 P0091 0102          SAZ  NAMP6A-*-1    SKIP IF PROGRAM LENGTH IS ZERO                    01800367
0374 P0092 1800          JMP  COROVF        NOT ENOUGH ROOM TAKE CORE OVFL EXIT               01800368
     P0093 0084
0375 P0094 E197   NAMP6A LDQ- INPUT+1,I     THE COMMON DECLARATION IS LEGAL SO                01800369
0376 P0095 F17B          ADQ- CSQCTR,I      INCREASE THE LENGTH OF COMMAND SEQUENCE           01800370
0377 P0096 417B          STQ- CSQCTR,I      TO INCLUDE COMMON.                                01800371
0378 P0097 C000          LDA  =ACS                                                            01800372
     P0098 4353
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0379 P0099 6862          STA* BUFFER          STORE CS IN BUFFER                                  01800373
0380 P009A 5800          RTJ  CSDIST                                                              01800374
     P009B 0001
0381 P009C 0B00 CSDIST   NOP  0               CALCULATE ABSOLUTE ADDRESS                          01800375
0382 P009D C8FE          LDA* CSDIST                                                              01800376
0383 P009F E000          LDQ  =XBUFFER-CSDIST                                                     01800377
     P009F 005F
0384 P00A0 0832          AAQ  Q                                                                   01800378
0385 P00A1 C101          LDA- COMBAS,I        LOAD COMMON BASE ADDRESS                            01800379
0386 P00A2 5814          RTJ* PRNTIT                                                              01800380

0388                     *    COME HERE TO BEGIN PROCESSING DATA DECLARATION                      01800382

0390 P00A3 C198 NAMP7    LDA- INPUT+2,I       PICKUP THE SIZE OF THE DATA DECLARATION             01800384
0391 P00A4 0111          SAN  NAMP8-*-1       SKIP IF DATA DECLARATION EXISTS                     01800385
0392 P00A5 185A          JMP* NAMP9           NO DATA, JUMP DOWN TO CHECK PROGRAM LENGTH          01800386
0393 P00A6 0121 NAMP8    SAP  NAMP11-*-1      MAKE SURE SIZE OF DATA BLOCK .LT. 7FFF              01800387
0394 P00A7 1824          JMP* DATERR          ILLEGAL DATA DECLARATION                            01800388
0395 P00A8 C102 NAMP11   LDA- DATBAS,I        HAS DATA BEEN PREVIOUSLY DECLARED                   01800389
0396 P00A9 0111          SAN  NAMP12-*-1      YES, MAKE SURE THIS DECLARATION IS LEGAL            01800390
0397 P00AA 1825          JMP* NAMP13          NO, GO DOWN TO SETUP THIS DECLARATION               01800391
0398 P00AB C105 NAMP12   LDA- DATLIM,I        PICKUP THE MAXIMUM ADDRESS AVAILABLE FOR DATA       01800392
0399 P00AC E102          LDQ- DATBAS,I        PICKUP THE STARTING ADDRESS OF DATA                 01800393
0400 P00AD F198          ADQ- INPUT+2,I       ADD THE SIZE OF THIS DATA DECLARATION               01800394
0401 P00AE 5800          RTJ  SIGNCK          CHECK FOR NEW DATA SMALLER THAN OLD                 01800395
     P00AF 008A
0402 P00B0 0131          SAM  INTRMD          THE PREVIOUSLY DECLARED DATA BLOCK                  01800396
0403 P00B1 184E          JMP* NAMP9           DATA BLOCK OK                                       01800397
0404 P00B2 0900 INTRMD   INA  0                                                  117*4319********
0405 P00B3 0111          SAN  FUDGE2          SKIP IF NOT -0                     117*4319********
0406 P00B4 1817          JMP* NAMP14                                             117*4319********
0407 P00B5 184A FUDGE2   JMP* NAMP9                                              117*4319********
0408 P00B6 0000 PRNTIT   NUM  0                                                  01800399
0409 P00B7 480F          STQ* SVQ                                                01800400
0410 P00B8 515A          RTJ- CONVRT,I                                           01800401
0411 P00B9 C133          LDA- BINASC,I                                           01800402
0412 P00BA 6842          STA* BUFFER+1                                           01800403
0413 P00BB C134          LDA- BINASC+1,I                                         01800404
0414 P00BC 6841          STA* BUFFER+2                                           01800405
0415 P00BD C809          LDA* SVQ                                                01800406
0416 P00BE 0C03          ENQ  3                                                  01800407
0417 P00BF 5800 X        RTJ  QCOM                                  **MSOS 4.1**01800408
     P00C0 7FFF X
0418 P00C1 C112          LDA- BLANKS,I                                           01800409
0419 P00C2 6839          STA* BUFFER                                             01800410
0420 P00C3 6839          STA* BUFFER+1                                           01800411
0421 P00C4 6839          STA* BUFFER+2                                           01800412
0422 P00C5 1CF0          JMP* (PRNTIT)                                           01800413
0423 P00C6 0000 SVQ      NUM  0                                                  01800414
0424 P00C7 0000 DATBS0   NUM  0               DATA BASE ADDRESS FOR PART 0       01800415
0425 P00C8 0000 DATLM0   NUM  0               DATA LIMIT ADDRESS FOR PART 0      01800416
0426 P00C9 0000 DATBS1   NUM  0               DATA BASE ADDRESS FOR PART 1       01800417
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0427 P00CA 0000   DATLM1 NUM  0            DATA LIMIT ADDRESS FOR PART 1                    01800418
0428              *                         1-CARD DELETED                                   01800419



0430              *****  N O T I C E  -  B U R I E D  E Q U A T E  C A R D S  ****01800421

0432       00CB P COMERR EQU  COMERR(*)     THIS IS THE ROUTINE USED TO LIST ILLEGAL         01800423
0433       00CB P DATERR EQU  DATERR(*)     DATA OR COMMON DECLARATIONS                      01800424
0434 P00CB 584E   NAMP14 RTJ* PRNNAM        PRINT NAME OF PROGRAM                            01800425
0435 P00CC 0A34          ENA  $34           CODE FOR LOADER ERROR 4                          01800426
0436 P00CD 5136          RTJ- PRINT3,I      PRINT OUT LOADER ERROR                           01800427
0437 P00CE 1831          JMP* NAMP9         GO DOWN TO CHECK PROGRAM LENGTH                  01800428

0439              *      COME HERE TO SETUP THE FIRST DATA BLOCK OF THE LOAD                 01800430

0441 P00CF C14E   NAMP13 LDA- CSNAME,I      IF THIS IS A *M OR *MP LOAD                      01800432
0442 P00D0 09FA          INA  -5            AND NO DATA HAS BEEN DECLARED                    01800433
0443 P00D1 0131          SAM  NOTMMP                                                         01800434
0444 P00D2 18F8          JMP* NAMP14        JUMP TO ERROR EXIT                               01800435
0445 P00D3 E103   NOTMMP LDQ- PROBAS,I                                                      01800436
0446 P00D4 4102          STQ- DATBAS,I      SET NEW DATBAS                                   01800437
0447 P00D5 0901          INA  1                                                              01800438
0448 P00D6 0102          SAZ  DATB1                                                          01800439
0449 P00D7 48EF          STQ* DATBS0        SET DATA BASE ADDRESS FOR PART 0                 01800440
0450 P00D8 1802          JMP* SETLIM        OR                                               01800441
0451 P00D9 48EF   DATB1  STQ* DATBS1        SET DATA BASE ADDRESS FOR PART 1                 01800442
0452 P00DA F198   SETLIM ADQ- INPUT#2,I     ADD THE NEW DATA LENGTH TO                       01800443
0453 P00DB 4105          STQ- DATLIM,I      SET NEW DATLIM                                   01800444
0454 P00DC 0102          SAZ  DATL1                                                          01800445
0455 P00DD 48EA          STQ* DATLM0        SET DATA LIMIT ADDRESS FOR PART 0                01800446
0456 P00DE 1802          JMP* SETBAS        OR                                               01800447
0457 P00DF 48EA   DATL1  STQ* DATLM1        SET DATA LIMIT ADDRESS FOR PART 1                01800448
0458 P00E0 4103   SETBAS STQ- PROBAS,I      SET NEW PROGRAM BASE                             01800449
0459 P00E1 4106          STQ- CSQLIM,I      AND NEW UPPER BOUND OF COMMAND SEQUENCE          01800450
0460 P00E2 C16C          LDA- TOP,I         PICKUP THE UPPER LIMIT OF DATA FROM TOP          01800451
0461              *                         FOR  *L     TOP=ENDOV4                           01800452
0462              *                         FOR  *LP    TOP=MSIZV4                           01800453
0463              *                         FOR  *M     TOP=ENDOV4                           01800454
0464              *                         FOR  *MP    TOP=END OF SPECIFIED PARTITIONS      01800455
0465 P00E3 5856          RTJ* SIGNCK        CHECK FOR LEGAL DATA DECLARATION                 01800456
0466 P00E4 0123          SAP  PRTOUT        SKIP IF BLOCK SIZE OKAY                          01800457
0467 P00E5 0900          INA  0                                          117*4319********
0468 P00E6 D111          SAN  PRTOUT        SKIP IF NOT -0                117*4319********
0469 P00E7 1830          JMP* COROVF        PRINT ERROR, CORE OVERFLOW                       01800458
0470 P00E8 6816   PRTOUT STA* TMPARG                                                        01800459
0471 P00E9 C000          LDA  =ADS                                                          01800460
     P00EA 4453
0472 P00EB 6810          STA* BUFFER        STORE DS IN INPUT                                01800461
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0473 P00EC 5800          RTJ  DSDIST                                                    01800462
     P00ED 0001
0474 P00EE 0B00  DSDIST  NOP  0              CALCULATE ABSOLUTE ADDRESS                 01800463
0475 P00EF C8FE          LDA* DSDIST                                                    01800464
0476 P00F0 E000          LDQ  =XBUFFER-DSDIST                                           01800465
     P00F1 000D
0477 P00F2 0832          AAQ  Q                                                         01800466
0478 P00F3 C102          LDA- DATBAS,I       LOAD DATA BASE ADDRESS                     01800467
0479 P00F4 5800          RTJ  PRNTIT                                                    01800468
     P00F5 FFC0
0480 P00F6 C808          LDA* TMPARG                                                    01800469
0481 P00F7 E198  NAMP15  LDQ- INPUT+2,I      THE DATA DECLARATION IS LEGAL SO           01800470
0482 P00F8 F17B          ADQ- CSQCTR,I       INCREASE THE LENGTH OF COMMAND SEQUENCE    01800471
0483 P00F9 417B          STQ- CSQCTR,I       TO INCLUDE THE DATA BLOCK                  01800472
0484 P00FA 1805          JMP* NAMP9          DATA BLOCK OK                              01800473
0485             *                           3 CARDS DELETED                            01800474
0486 P00FB 0000  BUFFER  NUM  0                                                         01800475
0487 P00FC 0000          NUM  0                                                         01800476
0488 P00FD 0000          NUM  0                                                         01800477
0489 P00FE 0000  TMPARG  NUM  0                                                         01800478

0491             *       COME HERE TO CHECK PROGRAM LENGTH                              01800480

0493 P00FF C199  NAMP9   LDA- INPUT+3,I      PICKUP THE LENGTH OF THIS PROGRAM          01800482
0494 P0100 6192  NAMP17  STA- PROGCT,I       SAVE IN PROGRAM COUNT                      01800483
0495 P0101 0111          SAN  NAMP18-*-1     SKIP IF LENGTH IS NON-ZERO                 01800484
0496 P0102 1813          JMP* NAMP19         GO TO PRINT OUT PROGRAM NAME               01800485
0497 P0103 E103  NAMP18  LDQ- PROBAS,I       PICKUP PROGRAM BASE FOR THIS LOAD          01800486
0498 P0104 F199          ADQ- INPUT+3,I      ADD ON THE LENGTH OF THIS PROGRAM          01800487
0499 P0105 4106          STQ- CSQLIM,I       SETUP THE NEW VALUE OF COMMAND SEQUENCE LIMIT 01800488
0500 P0106 C14E          LDA- CSNAME,I       PICKUP TYPE OF CONTROL STATEMENT BEING PROCESS01800489
0501 P0107 09FC          INA  -3             TEST FOR *L LOAD                           01800490
0502 P0108 0113          SAN  NAMP20-*-1     SKIP IF NOT *L                             01800491
0503 P0109 C101          LDA- COMBAS,I       IF COMMON IS DEFINED, PICKUP BASE OF COMMON 01800492
0504 P010A 0101          SAZ  NAMP20-*-1     FOR UPPER CORE LIMIT, OTHERWISE SKIP       01800493
0505 P010B 1802          JMP* NAMP21         TEST FOR CORE OVERFLOW                     01800494
0506 P010C C16C  NAMP20  LDA- TOP,I          PICKUP UPPER CORE LIMIT                    01800495
0507 P010D 582C  NAMP21  RTJ* SIGNCK         TEST FOR CORE OVERFLOW                     01800496
0508 P010E 0123          SAP  NAMP22-*-1     PROGRAM FITS INTO CORE                     01800497
0509 P010F 0900          INA  0                                                         01800498
0510 P0110 0111          SAN  NAMP22-*-1     SKIP IF PROGRAM FITS INTO CORE             01800499
0511 P0111 1806          JMP* COROVF         ABORT JOB, CORE OVERFLOW                   01800500
0512 P0112 E199  NAMP22  LDQ- INPUT+3,I      ADD THE LENGTH OF THIS PROGRAM             01800501
0513 P0113 F17B          ADQ- CSQCTR,I       TO THE LENGTH OF COMMAND SEQUENCE          01800502
0514 P0114 417B          STQ- CSQCTR,I                                                  01800503

0516             *       COME  HERE TO PRINT OUT THE PROGRAM NAME AND HEADER            01800505

0518 P0115 5804  NAMP19  RTJ* PRNNAM         PRINT OUT THE PROGRAM NAME AND ADDRESS     01800507
0519 P0116 113F          JMP- NXTINP,I       GET THE NEXT INPUT BLOCK                   01800508
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0521                    *       THIS IS THE CORE OVERFLOW EXIT                                  01800510

0523 P0117 0A35   COROVF  ENA   $35             ERROR CODE 5, CATISTROPHIC CORE OVERFLOW       01800512
0524 P0118 113B           JMP-  PRINT2,I        PRINT MESSAGE AND ABORT                        01800513

0526                    *       COME HERE TO PRINT PROGRAM NAME, HEADER, AND ADDRESS            01800515

0528 P0119 0B00   PRNNAM  NOP   0               RETURN ADDRESS OF CALLER                       01800517
0529 P011A 0C2F           ENQ   47                                                             01800518
0530 P011B C3A0   PRNM1   LDA-  INPUT+10,B      MOVE THE COMMENT FIELD TO MAKE ROOM FOR        01800519
0531 P011C 63A3           STA-  INPUT+13,B      THE LOAD ADDRESS                               01800520
0532 P011D 0142           SQZ   PRNNM2-*-1                                                     01800521
0533 P011E 0DFE           INQ   -1                                                             01800522
0534 P011F 18FB           JMP*  PRNM1                                                          01800523
0535 P0120 C112   PRNNM2  LDA-  BLANKS,I        INSERT BLANKS INTO THE FORMAT                  01800524
0536 P0121 6198           STA-  INPUT+2,I                                                      01800525
0537 P0122 6199           STA-  INPUT+3,I                                                      01800526
0538 P0123 619D           STA-  INPUT+7,I                                                      01800527
0539 P0124 619E           STA-  INPUT+8,I                                                      01800528
0540 P0125 61A1           STA-  INPUT+11,I                                                     01800529
0541 P0126 61A2           STA-  INPUT+12,I                                                     01800530
0542 P0127 E100           LDQ   =XINPUT+2,I     PICKUP BUFFER ADDRESS FOR PRINT ROUTINE        01800531
     P0128 0098
0543 P0129 C14E           LDA-  CSNAME,I        PICKUP TYPE OF LOAD BEING PROCESSED            01800532
0544 P012A 09FA           INA   -5                                                             01800533
0545 P012B 0139           SAM   NAMP24-*-1                                                     01800534
0546 P012C C103           LDA-  PROBAS,I        LOAD PROGRAM REL.BASE IF.GT.0                  01800535
0547 P012D 0104           SAZ   NAMP26          LOAD SECTOR ADDRESS IF.EQ.0                    01800536
0548 P012E 980A           SUB*  PARSTR          IS THIS START OF PARTITION LOAD                01800537
0549 P012F 09FD           INA   -2              BIAS FOR 2 WORD JUMP INSTRUCTION               01800538
0550 P0130 0101           SAZ   NAMP26          YES, PRINT START SECTOR OF *MP LOAD            01800539
0551 P0131 1804           JMP*  NAMP24                                                         01800540
0552 P0132 C800 X NAMP26  LDA   LSSECT                                                         01800541
     P0133 7FFF X
0553 P0134 1802           JMP*  NAMP25                                                         01800542
0554 P0135 C103   NAMP24  LDA-  PROBAS,I        PICKUP PROGRAM RELOCATION BASE AS LOAD ADDRESS 01800543
0555 P0136 515E   NAMP25  RTJ-  PRINT4,I        PRINT NAME AND ADDRESS                         01800544
0556 P0137 1CE1           JMP*  (PRNNAM)        RETURN TO CALLER                               01800545
0557 P0138 0000   PARSTR  NUM   0               START ADDRESS OF PARTITION LOAD                01800546


0559                    *       COME HERE TO MAGNITUDE CHECK TWO NUMBERS                        01800548

0561                    *       IF A.GT.Q   THEN   DIFFERENCE RETURNED IN A-REGISTER           01800550
0562                    *       IF A.EQ.Q   THEN   ZERO IS RETURNED IN A-REGISTER              01800551
0563                    *       IF A.LT.Q   THEN   MINUS ZERO IS RETURNED IN A-REGISTER        01800552


0565 P0139 0B00   SIGNCK  NOP   0                                                              01800554
0566 P013A 0132           SAM   AUPPER-*-1      A IS IN BANK 1                                 01800555
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0567 P013B 0165          SQP  BTHSAM-*-1   BOTH ARE IN LOWER BANK                          01800556
0568 P013C 1808          JMP* QBIGER       A IN LOWER BANK, Q IN UPPER BANK               01800557
0569 P013D 0173  AUPPER  SQM  BTHSAM-*-1   BOTH IN UPPER BANK                             01800558
0570 P013E 0852          TCQ  Q            A IN UPPER BANK, Q IN LOWER BANK               01800559
0571 P013F 0834          AAQ  A            RETURN DIFFERENCE IN A-REGISTER                01800560
0572 P0140 1805          JMP* ABIGER                                                      01800561
0573 P0141 0852  BTHSAM  TCQ  Q            BOTH IN BANK 1 FIND THE BIGGER ONE             01800562
0574 P0142 0834          AAQ  A                                                           01800563
0575 P0143 0121          SAP  ABIGER-*-1   A.GT.Q  RETURN DIFFERENCE IN A-REGISTER       01800564
0576 P0144 0804  QBIGER  SET  A            Q.GT.A  RETURN MINUS ZERO IN A-REGISTER        01800565
0577 P0145 1CF3  ABIGER  JMP* (SIGNCK)                                                   01800566
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0579                    *                R O U T I N E   T O   P R O C E S S                    01800568
0581                    *                R B D   O R   B Z S   B L O C K S                      01800570


0583 P0146 0AFE   BZSPRO ENA  -1              SET BZSSW TO MINUS ONE IF A BZS BLOCK              01800572
0584 P0147 611A          STA- BZSSW,I         IS BEING PROCESSED                                01800573
0585 P0148 0A00          ENA  0                                                                 01800574
0586 P0149 1803          JMP* RBBZ1           GO TO INITIALIZE OTHER PARAMETERS                 01800575


0588 P014A 0A00   RBDPRO ENA  0               SET BZSSW TO ZERO IF A RBD BLOCK                  01800577
0589 P014B 611A          STA- BZSSW,I         IS BEING PROCESSED                                01800578

