```
CLEAR STORAGE 1     ,008015,022026,030037,044,049,053053N000000N00001026                                    1
CLEAR STORAGE 2     L068116,105106,110117B101/I9I#071029C029056B026/B001/0991,001/001117I0?                  2
BOOTSTRAP           ,008015,022029,036040,047054,061068,072/061039              ,0010011040                 3

                          1401 AUTOCODER-PASS 3-TRANSLATOR-INITIAL  -VERSION 3       3731L              PAGE    1

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

 101  1 01   003    JOB   1401 AUTOCODER-PASS 3-TRANSLATOR-INITIAL  -VERSION 3
 102  1 02          CTL   630 1
 103  1 03   *
 104  1 04   *EQUATES
 105  1 05   *
 106  1 06   INTAPE EQU   %U6                                                    %U6
 107  1 07   OUTAPE EQU   %U4                                                    %U4
 108  1 08   SYSTAP EQU   %U1                                                    %U1
 109  1 09   INITAP EQU   %U0                                                    %U0
 110  1 10   XXXX   EQU   0000                                                  0000
 111  1 11   PRINT  EQU   200                                                   0200
 112  1 12   LIBRN  EQU   000                                                   0000
 113  1 13   *
 114  1 14   *TAPE REDUNDANCY ROUTINE
 115  1 15   *
 116  1 16          ORG   RTEND&1                                                      2210
 117  1 17   TPERR  SBR   XL3                                                 4  2210  H 099               4
 118  1 18          SBR   REDXT&3                                             4  2214  H K82               4
 119  1 19          MZ    &9,XL3                                              7  2218  Y M60 099           4
 120  1 20          MCW   4000-10&X3,TPINS&7         BRING IN INSTRUCTION     7  2225  M II0 K73           4
 121  1 21          MN    TPINS&3,BSP1&3              THAT CAUSED              7  2232  D K69 K49           4
 122  1 22          MCW   TPINS&7,INST2&7            REDUNDANCY               7  2239  M K73 L82           4
 123  1 23   BSP1   BSP   INITAP                     BACKSPACE TAPE           5  2246  U %U0 B             5
 124  1 24          BCE   WRTRD,TPINS&7,W           Q. WRITE REDUNDANCY      8  2251  B L55 K73 W         5
 125  1 25          MCW   &9,RDCT#1                 INITIALIZE COUNTER       7  2259  M M60 M61           5
 126  1 26   TPINS  RT    INITAP,XXXX               RE-READ                  8  2266  M %U0 000 R         5
 127  1 27          BER   RDERR                     Q. REDUNDANCY AGAIN      5  2274  B K83 L             5
 128  1 28   REDXT  B     XXXX                      EXIT                     4  2279  B 000               5
 129  1 29   RDERR  MN    TPINS&3,BSP2&3                                     7  2283  D K69 K93           6
 130  1 30   BSP2   BSP   INITAP                     BACKSPACE AGAIN          5  2290  U %U0 B             6
 131  1 31          S     &1,RDCT                   REDUCE COUNTER           7  2295  S M62 M61           6
 132  1 32          BWZ   TPINS,RDCT,B              Q. 10 SUCCESSIVE READS   8  2302  V K66 M61 B         6
 133  1 33          MN    TPINS&3,TPHLT&6                                    7  2310  D K69 L23           6
 134  1 34   TPHLT  H     XXXX,390                  HALT                     7  2317  . 000 390           7
 135  1 35          MCW   TPINS&7,*&8                                       7  2324  M K73 L38           7
 136  1 36          RT    INITAP,XXXX               RE-READ                  8  2331  M %U0 000 R         7
 137  1 37          BSS   BSP1,E                    DETERMINE OPTION         5  2339  B K46 E             7
 138  1 38          H     XXXX,302                  HALT AGAIN               7  2344  . 000 302           7
 139  1 39          B     REDXT                     EXIT                     4  2351  B K79               7
 140  1 40   WRTRD  SKP   SYSTAP                    ERASE TAPE               5  2355  U %U1 E             8
 141  1 41          BCE   SBCTR,WRTCR-1,5           Q. FIFTY SKIPS           8  2360  B L92 M63 5         8
 142  1 42          A     &1,WRTCR#2                INCREASE COUNTER         7  2368  A M62 M64           8
 143  1 43   INST2  WT    INITAP,XXXX               RE-WRITE                 8  2375  M %U0 000 W         8
 144  1 44          BER   BSP1                      Q. REDUNDANCY AGAIN      5  2383  B K46 L             8
 145  1 45          B     REDXT                                              4  2388  B K79               8
 146  1 46   SBCTR  S     WRTCR                     RESET COUNTER            4  2392  S M64               9
 147  1 47          MN    TPINS&3,*&7                                        7  2396  D K69 M09           9

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

