```
SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

101               JOB   FORTRAN COMPILER -- LOAD PHASES 52BC -- PHASE 52A
102               CTL   6611
103         *
104         * EXTERNALLY REFERENCED SYMBOLS ARE MARKED WITH ASTERISK IN COLUMN 1.
105         *
106         * AS THE OBJECT CODING MAY ORIGINATE AT 1697, THE CODING FOR
107         * PHASE 52 MUST BE SPLIT INTO TWO PARTS, THE FIRST OF WHICH
108         * REPLACES THE SNAPSHOT CODING IN POSITIONS 333-680. ORIGINALLY,
109         * THIS PHASE LOADED THE TWO SECTIONS BUT NOW THAT'S DONE IN
110         * PHASE 52 B&C.  THIS PHASE SIMPLY ADJUSTS X3 ACCORDING TO THE
111         * PATCH IN V3M4.
112         *
113         X3     EQU   99                                                  0099
114         *
115         * STUFF IN THE RESIDENT AREA
116         *
117         PHASID EQU   110  PHASE ID, FOR SNAPSHOT DUMPS                   0110
118         *
119                EXT00   SNAPSH, LOADNX, CDOVLY                                        MACRO
120         SNAPSH EQU   333                                                 0333          GEN
121         PHASLD EQU   381                                                 0381          GEN
122         SNAPEX EQU   564                                                 0564          GEN
123         LOADNX EQU   700   CARD OVERLAY UNLESS NOP                      0700          GEN
124         CDOVLY EQU   700   1 IF LOADING FROM CARDS, N IF FROM TAPE      0700          GEN
125         TPREAD EQU   704   LOAD OVERLAY FROM TAPE                       0704          GEN
126         TPERR  EQU   728                                                 0728          GEN
127         *
128                EXT03   START, TOP OF PHASE 3                                          MACRO
129         BEGIN3 EQU   838                                                 0838          GEN
130         TOP3   EQU   2600                                                2600          GEN
131                XT54C   STUFF IN THE RUNTIME FORMAT ROUTINE 54C                         MACRO
132         RELENT EQU   2132  ENTER HERE FROM RELOCATABLE FUNCTION TABLE    2132          GEN
133         AFMT1  EQU   4280                                                4280          GEN
134         AGM    EQU   4646                                                4646          GEN
135         *
136         PHS52A LDPH  LOAD 52B&C,LOADAD,BEG52A,,,52A                                    MACRO
            * PHAZ   LDPH [PHASID],LOADAD,ENTAD[,SKIPFG,SKIP],[NUMBER][,HALT]           GEN
            *        XFR  PHASZ     PROHIBITED IN A MACRO                              GEN
            *                                                                          GEN
            * LOAD A BLOCK                                                            GEN
            *                                                                          GEN
137         )6J004 EQU   110  PHASE ID                                       0110          GEN
138         )6K004 EQU   700  LOAD NEXT PHASE                                0700          GEN
139         )6L004 EQU   704  TAPE READ INSTRUCTION                          0704          GEN
140         )6M004 EQU   728  TAPE ERROR HANDLER                             0728          GEN
            *                                                                          GEN
141                ORG   201                                                       0201
142         PHS52A BSS   )8J004,G                                          5  0201  B 257 G     GEN      1   257
143                NOP     TO PATCH IN TRAPS FOR DEBUGGING                 1  0206  N           GEN      1
144         )0J004 EQU   *&1                                                 0207          GEN
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

145            LCA   )9J004,)6J004                                          7  0207  L 282 110   GEN      1   282     110
146            BCE   )1J004,)6K004,1    Q: LOADING FROM CARDS?             8  0214  B 250 700 1 GEN      1   250     700
147            BCE   )1J004,)6L004&4,0  Q: LOADING FROM AUTOCODER TAPE?     8  0222  B 250 708 0 GEN      1   250     708
148            RTW   1,LOADAD           READ THE BLOCK                     8  0230  L %U1 838 R GEN      1   %U1     838
149            BER   )6M004             Q: TAPE ERROR?                     5  0238  B 728 L     GEN      2   728
150            CS    BEG52A,)9R004      ENTER THE BLOCK                    7  0243  / 934 287   GEN      2   934     287
151       )1J004 CS    )6K004,)9R004      LOAD CARDS OR AUTOCODER TAPE       7  0250  / 700 287   GEN      2   700     287
152       )8J004 SW    )9R004                                                4  0257  , 287       GEN      2   287
153            MU    %T0,)8K004,W                                          8  0261  M %T0 273 W GEN      2   %T0     273
154            H     )0J004                                                4  0269  . 207       GEN      2   207
155       )8K004 EQU   *&1                                                     0273              GEN