0591 P014C 6119   RBBZ1  STA- COUNT1,I        CLEAR THE BYTE COUNTER TO ZERO                    01800580
0592 P014D C139          LDA- INPXC0,I        PICKUP THE STARTING ADDRESS OF THE INPUT BUF.     01800581
0593 P014E 6118          STA- WRDCNT,I        SAVE ADDRESS IN LOCATION WRDCNT                   01800582
0594 P014F 6109          STA- BGRLSW,I        SET BACKWORD RELOCATION SWITCH TO NON-ZERO        01800583
0595 P0150 C000   BZSPR1 LDA  =X(SW2A-SW2-1)     MAKE SW2 =  JMP SW2A  (TWO WORD JUMP)          01800584
     P0151 FF65
0596 P0152 6800          STA  SW2+1                                                             01800585
     P0153 00B7
0597 P0154 C000          LDA  =X(SW3A-SW3-1)     MAKE SW3 =  JMP SW3A  (TWO WORD JUMP)          01800586
     P0155 FF9A
0598 P0156 6800          STA  SW3+1                                                             01800587
     P0157 00B5
0599 P0158 586E          RTJ* NXTWRD          PICKUP THE NEXT ENTRY IN THIS BLOCK               01800588
0600 P0159 C10B          LDA- INPREL,I        PICKUP THE TYPE OF RELOCATION SPECIFIED           01800589
0601 P015A 09FE          INA  -1              DECREMENT RELOCATION TYPE BY ONE                  01800590
0602 P015B 611C          STA- SW6,I           AND SAVE IN SW6                                   01800591
0603 P015C 0111          SAN  RBBZ2-*-1       SKIP IF PROGRAM RELOCATION WAS NOT SPECIFIED      01800592
0604 P015D 180F          JMP* RBBZ3           GO TO PROCESS PROGRAM RELOCATION                  01800593
0605 P015E 0125   RBBZ2  SAP  RBBZ4-*-1       SKIP IF DATA OR COMMON RELOCATABLE                01800594
0606 P015F C000          LDA  =X(SW2C-SW2-1)  NO RELOCATION   SW2 = JMP  SW2C                   01800595
     P0160 FF6F
0607 P0161 E000          LDQ  =X(SW3C-SW3-1)                  SW3 = JMP  SW3C                   01800596
     P0162 FF9E
0608 P0163 1805          JMP* RBBZ5           SETUP THE JUMP INSTRUCTIONS                       01800597
0609 P0164 C000   RBBZ4  LDA  =X(SW2B-SW2-1)  DATA OR COMMON RELOCATION   SW2= JMP  SW2B       01800598
     P0165 FF6D
0610 P0166 E000          LDQ  =X(SW3B-SW3-1)                              SW3= JMP  SW3B       01800599
     P0167 FF9C
0611 P0168 6800   RBBZ5  STA  SW2+1                                                             01800600
     P0169 00A1
0612 P016A 4800          STQ  SW3+1                                                             01800601
     P016B 00A1
0613 P016C 5800   RBBZ3  RTJ  ADJUST          GO TO ADJUST FOR RELOCATION TYPE                  01800602
     P016D 008D
0614 P016E 1800          JMP  SW2                                                               01800603
     P016F 009A
```

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0516                    *       C O M E   H E R E   I F   P R O G R A M                 01800605
0618                    *       R E L O C A T I O N   I S   S P E C I F I E D           01800607

0620 P0170 C192   SW2A  LDA-  PROGCT,I      PICKUP THE LENGTH OF THE PROGRAM SPECIFIED  01800609
0621 P0171 0114         SAN   SW2X-*-1       ON THE NAME CARD AND SKIP IF NON-ZERO       01800610
0622 P0172 C101         LDA-  COMBAS,I       PICKUP THE START OF COMMON IF PROGRAM LENGTH=001800611
0623 P0173 0111         SAN   SW-*-1         SKIP IF COMMON EXISTS                       01800612
0624 P0174 C184         LDA-  PARLIM,I       PICKUP LWA+1 OF PERTIONED CORE IF NO COMMON 01800613
0625 P0175 1806   SW    JMP*  RBBZ6                                                      01800614
0626 P0176 C106   SW2X  LDA-  CSQLIM,I       PICKUP UPPER LIMIT OF COMMAND SEQUENCE      01800615
0627 P0177 1804         JMP*  RBBZ6          IF PROGRAM LENGTH IS NON ZERO               01800616
0628 P0178 C105   SW2B  LDA-  DATLIM,I       PICKUP TOP OF DATA FOR BASE IF DATA         01800617
0629 P0179 1802         JMP*  RBBZ6          RELOCATION IS SPECIFIED                     01800618
0630 P017A C16C   SW2C  LDA-  TOP,I          PICKUP UPPER BOUND OF CORE FOR NO RELOCATION01800619
0631 P017B 611D   RBBZ6 STA-  ASAV,I         SAVE UPPER BOUND FOR RELOCATION             01800620
0632 P017C C11A   RBBZ7 LDA-  BZSSW,I        IS THE CURRENT BLOCK RBD OR BZS             01800621
0633 P017D 0101         SAZ   RBBZ8-*-1      RBD                                         01800622
0634 P017E 182E         JMP*  BZSPR2         BZS                                         01800623
0635 P017F 5847   RBBZ8 RTJ*  NXTWRD         PICKUP NEXT WORD OF RBD BLOCK               01800624
0636 P0180 C10B         LDA-  INPREL,I       PICK RELOCATION TYPE OF WORD                01800625
0637 P0181 0C00         ENQ   0                                                          01800626
0638 P0182 0107         SAZ   RBBZ9-*-1      SKIP IF NO RELOCATION IS SPECIFIED          01800627
0639 P0183 09FE         INA   -1                                                         01800628
0640 P0184 E103         LDQ-  PROBAS,I       SET RELOCATION BASE TO PROGRAM EASE         01800629
0641 P0185 0104         SAZ   RBBZ9-*-1      SKIP IF PROGRAM RELOCATION SPECIFIED        01800630
0642 P0186 09FE         INA   -1                                                         01800631
0643 P0187 E101         LDQ-  COMBAS,I       SET RELOCATION BASE TO START OF COMMON      01800632
0644 P0188 0101         SAZ   RBBZ9-*-1      SKIP IF COMMON RELOCATION IS SPECIFIED      01800633
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0645 P0189 E102          LDQ- DATBAS,I     SET RELOCATION BASE TO START OF DATA          01800634
0646 P018A C10A   RBBZ9  LDA- INPWRD,I     PICKUP THE LAST WORD OF THE BLOCK READ        01800635
0647 P018B 5152          RTJ- ADJOVF,I     PERFORM THE ADDRESS ARITHMETIC                01800636
0648 P018C 680F          STA* CSQ          SAVE THE RESULT OF ADDRESS RELOCATION         01800637
0649 P018D E10B          LDQ- INPREL,I     WAS ADDRESS RELOCATION NECESSARY              01800638
0650 P018E 0143          SQZ  RBBZ10-*-1   NO SKIP DOWN TO BOUND CHECK                  01800639
0651 P018F B141          EOR- M7FFF,I      YES IS THIS WORD 7FFF                         01800640
0652 P0190 0111          SAN  RBBZ10-*-1   NO, SKIP                                      01800641
0653 P0191 587C          RTJ* STRLNK       YES, SAVE THIS ADDRESS IN THE LINK TABLE      01800642
0654 P0192 C11D   RBBZ10 LDA- ASAV,I       PICKUP THE LEGAL UPPER BOUND OF THIS LOAD     01800643
0655 P0193 E10F          LDQ- INPCTR,I     PICKUP THE ADDRESS COMPUTED FOR THE LAST      01800644
0656 P0194 58A4          RTJ* SIGNCK       INSTRUCTION AND CHECK AGAINST THE UPPER BOUND 01800645
0657 P0195 0131          SAN  RBBZ11-*-1                                                 01800646
0658 P0196 1802          JMP* RBBZ12       ADDRESS LESS THAN UPPER BOUND GO ON           01800647
0659 P0197 1874   RBBZ11 JMP* SW3          TAKE ERROR EXIT                               01800648
0660 P0198 C10F   RBBZ12 LDA- INPCTR,I     PICKUP EXECUTION TIME STORAGE ADDRESS         01800649
0661 P0199 5800          RTJ  DISKWR       STORE THE INSTRUCTION INTO COMMAND SEQUENCE   01800650
     P019A 03BE
0662 P019B 0000   CSQ    NUM  0            VALUE TO BE STORED                            01800651
0663 P019C 0000          NUM  0            FLAG SAYING USE COMMAND SEQUENCE PAGE         01800652
0664 P019D D10F          RAO- INPCTR,I     INCREMENT EXECUTION TIME STORAGE ADDRESS      01800653
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0665 P019E C192          LDA- PROGCT,I      PICKUP PROGRAM LENGTH FROM NAME CARD                    01800654
0666 P019F 811C          ADD- SW6,I         ADD RELOCATION TYPE-1                                   01800655
0667 P01A0 0112          SAN  RBBZ13-*-1    SKIP IF WORD COUNT NOT ZERO OR STARTING                 01800656
0668                     *                  ADDRESS NOT PROGRAM RELOCATABLE                         01800657
0669 P01A1 C10F          LDA- INPCTR,I      PICKUP CURRENT VALUE OF EXECUTION TIME                  01800658
0670 P01A2 6106          STA- CSQLIM,I      STORAGE AND STORE INTO COMMAND SEQUENCE LIMIT           01800659
0671 P01A3 C108 RBBZ13   LDA- ENDSW,I       WAS THIS THE LAST ENTRY OF THE RBD BLOCK                01800660
0672 P01A4 0101          SAZ  RBBZ14-*-1    NO, SKIP                                                01800661
0673 P01A5 113F          JMP- NXTINP,I      YES, GO READ IN THE NEXT BLOCK                          01800662
0674 P01A6 18D5 RBBZ14   JMP* RBBZ7         LOOP BACK TO PROCESS NEXT ENTRY                         01800663


0676                     *        THESE ARE THE ERROR EXITS                                         01800665
0677 P01A7 0A35 SW3A     ENA  $35           OVERFLOW OF AVAILABLE CORE                              01800666
0678 P01A8 113B          JMP- PRINT2,I                                                              01800667

0680 P01A9 0A37 SW3B     ENA  $37           OVERFLOW OF DATA BLOCK                                  01800669
0681 P01AA 113B          JMP- PRINT2,I                                                              01800670

0683 P01AB 18FB SW3C     JMP* SW3A          OVERFLOW OF AVAILABLE CORE                              01800672
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0685                *      P R O C E S S    B Z S    B L O C K                    01800674


0687 P01AC C11D    BZSPR2 LDA- ASAV,I       PICKUP UPPER BOUND OF LOAD AREA      01800676
0688 P01AD E10F           LDQ- INPCTR,I     PICKUP CURRENT VALUE OF EXECUTION TIME STORAGE01800677
0689 P01AE 588A           RTJ* SIGNCK       MAKE SURE A.GT.Q                     01800678
0690 P01AF 0121           SAP  BZSJ20-*-1   SKIP IF A.GE.Q                       01800679
0691 P01B0 185B           JMP* SW3          ERROR A.LT.G                         01800680
0692 P01B1 C10F    BZSJ20 LDA- INPCTR,I     STORE ZERO INTO EXECUTIME STORAGE    01800681
0693 P01B2 5800           RTJ  DISKWR                                            01800682
     P01B3 03A5
0694 P01B4 0000           NUM  0            VALUE TO BE STORED   ZERO FOR BZS BLOCK 01800683
0695 P01B5 0000           NUM  0            FLAG SAYING USE COMMAND SEQUENCE PAGES 01800684
0696 P01B6 D10F           RAO- INPCTR,I     INCREMENT EXECUTION TIME STORAGE ADDRESS 01800685
0697 P01B7 C192           LDA- PROGCT,I     SKIP IF WORD COUNT NON ZERO OR STARTING 01800686
0698 P01B8 811C           ADD- SW6,I        ADDRESS NOT PROGRAM RELOCATABLE      01800687
0699 P01B9 0112           SAN  BZSJ21-*-1                                        01800688
0700 P01BA C10F           LDA- INPCTR,I     PICKUP CURRENT EXECUTION TIME ADDRESS AND 01800689
0701 P01BB 6106           STA- CSQLIM,I     SAVE AS COMMAND SEQUENCE LIMIT       01800690
0702 P01BC C118    BZSJ21 LDA- BLKCNT,I     DECREMENT THE NUMBER OF LOCATIONS TO 01800691
0703 P01BD 09FE           INA  -1           BE SET TO ZERO FOR THIS BZS BLOCK    01800692
0704 P01BE 611B           STA- BLKCNT,I                                          01800693
0705 P01BF 0101           SAZ  BZSPR3-*-1   SKIP ONLY IF ENTIRE BLOCK ZEROED     01800694
0706 P01C0 18FB           JMP* BZSPR2       LOOP BACK TO ZERO NEXT LOCATION      01800695
0707 P01C1 C108    BZSPR3 LDA- ENDSW,I      IS THIS THE LAST ENTRY OF THIS BLOCK 01800696
0708 P01C2 0101           SAZ  BZSP2-*-1                                         01800697
0709 P01C3 113F           JMP- NXTINP,I     YES, GO READ ANOTHER BLOCK           01800698
0710 P01C4 1800    BZSP2  JMP  BZSPR1       NO, GO FINISH PROCESSING THIS BLOCK  01800699
     P01C5 FF8A
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0712                    *       R O U T I N E   T O   G E T   T H E   N E X T                   01800701
0714                    *       W O R D   I N   A   B L O C K   A N D   I T S                   01800703
0716                    *       R E L O C A T I O N   B Y T E                                   01800705



0718 P01C6 0B00     NXTWRD NOP  0           RETURN ADDRESS OF CALLER                            01800707
0719 P01C7 C119            LDA- COUNT1,I    PICKUP THE BYTE COUNTER                             01800708
0720 P01C8 0116            SAN  NXWD1-*-1   SKIP IF NOT PROCESSING FIRST BYTE                    01800709
0721 P01C9 0AFB            ENA  -4                                                              01800710
0722 P01CA 6119            STA- COUNT1,I    SETUP BYTE COUNTER TO PROCESS FOUR BYTES            01800711
0723 P01CB D118            RAO- WRDCNT,I    INCREMENT THE CURRENT BUFFER ADDRESS                01800712
0724 P01CC CC00 X          LDA  (WRDADR)    PICKUP THE WORD CONTAINING THE FOUR                 01800713
     P01CD 7FFF X
0725                    *                   RELOCATION BYTES (WRDADR = WRDCNT)                  01800714
0726 P01CE 6829            STA* RELWRD      SAVE THE FOUR RELOCATION BYTES IN RELWRD            01800715
0727 P01CF 0A00     NXWD1  ENA  0                                                               01800716
0728 P01D0 E827            LDQ* RELWRD      PICKUP THE NEXT RELOCATION BYTE AND                 01800717
0729 P01D1 0FE4            LLS  4           SAVE IT IN THE A-REGISTER                           01800718
0730 P01D2 4825            STQ* RELWRD                                                          01800719
0731 P01D3 0C00            ENQ  0           SAVE UPPER BIT OF BYTE IN ENDSW                     01800720
0732 P01D4 0FED            LLS  13          UPPER BIT OF RELOCATION BYTES IS ONE IF THIS        01800721
0733 P01D5 4108            STQ- ENDSW,I     IS THE LAST BYTE IN THE BLOCK.                      01800722
0734 P01D6 0C00            ENQ  0                                                               01800723
0735 P01D7 0FF1            LLS  1           SAVE NEXT BIT OF BYTE IN SAVEA. THE BIT IS          01800724
0736 P01D8 618E            STA- SAVEA,I     ONE IF NEGATIVE RELOCATION IS SPECIFIED.            01800725
0737 P01D9 C157            LDA- ARIT15,I    CHECK FOR 15 OR 16 BIT ARITHMETIC                   01800726
0738 P01DA 0102            SAZ  NXWD2-*-1   SKIP IF FIFTEEN BIT ARITHMETIC IS SPECIFIED        01800727
0739 P01DB 0141            SQZ  NXWD2-*-1   SKIP IF POSITIVE RELOCATION IS SPECIFIED          01800728
0740 P01DC 181C            JMP* NEGERR      ERROR, NEGATIVE RELOCATION WITH 16 BIT ARITH.       01800729
0741 P01DD 4156     NXWD2  STQ- NGR1SW,I    SET NEGATIVE RELOCATION SWITCH                      01800730
0742                    *                   0 = POSITIVE RELOCATION  1 = NEGATIVE               01800731
0743 P01DE C18E            LDA- SAVEA,I     PICKUP THE LOWER TWO BITS OF THE BYTE               01800732
0744 P01DF 0C00            ENQ  0                                                               01800733
0745 P01E0 0FF2            LLS  2                                                               01800734
0746 P01E1 410B            STQ- INPREL,I    SAVE THE TYPE OF ADDRESS RELOCATION IN INPREL       01800735
0747                    *                           NO RELOCATION        INPREL=00           01800736
0748                    *                           PROGRAM RELOCATION   INPREL=01           01800737
0749                    *                           COMMON RELOCATION    INPREL=10           01800738
0750                    *                           DATA RELOCATION      INPREL=11           01800739
0751 P01E2 D119            RAO- COUNT1,I    INCREMENT THE BYTE COUNTER                          01800740
0752 P01E3 D118            RAO- WRDCNT,I    INCREMENT THE CURRENT BUFFER ADDRESS                01800741
0753 P01E4 CC00 X          LDA  (WRDADR)    PICKUP THE COMMAND WORD FOR THE BYTE                01800742
     P01E5 01CD X
0754 P01E6 610A            STA- INPWRD,I    AND SAVE IT AS THE INPUT WORD                       01800743
0755 P01E7 0152            SQN  NXWD3-*-1   SKIP IF NOT ABSOLUTE PROGRAM ADDRESSING             01800744
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0756 P01E8 0A01          ENA  1              SET BACKWARD RELOCATION SWITCH                  01800745
0757 P01E9 1805          JMP* NXWD4                                                          01800746
0758 P01EA 9000  NXWD3   SUB  =N$7FFD        CHECK FOR THE VALUE $7FFE OR $7FFD IF NO       01800747
     P01EB 7FFD
0759 P01EC 0101          SAZ  NXWD4          RELOCATION. FTN GENERATES THESE TWO VALUES     01800748
0760 P01ED 09FE          INA  -1             FOR BACKWARDS RELOCATION IN PARAMETER STRINGS. 01800749
0761 P01EE 6109  NXWD4   STA- BGRLSW,I                                                       01800750
0762 P01EF C11A  NXWD5   LDA- BZSSW,I        IS THIS A BZS BLOCK OR A RBD BLOCK             01800751
0763 P01F0 0111          SAN  NXWD6-*-1      BZS BLOCK, STARTING ADDRESS IS IN INPWRD       01800752
0764 P01F1 1CD4          JMP* (NXTWRD)       RBD BLOCK, EXIT WITH COM SEQ IN INPWRD         01800753
0765 P01F2 D118  NXWD6   RAO- WRDCNT,I       INCREMENT THE CURRENT BUFFER ADDRESS           01800754
0766 P01F3 CC00 X        LDA  (WRDADR)       PICKUP THE SIZE OF THIS BZS BLOCK              01800755
     P01F4 01E5 X
0767 P01F5 611B          STA- BLKCNT,I       SAVE SIZE OF BZS BLOCK                         01800756
0768 P01F6 1CCF          JMP* (NXTWRD)       RETURN TO CALLER                               01800757
0769 P01F7 0000  RELWRD  NUM  0              STORAGE FOR THE FOUR RELOCATION BYTES          01800758

0771                     *      COME HERE IF NEGATIVE RELOCATION IS SPECIFIED WITH 16 BIT ARITH. 01800760

0773 P01F8 0A39  NEGERR  ENA  $39            FATAL ERROR 9                                  01800762
0774 P01F9 113B          JMP- PRINT2,I       PRINT ERROR AND EXIT                           01800763
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0776                    *       R O U T I N E   T O   A D J U S T   F O R                       01800765

0778                    *       R E L O C A T I O N   T Y P E                                   01800767

0780 P01FA 0B00   ADJUST  NOP  0          RETURN ADDRESS OF CALLER                             01800769
0781 P01FB C10B           LDA- INPREL,I   PICKUP RELOCATION TYPE                               01800770
0782 P01FC 0101           SAZ  ADJ1-*-1   SKIP IF NO RELOCATION SPECIFIED                     01800771
0783 P01FD 1804           JMP* ADJ2       GO TO HANDLE RELOCATION                              01800772
0784 P01FE C10A   ADJ1    LDA- INPWRD,I   PICKUP ADDRESS FROM BLOCK                           01800773
0785 P01FF 610F           STA- INPCTR,I   STORE ABSOLUTE ADDRESS IN INPCTR                     01800774
0786 P0200 1CF9           JMP* (ADJUST)   RETURN TO CALLER                                     01800775
0787 P0201 09FE   ADJ2    INA  -1                                                              01800776
0788 P0202 E103           LDQ- PROBAS,I   PICKUP PROGRAM RELOCATION BASE                       01800777
0789 P0203 0101           SAZ  ADJ3-*-1   SKIP IF PROGRAM RELOCATION IS SPECIFIED              01800778
0790 P0204 E102           LDQ- DATBAS,I   PICKUP DATA RELOCATION BASE                          01800779
0791 P0205 C10A   ADJ3    LDA- INPWRD,I   PICKUP ADDRESS FROM BLOCK                           01800780
0792 P0206 5152           RTJ- ADJOVF,I   PERFORM ADDRESS ARITHMETIC                           01800781
0793 P0207 610F           STA- INPCTR,I   STORE ABSOLUTE ADDRESS IN INPCTR                     01800782
0794 P0208 1CF1           JMP* (ADJUST)   RETURN TO CALLER                                     01800783


0796 P0209 1800   SW2     NUM  $1800      JMP SW2A    FOR PROGRAM RELOCATION                   01800785
0797 P020A FFFF           NUM  $FFFF      JMP SW2B    FOR DATA RELOCATION                      01800786
0798                    *                 JMP SW2C    FOR NO RELOCATION                        01800787
0799 P020B 1800   SW3     NUM  $1800      JMP SW3A    FOR PROGRAM RELOCATION                   01800788
0800 P020C FFFF           NUM  $FFFF      JMP SW3B    FOR DATA RELOCATION                      01800789
0801                    *                 JMP SW3C    FOR NO RELOCATION                        01800790
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0803                    *       M A K E   A N   E N T R Y   T O   T H E   L I N K   T B L .01800792


0805 P020D 0B00    STRLNK NOP  0           RETURN ADDRESS OF CALLER                                  01800794
0806 P020E C10B           LDA- INPREL,I    PICKUP PROGRAM RELOCATION TYPE                            01800795
0807 P020F 09FE           INA  -1                                                                    01800796
0808 P0210 0101           SAZ  STLNK1-*-1  SKIP IF PROGRAM RELOCATION SPECIFIED                      01800797
0809 P0211 C171           LDA- LNKCTR,I                                                              01800798
0810 P0212 9172    STLNK1 SUB- LNKEND,I    CHECK IF LINK TABLE IS FULL                               01800799
0811 P0213 0133           SAM  SD-*-1      NOT FULL                                                  01800800
0812 P0214 C000           LDA  =A15        TABLE FULL, PRINT ERROR AND EXIT                          01800801
     P0215 3135
0813 P0216 113B           JMP- PRINT2,I                                                              01800802
0814 P0217 C10F    SD     LDA- INPCTR,I    STORE ADDRESS OF THIS COMMAND SEQUENCE WORD               01800803
0815 P0218 E171           LDQ- LNKCTR,I    THAT CONTAINS $7FFF, IT MAY BE A LINK ADDRESS             01800804
0816 P0219 6622           STA- (ZERO),Q    POINTING TO $7FFF                                         01800805
0817 P021A D171           RAO- LNKCTR,I    INCREMEND NUMBER OF LINK TABLE ENTRIES                    01800806
0818 P021B 1CF1    SB     JMP* (STRLNK)    RETURN TO CALLER                                          01800807
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0820                    *       R O U T I N E   T O   P R O C E S S   E N T R Y   O R          01800809
0822                    *       E X T E R N A L   B L O C K S                                01800811


0824 P021C C13E    ENTPRO LDA- INPXCC,I      PICKUP ADDRESS INPUT-3 AND STORE IN INPCTR    01800813
0825 P021D 610F           STA- INPCTR,I      TO SETUP A POINTER TO THE ENTRY POINT VALUE   01800814
0826 P021E 0A00           ENA  0             SET SWITCH TO SAY AN ENTRY POINT BLOCK        01800815
0827 P021F 618D           STA- EXTSWT,I      IS BEING PROCESSED                            01800816
0828 P0220 5825    ENTPR1 RTJ* NXTNAM        PICKUP AN ENTRY FROM THE ENTRY BLOCK          01800817
0829 P0221 5128           RTJ- TABSCH,I      SEARCH THE ENTRY POINT TABLE TO SEE IF THIS   01800818
0830 P0222 E11C           LDQ- SW6,I         NAME HAS BEEN PREVIOUSLY DEFINED              01800819
0831 P0223 0175           SQM  ENTPR3-*-1    NOT PREVIOUSLY DEFINED, STORE IN TABLE        01800820
0832 P0224 5162           RTJ- PRINT5,I                                      72*1681      01800821
0833 P0225 0A38           ENA  $38                                           72*1681      01800822
0834 P0226 5136           RTJ- PRINT3,I                                      72*1681      01800823
0835 P0227 1800           JMP  SEGMNT                                        72*1681      01800824
     P0228 0004
0836 P0229 5800    ENTPR3 RTJ  ENTSTR        STORE THE NEW ENTRY PCINT IN THE ENTRY TABLE  01800825
     P022A 017B
0837 P022B 18F4           JMP* ENTPR1        PROCESS NEXT ENTRY POINT                      01800826


0839 P022C 5800    SEGMNT RTJ  NXTBIN        GET NEXT RECORD                    72*1681    01800828
     P022D F0EC
0840 P022E C196           LDA- INPUT,I       RB BLOCK DESIGNATOR                72*1681    01800829
0841 P022F 9000           SUB  =N$2050       TEST FOR NAME BLOCK                72*1681    01800830
     P0230 2050
0842 P0231 0104           SAZ  NAMBX                                            72*1681    01800831
0843 P0232 C196           LDA- INPUT,I       RB BLOCK DESIGNATOR                72*1681    01800832
0844 P0233 0F48           ARS  8                                                72*1681    01800833
0845 P0234 09D5           INA  -$2A          TEST FOR ASTERISK (*)              72*1681    01800834
0846 P0235 0114           SAN  TRYAGN                                           72*1681    01800835
0847 P0236 C103    NAMBX  LDA- PROBAS,I      RESET THE COMMAND SEQUENCE                    01800836
0848 P0237 6106           STA- CSQLIM,I      BECAUSE THIS PROGRAM WAS REJECTED             01800837
0849 P0238 1800           JMP  SW1A          PROCESS NAM BLOCK OR ASTERISK                 01800838
     P0239 FDE9
0850 P023A 5800 X  TRYAGN RTJ  BACKGR                                           72*1681    01800839
     P023B 0016 X
0851 P023C 18EF           JMP* SEGMNT        NOT NAME BLOCK OR ASTERISK         72*1681    01800840
0852 P023D C13E    EXTPRO LDA- INPXCC,I      SETUP POINTER TO EXTERNAL BY STORING          01800841
0853 P023E 610F           STA- INPCTR,I      INPUT-3 INTO INPCTR                           01800842
0854 P023F 0A01           ENA  1             SET SWITCH TO SAY AN EXTERNAL BLOCK           01800843
0855 P0240 618D           STA- EXTSWT,I      IS BEING PROCESSED                            01800844
0856 P0241 5804    EXTPR1 RTJ* NXTNAM        PICKUP AN EXTERNAL FRCM THE BLOCK             01800845
0857 P0242 5800           RTJ  EXSTOR        STORE THAT EXTERNAL IN THE TABLE              01800846
     P0243 016F
0858 P0244 18FC           JMP* EXTPR1        LOOP BACK TO GET NEXT EXTERNAL                01800847
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0861                *       T H I S   S U B R O U T I N E   P I C K S   U P   T H E      01800850
0863                *       E N T R Y   P O I N T   O R   E X T E R N A L   N A M E      01800852
0865                *       F R O M   T H E   B I N A R Y   B L O C K                    01800854



0867 P0245 0800    NXTNAM NOP  0              RETURN ADDRESS OF CALLER                   01800856
0868 P0246 E10F           LDQ- INPCTR,I       PICKUP THE POINTER FOR THE BLOCK           01800857
0869 P0247 0003           INQ  3              INCREMENT POINTER TO NEXT BLOCK ENTRY      01800858
0870 P0248 0A01           ENA  1                                                         01800859
0871 P0249 0834           AAQ  A                                                         01800860
0872 P024A 610F           STA- INPCTR,I                                                  01800861
0873 P024B C201           LDA- 1,Q            PICKUP FIRST WORD OF THIS ENTRY            01800862
0874 P024C 0900           INA  0                                                         01800863
0875 P024D 0111           SAN  NXNAM1-*-1     SKIP IF NOT AT END OF BINARY BLOCK         01800864
0876 P024E 113F           JMP- NXTINP,I       GO TO READ IN THE NEXT BINARY BLOCK        01800865
0877 P024F C204    NXNAM1 LDA- 4,Q            PICKUP ADDRESS OF ENTRY POINT              01800866
0878 P0250 013D           SAM  ABSADR-*-1     SKIP IF BIT 15 IS SET INDICATING THAT THIS 01800867
0879                *                         IS AN ABSOLUTE ADDRESS                     01800868
0880 P0251 8103           ADD- PROBAS,I       IF ENTRY POINT IS PROGRAM RELOCATABLE ADD ITS 01800869
0881 P0252 610D           STA- ENTPNT,I       VALUE TO THE PROGRAM BASE TO FORM AN       01800870
0882                *                         ABSOLUTE ADDRESS FOR THE ENTRY POINT       01800871
0883 P0253 8141           EOR- M7FFF,I        CHECK TO SEE IF THE ADDRESS HAS BEEN       01800872
0884 P0254 011B           SAN  RELADR+1-*-1   ABSOLUTIZED TO $7FFF. IF IT HAS AND THIS IS 01800873
0885 P0255 C18D           LDA- EXTSWT,I       AN ENTRY POINT BLOCK PRINT NON-FATAL ERROR 01800874
0886 P0256 0102           SAZ  NOTEXT-*-1     #17 AND THE ENTRY POINT NAME. IF THE BLOCK 01800875
0887 P0257 0804           SET  A              IS AN EXTERNAL CHANGE THE ADDRESS TO $FFFF 01800876
0888 P0258 1807           JMP* RELADR         SO THE LINK ROUTINE DOES NOT MISTAKE THE   01800877
0889 P0259 C000    NOTEXT LDA  =A17           ADDRESS FOR THE END OF AN EXTERNAL STRING  01800878
     P025A 3137
0890 P025B 5136           RTJ- PRINT3,I       PRINT ERROR 17                             01800879
0891 P025C 5162           RTJ- PRINT5,I       PRINT ENTRY POINT NAME                     01800880
0892 P025D 1803           JMP* RELADR+1       EXIT TO CALLER                             01800881


0894 P025E 0864    ABSADR TCA  A              COMPLEMENT ADDRESS BACK TO GET TRUE        01800883
0895                *                         ENTRY POINT VALUE. ( BOTH THE ASSEMBLER AND 01800884
0896                *                         COMPILER COMPLEMENT ABSOLUTE ENTRY POINT   01800885
0897                *                         ADDRESSES.)                                01800886
0898 P025F 610D    RELADR STA- ENTPNT,I       SAVE ABSOLUTE ADDRESS OF ENTRY OR EXTERNAL 01800887
0899 P0260 1CE4           JMP* (NXTNAM)       RETURN TO CALLER                           01800888
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0901                    *          R O U T I N E   T O   P R O C E S S                    01800890
0903                    *             T R A N S F E R   B L O C K S                       01800892




0905 P0261 C197   XFRPRO LDA- INPUT+1,I     PICKUP THE FIRST WORD OF THE TRANSFER ADDRESS 01800894
0906 P0262 9112          SUB- BLANKS,I      COMPARE THIS WORD TO ASCII SPACES ($2020)     01800895
0907 P0263 0106          SAZ  XFR1-*-1      SKIP IF THE TRANSFER NAME IS BLANK            01800896
0908 P0264 C197          LDA- INPUT+1,I     PICKUP THREE WORDS OF TRANSFER ADDRESS        01800897
0909 P0265 6120          STA- XFRNAM,I      FROM INPUT+1, INPUT+2, AND INPUT+3.           01800898
0910 P0266 C198          LDA- INPUT+2,I     SAVE THE THREE WORDS IN THE CELLS XFRNAM,      01800899
0911 P0267 6121          STA- XFRNAM+1,I    XFRNAM+1, AND XFRNAM+2 IN THE INITIALIZER     01800900
0912 P0268 C199          LDA- INPUT+3,I     LOADER TABLE.                                 01800901
0913 P0269 6122          STA- XFRNAM+2,I                                                  01800902

0916 P026A C106   XFR1   LDA- CSQLIM,I      THIS IS THE END OF THIS PROGRAM SO UPDATE     01800905
0917 P026B 6103          STA- PROBAS,I      PROBAS FOR THE START OF THE NEXT PROGRAM      01800906
0918 P026C 113F          JMP- NXTINP,I      GO BACK TO READ IN THE NEXT BINARY BLOCK      01800907




0920                    *       R O U T I N E   T O   P A T C H   E N T R Y   P O I N T S  01800909



0922 P026D 0A00   LNKENT ENA  0             CLEAR THE FLAG SAYING UNPATCHED               01800911
0923 P026E 6110          STA- NOTLNK,I      EXTERNALS EXIST                               01800912
0924 P026F 581B          RTJ* PATCH         PATCH ALL PROGRAM EXTERNALS                   01800913
0925 P0270 E131          LDQ- NOJUMP,I                                                    01800914
0926 P0271 0151          SQN  LNKEN0        SKIP IF TRANSFER ADDRESS NEEDED               01800915
0927 P0272 1815          JMP* LNKEN1                                                      01800916
0928 P0273 0A00   LNKEN0 ENA  0             CLEAR FLAG                                    01800917
0929 P0274 6131          STA- NOJUMP,I                                                    01800918
0930 P0275 C100          LDA  =XXFRNAM,I                                                  01800919
     P0276 0020
0931 P0277 610F          STA- INPCTR,I                                                    01800920
0932 P0278 5128          RTJ- TABSCH,I      SEARCH ENTRY POINT TABLE FOR                  01800921
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0933                        *                          TRANSFER ADDRESS                                01800922
0934 P0279 610D                    STA- ENTPNT,I                                                      01800923
0935 P027A C11C                    LDA- SW6,I                                                         01800924
0936 P027B 0123                    SAP  LNKEN2          SKIP IF FOUND                                 01800925
0937 P027C C000                    LDA  =A13            ERROR - UNDEFINED TRANSFER ADDRESS            01800926
     P027D 3133
0938 P027E 113B                    JMP- PRINT2,I                                                      01800927
0939 P027F C10D             LNKEN2 LDA- ENTPNT,I                                                      01800928
0940 P0280 6805                    STA* LNKEN3          STORE TRANSFER ADDRESS IN                     01800929
0941 P0281 C183                    LDA- PARBAS,I        SECOND WORD OF CSQ                            01800930
0942 P0282 0901                    INA  1                                                             01800931
0943 P0283 5800                    RTJ  DISKWR                                                        01800932
     P0284 02D4
0944 P0285 0000             LNKEN3 NUM  0                                                             01800933
0945 P0286 0000                    NUM  0                                                             01800934
0946          0287 P LNKEN1 EQU  LNKEN1(*)                                                           01800935
0947 P0287 E110                    LDQ- NOTLNK,I        PICKUP UNPATCHED EXTERNAL FLAG                01800936
0948 P0288 1C00                    JMP  (ILOAD)         RETURN TO CALLER                              01800937
     P0289 FD77
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0950                    *       R O U T I N E   T O   P A T C H   T H E   E X T E R N A L S  01800939
0952                    *       O F   A   P R O G R A M   T O   T H E   L O A D E R        01800941
0954                    *       E N T R Y   P O I N T   T A B L E                           01800943



0956 P028A 0B00   PATCH   NOP  0          RETURN ADDRESS OF CALLER                         01800945
0957 P028B C176           LDA- EXTSTR,I    PICKUP THE WORD ADDRESS OF THE START OF THE      01800946
0958 P028C 617C           STA- EXTADR,I    EXTERNAL TABLE AND USE IT AS THE CURRENT        01800947
0959                    *                  ADDRESS IN THE EXTERNAL TABLE                    01800948
0960 P028D 9107           SUB- EXTCTR,I    SUBTRACT THE END OF THE EXTERNAL TABLE FROM      01800949
0961                    *                  THE START OF THE EXTERNAL TABLE TO DETERMINE     01800950
0962                    *                  IF ANY EXTERNALS EXIST.                          01800951
0963 P028E 0131           SAM  PATCH1-*-1  SKIP IF EXTERNAL TABLE EXISTS                    01800952
0964 P028F 1CFA           JMP* (PATCH)     RETURN TO CALLER, THERE ARE NO EXTERNALS         01800953


0966 P0290 0CFB   PATCH1  ENQ  -4          SETUP WORD COUNTER FOR FOUR WORD BLOCKS          01800955
0967 P0291 4190           STQ- TEMP3,I                                                     01800956
0968 P0292 E0FF           LDQ- I           SETUP INPUT BUFFER POINTER TO POINT TO           01800957
0969 P0293 0D13           INQ  SYMSTR      THE EXTERNAL BUFFER. ( THE EXTERNAL IS HELD      01800958
0970 P0294 410F           STQ- INPCTR,I    IN THE SYMSTR BUFFER PLUS LOCATION SCANSW )      01800959
0971 P0295 E10F   PATCH2  LDQ- INPCTR,I                                                    01800960
0972 P0296 C17C           LDA- EXTADR,I    PICKUP THE ADDRESS OF THE FIRST EXTERNAL         01800961
0973 P0297 5800           RTJ  DISKRD      USE THE PAGE ROUTINE TO BRING IN THE EXTERNAL    01800962
     P0298 02BC
0974 P0299 8000           NUM  $8000       FLAG SAYING ADDRESS IN A-REGISTER IS             01800963
0975                    *                  IN AN ENTRY/EXTERNAL PAGE                        01800964
0976 P029A F190           ADQ- TEMP3,I     SAVE THE WORD OF THE EXTERNAL TABLE IN           01800965
0977 P029B 6204           STA- 4,Q         THE LOADERS INPUT BUFFER                         01800966
0978 P029C D190           RAO- TEMP3,I     INCREMENT THE COUNTER FOR WHICH WORD OF          01800967
0979                    *                  THE EXTERNAL BLOCK TO PROCESS                    01800968
0980 P029D 017C           RAO- EXTADR,I    INCREMENT THE TABLE ADDRESS OF THE EXTERNAL      01800969
0981 P029E C190           LDA- TEMP3,I     TEST THE COUNTER TO SEE IF THE ENTIRE            01800970
0982                    *                  EXTERNAL HAS BEEN STORED IN THE INPUT BUFFER     01800971
0983 P029F 0101           SAZ  PATCH3-*-1  SKIP IF EXTERNAL IN                              01800972
0984 P02A0 18F4           JMP* PATCH2      GO BACK TO GET NEXT WORD OF EXTERNAL             01800973
0985 P02A1 E10F   PATCH3  LDQ- INPCTR,I                                                    01800974
0986 P02A2 C622           LDA- (ZERO),Q    PICKUP THE FIRST WORD OF THE EXTERNAL ENTRY      01800975
0987 P02A3 6109           STA- ABRLSW,I    SAVE FOR USE AS ABSOLUTE/RELATIVE SWITCH         01800976
0988                    *                  (BIT 15 OF THE FIRST WORD IS REL/ABS SWITCH)     01800977
0989 P02A4 C201           LDA- 1,Q         PICKUP SECOND WORD OF EXTERNAL TO SEE IF         01800978
0990 P02A5 0121           SAP  PATCH4-*-1  THE EXTERNAL IS ALREADY PATCHED ( BIT 15 = 1)    01800979
0991 P02A6 1816           JMP* PATCH5      ALREADY PATCHED - GO ON                          01800980
0992 P02A7 5128   PATCH4  RTJ- TABSCH,I    UNPATCHED, SEARCH ENTRY POINT TABLE FOR MATCH    01800981
0993 P02A8 610D           STA- ENTPNT,I    SAVE THE VALUE RETURNED BY TABSCH                01800982
0994 P02A9 C11C           LDA- SW6,I       WAS THE NAME FOUND AS AN ENTRY POINT             01800983
0995 P02AA 0123           SAP  PATCH6-*-1  YES                                              01800984
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0996 P02AB 0A01          ENA  1              NO, SET THE NOTLNK FLAG SAYING THAT THERE      01800985
0997 P02AC 6110          STA- NOTLNK,I       IS AT LEAST ONE UNPATCHED EXTERNAL             01800986
0998 P02AD 180F          JMP* PATCH5         GO TO PROCESS NEXT EXTERNAL                    01800987
0999 P02AE E10F  PATCH6  LDQ- INPCTR,I       RESTORE THE INDEX TO THE INPUT BUFFER          01800988
1000 P02AF C203          LDA- 3,Q            PICKUP THE EXTERNAL ADDRESS                    01800989
1001 P02B0 610E          STA- LINK,I         SAVE THE LINK ADDRESS                          01800990
1002 P02B1 5168          RTJ- LINK1,I        PATCH THE EXTERNAL STRING                      01800991
1003 P02B2 E10F          LDQ- INPCTR,I       PICKUP THE ADDRESS OF THE START OF THE         01800992
1004             *                           EXTERNAL STRING                                01800993
1005 P02B3 C201          LDA- 1,Q            PICKUP THE SECOND WORD OF THE EXTERNAL NAME     01800994
1006 P02B4 B142          EOR- M8000,I        SET BIT 15 SAYING EXTERNAL PATCHED             01800995
1007 P02B5 6805          STA* PATCH7         STORE THE WORD IN THE WRITE PARAMETER LIST      01800996
1008 P02B6 C17C          LDA- EXTADR,I       PICKUP THE ADDRESS OF THE NEXT EXTERNAL        01800997
1009 P02B7 09FC          INA  -3             SET THE POINTER BACK TO WORD TWO OF THIS EXT.   01800998
1010 P02B8 5800          RTJ  DISKWR         UPDATE THE EXTERNAL BLOCK TO SAY ITS PATCHED   01800999
     P02B9 029F
1011 P02BA 0000  PATCH7  NUM  0              UPDATED WORD TWO OF EXTERNAL BLOCK             01801000
1012 P02BB 8000          NUM  $8000          FLAG SAYING ADDRESS IS IN ENT/EXT PAGE         01801001
1013 P02BC C17C  PATCH5  LDA- EXTADR,I       PICKUP NEXT AVAILABLE EXTERNAL ADDRESS         01801002
1014 P02BD 9107          SUB- EXTCTR,I       COMPARE TO END OF EXTERNAL TABLE               01801003
1015 P02BE 0121          SAP  PATCH8-*-1     SKIP IF AT END OF TABLE                        01801004
1016 P02BF 18D0          JMP* PATCH1         GO BACK TO GET NEXT EXTERNAL                   01801005
1017 P02C0 1CC9  PATCH8  JMP* (PATCH)        RETURN TO CALLER                               01801006
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1019                    *       R O U T I N E   T O   L I N K   E X T E R N A L S                01801008




1021 P02C1 C10E   LINK11 LDA- LINK,I        PICKUP THE EXTERNAL LINK ADDRESS                    01801010
1022 P02C2 6830         STA* LNKSAV         SAVE ADDRESS FOR LATER COMPARISON                   01801011
1023 P02C3 0822         TRA  Q                                                                  01801012
1024 P02C4 B143         EOR- MFFFF,I        TEST IF FIRST ADDRESS IS PROGRAM RELOCATABLE        01801013
1025 P02C5 0114         SAN  LINK1A-*-1     AND WAS ABSOLUTIZED TO $FFFF BY EXTPRO              01801014
1026 P02C6 0814         TRQ  A              YES, CLEAR THE UPPER BIT AND SET THE                01801015
1027 P02C7 A141         AND- M7FFF,I        LINK ADDRESS TO $7FFF                               01801016
1028 P02C8 610E         STA- LINK,I                                                             01801017
1029 P02C9 180F         JMP* LINKA                                                              01801018
1030 P02CA 0814   LINK1A TRQ  A             PUT THE LINK ADDRESS BACK INTO A-REGISTER           01801019
1031 P02CB 9141   LINK2  SUB- M7FFF,I       TEST FOR END OF EXTERNAL STRING                     01801020
1032 P02CC 011B         SAN  LINKA-*-1      SKIP IF NOT AT END OF STRING                        01801021


1034                    *       TEST TO SEE IF AT END OF LINK TABLE                             01801023


1036 P02CD E170         LDQ- LNKSTR,I       PICKUP THE ADDRESS OF THE LINK TABLE                01801025
1037 P02CE C171   LNA   LDA- LNKCTR,I       PICKUP THE NEXT AVAILABLE ADDRESS IN LINK TBL.      01801026
1038                    *                   THE FIRST TIME THROUGH TEST FOR EMPTY TABLE.        01801027
1039                    *                   ALL OTHER TIMES CHECK FOR END OF TABLE              01801028
1040 P02CF 0864         TCA  A                                                                  01801029
1041 P02D0 0834         AAQ  A                                                                  01801030
1042 P02D1 0105         SAZ  LNB-*-1        SKIP OUT OF CHECK IF AT END OF TABLE                01801031
1043 P02D2 C622         LDA- (ZERO),Q       COMPARE THE ADDRESS IN THE LINK TABLE TO            01801032
1044 P02D3 B82C         EOR* LNKSAV         THE ADDRESS OF THIS EXTERNAL. IF THE ADDRESSES      01801033
1045 P02D4 0103         SAZ  LINKA-*-1      ARE IDENTICAL THEN THE $7FFF IS A POINTER           01801034
1046                    *                   TO THE NEXT LINK ADDRESS AND DOES NOT               01801035
1047                    *                   SIGNIFY THE END OF AN EXTERNAL STRING.              01801036
1048 P02D5 0D01         INQ  1              THE EXTERNAL ADDRESS DOES NOT MATCH THE             01801037
1049 P02D6 18F7         JMP* LNA            ADDRESS IN THE LINK TABLE, SO INCREASE THE          01801038
1050                    *                   LINK TABLE POINTER AND CHECK THE NEXT ENTRY         01801039
1051 P02D7 1167   LNB   JMP- LK1XIT,I       END OF EXTERNAL STRING, EXIT                        01801040
1052 P02D8 C10E   LINKA LDA- LINK,I         PICKUP THE CONTENTS OF THE NEXT WORD IN             01801041
1053                    *                   THE EXTERNAL STRING                                 01801042
1054 P02D9 5800         RTJ  DISKRD         READ STRING WORD VIA PAGE                           01801043
     P02DA 027A
1055 P02DB 0000         ADC  0              FLAG SAYING THIS IS A COMMAND SEQUENCE ADDRESS      01801044
1056 P02DC 610A         STA- INPWRD,I       SAVE THIS LINK ADDRESS IN INPWRD                    01801045
1057 P02DD E157         LDQ- ARIT15,I       TEST FOR 15 BIT ARITHMETIC WHICH SAYS               01801046
1058 P02DE 0146         SQZ  LINB-*-1       THAT MULTILEVEL INDIRECT IS LEGAL                   01801047
1059 P02DF B143         EOR- MFFFF,I        16 BIT ARITHMETIC - CHECK FOR MULTILEVEL            01801048
1060 P02E0 0114         SAN  LINB-*-1       AND PRINT ERROR 9 IF MULTILEVEL FOUND               01801049
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1061 P02E1 0A39          ENA  $39                                                    01801050
1062 P02E2 5136          RTJ- PRINT3,I      LOG ERROR                             01801051
1063 P02E3 581D          RTJ* BADEXT                                              01801052
1064 P02E4 1167          JMP- LK1XIT,I      ABORT PATCHING THIS STRING            01801053
1065 P02E5 C10D  LINB    LDA- ENTPNT,I      PICKUP THE ENTRY POINT ADDRESS        01801054
1066 P02E6 E109          LDQ- ABRLSW,I      PICKUP RELATIVE/ABSOLUTE SWITCH       01801055
1067 P02E7 0178          SQM  LK1J11-*-1    SKIP IF RELATIVE EXTERNAL             01801056
1068 P02E8 E157          LDQ- ARIT15,I      CHECK FOR 15 OR 16 BIT ARITHMETIC     01801057
