```
BOOTSTRAP FOR CLEAR ,008015,022026,030040/019,001L020100   ,047054,061068,072072)0810811022              1
CLEAR OR BOOTSTRAP  ,008047/047046       /000H025B022100  4/061046,054061,068072,0010401040              2

                          CHEPONIS'S LOADER REVISITED                                              PAGE    1

 SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

 101                JOB   CHEPONIS'S LOADER REVISITED
 102         *
 103         * USES 81-199 SO THAT AREA HAS TO BE LOADED BY A DIFFERENT LOADER.
 104         *
 105         * ASSUMES THE LOADER FOR THIS LOADER CLEARS 0-80 AS ITS LAST GASP.
 106         *
 107         * FORMAT-- IF CC 80 -- 0-7-8 THEN 1-5 -- BRANCH TO START AND BLANK
 108         *          ELSE CC 1-3 -- ADDRESS OF FIRST CHARACTER TO BE STORED
 109         *               CC 4-80 -- DATA TO BE LOADED
 110         *          0-5-8 MEANS SET WORD MARK
 111         *
 112                SFX   O                                             O
 113         X1     EQU   89                                            O      0089
 114         X2     EQU   94                                            O      0094
 115         *
 116                ORG   82             DON'T LEAVE WM IN X2-1,X2      O              0082
 117         START  SW    1              PREPARE READ AREA              O   4  0082  , 001                  3
 118         READ   R                                                   O   1  0086  1                      3
 119                BCE   1,80,+         CHECK FOR END CARD -- 0-7-8    .1150  O   8  0087  B 001 080 +    3
 120                MCW   3,X2           ELSE PICK UP START ADDRESS     .0575  O   7  0095  M 003 094      3
 121                SBR   X1,3           INIT SOURCE INDEX              .1265  O   7  0102  H 089 003      3
 122         LOAD   CW    0&X2           ASSUME NO WM WANTED AT DEST    .1265  O   4  0109  ) 0!0          3
 123         SET    SBR   X1,1&X1        BUMP SOURCE                    .1725  O   7  0113  H 089 0|1      3
 124                BCE   SETWM,0&X1,=   NO DATA, JUST WM IF 0-5-8      .1610  O   8  0120  B 161 0|0 =    4
 125                MN    0&X1,0&X2      MOVE SOURCE TO DEST            .2070  O   7  0128  D 0|0 0!0      4
 126                MZ    0&X1,0&X2      MOVE SOURCE TO DEST            .2070  O   7  0135  Y 0|0 0!0      4
 127                BCE   READ,X1-1,8    BRANCH IF CC 80 JUST MOVED     .1150  O   8  0142  B 086 088 8    4
 128                SBR   X2,1&X2        BUMP DEST                      .1725  O   7  0150  H 094 0!1      4
 129                B     LOAD           LOAD ANOTHER CHARACTER         .0460  O   4  0157  B 109          5
 130         SETWM  SW    0&X2                                          .1265  O   4  0161  , 0!0          5
 131                B     SET                                           .0460  O   4  0165  B 113          5
 132                DCW   #1             WM TO END BRANCH               O   1  0169                         5
 133                EX    START                                         O          B 082                  5
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                             SFX CT  LOCN  INSTRUCTION TYPE  CARD

134                JOB   CHEPONIS'S LOADER REVISITED -- DIFFERENT FORMAT      O
135         *
136         * USES 81-199 SO THAT AREA HAS TO BE LOADED BY A DIFFERENT LOADER.
137         *
138         * ASSUMES THE LOADER FOR THIS LOADER CLEARS 0-80 AS ITS LAST GASP.