156       )9J004 DCW   @LOAD 52B&C@          PHASE ID                     10  0282              GEN      3
157            DCW   #1                                                    1  0283              GEN      3
158            DC    @52A@          PHASE NUMBER                          3  0286              GEN      3
159       )9R004 DCW   @}@                                                   1  0287              GEN      3
160            XFR   PHS52A                                                      B 201               4   201
161       *
162            ORG   BEGIN3                                                       0838
163       LOADAD EQU   *&1                                                     0838
164 *  840 EXLINK DCW   #3    139 I XLINKF ENTRY ADDRESS                     3  0840                      5
165    843 YUSR12 DCW   #3    138 H USER FUNCTION 12 ENTRY ADDRESS           3  0843                      5
166    846 YUSR11 DCW   #3    137 D USER FUNCTION 11 ENTRY ADDRESS           3  0846                      5
167    849 YUSR10 DCW   #3    136 M USER FUNCTION 10 ENTRY ADDRESS           3  0849                      5
168    852 YUSER9 DCW   #3    135 L USER FUNCTION 09 ENTRY ADDRESS           3  0852                      5
169    855 YUSER8 DCW   #3    134 K USER FUNCTION 08 ENTRY ADDRESS           3  0855                      5
170    858 YUSER7 DCW   #3    133 J USER FUNCTION 07 ENTRY ADDRESS           3  0858                      5
171    861 YUSER6 DCW   #3    132 Z USER FUNCTION 06 ENTRY ADDRESS           3  0861                      6
172    864 YUSER5 DCW   #3    131 Y USER FUNCTION 05 ENTRY ADDRESS           3  0864                      6
173    867 YUSER4 DCW   #3    130 W USER FUNCTION 04 ENTRY ADDRESS           3  0867                      6
174    870 YUSER3 DCW   #3    129 P USER FUNCTION 03 ENTRY ADDRESS           3  0870                      6
175    873 YUSER2 DCW   #3    128 U USER FUNCTION 02 ENTRY ADDRESS           3  0873                      6
176 *  876 USER1  DCW   #3    127 R USER FUNCTION 01 ENTRY ADDRESS           3  0876                      6
177    879 SQRTFN DCW   #3    126 Q SQRTF ENTRY ADDRESS                      3  0879                      6
178    882 FLTFUN DCW   #3    125 F FLOATF ENTRY ADDRESS                     3  0882                      7
179    885 FIXFUN DCW   #3    124 X XFIXF ENTRY ADDRESS                      3  0885                      7
180    888 NEGTFN DCW   #3    123 N NEGATION ENTRY ADDRESS                   3  0888                      7
181    891 ABSVAL DCW   #3    122 A ABSF ENTRY ADDRESS                       3  0891                      7
182    894 ATANFN DCW   #3    121 T ATANF ENTRY ADDRESS                      3  0894                      7
183    897 XPNETL DCW   #3    120 E EXPF ENTRY ADDRESS                       3  0897                      7
184    900 LOGFUN DCW   #3    119 G LOGF ENTRY ADDRESS                       3  0900                      7
185    903 SINFUN DCW   #3    118 SC SINF OR COSF ENTRY ADDRESS              3  0903                      8
186    906 COMFN1 DCW   #3    117 SERIES                                     3  0906                      8
187 *  909 SUBSC  DCW   #3    116 SUBSCRIPT                                  3  0909                      8
188 *  912 OBLIST DSA   RELENT  115 I/O LIST AND NOT LIMITED FORMAT          3  0912  J32                 8  2132
189    915 DOINIT DCW   #3    114 I/O LIST                                   3  0915                      8
190    918 DOADR3 DCW   #3    113                                            3  0918                      8
191    921 DOADR2 DCW   #3    112                                            3  0921                      8
192    921 DOADR1 DCW   #3    111                                            3  0924                      9
193    924 FUNTAB EQU   DOADR1                                                 0924
194 *  927 SX2    DSA   FUNTAB                                               3  0927  924                 9   924
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SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD A-ADDR  B-ADDR

195 *  930  CONBOT DCW   #3    BOTTOM OF CONSTANTS - 1  FIXWD          3  0930                      9
196 *  933  ARYBOT DCW   #3    BOTTOM OF ARRAYS - 1     FLTWD          3  0933                      9
197         *
198         * PATCHES IN V3M4
199         *
200         * ADJUST X3, THEN LOAD PHASES 52B AND 52C
201         *
202 *  934  BEG52A BWZ   *&5,X3,2                                V3M4   8  0934  V 946 099 2       9   946     099
203  1 044         B     LOADBC                                   V3M4   4  0942  B 965             9   965
204  1 048         BWZ   *&5,X3-2,S                               V3M4   8  0946  V 958 097 S       9   958     097
205  1 056         B     LOADBC                                   V3M4   4  0954  B 965            10   965
206  1 060         SBR   X3,2000                                  V3M4   7  0958  H 099 !00        10   099    2000
207         LOADBC BIN   LOADNX,                                  V3M4   5  0965  B 700            10   700