1069 P02E9 0141          SQZ  LK1J12-*-1    SKIP IF 15 BIT ARITHMETIC             01801058
1070 P02EA 1807          JMP* LK1J10        16 BIT ARITHMETIC-RETURN              01801059
1071 P02EB 0822  LK1J12  TRA  Q             SAVE ENTRY POINT ADDRESS.             01801060
1072 P02EC C10A          LDA- INPWRD,I      PICKUP EXTERNAL LINK.                 01801061
1073 P02ED A142          AND- M8000,I       SAVE INDIRECT BIT OF LINK ADDRESS.    01801062
1074 P02EE 0874          EAQ  A             COMBINE BIT 15 OF LINK WITH BITS 0-14 01801063
1075 P02EF 1802          JMP* LK1J10        OF ENTRY POINT ADDRESS.               01801064
1076 P02F0 910E  LK1J11  SUB- LINK,I        COMPUTE THE RELATIVE DISPLACEMENT     01801065
1077 P02F1 6804  LK1J10  STA* VALINK        SAVE THE VALUE TO REPLACE LINK ADDRESS 01801066
1078 P02F2 C10E          LDA- LINK,I        PICKUP THE ADDRESS TO STORE INTO      01801067
1079 P02F3 5800          RTJ  DISKWR        STORE THE EXTERNAL ADDRESS VIA PAGE   01801068
     P02F4 0264
1080 P02F5 0000  VALINK  NUM  0             VALUE TO BE STORED                    01801069
1081 P02F6 0000          NUM  0             FLAG SAYING ADDRESS IS COMMAND SEQUENCE 01801070
1082 P02F7 C10E          LDA- LINK,I        PICKUP AND SAVE THE LAST LINK ADDRESS FOR LNA 01801071
1083 P02F8 6807          STA* LNKSAV        TO USE IN DECIDING IF $7FFF IS END OF STRING 01801072
1084 P02F9 C10A          LDA- INPWRD,I      PICKUP THE NEXT ADDRESS IN THE STRING 01801073
1085 P02FA E157          LDQ- ARIT15,I      IS 15 BIT ARITHMETIC SPECIFIED        01801074
1086 P02FB 0151          SQN  LINK3-*-1     NO, GOTO PROCESS THE NEXT LINK        01801075
1087 P02FC A141          AND- M7FFF,I       YES, CLEAR THE INDIRECT BIT           01801076
1088 P02FD 610E  LINK3   STA- LINK,I        UPDATE TO THE NEXT LINK ADDRESS       01801077
1089 P02FE 18CC          JMP* LINK2         LOOP BACK TO PROCESS NEXT LINK IN STRING 01801078


1091 P02FF 0000  LNKSAV  NUM  0             LINK ADDRESS OF LAST ENTRY IN STRING  01801080
1092 P0300 0B00  BADEXT  NOP  0             ROUTINE TO IDENTIFY START OF EXTERNAL 01801081
1093 P0301 5835          RTJ* BDEXT2        STRING EITH ILLEGAL MULTILEVEL INDIRECT 01801082
1094 P0302 414E  BDEXT1  ALF  *,AN ILLEGAL MULTILEVEL INDIRECT IS IN THE EXTERNAL* 01801083
     P0303 2049
     P0304 4C4C
     P0305 4547
     P0306 414C
     P0307 204D
     P0308 554C
     P0309 5449
     P030A 4C45
     P030B 5645
     P030C 4C20
     P030D 494E
     P030E 4449
     P030F 5245
     P0310 4354
     P0311 2049
     P0312 5320
     P0313 494E
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      P0314 2054
      P0315 4845
      P0316 2045
      P0317 5854
      P0318 4552
      P0319 4E41
      P031A 4C20
1095  P031B 0D0A          NUM  $0D0A,0                                        01801084
      P031C 0000
1096  P031D 5354          ALF  *,STRING FOR *                                 01801085
      P031E 5249
      P031F 4E47
      P0320 2046
      P0321 4F52
      P0322 2020
1097  P0323 0000  BDALF1  NUM  0                                              01801086
1098  P0324 0000  BDALF2  NUM  0                                              01801087
1099  P0325 0000  BDALF3  NUM  0                                              01801088
1100  P0326 2057          ALF  *, WHICH STARTS AT LOCATION *                  01801089
      P0327 4849
      P0328 4348
      P0329 2053
      P032A 5441
      P032B 5254
      P032C 5320
      P032D 4154
      P032E 204C
      P032F 4F43
      P0330 4154
      P0331 494F
      P0332 4E20
1101  P0333 0000  BDALF4  NUM  0                                              01801090
1102  P0334 0000  BDALF5  NUM  0                                              01801091
1103  P0335 0D0A          NUM  $0D0A                                          01801092
1104  P0336 0B00  BDEXT2  NOP  0                                              01801093
1105  P0337 C113          LDA- SYMSTR,I       MOVE EXTERNAL NAME TO MESSAGE BUFFER  01801094
1106  P0338 68FA          STA* BDALF1                                         01801095
1107  P0339 C114          LDA- SYMSTR+1,I                                     01801096
1108  P033A 68E9          STA* BDALF2                                         01801097
1109  P033B C115          LDA- SYMSTR+2,I                                     01801098
1110  P033C 68E8          STA* BDALF3                                         01801099
1111  P033D C116          LDA- SCANSW,I       PICKUP THE EXTERNAL ADDRESS     01801100
1112  P033E 515A          RTJ- CONVRT,I       CONVERT THE ADDRESS TO ASCII    01801101
1113  P033F C133          LDA- BINASC,I                                       01801102
1114  P0340 68F2          STA* BDALF4                                         01801103
1115  P0341 C134          LDA- BINASC+1,I                                     01801104
1116  P0342 68F1          STA* BDALF5                                         01801105
1117  P0343 C8F2          LDA* BDEXT2         PICKUP BUFFER ADDRESS           01801106
1118  P0344 0C34          ENQ  BDEXT2-BDEXT1  PICKUP WORD COUNT               01801107
1119  P0345 5800  X       RTJ  TELOUT         OUTPUT ERROR                    01801108
      P0346 7FFF  X
1120  P0347 1CB8          JMP* (BADEXT)                                       01801109
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1122                    *       R O U T I N E   T O   S E A R C H   E N T R Y   P O I N T    01801111
1124                    *       T A B L E   F O R   D U P L I C A T E   E N T R I E S        01801113



1126                    *                                                                    01801115
1127                    **      ENTERED BY THE FOLLOWING SEQUENCE                            01801116
1128                    **      RTJ- TABSCH,I                                                01801117
1129                    ***                                                                  01801118
1130                    **      ENTRANCE PARAMETERS                                          01801119
1131                    ***                                                                  01801120
1132                    **      INPCTR = ADDRESS OF NAME OF ENTRY POINT                      01801121
1133                    ***                                                                  01801122
1134                    ***                                                                  01801123
1135                    **      EXIT PARAMETERS                                              01801124
1136                    *                                                                    01801125
1137                    **      SW6 =-0   AND A-REGISTER =-0      NO MATCH FOUND             01801126
1138                    **      SW6 =+0   AND A-REGISTER .NE. 0   MATCH FOUND A=ADDRESS OF ENTRY01801127
1139                    *                                                                    01801128
1140 P0348 C16B SCHTBL  LDA- ENTPGS,I                                                        01801129
1141 P0349 912C         SUB- MAXENT,I     IS THERE ANY ENTRY POINT TABLE FOR THIS LOAD      01801130
1142 P034A 0105         SAZ  SCHTB1       NO, CHECK FOR OTHER TABLES                 132*5127********
1143 P034B C16B         LDA- ENTPGS,I     YES, SET THE ADDRESS OF THE ENTRY BEING          01801132
1144 P034C 612B         STA- CENTAD,I     CURRENTLY EXAMINED TO THE START OF THE TABLE     01801133
1145 P034D E12C         LDQ- MAXENT,I                                                132*5127********
1146 P034E 412F         STQ- TEMP1,I      SET END OF ENTRY POINT TABLE               132*5127********
1147 P034F 5814         RTJ* TBSCH0       SEARCH TABLE                               132*5127********
1148 P0350 C14E SCHTB1  LDA- CSNAME,I                                                132*5127********
1149 P0351 09FB         INA  -4                                                      132*5127********
1150 P0352 010A         SAZ  SCHTB4       SKIP IF *LP                                132*5127********
1151 P0353 0121         SAP  SCHTB2       SKIP IF *M OR *MP                          132*5127********
1152 P0354 181C         JMP* TSEXIT       JUMP IF *L                                 132*5127********
1153 P0355 C165 SCHTB2  LDA- AINPUT,I                                                132*5127********
1154 P0356 0111         SAN  SCHTB3       SKIP IF LINK EXTERNALS FUNCTION            132*5127********
1155 P0357 1819         JMP* TSEXIT                                                  132*5127********
1156 P0358 C174 SCHTB3  LDA- ENTST1,I     SET TO LINK TO CREP1                       132*5127********
1157 P0359 612B         STA- CENTAD,I                                                132*5127********
1158 P035A E18C         LDQ- ECREP1,I                                                132*5127********
1159 P035B 412E         STQ- TEMP1,I                                                 132*5127********
1160 P035C 5807         RTJ* TBSCH0       SEARCH TABLE                               132*5127********
1161 P035D C173 SCHTB4  LDA- ENTST0,I     SET TO LINK TO CREP0                       132*5127********
1162 P035E 612B         STA- CENTAD,I                                                132*5127********
1163 P035F E18B         LDQ- ECREP,I                                                 132*5127********
1164 P0360 412F         STQ- TEMP1,I                                                 132*5127********
1165 P0361 5802         RTJ* TBSCH0       SEARCH TABLE                               132*5127********
1166 P0362 180E         JMP* TSEXIT                                                  132*5127********


1168 P0363 0B00 TBSCH0  NOP  0                                                       132*5127********
1169 P0364 580F TBSCH1  RTJ* SEARCH       IS CURRENT TABLE ENTRY A MATCH                   01801134
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1170 P0365 1127          JMP- SCHXIT,I     YES, EXIT WITH SW6=0 A=ENTRY ADDRESS            01801135
1171 P0366 C128          LDA- CENTAD,I     NO, UPDATE CURRENT ENTRY ADDRESS                01801136
1172 P0367 0904          INA  4                                                            01801137
1173 P0368 612B          STA- CENTAD,I                                                     01801138
1174 P0369 E12E          LDQ- TEMP1,I      CHECK FOR END OF ENTRY POINT TABLE    132*5127********
1175 P036A 0852          TCQ  Q            ADD COMPLEMENT OF TABLE LENGTH TO ADDRESS       01801140
1176 P036B 0832          AAQ  Q            OF NEXT ENTRY TO DETERMINE IF AT END OF TABLE   01801141
1177 P036C 0D00          INQ  0                                                            01801142
1178 P036D 0171          SQM  TSOK1-*-1    NOT AT END, CONTINUE TABLE SEARCH               01801143
1179 P036E 1CF4          JMP* (TBSCH0)                                 132*5127********
1180 P036F 18F4 TSOK1    JMP* TBSCH1       LOOP BACK TO CHECK NEW ENTRY                    01801145
1181 P0370 0AFF TSEXIT   ENA  -0           SET BOTH A-REGISTER AND SW6 TO MINUS ZERO       01801146
1182 P0371 611C          STA- SW6,I        TO INDICATE THAT NO MATCH WAS FOUND             01801147
1183 P0372 1127          JMP- SCHXIT,I     RETURN TO CALLER                                01801148
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1185                *   R O U T I N E   T O   S E A R C H   E N T R Y / E X T E R N A L   01801150
1187                *   T A B L E   F O R   A   S P E C I F I C   N A M E               01801152



1189                *       ON ENTRY TO THIS ROUTINE THE A-REGISTER IS EQUAL TO THE NEXT    01801154
1190                *       WORD TO BE CHECKED IN THE ENTRY OR EXTERNAL TABLE. THE LOCATION  01801155
1191                *       INPCTR IS SET EQUAL TO THE ADDRESS OF THE ENTRY OR EXTERNAL      01801156
1192                *       BEING SEARCHED FOR IN THE TABLE.                                 01801157
1193                *                                                                        01801158
1194                *       EXIT IS TO P+1 IF A MATCH IF FOUND OR TO P+2 IF NO MATCH FOUND   01801159
1195                *                                                                        01801160
1196                *       IN THE CASE OF A MATCH FOUND, THE A-REGISTER IS EQUAL TO THE     01801161
1197                *       ADDRESS OF THE ENTRY POINT VALUE OR TO THE ADDRESS OF THE        01801162
1198                *       EXTERNAL LINK ADDRESS AND SW6 IS EQUAL TO POSITIVE ZERO.         01801163


1200 P0373 0B00   SEARCH NOP  0          ROUTINE TO FIND AN ENTRY IN THE ENT/EXT TABLE  01801165
1201 P0374 612D          STA- TEMP,I      SAVE CURRENT ADDRESS IN ENT/EXT TABLE         01801166
1202 P0375 0CFC          ENQ  -3          SET LOOP COUNTER FOR THREE TIMES THROUGH LOOP  01801167
1203 P0376 411C          STQ- SW6,I       SW6 = LOOP COUNTER                            01801168
1204 P0377 5814   TBSCH2 RTJ* GET         GET THE ADDRESSED WORD INTO CORE VIA PAGE      01801169
1205 P0378 6158          STA- PRESET,I    SAVE CONTENTS OF ADDRESSED WORD               01801170
1206 P0379 A141          AND- M7FFF,I     CLEAR BIT 15 WHICH IS A FLAG BIT              01801171
1207 P037A 6188          STA- AHOLD,I     SAVE CONTENTS OF ADDRESSED WORD WITHOUT BIT 15 01801172
1208 P037B E11C          LDQ- SW6,I       COMPUTE ADDRESS OF NAME BEING SEARCHED FOR     01801173
1209 P037C F10F          ADQ- INPCTR,I                                                  01801174
1210 P037D C203          LDA- 3,Q         PICKUP WORD BEING CHECKED FOR                 01801175
1211 P037E A141          AND- M7FFF,I     MASK OFF BIT 15 OF THE EXTERNAL NAME          01801176
1212                *                     ( BIT 15 IS SET ON RELATIVE EXTERNALS )       01801177
1213 P037F B188          EOR- AHOLD,I     COMPARE TO WORD IN ENT/EXT TABLE              01801178
1214 P0380 0102          SAZ  TBSCH3-*-1  SKIP TO TBSCH3 IF MATCH OCCURS BETWEEN WORDS  01801179
1215 P0381 D8F1          RAO* SEARCH      INCREMENT RETURN ADDRESS                      01801180
1216 P0382 1CF0          JMP* (SEARCH)    NO MATCH, RETURN TO P+2                       01801181
1217 P0383 D11C   TBSCH3 RAO- SW6,I       INCREMENT LOOP COUNTER                        01801182
1218 P0384 D12D          RAO- TEMP,I      INCREMENT CURRENT ADDRESS IN ENT/EXT TABLE     01801183
1219 P0385 C12D          LDA- TEMP,I      PICKUP CURRENT ADDRESS FOR NEXT ITERATION     01801184
1220 P0386 E11C          LDQ- SW6,I       HAS LOOP BEEN EXECUTED THREE TIMES            01801185
1221 P0387 0141          SQZ  TBSCH4-*-1  YES, RETURN TO CALLER AT P+1                  01801186
1222 P0388 18EE          JMP* TBSCH2      COMPARE NEXT WORD                             01801187
1223 P0389 5802   TBSCH4 RTJ* GET         GET ENTRY POINT ADDRESS                       01801188
1224 P038A 1CE8          JMP* (SEARCH)    RETURN FOR MATCH FOUND                        01801189
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1226 P038B 0B00   GET    NOP  0          ROUTINE TO GET THE NEXT WORD BEING CHECKED    01801191
1227 P038C 5800          RTJ  DISKRD     INTO CORE VIA USE OF THE PAGE ROUTINE         01801192
     P038D 01C7
1228 P038E 8000          NUM  $8000      BIT 15 SET FLAGS ENTRY/EXTERNAL PAGE READ     01801193
1229 P038F 1CFB          JMP* (GET)      RETURN TO CALLER WITH CONTENTS OF SPECIFIED   01801194
1230               *                     WORD IN THE A-REGISTER.                       01801195



1232 P0390 0B00   EXTSCH NOP  0          ROUTINE TO SEARCH EXTERNAL TABLE FOR A        01801197
1233 P0391 0A00          ENA  0          SPECIFIC NAME                                 01801198
1234 P0392 6155          STA- EXTPCH,I   CLEAR EXTERNAL PATCHED FLAG TO ZERO           01801199
1235 P0393 C176          LDA- EXTSTR,I   PICKUP STARTING ADDRESS OF EXTERNAL TABLE     01801200
1236 P0394 617C   TBSCH7 STA- CEXTAD,I   SAVE ADDRESS OF NEXT EXTERNAL TO BE EXAMINED  01801201
1237 P0395 B107          EOR- EXTCTR,I   COMPARE AGAINST NEXT AVAILABLE LOCATION IN TBL01801202
1238 P0396 0113          SAN  TBSCH5-*-1 CONTINUE SEARCH IF NOT AT END OF TABLE        01801203
1239 P0397 0AFF          ENA  -0         NO MATCH, SET BOTH A-REGISTER AND SW6 TO      01801204
1240 P0398 611C          STA- SW6,I      MINUS ZERO AND RETURN TO CALLER               01801205
1241 P0399 1CF6          JMP* (EXTSCH)                                                 01801206
1242 P039A C17C   TBSCH5 LDA- CEXTAD,I   PICKUP CURRENT ADDRESS IN EXTERNAL TABLE TO BE01801207
1243 P039B 58D7          RTJ* SEARCH     CHECKED FOR A MATCH                           01801208
1244 P039C 1804          JMP* TBSCH6     MATCH FOUND                                   01801209
1245 P039D C17C          LDA- CEXTAD,I   UPDATE CURRENT TABLE ADDRESS TO POINT         01801210
1246 P039E 0904          INA  4          TO NEXT ENTRY IN EXTERNAL TABLE               01801211
1247 P039F 18F4          JMP* TBSCH7     GO TO CHECK NEXT ENTRY                        01801212
1248 P03A0 09FD   TBSCH6 INA  -2         A MATCH WAS FOUND. PICKUP THE SECOND WORD      01801213
1249 P03A1 58E9          RTJ* GET        OF THIS EXTERNAL ENTRY AND STORE IN EXTPCH    01801214
1250 P03A2 6155          STA- EXTPCH,I   SO THAT THE USER CAN DETERMINE IF THIS        01801215
1251 P03A3 1CEC          JMP* (EXTSCH)   EXTERNAL HAS BEEN PATCHED.                    01801216
1252 P03A4 0000   STRADR NUM  0          NEXT AVAILABLE ADDRESS IN ENT / EXT TABLE     01801217
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1254                    *       R O U T I N E   T O   S T O R E   E I T H E R   A N          01801219
1256                    *       E N T R Y   P O I N T   V A L U E   O R   A N               01801221
1258                    *       E X T E R N A L   I N T O   T H E   L O A D E R   T A B L E 01801223


1260 P03A5 0B00   ENTSTR NOP  0          RETURN ADDRESS                                    01801225
1261 P03A6 C12C        LDA- MAXENT,I     MAKE SURE THAT THE ENTRY POINT TABLE DOES         01801226
1262 P03A7 0904        INA  4                                                              01801227
1263 P03A8 9176        SUB- EXTSTR,I     NOT OVERFLOW INTO THE EXTERNAL TABLE              01801228
1264 P03A9 0132        SAM  ENTST-*-1    OK, NO OVERFLOW                                   01801229
1265 P03AA 0A36        ENA  $36          ERROR 6, ENTRY POINT TABLE OVERFLOW               01801230
1266 P03AB 113B        JMP- PRINT2,I                                                       01801231
1267 P03AC C12C   ENTST  LDA- MAXENT,I   PICKUP LWA+1 OF ENTRY TABLE AND                  01801232
1268 P03AD 68F6        STA* STRADR       SAVE IT AS THE NEXT ADDRESS TO STORE INTO         01801233
1269 P03AE 0904        INA  4            INCREASE THE SIZE OF THE ENTRY POINT              01801234
1270 P03AF 612C        STA- MAXENT,I     TABLE TO INCLUDE THE NEXT ENTRY                   01801235
1271 P03B0 580E        RTJ* STORIT       STORE THE NEW ENTRY POINT                         01801236
1272 P03B1 1CF3        JMP* (ENTSTR)     RETURN TO CALLER                                  01801237
1273 P03B2 0B00   EXSTOR NOP  0          RETURN ADDRESS                                    01801238
1274 P03B3 C107        LDA- EXTCTR,I                                                       01801239
1275 P03B4 68EF        STA* STRADR       SAVE ADDRESS TO STORE INTO                        01801240
1276 P03B5 0904        INA  4            INCREASE SIZE OF EXTERNAL TABLE TO INCLUDE        01801241
1277 P03B6 6107        STA- EXTCTR,I                                                       01801242
1278 P03B7 912F        SUB- WMXSEC,I     SUBTRACT ADDRESS OF MAXSEC TO TEST FOR            01801243
1279 P03B8 0122        SAP  EXSTR1-*-1   TOO MANY EXTERNALS                                01801244
1280 P03B9 5805        RTJ* STORIT       STORE THE NEW EXTERNAL                            01801245
1281 P03BA 1CF7        JMP* (EXSTOR)     RETURN TO CALLER                                  01801246
1282 P03BB C000   EXSTR1 LDA  =A16        EXTERNAL TABLE OVERFLOW                           01801247
     P03BC 3136
1283 P03BD 113B        JMP- PRINT2,I     FATAL ERROR 35                  *****             01801248
1284 P03BE 0B00   STORIT NOP  0          RETURN ADDRESS                                    01801249
1285 P03BF 0CFE        ENQ  -1           PICKUP FIRST WORD OF NAME                         01801250
1286 P03C0 5813        RTJ* ESTORE       STORE WORD IN PROPER TABLE CELL                   01801251
1287 P03C1 0C00        ENQ  0            PICKUP SECOND WORD OF NAME                        01801252
1288 P03C2 5811        RTJ* ESTORE       STORE WORD IN PROPER TABLE CELL                   01801253
1289 P03C3 0C01        ENQ  1            PICKUP THIRD WORD OF NAME                         01801254
1290 P03C4 580F        RTJ* ESTORE       STORE WORD IN PROPER TABLE CELL                   01801255
1291 P03C5 C100        LDA- ENTPNT,I     PICKUP VALUE ASSOCIATED WITH ENT OR EXT           01801256
1292 P03C6 6804        STA* VALUX        STORE IN WORD TO BE WRITTEN OUT                   01801257
1293 P03C7 C8DC        LDA* STRADR       PICKUP ADDRESS TO PUT ENT/EXT VALUE INTO          01801258
1294 P03C8 5800        RTJ  DISKWR       MAKE ENTRY IN PAGE                                01801259
     P03C9 018F
1295 P03CA 0000   VALUX  NUM  0          VALUE OF ENTRY OR EXTERNAL                        01801260
1296 P03CB 8000        NUM  $8000        FLAG SAYING ENT/EXT PAGE                          01801261
1297                    *                 STUFF $FFFF INTO THE LAST WORD OF                 01801262
1298 P03CC C8D7        LDA* STRADR       BOTH CREP AND CREP1 TABLES SO THE                 01801263
1299 P03CD 0901        INA  1            MSOS LOADER CAN DETECT THE END OF                 01801264
1300 P03CE 5800        RTJ  DISKWR       THE ENTRY POINT TABLES.                           01801265
     P03CF 0189
1301 P03D0 FFFF        NUM  $FFFF        VALUE TO STORE INTO TABLE                         01801266
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1302 P03D1 8000          NUM  $8000          FLAG SAYING ENT/EXT TABLE                          01801267
1303 P03D2 1CFB          JMP* (STORIT)       RETURN TO CALLER                                   01801268


1305 P03D3 0B00   ESTORE NOP  0              ROUTINE TO PUT ENTRY OR EXTERNAL NAME IN TABLE01801270
1306 P03D4 F10F          ADQ- INPCTR,I       FORM ADDRESS OF WORD IN Q                          01801271
1307 P03D5 C201          LDA- 1,Q            PICKUP A WORD OF THE NAME                          01801272
1308 P03D6 6804          STA* EVALUE         SAVE VALUE TO BE WRITTEN INTO PAGE                 01801273
1309 P03D7 C8CC          LDA* STRADR         PICKUP ADDRESS TO WRITE INTO                       01801274
1310 P03D8 5800          RTJ  DISKWR         STORE THE WORD VIA PAGE                            01801275
     P03D9 017F
1311 P03DA 0000   EVALUE NUM  0              WORD OF ENTRY OR EXTERNAL NAME                     01801276
1312 P03DB 8000          NUM  $8000          FLAG SAYING ENTRY OR EXTERNAL PAGE                 01801277
1313 P03DC D8C7          RAO* STRADR         INCREMENT THE ADDRESS ON THE PAGE                  01801278
1314 P03DD 1CF5          JMP* (ESTORE)       RETURN TO CALLER                                   01801279
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1316                    *       R O U T I N E   T O   P R I N T   U N P A T C H E D          01801281
1318                    *       E X T E R N A L S                                            01801283



1320  P03DE C110    PRNEXT LDA- NCTLNK,I       ARE THERE ANY UNPATCHED EXTERNALS            01801285
1321  P03DF 0112           SAN  PEXT1-*-1      YES, LIST THEM                               01801286
1322  P03E0 1CD0           JMP  (ILOAD)        NO, RETURN TO CALLER                         01801287
      P03E1 FC1F
1323  P03E2 581E    PEXT1  RTJ* PEXT2                                                       01801288
1324  P03E3 0D0A           NUM  $0D0A          CARRIAGE RETURN - LINE FEED                  01801289
1325  P03E4 202A           ALF  Z, * * *  U N P A T C H E D   E X T E R N A L S   * * *Z    01801290
      P03E5 202A
      P03E6 202A
      P03E7 2020
      P03E8 5520
      P03E9 4E20
      P03EA 5020
      P03EB 4120
      P03EC 5420
      P03ED 4320
      P03EE 4820
      P03EF 4520
      P03F0 4420
      P03F1 2020
      P03F2 2045
      P03F3 2058
      P03F4 2054
      P03F5 2045
      P03F6 2052
      P03F7 204E
      P03F8 2041
      P03F9 204C
      P03FA 2053
      P03FB 2020
      P03FC 2020
      P03FD 2A20
      P03FE 2A20
      P03FF 2A20
1326  P0400 0B00    PEXT2  NOP  0               BUFFER ADDRESS                               01801291
1327  P0401 C8FE           LDA* PEXT2          PICKUP BUFFER ADDRESS                        01801292
1328  P0402 ED00           LDQ  =XPEXT2-PEXT1-1  PICKUP WORD COUNT                          01801293
      P0403 001D
1329  P0404 5800  X        RTJ  QCOM           OUTPUT MESSAGE                  **MSOS 4.1**01801294
      P0405 00C0  X
1330  P0406 C176           LDA- EXTSTR,I       PICKUP START OF EXTERNAL TABLE               01801295
1331  P0407 610F           STA- INPCTR,I       SAVE AS POINTER FOR TABLE SEARCH             01801296
1332  P0408 C10F    PEXT3  LDA- INPCTR,I                                                    01801297
1333  P0409 0901           INA  1              PICKUP SECOND WORD OF THE EXTERNAL POINTED   01801298
1334  P040A 5800           RTJ  DISKRD         TO BY INPCTR                                 01801299
      P040B 0149
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1335 P040C 8000          NUM  $8000       FLAG SAYING ADDRESS IN A-REGISTER REFERS      01801300
1336               *                      TO ENTRY/EXTERNAL PAGE                        01801301
1337 P040D 0132          SAM  PEXT4-*-1   SKIP IF EXTERNAL PATCHED                       01801302
1338 P040E 5800          RTJ  PRINT6      PRINT THE EXTERNAL                            01801303
     P040F 0034
1339 P0410 C10F    PEXT4 LDA- INPCTR,I    INCREMENT THE INDEX TO POINT                  01801304
1340 P0411 0904          INA  4           TO THE NEXT EXTERNAL IN THE TABLE             01801305
1341 P0412 610F          STA- INPCTR,I                                                  01801306
1342 P0413 9107          SUB- EXTCTR,I    HAS THE ENTIRE TABLE BEEN CHECKED             01801307
1343 P0414 0132          SAM  PEXT5-*-1   NO                                            01801308
1344 P0415 1C00          JMP  (ILOAD)     YES, RETURN TO CALLER                         01801309
     P0416 FBEA
1345 P0417 18F0    PEXT5 JMP* PEXT3       TEST NEXT EXTERNAL                            01801310
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1347                    *       L O A D E R   P R I N T O U T   R O U T I N E S                 01801312


1349                    *       COME HERE TO PRINT OUT LOADER ERRORS (BOTH PRINT2 AND PRINT3)   01801314

1351 P0418 D800 X PRNT3   RAO   ERFLAG                                                         01801316
     P0419 7FFF X
1352 P041A 580A           RTJ*  PR3J1                                                         01801317
1353 P041B 2000   COMSGE  NUM   $2000          BUFFER     SPACE - CARRIAGE RETURN             01801318
1354 P041C 4C4F           ALF   7,LOADER ERROR                                                01801319
     P041D 4144
     P041E 4552
     P041F 2045
     P0420 5252
     P0421 4F52
     P0422 2020
1355 P0423 2020           NUM   $2020                    ERROR CODE                           01801320
1356 P0424 0B00   PR3J1   NOP   0             ABSOLUTE CORE ADDRESS OF BUFFER                01801321
1357 P0425 68FD           STA*  *-2            A-REGISTER CONTAINED ERROR CODE, STORE THE     01801322
1358                    *                     ERROR CODE INTO THE MESSAGE BUFFER             01801323
1359 P0426 C8FD           LDA*  PR3J1           ADDRESS OF BUFFER                              01801324
1360 P0427 0C09           ENQ   9               WORD COUNT                                     01801325
1361 P0428 5800 X         RTJ   TELOUT          LOG ERROR ON TELETYPE                          01801326
     P0429 0346 X
1362 P042A 1135           JMP-  PR3XIT,I        RETURN TO CALLER                               01801327


1364                      ENT   STOP                                                          01801329
1365                    *                       COME HERE AFTER LOGGING FATAL ERROR VIA PRINT3 01801330
1366 P042B 0A00   STOP    ENA   0                                                           01801331
1367 P042C 6178           STA-  CSQCTR,I        CLEAR PROGRAM LENGTH TO ZERO                   01801332
1368 P042D 5800   STOP1   RTJ   NXTBIN          READ IN A RECORD                               01801333
     P042E FBEB
1369 P042F C196           LDA-  INPUT,I                                                       01801334
1370 P0430 A144           AND-  MFF00,I         ISOLATE THE FIRST CHARACTER                   01801335
1371 P0431 0F48           ARS   8                                                             01801336
1372 P0432 09D5           INA   -$2A            IS THE FIRST CHARACTER AN ASTERISK            01801337
1373 P0433 0101           SAZ   STOP2-*-1       YES, RETURN TO CONTRL                         01801338
1374 P0434 18F8           JMP*  STOP1           NO, READ NEXT RECORD                          01801339
1375 P0435 1800 X STOP2   JMP   CM65                                                          01801340
     P0436 7FFF X


1377                    *       COME HERE TO PRINT OUT PROGRAM NAME AND LOAD ADDRESS           01801342
1378 P0437 48EC   PRNT4   STQ*  PR3J1           SAVE THE ADDRESS OF THE PRINT BUFFER           01801343
1379 P0438 515A           RTJ-  CONVRT,I        CONVERT THE LOAD ADDRESS TO ASCII              01801344
1380 P0439 E8EA           LDQ*  PR3J1           PICKUP THE BUFFER ADDRESS                      01801345
1381 P043A C133           LDA-  BINASC,I        PICKUP THE FIRST HALF OF THE LOAD ADDRESS      01801346
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1382 P043B 6207        STA- 7,Q          STORE IN WORD 7 OF THE PRINT BUFFER              01801347
1383 P043C C134        LDA- BINASC+1,I   PICKUP THE SECOND HALF OF THE LOAD ADDRESS       01801348
1384 P043D 6208        STA- 8,Q          STORE IN WORD 8 OF THE PRINT BUFFER              01801349
1385 P043E 0814        TRQ  A            PUT THE STARTING BUFFER ADDRESS IN A             01801350
1386 P043F 0C23        FNQ  35           WORD COUNT FOR 72 COLUMNS                        01801351
1387 P0440 5800 X      RTJ  QCOM         PRINT THE LOAD MAP LINE          **MSOS 4.1**01801352
     P0441 0405 X
1388 P0442 115D        JMP- PR4XIT,I     RETURN TO CALLER                                 01801353
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1390                    *       COME HERE TO PRINT UNPATCHED EXTERNALS                          01801355

1392 P0443 0B00    PRINT6 NOP  0              RETURN ADDRESS                                   01801357
1393 P0444 5805           RTJ* PR6            RTJ TO PICKUP ABSOLUTE CORE ADDRESS OF BUFFER    01801358
1394 P0445 2020    BUF6   ALF  4,                                                             01801359
     P0446 2020
     P0447 2020
     P0448 2020
1395 P0449 0B00    PR6    NOP  0              ABSOLUTE ADDRESS OF PR6 BUFFER                   01801360
1396 P044A C10F           LDA- INPCTR,I       PICKUP EXTERNAL ADDRESS                          01801361
1397 P044B 6803           STA* PR6A+1                                                          01801362
1398 P044C 0C00           ENQ  0              SET POINTER FOR FIRST WORD OF EXTERNAL IN TBL.   01801363
1399 P044D C200    PR6A   LDA  =X0,Q          PICKUP THE NEXT WORD OF THE EXTERNAL NAME        01801364
     P044E 0000
1400 P044F 5800           RTJ  DISKRD         READ REQUEST FOR SUBROUTINE PAGE                 01801365
     P0450 0104
1401 P0451 8000           NUM  $8000          FLAG SAYING ADDRESS IS AN ENT/EXT PAGE           01801366
1402 P0452 A141           AND- M7FFF,I        CLEAR THE UPPER BIT FROM THIS WORD OF THE NAME   01801367
1403 P0453 6AF2           STA* BUF6+1,Q       SAVE THIS WORD OF THE EXTERNAL NAME              01801368
1404 P0454 0D01           INQ  1                                                               01801369
1405 P0455 0AFC           ENA  -3             HAVE ALL THREE WORDS OF THE EXTERNAL NAME        01801370
1406 P0456 0834           AAQ  A              BEEN TRANSFERED TO THE PRINT BUFFER              01801371
1407 P0457 0101           SAZ  PR6B-*-1       YES, SETUP THE PRINT                             01801372
1408 P0458 18F4           JMP* PR6A           NO, GET THE NEXT WORD                            01801373
1409 P0459 C8EF    PR6B   LDA* PR6            PICKUP THE STARTING BUFFER ADDRESS               01801374
1410 P045A 0C04           ENQ  4              SETUP THE WORD COUNT                             01801375
1411 P045B 5800 X         RTJ  QCOM           PRINT THE UNPATCHEX EXTERNAL      **MSOS 4.1**   01801376
     P045C 0441 X
1412 P045D 1CF5           JMP* (PRINT6)                                                        01801377


1414                    *       COME HERE TO PRINT OUT DUPLICATE ENTRY POINT NAMES              01801379

1416 P045E 5810    PRNT5  RTJ* PR5J1                                                           01801381
1417 P045F 4455           ALF  11,DUPLICATE ENTRY POINT                                        01801382
     P0460 504C
     P0461 4943
     P0462 4154
     P0463 4520
     P0464 454E
     P0465 5452
     P0466 5920
     P0467 504F
     P0468 494E
     P0469 5420
1418 P046A 2020    BUF5   ALF  4,              BUFFER FOR ENTRY POINT NAME                      01801383
     P046B 2020
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      P046C 2020
      P046D 2020
1419  P046E 0B00    PR5J1   NOP  0              ABSOLUTE ADDRESS OF PRINT BUFFER                          01801384
1420  P046F F10F            LDQ- INPCTR,I       PICKUP THE ADDRESS OF THE ENTRY POINT NAME                01801385
1421  P0470 C622            LDA- (ZERO),Q       PICKUP THE FIRST WORD OF THE NAME                         01801386
1422  P0471 A141            AND- M7FFF,I        MASK OFF THE UPPER BIT                                    01801387
1423  P0472 68F8            STA* BUF5+1         STORE INTO SECOND WORD OF BUFFER                          01801388
1424  P0473 C201            LDA- 1,Q            PICKUP THE SECOND WORD OF THE ENTRY POINT NAME            01801389
1425  P0474 68F7            STA* BUF5+2         STORE INTO THIRD WORD OF BUFFER                           01801390
1426  P0475 C202            LDA- 2,Q            PICKUP THE THIRD WORD OF THE ENTRY POINT NAME             01801391
1427  P0476 68F6            STA* BUF5+3         STORE INTO FOURTH WORD OF BUFFER                          01801392
1428  P0477 C8F6            LDA* PR5J1          PICKUP THE STARTING BUFFER ADDRESS                        01801393
1429  P0478 0C0F            ENQ  15             SETUP THE WORD COUNT                                      01801394
1430  P0479 5800 X          RTJ  QCOM           PRINT DUP ENTRY POINT NAME          **MSOS 4.1**          01801395
      P047A 045C X
1431  P047B 1161            JMP- PR5XIT,I       RETURN TO CALLER.                                         01801396
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1433                *       R O U T I N E   T O   C O N V E R T   O N E   W O R D        01801398
1435                *       F R O M   B I N A R Y   T O   A S C I I                      01801400

1437                *       THE NUMBER TO BE CONVERTED IS IN THE A-REGISTER ON ENTRY      01801402

1439                *       THE ASCII CODES FOR THE NUMBER ARE STORED IN BINASC           01801404
1440                *       AND BINASC+1 ON EXIT                                         01801405


1442 P047C 580D   CNVERT RTJ* CVT          CONVERT THE LEFT MOST HEX DIGIT TO ASCII     01801407
1443 P047D 0FA8          QLS  3            SHIFT THE DIGIT TO ITS POSITION              01801408
1444 P047E 4133          STQ- BINASC,I     SAVE THE ASCII CODE                          01801409
1445 P047F 580A          RTJ* CVT          CONVERT THE SECOND HEX DIGIT TO ASCII        01801410
1446 P0480 F133          ADQ- BINASC,I     COMBINE THE FIRST AND SECOND DIGIT           01801411
1447 P0481 4133          STQ- BINASC,I     SAVE THE TWO UPPER CODES IN BINASC           01801412
1448 P0482 5807          RTJ* CVT          CONVERT THE THIRD HEX DIGIT TO ASCII         01801413
1449 P0483 0FA8          QLS  8            SHIFT THE DIGIT TO ITS PROPER POSITION       01801414
1450 P0484 4134          STQ- BINASC+1,I   SAVE THE ASCII CODES FOR THE DIGIT           01801415
1451 P0485 5804          RTJ* CVT          CONVERT THE LAST HEX DIGIT TO ASCII          01801416
1452 P0486 F134          ADQ- BINASC+1,I   COMBINE THE THIRD AND FOURTH DIGITS          01801417
1453 P0487 4134          STQ- BINASC+1,I   SAVE THE TWO LOWER CODES IN BINASC+1         01801418
1454 P0488 1159          JMP- CNVXIT,I     RETURN TO CALLER                             01801419


1456                *                       COME HERE TO PICKUP THE NEXT HEX DIGIT IN    01801421
1457 P0489 0B00   CVT    NOP  0            THE A-REGISTER AND CONVERT IT TO ASCII        01801422
1458 P048A 6842          CLR  Q                                                         01801423
1459 P048B 0FE4          LLS  4            SHIFT THE HEX DIGIT INTO THE Q-REGISTER      01801424
1460 P048C 0DF5          INQ  -$A          IS THE DIGIT LESS THAN $A                    01801425
1461 P048D 0171          SQM  CVT1-*-1     YES                                          01801426
1462 P048E 0D07          INQ  7            NO, IT MUST BE IN THE RANGE A - F            01801427
1463 P048F 0D3A   CVT1   INQ  $3A          CONVERT Q-REGISTER TO ASCII CODE             01801428
1464 P0490 1CF8          JMP* (CVT)        RETURN TO CALLER                             01801429
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1466                *       R O U T I N E   U S E D   T O   E X T R A C T   A          01801431
1468                *       F I E L D   F R O M   A   C O N T R O L   S T A T E M E N T 01801433


1470 P0491 0C00    ISCAN   ENQ  0              SET THE FOLLOWING LOCATIONS EQUAL TO ZERO    01801435
1471 P0492 4147            STQ- NEGSW,I        CURRENT LEGAL ALGEBRAIC SIGN                 01801436
1472 P0493 4149            STQ- SCNINP,I       BINARY VALUE OF NUMERIC OPERAND              01801437
1473 P0494 E112            LDQ- BLANKS,I       BACKROUND SYMSTR, SYMSTR+1, AND SYMSTR+2     01801438
1474 P0495 4113            STQ- SYMSTR,I       TO SPACES  ($2020)                           01801439
1475 P0496 4114            STQ- SYMSTR+1,I                                                  01801440
1476 P0497 4115            STQ- SYMSTR+2,I                                                  01801441
1477 P0498 F116            ADQ- SCANSW,I       BACKROUND SCANSW TO SPACES PLUS THE FLAG BITS 01801442
1478 P0499 4116            STQ- SCANSW,I                                                    01801443
1479 P049A 6148            STA- SCNTRM,I       SAVE A TEMPORARILY.  IF A=0 FIRST CHARACTER  01801444
1480 P049B 0113            SAN  SCAN2-*-1      IS IN INPUT BUFFER. OTHERWISE FIRST CHARACTER 01801445
1481 P049C 5800    SCAN1   RTJ  CHPU           IS IN A-REGISTER                             01801446
     P049D 00A2
1482 P049E C148            LDA- SCNTRM,I       PICKUP CHARACTER TO BE PROCESSED             01801447
1483 P049F 09D8    SCAN2   INA  -$24           IS THIS CHARACTER A $                        01801448
1484 P04A0 0101            SAZ  SCAN3-*-1      YES, SET BIT 0 OF SCANSW                     01801449
1485 P04A1 180A            JMP* PLUS           NO, GO DOWN TO CHECK FOR + SIGN              01801450
1486 P04A2 0AFE    SCAN3   ENA  -1                                                          01801451
1487 P04A3 A116            AND- SCANSW,I       MAKE SURE BIT 0 IS CLAAR                     01801452
1488 P04A4 0901            INA  1              SET THE BIT                                  01801453
1489 P04A5 6116            STA- SCANSW,I       HEXSW=1                                      01801454
1490 P04A6 0A00            ENA  0                                                           01801455
1491 P04A7 6149            STA- SCNINP,I       CLEAR BINARY VALUE OF NUMBER TO ZERO         01801456
1492 P04A8 0AFA            ENA  -5                                                          01801457
1493 P04A9 6119            STA- COUNT1,I       SET COUNT1 TO PICKUP 4 HEXADECIMAL DIGITS    01801458
1494 P04AA 1832            JMP* SCAN4          GO TO PROCESS FIELD                          01801459
1495 P04AB 09F8    PLUS    INA  -7             IS THIS CHARACTER A +                        01801460
1496 P04AC 0117            SAN  MINUS-*-1      NO, GO DOWN TO CHECK FOR - SIGN              01801461
1497 P04AD 0A02            ENA  2              CHECK BIT 1 OF SCANSW TO SEE IF + IS         01801462
1498 P04AE A116            AND- SCANSW,I       A LEGAL PRECEEDING ALGEBRAIC SIGN            01801463
1499 P04AF 0111            SAN  SCAN5-*-1      LEGAL, CONTINUE PROCESSING                   01801464
1500 P04B0 114A            JMP- SCNXIT,I       ILLEGAL SIGN RETURN TO P+1                   01801465
1501 P04B1 0A01    SCAN5   ENA  1                                                           01801466
1502 P04B2 6147            STA- NEGSW,I        SET LEADING ALGEBRAIC SIGN TO +              01801467
1503 P04B3 18F8            JMP* SCAN1          LOOP BACK TO GET NEXT CHARACTER              01801468
1504 P04B4 09F0    MINUS   INA  -2             IS LEADING ALGEBRAIC SIGN MINUS              01801469
1505 P04B5 0117            SAN  ALFNUM-*-1     NO, PROCESS AS ALPHANUMERIC FIELD            01801470
1506 P04B6 0A04            ENA  4              YES, IS MINUS A LEGAL ALGEBRAIC SIGN         01801471
1507 P04B7 A116            AND- SCANSW,I       - IS LEGAL ONLY IF BIT 2 OF SCANSW =1        01801472
1508 P04B8 0111            SAN  SCAN6-*-1      LEGAL                                        01801473
1509 P04B9 114A            JMP- SCNXIT,I       ILLEGAL SIGN RETURN TO P+1                   01801474
1510 P04BA 0AFE    SCAN6   ENA  -1                                                          01801475
1511 P04BB 6147            STA- NEGSW,I        SET LEADING ALGEBRAIC SIGN MINUS             01801476
1512 P04BC 18DF            JMP* SCAN1          LOOP BACK TO GET THE NEXT CHARACTER          01801477
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1514 P04BD 5848   ALFNUM RTJ* NUMBER    SEE IF FIRST CHARACTER IS A NUMBER                01801479
1515 P04BE 0131          SAM  SCAN7-*-1  MINUS INDICATES NOT NUMERIC                       01801480
1516 P04BF 1815          JMP* NUMTRM     PROCESS NUMERIC FIELD                            01801481
1517 P04C0 585A   SCAN7  RTJ* LETTER     SEE IF FIRST CHARACTER IS A LETTER               01801482
1518 P04C1 0131          SAM  SCAN8-*-1  MINUS INDICATES NOT ALPHABETIC                   01801483
1519 P04C2 1802          JMP* ALFTRM     PROCESS ALPHABETIC FIELD                         01801484
1520 P04C3 114A   SCAN8  JMP- SCNXIT,I   EXIT TO P+1 UNRECOGNIZEBALE INPUT               01801485
1521 P04C4 0AF9   ALFTRM ENA  -6          SETUP COUNT1 TO PROCESS A NAME OF                01801486
1522 P04C5 6119          STA- COUNT1,I    MAXIMUM SIZE 6 CHARACTERS                        01801487
1523 P04C6 C0FF          LDA- I           SETUP COUNT2 TO REFERENCE CHARACTER POSITIONS    01801488
1524 P04C7 0913          INA  19          IN THE SYMSTR BLOCK. BITS 1-15 ARE THE           01801489
1525 P04C8 0FC1          ALS  1           CHARACTER STORAGE ADDRESS. BIT ZERO IS THE       01801490
1526 P04C9 611B          STA- COUNT2,I    RIGHT / LEFT INDICATOR. 0=LEFT , 1=RIGHT         01801491
1527 P04CA 5861   SCAN9  RTJ* STRCHR     STORE LAST CHARACTER PROCESSED INTO SCNTRM        01801492
1528 P04CB 5874          RTJ* CHPU        PICKUP NEXT CHARACTER                            01801493
1529 P04CC D119          RAO- COUNT1,I    INCREMENT CHARACTER COUNT                        01801494
1530 P04CD C119          LDA- COUNT1,I    HAVE ALL CHARACTERS BEEN PROCESSED               01801495
1531 P04CE 0111          SAN  SCAN10-*-1  NO, KEEP GOING                                   01801496
1532 P04CF 114A          JMP- SCNXIT,I    YES EXIT TO CALLER AT P+1                        01801497
1533 P04D0 584A   SCAN10 RTJ* LETTER     CHECK FOR LETTER                                 01801498
1534 P04D1 0121          SAP  SCAN11-*-1  ALPHANUMERIC CHARACTER, SAVE IT                  01801499
1535 P04D2 114A          JMP- SCNXIT,I    INVALID CHARACTER, EXIT TO CALLER AT P+1         01801500