139         *
140         * FORMAT-- CC 1-4 -- BRANCH TO ,,BACK,, OR START OF PROGRAM
141         *          CC 5-7 -- ADDRESS OF FIRST CHARACTER TO BE STORED
142         *          CC 8-81 -- DATA TO BE LOADED (YES, 81)
143         *          0-5-8 MEANS SET WORD MARK
144         *
145                SFX   B                                                     B
146         X1     EQU   89                                                    B      0089
147         X2     EQU   94                                                    B      0094
148         *
149                ORG   81             DON'T LEAVE WM IN X2-1,X2              B              0081
150         START  SW    1,5            PREPARE READ AREA                      B   7  0081  , 001 005             6
151         READ   R     1                                                     B   4  0088  1 001                 6
152         BACK   SBR   X1             INIT SOURCE COLUMN TO 5         .0920  B   4  0092  H 089                 6
153                MCW   7,X2           PICK UP START ADDRESS           .0575  B   7  0096  M 007 094             6
154         LOAD   CW    0&X2           ASSUME NO WM WANTED AT DEST     .1265  B   4  0103  ) 0!0                 6
155         SET    SBR   X1,1&X1        BUMP SOURCE                     .1725  B   7  0107  H 089 0|1             6
156                BCE   READ,X1-1,8    BRANCH IF CC 81 JUST MOVED      .1150  B   8  0114  B 088 088 8           7
157                BCE   SETWM,2&X1,=   NO DATA, JUST WM IF 0-5-8       .1610  B   8  0122  B 155 0|2 =           7
158                MN    2&X1,0&X2      MOVE SOURCE TO DEST             .2070  B   7  0130  D 0|2 0!0             7
159                MZ    2&X1,0&X2      MOVE SOURCE TO DEST             .2070  B   7  0137  Y 0|2 0!0             7
160                SBR   X2,1&X2        BUMP DEST                       .1725  B   7  0144  H 094 0!1             7
161                B     LOAD           LOAD ANOTHER CHARACTER          .0460  B   4  0151  B 103                 8
162         SETWM  SW    0&X2                                           .1265  B   4  0155  , 0!0                 8
163                B     SET                                            .0460  B   4  0159  B 107                 8
164                DCW   #1             WM TO END BRANCH                       B   1  0163                        8
165                EX    START                                                 B            B 081                 8
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                         SFX CT  LOCN  INSTRUCTION TYPE  CARD

166                JOB   CHEPONIS'S LOADER -- DIFFERENT FORMAT WITH OVERLAP   B
167         *
168         * USES 81-280 SO THAT AREA HAS TO BE LOADED BY A DIFFERENT LOADER.
169         *
170         * ASSUMES THE LOADER FOR THIS LOADER CLEARS 0-80 AS ITS LAST GASP.
171         *
172         * FORMAT-- CC 1-4 -- BRANCH TO ,,BACK,, OR START OF PROGRAM
173         *          CC 5-7 -- ADDRESS OF FIRST CHARACTER TO BE STORED
174         *          CC 8-80 -- DATA TO BE LOADED
175         *          0-5-8 MEANS SET WORD MARK
176         *
177                SFX   V                                                V
178         X1     EQU   89                                               V      0089
179         X2     EQU   94                                               V      0094
180         *
181                ORG   81             DON'T LEAVE WM IN X2-1,X2         V             0081
182         START  SW    1,5            PREPARE READ AREA                 V   7  0081  , 001 005            9
183                R                    READ FIRST CARD                   V   1  0088  1                    9
184                SS    $              TURN ON OVERLAP                   V   2  0089  K $                  9
185         READ   BIN   READ,H         READER BUSY?                      V   5  0091  B 091 H              9
186                LCA   80,280         LOAD READ AREA TO PRINT AREA      V   7  0096  L 080 280            9
187                B     1              TEST FOR END OF DECK              V   4  0103  B 001                9
188         BACK   SBR   X1             INIT SOURCE COLUMN TO 5    .1265  V   4  0107  H 089                9
189                R                    START READING NEXT CARD           V   1  0111  1                   10
190                MCW   207,X2         PICK UP START ADDRESS      .0575  V   7  0112  M 207 094           10
191         LOAD   CW    0&X2           ASSUME NO WM WANTED AT DEST .1265 V   4  0119  ) 0!0               10
192         SET    SBR   X1,1&X1        BUMP SOURCE                .1725  V   7  0123  H 089 0|1           10