 148  1 48          H     XXXX,360                  HALT                     7  2403  . 000 360           9
 149  1 49          B     INST2                                              4  2410  B L75               9
 150  1 50   *
 151  1 51   * NOISE RECORD ROUTINE
 152  1 52   *
 153  1 53   NOISE  SBR   XL3                                                 4  2414  H 099               9
 154  1 54          SBR   NSXT&3                                             4  2418  H M52               9
 155  1 55          MZ    &9,XL3                                             7  2422  Y M60 099           9
 156  1 56   N2     BCE   4000-12&X3, XXXX, }        SCAN FOR GROUP MARK      8  2429  B IH8 000 } GMARK   10
 157  1 57          CHAIN 12                                                                 MACRO
 158                BCE                                                      1  2437  B           GEN     10
 159                BCE                                                      1  2438  B           GEN     10
 160                BCE                                                      1  2439  B           GEN     10
 161                BCE                                                      1  2440  B           GEN     10
 162                BCE                                                      1  2441  B           GEN     10
 163                BCE                                                      1  2442  B           GEN     10
 164                BCE                                                      1  2443  B           GEN     11
 165                BCE                                                      1  2444  B           GEN     11
 166                BCE                                                      1  2445  B           GEN     11
 167                BCE                                                      1  2446  B           GEN     11
 168                BCE                                                      1  2447  B           GEN     11
 169                BCE                                                      1  2448  B           GEN     11
 170  1 58   NSXT   B     0                                                  4  2449  B 000               11
 171  1 59   OBJCOR DCW   @3@                       OBJECT CORE SIZE CODE    1  2453                      12
 172  1 60   HIVAL  DCW   @  999@                   HIGHEST OBJECT ADDRESS   5  2458                      12
 173  1 61   MANAM  DCW   @#@                       EQUALS # OR A            1  2459                      12
 174  1 62          LTORG *                                                            2460
                    DCW   &9                                                 1  2460           LIT     12
              RDCT  DCW   #01                                                1  2461           AREA    12
                    DCW   &1                                                 1  2462           LIT     12
              WRTCR DCW   #02                                                2  2464           AREA    12
 175  1 63   *
 176  1 64   *BEGIN     OF MAIN LINE
 177  1 65   *
 178  1 66   BEGIN  RWD   INTAPE                    REWIND INPUT TAPE        5  2465  U %U6 R             13
 179  1 67          RWD   5                         REWIND 5                 5  2470  U %U5 R             13
 180  1 68          CS    3999                      CLEAR INPUT AREA         4  2475  / I99               13
 181  1 69          RTW   SYSTAP,001               READ LOWER HALF          8  2479  L %U1 001 R         13
 182  1 70          NOP   0                          PASS 3                  4  2487  N 000               13
 183  1 71          BER   TPERR                                            5  2491  B K10 L             13
 184  1 72          SW    GMK1,GMK2                 INITIALIZE GROUP MARKS   7  2496  , I89 187           13
 185  1 73          CW    SYSMK2                                           4  2503  ) ?03               14
 186  1 74          CS    080                       CLEAR READ AREA          4  2507  / 080               14
 187  1 75          SW    EQVADD                    INITIALIZE TO UNDEF      4  2511  , A69               14
 188  1 76          RWD   OUTAPE                    RWD OUTPUT TAPE          5  2515  U %U4 R             14
 189  1 77          MCW   &FREE&13,N2&6                                      7  2520  M R20 M35           14
 190  1 78          MCW   @N@,N3                    CRIPPLE TEST FOR NOISE   7  2527  M R21 573           14
 191  1 79          MCW   @N@,N4                                           7  2534  M R21 558           14
 192  1 80          RT    5,FREE&1                  READ IN MACRO FACTOR     8  2541  M %U5 101 R         15