1536 P04D3 18F6   SCAN11 JMP* SCAN9       LOOP BACK TO STORE CHARACTER                     01801501
1537 P04D4 5877   NUMTRM RTJ* GETBIN      CONVERT NUMERIC TO BINARY                        01801502
1538 P04D5 6149          STA- SCNINP,I    SAVE BINARY VALUE                                01801503
1539 P04D6 0A01          ENA  1                                                            01801504
1540 P04D7 A116          AND- SCANSW,I    TEST TO SEE IF FIELD IS DECIMAL OR HEX           01801505
1541 P04D8 0CFA          ENQ  -5          SET COUNT1 TO FIVE FOR DECIMAL DIGITS            01801506
1542 P04D9 0111          SAN  SCAN12-*-1                                                   01801507
1543 P04DA 0CFB          ENQ  -4          SET COUNT1 TO FOUR FOR HEX DIGITS                01801508
1544 P04DB 4119   SCAN12 STQ- COUNT1,I    SAVE COMPLEMENT OF NUMBER OF DIGITS              01801509
1545 P04DC 0A00   SCAN4  ENA  0           CLEAR SYMSTR TO ZERO TO INDICATE THAT            01801510
1546 P04DD 6113          STA- SYMSTR,I    A NUMERIC OPERAND IS BEING PROCESSED             01801511
1547 P04DE C0FF          LDA- I           SETUP COUNT2 TO REFERENCE CHARACTER POSITIONS    01801512
1548 P04DF 0914          INA  20          IN THE SYMSTR BLOCK. BITS 1-15 ARE THE           01801513
1549 P04E0 0FC1          ALS  1           CHARACTER STORAGE ADDRESS. BIT ZERO IS THE       01801514
1550 P04E1 611B          STA- COUNT2,I    RIGHT / LEFT INDICATOR. 0=LEFT, 1=RIGHT          01801515
1551 P04E2 0A08   SCAN13 ENA  8           TEST BIT 3 OF SCANSW TO SEE IF IT IS SET         01801516
1552 P04E3 A116          AND- SCANSW,I    IF SET THEN SAVE THE ASCII CODES FOR THE         01801517
1553 P04E4 0106          SAZ  SCAN14-*-1  FIELD BEING PROCESSED IN LOCATIONS SYMSTR,       01801518
1554 P04E5 5846          RTJ* STRCHR      SYMSTR+1, AND SYMSTR+2                           01801519
1555 P04E6 5859          RTJ* CHPU        PICKUP NEXT CHARACTER                            01801520
1556 P04E7 D119          RAO- COUNT1,I    INCREMENT COMPLEMENT OF CHARACTER COUNT          01801521
1557 P04E8 C119          LDA- COUNT1,I    SEE IF CHARACTER COUNT HAS GONE TO ZERO          01801522
1558 P04E9 0111          SAN  SCAN14-*-1  INDICATING THAT THIS FIELD IS DONE               01801523
1559 P04EA 1813          JMP* SGNTST      FIELD COMPLETED, TEST SIGN                       01801524
1560 P04EB 581A   SCAN14 RTJ* NUMBER     PICKUP NEXT CHARACTER                            01801525
1561 P04EC 0121          SAP  SCAN25-*-1  SKIP IF VALID DIGIT  (0-9)                       01801526
1562 P04ED 1810          JMP* SGNTST      GO TO CHECK SIGN, FIRST INVALID CHARACTER        01801527
1563              *                       TERMINATES THIS SCAN                             01801528
1564 P04EE 585D   SCAN25 RTJ* GETBIN      PICKUP THE BINARY VALUE FOR THIS ASCII DIGIT     01801529
1565 P04EF 6807          STA* BINVAL+1    SAVE THIS BINARY VALUE                           01801530
1566 P04F0 0A01          ENA  1           TEST TO SEE IF BIT 0 OF SCANSW IS SET            01801531
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1567 P04F1 A116          AND- SCANSW,I     INDICATING THAT THIS IS A HEXADECIMAL FIELD   01801532
1568 P04F2 0822          TRA  Q                                                          01801533
1569 P04F3 C149          LDA- SCNINP,I     PICKUP THE LAST BINARY VALUE COMPUTED         01801534
1570 P04F4 0FC4          ALS  4            SHIFT THAT VALUE UP                           01801535
1571 P04F5 B000 BINVAL   EOR  =N$FFFF      ADD ON THE LATEST DIGIT                       01801536
     P04F6 FFFF
1572 P04F7 0153          SQN  NUMSTR-*-1   SKIP DOWN TO STORE IF FIELD IS HEXADECIMAL     01801537
1573 P04F8 0A0A          ENA  10           IF FIELD IS DECIMAL THEN CONVERT TO           01801538
1574 P04F9 2149          MUI- SCNINP,I     BINARY BY MULTIPLYING THIS DIGIT BY TEN IN    01801539
1575 P04FA 88FB          ADD* BINVAL+1     THE BASE 16 NUMBER SYSTEM AND ADDING THE      01801540
1576                     *                 PREVIOUS VALUE TO THE VALUE OF THE NEW DIGIT  01801541
1577 P04FB 6149 NUMSTR   STA- SCNINP,I     SAVE THE RESULT OF THE CONVERSION TO USE      01801542
1578                     *                 THE NEXT TIME THROUGH THE LOOP                01801543
1579 P04FC 18E5          JMP* SCAN13       LOOP BACK TO GET THE NEXT DIGIT               01801544
1580 P04FD E149 SGNTST   LDQ- SCNINP,I     PICKUP THE BINARY VALUE OF THE NUMBER         01801545
1581 P04FE C147          LDA- NEGSW,I      PICKUP THE LEGAL LEADING ALGEBRAIC SIGN       01801546
1582 P04FF 0124          SAP  SCAN15-*-1   SKIP AHEAD IF THE NUMBER IS POSITIVE          01801547
1583 P0500 0852          TCQ  Q            COMPLEMENT THE NUMBER IF ITS SIGN IS NEGATIVE 01801548
1584 P0501 0A00          ENA  0                                                          01801549
1585 P0502 4149          STQ- SCNINP,I     STORE THE NEW NUMBER AS THE VALUE OF THE FIELD01801550
1586 P0503 6147          STA- NEGSW,I      SET THE SIGN TO POSITIVE                      01801551
1587 P0504 114A SCAN15   JMP- SCNXIT,I     EXIT TO CALLER AT P+1                         01801552
1588 P0505 FFFF NUMBER   NUM  $FFFF        ROUTINE TO TEST FOR DECIMAL NUMBERS           01801553
1589 P0506 E148          LDQ- SCNTRM,I     PICKUP THE CURRENT DIGIT                      01801554
1590 P0507 0DCF          INQ  -$30         IS IT GREATER THAN $30                        01801555
1591 P0508 0174          SQM  NOTNUM-*-1   NO, GO TO NOTNUM                              01801556
1592 P0509 0DF5          INQ  -$A                                                        01801557
1593 P050A 0164          SQP  HEXTST-*-1   TEST FOR HEX DIGIT IF GREATER THAN $3A        01801558
1594 P050B C148 NUMXIT   LDA- SCNTRM,I     RETURN TO CALLER WITH THE ASCII CODE FOR A    01801559
1595 P050C 1CF8          JMP* (NUMBER)     VALID NUMBER IN THE A-REGISTER                01801560
1596 P050D 0AFF NOTNUM   ENA  -0           RETURN TO CALLER WITH -0 IN THE A-REGISTER    01801561
1597 P050E 1CF6          JMP* (NUMBER)     INDICATING A NON-NUMERICAL CODE               01801562
1598 P050F 0A01 HEXTST   ENA  1            ROUTINE TO CHECK FOR VALID HEX DIGITS         01801563
1599 P0510 A116          AND- SCANSW,I     CHECK BIT ZERO OF SCANSW TO SEE IF A HEX      01801564
1600 P0511 0111          SAN  SCAN16-*-1   NUMBER IS LEGAL                               01801565
1601 P0512 18FA          JMP* NOTNUM       NO, RETURN VIA ERROR EXIT                     01801566
1602 P0513 0DF8 SCAN16   INQ  -7           YES, IS THE DIGIT $41 OR GREATER              01801567
1603 P0514 0161          SQP  SCAN17-*-1   YES, CONTINUE TEST                           01801568
1604 P0515 18F7          JMP* NOTNUM       NO, DIGIT WAS BETWEEN $39 AND $41 ERROR EXIT  01801569
1605 P0516 0DF9 SCAN17   INQ  -6           IS DIGIT LESS THAN $47 (F CODE)               01801570
1606 P0517 0171          SQM  SCAN18-*-1   YES, CONTINUE                                01801571
1607 P0518 18F4          JMP* NOTNUM       NO, NOT A HEX CHARACTER                       01801572
1608 P0519 18F1 SCAN18   JMP* NUMXIT       TAKE NORMAL RETURN WITH ASCII CODE IN A-REG.  01801573
1609 P051A FFFF LETTER   NUM  $FFFF        ROUTINE TO TEST FOR ALPHANUMERIC CHARACTERS   01801574
1610 P051B C148          LDA- SCNTRM,I     PICKUP THE LAST CHARACTER FOUND               01801575
1611 P051C 09CF          INA  -$30         IS IT LESS THAN $30 ( ZERO CODE)              01801576
1612 P051D 0136          SAM  NOTALF-*-1   YES, INVALID CHARACTER                        01801577
1613 P051E 09F5          INA  -$A          IS IT LESS THAN $3A (AMPERSAND CODE)          01801578
1614 P051F 0122          SAP  SCAN19-*-1   NO, SKIP DOWN TO CONTINUE TESTING            01801579
1615 P0520 C148          LDA- SCNTRM,I     YES, RETURN TO CALLER WITH ASCII CODE FOR     01801580
1616 P0521 1CF8          JMP* (LETTER)     A VALID DECIMAL DIGIT IN THE A-REGISTER       01801581
1617 P0522 09F8 SCAN19   INA  -7           IS THIS CHARACTER CODE GREATER THAN $41        01801582
1618 P0523 0122          SAP  ALFTST-*-1   ($41 IS THE CODE FOR AN ASCII A)              01801583
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1619 P0524 0AFF   NOTALF ENA  -0          NO, RETURN TO CALLER WITH A-REGISTER MINUS    01801584
1620 P0525 1CF4          JMP* (LETTER)    INDICATING INVALID ALPHANUMERIC CODE          01801585
1621 P0526 09E5  ALFTST  INA  -$1A        IS CODE LESS THAN $5B (ONE CODE PAST Z)       01801586
1622 P0527 0131          SAM  SCAN20-*-1  YES, CONTINUE TEST                           01801587
1623 P0528 18F8          JMP* NOTALF      NO, RETURN TO CALLER WITH ERROR SET           01801588
1624 P0529 C148  SCAN20  LDA- SCNTRM,I    A VALID ALPHANUMERIC HAS BEEN FOUND. RETURN   01801589
1625 P052A 1CFF          JMP* (LETTER)    TO CALLER WITH CHARACTER CODE IN A-REGISTER   01801590
1626 P052B FFFF  STRCHR  NUM  $FFFF       ROUTINE TO STORE CHARACTERS IN SYMSTR BLOCK   01801591
1627 P052C C11B          LDA- COUNT2,I    PICKUP STORAGE ADDRESS REGISTER AND RIGHT -   01801592
1628 P052D 0C00          ENQ  0           LEFT INDICATOR                                01801593
1629 P052E 0FEF          LLS  15          ISOLATE STORAGE ADDRESS                       01801594
1630 P052F 4189          STQ- QHOLD,I     SAVE STORAGE ADDRESS IN TEMPORARY CELL        01801595
1631 P0530 E148          LDQ- SCNTRM,I    PICKUP LAST CHARACTER PROCESSED               01801596
1632 P0531 0131          SAM  SCAN21-*-1  MINUS MEANS STORE CHARACTER IN RIGHT HALFWORD 01801597
1633 P0532 0FA8          QLS  8           SHIFT TO LEFT HALFWORD IF FLAG=0              01801598
1634 P0533 4188  SCAN21  STQ- AHOLD,I     SAVE CHARACTER IN TEMPORY CELL                01801599
1635 P0534 0C7F          ENQ  127         LOAD Q-REGISTER WITH CHARACTER MASK ($7F)     01801600
1636 P0535 0121          SAP  SCAN22-*-1  SKIP IF NEW CHARACTER GOES IN LEFT HALFWORD   01801601
1637 P0536 0FA8          QLS  8           SHIFT MASK IF NEW CHARACTER FOR RIGHT HALFWORD01801602
1638 P0537 0814  SCAN22  TRQ  A           PUT PROPER MASK INTO A-REGISTER               01801603
1639 P0538 0CFE          ENQ  -1                                                        01801604
1640 P0539 F189          ADQ- QHOLD,I     PICKUP POINTER TO LAST CHARACTER PROCESSED    01801605
1641 P053A A201          AND- 1,Q         MASK GARBAGE BITS OFF LAST CHARACTER STORED   01801606
1642 P053B 8188          ADD- AHOLD,I     ADD NEW CHARACTER INTO WORD                   01801607
1643 P053C 6201          STA- 1,Q         STORE CHARACTERS BACK INTO SYMSTR BLOCK       01801608
1644 P053D D11B          RAO- COUNT2,I    UPDATE RIGHT/LEFT INDICATOR AND STORAGE       01801609
1645                     *                ADDRESS TO POINT TO NEXT CHARACTER STORAGE CEL01801610
1646 P053E 1CEC          JMP* (STRCHR)    EXIT BACK TO CALLER                           01801611
1647 P053F FFFF  CHPU    NUM  $FFFF       CHARACTER PICKUP ROUTINE                      01801612
1648 P0540 C118          LDA- WRDCNT,I    PICKUP CHARACTER ADDRESS                      01801613
1649 P0541 D118          RAO- WRDCNT,I    UPDATE CHARACTER ADDRESS                      01801614
1650 P0542 0C00          ENQ  0                                                         01801615
1651 P0543 0FEF          LLS  15          ISOLATE WORD ADDRESS FROM CHARACTER ADDRESS   01801616
1652 P0544 0DFE          INQ  -1          LEAVE LEFT/RIGHT INDICATOR IN A-REGISTER      01801617
1653 P0545 E201          LDQ- 1,Q         PICKUP WORD WITH NEXT CHARACTER IN IT         01801618
1654 P0546 0121          SAP  CHPU1-*-1   SKIP IF RIGHT CHARACTER DESIRED               01801619
1655 P0547 0FA8          QLS  8           SWAP WORD HALFS IF LEFT CHARACTER DESIRED     01801620
1656 P0548 0FE8  CHPU1   LLS  8           MOVE CORRECT CHARACTER TO BITS 0-7 OF A-REG.  01801621
1657 P0549 6148          STA- SCNTRM,I    SAVE CHARACTER AS POSSIBLE FIELD TERMINATOR   01801622
1658 P054A 1CF4          JMP* (CHPU)      RETURN TO CALLER                              01801623
1659 P054B FFFF  GETBIN  NUM  $FFFF       ROUTINE TO GET BINARY VALUE OF ASCII DIGIT    01801624
1660 P054C C148          LDA- SCNTRM,I    PICKUP ASCII CODE FOR CHARACTER TO BE CONVERTE01801625
1661 P054D 0C00          ENQ  0                                                         01801626
1662 P054E 0FEC          LLS  12          MOVE UPPER THREE BITS TO Q-REGISTER           01801627
1663 P054F 0FC4          ALS  4           LEAVE LOWER FOUR BITS IN A-REGISTER           01801628
1664 P0550 0DFC          INQ  -3          IF Q=3 A CONTAINS THE BINARY VALUE OF DIGIT   01801629
1665 P0551 0141          SQZ  GTBIN1-*-1  IF Q IS NOT EQUAL TO THREE THEN A + 9         01801630
1666 P0552 0909          INA  9           IS EQUAL TO THE BINARY VALUE OF THE DIGIT     01801631
1667 P0553 1CF7  GTBIN1  JMP* (GETBIN)    EXIT TO CALLER                                01801632
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1669          *     THIS   IS   THE   ROUTINE   THAT      *     01801634
1671          *     HANDLES   THE   STORAGE   AND         *     01801636
1673          *     USAGE   OF   MASS   MEMORY   FOR      *     01801638
1675          *     COMMAND   SEQUENCE   STORAGE          *     01801640
1677          *     OR   HOLDING   ENTRY/EXTERNALS        *     01801642

1679          *     CALLING SEQUENCE TO GET A WORD                      01801644
1680          *                                                         01801645
1681          *     RTJ  DISKRD                                         01801646
1682          *     NUM  FLAG       WHERE FLAG= $8000 IF THE WORD IS CONTAINED 01801647
1683          *                     IN AN ENTRY POINT OR EXTERNAL FLAG,  01801648
1684          *                     OR FLAG = 0  IF THE WORD IS CONTAINED IN 01801649
1685          *                     COMMAND SEQUENCE IMAGE PAGES         01801650
1686          *                                                          01801651
1687          *                     IN EITHER CASE THE A-REGISTER IS EQUAL 01801652
1688          *                     TO THE ADDRESS OF THE WORD TO BE READ  01801653

1690          *     CALLING SEQUENCE TO STORE A WORD                    01801655
1691          *                                                         01801656
1692          *     RTJ  DISKWR                                         01801657
1693          *     NUM  VALUE      VALUE TO BE STORED IN THE WORD SPECIFIED 01801658
1694          *     NUM  FLAG       SAME AS FOR DISKRD  8000 = ENT/EXT PAGE 01801659
1695          *                                         0000= CSQ PAGE  01801660
1696          *                                                         01801661
1697          *     THE A-REGISTER IS EQUAL TO THE ADDRESS VALUE IS TO BE STORED INT001801662

1699          *                                                         01801664
1700          *     SEQUENCE TO WRITE ALL OF COMMAND SEQUENCE OUT TO DISK 01801665
1701          *                                                         01801666
1702          *     RTJ  WRTOUT     THIS CAUSES ALL PAGES THAT HAVE BEEN 01801667
1703          *                     MODIFIED TO BE WRITTEN OUT TO THE    01801668
1704          *                     MASS STORAGE DEVICE IN ORDER. ANY PAGE 01801669
1705          *                     THAT HAS ANYTHING LOADED INTO IT IS  01801670
1706          *                     CONSIDERED TO BE MODIFIED.           01801671
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1708 P0554 0B00   DISKRD NOP  0          RETURN ADDRESS OF USER                          01801673
1709 P0555 4876          STQ* SQ         SAVE THE Q-REGISTER FOR THE USER                01801674
1710 P0556 0842          CLR  Q          SET READ/WRITE FLAG TO ZERO MEANING READ        01801675
1711 P0557 180A          JMP* DISKRW                                                     01801676

1713 P0558 0B00   DISKWR NOP  0          RETURN ADDRESS                                  01801678
1714 P0559 4872          STQ* SQ         SAVE THE Q-REGISTER FOR THE USER                01801679
1715 P055A E8FD          LDQ* DISKWR     MOVE THE RETURN ADDRESS TO DISKRD BECAUSE       01801680
1716 P055B 48F8          STQ* DISKRD     EXIT IS INDIRECT THROUGH DISKRD                 01801681
1717 P055C 0DFE          INQ  -1         PICKUP THE 15 OR 16 BIT ADDRESS VALUE           01801682
1718 P055D E201          LDQ- 1,Q        FROM THE USERS CALL                             01801683
1719 P055E 486E          STQ* VALUE      SAVE THE VALUE TO BE STORED                     01801684
1720 P055F D8F4          RAO* DISKRD     INCREMENT THE RETURN ADDRESS TO COMPENSATE      01801685
1721                     *               FOR THE EXTRA PARAMETER VALUE                   01801686
1722 P0560 0C01          ENQ  1          SET READ/WRITE INDICATOR TO WRITE               01801687
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1724 P0561 4867   DISKRW STQ* RWFLAG      FLAG INDICATING TYPE OF OPERATION                01801689
1725 P0562 6868        STA* SA            SAVE ADDR TO READ FROM OR STORE INTO             01801690
1726                *                     0= READ,  1 = WRITE                              01801691
1727 P0563 E8F0        LDQ* DISKRD        PICKUP THE FLAG THAT LETS THIS ROUTINE           01801692
1728 P0564 0DFE        INQ  -1            DISTINGUISH BETWEEN ENTRY/EXTERNAL PAGES         01801693
1729 P0565 E201        LDQ- 1,Q           AND COMMAND SEQUENCE PAGES.                      01801694
1730 P0566 4863        STQ* PGEFLG        $8000= ENTRY/EXTERNAL PAGE                       01801695
1731                *                     $0000= COMMAND SEQUENCE PAGE                     01801696
1732 P0567 D8EC        RAO* DISKRD        INCREMENT RETURN ADDRESS PAST PAGE FLAG          01801697
1733 P0568 0177        SQM  NOMP          SKIP TEST IF ENT/EXT PAGE LOOKUP                 01801698
1734 P0569 C14E        LDA- CSNAME,I      IS THIS AN *MP LOAD                              01801699
1735 P056A 09F9        INA  -6                                                             01801700
1736 P056B 0114        SAN  NOMP          NO,                                              01801701
1737 P056C C85E        LDA* SA            YES, SUBTRACT PARTITION START                    01801702
1738 P056D 9800        SUB  PARSTR        SO ACTUAL ADDRESS FOR DISK READ/WRITE            01801703
     P056E FBC9
1739 P056F 685B        STA* SA            IS CALCULATED                                    01801704
1740 P0570 C85A   NOMP LDA* SA                                                             01801705
1741 P0571 0842        CLR  Q             COMPUTE THE WORD THAT IS TO BE STORED INTO       01801706
1742 P0572 0101        SAZ  DB-*-1        OR READ FROM BY DEVIDING THE WORD ADDRESS        01801707
1743 P0573 317A        DVI- PAGE,I        BY THE SIZE OF A PAGE IN WORDS TO GET THE        01801708
1744                *                     SECTOR AND WORD ADDRESS                          01801709
1745 P0574 4859   DB   STQ* WORD          SAVE THE WORD REFERENCED IN THE PAGE             01801710
1746 P0575 E854        LDQ* PGEFLG        PICKUP THE PAGE-FLAG WHICH HAS A VALUE OF        01801711
1747                *                     EITHER $8000 OR $0000 INDICATING EITHER          01801712
1748                *                     AN EXT/ENT PAGE OR A COMMAND SEQUENCE PAGE       01801713
1749 P0576 0374        EAQ  A             COMBINE THE PAGE FLAG WITH THE SECTOR ADDRESS    01801714
1750                *                     OF THE DESIRED PAGE                              01801715
1751                *                                                                      01801716
1752 P0577 6857        STA* PAGENO        THE PAGE NUMBER IS THE SECTOR ADDRESS PLUS       01801717
1753                *                     AN INDICATOR FOR THE PAGE TYPE                   01801718
1754 P0578 B857        EOR* LSTPGE        NOW TEST TO SEE IF THE LAST PAGE REFERENCED      01801719
1755                *                     WAS THE SAME AS THIS PAGE                        01801720
1756 P0579 0112        SAN  NOTSME-*-1    THIS PAGE IS NOT THE SAME, GO FIND IT            01801721
1757 P057A E85A        LDQ* FLGADR        THIS REFERENCE IS FOR THE SAME PAGE AS THE       01801722
1758                *                     LAST REFERENCE, PICKUP THE ADDRESS OF THE        01801723
1759                *                     FLAGS FOR THIS PAGE.                             01801724
1760 P057B 1834        JMP* FOUND1        GO TO PROCESS THIS REQUEST                       01801725


1762                *     COME HERE WHEN THE PAGE CURRENTLY BEING REFERENCED IS NOT         01801727
1763                *     THE SAME AS THE LAST PAGE REFERENCED                             01801728

1765 P057C E141   NOTSME LDQ- M7FFF,I       MINREF IS THE NUMBER OF TIMES THAT THE LEAST  01801730
1766 P057D 4853        STQ* MINREF        REFERENCED PAGE IN CORE HAS BEEN REFERENCED.     01801731
1767                *                     SET THIS VALUE TO THE LARGEST POSITIVE           01801732
1768                *                     NUMBER SO THAT THE COMPARE ROUTINE THAT          01801733
1769                *                     COMES LATER CAN FIND THE LEAST REFERENCED PAGE   01801734
1770 P057E E182        LDQ- NOPAGE,I      PICKUP THE NUMBER OF PAGES THAT RESIDE IN        01801735
1771 P057F 0852        TCQ  Q             CORE AND SETUP THE COMPLEMENT OF THAT NUMBER     01801736
1772 P0580 4175        STQ- ADDR,I        IN ADDR FOR USE IN SCANNING THE PAGES            01801737
1773                *                     IN CORE TO SEE IF ONE OF THEM MATCHES THE        01801738
1774                *                     CURRENT REFERENCE                                01801739
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1775 P0581 C177          LDA- CORADR,I     PICKUP THE FIRST CORE ADDRESS AVAILABLE FOR   01801740
1776 P0582 6850          STA* MINBAS       PAGING AND USE AS THE ADDRESS OF THE LEAST    01801741
1777               *                       REFERENCED PAGE UNTIL THE TRUE ADDRESS       01801742
1778               *                       CAN BE FOUND.                                01801743
1779 P0583 E191          LDQ- FLGBSE,I     PICKUP THE BASE ADDRESS OF THE FLAG TABLE     01801744
1780               *                       AS THE ADDRESS OF THE FLAGS FOR THE FIRST    01801745
1781               *                       PAGE TO BE TESTED                            01801746
1782 P0584 4851          STQ* MINFLG       INITIALIZE FLAG ADDRESS FOR LEAST     118*4397********
1783               *                          REFERENCED PAGE                   118*4397********

1785 P0585 484F     FIND STQ* FLGADR       SET FLGADR TO THE ADDRESS OF THE CORE FLAGS   01801748
1786               *                       FOR THE PAGE CURRENTLY BEING CHECKED         01801749
1787 P0586 684D          STA* ADPAGE       SET ADPAGE TO THE CORE ADDRESS OF THE        01801750
1788               *                       PAGE CURRENTLY BEING CHECKED                 01801751
1789 P0587 C201          LDA- PGENUM,Q     PICKUP THE PAGE NUMBER OF THE PAGE CURRENTLY  01801752
1790               *                       BEING CHECKED.                               01801753
1791 P0588 B846          EOR* PAGENO       COMPARE THIS TO THE PAGE NUMBER WE ARE       01801754
1792               *                       LOOKING FOR                                  01801755
1793 P0589 0111          SAN  REFR-*-1     THIS IS NOT THE PAGE WE WANT, SKIP DOWN      01801756
1794               *                       TO PICKUP THE NEXT PAGE FOR CHECKING         01801757
1795 P058A 1823          JMP* FOUNDA       THIS IS THE PAGE WE ARE LOOKING FOR, GO DOWN  01801758
1796               *                       TO PROCESS THIS REQUEST                      01801759
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1798                *       COME HERE TO PICKUP THE ADDRESS OF THE NEXT PAGE AND ITS          01801761
1799                *       CORE FLAGS WHEN TRYING TO FIND OUT IF A GIVEN PAGE IS IN          01801762
1800                *       CORE. THIS ROUTINE IS ALSO USED TO IDENTIFY THE LEAST             01801763
1801                *       REFERENCED AND THE MOST REFERENCED PAGES IN CORE.                 01801764


1803 P058B C202    REFR     LDA- REFER,Q       PICKUP THE NUMBER OF TIMES THAT THIS          01801766
1804                *                          PAGE HAS BEEN REFERENCED.                     01801767
1805 P058C 9845             SUB* MAXREF        COMPARE THIS TO THE MAXIMUM NUMBER OF         01801768
1806                *                          REFERENCES LOGGED IN MAXREF.                  01801769
1807 P058D 0132             SAM  FB-*-1        SKIP IF NUMBER OF REFERENCES .LT. MAXREF.     01801770
1808 P058E C202             LDA- REFER,Q       UPDATE MAXREF TO THE NUMBER OF TIMES          01801771
1809 P058F 6842             STA* MAXREF        THAT THIS PAGE HAS BEEN REFERENCED.           01801772
1810 P0590 C202    FB       LDA- REFER,Q       COMPARE THE NUMBER OF TIMES THAT THIS PAGE    01801773
1811 P0591 983F             SUB* MINREF        HAS BEEN REFERENCED TO THE MINIMUM NUMBER     01801774
1812                *                          OF TIMES THAT A PAGE HAS BEEN REFERENCED.     01801775
1813 P0592 0101             SAZ  FC-*-1        IF THIS PAGE HAS BEEN REFERENCED THE MINIMUM  01801776
1814                *                          NUMBER OF TIMES SKIP DOWN AND SAVE ITS        01801777
1815                *                          ADDRESS IF THE PAGE NUMBER IS ABOVE LENSDT.   01801778
1816 P0593 012F             SAP  FD-*-1        IF THE NUMBER OF REFERENCES IS GREATER THAN   01801779
1817                *                          THE MINIMUM THEN GO ON TO CHECK THE NEXT PAGE.01801780
1818                *                                                                        01801781
1819                *                          IF A IS MINUS THE NUMBER OF REFERENCES IS     01801782
1820                *                          LESS THAN MINREF.                             01801783
1821 P0594 C201    FC       LDA- PGENUM,Q      MAKE SURE THAT THE NUMBER OF THE LEAST        01801784
1822 P0595 0138             SAM  FC1-*-1       SKIP IF ENT/EXT PAGE                          01801785
1823 P0596 C14E             LDA- CSNAME,I      CHECK FOR *M OR *MP LOAD                      118*4397********
1824 P0597 09FA             INA  -5                                                          118*4397********
1825 P0598 0125             SAP  FC1           SKIP IF *M OR *MP                             118*4397********
1826 P0599 C201             LDA- PGENUM,Q                                                    118*4397********
1827 P059A 9800             SUB  LENSDT        REFERENCED PAGE IS ABOVE THOSE                 66*145501801786
     P059B FA64
1828 P059C 0121             SAP  FC1-*-1       CONTAINING SYSDAT AND THE DIRECTORY           01801787
1829 P059D 1806             JMP* FD            JUMP IF NOT VALID LEAST REFERENCED PAGE       01801788
1830 P059E C202    FC1      LDA- REFER,Q       PICKUP THE NUMBER OF TIMES THAT THIS PAGE     01801789
1831 P059F 6831             STA* MINREF        HAS BEEN REFERENCED AND STORE THE VALUE       01801790
1832                *                          IN MINREF AS THE NEW MINIMUM.                 01801791
1833 P05A0 4835             STQ* MINFLG        SAVE THE ADDRESS OF THE CORE FLAGS OF THE     01801792
1834                *                          LEAST REFERENCED PAGE IN MINFLG.              01801793
1835 P05A1 C832             LDA* ADPAGE        SAVE THE CORE ADDRESS OF THE LEAST            01801794
1836 P05A2 6830             STA* MINBAS        REFERENCED PAGE IN MINBAS.                    01801795

1838                *       COME HERE TO PICKUP THE PARAMETERS USED TO CHECK THE NEXT         01801797
1839                *       PAGE IN CORE OR DETERMINE IF ALL PAGES CURRENTLY IN CORE          01801798
1840                *       HAVE BEEN CHECKED.                                               01801799

1842 P05A3 0175    FD       RAO- ADDR,I        INCREMENT THE COMPLEMENT OF THE NUMBER OF     01801801
1843 P05A4 C175             LDA- ADDR,I        PAGES TO BE CHECKED AND TEST TO SEE IF        01801802
1844                *                          ALL PAGES HAVE BEEN CHECKED.                  01801803
1845 P05A5 0111             SAN  FE-*-1        SKIP IF NOT ALL PAGES HAVE BEEN CHECKED.      01801804
1846 P05A6 1830             JMP* FF            ALL PAGES HAVE BEEN CHECKED AND THE PAGE      01801805
1847                *                          THAT THIS REQUEST SPECIFIES IS NOT IN CORE.   01801806
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1849                *       UPDATE PARAMETERS TO SEE IF THE NEXT PAGE IS THE PAGE REQUESTED  01801808

1851 P05A7 C82C     FE      LDA* ADPAGE         UPDATE THE ADDRESS OF THE PAGE BEING CHECKED  01801810
1852 P05A8 817A             ADD- PAGE,I         TO POINT TO THE NEXT PAGE IN CORE.            01801811
1853 P05A9 F132             ADD- FLGLGN,I       UPDATE THE Q-REGISTER TO POINT TO THE         01801812
1854                *                           CORE FLAGS OF THE NEXT PAGE IN CORE.          01801813
1855 P05AA 18DA             JMP* FIND           GO BACK TO TEST THE NEXT PAGE.                01801814
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1857                    *       COME HERE WHEN THE PAGE DESIRED HAS BEEN FOUND                  01801816

1859 P05AB 4828 FOUND   STQ* ADPAGE     THIS ENTRY IS USED WHEN THE DESIRED PAGE        01801818
1860                    *               HAS BEEN READ IN FROM THE DISK. SAVE THE        01801819
1861                    *               CONTENTS OF THE Q-REGISTER WHICH CONTAINS       01801820
1862                    *               THE ADDRESS THAT THE PAGE WAS READ INTO.        01801821
1863 P05AC E828         LDQ* FLGADR     PICKUP THE ADDRESS OF THE CORE FLAGS FOR        01801822
1864                    *               THE REFERENCED PAGE FOR USE AS AN INDEX.        01801823

1866                    *               THIS ENTRY IS USED WHEN THE DESIRED PAGE        01801825
1867                    *               IS FOUND IN CORE BY THE RFER ROUTINE.           01801826
1868 P05AD C201 FOUNDA  LDA- PGENUM,Q                                                   01801827
1869 P05AE 6821         STA* LSTPGE     BEING REFERENCED AND SAVE IT AS THE             01801828
1870                    *               NUMBER OF THE LAST PAGE REFERENCED.             01801829

1872                    *               THIS ENTRY IS USED WHEN THE DESIRED PAGE        01801831
1873                    *               IS THE SAME AS THE LAST PAGE REFERENCED.        01801832
1874 P05AF C202 FOUND1  LDA- REFER,Q    INCREMENT NBR OF TIMES THIS          61*128901801833
1875 P05B0 01A0         SOV  0                                              118*4397********
1876                    *               PAGE HAS BEEN REFERENCED.                       01801834
1877 P05B1 0901         INA  1                                               61*128901801835
1878 P05B2 01B2         SNO  FOUNDB                                          61*128901801836
1879 P05B3 C000         LDA  =N$6000    RESET LOWER REFER NBR                61*128901801837
     P05B4 6000
1880 P05B5 6202 FOUNDB  STA- REFER,Q    SO NUMBER IS NOT NEGATIVE            61*128901801838
1881 P05B6 C812         LDA* RWFLAG     SEE WHAT TYPE OF REQUEST THIS IS,READ OR WRITE01801839
1882 P05B7 010C         SAZ  FG-*-1     SKIP DOWN IF THIS IS A READ REQUEST.            01801840
1883 P05B8 6203         STA- MODIFY,Q   THIS IS A WRITE REQUEST, SET A FLAG TO          01801841
1884                    *               INDICATE THAT THIS PAGE HAS BEEN MODIFIED.      01801842
1885 P05B9 C813         LDA* VALUE      PICKUP THE VALUE TO BE STORED IN THE PAGE       01801843
1886 P05BA E813         LDQ* WORD       PICKUP THE WORD REFERENCED IN THE PAGE          01801844
1887 P05BB 6E18         STA* (ADPAGE),Q STORE THE VALUE INTO THE PROPER WORD            01801845
1888                    *               OF THE PAGE                                     01801846
1889 P05BC C813         LDA* LSTPGE     PICKUP THE NUMBER OF THE PAGE JUST USED.        01801847
1890 P05BD 0138         SAM  FH-*-1     SKIP IF THIS WAS AN ENTRY/EXTERNAL PAGE.        01801848
1891 P05BE 0822         TRA  Q          THE PAGE JUST USED WAS FOR COMMAND SEQUENCE,    01801849
1892 P05BF 916E         SUB- LGEPGE,I   SEE IF IT IS THE LARGEST PAGE USED AND IF SO    01801850
1893                    *               THEN UPDATE LGEPGE.                             01801851
1894 P05C0 0135         SAM  FH-*-1     THIS PAGE IS NOT THE LARGEST PAGE               01801852
1895 P05C1 0104         SAZ  FH-*-1     REFERENCED SO EXIT THIS SUBROUTINE.             01801853
1896 P05C2 416E         STQ- LGEPGE,I   SAVE THE NEW LARGEST PAGE USED.                 01801854
1897 P05C3 1803         JMP* FH         EXIT                                            01801855
1898 P05C4 E809 FG      LDQ* WORD       THIS WAS A READ REQUEST SO PICKUP THE           01801856
1899 P05C5 CE0E         LDA* (ADPAGE),Q REQUESTED WORD IN THE A-REGISTER.               01801857
1900 P05C6 E805 FH      LDQ* SQ         RESTORE THE Q-REGISTER.                         01801858
1901 P05C7 1C8C         JMP* (DISKRD)   RETURN TO THE CALLER.                           01801859
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1903                *       T A B L E   O F   C O N S T A N T S   L O C A L                01801861
1905                *       T O   T H E   P A G I N G   R O U T I N E                        01801863


1907 P05C8 0000   RWFLAG NUM  0      READ/WRITE FLAG - SETUP ON ENTRY TO PAGE              01801865
1908              *                   0 = READ,  1 = WRITE                                  01801866
1910 P05C9 0000   PGEFLG NUM  0      TYPE OF PAGE FLAG - SETUP ON ENTRY TO PAGE            01801868
1911              *                   $8000 = ENT/EXT PAGE, 0 = COMMAND SEQ. PAGE           01801869
1913 P05CA 0000   SA       NUM  0      TEMPORARY STORAGE FOR A-REGISTER                     01801871
1915 P05CB 0000   SQ       NUM  0      TEMPORARY STORAGE FOR Q-REGISTER                     01801873
1917 P05CC 0000   VALUE    NUM  0      VALUE THAT IS TO BE STORED INTO A PAGE               01801875
1919 P05CD 0000   WORD     NUM  0      THE WORD ADDRESS DESIRED WITHIN A PAGE               01801877
1921 P05CE 0000   PAGENO   NUM  0      THE NUMBER OF THE PAGE BEING SOUGHT                  01801879
1923 P05CF 0000   LSTPGE   NUM  0      THE ADDRESS OF THE LAST PAGE REFERENCED              01801881
1925 P05D0 0000   MINREF   NUM  0      THE MINIMUM NUMBER OF TIMES THAT A PAGE              01801883
1926              *                   IN CORE HAS BEEN REFERENCED.                          01801884
1928 P05D1 0000   MAXREF   NUM  0      THE MAXIMUM NUMBER OF TIMES THAT A PAGE              01801886
1929              *                   IN CORE HAS BEEN REFERENCED.                          01801887
1931 P05D2 0000   MINBAS   NUM  0      THE CORE ADDRESS OF THE LEAST REFERENCED PAGE         01801889
1933 P05D3 0000   ADPAGE   NUM  0      THE CORE ADDRESS OF THE PAGE TO BE REFERENCED         01801891
1935 P05D4 0000   FLGADR   NUM  0      THE CORE ADDRESS OF THE FLAGS CORRESPONDING           01801893
1936              *                   TO THE PAGE TO BE REFERENCED                          01801894
1938 P05D5 0000   MINFLG   NUM  0      THE CORE ADDRESS OF THE FLAGS CORRESPONDING           01801896
1939              *                   TO THE LEAST USED PAGE.                               01801897
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1941                    *       COME HERE WHEN ALL PAGES IN CORE HAVE BEEN CHECKED AND NONE      01801899
1942                    *       OF THEM IS THE DESIRED PAGE.                                    01801900


1944                    *                                                                       01801902
1945                    *                       REPLACE THE LEAST REFERENCED PAGE WITH          01801903
1946 P05D6 E8FE         FF      LDQ* MINFLG     THE PAGE THE REQUEST IS FOR.                    01801904
1947 P05D7 48FC                 STQ* FLGADR     PICKUP THE ADDRESS OF THE FLAGS OF THE LEAST    01801905
1948                    *       REFERENCED PAGE AND SAVE THEM AS THE ADDRESS                    01801906
1949 P05D8 C203                 LDA- MODIFY,Q   OF THE FLAGS OF THE REQUESTED PAGE.             01801907
1950                    *       TEST TO SEE IF THIS PAGE HAS BEEN MODIFIED                      01801908
1951 P05D9 010B                 SAZ  FI-*-1     WHILE IN CORE.                                  01801909
1952                    *       IF THE PAGE HAS NOT BEEN MODIFIED WHILE                         01801910
1953                    *       IN CORE, DO NOT BOTHER TO WRITE IT OUT                          01801911
1954 P05DA 616D                 STA- PGEWRT,I   TO MASS STORAGE.                                01801912
1955                    *       SET THE FLAG THAT SAYS THAT A PAGE HAS BEEN                     01801913
1956 P05DB C201                 LDA- PGENUM,Q   WRITTEN OUT TO MASS STORAGE.                    01801914
1957 P05DC 5852                 RTJ* FNDSEC     PICKUP THE NUMBER OF THE PAGE TO WRITE OUT.     01801915
1958 P05DD 0852                 TCQ  Q          GO TO FIND THE SECTOR OF THIS PAGE.             01801916
1959 P05DE 5800 X               RTJ  MDRIV      COMPLEMENT THE NUMBER OF WORDS TO SIGNAL WRITE  01801917
     P05DF 7FFF X                               WRITE THE PAGE OUT TO MASS STORAGE
1960                    *                       A-REGISTER = ADDRESS TO WRITE FROM              01801918
1961                    *                       Q-REGISTER = COMPLEMENT OF WORD COUNT           01801919
1962 P05E0 E800 X               LDQ  ISAV                                                       0180192C
     P05E1 7FFF X
1963 P05E2 40FF                 STQ- I          RESTORE THE I-REGISTER                          01801921
1964 P05E3 0111                 SAN  FI-*-1     SKIP IF NO ERROR                                01801922
1965 P05E4 186E                 JMP* WRE        IRRECOVERABLE MASS STORAGE ERROR                01801923


1967                    *       COME HERE TO READ IN THE REQUESTED PAGE                         01801925

1969 P05E5 C8E8         FI      LDA* PAGENO     PICKUP THE NUMBER OF THE PAGE REQUESTED         01801927
1970                    *       AND TEST TO DETERMINE IF IT IS A ENT/EXT                        01801928
1971                    *       PAGE OR A COMMAND SEQUENCE PAGE.                                01801929
1972 P05E6 0138                 SAM  FJ-*-1     SKIP IF AN ENT/EXT PAGE                         01801930
1973 P05E7 284A                 MUI* NUMSC+1    MULTIPLY THE PAGE NUMBER BY THE NUMBER          01801931
1974                    *       OF SECTORS IN A PAGE                                            01801932
1975 P05E8 8800 X               ADD  LSSECT     ADD THE STARTING SECTOR OF COMMAND SEQUENCE     01801933
     P05E9 0133 X
1976 P05EA 917F                 SUB- ENTSEC,I   SUBTRACT THE STARTING SECTOR OF ENT/EXT         01801934
1977                    *       PAGES TO SEE IF THIS IS A LEGAL SECTOR.                         01801935
1978 P05EB 013B                 SAM  FK-*-1     SKIP IF PAGE NUMBER IS IN VALID RANGE           01801936
1979 P05EC C14E                 LDA- CSNAME,I                                                   01801937
1980 P05ED 09F9                 INA  -6         CHECK FOR *MP LOAD                              01801938
1981 P05EE 0108                 SAZ  FK                                                         01801939
1982 P05EF C000                 LDA  =A12       THIS IS AN ILLEGAL PAGE NUMBER                  01801940
     P05F0 3132
1983 P05F1 113B                 JMP- PRINT2,I   PRINT ERROR AND ABORT                           01801941
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1984 P05F2 A141    FJ      AND- M7FFF,I        CLEAR THE UPPER BIT FROM THE ENT/EXT PAGE NO.  01801942
1985 P05F3 9181            SUB- MAXPGE,I       SUBTRACT THE MAXIMUM PAGE NUMBER ALLOWED      01801943
1986                *                          ON THE MASS STORAGE DEVICE.                   01801944
1987 P05F4 0132            SAM  FK-*-1         SKIP IF PAGE NUMBER IS LEGAL                  01801945
1988 P05F5 0A32            ENA  $32            MASS STORAGE OVERFLOW                         01801946
1989 P05F6 113B            JMP- PRINT2,I       PRINT ERROR AND ABORT                         01801947

1991                *      COME HERE TO SETUP THE NEW PAGE IN CORE                           01801949

1993 P05F7 E8DC    FK      LDQ* FLGADR         INITIALIZE THE CORE FLAGS OF THE NEW PAGE     01801951
1994 P05F8 C8D8            LDA* MAXREF                                                       01801952
1995 P05F9 0111            SAN  FK1-*-1        SKIP IF MAXREF IS DEFINED                     01801953
1996 P05FA 0A03            ENA  3              CREATE A MAXREF                               01801954
1997 P05FB 09FD    FK1     INA  -2             SETUP THE NUMBER OF TIMES THE PAGE            01801955
1998 P05FC 6202            STA- REFER,Q        HAS BEEN MODIFIED TO MAXREF-2                 01801956
1999 P05FD 0844            CLR  A                                                            01801957
2000 P05FE 6203            STA- MODIFY,Q       CLEAR PAGE HAS BEEN MODIFIED FLAG             01801958
2001 P05FF 68D1            STA* MAXREF         CLEAR MAXREF SO THAT IT WILL BE REDEFINED     01801959
2002                *                          ON THE NEXT CALL TO PAGE.                     01801960
2003 P0600 C8CD            LDA* PAGENO         STORE THE PAGE NUMBER INTO THE FLAGS          01801961
2004 P0601 6201            STA- PGENUM,Q       CORRESPONDING TO THE PAGE.                    01801962
2005 P0602 0135            SAM  FM-*-1         SKIP IF THIS AN ENT/EXT PAGE                  01801963
2006 P0603 916E            SUB- LGEPGE,I       THIS IS A WRITE REQUEST INTO A COMMAND        01801964
2007 P0604 0132            SAM  FL-*-1         SEQUENCE PAGE. SEE IF WE HAVE USED THIS       01801965
2008 P0605 0101            SAZ  FL-*-1         HIGH OF AN ADDRESS BEFORE AND IF NOT THEN     01801966
2009 P0606 1825            JMP* FN             DO NOT BOTHER TO READ IN THE PAGE.            01801967
2010 P0607 181B    FL      JMP* GTPAGE         READ IN THE PAGE                              01801968

2012 P0608 A141    FM      AND- M7FFF,I        CLEAR THE UPPER BIT FROM THE ENT/EXT PAGE NO.  01801970
2013 P0609 0842            CLR  Q                                                            01801971
2014 P060A 0113            SAN  EAB-*-1        SKIP IF NOT PAGE ZERO                         01801972
2015 P060B 6175            STA- ADDR,I         SAVE PAGE ADDRESS                             01801973
2016 P060C 0A01            ENA  1              SETUP BIT POSITION                            01801974
2017 P060D 1809            JMP* EAB1           GO TO CHECK STRTBL                            01801975
2018 P060E 3000    EAB     DVI  =N$10          CHECK TO SEE IF THIS PAGE WAS PREVIOUSLY      01801976
     P060F 0010
2019                *                          USED BY CHECKING ITS BIT IN THE STRTBL        01801977
2020 P0610 6175            STA- ADDR,I         SAVE THE NUMBER OF THE WORD IN THE STORAGE    01801978
2021 P0611 0A01            ENA  1                                                            01801979
2022 P0612 0143    EAB2    SQZ  EAB1-*-1       COMPUTE THE BIT POSITION CORRESPONDING TO     01801980
2023 P0613 0DFE            INQ  -1             THIS PAGE IN THE ENT/EXT PAGES                01801981
2024 P0614 0FC1            ALS  1                                                            01801982
2025 P0615 18FC            JMP* EAB2                                                         01801983
2026 P0616 E175    EAB1    LDQ- ADDR,I         PICKUP THE INDEX TO THE STRTBLE               01801984
2027 P0617 6175            STA- ADDR,I         SAVE THE BIT POSITION FOR THIS PAGE           01801985
2028 P0618 CA00 X          LDA  STRTBL,Q       PICKUP THE CORRECT WORD OF THE STORAGE TABLE   01801986
     P0619 7FFF X
2029 P061A A175            AND- ADDR,I         TEST FOR THIS PAGE BEING STORED INTO.         01801987
2030 P061B 0116            SAN  GTPAGE-*-1     PAGE HAS BEEN PREVIOUSLY STORED INTO,         01801988
2031                *                          READ IT IN FROM MASS STORAGE.                 01801989
2032 P061C CA00 X          LDA  STRTBL,Q                                                     01801990
     P061D 0619 X
```