193                BCE   READ,X1-1,8    BRANCH IF CC 81 JUST MOVED .1150  V   8  0130  B 091 088 8         10
194                BCE   SETWM,202&X1,=  NO DATA, JUST WM IF 0-5-8 .1610  V   8  0138  B 171 2|2 =         10
195                MN    202&X1,0&X2    MOVE SOURCE TO DEST        .2070  V   7  0146  D 2|2 0!0           11
196                MZ    202&X1,0&X2    MOVE SOURCE TO DEST        .2070  V   7  0153  Y 2|2 0!0           11
197                SBR   X2,1&X2        BUMP DEST                  .1725  V   7  0160  H 094 0!1           11
198                B     LOAD           LOAD ANOTHER CHARACTER     .0460  V   4  0167  B 119               11
199         SETWM  SW    0&X2                                      .1265  V   4  0171  , 0!0               11
200                B     SET                                       .0460  V   4  0175  B 123               11
201                DC    #1             BLANK TO END BRANCH               V   1  0179                      11
202                EX    START                                            V            B 081               11
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                            SFX CT  LOCN  INSTRUCTION TYPE  CARD

203                JOB   CHEPONIS’S LOADER REVISITED -- USING MCW             V
204         *
205         * USES 81-180 SO THAT AREA HAS TO BE LOADED BY A DIFFERENT LOADER.
206         *
207         * ASSUMES THE LOADER FOR THIS LOADER LEAVES NO WM IN 6 OR 7.
208         *
209         * FORMAT-- CC 1-4 -- BRANCH TO ,,BACK,, OR START OF PROGRAM
210         *                    OR ,,OVLAY,, TO LOAD A DIFFERENT LOADER
211         *          CC 5-7 -- ADDRESS OF FIRST CHARACTER TO BE STORED
212         *          CC 8-81 -- DATA TO BE LOADED (YES, 81)
213         *          0-5-8 MEANS SET WORD MARK
214         *
215                SFX   M                                                    M
216         X1     EQU   89                                                   M      0089
217         X2     EQU   94                                                   M      0094
218         *
219                ORG   84             NEED WM AT X2-2 AND NOT X2-1,X2       M              0084
220         START  SW    80             PREPARE READ AREA                     M   4  0084  , 080              12
221                SBR   START&6        SET WORD                              M   4  0088  H 090              12
222                BW    BEGIN,8          MARKS IN                            M   8  0092  V 108 008 1        12
223                B     START              CC 8-80                           M   4  0100  B 084              12
224         OVLAY  CS    80             CC 1-4 BRANCH HERE TO LOAD NEW LOADER M   4  0104  / 080              12
225         BEGIN  SW    1                                                    M   4  0108  , 001              12
226         READ   R     1                                                    M   4  0112  1 001              12
227         BACK   SBR   X1             INIT SOURCE COLUMN TO 5        .0920  M   4  0116  H 089              13
228                MCW   7,X2           PICK UP START ADDRESS          .0575  M   7  0120  M 007 094          13
229         LOAD   CW    0&X2           ASSUME NO WM WANTED AT DEST    .1265  M   4  0127  ) 0!0              13
230         SET    SBR   X1,1&X1        BUMP SOURCE                    .1725  M   7  0131  H 089 0|1          13
231                BCE   READ,X1-1,8    BRANCH IF CC 81 JUST MOVED     .1150  M   8  0138  B 112 088 8        13
232                BCE   SETWM,2&X1,=   NO DATA, JUST WM IF 0-5-8      .1610  M   8  0146  B 172 0|2 =        13
233                MCW   2&X1,0&X2      MOVE SOURCE TO DEST            .2070  M   7  0154  M 0|2 0!0          14
234                SBR   X2,1&X2        BUMP DEST                      .1725  M   7  0161  H 094 0!1          14
235                B     LOAD           LOAD ANOTHER CHARACTER         .0460  M   4  0168  B 127              14
236         SETWM  SW    0&X2                                          .1265  M   4  0172  , 0!0              14
237                B     SET                                           .0460  M   4  0176  B 131              14
238                DCW   #1             WM TO END INSTR                       M   1  0180                     14
239                EX    START                                                M              B 084              14
```

```
SEQ PG LIN  LABEL  OP    OPERANDS                                              SFX CT  LOCN  INSTRUCTION TYPE  CARD

                   JOB   ENTIRELY DIFFERENT                                     M
            *
            * USES 81-199 SO THAT AREA HAS TO BE LOADED BY A DIFFERENT LOADER.