 193  1 81          B     NOISE                      WHICH IS                4  2549  B M14               15
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

194  1 82           BER   TPERR                      PASSED IN FROM PASS 2      5  2553  B K10 L             15
195  1 83           RWD   5                          AND SAVE VALUE             5  2558  U %U5 R             15
196  1 84           MCW   FREE&3,JOBLBL#3                                      7  2563  M 103 R24           15
197  1 85           ZA    @101@,ALTRNO               RESET ALTER NUMBER         7  2570  ? R27 184           15
198  1 86   *
199  1 87   * PROCESS JOB CARD
200  1 88   *
201  1 89           B     GET                        GET FIRST RECORD           4  2577  B 524               16
202  1 90           BCE   GENJOB,FREE&6,*            Q. COMMENTS CARD           8  2581  B Q53 106 *         16
203  1 91           C     FREE&18,@JOB@              Q. JOB CARD                7  2589  C 118 R30           16
204  1 92           BU    GENJOB                                                5  2596  B Q53 /             16
205  1 93   CODJOB  MCW   JOBLBL,FREE&8             PICKUP FACTOOR             7  2601  M R24 108           16
206  1 94           WT    OUTAPE,FREE&1              PUT JOB CARD               8  2608  M %U4 101 W         16
207  1 95           NOP   0                                                     4  2616  N 000               17
208  1 96           BER   TPERR                                                 5  2620  B K10 L             17
209  1 97           A     &1,ALTRNO                                             7  2625  A R31 184           17
210  1 98           B     GET                        GET NEXT RECORD            4  2632  B 524               17
211  1 99           MCW   @B@,N3                     RESET NOISE ROUTINE        7  2636  M R32 573           17
212  2 00           MCW   @M@,N4                                                7  2643  M R33 558           17
213  2 01   *
214  2 02   *PROCESS CONTROL CARD
215  2 03   *
216  2 04           C     FREE&18,@CTL@              Q. CONTROL CARD            7  2650  C 118 R36           18
217  2 05           BU    CHNAD                                                 5  2657  B Q85 /             18
218  2 06           CS    0                                                     4  2662  / 000               18
219  2 07           SBR   CLEAR&3                                               4  2666  H O85               18
220  2 08           SBR   SVSZ#3                                                4  2670  H R39               18
221  2 09           BWZ   PROSZ,CLEAR&3,2                                       8  2674  V P02 O85 2         18
222  2 10   CLEAR   CS    15999                                                 4  2682  / I9I               18
223  2 11           SBR   CLEAR&3                    CLEAR ABOVE 4K             4  2686  H O85               19
224  2 12           C     CLEAR&3,@I99@              Q. END OF CLEARING         7  2690  C O85 R42           19
225  2 13           BU    CLEAR                                                 5  2697  B O82 /             19
226  2 14   PROSZ   MCW   @6@,PHOLD#1                                           7  2702  M R43 R44           19
227  2 15           BWZ   CSZ,SVSZ,B                                           8  2709  V P54 R39 B         19
228  2 16           MCW   @5@,PHOLD                                           7  2717  M R45 R44           19
229  2 17           BWZ   CSZ,SVSZ,K                                           8  2724  V P54 R39 K         20
230  2 18           MCW   @4@,PHOLD                                           7  2732  M R46 R44           20
231  2 19           BWZ   CSZ,SVSZ,S                                           8  2739  V P54 R39 S         20
232  2 20           MCW   @3@,PHOLD                                           7  2747  M R47 R44           20
233  2 21   CSZ     C     FREE&21,PHOLD                                         7  2754  C 121 R44           20
234  2 22           BE    INOBJ                                                 5  2761  B P97 S             21
235  2 23   *          MESSG@INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@,42
236    02           CS    332                                                   4  2766  / 332               21
237    03           CS                                                          1  2770  /                   21
238    04           MCW   @INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@,42&200  7  2771  M R89 242           21
239    05           W                                                           1  2778  2                   21
240    07           BCV   *&5                                                  5  2779  B P88 @             21