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2033 P061E B175          EOR- ADDR,I       UPDATE STRTBL TO SHOW THAT THIS PAGE          01801991
2034 P061F 6A00 X        STA  STRTBL,Q     HAS BEEN USED AND SKIP READING THE PAGE.      01801992
     P0620 061D X
2035 P0621 180A          JMP* FN                                                         01801993


2037 P0622 C8AB  GTPAGE  LDA* PAGENO       COME HERE TO READ A PAGE IN FROM MASS STORAGE.01801995
2038 P0623 580B          RTJ* FNDSEC       FIND THE SECTOR FOR THIS PAGE                 01801996
2039 P0624 5800 X        RTJ  MDRIV        READ THE PAGE INTO CORE                       01801997
     P0625 05DF X
2040 P0626 E800 X        LDQ  ISAV                                                       01801998
     P0627 05E1 X
2041 P0628 40FF          STQ- I            RESTORE THE I-REGISTER                        01801999
2042 P0629 0111          SAN  FN-*-1       SKIP IF NO ERROR                              01802000
2043 P062A 1828          JMP* WRE          IRRECOVERABLE MASS STORAGE ERROR              01802001


2045                     *       COME HERE WHEN THE DESIRED PAGE IS LOCATED IN CORE      01802003

2047                     *                 IN CORE                                       01802005
2048 P062B E8A6  FN      LDQ* MINBAS       USE THE BASE OF THE LEAST USED PAGE           01802006
2049 P062C 1800          JMP  FOUND        AS THE BASE OF THE DESIRED PAGE               01802007
     P062D FF7D
```

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2051 P062E 0B00  FNDSEC  NOP  0            COMPUTE THE SECTOR NUMBER OF THE PAGE DESIRED.01802009
2052 P062F 0135          SAM  NOTCSQ-*-1   SKIP IF NOT COMMAND SEQUENCE PAGE            01802010
2053 P0630 2000  NUMSC   MUI  =XNUMSEC     MULTIPLY PAGE NUMBER BY NUMBER OF SECTORS/PAGE01802011
     P0631 0001
2054 P0632 8800 X        ADD  LSSECT       ADD THE STARTING SECTOR OF COMMAND SEQUENCE   01802012
     P0633 05E9 X
2055 P0634 1804          JMP* EA           ON MASS STORAGE.                              01802013
2056 P0635 A141  NOTCSQ  AND- M7FFF,I      CLEAR ENT/EXT INDICATOR                       01802014
2057 P0636 28FA          MUI* NUMSC+1      MULTIPLY PAGE NUMBER BY NUMBER OF SECTORS/PAGE01802015
2058 P0637 817F          ADD- ENTSEC,I     ADD STARTING SECTOR OF ENT/EXT PAGES          01802016
2059                     *                 ON MASS STORAGE.                              01802017
2060 P0638 6806  EA      STA* SECTNO       SAVE THE SECTOR NUMBER                        01802018
2061 P0639 E17A          LDQ- PAGE,I       PICKUP NUMBER OF WORDS                        01802019
2062 P063A C804          LDA* SECTNO       PICKUP SECTOR NUMBER                          01802020
2063 P063B 60FF          STA- I            SAVE SECTOR NUMBER FOR MDRIV                  01802021
2064 P063C C895          LDA* MINBAS       PICKUP CORE ADDRESS OF BUFFER                 01802022
2065 P063D 1CF0          JMP* (FNDSEC)     RETURN TO CALLER                              01802023
2066 P063E 0000  SECTNO  NUM  0            TEMPORARY STORAGE FOR SECTOR NUMBER           01802024
```

```
2068                *       R O U T I N E   T O   W R I T E   A L L   P A G E S          01802026
2070                *       T H A T   H A V E   B E E N   M O D I F I E D                01802028
2072                *       O U T   T O   M A S S   S T O R A G E.                      01802030


2074 P063F 0B00     WRTOUT  NOP  0           RETURN ADDRESS                             01802032
2075 P0640 E182             LDQ- NOPAGE,I    PICKUP THE NUMBER OF PAGES IN CORE         01802033
2076 P0641 0852             TCQ  Q           COMPLEMENT THIS VALUE AND USE IT AS A COUNTER 01802034
2077 P0642 4175             STQ- ADDR,I      TO DETERMINE WHEN ALL PAGES ARE WRITTEN OUT. 01802035
2078 P0643 E191             LDQ- FLGBSE,I    PICKUP THE BASE OF THE FLAG TABLE          01802036
2079 P0644 C177             LDA- CORADR,I    PICKUP THE STARTING ADDRESS OF THE FIRST PAGE 01802037
2080 P0645 688C     WRA     STA* MINBAS      SAVE THE PAGE BASE FOR THE WRITE BUFFER ADDRES01802038
2081 P0646 488E             STQ* MINFLG      SAVE THE FLAG ADDRESS FOR FUTURE USE       01802039
2082 P0647 C203             LDA- MODIFY,Q    HAS THIS PAGE BEEN MODIFIED                01802040
2083 P0648 010C             SAZ  WRB-*-1     NO, CHECK THE NEXT PAGE                    01802041
2084 P0649 C201             LDA- PGENUM,Q    YES, PICKUP THE PAGE NUMBER                01802042
2085 P064A 58E3             RTJ* FNDSEC      FIND THE SECTOR ADDRESS OF THIS PAGE       01802043
2086 P064B 0852             TCQ  Q           COMPLEMENT WORD COUNT TO FLAG WRITE        01802044
2087 P064C 5800 X           RTJ  MDRIV       WRITE PAGE TO MASS STORAGE                 01802045
     P064D 0625 X
2088 P064E E800 X           LDQ  ISAV                                                   01802046
     P064F 0627 X
2089 P0650 40FF             STQ- I           RESTORE THE I-REGISTER                     01802047
2090 P0651 0113             SAN  WRB-*-1     SKIP IF NO ERROR                           01802048
2091 P0652 0A16     WRE     ENA  $16                                                    01802049
2092 P0653 1800 X           JMP  QTYPE       IRRECOVERABLE MASS STORAGE ERROR           01802050
     P0654 7FFF X
2093 P0655 D175     WRB     RAO- ADDR,I      INCREMENT PAGE COUNTER                     01802051
2094 P0656 C175             LDA- ADDR,I      HAVE ALL PAGES BEEN WRITTEN OUT            01802052
2095 P0657 0107             SAZ  WRC-*-1     YES, EXIT                                  01802053
2096 P0658 C800             LDA  MINBAS      NO, DO NEXT PAGE                           01802054
     P0659 FF78
2097 P065A 817A             ADD- PAGE,I      UPDATE BUFFER ADDRESS TO NEXT PAGE         01802055
2098 P065B E800             LDQ  MINFLG      UPDATE FLAG ADDRESS TO NEXT SET OF FLAGS   01802056
     P065C FF78
2099 P065D F132             ADQ- FLGLGN,I                                               01802057
2100 P065E 18E6             JMP* WRA         WRITE NEXT PAGE                            01802058
2101 P065F 1CDF     WRC     JMP* (WRTOUT)    RETURN TO CALLER                           01802059
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2103          *     THIS   IS   THE   MODULE   THAT   DOES                01802061
2105          *     ADDRESS   ARITHMETIC   FOR   THE                     01802063
2107          *     LOADER.                                               01802065


2109          *     USE THE FLAG ARIT15 TO DETERMINE WHETHER TO USE 15 BIT OR   01802067
2110          *     16 BIT ARITHMETIC                                           01802068

2112          *     THE Q-REGISTER CONTAINS THE PROGRAM BASE ADDRESS            01802070
2113          *     IF Q = ZERO THEN TO RELOCATION IS NECESSARY                 01802071

2115          *     THE A-REGISTER CONTAINS THE RELATIVE ADDRESS                01802073

2117          *     ON EXIT THE SUM OF THE TWO REGISTERS IS IN A.               01802075


2119 P0660 6188  ADJOV1 STA- AHOLD,I      SAVE THE PROGRAM RELOCATION ADDRESS     01802077
2120 P0661 4189         STQ- QHOLD,I      SAVE THE PROGRAM BASE                   01802078
2121 P0662 014B         SQZ  ADJOF2-*-1   EXIT IF NO RELOCATION IS NECESSARY       01802079
2122 P0663 C157         LDA- ARIT15,I     TEST WHETHER TO USE 15 OR 16 BIT ARITHMETIC  01802080
2123 P0664 010A         SAZ  ADJOF4-*-1   15 BIT ARITHMETIC                       01802081
2124 P0665 C188         LDA- AHOLD,I      16 BIT ARITHMETIC                       01802082
2125 P0666 0122         SAP  ADJOF1-*-1   SKIP IF RELOCATION FACTOR IS LESS THAN $7FFF  01802083
2126 P0667 0A39         ERA  $39          ERROR 9 IF RELOCATION FACTOR IS         01802084
2127 P0668 113B         JMP- PRINT2,I     GREATER THAN $7FFF.                     01802085
2128 P0669 E109  ADJOF1 LDQ- BGRLSW,I     TEST FOR FORTRAN GENERATED BACKWARD RELOCATION  01802086
2129 P066A 0151         SQN  ADJOF3-*-1                                           01802087
2130 P066B B142         EOR- M8000,I      SET THE UPPER BIT FOR                   01802088
2131 P066C E189  ADJOF3 LDQ- QHOLD,I      PICKUP PROGRAM BASE                     01802089
2132 P066D 0834         AAQ  A            ADD RELOCATION FACTOR                   01802090
2133 P066E 1151  ADJOF2 JMP- ADJXIT,I     RETURN TO CALLER WITH RESULT IN A-REGISTER  01802091
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2135 P066F C156   ADJOF4 LDA- NGRLSW,I     IS 15 BIT NEGATIVE RELOCATION SPECIFIED   01802093
2136 P0670 0101          SAZ  ADJOF5-*-1    NO                                        01802094
2137 P0671 0852          TCQ  Q             YES, COMPLEMENT BASE ADDRESS              01802095
2138 P0672 C188   ADJOF5 LDA- AHOLD,I       PICKUP RELOCATION ADDRESS                 01802096
2139 P0673 A141          AND- M7FFF,I       STRIP OFF SIGN BIT                        01802097
2140 P0674 0163          SQP  ADJOF6-*-1    SKIP IF POSITIVE RELOCATION               01802098
2141 P0675 0852          TCQ  Q             NEGATIVE RELOCATION COMPLEMENT BASE       01802099
2142 P0676 8142          ADD- M8000,I       ADD MINUS SIGN TO RELOCATION FACTOR       01802100
2143 P0677 0864          TCA  A             COMPLEMENT RELOCATION FACTOR              01802101
2144 P0678 0834   ADJOF6 AAQ  A             ADD BASE AND RELOCATION                   01802102
2145 P0679 0842          CLR  Q                                                       01802103
2146 P067A 0FE1          LLS  1                                                       01802104
2147 P067B 0FCF          ALS  15                                                      01802105
2148 P067C 0834          AAQ  A             ADD END AROUND CARRY IF ANY               01802106
2149 P067D E189          LDQ- QHOLD,I                                                 01802107
2150 P067E 0161          SQP  ADJOF7-*-1    SKIP IF POSITIVE RELOCATION               01802108
2151 P067F 0864          TCA  A             COMPLEMENT RESULT IF NEGATIVE RELOCATION  01802109
2152 P0680 A141   ADJOF7 AND- M7FFF,I       CLEAR UPPER BIT FROM RESULT               01802110
2153 P0681 0FC1          ALS  1                                                       01802111
2154 P0682 E188          LDQ- AHOLD,I                                                 01802112
2155 P0683 0FA1          QLS  1             MAKE SIGN OF RESULT SAME SIGN AS RELOCATION 01802113
2156 P0684 0F61          LRS  1                                                       01802114
2157 P0685 1151          JMP- ADJXIT,I      EXIT TO CALLER                            01802115
2158                     END  ILOAD                                                   01802116

PGM=  0686 (  1670)   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)	0968, 1523, 1547, 1963, 2041, 2063, 2089
0053	ZERO	0022	(000034)	0816, 0986, 1043, 1421
0054	PGENUM	0001	(000001)	1789, 1821, 1826, 1868, 1956, 2004, 2084
0055	REFER	0002	(000002)	1803, 1808, 1810, 1830, 1874, 1880, 1998
0057	MODIFY	0003	(000003)	1883, 1949, 2000, 2082
0060	NUMSEC	0001	(000001)	2053
0063	COMBAS	0001	(000001)	0341, 0345, 0361, 0385, 0503, 0622, 0643
0064	DATBAS	0002	(000002)	0395, 0399, 0446, 0478, 0645, 0790
0065	PROBAS	0003	(000003)	0272, 0278, 0445, 0458, 0497, 0546, 0554, 0640, 0788, 0847, 0880, 0917
0066	COMLIM	0004	(000004)	0344, 0359
0067	DATLIM	0005	(000005)	0398, 0453, 0628
0068	CSQLIM	0006	(000006)	0364, 0459, 0499, 0626, 0670, 0701, 0848, 0916
0069	EXTCTR	0007	(000007)	0960, 1014, 1237, 1274, 1277, 1342
0070	ENDSW	0008	(000008)	0671, 0707, 0733
0071	ABRLSW	0009	(000009)	0987, 1066
0072	BGRLSW	0009	(000009)	0594, 0761, 2128
0074	INPWRD	000A	(000010)	0646, 0754, 0784, 0791, 1056, 1072, 1084
0075	INPREL	000B	(000011)	0600, 0636, 0649, 0746, 0781, 0806
0077	CSQNUM	000C	(000012)	
0079	ENTPNT	000D	(000013)	0881, 0898, 0934, 0939, 0993, 1065, 1291
0081	LINK	000E	(000014)	1001, 1021, 1028, 1052, 1076, 1078, 1082, 1088
0083	INPCTR	000F	(000015)	0655, 0660, 0664, 0669, 0688, 0692, 0696, 0700, 0785, 0793, 0814, 0825, 0853, 0868, 0872, 0931 0970, 0971, 0985, 0999, 1003, 1209, 1306, 1331, 1332, 1339, 1341, 1396, 1420
0087	NOTLNK	0010	(000016)	0923, 0947, 0997, 1320
0088	ENDINP	0011	(000017)	
0090	BLANKS	0012	(000018)	0418, 0535, 0906, 1473
0091	SYMSTR	0013	(000019)	0969, 1105, 1107, 1109, 1474, 1475, 1476, 1546
0094	SCANSW	0016	(000022)	1111, 1477, 1478, 1487, 1489, 1498, 1507, 1540, 1552, 1567, 1599
0100	BASE	0017	(000023)	
0101	WRDCNT	0018	(000024)	0593, 0723, 0752, 0765, 1648, 1649
0106	COUNT1	0019	(000025)	0591, 0719, 0722, 0751, 1493, 1522, 1529, 1530, 1544, 1556, 1557
0108	BZSSW	001A	(000026)	0584, 0589, 0632, 0762
0111	COUNT2	001B	(000027)	1526, 1550, 1627, 1644
0112	BLKCNT	001B	(000027)	0702, 0704, 0767
0115	SW6	001C	(000028)	0602, 0666, 0698, 0830, 0935, 0994, 1182, 1203, 1208, 1217, 1220, 1240
0118	ASAV	001D	(000029)	0631, 0654, 0687
0119	QSAV	001E	(000030)	0347
0121	XFRNAM	0020	(000032)	0909, 0911, 0913, 0930

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0122    NAME    0023    (000035)
0123    SCHXIT  0027    (000039)    1170, 1183
0124    TABSCH  0028    (000040)    0829, 0932, 0992
0126    CENTAD  002B    (000043)    1144, 1157, 1162, 1171, 1173
0128    MAXENT  002C    (000044)    1141, 1145, 1261, 1267, 1270
0129    TEMP    002D    (000045)    1201, 1218, 1219
0130    TEMP1   002E    (000046)    1146, 1159, 1164, 1174
0131    WMXSEC  002F    (000047)    1278
0132    NOTRAN  0030    (000048)
0133    NOJUMP  0031    (000049)    0925, 0929
0135    FLGLGN  0032    (000050)    1853, 2099
0136    BINASC  0033    (000051)    0411, 0413, 1113, 1115, 1381, 1383, 1444, 1446, 1447, 1450, 1452, 1453
0137    PR3XIT  0035    (000053)    1362
0138    PRINT3  0036    (000054)    0436, 0834, 0890, 1062
0139    INPXC0  0039    (000057)    0259, 0294, 0592
0140    INPXC1  003A    (000058)
0141    PRINT2  003B    (000059)    0241, 0264, 0293, 0524, 0678, 0681, 0774, 0813, 0938, 1266, 1283, 1983, 1989, 2127
0142    INPXCC  003E    (000062)    0824, 0852
0143    NXTINP  003F    (000063)    0519, 0673, 0709, 0876, 0918
0144    M7FFF   0041    (000065)    0651, 0883, 1027, 1031, 1087, 1206, 1211, 1402, 1422, 1765, 1984, 2012, 2056, 2139, 2152
0145    M8000   0042    (000066)    1006, 1073, 2130, 2142
0146    MFFFF   0043    (000067)    1024, 1059
0147    MFF00   0044    (000068)    1370
0148    M00FF   0045    (000069)
0149    ASKII   0046    (000070)
0150    NEGSW   0047    (000071)    1471, 1502, 1511, 1581, 1586
0151    SCNTRM  0048    (000072)    1479, 1482, 1589, 1594, 1610, 1615, 1624, 1631, 1657, 1660
0152    SCNINP  0049    (000073)    1472, 1491, 1538, 1569, 1574, 1577, 1580, 1585
0154    SCNXIT  004A    (000074)    1500, 1509, 1520, 1532, 1535, 1587
0155    SCAN    004B    (000075)
0156    CSNAME  004E    (000078)    0269, 0441, 0500, 0543, 1148, 1734, 1823, 1979
0157    XCSNAM  004F    (000079)
0158    INMED   0050    (000080)
0161    ADJXIT  0051    (000081)    2133, 2157
0162    ADJOVF  0052    (000082)    0647, 0792
0163    EXTPCH  0055    (000085)    1234, 1250
0164    NGRLSW  0056    (000086)    0741, 2135
0166    ARIT15  0057    (000087)    0737, 1057, 1068, 1085, 2122
0168    PRESET  0058    (000088)    1205
0170    CNVXIT  0059    (000089)    1454
0171    CONVRT  005A    (000090)    0410, 1112, 1379
0172    PR4XIT  005D    (000093)    1388
0173    PRINT4  005E    (000094)    0555
0174    PR5XIT  0061    (000097)    1431
0175    PRINT5  0062    (000098)    0832, 0891
0176    AINPUT  0065    (000101)    0233, 1153
0177    LK1XIT  0067    (000103)    1051, 1064
0178    LINK1   0068    (000104)    1002
0179    ENTPGS  006B    (000107)    1140, 1143
0180    TOP     006C    (000108)    0460, 0506, 0630
0181    PGEWRT  006D    (000109)    1954
0182    LGEPGE  006E    (000110)    1892, 1896, 2006
0183    IGNORE  006F    (000111)
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0185	LNKSTR	0070	(000112)	1036
0186	LNKCTR	0071	(000113)	0809, 0815, 0817, 1037
0187	LNKEND	0072	(000114)	0810
0188	ENTST0	0073	(000115)	1161
0189	ENTST1	0074	(000116)	1156
0190	ADDR	0075	(000117)	1772, 1842, 1843, 2015, 2020, 2026, 2027, 2029, 2033, 2077, 2093, 2094
0191	EXTSTR	0076	(000118)	0957, 1235, 1263, 1330
0192	CORADR	0077	(000119)	1775, 2079
0193	PRODAT	0078	(000120)	
0194	PROCOM	0079	(000121)	
0195	PAGE	007A	(000122)	1743, 1852, 2061, 2097
0197	CSQCTR	007B	(000123)	0376, 0377, 0482, 0483, 0513, 0514, 1367
0199	CEXTAD	007C	(000124)	1236, 1242, 1245
0201	EXTADR	007C	(000124)	0958, 0972, 0980, 1008, 1013
0202	MINEXT	007D	(000125)	
0203	MAXEXT	007E	(000126)	
0204	ENTSEC	007F	(000127)	1976, 2058
0205	CSQSEC	0080	(000128)	
0206	MAXPGE	0081	(000129)	1985
0207	NOPAGE	0082	(000130)	1770, 2075
0208	PARBAS	0083	(000131)	0941
0209	PARLIM	0084	(000132)	0624
0210	STRSEC	0085	(000133)	
0211	MSDWCT	0086	(000134)	
0212	XFRADR	0087	(000135)	
0213	AHOLD	0088	(000136)	1207, 1213, 1634, 1642, 2119, 2124, 2138, 2154
0214	QHOLD	0089	(000137)	1630, 1640, 2120, 2131, 2149
0215	SECTOR	008A	(000138)	
0216	ECREP	008B	(000139)	1163
0217	ECREP1	008C	(000140)	1158
0218	EXTSWT	008D	(000141)	0827, 0855, 0885
0219	SAVEA	008E	(000142)	0736, 0743
0220	JUMP	008F	(000143)	
0221	TEMP3	0090	(000144)	0967, 0976, 0978, 0981
0222	FLGBSE	0091	(000145)	1779, 2078
0223	PROGCT	0092	(000146)	0494, 0620, 0665, 0697
0224	ONTAB	0093	(000147)	
0225	MONTAB	0094	(000148)	
0226	FLGBS1	0095	(000149)	
0227	INPUT	0096	(000150)	0265, 0287, 0300, 0318, 0336, 0346, 0360, 0372, 0375, 0390, 0400, 0452, 0481, 0493, 0498, 0512 0530, 0531, 0536, 0537, 0538, 0539, 0540, 0541, 0542, 0840, 0843, 0905, 0908, 0910, 0912, 1369

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0006	SIGNCK	0139	0006, 0348, 0365, 0401, 0465, 0507, 0577, 0656, 0689
0007	ILOAD	0001	0007, 0296, 0948, 1322, 1344
0008	WRTOUT	063F	0008, 2101
0009	LENSDT	0000	0009, 0283, 1827
0010	DISKWR	0558	0010, 0661, 0693, 0943, 1010, 1079, 1294, 1300, 1310, 1715
0011	ENDSEC	062E	0011, 1957, 2038, 2065, 2085
0024	PRNT3	0418	0024
0025	PRNT4	0437	0025
0026	PRNT5	045E	0026
0027	ADJOV1	0660	0027
0028	CNVERT	047C	0028
0029	LINK11	02C1	0029
0030	ENTSTR	03A5	0030, 0836, 1272
0031	FLGADR	05D4	0031, 0047, 1757, 1785, 1863, 1947, 1993
0032	ISCAN	0491	0032
0033	SCHTBL	0348	0033
0034	RWFLAG	05C8	0034, 1724, 1881
0035	PGEFLG	05C9	0035, 1730, 1746
0036	SA	05CA	0036, 1725, 1737, 1739, 1740
0037	SQ	05CB	0037, 1709, 1714, 1900
0038	VALUE	05CC	0038, 1719, 1885
0039	WORD	05CD	0039, 1745, 1886, 1898
0040	PAGENO	05CE	0040, 1752, 1791, 1969, 2003, 2037
0041	PARSTR	0138	0041, 0548, 1738
0042	LSTPGE	05CF	0042, 1754, 1869, 1889
0043	MINREF	05D0	0043, 1766, 1811, 1831
0044	MAXREF	05D1	0044, 1805, 1809, 1994, 2001
0045	MINBAS	05D2	0045, 1776, 1836, 2048, 2064, 2080, 2096
0046	ADPAGE	05D3	0046, 1787, 1835, 1851, 1859, 1887, 1899
0048	MINFLG	05D5	0048, 1782, 1833, 1946, 2081, 2098
0049	NXTBLK	0015	0049
0050	DATBS0	00C7	0050, 0449
0050	DATLM0	00C8	0050, 0455
0051	DATBS1	00C9	0051, 0451
0051	DATLM1	00CA	0051, 0457
0240	ILOAD1	0009	0238
0243	TYPELD	000C	0237, 0239
0246	LASTFC	0012	0237
0252	LOADER	0012	0243
0256	SW1	0018	0252, 0253, 0256, 0284, 0285, 0316, 0317, 0330, 0331
0257	NXTBIN	001A	0255, 0262, 0839, 1368

0263	LOAD12	0021	0261
0265	SW1A	0023	0252, 0330, 0849
0283	EVNP	0037	0281
0284	LOAD13	0038	0271, 0273, 0275
0287	LOAD14	003C	0268
0292	LOAD15	0042	0306, 0323, 0329
0294	LOAD16	0044	0291
0300	SW1B	0048	0284
0306	LOAD17	004E	0304
0307	LOAD18	004F	0305
0313	LOAD19	0055	0312
0316	SW1BJ1	005B	0310
0318	SW1C	005E	0316
0324	LOAD20	0064	0322
0327	LOAD21	0068	0325
0330	LOAD22	006B	0328
0336	NAMPRO	0070	0286
0339	NAMP1	0073	0337
0341	NAMP2	0075	0339
0344	NAMP3	0078	0342
0352	FUDGE	0080	0350
0355	FUDGE1	0083	0353
0359	NAMP4	0084	0343
0370	NAMP6	008F	0366, 0368
0375	NAMP6A	0094	0370, 0373
0381	CSDIST	009C	0380, 0382, 0383
0390	NAMP7	00A3	0338, 0351, 0355
0393	NAMP8	00A6	0391
0395	NAMP11	00A8	0393
0398	NAMP12	00AB	0396
0404	INTRMD	00B2	0402
0407	FUDGE2	00B5	0405
0408	PRNTIT	00B6	0386, 0422, 0479
0423	SVQ	00C6	0409, 0415
0432	COMERR	00CB	0340, 0354
0433	DATERR	00CB	0394
0434	NAMP14	00CB	0406, 0444
0441	NAMP13	00CF	0397
0445	NOTMMP	00D3	0443
0451	DATB1	00D9	0448
0452	SETLIM	00DA	0450
0457	DATL1	00DF	0454
0458	SETBAS	00E0	0456
0470	PRTOUT	00E8	0466, 0468
0474	DSDIST	00EE	0473, 0475, 0476
0481	NAMP15	00F7	
0486	BUFFER	00FB	0379, 0383, 0412, 0414, 0419, 0420, 0421, 0472, 0476
0489	TMPARG	00FE	0470, 0480
0493	NAMP9	00FF	0392, 0403, 0407, 0437, 0484
0494	NAMP17	0100	
0497	NAMP18	0103	0495
0506	NAMP20	010C	0502, 0504
0507	NAMP21	010D	0505

0512	NAMP22	0112	0508, 0510
0518	NAMP19	0115	0496
0523	COROVF	0117	0369, 0374, 0469, 0511
0528	PRNNAM	0119	0434, 0518, 0556
0530	PRNM1	011B	0534
0535	PRNNM2	0120	0532
0552	NAMP26	0132	0547, 0550
0554	NAMP24	0135	0545, 0551
0555	NAMP25	0136	0553
0569	AUPPER	013D	0566
0573	BTHSAM	0141	0567, 0569
0576	QBIGER	0144	0568
0577	ABIGER	0145	0572, 0575
0583	BZSPRO	0146	0314
0588	RBDPRO	014A	0313
0591	RBBZ1	014C	0586
0595	BZSPR1	0150	0710
0605	RBBZ2	015E	0603
0609	RBBZ4	0164	0605
0611	RBBZ5	0168	0608
0613	RBBZ3	016C	0604
0620	SW2A	0170	0595
0625	SW	0175	0623
0626	SW2X	0176	0621
0628	SW2B	0178	0609
0630	SW2C	017A	0606
0631	RBBZ6	017B	0625, 0627, 0629
0632	RBBZ7	017C	0674
0635	RBBZ8	017F	0633
0646	RBBZ9	018A	0638, 0641, 0644
0654	RBBZ10	0192	0650, 0652
0659	RBBZ11	0197	0657
0660	RBBZ12	0198	0658
0662	CSQ	019B	0648
0671	RBBZ13	01A3	0667
0674	RBBZ14	01A6	0672
0677	SW3A	01A7	0597, 0683
0680	SW3B	01A9	0610
0683	SW3C	01AB	0607
0687	BZSPR2	01AC	0634, 0706
0692	BZSJ20	01B1	0690
0702	BZSJ21	01BC	0699
0707	BZSPR3	01C1	0705
0710	BZSP2	01C4	0708
0718	NXTWRD	01C6	0599, 0635, 0764, 0768
0727	NXWD1	01CF	0720
0741	NXWD2	01DD	0738, 0739
0758	NXWD3	01EA	0755
0761	NXWD4	01EE	0757, 0759
0762	NXWD5	01EF	
0765	NXWD6	01F2	0763
0769	RELWRD	01F7	0726, 0728, 0730
0773	NEGERR	01F8	0740

0780	ADJUST	01FA	0613, 0786, 0794
0784	ADJ1	01FE	0782
0787	ADJ2	0201	0783
0791	ADJ3	0205	0789
0796	SW2	0209	0595, 0596, 0606, 0609, 0611, 0614
0799	SW3	020B	0597, 0598, 0607, 0610, 0612, 0659, 0691
0805	STRLNK	020D	0653, 0818
0810	STLNK1	0212	0808
0814	SD	0217	0811
0818	SB	021B	
0824	ENTPRO	021C	0315
0828	ENTPR1	0220	0837
0836	ENTPR3	0229	0831
0839	SEGMNT	022C	0835, 0851
0847	NAMPX	0236	0842
0850	TRYAGN	023A	0846
0852	EXTPRO	023D	0326
0856	EXTPR1	0241	0858
0867	NXTNAM	0245	0828, 0856, 0899
0877	NXNAM1	024F	0875
0889	NOTEXT	0259	0886
0894	ABSADR	025E	0878
0898	RELADR	025F	0884, 0888, 0892
0905	XFRPRO	0261	0332
0915	XFR1	026A	0907
0922	LNKENT	026D	0244
0928	LNKEN0	0273	0926
0939	LNKEN2	027F	0936
0944	LNKEN3	0285	0940
0946	LNKEN1	0287	0927
0956	PATCH	028A	0924, 0964, 1017
0966	PATCH1	0290	0963, 1016
0971	PATCH2	0295	0984
0985	PATCH3	02A1	0983
0992	PATCH4	02A7	0990
0999	PATCH6	02AE	0995
1011	PATCH7	02BA	1007
1013	PATCH5	02BC	0991, 0998
1017	PATCH8	02C0	1015
1030	LINK1A	02CA	1025
1031	LINK2	02CB	1089
1037	LNA	02CF	1049
1051	LNB	02D7	1042
1052	LINKA	02D8	1029, 1032, 1045
1065	LINB	02E5	1058, 1060
1071	LK1J12	02EB	1069
1076	LK1J11	02F0	1067
1077	LK1J10	02F1	1070, 1075
1080	VALINK	02F5	1077
1088	LINK3	02FD	1086
1091	LNKSAV	02FF	1022, 1044, 1083
1092	BADEXT	0300	1063, 1120
1094	BDEXT1	0302	1118

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1097    BDALF1  0323            1106
1098    BDALF2  0324            1108
1099    BDALF3  0325            1110
1101    BDALF4  0333            1114
1102    BDALF5  0334            1116
1104    BDEXT2  0336            1093, 1117, 1118
1148    SCHTB1  0350            1142
1153    SCHTB2  0355            1151
1156    SCHTB3  0358            1154
1161    SCHTB4  035D            1150
1168    TBSCH0  0363            1147, 1160, 1165, 1179
1169    TBSCH1  0364            1180
1180    TSOK1   036F            1178
1181    TSEXIT  0370            1152, 1155, 1166
1200    SEARCH  0373            1169, 1215, 1216, 1224, 1243
1204    TBSCH2  0377            1222
1217    TBSCH3  0383            1214
1223    TBSCH4  0389            1221
1226    GET     038B            1204, 1223, 1229, 1249
1232    EXTSCH  0390            1241, 1251
1236    TBSCH7  0394            1247
1242    TBSCH5  039A            1238
1248    TBSCH6  03A0            1244
1252    STRADR  03A4            1268, 1275, 1293, 1298, 1309, 1313
1267    ENTST   03AC            1264
1273    EXSTOR  03B2            0857, 1281
1282    EXSTR1  03BB            1279
1284    STORIT  03BE            1271, 1280, 1303
1295    VALUX   03CA            1292
1305    ESTORE  03D3            1286, 1288, 1290, 1314
1311    EVALUE  03DA            1308
1320    PRNEXT  03DE            0245
1323    PEXT1   03E2            1321, 1328
1326    PEXT2   0400            1323, 1327, 1328
1332    PEXT3   0408            1345
1339    PEXT4   0410            1337
1345    PEXT5   0417            1343
1353    COMSGE  041B
1356    PR3J1   0424            1352, 1359, 1378, 1380
1364    STOP    042B            1364
1368    STOP1   042D            1374
1375    STOP2   0435            1373
1392    PRINT6  0443            1338, 1412
1394    BUF6    0445            1403
1395    PR6     0449            1393, 1409
1399    PR6A    044D            1397, 1408
1409    PR6B    0459            1407
1418    BUF5    046A            1423, 1425, 1427
1419    PR5J1   046E            1416, 1428
1457    CVT     0489            1442, 1445, 1448, 1451, 1464
1463    CVT1    048F            1461
1481    SCAN1   049C            1503, 1512
1483    SCAN2   049F            1480
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1486	SCAN3	04A2	1484
1495	PLUS	04AB	1485
1501	SCAN5	04B1	1499
1504	MINUS	04B4	1496
1510	SCAN6	04BA	1508
1514	ALFNUM	04BD	1505
1517	SCAN7	04C0	1515
1520	SCAN8	04C3	1518
1521	ALFTRM	04C4	1519
1527	SCAN9	04CA	1536
1533	SCAN10	04D0	1531
1536	SCAN11	04D3	1534
1537	NUMTRM	04D4	1516
1544	SCAN12	04DB	1542
1545	SCAN4	04DC	1494
1551	SCAN13	04E2	1579
1560	SCAN14	04EB	1553, 1558
1564	SCAN25	04EE	1561
1571	BINVAL	04F5	1565, 1575
1577	NUMSTR	04FB	1572
1580	SGNTST	04FD	1559, 1562
1587	SCAN15	0504	1582
1588	NUMBER	0505	1514, 1560, 1595, 1597
1594	NUMXIT	0508	1608
1596	NOTNUM	050D	1591, 1601, 1604, 1607
1598	HEXTST	050F	1593
1602	SCAN16	0513	1600
1605	SCAN17	0516	1603
1608	SCAN18	0519	1606
1609	LETTER	051A	1517, 1533, 1616, 1620, 1625
1617	SCAN19	0522	1614
1619	NOTALF	0524	1612, 1623
1621	ALFTST	0526	1618
1624	SCAN20	0529	1622
1626	STRCHR	052B	1527, 1554, 1646
1634	SCAN21	0533	1632
1638	SCAN22	0537	1636
1647	CHPU	053F	1481, 1528, 1555, 1658
1656	CHPU1	0548	1654
1659	GETBIN	054B	1537, 1564, 1667
1667	GTBIN1	0553	1665
1708	DISKRD	0554	0973, 1054, 1227, 1334, 1400, 1716, 1720, 1727, 1732, 1901
1724	DISKRW	0561	1711
1740	NOMP	0570	1733, 1736
1745	DB	0574	1742
1765	NOTSME	057C	1756
1785	FIND	0585	1855
1803	REFR	058B	1793
1810	FB	0590	1807
1821	FC	0594	1813
1830	FC1	059E	1822, 1825, 1828
1842	FD	05A3	1816, 1829
1851	FE	05A7	1845

1859	FOUND	05AB	2049
1868	FOUNDA	05AD	1795
1874	FOUND1	05AF	1760
1880	FOUNDB	05B5	1878
1898	FG	05C4	1882
1900	FH	05C6	1890, 1894, 1895, 1897
1946	FF	05D6	1846
1969	FI	05E5	1951, 1964
1984	FJ	05F2	1972
1993	FK	05F7	1978, 1981, 1987
1997	FK1	05FB	1995
2010	FL	0607	2007, 2008
2012	FM	0608	2005
2018	EAB	060E	2014
2022	EAB2	0612	2025
2026	EAB1	0616	2017, 2022
2037	GTPAGE	0622	2010, 2030
2048	FN	062B	2009, 2035, 2042
2053	NUMSC	0630	1973, 2057
2056	NOTCSQ	0635	2052
2060	EA	0638	2055
2066	SECTNO	063E	2060, 2062
2080	WRA	0645	2100
2091	WRE	0652	1965, 2043
2093	WRB	0655	2083, 2090
2101	WRC	065F	2095
2128	ADJOF1	0669	2125
2131	ADJOF3	066C	2129
2133	ADJOF2	066E	2121
2135	ADJOF4	066F	2123
2138	ADJOF5	0672	2136
2144	ADJOF6	0678	2140
2152	ADJOF7	0680	2150

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0012	ERFLAG	0419	1351
0013	LSSECT	0633	0552, 1975, 2054
0014	STRTBL	0620	2028, 2032, 2034
0015	ISAV	064F	1962, 2040, 2088
0016	WRDADR	01F4	0724, 0753, 0766
0017	MDRIV	0640	1959, 2039, 2087
0018	QCOM	047A	0417, 1329, 1387, 1411, 1430
0019	TELOUT	0429	1119, 1361
0020	IDRIV	001E	0260
0021	BACKGR	023B	0254, 0850
0022	QTYPE	0654	2092
0023	GM65	0436	1375

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ABIGER	0577	ABRLSW	0071	ABSADR	0894	ADDR	0190	ADJ1	0784	ADJ2	0787	ADJ3	0791	ADJOF1	2128	ADJOF2	2133
ADJOF3	2131	ADJOF4	2135	ADJOF5	2138	ADJOF6	2144	ADJOF7	2152	ADJOV1	0027	ADJOVF	0162	ADJUST	0780	ADJXIT	0161
ADPAGE	0046	AHOLD	0213	AINPUT	0176	ALFNUM	1514	ALFTRM	1521	ALFTST	1621	ARIT15	0166	ASAV	0118	ASKII	0149
AUPPER	0569	BACKGR	0021	BADEXT	1092	BASE	0100	BDALF1	1097	BDALF2	1098	BDALF3	1099	BDALF4	1101	BDALF5	1102
BDEXT1	1094	BDEXT2	1104	BGRLSW	0072	BINASC	0136	BINVAL	1571	BLANKS	0090	BLKCNT	0112	BTHSAM	0573	BUF5	1418
BUF6	1394	BUFFER	0486	BZSJ20	0692	BZSJ21	0702	BZSP2	0710	BZSPR1	0595	BZSPR2	0687	BZSPR3	0707	BZSPRO	0583
BZSSW	0108	CENTAD	0126	CFXTAD	0199	CHPU	1647	CHPU1	1656	CM65	0023	CNVERT	0028	CNVXIT	0170	COMBAS	0063
COMERR	0432	COMLIM	0066	COMSGE	1353	CONVRT	0171	CORADR	0192	COROVF	0523	COUNT1	0106	COUNT2	0111	CSDIST	0381
CSNAME	0156	CSQ	0662	CSQCTR	0197	CSQLIM	0068	CSQNUM	0077	CSQSEC	0205	CVT	1457	CVT1	1463	DATB1	0451
DATBAS	0064	DATBS0	0050	DATBS1	0051	DATERR	0433	DATL1	0457	DATLIM	0067	DATLM0	0050	DATLM1	0051	DB	1745
DISKRD	1708	DISKRW	1724	DISKWR	0010	DSDIST	0474	EA	2060	EAB	2018	EAB1	2026	EAB2	2022	ECREP	0216
ECREP1	0217	ENDINP	0088	ENDSW	0070	ENTPGS	0179	ENTPNT	0079	ENTPR1	0828	ENTPR3	0836	ENTPRO	0824	ENTSEC	0204
ENTST	1267	ENTST0	0188	ENTST1	0189	ENTSTR	0030	ERFLAG	0012	ESTORE	1305	EVALUE	1311	EVNP	0283	EXSTOR	1273
EXSTR1	1282	EXTADR	0201	EXTCTR	0069	EXTPCH	0163	EXTPR1	0856	EXTPRO	0852	EXTSCH	1232	EXTSTR	0191	EXTSWT	0218
FB	1810	FC	1821	FC1	1830	FD	1842	FE	1851	FF	1946	FG	1898	FH	1900	FI	1969
FIND	1785	FJ	1984	FK	1993	FK1	1997	FL	2010	FLGADR	0031	FLGBS1	0226	FLGESE	0222	FLGLGN	0135
FM	2012	FN	2048	FNDSEC	0011	FOUND	1859	FOUND1	1874	FOUNDA	1868	FOUNDB	1880	FUDGE	0352	FUDGE1	0355
FUDGE2	0407	GET	1226	GETBIN	1659	GTBIN1	1667	GTPAGE	2037	HEXTST	1598	I	0000	IDRIV	0020	IGNORF	0183
ILOAD	0007	ILOAD1	0240	INMED	0158	INPCTR	0083	INPREL	0075	INPUT	0227	INPWRD	0074	INPXC0	0139	INPXC1	0140
INPXCC	0142	INTRMD	0404	ISAV	0015	ISCAN	0032	JUMP	0220	LASTFC	0246	LENSDT	0009	LETTER	1609	LGEPGE	0182
LINB	1065	LINK	0081	LINK1	0178	LINK11	0029	LINK1A	1030	LINK2	1031	LINK3	1088	LINKA	1052	LK1J10	1077
LK1J11	1076	LK1J12	1071	LK1XIT	0177	LNA	1037	LNB	1051	LNKCTR	0186	LNKEN0	0928	LNKEN1	0946	LNKEN2	0939
LNKEN3	0944	LNKEND	0187	LNKENT	0922	LNKSAV	1091	LNKSTR	0185	LOAD12	0263	LOAD13	0284	LOAD14	0287	LOAD15	0292
LOAD16	0294	LOAD17	0306	LOAD18	0307	LOAD19	0313	LOAD20	0324	LOAD21	0327	LOAD22	0330	LOADER	0252	LSSECT	0013
LSTPGE	0042	M00FF	0148	M7FFF	0144	M8000	0145	MAXENT	0128	MAXEXT	0203	MAXPGE	0206	MAXREF	0044	MDRIV	0017
MFF00	0147	MFFFF	0146	MINBAS	0045	MINEXT	0202	MINFLG	0048	MINREF	0043	MINUS	1504	MODIFY	0057	MONTAB	0225
MSDWCT	0211	NAMBX	0847	NAME	0122	NAMF1	0339	NAMP11	0395	NAMP12	0398	NAMP13	0441	NAMP14	0434	NAMP15	0481
NAMP17	0494	NAMP18	0497	NAMP19	0518	NAMP2	0341	NAMP20	0506	NAMP21	0507	NAMP22	0512	NAMP24	0554	NAMP25	0555
NAMP26	0552	NAMP3	0344	NAMP4	0359	NAMP6	0370	NAMP6A	0375	NAMP7	0390	NAMP8	0393	NAMP9	0493	NAMPRO	0336
NEGERR	0773	NEGSW	0150	NGRLSW	0164	NOJUMP	0133	NOMP	1740	NOPAGF	0207	NOTALF	1619	NOTCSO	2056	NOTEXT	0889
NOTLNK	0087	NOTMMP	0445	NOTNUM	1596	NOTRAN	0132	NOTSME	1765	NUMBER	1588	NUMSC	2053	NUMSEC	0060	NUMSTR	1577
NUMTRM	1537	NUMXIT	1594	NXNAM1	0877	NXTBIN	0257	NXTBLK	0049	NXTINP	0143	NXTNAM	0867	NXTWRD	0718	NXWD1	0727
NXWD2	0741	NXWD3	0758	NXWD4	0761	NXWD5	0762	NXWD6	0765	ONTAB	0224	PAGE	0195	PAGENO	0040	PARBAS	0208
PARLIM	0209	PARSTR	0041	PATCH	0956	PATCH1	0966	PATCH2	0971	PATCH3	0985	PATCH4	0992	PATCH5	1013	PATCH6	0999
PATCH7	1011	PATCH8	1017	PEXT1	1323	PEXT2	1326	PEXT3	1332	PEXT4	1339	PEXT5	1345	PGEFLG	0035	PGENUM	0054
PGEWRT	0181	PLUS	1495	PR3J1	1356	PR3XIT	0137	PR4XIT	0172	PR5J1	1419	PR5XIT	0174	PR6	1395	PR6A	1399
PR6B	1409	PRESET	0168	PRINT2	0141	PRINT3	0138	PRINT4	0173	PRINT5	0175	PRINT6	1392	PRNEXT	1320	PRNM1	0530
PRNNAM	0528	PRNNM2	0535	PRNT3	0024	PRNT4	0025	PRNT5	0026	PRNTIT	0408	PROBAS	0065	PROCOM	0194	PRODAT	0193
PROGCT	0223	PRTOUT	0470	QBIGER	0576	QCOM	0018	QHOLD	0214	QSAV	0119	QTYPE	0022	RBBZ1	0591	RBBZ10	0654
RBBZ11	0659	RBBZ12	0660	RBBZ13	0671	RBBZ14	0674	RBBZ2	0605	RBBZ3	0613	RBBZ4	0609	RBBZ5	0611	RBBZ6	0631
RBBZ7	0632	RBBZ8	0635	RBBZ9	0646	RBDPRO	0588	REFER	0055	REFR	1803	RELADR	0898	RELWRD	0769	RWFLAG	0034
SA	0036	SAVEA	0219	SB	0818	SCAN	0155	SCAN1	1481	SCAN10	1533	SCAN11	1536	SCAN12	1544	SCAN13	1551
SCAN14	1560	SCAN15	1587	SCAN16	1602	SCAN17	1605	SCAN18	1608	SCAN19	1617	SCAN2	1483	SCAN20	1624	SCAN21	1634
SCAN22	1638	SCAN25	1564	SCAN3	1486	SCAN4	1545	SCAN5	1501	SCAN6	1510	SCAN7	1517	SCAN8	1520	SCAN9	1527
SCANSW	0094	SCHTB1	1148	SCHTB2	1153	SCHTB3	1156	SCHTB4	1161	SCHTBL	0033	SCHXIT	0123	SCNINP	0152	SCNTRM	0151
SCNXIT	0154	SD	0814	SEARCH	1200	SECTNO	2066	SECTOR	0215	SEGMNT	0839	SETBAS	0458	SETLIM	0452	SGNTST	1580
SIGNCK	0006	SQ	0037	STLNK1	0810	STOP	1364	STOP1	1368	STOP2	1375	STORIT	1284	STRADR	1252	STRCHR	1626
STRLNK	0805	STRSEC	0210	STRTBL	0014	SVQ	0423	SW	0625	SW1	0256	SW1A	0265	SW1B	0300	SW1BJ1	0316
SW1C	0318	SW2	0796	SW2A	0620	SW2B	0628	SW2C	0630	SW2X	0626	SW3	0799	SW3A	0677	SW3B	0680

SW3C	0683	SW6	0115	SYMSTR	0091	TABSCH	0124	TBSCH0	1168	TBSCH1	1169	TBSCH2	1204	TBSCH3	1217	TBSCH4	1223
TBSCH5	1242	TBSCH6	1248	TBSCH7	1236	TELOUT	0019	TEMP	0129	TEMP1	0130	TEMP3	0221	TMPARG	0489	TOP	0180
TRYAGN	0850	TSEXIT	1181	TSOK1	1180	TYPFLD	0243	VALINK	1080	VALUE	0038	VALUX	1295	WMXSEC	0131	WORD	0039
WRA	2080	WRB	2093	WRC	2101	WRDADR	0016	WRDCNT	0101	WRE	2091	WRTOUT	0008	XCSNAM	0157	XFR1	0916
XFRADR	0212	XFRNAM	0121	XFRPRO	0905	ZERO	0053										

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0001                NAM  LDRTBL        DECK-ID 019  MSOS 5.0          SUMMARY-113********
0002          *     MASS STORAGE OPERATING SYSTEM VERSION 5.0                    01900002
0003          *     SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                 01900003
0004          *     COPYRIGHT CONTROL DATA CORPORATION 1976                      01900004

0006          *          TABLE MODULE FOR SYSTEM INITIALIZER'S LOADER             01900006
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0009                *       EQUATES TO ESTABLISH PAGE                       01900009
0011                *       LENGTHS AND THE AMOUNT OF                       01900011
0013                *       PAGES RESERVED FOR ENTRY                        01900013
0015                *       AND EXTERNAL TABLES.                            01900015



0017    0060                EQU  SECTOR(96)     NUMBER OF WORDS PER SECTOR              01900017
0018    0001                EQU  NUMSEC(1)      NUMBER OF SECTORS PER PAGE              01900018
0019    0060                EQU  PGE(SECTOR*NUMSEC)  LENGTH OF A PAGE ON MASS STORAGE   01900019
0020    0003                EQU  FLAGS(3)       NUMBER OF FLAGS PER PAGE                01900020
0021    0063                EQU  LENGTH(PGE+FLAGS)   LENGTH OF A PAGE WITH FLAGS IN CORE 01900021
0022    0001                EQU  PGENUM(1)      CELL FOR PAGE NUMBER - IN FLAG TABLE ENTRY 01900022
0023    0002                EQU  REFER(2)       CELL FOR NUMBER OF TIMES A PAGE HAS BEEN 01900023
0024                *                           REFERENCED - IN FLAG TABLE ENTRY        01900024
0025    0003                EQU  MODIFY(3)      CELL TO INDICATE IF A PAGE HAS BEEN MODIFIED 01900025
0026                *                           WHILE IN CORE. - IN FLAG TABLE ENTRY    01900026
0027                *                           0 = NOT MODIFIED,  1 = MODIFIED         01900027
0028    0060                EQU  LNKLGN(96)     LENGTH OF THE TABLE WHERE ALL ABSOLUTIZED 01900028
0029                *                           ADDRESSES OF $7FFF ARE STORED.          01900029
0030    0145                EQU  REETBL(1325)   NUMBER OF SECTORS RESERVED FOR ENT/EXT TABLES 01900030
0031                *       TWO CARDS DELETED                                   113*4253********



0033                        ENT  CONENT         ENTRY TO INITIALIZE CONSTANT TABLE      01900034
0034                        ENT  CONMS1                                                 01900035
0035                        ENT  CONMS                                                  01900036
0036                        ENT  CONMAS         ENTRY TO INITIALIZE MASS STORAGE CONSTANTS 01900037
0037                        ENT  NUMSEC         NUMBER OF SECTORS/PAGE                  01900038
0038                        ENT  WRDADR                                                 01900039
0039                        ENT  STRTBL                                                 01900040
0040                        ENT  ISAV                                                   01900041
0041                        EXT* PRNT3                                                  01900042
0042                        EXT* STOP                                                   01900043
0043                        EXT* NXTBLK                                                 01900044
0044                        EXT* ADJOV1                                                 01900045
0045                        EXT* CNVERT                                                 01900046
0046                        EXT* PRNT4                                                  01900047
0047                        EXT* PRNT5                                                  01900048
0048                        EXT* LSSECT         NEXT AVAILABLE SECTOR IN CONTRL         01900049
0049                        EXT* FLGADR                                                 01900050
0050                        EXT* LINK11                                                 01900051
0051                        EXT* SCHTBL                                                 01900052
0052                        EXT* ISCAN                                                  01900053
0053                        EXT* WRTOUT                                                 01900054
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0054                EXT*  LENSDT      NUMBER OF CORE RESIDENT PAGES      66*1455   01900055
0055                EXT*  RWFLAG                                                   01900056
0056                EXT*  PGEFLG                                                   01900057
0057                EXT*  SA                                                       01900058
0058                EXT*  SQ                                                       01900059
0059                EXT*  VALUE                                                    01900060
0060                EXT*  WORD                                                     01900061
0061                EXT*  PAGENO                                                   01900062
0062                EXT*  LSTPGE                                                   01900063
0063                EXT*  MINREF                                                   01900064
0064                EXT*  MAXREF                                                   01900065
0065                EXT*  MINBAS                                                   01900066
0066                EXT*  ADPAGE                                                   01900067
0067                EXT*  FLGADR                                                   01900068
0068                EXT*  MINFLG                                                   01900069
0069                EXT   MAXSEC      LARGEST SECTOR AVAILABLE TO INIT.  113*4253********
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0071 P0000 0B00    CONENT NOP   0              RETURN ADDRESS = START OF INITIALIZER          01900071
0072 P0001 5800            RTJ   CONBAS        GO TO INITIALIZE LOADER TABLE                  01900072