208                ORG   1696  MOKOTOFF V3M4.LST LINE 10515                    1696
209  1 696  GMWM   DCW   @}@                                             1  1696            GMARK  11
210                XFR   BEG52A                                                  B 934            12   934
211         CLRME  CLRA  BEG52A,GMWM,C                                                     MACRO
            *      CLRA  CLRBOT,CLRTOP[,SS,HERE,GWMAD]                                     GEN
            *                                                                              GEN
            * CLEAR CORE AFTER A PHASE USING THE CLRTOP ADDRESS                            GEN
            *                                                                              GEN
212                ORG   201                                                     0201
            *                                                                              GEN
            * CLEAR DOWN TO CLRBOT & X00 THE EASY WAY                                      GEN
            *                                                                              GEN
213         CLRME  EQU   *&1                                                      0201     GEN
214                BSS   SNAPSH,C                                             5  0201  B 333 C     GEN     13   333
215         )0J005 CS    GMWM         CLEAR FROM CLRTOP                    4  0206  / W96       GEN     13  1696
216                SBR   )0J005&3                                           4  0210  H 209       GEN     13   209
217                SBR   )0L005&6                                           4  0214  H 255       GEN     13   255
218                C     )0J005&3,)0M005   DOWN TO CLRBOT & X00?           7  0218  C 209 266   GEN     13   209     266
219                BU    )0J005                                             5  0225  B 206 /     GEN     13   206
            *                                                                              GEN
            * NOW CLEAR DOWN TO CLRBOT THE HARD WAY                                        GEN
            *                                                                              GEN
220         )0K005 C     )0L005&6,)0N005                                    7  0230  C 255 269   GEN     13   255     269
221                BU    )0L005                                             5  0237  B 249 /     GEN     14   249
222                CS    LOADNX,)0Q005  LOAD THE NEXT BLOCK AT 1            7  0242  / 700 276   GEN     14   700     276
223         )0L005 LCA   )0P005,0-0     CLEAR WITH BLANK AND WORD MARK     7  0249  L 270 000   GEN     14   270     000
224                SBR   )0L005&6                                           4  0256  H 255       GEN     14   255
225                B     )0K005                                             4  0260  B 230       GEN     14   230
226         )0M005 DSA   )0R005         CLRBOT & X00 - 1                   3  0266  999         GEN     14   999
227         )0N005 DSA   BEG52A         CLRBOT                             3  0269  934         GEN     14   934
228         )0P005 DCW   #1                                                1  0270              GEN     15
229                DC    @CLRA @     IDENTIFY IN A DECK, TAPE, OR DUMP     5  0275              GEN     15
230         )0Q005 DCW   @}@                                               1  0276              GEN     15
231                ORG   BEG52A&X00                                                1000
232         )0R005 EQU   *           CLRBOT & X00 - 1                         0999              GEN
233                XFR   CLRME                                                   B 201            16   201
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
)0J004	0207: 0	)0J005	0206: 0	)0K005	0230: 0	)0L005	0249: 0	)0M005	0266: 0	)0N005	0269: 0
)0P005	0270: 0	)0Q005	0276: 0	)0R005	0999: 0	)1J004	0250: 0	)6J004	0110: 0	)6K004	0700: 0
)6L004	0704: 0	)6M004	0728: 0	)8J004	0257: 0	)8K004	0273: 0	)9J004	0282: 0	)9R004	0287: 0
ABSVAL	0891: 0	AFMT1	4280: 0	AGM	4646: 0	ARYBOT	0933: 0	ATANFN	0894: 0	BEG52A	0934: 0
BEGIN3	0838: 0	CDOVLY	0700: 0	CLRME	0201: 0	COMFN1	0906: 0	CONBOT	0930: 0	DOADR1	0924: 0
DOADR2	0921: 0	DOADR3	0918: 0	DOINIT	0915: 0	EXLINK	0840: 0	FIXFUN	0885: 0	FLTFUN	0882: 0
FUNTAB	0924: 0	GMWM	1696: 0	LOADAD	0838: 0	LOADBC	0965: 0	LOADNX	0700: 0	LOGFUN	0900: 0
NEGTFN	0888: 0	OBLIST	0912: 0	PHASID	0110: 0	PHASLD	0381: 0	PHS52A	0201: 0	RELENT	2132: 0
SINFUN	0903: 0	SNAPEX	0564: 0	SNAPSH	0333: 0	SQRTFN	0879: 0	SUBSC	0909: 0	SX2	0927: 0
TOP3	2600: 0	TPERR	0728: 0	TPREAD	0704: 0	USER1	0876: 0	X3	0099: 0	XPNETL	0897: 0
YUSER2	0873: 0	YUSER3	0870: 0	YUSER4	0867: 0	YUSER5	0864: 0	YUSER6	0861: 0	YUSER7	0858: 0
YUSER8	0855: 0	YUSER9	0852: 0	YUSR10	0849: 0	YUSR11	0846: 0	YUSR12	0843: 0		

UNREFERENCED SYMBOLS

ABSVAL AFMT1 AGM ARYBOT ATANFN CDOVLY COMFN1 CONBOT DOADR2 DOADR3 DOINIT EXLINK FIXFUN FLTFUN LOGFUN NEGTFN OBLIST
PHASID PHASLD SINFUN SNAPEX SQRTFN SUBSC SX2 TOP3 TPERR TPREAD USER1 XPNETL YUSER2 YUSER3 YUSER4 YUSER5 YUSER6
YUSER7 YUSER8 YUSER9 YUSR10 YUSR11 YUSR12