241    08           B     *&3                                                   4  2784  B P90               21
242    09           CC    1                                                     2  2788  F 1                 22
243  2 24           MCW   PHOLD,FREE&21                                       7  2790  M R44 121           22
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SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

244  2 25   INOBJ   MCW   FREE&22,OBJCOR            SAVE OBJECT MACHINE CODE   7  2797  M 122 M53           22
245  2 26           ZA    OBJCOR,XL1                                            7  2804  ? M53 089           22
246  2 27           S     &30,XL1&1                                             7  2811  S R91 090           22
247  2 28           A     XL1                        CODE -HIVAL-               4  2818  A 089               22
248  2 29           MCW   OBJTBL&X1,HIVAL-3                                    7  2822  M R/1 M55           23
249  2 30           C     FREE&22,@3@                Q. OBJECT CORE GT 4K       7  2829  C 122 R47           23
250  2 31           BL    GETMN                                                 5  2836  B 419 T             23
251  2 32           BCE   SETHI,FREE&24,1            Q. MA HARDWARE             8  2841  B Q99 124 1         23
252  2 33           B     IS4K                                                  4  2849  B Q92               23
253  2 34   GENJOB  BSP   INTAPE                                               5  2853  U %U6 B             23
254  2 35           MCW   FREE&74,FREE&73                                       7  2858  M 174 173           24
255  2 36           MCW   @JOB  @,FREE&20            GENERATE JOB CARD          7  2865  M R96 120           24
256  2 37           MCW                                                         1  2872  M                   24
257  2 38           MCW   FREE&74,FREE&15            BLANK AREA                 7  2873  M 174 115           24
258  2 39           MCW                                                         1  2880  M                   24
259  2 40           B     CODJOB                                                4  2881  B O01               24
260  2 41   CHNAD   MCW   &SUBXL,INTXT&3             INITIALIZE EXIT            7  2885  M R99 463           24
261  2 42   IS4K    MCW   @A@,MANAM                                            7  2892  M ?00 M59           25
262  2 43   SETHI   MCW   @03@,HIVAL-3                                         7  2899  M ?02 M55           25
263  2 44           B     GETMN                                                 4  2906  B 419               25
264  2 45   OBJTBL  DCW   @03@                                                  2  2911                      25
265  2 46           DCW   @07@                                                  2  2913                      25
266  2 47           DCW   @11@                                                  2  2915                      25
267  2 48           DCW   @15@                                                  2  2917                      25
268  2 49           LTORG 2918  *                                                      2918
                    DCW   &FREE&13                                              3  2920  113         ADCON   26
                    DCW   @N@                                                   1  2921              LIT     26
               JOBLBL DCW   #03                                                 3  2924              AREA    26
                    DCW   @101@                                                 3  2927              LIT     26
                    DCW   @JOB@                                                 3  2930              LIT     26
                    DCW   &1                                                    1  2931              LIT     26
                    DCW   @B@                                                   1  2932              LIT     26
                    DCW   @M@                                                   1  2933              LIT     27
                    DCW   @CTL@                                                 3  2936              LIT     27
               SVSZ   DCW   #03                                                 3  2939              AREA    27
                    DCW   @I99@                                                 3  2942              LIT     27
                    DCW   @6@                                                   1  2943              LIT     27
               PHOLD  DCW   #01                                                 1  2944              AREA    27
                    DCW   @5@                                                   1  2945              LIT     27
                    DCW   @4@                                                   1  2946              LIT     28