     P0002 0148
0073 P0003 0000    LDRTBL NUM   0              WORD ZERO OF LOADER TABLE                      01900073
0074               *NAME      VALUE       INDEX          USE OR MEANING                      01900074
0075 P0004 0000    COMBAS NUM   0             1 RELOCATION BASE FOR COMMON STORAGE           01900075
0076 P0005 0000    DATBAS NUM   0             2 RELOCATION BASE FOR DATA STORAGE             01900076
0077 P0006 0000    PROBAS NUM   0             3 RELOCATION BASE FOR PROGRAM BEING LOADED     01900077
0078 P0007 0000    COMLIM NUM   0             4 HIGHEST ADDRESS OF COMMON STORAGE + 1        01900078
0079 P0008 0000    DATLIM NUM   0             5 HIGHEST ADDRESS OF DATA STORAGE + 1          01900079
0080 P0009 0000    CSQLIM NUM   0             6 HIGHEST ADDRESS OF COMMAND SEQUENCE STORAGE +101900080
0081 P000A 0000    EXTCTR NUM   0             7 POINTS TO NEXT AVAILABLE LOCATION IN EXTERNAL 01900081
0082               *                            TABLE                                        01900082
0083 P000B 0000    ENDSW  NUM   0             8 SWITCH USED IN PROCESSING RBD OR BZS BLOCK   01900083
0084               *                            =1 IF LAST BYTE IN BLOCK                     01900084
0085 P000C 0000    ABRLSW NUM   0             9 SWITCH USED IN PROCESSING EXTERNALS          01900085
0086               *                            0 = ABSOLUTE,   1 = RELATIVE                 01900086
0087 P000D 0000    INPWD  NUM   0            10 END OF COMMAND SEQUENCE STORAGE              01900087
0088 P000E 0000    INPREL NUM   0            11 CONTAINS THE RELATIVE FLAG FOR A WORD OF     01900088
0089               *                            COMMAND SEQUENCE IN A RBD OR A BZS BLOCK     01900089
0090 P000F 0145    TBLNUM ADC   REETBL       12 NUMBER OF SECTORS RESERVED FOR ENTRY POINT   01900090
0091               *                            AND EXTERNAL TABLES                          01900091
0092 P0010 0000    ENTPNT NUM   0            13 CONTAINS THE ADDRESS ASSOCIATED WITH THE     01900092
0093               *                            NAME IN AN ENTRY POINT OR EXTERNAL BLOCK     01900093
0094 P0011 0000    LINK   NUM   0            14 CONTAINS THE ADDRESS ASSOCIATED WITH A       01900094
0095               *                            NAME IN THE LOADER TABLE                     01900095
0096 P0012 0000    INPCTR NUM   0            15 USED TO ADDRESS THE CORE LOCATION OF COMMAND 01900096
0097               *                              SEQUENCE STORAGE AT LOAD TIME              01900097
0098               *                            USED TO HOLD THE ADDRESS OF ENTRY POINTS FOR 01900098
0099               *                              TABLE SEARCH AND TABLE STORE ROUTINES      01900099
0100 P0013 0000    NOTLNK NUM   0            16 FLAG   1 = UNPATCHED EXTERNALS              01900100
0101 P0014 0000    ENDINP NUM   0            17 LAST STORAGE ADDRESS +1 AT THE END OF        01900101
0102               *                            A RELOCATABLE BINARY LOAD                    01900102
0103 P0015 2020    BLANKS NUM   $2020        18 ANSCII CODE FOR TWO SPACES                   01900103
0104 P0016 0000    SYMSTR NUM   0            19 THREE LOCATIONS TO BE FILLED WITH THE ANSCII 01900104
0105 P0017 0000            NUM   0           20 CODES FOR THE CHARACTERS IN THE FIELD BEING  01900105
0106 P0018 0000            NUM   0           21 PROCESSED BY THE SCAN ROUTINE. IF THE FIELD  01900106
0107               *                            WAS NUMERIC SYMSTR = 0 AFTER EXIT FROM SCAN. 01900107
0108 P0019 0000    SCANSW NUM   0            22 FLAG WORD FOR SCAN ROUTINE                   01900108
0109               *                            IF BIT ZERO =0 AND THE FIELD BEING PROCESSED 01900109
0110               *                            IS NUMERIC, THEN THE NUMBER WILL BE HANDLED  01900110
0111               *                              AS A DECIMAL VALUE UNLESS IT IS PRECEEDED  01900111
0112               *                            BY A $.                                      01900112
0113               *                              IF BIT ZERO =1 AND THE FIELD BEING PROCESSED01900113
0114               *                              IS NUMERIC, THEN THE NUMBER WILL BE ASSUMED 01900114
0115               *                            HEXADECIMAL REGARDLESS OF THE OCCURANCE OF $.01900115
0116 P001A 0000    BASE   NUM   0            23 BASE ADDRESS OF THE SYSTEM INITIALIZER       01900116
0117       001B P          EQU   WRDADR(*)      SAME AS ABSOLUTE ADDRESS OF WRDCNT           01900117
0118 P001B 0000    WRDCNT NUM   0            24 CHARACTER REFERENCE COUNTER - SET TO STORAGE 01900118
0119               *                            ADDRESS OF THE FIRST CHARACTER OF A FIELD TO 01900119
0120               *                            BE PROCESSED BY SCAN. BIT ZERO IS THE        01900120
0121               *                            RIGHT/LEFT INDICATOR FOR CHARACTER POSITION. 01900121
0122               *                              0 = FIRST CHARACTER IN LEFT HALF OF WORD   01900122
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0123                        *                                    1 = FIRST CHARACTER IN RIGHT HALF OF WORD     01900123
0124 P001C 0000   COUNT1 NUM  0                  25 SCAN CHARACTER COUNTER - SET TO THE                        01900124
0125                        *                     COMPLEMENT OF THE MAXIMUM NUMBER OF                       01900125
0126                        *                     CHARACTERS A FIELD MAY CONTAIN                            01900126
0127 P001D 0000   BZSSW  NUM  0                  26 USED BY SUBROUTINES COMMON TO RBDPRO AND                  01900127
0128                        *                     BZSPRO TO DETERMINE THE BLOCK TYPE.                       01900128
0129                        *                      0 = RBD BLOCK,  -1 = BZS BLOCK                           01900129
0130 P001E 0000   COUNT2 NUM  0                  27 COUNTER USED BY SCAN                                      01900130
0131                        *BLKCNT               BLOCK COUNTER, CONTAINS THE NUMBER OF                     01900131
0132                        *                     SEQUENTIAL LOCATIONS TO BE SET TO ZERO                    01900132
0133                        *                     FOR A BZS BLOCK ENTRY                                     01900133
0134 P001F 0000   SW6    NUM  0                  28 FLAGWORD FOR LOADER TABLE SEARCH ROUTINE                  01900134
0135                        *                      =0  MATCH HAS BEEN FOUND IN ENTRY POINT TABLE            01900135
0136                        *                      =- (NEGATIVE) MATCHING ENTRY NOT FOUND                   01900136
0137 P0020 0000   ASAV   NUM  0                  29 TEMPORARY STORAGE FOR THE A-REGISTER                      01900137
0138 P0021 0000   QSAV   NUM  0                  30 TEMPORARY STORAGE FOR THE Q-REGISTER                      01900138
0139 P0022 0000   ISAV   NUM  0                  31 TEMPORARY STORAGE FOR THE I-REGISTER                      01900139
0140 P0023 0000   XFRNAM NUM  0                  32 STORAGE SPACE FOR SIX CHARACTERS OF ANSCII                01900140
0141 P0024 0000        NUM  0                  33 CODE FOR THE TRANSFER ADDRESS OF THIS LOAD                01900141
0142 P0025 0000        NUM  0                  34                                                           01900142
0143 P0026 0000   NAME   NUM  0                  35 A FOUR WORD BLOCK USED TO HOLD A ENTRY                    01900143
0144 P0027 0000        NUM  0                  36 POINT NAME DURING OPERATION OF I1                         01900144
0145 P0028 0000        NUM  0                  37                                                           01900145
0146 P0029 0000        NUM  0                  38                                                           01900146
0147 P002A 1400   SCHXIT JMP+ ($7FFF)          39 EXIT FROM TABLE SEARCH ROUTINE                            01900147
     P002B FFFF
0148                        *TABSCH               40 ENTRY TO TABLE SEARCH BY STUFFING RETURN                01900148
0149                        *                     ADDRESS IN SECOND WORD OF JUMP INSTRUCTION                01900149
0150 P002C 1800 X         JMP  SCHTBL           OF 39 AND THEN JUMPING TO SEARCH ROUTINE                     01900150
     P002D 7FFF X
0151 P002E 0000   CENTAD NUM  0                  43 ADDRESS OF ENTRY POINT NAME BEING CURRENTLY               01900151
0152                        *                     EXAMINED IN ENTRY POINT TABLE                             01900152
0153 P002F 0000   MAXENT NUM  0                  44 LARGEST ADDRESS USED IN ENTRY POINT TABLE                 01900153
0154 P0030 0000   TEMP   NUM  0                  45 TEMPORARY CELL                                            01900154
0155 P0031 0000   TEMP1  NUM  0                  46 TEMPORARY CELL                                            01900155
0156 P0032 0000   WMXSEC NUM  0                  47 WORD ADDRESS OF MAXSEC IN ENT/EXT PAGES                   01900156
0157 P0033 0000   NOTRAN NUM  0                  48 FLAG = 0  IF TRANSFER ADDRESS IS NEEDED                   01900157
0158 P0034 0000   NOJMP  NUM  0                  49 FLAG = 0  IF NO JUMP INSTRUCTION NEEDED                   01900158
0159                        *                                  TO JUMP AROUND DATA OR COMMON                01900159
0160 P0035 0003   FLGLGN ADC  FLAGS              50 NUMBER OF CORE FLAGS PER PAGE                             01900160
0161 P0036 0000   BINASC NUM  0                  51 USED FOR STORAGE OF ANSCII CODES WHEN                     01900161
0162 P0037 0000        NUM  0                  52 CONVERTING A NUMBER FOR PRINTING                          01900162
0163 P0038 1400        JMP+ ($7FFF)            53 JUMP USED FOR RETURN FROM PRINT3                          01900163
     P0039 FFFF
0164 P003A 1800 X         JMP  PRNT3            55 JUMP USED FOR ENTRY TO PRINT3                             01900164
     P003B 7FFF X
0165 P003C 0099 P INPXC0  ADC  INPUT            57 ADDRESS OF INPUT BUFFER                                   01900165
0166 P003D 009A P INPXC1  ADC  INPUT+1          58 ADDRESS OF INPUT BUFFER +1                                01900166
0167 P003E 5136   PRINT2 RTJ- 54,I              59 PRINT ERROR MESSAGE USING PRINT3                          01900167
0168 P003F 1800 X         JMP  STOP             60 ERROR EXIT                                                01900168
     P0040 7FFF X
0169 P0041 0096 P INPXCC  ADC  INPUT-3          62 ADDRESS OF INPUT BUFFER-3 USED BY ENTEXT                  01900169
0170 P0042 1800 X NXTINP  JMP  NXTBLK           63 JUMP INSTRUCTION TO READ NEXT RECORD                      01900170
     P0043 7FFF X
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0171 P0044 7FFF    M7FFF   NUM   $7FFF          MASK = LPMASK+15 ($7FFF)                                  01900171
0172 P0045 8000    M8000   NUM   $8000       66 MASK = $8000                                              01900172
0173 P0046 FFFF    MFFFF   NUM   $FFFF       67 MASK = $FFFF                                              01900173
0174 P0047 FF00            NUM   $FF00       68 MASK OF $FF00                                             01900174
0175 P0048 00FF            NUM   $00FF       69 MASK OF $00FF                                             01900175
0176 P0049 0000    ASKII   NUM   0           70 ASCII FLAG WORD FOR MAG-TAPE OR 405 DRIVER                01900176
0177 P004A 0000    NEGSW   NUM   0           71 SET BY SCAN TO VALUE OF LEGAL ALGEBRAIC SIGN              01900177
0178 P004B 0000    SCNTRM  NUM   0           72 SET BY SCAN TO ASCII CODE FOR FIELD TERMINATOR            01900178
0179 P004C 0000    SCNINP  NUM   0           73 SET BY SCAN TO THE BINARY VALUE OF A NUMERIC              01900179
0180                       *                    OPERAND AFTER ITS CONVERSION FROM ASCII                  01900180
0181 P004D 1400    SCNXIT  JMP+  ($7FFF)     74 EXIT FROM SCAN                                            01900181
     P004E FFFF
0182 P004F 1800 X          JMP   ISCAN       76 ENTRY TO SCAN                                             01900182
     P0050 7FFF X
0183 P0051 0000    CSNAME  NUM   0           78 CODE FOR CONTROL STATEMENT BEING PROCESSED                01900183
0184 P0052 0000    XCSNAM  NUM   0           79 CODE FOR LAST CONTROL STATEMENT PROCESSED                 01900184
0185 P0053 0000    INMED   NUM   0           80 INPUT MEDIUM SWITCH                                       01900185
0186                       *                    0 = USE COMMENT DEVICE                                   01900186
0187                       *                    1 = USE STANDARD BINARY INPUT DEVICE                     01900187
0188 P0054 1400            JMP+  ($7FFF)     81 RETURN FROM ADJCVF                                        01900188
     P0055 FFFF
0189 P0056 1800 X          JMP   ADJOV1      83 ENTRY TO ADDRESS ARITHMETIC ROUTINE                       01900189
     P0057 7FFF X
0190 P0058 0000    EXTPCH  NUM   0           85 FLAG - NEGATIVE IF EXTERNAL NOT PATCHED                   01900190
0191 P0059 0000    NGRLSW  NUM   0           86 FLAG   0= POSITIVE RELOCATION                             01900191
0192                       *                          1= NEGATIVE ADDRESS RELOCATION                   01900192
0193 P005A 0000    ARIT15  NUM   0           87 0 = USE 15 BIT ADDRESS ARITHMETIC                         01900193
0194                       *                    1 = USE 16 BIT ADDRESS ARITHMETIC                        01900194
0195 P005B 0000    PRESET  NUM   0           88 USED TO HOLD THE CONTENTS OF A WORD READ INTO             01900195
0196                       *                    CORE BY THE PAGE ROUTINE DURING A TABLE SEARCH           01900196
0197 P005C 1400            JMP+  ($7FFF)     89 RETURN FROM CONVERT                                       01900197
     P005D FFFF
0198 P005E 1800 X          JMP   CNVERT      91 ENTRY TO CONVERT                                          01900198
     P005F 7FFF X
0199 P0060 1400            JMP+  ($7FFF)     93 RETURN FROM PRINT4                                        01900199
     P0061 FFFF
0200 P0062 1800 X          JMP   PRNT4       95 ENTRY TO PRINT4                                           01900200
     P0063 7FFF X
0201 P0064 1400            JMP+  ($7FFF)     97 RETURN FROM PRINT5                                        01900201
     P0065 FFFF
0202 P0066 1800 X          JMP   PRNT5       99 ENTRY TO PRINT5                                           01900202
     P0067 7FFF X
0203 P0068 0000    AINPUT  NUM   0          101 STORAGE FOR A-REGISTER UPON ENTERING LOADER               01900203
0204 P0069 0000    SYSPGE  NUM   0          102 NUMBER OF SYSTEM PAGES                                   01900204
0205 P006A 1400            JMP+  ($7FFF)    103 RETURN FROM LINK1                                        01900205
     P006B FFFF
0206 P006C 1800 X          JMP   LINK11     105 ENTRY TO LINK1                                           01900206
     P006D 7FFF X
0207 P006E 0000    ENTPGS  NUM   0          107 STARTING ADDRESS OF ENTRY POINT TABLE IN                 01900207
0208                       *                    ENTRY / EXTERNAL PAGES                                   01900208
0209 P006F 0000    TOP     NUM   0          108 CONTAINS THE HIGHEST CORE LOCATION                       01900209
0210                       *                    AVAILABLE FOR THIS LOAD                                  01900210
0211 P0070 0000    PGEWRT  NUM   0          109 FLAG =1 IF ANY PAGES WRITTEN TO MASS STORAGE             01900211
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0212 P0071 0000   LGEPGE NUM  0          110 LARGEST COMMAND SEQUENCE PAGE USED                          01900212
0213 P0072 0000   IGNORE NUM  0          111 FLAG SAYING TO IGNORE DUPLICATE ENTRY POINTS              01900213
0214              *                          WHEN LINKING *M OR *MP TO CREP OR CREP1                   01900214
0215 P0073 0000   LNKSTR NUM  0          112 ADDRESS OF LINK TABLE                                     01900215
0216 P0074 0000   LNKCTR NUM  0          113 NEXT AVAILABLE LOCATION IN LINK TABLE                     01900216
0217 P0075 0000   LNKEND NUM  0          114 LAST ADDRESS +1 IN LINK TABLE                             01900217
0218 P0076 0000   ENTST0 NUM  0          115 STARTING ADDRESS OF PART 0 ENTRY POINTS                   01900218
0219 P0077 0000   ENTST1 NUM  0          116 STARTING ADDRESS OF PART 1 ENTRY POINTS                   01900219
0220 P0078 0000   ADDR    NUM  0          117 COUNTER USED BY PAGE ROUTINE                              01900220
0221 P0079 0000   EXTSTR NUM  0          118 WORD ADDRESS OF START OF EXTERNAL TABLE                   01900221
0222 P007A 0000   CORADR NUM  0          119 LOWEST LOCATION AVAILABLE FOR LOADER                      01900222
0223 P007B 0000   PRODAT NUM  0          120 FLAG - NON ZERO IF PROTECTED DATA IS DECLARED             01900223
0224 P007C 0000   PROCOM NUM  0          121 FLAG - NON ZERO IF PROTECTED COMMON DECLARED              01900224
0225 P007D 0060   PAGE    NUM  96         122 LENGTH OF PAGE ON MASS MEMORY, MUST BE A                  01900225
0226              *                          MULTIPLE OF 96                                            01900226
0227 P007E 0000   CSQCTR NUM  0          123 LAST ADDRESS OF PROGRAM COMMAND SEQUENCE                  01900227
0228              *                          STORAGE + 1                                               01900228
0229 P007F 0000   CEXTAD NUM  0          124 ADDRESS OF EXTERNAL BEING CURRENTLY PROCESSED             01900229
0230              *                          FROM EXTERNAL TABLE                                       01900230
0231 P0080 0000   MAXEXT NUM  0          125 LARGEST ADDRESS BEING USED IN EXTERNAL TABLE              01900231
0232 P0081 0000   DIFCON NUM  0          126 TEMPORARY                                                 01900232
0233 P0082 0000   ENTSEC NUM  0          127 STARTING SECTOR OF ENTRY/EXTERNAL TABLES                  01900233
0234 P0083 0000   CSQSEC NUM  0          128 STARTING SECTOR OF COMMAND SEQUENCE IMAGE                 01900234
0235 P0084 0000   MAXPGE NUM  0          129 MAXIMUM PAGE NUMBER THAT CAN BE USED                      01900235
0236              *                          ON THE SYSTEM MASS STORAGE DEVICE                         01900236
0237 P0085 0000   NOPAGE NUM  0          130 NUMBER OF PAGES IN CORE                                   01900237
0238 P0086 0000   PARBAS NUM  0          131 ADDRESS OF STARTING PARTITION                             01900238
0239 P0087 0000   PARLIM NUM  0          132 LAST WORD ADDRESS +1 OF LAST PARTITION                    01900239
0240 P0088 0000   STRSEC NUM  0          133 STARTING SECTOR OF IMAGE ON MASS MEMORY                   01900240
0241 P0089 0000   MSDWCT NUM  0          134 NUMBER OF WORDS STORED ON MASS MEMORY                     01900241
0242 P008A 0000   XFRADR NUM  0          135 TRANSFER ADDRESS OF NAME ON TRANSFER BLOCK                01900242
0243 P008B 0000   AHOLD   NUM  0          136 TEMPORARY                                                 01900243
0244 P008C 0000   QHOLD   NUM  0          137 TEMPORARY                                                 01900244
0245 P008D 0060           ADC  SECTOR     138 NUMBER OF WORDS IN A SECTOR                               01900245
0246 P008E 0000   ECREP   NUM  0          139 END ADDRESS OF CREP TABLE                                 01900246
0247 P008F 0000   ECREP1  NUM  0          140 END ADDRESS OF CREP1 TABLE                                01900247
0248 P0090 0000   EXTSWT NUM  0          141 FLAG - NON ZERO IF PROCESSING EXTERNAL BLOCK          *****01900248
0249 P0091 0000   SAVEA   NUM  0          142 TEMPORARY                                             *****01900249
0250 P0092 0000   JUMP    NUM  0          143 JUMP SWITCH FOR I1                                        01900250
0251 P0093 0000   TEMP3   NUM  0          144 TEMPORARY                                             *****01900251
0252 P0094 0000   FLGBSE  NUM  0          145 BASE ADDRESS OF CORE FLAGS TABLE                          01900252
0253 P0095 0000   PROGCT NUM  0          146 LENGTH OF PROGRAM FROM NAM CARD                           01900253
0254 P0096 0000   ONTAB   NUM  0          147 *Y ORDINAL COUNTER                                        01900254
0255 P0097 0000   MONTAB  NUM  0          148 *YM ORDINAL COUNTER                                       01900255
0256 P0098 0000   FLGBS1  NUM  0          149 CELL TO HOLD ORIGINAL FLAG BASE                           01900256
0257 P0099 003C   INPUT   BZS  INPUT(60)  150 INPUT BUFFER                                             01900257
0258 P00D5 0060   LNKTBL  BZS  LNKTBL(LNKLGN) TABLE FOR ABSOLUTIZED ADDRESSES OF $7FFF                 01900258
0259 P0135 0015   STRTBL  BZS  STRTBL(REETBL/16+1)  BIT TABLE INDICATING WHICH ENTRY/                  01900259
0260              *                          EXTERNAL PAGES HAVE BEEN STORED INTO                      01900260
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0262 P014A 0B00   CONBAS NOP  0          RETURN ADDRESS = START OF LOADER TABLE          01900262
0263 P014B E800          LDQ  CONENT     PICKUP RETURN ADDRESS TO INITIALIZER           01900263
     P014C FEB3
0264 P014D 0DFB          INQ  -4         COMPUTE BASE ADDRESS OF INITIALIZER -1         01900264
0265 P014E 0844          CLR  A                                                         01900265
0266 P014F 6201   CON1   STA- 1,Q        CLEAR CORE LOCATION                            01900266
0267 P0150 0172          SQM  CON6-*-1   SKIP IF ALL AVAILABLE CORE IS ZEROED           01900267
0268 P0151 0DFE          INQ  -1         DECREMENT INDEX                                01900268
0269 P0152 18FC          JMP* CON1       LOOP BACK TO ZERO NEXT LOCATION                01900269

0271               *     I N I T I A L I Z E   L O A D E R   T A B L E                  01900271
0272 P0153 0C25   CON6   ENQ  37         CLEAR LOCATIONS 0-38 OF LOADER TABLE           01900272
0273 P0154 C8F5          LDA* CONBAS                                                    01900273
0274 P0155 60FF          STA- I          SET I-REGISTER TO START OF LOADER TABLE        01900274
0275 P0156 0844          CLR  A                                                         01900275
0276 P0157 6301   CON8   STA- 1,B                                                       01900276
0277 P0158 0142          SQZ  CON7-*-1   SKIP IF DONE                                   01900277
0278 P0159 0DFE          INQ  -1                                                        01900278
0279 P015A 18FC          JMP* CON8       LOOP BACK                                      01900279
0280 P015B C000   CON7   LDA  =XRSETBL   RESET LOCATION 12 TO CONTAIN THE NUMBER       01900280
     P015C 0145
0281 P015D 610C          STA- 12,I       OF SECTORS RESERVED FOR EXTERNALS AND ENTRYS    01900281
0282 P015E C000          LDA  =N$2020    RESET LOCATION 18 TO CONTAIN THE ASCII          01900282
     P015F 2020
0283 P0160 6112          STA- 18,I       CODE FOR TWO SPACES                            01900283
0284 P0161 C0FF          LDA- I                                                         01900284
0285 P0162 092A          INA  42                                                        01900285
0286 P0163 60FF          STA- I                                                         01900286
0287 P0164 0C09          ENQ  9          CLEAR LOCATIONS 43-52                          01900287
0288 P0165 0844          CLR  A                                                         01900288
0289 P0166 6301   CON9   STA- 1,B                                                       01900289
0290 P0167 0142          SQZ  CON10-*-1   SKIP IF DONE                                  01900290
0291 P0168 0DFE          INQ  -1                                                        01900291
0292 P0169 18FC          JMP* CON9       LOOP BACK                                      01900292
0293 P016A C000   CON10  LDA  =XFLAGS    RESET LOCATION 50 TO THE NUMBER                01900293
     P016B 0003
0294 P016C 6108          STA- 8,I        OF CORE FLAGS PER PAGE                         01900294
0295 P016D C8DC          LDA* CONBAS                                                    01900295
0296 P016E 60FF          STA- I                                                         01900296
0297 P016F 0844          CLR  A                                                         01900297
0298 P0170 6146          STA- 70,I       CLEAR LOCATIONS 70-73                          01900298
0299 P0171 6147          STA- 71,I                                                      01900299
0300 P0172 6148          STA- 72,I                                                      01900300
0301 P0173 6149          STA- 73,I                                                      01900301
0302 P0174 614E          STA- 78,I       CLEAR LOCATIONS 78-80                          01900302
0303 P0175 614F          STA- 79,I                                                      01900303
0304 P0176 6150          STA- 80,I                                                      01900304
0305 P0177 6155          STA- 85,I       CLEAR LOCATIONS 85-88                          01900305
0306 P0178 6156          STA- 86,I                                                      01900306
0307 P0179 6157          STA- 87,I                                                      01900307
0308 P017A 6158          STA- 88,I                                                      01900308
0309 P017B C8CE          LDA* CONBAS                                                    01900309
0310 P017C 096A          INA  106                                                       01900310
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0311  P017D 60FF          STA- I                                                                    01900311
0312  P017E E000          LDQ  =XCONBAS-ENTPGS-1    CLEAR LOCATIONS 107 - END OF TABLE              01900312
      P017F 00DB
0313  P0180 0844          CLR  A                                                                    01900313
0314  P0181 6301    CON11 STA- 1,B                                                                  01900314
0315  P0182 0142          SQZ  CON12-*-1      SKIP IF DONE                                          01900315
0316  P0183 0DFE          INQ  -1                                                                   01900316
0317  P0184 18FC          JMP* CON11                                                                01900317
0318  P0185 C800    CON12 LDA  CONBAS                                                               01900318
      P0186 FFC3
0319  P0187 60FF          STA- I              SAVE STARTING ADDRESS OF LOADER TABLE IN             01900319
0320  P0188 611F          STA- 31,I           BOTH I-REGISTER AND LOCATION ISAV                    01900320
0321  P0189 8000          ADD  =XINPUT-LDRTBL COMPUTE STARTING ADDRESS OF INPUT BUFFER             01900321
      P018A 0096
0322  P018B 6139          STA- 57,I           SAVE STARTING ADDRESS OF INPUT IN INPXC0          01900322
0323  P018C 0901          INA  1                                                                   01900323
0324  P018D 613A          STA- 58,I           SAVE STARTING ADDRESS +1 OF INPUT IN INPXC1       01900324
0325  P018E 09FB          INA  -4                                                                  01900325
0326  P018F 613E          STA- 62,I           SAVE STARTING ADDRESS -3 OF INPUT IN INPXCC       01900326
0327  P0190 C000          LDA  =XPGE          RESET WORD 122 TO THE LENGTH OF A PAGE            01900327
      P0191 0060
0328  P0192 617A          STA- 122,I          ON MASS  STORAGE                                  01900328
0329  P0193 C000  X       LDA  =XMAXSEC                                  113*4253********
      P0194 7FFF  X
0330  P0195 9000          SUB  =XREETBL                                  113*4253********
      P0196 0145
0331  P0197 617F          STA- 127,I          ENTRY/EXTERNAL PAGES IN ENTSEC (127)              01900330
0332  P0198 C000          LDA  =XSECTOR       RESET WORD 138 TO THE NUMBER OF                   01900331
      P0199 0060
0333  P019A 618A          STA- 138,I          WORDS IN ASECTOR                                  01900332
0334  P019B C800          LDA  CONENT                                                           01900333
      P019C FE63
0335  P019D 09FB          INA  -4             COMPUTE BASE ADDRESS OF INITIALIZER AND           01900334
0336  P019E 6117          STA- 23,I           SAVE IN LOCATION BASE                             01900335
0337  P019F 0842          CLR  Q              DEVIDE ALL OF CORE BELOW THE INITIALIZER BY       01900336
0338  P01A0 3000          DVI  =XLENGTH       THE LENGTH OF A PAGE                              01900337
      P01A1 0063
0339  P01A2 6182          STA- 130,I          SAVE NUMBER OF PAGES IN NOPAGE                    01900338
0340  P01A3 6119          STA- 25,I           SAVE NUMBER OF PAGES IN COUNT1                    01900339
0341                *                         1 CARD DELETED                      66*1455       01900340
0342  P01A4 5802          RTJ* CONMS1         ALLOCATE THE PAGES                                01900341
0343  P01A5 1820          JMP* CON15          ALLOCATE MASS STORAGE                             01900342
0344  P01A6 0B00    CONMS1 NOP  0                                                                01900343
0345  P01A7 09FD          INA  -2             MAKE SURE THAT AT LEAST TWO PAGES CAN             01900344
0346  P01A8 0123          SAP  CON3-*-1       RESIDE IN CORE SIMULTANEOUSLY                     01900345
0347  P01A9 C000          LDA  =A11                                                             01900346
      P01AA 3131
0348  P01AB 113B          JMP- 59,I           FATAL ERROR 11, TERMINATE INITIALIZATION          01900347
0349  P01AC C182    CON3  LDA- 130,I                                                            01900348
0350  P01AD 2132          MUI- 50,I           MULTIPLY NUMBER OF PAGES BY NUMBER OF FLAGS       01900349
0351  P01AE 6191          STA- 145,I          PER PAGE AND SAVE IN FLGBSE                       01900350
0352  P01AF C117          LDA- 23,I           SUBTRACT FLGBSE FROM ADDRESS OF INITIALIZER       01900351
0353  P0180 9191          SUB- 145,I          TO GET BASE ADDRESS OF FLAG TABLE                 01900352
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0354 P01B1 09FE          INA  -1          DECREMENT STARTING ADDRESS OF FLAG TABLE      01900353
0355                *                     TO ALLOW FLAG INDICES OF 1,2,3               01900354
0356 P01B2 6191          STA- 145,I        FLGBSE = BASE - FLGBSE                       01900355
0357 P01B3 0822          TRA  Q                                                         01900356
0358 P01B4 0A00          ENA  0                                                         01900357
0359 P01B5 6175          STA- 117,I                                                     01900358
0360 P01B6 C119          LDA- 25,I         PICKUP THE NUMBER OF PAGES AND COMPLEMENT IT  01900359
0361 P01B7 0864          TCA  A            FOR USE AS A LOOP COUNTER                    01900360
0362 P01B8 6119          STA- 25,I                                                      01900361
0363 P01B9 C175   CON4   LDA- 117,I        PICKUP PAGE ADDRESS                          01900362
0364 P01BA 6201          STA- PGENUM,Q     SAVE IN PAGE TABLE                           01900363
0365 P01BB 0A00          ENA  0                                                         01900364
0366 P01BC 6202          STA- REFER,Q      NUMBER OF TIMES PAGE IS REFERENCED COUNTER   01900365
0367 P01BD 6203          STA- MODIFY,Q     PAGE HAS BEEN MODIFIED FLAG                  01900366
0368 P01BE D119          RAO- 25,I         INCREMENT PAGE COUNTER                       01900367
0369 P01BF C119          LDA- 25,I         HAVE ALL PAGE FLAGS BEEN INITIALIZED         01900368
0370 P01C0 0103          SAZ  CON5-*-1     YES, GO ON TO ALLOCATE DISK                  01900369
0371 P01C1 D175          RAO- 117,I        INCREMENT PAGE ADDRESS                       01900370
0372 P01C2 F132          ADQ- 50,I         UPDATE ADDRESS IN FLAG TABLE                 01900371
0373 P01C3 18F5          JMP* CON4         GO BACK TO INITIALIZE NEXT SET OF PAGE FLAGS 01900372
0374 P01C4 1CE1   CON5   JMP* (CONMS1)                                                 01900373
0375 P01C5 0844   CON15  CLR  A                                                        01900374
0376 P01C6 6800 X        STA  RWFLAG       PAGING ROUTINE                               01900375
     P01C7 7FFF X
0377 P01C8 6800 X        STA  PGEFLG                                                    01900376
     P01C9 7FFF X
0378 P01CA 6800 X        STA  SA                                                        01900377
     P01CB 7FFF X
0379 P01CC 6800 X        STA  SQ                                                        01900378
     P01CD 7FFF X
0380 P01CE 6800 X        STA  VALUE                                                     01900379
     P01CF 7FFF X
0381 P01D0 6800 X        STA  WORD                                                      01900380
     P01D1 7FFF X
0382 P01D2 6800 X        STA  PAGENO                                                    01900381
     P01D3 7FFF X
0383 P01D4 6800 X        STA  LSTPGE                                                    01900382
     P01D5 7FFF X
0384 P01D6 6800 X        STA  MINREF                                                    01900383
     P01D7 7FFF X
0385 P01D8 6800 X        STA  MAXREF                                                    01900384
     P01D9 7FFF X
0386 P01DA 6800 X        STA  MINBAS                                                    01900385
     P01DB 7FFF X
0387 P01DC 6800 X        STA  ADPAGE                                                    01900386
     P01DD 7FFF X
0388 P01DE 6800 X        STA  FLGADR                                                    01900387
     P01DF 7FFF X
0389 P01E0 6800 X        STA  MINFLG                                                    01900388
     P01E1 7FFF X
0390 P01E2 C800          LDA  CONBAS                                                    01900389
     P01E3 FF56
0391 P01E4 8000          ADD  =XLNKTBL-LDRTBL                                           01900390
     P01E5 00D2
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0392 P01E6 6170          STA- 112,I          PUT THE LINK TABLE ADDRESS IN LOCATION LNKSTR 01900391
0393 P01E7 6171          STA- 113,I          PUT LINK TABLE ADDRESS IN LOCATION LNKCTR     01900392
0394 P01E8 8000          ADD  =XSTRTBL-LNKTBL                                             01900393
     P01E9 0060
0395 P01EA 6172          STA- 114,I          PUT LWA+1 OF LINK TABLE IN LOCATION LNKEND    01900394
0396 P01EB C000          LDA  =XREETBL       PICKUP NUMBER OF SECTORS RESERVED FOR ENT/EXT 01900395
     P01EC 0145
0397 P01ED 9000          SUB  =N100          SUBTRACT NUMBER OF SECTORS RESERVED FOR EXT   01900396
     P01EE 0064
0398                  *                      MULTIPLY BY THE NUMBER OF WORDS / PAGE TO     01900397
0399 P01EF 2000          MUI  =XLENGTH-FLAGS DETERMINE THE WORD ADDRESS OF THE START OF    01900398
     P01F0 0060
0400 P01F1 6176          STA- 118,I          THE EXTERNALS (EXTSTR)                        01900399
0401 P01F2 6107          STA- 7,I            THIS IS ALSO THE NEXT AVAILABLE LOCATION IN   01900400
0402 P01F3 6170          STA- 125,I          THE EXTERNAL TABLE (EXTCTR) AT STARTUP        01900401
0403 P01F4 C000          LDA  =XREETBL       COMPUTE WORD ADDRESS OF MAXSEC FOR USE IN     01900402
     P01F5 0145
0404 P01F6 2000          MUI  =XLENGTH-FLAGS TESTING FOR EXTERNAL TABLE OVERFLOW           01900403
     P01F7 0060
0405 P01F8 612F          STA- 47,I           (WMXSEC)                                      01900404
0406 P01F9 1C00          JMP  (CONENT)                                                     01900405
     P01FA FE05
0407 P01FB 0800  CONMAS  NOP  0              RETURN ADDRESS IN CONTRL                      01900406
0408 P01FC C800 X        LDA  LSSECT         PICKUP NEXT AVAILABLE SECTOR AFTER AUTOLOAD 2 01900407
     P01FD 7FFF X
0409 P01FE 6180          STA- 128,I          SAVE AS STARTING ADDRESS OF COMMAND SEQUENCE  01900408
0410 P01FF C000 X        LDA  =XMAXSEC       PICKUP LARGEST AVAILABLE SECTOR               01900409
     P0200 0194 X
0411 P0201 910C          SUB- 12,I           SUBTRACT NUMBER OF SECTORS RESERVED FOR ENTRY/01900410
0412 P0202 617F          STA- 127,I          EXTERNAL TABLES AND STORE IN ENTSEC (127)     01900411
0413 P0203 0842          CLR  Q              COMPUTE THE MAXIMUM LEGAL PAGE NUMBER ON MASS 01900412
0414 P0204 C10C          LDA- 12,I           STORAGE BY DIVIDING THE NUMBER OF SECTORS     01900413
0415 P0205 3000          DVI  =XNUMSEC       RESERVED FOR ENTRY/EXTERNALS BY THE NUMBER    01900414
     P0206 0001
0416 P0207 6181          STA- 129,I          OF SECTORS PER PAGE.                          01900415
0417 P0208 1CF2          JMP* (CONMAS)       RETURN TO CONTRL                              01900416
0418 P0209 0B00  CONMS   NOP  0                                                            01900417
0419 P020A 5800 X        RTJ  WRTOUT         WRITE TO MASS STORAGE ALL PAGES ALREADY USED  01900418
     P020B 7FFF X
0420 P020C C800 X        LDA  LENSDT         NUMBER OF CORE RESIDENT PAGES      66*1455    01900419
     P020D 7FFF X
0421 P020E 2000          MUI  =XPGE          SYSDAT AND THE SYSTEM DIRECTORY               01900420
     P020F 0060
0422 P0210 0901          INA  1              AND SAVE IT AS THE FIRST ADDRESS              01900421
0423 P0211 6177          STA- 119,I          AVAILABLE FOR PAGING                          01900422
0424 P0212 C182          LDA- 130,I          SAVE THE NUMBER OF SYSTEM PAGES               01900423
0425 P0213 6166          STA- 102,I          FOR USE AT THE END OF INITIALIZATION          01900424
0426 P0214 C191          LDA- 145,I          PICKUP THE BASE ADDRESS OF THE FLAG TABLE     01900425
0427 P0215 6195          STA- 149,I          SAVE THE INITIAL FLAG BASE FOR USE IN         01900426
0428                  *                      THE FINAL SYSTEM LINKING PROCESS              01900427
0429 P0216 6117          STA- 23,I           RESET THE TOP OF SCRATCH CORE TO              01900428
0430                  *                      THE BASE OF THE SYSTEM FLAG TABLE             01900429
0431 P0217 9177          SUB- 119,I          SUBTRACT CORADR FROM FLGBS1 TO DETERMINE HOW  01900430
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0432 P0218 0842          CLR  Q              MUCH CORE IS AVAILABLE FOR PAGING                01900431
0433 P0219 3000          DVI  =XLENGTH       DEVIDE BY PAGE LENGTH TO GET NUMBER OF PAGES     01900432
     P021A 0063
0434 P021B 6182          STA- 130,I          SAVE NUMBER OF PAGES IN NOPAGE                   01900433