            *
            * FORMAT-- CC 1-3 -- LAST CHAR ON CARD IF NOT / IN CC 1
            *                    LAST CHAR CAN'T BE WM CHAR
            *          CC 6-8 -- LAST CHAR IN MEMORY IF NOT / IN CC 1
            *          CC 1-7 -- CLEAR STORAGE AND BRANCH TO PROGRAM START
            *                    IF / IN CC 1
            *          CC 10-LAST -- CHARS TO LOAD IF NO / IN CC 1
            *
                   SFX   D                                                      D
            X2     EQU   94                                                     D       0094
            X3     EQU   99                                                     D       0099
            *
                   ORG   81             DON'T LEAVE WM AT 93-99                 D              0081
            START  SW    1,80           PREPARE READ AREA                       D   7  0081  , 001 080             15
                   SBR   START&6          SET WORD                              D   4  0088  H 087                 15
                   BW    READ,10            MARKS IN                            D   8  0092  V 104 010 1           15
                   B     START                CC 10-80                          D   4  0100  B 081                 15
            READ   R                                                            D   1  0104  1                     15
                   BCE   1,1,/          BRANCH TO PROGRAM ?              .1150  D   8  0105  B 001 001 /           15
                   MCW   8,X3           GET LAST SOURCE AND DEST ADDRS   .2760  D   7  0113  M 008 099             15
            LOAD   BCE   READ,X2-1,0    JUST MOVED CC 9 -- I.E. DONE?    .1150  D   8  0120  B 104 093 0           16
                   BCE   SETWM,0&X2,=   SET WM?                          .1610  D   8  0128  B 155 0!0 =           16
                   SBR   X2             DECR SOURCE ADDR                 .0920  D   4  0136  H 094                 16
                   MCW   1&X2,0&X3      MOVE SOURCE TO DEST              .2070  D   7  0140  M 0!1 0?0             16
                   SBR   X3             DECR DEST ADDR                   .0920  D   4  0147  H 099                 16
                   B     LOAD           DO NEXT CHAR                     .0460  D   4  0151  B 120                 16
            SETWM  SW    1&X3           SET THE WM                       .1265  D   4  0155  , 0?1                 16
                   SBR   X2,15999&X2    DECR SOURCE ADDR                 .1725  D   7  0159  H 094 IRI             17
                   B     LOAD           DO NEXT CHAR                     .0460  D   4  0166  B 120                 17
            * COME HERE TO LOAD A BOOTSTRAP CARD FOR A DIFFERENT FORMAT LOADER,
            * USING  CS MORE,80  IN CC 1-8 OF THE ENTRY CARD.
            MORE   SW    1                                                      D   4  0170  , 001                 17
                   R     1                                                      D   4  0174  1 001                 17
                   DCW   #1                                                     D   1  0178                        17
                   EX    START                                                  D            B 081                 17
                   END   START                                                  D            / 081 080
```

SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
BACK B	92	BACK M	116	BACK V	107	BEGINM	108	LOAD B	103	LOAD D	120	LOAD M	127
LOAD O	109	LOAD V	119	MORE D	170	OVLAYM	104	READ B	88	READ D	104	READ M	112
READ O	86	READ V	91	SET B	107	SET M	131	SET O	113	SET V	123	SETWMB	155
SETWMD	155	SETWMM	172	SETWMO	161	SETWMV	171	STARTB	81	STARTD	81	STARTM	84
STARTO	82	STARTV	81	X1 B	89	X1 M	89	X1 O	89	X1 V	89	X2 B	94
X2 D	94	X2 M	94	X2 O	94	X2 V	94	X3 D	99				