                    DCW   @3@                                                   1  2947              LIT     28
                    DCW   @INCORRECT PROCESSOR MACHINE SIZE SPECIFIED@         42  2989              LIT     30
                    DCW   &30                                                   2  2991              LIT     30
                    DCW   @JOB  @                                               5  2996              LIT     30
                    DCW   &SUBXL                                                3  2999  634         ADCON   30
                    DCW   @A@                                                   1  3000              LIT     30
                    DCW   @03@                                                  2  3002              LIT     31
269  2 50   SYSMK2  DCW   @}@                        SYSTEM GROUP MARK          1  3003              GMARK   31
270  2 51           XFR   000                                                          B 000               32
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

271  2 52          JOB   1401 AUTOCODER-PASS 3 LEFT MAIN LINE      -VERSION 3
272  2 53   *
273  2 54   *INITIALIZATION OF INDEX REGISTERS
274  2 55   *
275  2 56   *         XINITXL1,XL2,XL3
276    01   XL1    EQU   089                                                    0089
277    02   089    DCW   000                                                3   0089                    35
278    04   091    DC    00                                                 2   0091                    35
279    05   XL2    EQU   094                                                    0094
280    06   094    DCW   000                                                3   0094                    35
281    08   096    DC    00                                                 2   0096                    35
282    09   XL3    EQU   099                                                    0099
283    10   099    DCW   000                                                3   0099                    35
284    12   100    DC    0                                                  1   0100                    35
285  2 57   *
286  2 58   *FREE FORM INPUT AREA
287  2 59   *
288  2 60          ORG   101                                                          0101
289  2 61   FREE   EQU   100                                                    0100
290  2 62          DA    1X86                                                   0101   0186
291  2 63                1,1                                                    0101              FIELD
292  2 64                19,19                                                  0119              FIELD
293  2 65                16,16                                                  0116              FIELD
294  2 66                6,6                                                    0106              FIELD
295  2 67                21,21                                                  0121              FIELD
296  2 68   ALTRNO       81,84                                                  0184              FIELD
297  2 69                85,89                                                  0189              FIELD
298  2 70   GMK2   DC    @}@                                                1   0187              GMARK   36
299  2 71   *
300  2 72   *FIXED FORM INPUT AREA
301  2 73   *
302  2 74          ORG   333                                                          0333
303  2 75   INPUT  EQU   *                                                      0332
304  2 76          DA    1X86                                                   0333   0418
305  2 77                40,40                                                  0372              FIELD
306  2 78                17,17                                                  0349              FIELD
307  2 79                28,28                                                  0360              FIELD
308  2 80                39,39                                                  0371              FIELD
309  2 81                76,76                                                  0408              FIELD
310  2 82   *
311  2 83   * GET UPPER HALF OF PASS 3
312  2 84   *
313  2 85   GETMN  RTW   SYSTAP,BEGIN                                        8   0419  L %U1 M65 R         37
314  2 86          NOP   0                                                  4   0427  N 000               37
315  2 87          BER   TPERR                                              5   0431  B K10 L             37
316  2 88          MCW   MANAM,MASYM-3                                     7   0436  M M59 B93           37
317  2 89          RTW   SYSTAP,OVL2                                        8   0443  L %U1 626 R         37