0435 P021C 6119          STA- 25,I           SAVE NUMBER OF PAGES IN COUNT1                   01900434
0436 P021D 1CEB          JMP* (CONMS)        RETURN TO CONTRL                                 01900435
0437                     END                                                                  01900436

PGM=  021E (   542)   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)	0274, 0284, 0286, 0296, 0311, 0319
0017	SECTOR	0060	(000096)	0019, 0245, 0332
0018	NUMSEC	0001	(000001)	0019, 0037, 0415
0019	PGE	0060	(000096)	0021, 0327, 0421
0020	FLAGS	0003	(000003)	0021, 0160, 0293, 0399, 0404
0021	LENGTH	0063	(000099)	0338, 0399, 0404, 0433
0022	PGENUM	0001	(000001)	0364
0023	REFER	0002	(000002)	0366
0025	MODIFY	0003	(000003)	0367
0028	LNKLGN	0060	(000096)	0258
0030	REETBL	0145	(000325)	0090, 0259, 0280, 0330, 0396, 0403

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0033	CONENT	0000	0033, 0263, 0334, 0406
0034	CONMS1	01A6	0034, 0342, 0374
0035	CONMS	0209	0035, 0436
0036	CONMAS	01FB	0036, 0417
0038	WRDADR	001B	0038
0039	STRTBL	0135	0039, 0394
0040	ISAV	0022	0040
0073	LDRTBL	0003	0321, 0391
0075	COMBAS	0004	
0076	DATBAS	0005	
0077	PROBAS	0006	
0078	COMLIM	0007	
0079	DATLIM	0008	
0080	CSQLIM	0009	
0081	EXTCTR	000A	
0083	ENDSW	000B	
0085	ABRLSW	000C	
0087	INPWD	000D	
0088	INPREL	000E	
0090	TBLNUM	000F	
0092	ENTPNT	0010	
0094	LINK	0011	
0096	INPCTR	0012	
0100	NOTLNK	0013	
0101	ENDINP	0014	
0103	BLANKS	0015	
0104	SYMSTR	0016	
0108	SCANSW	0019	
0116	BASE	001A	
0118	WRDCNT	001B	
0124	COUNT1	001C	
0127	BZSSW	001D	
0130	COUNT2	001E	
0134	SW6	001F	
0137	ASAV	0020	
0138	QSAV	0021	
0140	XFRNAM	0023	
0143	NAME	0026	
0147	SCHXIT	002A	
0151	CENTAD	002E	
0153	MAXENT	002F	

0154	TEMP	0030
0155	TEMP1	0031
0156	WMXSEC	0032
0157	NOTRAN	0033
0158	NOJMP	0034
0160	FLGLGN	0035
0161	BINASC	0036
0165	INPXC0	003C
0166	INPXC1	003D
0167	PRINT2	003E
0169	INPXCC	0041
0170	NXTINP	0042
0171	M7FFF	0044
0172	M8000	0045
0173	MFFFF	0046
0176	ASKII	0049
0177	NEGSW	004A
0178	SCNTRM	004B
0179	SCNINP	004C
0181	SCNXIT	004D
0183	CSNAME	0051
0184	XCSNAM	0052
0185	INMED	0053
0190	EXTPCH	0058
0191	NGRLSW	0059
0193	ARIT15	005A
0195	PRESET	005B
0203	AINPUT	0068
0204	SYSPGE	0069
0207	ENTPGS	006E
0209	TOP	006F
0211	PGEWRT	0070
0212	LGEPGE	0071
0213	IGNORE	0072
0215	LNKSTR	0073
0216	LNKCTR	0074
0217	LNKEND	0075
0218	ENTST0	0076
0219	ENTST1	0077
0220	ADDR	0078
0221	EXTSTR	0079
0222	CORADR	007A
0223	PRODAT	007B
0224	PROCOM	007C
0225	PAGE	007D
0227	CSQCTR	007E
0229	CEXTAD	007F
0231	MAXEXT	0080
0232	DIFCON	0081
0233	ENTSEC	0082
0234	CSQSEC	0083
0235	MAXPGE	0084
0237	NOPAGE	0085

0312

0238	PARBAS	0086	
0239	PARLIM	0087	
0240	STRSEC	0088	
0241	MSDWCT	0089	
0242	XFRADR	008A	
0243	AHOLD	008B	
0244	QHOLD	008C	
0246	ECREP	008E	
0247	ECREP1	008F	
0248	EXTSWT	0090	
0249	SAVEA	0091	
0250	JUMP	0092	
0251	TEMP3	0093	
0252	FLGBSE	0094	
0253	PROGCT	0095	
0254	ONTAB	0096	
0255	MONTAB	0097	
0256	FLGBS1	0098	
0257	INPUT	0099	0165, 0166, 0169, 0321
0258	LNKTBL	00D5	0391, 0394
0262	CONBAS	014A	0072, 0273, 0295, 0309, 0312, 0318, 0390
0266	CON1	014F	0269
0272	CON6	0153	0267
0276	CON8	0157	0279
0280	CON7	015B	0277
0289	CON9	0166	0292
0293	CON10	016A	0290
0314	CON11	0181	0317
0318	CON12	0185	0315
0349	CON3	01AC	0346
0363	CON4	01B9	0373
0374	CON5	01C4	0370
0375	CON15	01C5	0343

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0041	PRNT3	003B	0164
0042	STOP	0040	0168
0043	NXTBLK	0043	0170
0044	ADJOV1	0057	0189
0045	CNVERT	005F	0198
0046	PRNT4	0063	0200
0047	PRNT5	0067	0202
0048	LSSECT	01FD	0408
0049	FLGADR	01DF	0388
0050	LINK11	006D	0206
0051	SCHTBL	002D	0150
0052	ISCAN	0050	0182
0053	WRTOUT	020B	0419
0054	LENSDT	020D	0420
0055	RWFLAG	01C7	0376
0056	PGEFLG	01C9	0377
0057	SA	01CB	0378
0058	SQ	01CD	0379
0059	VALUE	01CF	0380
0060	WORD	01D1	0381
0061	PAGENO	01D3	0382
0062	LSTPGE	01D5	0383
0063	MINREF	01D7	0384
0064	MAXREF	01D9	0385
0065	MINBAS	01DB	0386
0066	ADPAGE	01DD	0387
0068	MINFLG	01E1	0389
0069	MAXSEC	0200	0329, 0410

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ABRLSW	0085	ADDR	0220	ADJOV1	0044	ADPAGE	0066	AHOLD	0243	AINPUT	0203	ARIT15	0193	ASAV	0137	ASKII	0176
BASE	0116	BINASC	0161	BLANKS	0103	BZSSW	0127	CENTAD	0151	CEXTAD	0229	CNVERT	0045	COMBAS	0075	COMLIM	0078
CON1	0256	CON10	0293	CON11	0314	CON12	0318	CON15	0375	CON3	0349	CON4	0363	CON5	0374	CON6	0272
CON7	0280	CON8	0276	CON9	0289	CONBAS	0262	CONENT	0033	CONMAS	0036	CONMS	0035	CONMS1	0034	CORADR	0222
COUNT1	0124	COUNT2	0130	CSNAME	0183	CSQCTR	0227	CSQLIM	0080	CSQSEC	0234	DATBAS	0076	DATLIM	0079	DIFCON	0232
ECREP	0246	ECREP1	0247	ENDINP	0101	ENDSW	0083	ENTPGS	0207	ENTPNT	0092	ENTSEC	0233	ENTST0	0218	ENTST1	0219
EXTCTR	0081	EXTPCH	0190	EXTSTR	0221	EXTSWT	0248	FLAGS	0020	FLGADR	0049	FLGBS1	0256	FLGBSE	0252	FLGLGN	0160
I	0000	IGNORE	0213	INMED	0185	INPCTR	0096	INPREL	0088	INPUT	0257	INPWD	0087	INPXC0	0165	INPXC1	0166
INPXCC	0169	ISAV	0040	ISCAN	0052	JUMP	0250	LDRTBL	0073	LENGTH	0021	LENSDT	0054	LGEPGE	0212	LINK	0094
LINK11	0050	LNKCTR	0216	LNKEND	0217	LNKLGN	0028	LNKSTR	0215	LNKTBL	0258	LSSECT	0048	LSTPGE	0062	M7FFF	0171
M8000	0172	MAXENT	0153	MAXEXT	0231	MAXPGE	0235	MAXREF	0064	MAXSEC	0069	MFFFF	0173	MINBAS	0065	MINFLG	0068
MINREF	0063	MODIFY	0025	MONTAB	0255	MSDWCT	0241	NAME	0143	NEGSW	0177	NGRLSW	0191	NOJMP	0158	NOPAGE	0237
NOTLNK	0100	NOTRAN	0157	NUMSEC	0018	NXTBLK	0043	NXTINP	0170	ONTAB	0254	PAGE	0225	PAGENO	0061	PARBAS	0238
PARLIM	0239	PGE	0019	PGEFLG	0056	PGENUM	0022	PGEWRT	0211	PRESET	0195	PRINT2	0167	PRNT3	0041	PRNT4	0046
PRNT5	0047	PROBAS	0077	PROCOM	0224	PRODAT	0223	PROGCT	0253	QHOLD	0244	QSAV	0138	REETBL	0030	REFER	0023
RWFLAG	0055	SA	0057	SAVEA	0249	SCANSW	0108	SCHTBL	0051	SCHXIT	0147	SCNINP	0179	SCNTRM	0178	SCNXIT	0181
SECTOR	0017	SQ	0058	STOP	0042	STRSEC	0240	STRTBL	0039	SW6	0134	SYMSTR	0104	SYSPGE	0204	TBLNUM	0090
TEMP	0154	TEMP1	0155	TEMP3	0251	TOP	0209	VALUE	0059	WMXSEC	0156	WORD	0060	WRDADR	0038	WRDCNT	0118
WRTOUT	0053	XCSNAM	0184	XFRADR	0242	XFRNAM	0140										

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0001                    NAM  I1              DECK-ID 020  MSOS 5.0                  SUMMARY-11 02000001
0002                *   LOCORE INITIALIZATION MODULE 1 OF SYS INITIALIZER                    02000002
0003                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                            02000003
0004                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                        02000004
0005                *   COPYRIGHT CONTROL DATA CORPORATION 1976                              02000005


0008                *  ********************************************************************02000008
0009                *  ********************************************************************02000009
0010                *    THE FOLLOWING TABLES AND PARAMETERS MUST BE                           02000010
0011                *    INITIALIZED.                                                          02000011
0012                *  ********************************************************************02000012
0013                *                                                                        02000013
0014                *    1)  LOETAB   -LENGTH OF ORDINAL NBR TABLE                           02000014
0015                *  ********************************************************************02000015
0016                     ENT  I1,OETERM                                                     02000016
0017                     ENT  FATE                                                          02000017
0018                     EXT* TYPEQ                                                         02000018
0019                     EXT* ENTSTR                                                        02000019
0020                     EXT* ISAV                                                          02000020
0021                     EXT* QCOM,RSTART                                **MSOS 4.1**02000021
0022          0000       EQU  ENTPNT(13)                                   **MSOS 4.0 02000022
0023          000F       EQU  INPCTR(15)                                   **MSOS 4.0 02000023
0024          0013       EQU  SYMSTR(19)                                   **MSOS 4.0 02000024
0025          0016       EQU  SCANSW(22)                                   **MSOS 4.0 02000025
0026          0028       EQU  TABSCH(40)                                   **MSOS 4.0 02000026
0027          0049       EQU  INPWRD(73)     LOCATION SCNINP                          02000027
0028          004B       EQU  SCAN(75)                                     **MSOS 4.0 02000028
0029          0018       EQU  WRDCNT(24)                                   **MSOS 4.0 02000029
0030          001C       EQU  SW6(28)                                      **MSOS 4.0 02000030
0031          0023       EQU  NAME(35)                                     **MSOS 4.0 02000031
0032          0048       EQU  SCNTRM(72)                                   **MSOS 4.0 02000032
0033          004E       EQU  CSNAME(78)                                   **MSOS 4.0 02000033
0034          004F       EQU  XCSNAM(79)                                   **MSOS 4.0 02000034
0035          0050       EQU  INMED(80)                                    **MSOS 4.0 02000035
0036          0100       EQU  LOETAB(256)    MAXIMUM NUMBER OF ORDINALS               02000036
0037          007B       EQU  CSQCTR(123)    LWA+1 OF PROGRAM COMMAND SEQUENCE STORAGE 02000037
0038          008F       EQU  JUMP(143)                                    **MSOS 4.0 02000038
0039          0093       EQU  ONTAB(147)                                   **MSOS 4.0 02000039
0040          0094       EQU  MONTAB(148)                                  **MSOS 4.0 02000040
0041                *                                                                       02000041
0042                *                                                                       02000042
0043                *  ********************************************************************02000043
0044                *        INITIALIZE THE COMMUNICATIONS REGION  (CR)                      02000044
0045                *  ********************************************************************02000045
0046                *                                                                       02000046
0047                *                     INITIALIZE CR  2 THROUGH $42                      02000047
0048                *                                                                       02000048
0049  P0000 0000    I1        ADC  0            ENTER I1 VIA AN RTJ                       02000049
0050  P0001 0B00              NOP  0            SELECTIVE STOP DEBUG CELL                 02000050
0051  P0002 4800              STQ  OE1          SAVE ADDRESS OF INPUT BUFFER              02000051
      P0003 001A
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0052 P0004 5800          RTJ  OETERM     TEST TERMINATOR                          02000052
     P0005 00C8
0053 P0006 015A          SQN  CR3-*-1                                             02000053
0054 P0007 C14F  CR2     LDA- XCSNAM,I  PREVIOUS CONTROL STMNT NAME CODE          02000054
0055 P0008 614E          STA- CSNAME,I    TO CURRENT                              02000055
0056 P0009 0103          SAZ  CR2X-*-1  ZERO IMPLIES FIRST STMNT                  02000056
0057 P000A 0A0E          ENA  14        FIELD TERMINATOR INVALID                  02000057
0058 P000B 1800          JMP  0E150     INVALID TERMINATOR IF 0                   02000058
     P000C 00B6
0059 P000D 0A0E  CR2X    ENA  14        FIELD TERMINATOR INVALID                  02000059
0060 P000E 0842          CLR  Q                                                   02000060
0061 P000F 5800 X        RTJ  TYPEQ     TYPE ERROR,  Q                            02000061
     P0010 7FFF X
0062 P0011 00FD  CR3     INQ  -2        TEST CODE FOR COMMA                       02000062
0063 P0012 0145          SQZ  CR4-*-1                                             02000063
0064 P0013 00FD          INQ  -2        TEST CODE FOR PERIOD                      02000064
0065 P0014 0141          SQZ  CR3X-*-1                                            02000065
0066 P0015 18F1          JMP* CR2       INVALID TERMINATOR                        02000066
0067 P0016 0AFE  CR3X    ENA  -1        PROCESS *Y. OR *YM.                       02000067
0068 P0017 6150          STA- INMED,I   TO INPUT MEDIUM SWITCH                    02000068
0069 P0018 C18F  CR4     LDA- JUMP,I    NON ZERO IF I1 ENTERED PREVIOUSLY         02000069
0070 P0019 0101          SAZ  CR5-*-1   ZERO IMPLIES NOT ENTERED BEFORE           02000070
0071 P001A 1814          JMP* 0E7                                                 02000071
0072 P001B 1800  CR5     JMP  0E300       PROCESS *Y AND *YM CONTROL STATEMENTS   02000072
     P001C 00E2
0073                     *  ***************************************************** 02000073
0074                     *           INITIALIZE TABLE OF ORDINAL EQUIVALENCES     02000074
0075                     *           AND SETUP SYSTEM DIRECTORY                   02000075
0076                     *  ***************************************************** 02000076
0077 P001D 0000  0E1     ADC  0         ADDRESS OF INPUT BUFFER                   02000077
0078 P001E 0001  0E2     NUM  $1        TEST CONSTANT FOR *Y STATEMENT            02000078
0079 P001F 0000  0E3     ADC  0         PRESENT INDEX TO SYS DIR ENTRY            02000079
0080 P0020 0000  0E5     ADC  0         ADDR-1 OF ORDINAL NO TABLE                02000080
0081 P0021 0844          CLR  A                                                   02000081
0082 P0022 6800          STA  0E049     ORDINAL FOR ORDINAL NUMBERS               02000082
     P0023 00A7
0083 P0024 6859          STA* LAST      PREV VALUE OF ORDINAL NBR                 02000083
0084 P0025 68F8          STA* 0E2       INITIALIZE TEST CONSTANT                  02000084
0085 P0026 D8F7          RAO* 0E2       TO ONE                                    02000085
0086 P0027 68F7          STA* 0E3       RESET SYS DIR ENTRY LOC                   02000086
0087 P0028 60E7          STA- $E7       LENGTH OF CORE SYSTEM DIRECTORY           02000087
0088 P0029 C800 X        LDA  ISAV        CONSTANT TABLE ADDRESS                  02000088
     P002A 7FFF X
0089 P002B 60FF          STA- I         TO INDEX I                                02000089
0090 P002C C8F3          LDA* 0E5       ADDR OF ORDINAL NUMBER TABLE TO           02000090
0091 P002D 6193          STA- ONTAB,I   ORDINAL NUMBER TABLE MINUS 1              02000091
0092 P002E C150  0E7     LDA- INMED,I   INPUT MEDIUM SWITCH                       02000092
0093 P002F 0124          SAP  0E7X-*-1                                            02000093
0094 P0030 0864          TCA  A                                                   02000094
0095 P0031 6150          STA- INMED,I   PLUS 1 TO INMED                           02000095
0096 P0032 1800          JMP  0E140     RETURN TO CONTROL MODULE                  02000096
     P0033 008C
0097 P0034 C859  0E7X    LDA* 0E2       FETCH *Y TEST CONSTANT                    02000097
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0098 P0035 914E          SUB- CSNAME,I   CONTROL STATEMENT NAME CODE                02000098
0099 P0036 0111          SAN  OE7XX-*-1  NON-ZERO = *YM FIRST TIME THRU             02000099
0100 P0037 1816          JMP* OE8        CONTINUE                                  02000100
0101 P0038 C800 OE7XX    LDA  OE049      NBR OF ENTRIES IN ORD NBR TABLE           02000101
     P0039 0091
0102 P003A 8193          ADD- ONTAB,I    ADDR-1 OF ORDINAL NUMBER TABLE            02000102
0103 P003B 6194          STA- MONTAB,I   ADDR-1 OF MASS STG ENT IN ONTAB           02000103
0104 P003C 0842          CLR  Q          RESET ORDINAL FOR ORDINAL                 02000104
0105 P003D 4840          STQ* LAST       PREV VALUE OF ORDINAL NBR                 02000105
0106 P003E C14F          LDA- XCSNAM,I   PREVIOUS CONTROL STMNT NAME CODE          02000106
0107 P003F 0103          SAZ  OE7XY-*-1  ZERO IF NO *Y,*YM BEFORE                  02000107
0108 P0040 C800          LDA  OE049      TEST FOR PREV *Y,NAME,NBR                 02000108
     P0041 0089
0109 P0042 0112          SAN  OE7Y-*-1   NON-ZERO IF STMNT IN BEFORE               02000109
0110 P0043 4193 OE7XY    STQ- ONTAB,I    ZERO TO ADDR OF CORE ORD NBR TAB          02000110
0111 P0044 1806          JMP* OE7Z                                                 02000111
0112 P0045 C8D9 OE7Y     LDA* OE3        FETCH INDEX TO SYS DIR ENTRY              02000112
0113 P0046 4800          STQ  OE049      NUMBERS                                   02000113
     P0047 0083
0114 P0048 0904          INA  4             POINT AT TOP OF ENTRY                  02000114
0115 P0049 60E7          STA- $E7        INDEX TO FIRST MASS STG ENTRY             02000115
0116 P004A D8D3 OE7Z     RAO* OE2        BLOCK PASSAGE THRU THIS ROUTINE           02000116
0117 P004B D194          RAO- MONTAB,I   ADDR-1 OF MASS STG ENTRY IN OETAB         02000117
0118 P004C D8D3          RAO* OE5        CURRENT OETAB ENTRY                       02000118
0119 P004D C8CF OE8      LDA* OE1        FETCH ADDR OF INPUT BUFFER                02000119
0120 P004E 0901          INA  1          PLUS 1.  PLACE IN                         02000120
0121 P004F 0FC1          ALS  1          BITS  15-1                                02000121
0122 P0050 E14E          LDQ- CSNAME,I   CONTROL STATEMENT CONTROL CODE            02000122
0123 P0051 0834          AAQ  A                                                    02000123
0124 P0052 6118          STA- WRDCNT,I   SCAN CONTROL WORD                         02000124
0125                     *                                                         02000125
0126 P0053 0A08 OE10     ENA  $8         LEADING + AND - ILLEG, NAME               02000126
0127 P0054 6116          STA- SCANSW,I   OR DECIMAL NO OK.                         02000127
0128 P0055 0844          CLR  A                                                    02000128
0129 P0056 514B          RTJ- SCAN,I     FETCH AN ORDINAL NAME                     02000129
0130 P0057 C113          LDA- SYMSTR,I   ZERO IMPLIES A NUMBER                     02000130
0131 P0058 0102          SAZ  OE15-*-1   ZERO IMPLIES NUMBER                       02000131
0132 P0059 9112          SUB- 18,I       TWO BLANKS -2020-                         02000132
0133 P005A 0112          SAN  OE20-*-1   NON-ZERO IMPLIES NAME                     02000133
0134 P005B 0A02 OE15     ENA  2          NUMBER APPEARS IN NAME FIELD              02000134
0135 P005C 1866          JMP* OE150      BAD FORMAT                                02000135
0136 P005D 5800 OE20     RTJ  OECHAR     TEST FOR 120 CHARACTERS                   02000136
     P005E 0086
0137 P005F 0137          SAM  OE40-*-1   POS IMPLIES LESS THAN 121 CHAR            02000137
0138 P0060 5800 OE30     RTJ  OETERM     TEST FOR COMMA AS TERMINATOR              02000138
     P0061 006C
0139 P0062 0151          SQN  OE35-*-1                                             02000139
0140 P0063 18CD          JMP* OE62       INVALID TERMINATOR                        02000140
0141 P0064 0DFD OE35     INQ  -2         TEST CONST FOR COMMA                      02000141
0142 P0065 0151          SQN  OE40-*-1                                             02000142
0143 P0066 1818          JMP* OE90       ZERO IMPLIES COMMA IS TERMINATOR          02000143
0144 P0067 D862 OE40     RAO* OE043      SET ORDINAL NAME   SWITCH                 02000144
0145 P0068 5800 OE50     RTJ  OECHAR     TEST FOR 120 CHARACTERS                   02000145
     P0069 007B
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0146 P006A 0122          SAP  OE60-*-1    POS IMPLIES LESS THAN 120 CHAR                02000146
0147 P006B 0A0F          ENA  15          MORE THAN 120 CHARS IN CONT STMNT             02000147
0148 P006C 1856          JMP* OE150                                                     02000148
0149 P006D 5800  0E60    RTJ  OETERM      TEST FOR VALID TERMINATOR                     02000149
     P006E 005F
0150 P006F 0152          SQN  OE65-*-1    ZERO IMPLIES INVALID DELIMITER                02000150
0151 P0070 0A0E  0E62    ENA  14          INVALID TERMINATOR                            02000151
0152 P0071 1851          JMP* OE150                                                     02000152
0153 P0072 0DFB  0E65    INQ  -4          TEST CONSTANT                                 02000153
0154 P0073 0151          SQN  OE70-*-1    NEG IMPLIES ZERO,COMMA OR BLANK               02000154
0155 P0074 D150          RAO- INMED,I     SET INPUT MEDIUM SWITCH                       02000155
0156 P0075 E854  0E70    LDQ* OE043       IS ORDINAL NAME SWITCH SET                    02000156
0157 P0076 0144          SQZ  OE80-*-1    ZERO IMPLIES ONS IS RESET                     02000157
0158 P0077 0842          CLR  Q                                                         02000158
0159 P0078 4851          STQ* OE043       RESET ORDINAL NAME SWITCH                     02000159
0160 P0079 0A10          ENA  16          ORD NAME WITHOUT ORD NBR                      02000160
0161 P007A 1848          JMP* OE150                                                     02000161
0162 P007B D84D  0E80    RAO* OE042       SET END OF STATEMENT SWITCH                   02000162
0163 P007C 181F          JMP* OE120                                                     02000163
0164                     *                                                              02000164
0165 P007D 0000  LAST    ADC  0           PREV VALUE OF ORDINAL NUMBER                  02000165
0166                     *                                                              02000166
0167                     *       COMMA FOUND TO BE TERMINATOR, SAVE ORDINAL NAME,       02000167
0168                     *                     LOOK FOR ORDINAL NUMBER.                 02000168
0169 P007E 0844  0E90    CLR  A                                                         02000169
0170 P007F 684A          STA* OE043       RESET ORDINAL NAME SWITCH                     02000170
0171 P0080 C113          LDA- SYMSTR,I    MOVE SCAN NAME TO STORAGE                     02000171
0172 P0081 6123          STA- NAME,I                                                    02000172
0173 P0082 C114          LDA- SYMSTR+1,I                                                02000173
0174 P0083 6124          STA- NAME+1,I                                                  02000174
0175 P0084 C115          LDA- SYMSTR+2,I                                                02000175
0176 P0085 6125          STA- NAME+2,I                                                  02000176
0177 P0086 0844          CLR  A           CLEAR A PRIOR TO CALLING SCAN                 02000177
0178 P0087 5148          RTJ- SCAN,I      FETCH ORDINAL NUMBER (DECIMAL)                02000178
0179 P0088 C113  0E92    LDA- SYMSTR,I    ZERO IMPLIES NUMBER                           02000179
0180 P0089 0102          SAZ  OE99-*-1    NOW DEST FOR DEC NBR                          02000180
0181 P008A 0A08          ENA  8           NAME APPEARS IN NUMBER FIELD                  02000181
0182 P008B 1837          JMP* OE150       NON ZERO IMPLIES NAME                         02000182
0183 P008C C116  0E99    LDA- SCANSW,I    TEST FOR DECIMAL NBR                          02000183
0184 P008D A000          AND  =N1                                                       02000184
     P008E 0001
0185 P008F 0102          SAZ  OE100-*-1   ZERO IF DEC NBR                              02000185
0186 P0090 0A12          ENA  18          HEX IF NON-ZERO                               02000186
0187 P0091 1831          JMP* OE150                                                     02000187
0188 P0092 5800  0E100   RTJ  OECHAR      TEST FOR 120 CHARACTERS                       02000188
     P0093 0051
0189 P0094 0122          SAP  OE110-*-1   POS IMPLIES LESS THAN 121 CHAR               02000189
0190 P0095 0A0F          ENA  15          MORE THAN 120 CHAR IN CONT STMNT              02000190
0191 P0096 132C          JMP* OE150       MORE THAN 120 CHARS                           02000191
0192 P0097 5836  0E110   RTJ* OETERM      TEST FOR COMMA AS TERMINATOR                  02000192
0193 P0098 0DFD          INQ  -2          TEST CONSTANT FOR COMMA                       02000193
0194 P0099 0141          SQZ  OE120-*-1   ZERO IMPLIES TERMINATOR A COMMA               02000194
0195 P009A 18CD          JMP* OE50                                                      02000195
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0196                    *       TERMINATOR IS VALID, COMPUTE INDEX TO ENTRY IN                  02000196
0197                    *       SYSTEM DIRECTORY AND PLACE ORDINAL NUMBER IN ORDINAL            02000197
0198                    *                NUMBER TABLE.                                          02000198
0199 P009B C0FF   0E120 LDA- I          ADDRESS OF CONSTANT TABLE                               02000199
0200 P009C 8864         ADD* 0E050      ADDR OF ASCII NAME IN CONTAB                            02000200
0201 P009D 610F         STA- INPCTR,I                                                           02000201
0202 P009E 5128         RTJ- TABSCH,I   SEARCH LOADER TABLE FOR NAME                            02000202
0203 P009F C11C         LDA- SW6,I      POS IMPLIES NAME IN TABLE                               02000203
0204 P00A0 0132         SAM  0E121-*-1                                                          02000204
0205 P00A1 0A11         ENA  17         NAME APPEARS PREV IN LDR TABLE                          02000205
0206 P00A2 1820         JMP* 0E150      ERROR                                                   02000206
0207 P00A3 184F   0E121 JMP* TEST       TEST FOR ILLEGAL ORDINAL NBR                            02000207
0208 P00A4 E14E   0E122 LDQ- CSNAME,I   CONTROL STMNT NAME CODE                                 02000208
0209 P00A5 C825         LDA* 0E049      ORDINAL FOR ORDINAL NUMBERS                             02000209
0210 P00A6 2A24         MUI* 0E049,Q    TIMES 4 OR 7                                            02000210
0211 P00A7 80E7         ADD- $E7        INDEX TO FIRST MASS STG ENTRY                           02000211
0212 P00A8 6800         STA  0E3        PRESENT INDEX TO SYSTEM DIR                             02000212
     P00A9 FF75
0213 P00AA 610D         STA- ENTPNT,I   INDEX TO ENTRY IN SYSTEM DIR                            02000213
0214 P00AB E14E         LDQ- CSNAME,I   CONTROL STATEMENT NAME CODE                             02000214
0215 P00AC 8A1E         ADD* 0E049,Q    ADD 4 OR 7                                              02000215
0216 P00AD 60E6         STA- $E6        LENGTH OF SYSTEM LIB DIRECTORY                          02000216
0217 P00AE 617B         STA- CSQCTR,I     UPDATE COUNTER TO INCLUDE LENGTH OF DIRECTORY          02000217
0218                    *       ADD- $EB        CORE LOC OF SYSTEM DIRECTORY                    02000218
0219                    *       STA- PROBAS,I   RELOC BASE FOR PROG BEING LOADED                02000219
0220 P00AF D81B         RAO* 0E049      INCREMENT ENTRY COUNT                                   02000220
0221 P00B0 E800         LDQ  0E5        ADDR-1 OF ORDINAL NUMBER TABLE                          02000221
     P00B1 FF6E
0222 P00B2 C149         LDA- INPWRD,I   ORDINAL NUMBER FROM SCAN                                02000222
0223 P00B3 6201         STA- 1,Q        TO ORDINAL EQUIVALENCE TABLE                            02000223
0224 P00B4 D800         RAO  0E5        POINT AT NEXT ENTRY IN OETAB                            02000224
     P00B5 FF6A
0225 P00B6 0A01   0E125 ENA  1          POS NUMBER TO A                                         02000225
0226 P00B7 611C         STA- SW6,I      SET ENTRY POINT SWITCH                                  02000226
0227 P00B8 5800 X       RTJ  ENTSTR       PLACE ENTRY IN LOADER TABLE                           02000227
     P00B9 7FFF X
0228 P00BA C80E         LDA* 0E042      IS END OF STATEMENT SWITCH SET                          02000228
0229 P00BB 0111         SAN  0E130-*-1  ZERO IMPLIES RESET                                      02000229
0230 P00BC 1896         JMP* 0E10       FETCH NEXT ORDINAL NAME                                 02000230
0231 P00BD 0842   0E130 CLR  Q          CLEAR Q                                                 02000231
0232 P00BE 480A         STQ* 0E042      RESET END OF STATEMENT SWITCH                           02000232
0233 P00BF 618F   0E140 STA- JUMP,I     SET JUMP SWITCH                                         02000233
0234 P00C0 1C00         JMP  (I1)                                                               02000234
     P00C1 FF3E
0235                    *                                                                       02000235
0236 P00C2 0842   0E150 CLR  Q          ERROR IF Q = 0                                          02000236
0237 P00C3 4805         STQ* 0E042      RESET END OF STMNT SWITCH                               02000237
0238 P00C4 4805         STQ* 0E043      RESET ORDINAL NAME SWITCH                               02000238
0239 P00C5 D18F         RAO- JUMP,I     SET ENTRY SWITCH                                        02000239
0240 P00C6 5800 X       RTJ  TYPEQ      TYPE ERROR AND Q, COMM MED                              02000240
     P00C7 0010 X
0241                    *               RETURN TO CONTROL MODULE                                02000241
0242 P00C8 0000   0E042 ADC  0          END OF STATEMENT SWITCH                                 02000242
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0243 P00C9 0000    OE043  ADC  0          ORDINAL NUMBER SWITCH                                  02000243
0244 P00CA 0000    OE049  NUM  0          ORDINAL FOR ORDINAL NUMBERS                            02000244
0245 P00CB 0004           NUM  $4         MULTIPLICATIVE CONSTANT                                02000245
0246 P00CC 0007           NUM  $7         MULTIPLICATIVE CONSTANT                                02000246
0247                      *                                                                      02000247
0248                      *                                                                      02000248
0249                      *    ************************************************************      02000249
0250                      *      RETURN TERMINATOR CODE IN Q REGISTER                            02000250
0251                      *    ************************************************************      02000251
0252 P00CD 0000    OETERM ADC  0          DETERMINE IF TERMINATOR IS VALID                       02000252
0253 P00CE C148           LDA- SCNTRM,I      FETCH TERMINATOR                                    02000253
0254 P00CF 0864           TCA  A         COMPLEMENT                                             02000254
0255 P00D0 0920           INA  $20       TEST FOR BLANK                                         02000255
0256 P00D1 0112           SAN  OET20-*-1                                                        02000256
0257 P00D2 0C03           ENQ  3         CODE FOR SPACE                                         02000257
0258 P00D3 1CF9           JMP* (OETERM)                                                         02000258
0259 P00D4 090C    OET20  INA  $C         TEST FOR COMMA                                         02000259
0260 P00D5 0112           SAN  OET30-*-1                                                        02000260
0261 P00D6 0C02           ENQ  2         CODE FOR COMMA                                         02000261
0262 P00D7 1CF5           JMP* (OETERM)                                                         02000262
0263 P00D8 0902    OET30  INA  2         TEST FOR PERIOD                                        02000263
0264 P00D9 0112           SAN  OET40-*-1                                                        02000264
0265 P00DA 0C04           ENQ  4         CODE FOR PERIOD                                        02000265
0266 P00DB 1CF1           JMP* (OETERM)                                                         02000266
0267 P00DC E807    OET40  LDQ* OET60      TEST FOR CARRIAGE RETURN                               02000267
0268 P00DD 0834           AAQ  A                                                                02000268
0269 P00DE 0112           SAN  OET50-*-1                                                        02000269
0270 P00DF 0C01           ENQ  1         CODE FOR CARRIAGE RETURN                               02000270
0271 P00E0 1CEC           JMP* (OETERM)                                                         02000271
0272 P00E1 0842    OET50  CLR  Q         INVALID TERMINATOR CODE                                02000272
0273 P00E2 1CEA           JMP* (OETERM)                                                         02000273
0274 P00E3 00D1    OET60  NUM  $D1        CARRIAGE RETURN TEST CONSTANT                          02000274
0275                      *    ************************************************************      02000275
0276                      *      TEST FOR MORE THAN 120 CHARACTERS                               02000276
0277                      *    ************************************************************      02000277
0278 P00E4 0000    OECHAR ADC  0          TEST FOR 120 OR LESS CHAR                              02000278
0279 P00E5 C118           LDA- WRDCNT,I  CELL CONTAINING WORD COUNT                             02000279
0280 P00E6 0F41           ARS  1                                                                02000280
0281 P00E7 9800           SUB  OE1       BASE ADDRESS OF INPUT BUFFER                           02000281
     P00E8 FF34
0282 P00E9 0822           TRA  Q                                                                02000282
0283 P00EA 0832           AAQ  Q         2 * DIFF                                               02000283
0284 P00EB 0D01           INQ  1         PLUS 1                                                 02000284
0285 P00EC 0A01           ENA  1                                                                02000285
0286 P00ED A118           AND- WRDCNT,I                                                         02000286
0287 P00EE 0834           AAQ  A         ADD 1 FOR RH CHAR                                      02000287
0288 P00EF 0864           TCA  A         -CHAR COUNT                                            02000288
0289 P00F0 0978           INA  120       PLUS 120                                               02000289
0290 P00F1 1CF2           JMP* (OECHAR)                                                         02000290
0291                      *    ************************************************************      02000291
0292                      *      TEST FOR INVALID ORDINAL NUMBER                                 02000292
0293                      *    ************************************************************      02000293
0294 P00F2 C149    TEST   LDA- INPWRD,I   SCAN NUMBER                                           02000294
```

```
0295 P00F3 0112          SAN  TEST10-*-1                                          02000295
0296 P00F4 0A12          ENA  18           INVALID ORDINAL NUMBER                02000296
0297 P00F5 18CC          JMP* OE150        ERROR IF ZERO                         02000297
0298 P00F6 9886  TEST10  SUB* LAST         PREVIOUS ORDINAL NUMBER               02000298
0299 P00F7 09FE          INA  -1                                                 02000299
0300 P00F8 0122          SAP  TEST20-*-1                                         02000300
0301 P00F9 0A12          ENA  18           INVALID ORDINAL NUMBER                02000301
0302 P00FA 18C7          JMP* OE150        NEGATIVE IMPLIES ERROR                02000302
0303 P00FB C149  TEST20  LDA- INPWRD,I     SCAN NUMBER                           02000303
0304 P00FC 6880          STA* LAST         NEW PREV ORD NBR                      02000304
0305 P00FD 18A6          JMP* OE122        RETURN TO FLOW                        02000305
0306 P00FE 5800  OE300   RTJ  OE5          FIND ADDR-1 OF ORD NAME TABLE         02000306
     P00FF FF20
0307 P0100 0023  OE050   ADC  NAME         STORAGE AREA FOR ASCII                02000307
0308 P0101 0100          BZS  OETAB(LOETAB) ORDINAL NUMBER TABLE                  02000308
0309 P0201 0C05  FATE    ENQ  5            NBR OF WORDS IN MESSAGE               02000309
0310 P0202 5800  X       RTJ  QCOM            CALL COMMENT DRIVER    **MSOS 4.1**02000310
     P0203 7FFF  X
0311 P0204 1800  X       JMP  RSTART       RESTART INITIALIZER                   02000311
     P0205 7FFF  X
0312                     END                                                     02000312

PGM=  0206 (   518)   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)	0089, 0199
0022	ENTPNT	000D	(000013)	0213
0023	INPCTR	000F	(000015)	0201
0024	SYMSTR	0013	(000019)	0130, 0171, 0173, 0175, 0179
0025	SCANSW	0016	(000022)	0127, 0183
0026	TABSCH	0028	(000040)	0202
0027	INPWRD	0049	(000073)	0222, 0294, 0303
0028	SCAN	004B	(000075)	0129, 0178
0029	WRDCNT	0018	(000024)	0124, 0279, 0286
0030	SW6	001C	(000028)	0203, 0226
0031	NAME	0023	(000035)	0172, 0174, 0176, 0307
0032	SCNTRM	0048	(000072)	0253
0033	CSNAME	004E	(000078)	0055, 0098, 0122, 0208, 0214
0034	XCSNAM	004F	(000079)	0054, 0106
0035	INMED	0050	(000080)	0068, 0092, 0095, 0155
0036	LOETAB	0100	(000256)	0308
0037	CSQCTR	007B	(000123)	0217
0038	JUMP	008F	(000143)	0069, 0233, 0239
0039	ONTAB	0093	(000147)	0091, 0102, 0110
0040	MONTAB	0094	(000148)	0103, 0117

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0016	I1	0000	0016, 0234
0016	OETERM	00CD	0016, 0052, 0138, 0149, 0192, 0258, 0262, 0266, 0271, 0273
0017	FATE	0201	0017
0054	GR2	0007	0066
0059	GR2X	000D	0056
0062	GR3	0011	0053
0067	GR3X	0016	0065
0069	GR4	0018	0063
0072	GR5	001B	0070
0077	OE1	001D	0051, 0119, 0281
0078	OE2	001E	0084, 0085, 0097, 0116
0079	OE3	001F	0086, 0112, 0212
0080	OE5	0020	0090, 0118, 0221, 0224, 0306
0092	OE7	002E	0071
0097	OE7X	0034	0093
0101	OE7XX	0038	0099
0110	OE7XY	0043	0107
0112	OE7Y	0045	0109
0116	OE7Z	004A	0111
0119	OE8	004D	0100
0126	OE10	0053	0230
0134	OE15	005B	0131
0136	OE20	005D	0133
0138	OE30	006C	
0141	OE35	0064	0139
0144	OE40	0067	0137, 0142
0145	OE50	0068	0195
0149	OE60	006D	0146
0151	OE62	0070	0140
0153	OE65	0072	0150
0156	OE70	0075	0154
0162	OE80	007B	0157
0165	LAST	007D	0083, 0105, 0298, 0304
0169	OE90	007F	0143
0179	OE92	0088	
0183	OE99	008C	0180
0188	OE100	0092	0185
0192	OF110	0097	0189
0199	OE120	009B	0163, 0194
0207	OE121	00A3	0204
0208	OE122	00A4	0305

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0225    OE125   00B6
0231    OE130   00BD            0229
0233    OE140   00BF            0096
0236    OE150   00C2            0058, 0135, 0148, 0152, 0161, 0182, 0187, 0191, 0206, 0297, 0302
0242    OE042   00C8            0162, 0228, 0232, 0237
0243    OE043   00C9            0144, 0156, 0159, 0170, 0238
0244    OE049   00CA            0082, 0101, 0108, 0113, 0209, 0210, 0215, 0220
0259    OET20   00D4            0256
0263    OET30   00D8            0260
0267    OET40   00DC            0264
0272    OET50   00E1            0269
0274    OET60   00E3            0267
0278    OECHAR  00E4            0136, 0145, 0188, 0290
0294    TEST    00F2            0207
0298    TEST10  00F6            0295
0303    TEST20  00FB            0300
0306    OE300   00FE            0072
0307    OE050   0100            0200
0308    OETAB   0101
```