318  2 90          NOP   0                                                  4   0451  N 000               38
319  2 91          BER   TPERR                                              5   0455  B K10 L             38
320  2 92   INTXT  B     NUREC                                              4   0460  B 626               38
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

321  2 93   *
322  2 94   * GET FIXED FORM OVERLAY
323  2 95   *
324  2 96   GTFIX  RTW   SYSTAP,OVL2                                        8   0464  L %U1 626 R         38
325  2 97          NOP   0                                                  4   0472  N 000               38
326  2 98          BER   TPERR                                              5   0476  B K10 L             38
327  2 99          BSP   SYSTAP                                             5   0481  U %U1 B             38
328  3 00          BSP   SYSTAP                                             5   0486  U %U1 B             39
329  3 01          BW    PROFIX,FREESW                                      8   0491  V 661 H09 1         39
330  3 02          B     RSTMOD                                             4   0499  B 638               39
331  3 03   *
332  3 04   * GET FREE FORM OVERLAY
333  3 05   *
334  3 06   GTFRE  RTW   SYSTAP,OVL2                                        8   0503  L %U1 626 R         39
335  3 07          NOP   0                                                  4   0511  N 000               39
336  3 08          BER   TPERR                                              5   0515  B K10 L             39
337  3 09          B     PSTNU                                              4   0520  B 630               39
338  3 10   *
339  3 11   *GET ROUTINE
340  3 12   *
341  3 13   GET    SBR   GETXT&3                                            4   0524  H 553               40
342  3 14          B     RDTAP                                              4   0528  B 554               40
343  3 15          MCW   INAREA&79,FREE&80                                  7   0532  M I82 180           40
344  3 16          CHAIN 4                                                                    MACRO
345                MCW                                                      1   0539  M           GEN     40
346                MCW                                                      1   0540  M           GEN     40
347                MCW                                                      1   0541  M           GEN     40
348                MCW                                                      1   0542  M           GEN     40
349  3 17          MCW   INAREA&85,FREE&86                                  7   0543  M I88 186           41
350  3 18   GETXT  B     XXXX                                               4   0550  B 000               41
351  3 19   RDTAP  SBR   RDXT&3                     READ TAPE                4   0554  H 585               41
352  3 20   N4     MCW   &INAREA&12,N2&6                                    7   0558  M R43 M35           41
353  3 21          RT    INTAPE,INAREA                                      8   0565  M %U6 I03 R         41
354  3 22   N3     B     NOISE                     CHECK FOR NOISE          4   0573  B M14               41
355  3 23          BER   TPERR                                              5   0577  B K10 L             41
356  3 24   RDXT   B     XXXX                                               4   0582  B 000               42
357  3 25   *
358  3 26   *PUT ROUTINE
359  3 27   *
360  3 28   PUT    SBR   PUTXT&3                                            4   0586  H 625               42
361  3 29          CW    FREE&21                                            4   0590  ) 121               42
362  3 30          WT    OUTAPE,FREE&1                                      8   0594  M %U4 101 W         42
363  3 31          NOP   0                                                  4   0602  N 000               42
364  3 32          BER   TPERR                                              5   0606  B K10 L             42
365  3 33          SW    FREE&21                                            4   0611  , 121               42
366  3 34          A     &1,ALTRNO                 INCREASE ALTER NUMBER    7   0615  A R44 184           43
367  3 35   PUTXT  B     XXXX                                               4   0622  B 000               43
368  3 36   OVL2   DCW   0                                                  1   0626                      43
369  3 37          DCW   @}@                       SYSTEM GROUP MARK        1   0627              GMARK   43
370  3 38          XFR   0                                                        B 000               44
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