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0018	TYPEQ	00C7	0061, 0240
0019	ENTSTR	00B9	0227
0020	ISAV	002A	0088
0021	QCOM	0203	0310
0021	RSTART	0205	0311

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

CR2	0054	CR2X	0059	CR3	0062	CR3X	0067	CR4	0069	CR5	0072	CSNAME	0033	CSQCTR	0037	ENTPNT	0022
ENTSTR	0019	FATE	0017	I	0000	I1	0016	INMED	0035	INPCTR	0023	INPWRD	0027	ISAV	0020	JUMP	0038
LAST	0165	LOETAB	0036	MONTAB	0040	NAME	0031	OE042	0242	OE043	0243	OE049	0244	OE050	0307	OE1	0077
OE10	0126	OE100	0188	OE110	0192	OE120	0199	OE121	0207	OE122	0208	OE125	0225	OE130	0231	OE140	0233
OE15	0134	OE150	0236	OE2	0078	OE20	0136	OE3	0079	OE30	0138	OE300	0306	OE35	0141	OE40	0144
OE5	0080	OE50	0145	OE60	0149	OE62	0151	OE65	0153	OE7	0092	OE70	0156	OE7X	0097	OE7XX	0101
OE7XY	0110	OE7Y	0112	OE7Z	0116	OE8	0119	OE80	0162	OE90	0169	OE92	0179	OE99	0183	OECHAR	0278
OET20	0259	OET30	0263	OET40	0267	OET50	0272	OET60	0274	OETAB	0308	OETERM	0016	ONTAB	0039	QCOM	0021
RSTAPT	0021	SCAN	0028	SCANSW	0025	SCNTRM	0032	SW6	0030	SYMSTR	0024	TABSCH	0026	TEST	0294	TEST10	0298
TEST20	0303	TYPEQ	0018	WRDCNT	0029	XCSNAM	0034										

```
0001                    NAM  I2              DECK-ID 021  MSOS 5.0                SUMMARY-11 002100001
0002                *   INITIALIZER CONTROLLER FOR DISK/DRUM AUTOLOAD AREA                  02100002
0003                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                           02100003
0004                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                       02100004
0005                *   COPYRIGHT CONTROL DATA CORPORATION 1976                            02100005

0007                ********************************************************************02100007
0008                *                          ENTRY PARAMETERS                         *02100008
0009                *                            (A) = 0 - INITIALIZE DRIVER            *02100009
0010                *                            (A) = ADDRESS OF STMSV4 IN MSOS SPACE  *02100010
0011                ********************************************************************02100011

0013                        ENT  I2                                                        02100013
0014                        ENT  I2RETN                                                    02100014
0015                        ENT  PART1A,PART1L,PART1C                                      02100015
0016                        EXT* OU                                                        02100016
0017                        EXT* MMINIT         DRIVER ENTRY FOR MASS MEMORY SETUP         02100017
0018                        EXT* MDRIV          IN MDRIV                                   02100018
0019                *                                                                      02100019
0020 P0000 0B00     I2      NOP  0                                                         02100020
0021 P0001 0101             SAZ  FIRST-*-1      SKIP IF DRIVER INITIALIZATION              02100021
0022 P0002 1809             JMP* IOTYPE                                                    02100022
0023 P0003 6819     FIRST   STA* PART1C         CLEAR PART 1 CORE IMAGE SECTOR NO.         02100023
0024 P0004 1800 X           JMP  MMINIT         GO TO SETUP AUTOLOAD AREA POINTERS         02100024
     P0005 7FFF X
0025 P0006 0B00     I2RETN  NOP  0              ADDRESS OF THE AUTOLOAD PROGRAM            02100025
0026 P0007 4813             STQ* LENGTH         LENGTH OF THE AUTOLOAD PROGRAM             02100026
0027 P0008 88FD             ADQ* I2RETN                                                    02100027
0028 P0009 6812             STA* PUTTER         TABLE ADDRESS IN THE AUTOLOAD PROGRAM      02100028
0029 P000A 1CF5             JMP* (I2)           EXIT                                       02100029
0030 P000B 6814     IOTYPE  STA* STMSV4                                                    02100030
0031 P000C 0C03             ENQ  3                                                         02100031
0032 P000D CA0F     LOOPDT  LDA* PART1C,Q       MOVE THE TABLE TO                          02100032
0033 P000E 6E0D             STA* (PUTTER),Q     THE AUTOLOAD PROGRAM                       02100033
0034 P000F 0142             SQZ  GOON-*-1       SKIP WHEN ALL MOVED                        02100034
0035 P0010 0DFE             INQ  -1                                                        02100035
0036 P0011 18FB             JMP* LOOPDT                                                    02100036
0037 P0012 0C00     GOON    ENQ  0              SET FOR AUTOLOAD AREA SECTOR ZERO          02100037
0038 P0013 40FF             STQ- I                                                         02100038
0039 P0014 E806             LDQ* LENGTH         LENGTH OF AUTOLOAD PROGRAM      68*1529    02100039
0040 P0015 0852             TCQ  Q                                                         02100040
0041 P0016 C8EF             LDA* I2RETN         FWAB                                       02100041
0042 P0017 5800 X           RTJ  MDRIV          WRITE OUT AUTOLOAD PGM SECTS 0-4  **MSOS 4.1**02100042
     P0018 7FFF X
0043 P0019 1CE6             JMP* (I2)           EXIT                                       02100043
0044 P001A 0000     LENGTH  NUM  0              LENGTH OF AUTOLOAD PROGRAM                 02100044
0045 P001B 0000     PUTTER  NUM  0                                                         02100045
0046 P001C 0000     PART1C  NUM  0              STARTING SECTOR ADDRESS OF PART 1 IMAGE    02100046
0047 P001D 0000     PART1L  NUM  0              MODIFIED LENGTH OF PART 1                  02100047
0048 P001E 0000     PART1A  NUM  0              MODIFIED CORE ADDRESS OF PART 1            02100048
0049 P001F 0000     STMSV4  NUM  0              ADDRESS IN SPACE WHERE TO MOVE THE AUTOLOAD 02100049
0050                        END                                                            02100050

PGM=  0020 (    32)   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)	0038

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0013	I2	0000	0013, 0029, 0043
0014	I2RETN	0006	0014, 0027, 0041
0015	PART1A	001E	0015
0015	PART1L	001D	0015
0015	PART1C	001C	0015, 0023, 0032
0023	FIRST	0003	0021
0030	IOTYPE	000B	0022
0032	LOOPDT	000D	0036
0037	GOON	0012	0034
0044	LENGTH	001A	0026, 0039
0045	PUTTER	001B	0028, 0033
0049	STMSV4	001F	0030

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0016	OU	7FFF	
0017	MMINIT	0005	0024
0018	MDRIV	0018	0042

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

FIRST	0023	GOON	0037	I	0000	I2	0013	I2RETN	0014	IOTYPE	0030	LENGTH	0044	LOOPDT	0032	MDRIV	0018
MMINIT	0017	OU	0016	PART1A	0015	PART1C	0015	PART1L	0015	PUTTER	0045	STMSV4	0049				

```
0001                    NAM  MDRIV          DECK-ID 022  MSOS 5.0          SUMMARY-11002200001
0002                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                02200002
0003                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA            02200003
0004                *   COPYRIGHT CONTROL DATA CORPORATION 1976                  02200004

0006                *   MASS STORAGE DRIVER CONTROLLER FOR SYS INITIALIZER       02200006

0008                    ENT  MDRIV                                              02200008
0009                    EXT* OU,QSAVEQ,PROCES                                   02200009
0010                *                                                           02200010
0011 P0000 0000    MDRIV ADC  0           MASS STORAGE OUTPUT PROCESSOR         02200011
0012 P0001 4800 X        STO  QSAVEQ                                            02200012
     P0002 7FFF X
0013 P0003 E800 X        LDQ  OU          OUTPUT LOGICAL UNIT                   02200013
     P0004 7FFF X
0014 P0005 5800 X        RTJ  PROCES      PROCESS THE READ REQUEST              02200014
     P0006 7FFF X
0015 P0007 1CF8          JMP* (MDRIV)                                           02200015
0016                     END                                                    02200016

PGM=  0008 (     8)   COM = 0000 (     0)   DAT = 0000 (     0)
```

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

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

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0008	MDRIV	0000	0008, 0015

E X T E R N A L S

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0009	OU	0004	0013
0009	QSAVEQ	0002	0012
0009	PROCES	0006	0014

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

I 0000 MDRIV 0008 OU 0009 PROCES 0009 QSAVEQ 0009

```
0001                    NAM  IDRIV          DECK-ID 023  MSOS 5.0                  SUMMARY-110023000001
0002                *   INPUT DRIVER CONTROLLER FOR SYSTEM INITIALIZER                          02300002
0003                *   MASS STORAGE OPERATING SYSTEM VERSION 5.0                               02300003
0004                *   SMALL SYSTEMS DIVISION, LA JOLLA, CALIFORNIA                           02300004
0005                *   COPYRIGHT CONTROL DATA CORPORATION 1976                                02300005


0008                *                                                                          02300008
0009                *   PROCEDURE FOR INSERTING AN ADDITIONAL INPUT OR MASS                     02300009
0010                *   STORAGE DRIVER INTO THE SYSTEM INITIALIZER.                             02300010
0011                *                                                                          02300011
0012                *     1.  PLACE AN ADDRESS CONSTANT IN  .TABLE. FOR THE DRIVER.            02300012
0013                *     2.  PROVIDE AN  EXT*  BY THE SAME NAME.                              02300013
0014                *     3.  MODIFY THE  .MAXLU.  PARAMETER IF THE SIZE OF  .TABLE.           02300014
0015                *         CHANGES.                                                         02300015
0016                *                                                                          02300016
0017                *                                                                          02300017
0018                ********************************************************************MSOS 4.1**02300018
0019                *                                                                 **MSOS 4.1**02300019
0020                *   ERROR MESSAGE FORMAT IS                                       **MSOS 4.1**02300020
0021                *           L,XX FAILED YY (ZZZZ)                                 **MSOS 4.1**02300021
0022                *           ACTION                                                **MSOS 4.1**02300022
0023                *      WHERE                                                      **MSOS 4.1**02300023
0024                *        XX = LOGICAL UNIT                                        **MSOS 4.1**02300024
0025                *        YY = ERROR CODE (AS DEFINED FOR MSOS DRIVERS)            **MSOS 4.1**02300025
0026                *        ZZZZ = LAST HARDWARE STATUS                              **MSOS 4.1**02300026
0027                *                                                                 **MSOS 4.1**02300027
0028                ********************************************************************MSOS 4.1**02300028
0029                    ENT  I2MZV4        LOCATION FOR 'MSIZV4'                                02300029

0031                    ENT  IDRIV,QSAVEQ,PROCES                                                02300031
0032                    ENT  SIB,MASS                                                           02300032
0033                    ENT  COLU                                                               02300033
0034                    ENT  TABLE      LOGICAL UNIT TABLE                                      02300034
0035                    ENT  MESG                                                               02300035
0036  005A              EQU  CONVRT(90)    BINARY/ASCII CONVERSION              **MSOS 4.1**02300036
0037  0033              EQU  BINASC(51)    STORAGE OF ASCII CODE FROM CONV.     **MSOS 4.1**02300037
0038                    EXT* IN,QPTAPE,QCARD,QMTAPE,QMASS                                       02300038
0039                    EXT* TTYOUT,QPRINT,QCOM                                 **MSOS 4.1**02300039
0040                    EXT* TELOUT          ENTRY TO TELETYPE DRIVER                           02300040
0041                    EXT* ISAV                                                               02300041
0042                ********************************************************************MSOS 4.1**02300042
0043                *                                                                 **MSOS 4.1**02300043
0044                *   DRIVER ERROR RETURN                                           **MSOS 4.1**02300044
0045                *        (A) = 0                                                  **MSOS 4.1**02300045
0046                *        (Q) = ERROR CODE                                         **MSOS 4.1**02300046
0047                *        (I) = LAST HARDWARE STATUS                               **MSOS 4.1**02300047
0048                *                                                                 **MSOS 4.1**02300048
0049                ********************************************************************MSOS 4.1**02300049
0050                *   NOTE..THE FOLLOWING PARAMETERS DETERMINE WHAT IS CONSIDERED             02300050
0051                *         STANDARD FOR THE INITIALIZER                               02300051
0052                *                                                                    02300052
```

```
0053          0003            EQU   ILU(3)        STANDARD INPUT (MAG TAPE)          **MSOS 4.1**02300053
0054          0004            EQU   MSLU(4)       STANDARD MASS STORAGE                         02300054
0055          0006            EQU   CLU(6)        STANDARD COMMENT (TELETYPE)        **MSOS 4.1**02300055
0056          0008            EQU   MAXLU(8)      MAXIMUM QUANTITY LOG. UNITS        **MSOS 4.1**02300056
0057                      *                                                                       02300057
0058 P0000    0003      SIB   ADC   ILU           INPUT LOGICAL UNIT  (STANDARD)                 02300058
0059 P0001    0004      MASS  ADC   MSLU          OUTPUT LOGICAL UNIT (STANDARD)                02300059
0060 P0002    0006      COLU  ADC   CLU             COMMENT OUTPUT L.U. (STANDARD)   **MSOS 4.1**02300060
0061 P0003    0000      IDRIV ADC   0             INPUT REQUEST PROCESSOR                       02300061
0062 P0004    4856            STQ*  QSAVEQ        SAVE Q REGISTER                               02300062
0063 P0005    E800  X         LDQ   IN            INPUT LOGICAL UNIT                            02300063
     P0006    7FFF  X
0064 P0007    5802            RTJ*  PROCES        READ A RECORD                                 02300064
0065 P0008    1CFA            JMP*  (IDRIV)       RETURN TO USER                                02300065
0066                      *                                                                       02300066
0067 P0009    0000      PROCES ADC  0             COMMON I/O PROCESSOR                          02300067
0068 P000A    4852            STQ*  LU            SAVE LOGICAL UNIT NUMBER                      02300068
0069 P000B    684E            STA*  ASAVEA        SAVE A REGISTER                               02300069
0070 P000C    C0FF            LDA-  I                                                           02300070
0071 P000D    684E            STA*  ISAVEI                                                      02300071
0072 P000E    FA54            ADQ*  TABLE,Q       DELTA FOR DRIVER FROM TABLE                   02300072
0073 P000F    F000            ADQ   =XTABLE-RTJ-1                                             02300073
     P0010    0046
0074 P0011    480B            STQ*  RTJ+1                                                     02300074
0075 P0012    E84A            LDQ*  LU                                                        02300075
0076 P0013    CA4F            LDA*  TABLE,Q       TEST FOR DRIVER NOT PRESENT                 02300076
0077 P0014    9000            SUB   =N$7FFF                                                   02300077
     P0015    7FFF
0078 P0016    010A            SAZ   ERRO-*-1                                                  02300078
0079 P0017    C844      RRPP  LDA*  ISAVEI                                                    02300079
0080 P0018    60FF            STA-  I                                                         02300080
0081 P0019    C840            LDA*  ASAVEA                                                    02300081
0082 P001A    E840            LDQ*  QSAVEQ                                                    02300082
0083 P001B    5800      RTJ   RTJ   ERR                                                       02300083
     P001C    0004
0084 P001D    0103            SAZ ERRO-*-1                                                    02300084
0085 P001E    1CFA            JMP* (PROCES)                                                   02300085
0086                      *                 THIS WORD MUST FOLLOW THE RETURN EXIT AND THE EXIT  02300086
0087                      *                 (JMP* (PROCES)) MUST BE 1 WORD INSTRUCTION          02300087
0088                      *                 THIS CHANGE IS NOT THE BEST BUT IT IS MINIMUN       02300088
0089 P001F    0000      I2MZV4 NUM  0               'MSIZV4' TO BE PASSED BY 'CONTRL'             02300089
0090                      *                                                                       02300090
0091 P0020    0000      ERR   ADC   0                                                           02300091
0092 P0021    0814      ERRO  TRQ   A               ERROR CODE TO A                 **MSOS 4.1**02300092
0093 P0022    5849            RTJ*  BA            BINARY/ASCII CONVERSION         **MSOS 4.1**02300093
0094 P0023    6814            STA*  ERNUM         PUT ASCII ERROR CODE IN MESSAGE **MSOS 4.1**02300094
0095 P0024    C838            LDA*  LU            LOGICAL UNIT                    **MSOS 4.1**02300095
0096 P0025    5846            RTJ*  BA            BIN/ASCII CONV.                 **MSOS 4.1**02300096
0097 P0026    680C            STA*  ERLU          PUT ASCII L.U. IN MESSAGE       **MSOS 4.1**02300097
0098 P0027    C0FF            LDA-  I                                               **MSOS 4.1**02300098
0099 P0028    E800  X         LDQ   ISAV          RESTORE POINTER TO LOADER TABLE **MSOS 4.1**02300099
     P0029    7FFF  X
0100 P002A    40FF            STQ-  I                                               **MSOS 4.1**02300100
```

```
0101 P002B 515A          RTJ- CONVRT,I      CONVERT STATUS TO ASCII          **MSOS 4.1**02300101
0102 P002C C133          LDA- BINASC,I                                       **MSOS 4.1**02300102
0103 P002D 680C          STA* DVSTTS        SAVE STATUS IN MESSAGE           **MSOS 4.1**02300103
0104 P002F C134          LDA- BINASC+1,I                                     **MSOS 4.1**02300104
0105 P002F 680B          STA* DVSTTS+1                                       **MSOS 4.1**02300105
0106 P0030 5810          RTJ* MESG          OUTPUT                                       02300106
0107 P0031 4C2C          ALF  1,L,             L, XX FAILED YY (ZZZZ)        **MSOS 4.1**02300107
0108 P0032 0000   ERLU   ADC  0             ACTION                                       02300108
0109 P0033 2046          ALF  4, FAILED                                              02300109
     P0034 4149
     P0035 4C45
     P0036 4420
0110 P0037 0000   ERNUM  NUM  0                                                 **MSOS 4.1**02300110
0111 P0038 2028          NUM  $2028         SPACE,(                          **MSOS 4.1**02300111
0112 P0039 0000   DVSTTS NUM  0,0                                             **MSOS 4.1**02300112
     P003A 0000
0113 P003B 2920          NUM  $2920         ),SPACE                          **MSOS 4.1**02300113
0114 P003C 0000          NUM  $0000                                                   02300114
0115 P003D 4143          ALF  3,ACTION                                               02300115
     P003E 5449
     P003F 4F4E
0116 P0040 0000   MESG   ADC  0                                                      02300116
0117 P0041 C8FE          LDA* MESG                                                   02300117
0118 P0042 0C0B          ENQ  11            OUTPUT 11 WORDS                  **MSOS 4.1**02300118
0119 P0043 5800 X        RTJ  TELOUT        LOG ERROR ON TELETYPE                    02300119
     P0044 7FFF X
0120 P0045 C8FA   ACTION LDA* MESG                                                   02300120
0121 P0046 090B          INA  11                                             **MSOS 4.1**02300121
0122 P0047 0C04          ENQ  4                                                      02300122
0123 P0048 5800 X        RTJ  TELOUT        LOG ERROR ON TELETYPE                    02300123
     P0049 0044 X
0124 P004A C8F5          LDA* MESG          WAIT FOR INPUT OF CU OR RP               02300124
0125 P004B 0901          INA  1                                                      02300125
0126 P004C 0842          CLR  Q                                                      02300126
0127 P004D 5800 X        RTJ  QCOM                                           **MSOS 4.1**02300127
     P004E 7FFF X
0128 P004F C8E2          LDA* ERLU                                                   02300128
0129 P0050 980D          SUB* RPMASK        WAS IT RP                                02300129
0130 P0051 0111          SAN  NOTRP-*-1                                              02300130
0131 P0052 18C4          JMP* RRPP          YES                                      02300131
0132 P0053 C8DE   NOTRP  LDA* ERLU          NO, WAS IT  CU                           02300132
0133 P0054 980A          SUB* CUMASK                                                 02300133
0134 P0055 0101          SAZ  CU-*-1                                                 02300134
0135 P0056 18EE          JMP* ACTION        NO                                       02300135
0136 P0057 0844   CU     CLR  A             YES                                      02300136
0137 P0058 1CB0          JMP* (PROCES)      RETURN ERROR FLAG TO USER                02300137
0138                     *                                                           02300138
0139 P0059 0000   ASAVEA ADC  0                                                      02300139
0140 P005A 0000   QSAVEQ ADC  0                                                      02300140
0141 P005B 0000   ISAVEI ADC  0                                                      02300141
0142 P005C 0000   LU     ADC  0                                                      02300142
0143 P005D 5250   RPMASK ALF  1,RP                                                  02300143
0144 P005E 4355   CUMASK ALF  1,CU                                                  02300144
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0145                    *                                                                   02300145
0146                    *                                                                   02300146
0147 P005F 0000 DUMMY   ADC  0          DUMMY DRIVER ENTRY FOR LIST OUTPUT                  02300147
0148 P0060 0A01         ENA  1                                                              02300148
0149 P0061 1CFD         JMP* (DUMMY)    EXIT DUMMY DRIVER                                   02300149
0150                    *                                                                   02300150
0151 P0062 FFF6 TABLE   ADC  (-MAXLU-1) TEST CONST CELL                                     02300151
0152 P0063 7FFF X       ADC  QPTAPE        PAPER TAPE READER              **MSOS 4.1**02300152
0153 P0064 7FFF X       ADC  QCARD         CARD READER                    **MSOS 4.1**02300153
0154 P0065 7FFF X       ADC  QMTAPE        MAGNETIC TAPE                  **MSOS 4.1**02300154
0155 P0066 7FFF X       ADC  QMASS         MASS STORAGE                                    02300155
0156 P0067 0000         ADC  0             UNUSED                                          02300156
0157 P0068 7FFF X       ADC  TTYOUT     LIST ON TELETYPE                                   02300157
0158 P0069 7FFF X       ADC  QPRINT        LINE PRINTER                   **MSOS 4.1**02300158
0159 P006A FFF4         ADC  (DUMMY-*)  DUMMY DRIVER FOR LIST OUTPUT                       02300159

0161 P006B 0000 BA      NUM  0             BINARY TO ASCII NUMERIC        **MSOS 4.1**02300161
0162 P006C 0842         CLR  Q                                            **MSOS 4.1**02300162
0163 P006D 3000         DVI  =N10          TENS IN A, UNITS IN Q          **MSOS 4.1**02300163
     P006E 000A
0164 P006F 0FC8         ALS  8                                            **MSOS 4.1**02300164
0165 P0070 0834         AAQ  A             COMBINE                        **MSOS 4.1**02300165
0166 P0071 8000         ADD  =N$3030       ADD ASCII NUMERIC BASE         **MSOS 4.1**02300166
     P0072 3030
0167 P0073 1CF7         JMP* (BA)          RETURN                         **MSOS 4.1**02300167
0168                    END                                                             02300168
```

PGM= 0074 (116) 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)	0070, 0080, 0098, 0100
0036	CONVRT	005A	(000090)	0101
0037	BINASC	0033	(000051)	0102, 0104
0053	ILU	0003	(000003)	0058
0054	MSLU	0004	(000004)	0059
0055	CLU	0006	(000006)	0060
0056	MAXLU	0008	(000008)	0151

S Y M B O L S

DEF.LINE	NAME	ADDRESS	REFERENCED AT LINE NUMBER
0029	I2MZV4	001F	0029
0031	IDRIV	0003	0031, 0065
0031	QSAVEQ	005A	0031, 0062, 0082
0031	PROCES	0009	0031, 0064, 0085, 0137
0032	SIB	0000	0032
0032	MASS	0001	0032
0033	COLU	0002	0033
0034	TABLE	0062	0034, 0072, 0073, 0076
0035	MESG	0040	0035, 0106, 0117, 0120, 0124
0079	RRPP	0017	0131
0083	RTJ	0018	0073, 0074
0091	ERR	0020	0083
0092	ERRO	0021	0078, 0084
0108	ERLU	0032	0097, 0128, 0132
0110	ERNUM	0037	0094
0112	DVSTTS	0039	0103, 0105
0120	ACTION	0045	0135
0132	NOTRP	0053	0130
0136	CU	0057	0134
0139	ASAVEA	0059	0069, 0081
0141	ISAVEI	005B	0071, 0079
0142	LU	005C	0068, 0075, 0095
0143	RPMASK	005D	0129
0144	CUMASK	005E	0133
0147	DUMMY	005F	0149, 0159
0161	BA	006B	0093, 0096, 0167

EXTERNALS

DEF.LINE	NAME	VALUE	REFERENCED AT LINE NUMBER
0038	IN	0006	0063
0038	QPTAPE	0063	0152
0038	QCARD	0064	0153
0038	QMTAPE	0065	0154
0038	QMASS	0066	0155
0039	TTYOUT	0068	0157
0039	QPRINT	0069	0158
0039	QCOM	004E	0127
0040	TELOUT	0049	0119, 0123
0041	ISAV	0029	0099

*** A L P H A B E T I C A L S O R T O F S Y M B O L S ***

ACTION	0120	ASAVEA	0139	BA	0161	BINASC	0037	CLU	0055	COLU	0033	CONVRT	0036	CU	0136	CUMASK	0144
DUMMY	0147	DVSTTS	0112	ERLU	0108	ERNUM	0110	ERR	0091	ERRO	0092	I	0000	I2MZV4	0029	IDRIV	0031
ILU	0053	IN	0038	ISAV	0041	ISAVEI	0141	LU	0142	MASS	0032	MAXLU	0056	MESG	0035	MSLU	0054
NOTRP	0132	PROCES	0031	QCARD	0038	QCOM	0039	QMASS	0038	QMTAPE	0038	QPRINT	0039	QPTAPE	0038	QSAVEQ	0031
RPMASK	0143	RRPP	0079	RTJ	0083	SIB	0032	TABLE	0034	TELOUT	0040	TTYOUT	0039				