371  3 39          JOB   1401 AUTOCODER-PASS 3 PROCESS FREE FORM  -VERSION 3
372  3 40   *
373  3 41   *BEGINNING OF NEW FREE FORM RECORD ANALYSIS
374  3 42   *
375  3 43          ORG   OVL2                                                      0626
376  3 44   NUREC  B     PUT                                                4  0626  B 586                47
377  3 45   PSTNU  B     GET                                                4  0630  B 524                47
378  3 46   SUBXL  SW    MODESW                                             4  0634  , ?02                47
379  3 47          CW    FREESW                                             4  0638  ) H09                47
380  3 48          BCE   NUREC,FREE&6,*                                     8  0642  B 626 106 *          47
381  3 49          BCE   REG,FREE&75,                                       8  0650  B 991 175            47
382  3 50          BCE   REG,FREE&75,L                                      8  0658  B 991 175 L          48
383  3 51          BCE   NUREC,FREE&75,S                                   8  0666  B 626 175 S          48
384  3 52          BCE   NUREC,FREE&75,Z                                   8  0674  B 626 175 Z          48
385  3 53          BCE   NUREC,FREE&85,R                                   8  0682  B 626 185 R          48
386  3 54          C     FREE&18,@CHA@                                      7  0690  C 118 R47            48
387  3 55          BCE   CKCHN,FREE&75,C                                   8  0697  B 722 175 C          49
388  3 56          BCE   CKCHN,FREE&75,Y                                   8  0705  B 722 175 Y          49
389  3 57          BU    NUREC                                              5  0713  B 626 /              49
390  3 58          B     PRCHN                                              4  0718  B 727                49
391  3 59   CKCHN  BU    REG                                                5  0722  B 991 /              49
392  3 60   PRCHN  ZA    FREE&22,WAREA2                                     7  0727  ? 122 A14            49
393  3 61          BCE   *&5,WAREA2,&                                       8  0734  B 746 A14 &          50
394  3 62          B     *&8                                                4  0742  B 753                50
395  3 63          ZA    WAREA2-1,WAREA2                                    7  0746  ? A13 A14            50
396  3 64          BCE   *&5,FREE&75,C                                      8  0753  B 765 175 C          50
397  3 65          B     *&8                                                4  0761  B 772                50
398  3 66          MCW   @S@,FREE&75                                        7  0765  M R48 175            50
399  3 67          BCE   *&5,FREE&75,Y                                      8  0772  B 784 175 Y          51
400  3 68          B     *&8                                                4  0780  B 791                51
401  3 69          MCW   @Z@,FREE&75                                        7  0784  M R49 175            51
402  3 70          B     PUT                                                4  0791  B 586                51
403  3 71          C     WAREA2,&00                 ACCOUNT FOR CHAIN 00    7  0795  C A14 R51            51
404  3 72          BL    *&5                                                5  0802  B 811 T              51
405  3 73          B     PSTNU                                              4  0807  B 630                51
406  3 74          MCW   FREE&75,HLDCD#1                                    7  0811  M 175 R52            52
407  3 75          MCW   @C@,FREE&75                                        7  0818  M R53 175            52
408  3 76          BCE   BLNKX,HLDCD,R        REW:  BCE  WMMCHK,HLDCD,R     8  0825  B 848 R52 R          52
409  3 77          BCE   BLNKX,HLDCD,S        RES:  BCE  WMMCHK,HLDCD,S     8  0833  B 848 R52 S          52
410  3 78          MCW   @Y@,FREE&75                                        7  0841  M R54 175            52
411  3 79   BLNKX  MCW   BLNK2,FREE&74                                      7  0848  M A55 174            53
412  3 80          MCW   FREE&74                                            4  0855  M 174                53
413  3 81          MCW   SAVOP                                              4  0859  M R88                53
414  3 82          MCW                                                      1  0863  M                    53
415  3 83          MCW                                                      1  0864  M                    53
416  3 84          MCW   FREE&74,FREE&5             BLANK PAGE/LINE         7  0865  M 174 105            53
417  3 85   CHNLP  B     PUT                                                4  0872  B 586                53
418  3 86          MCW   FREE&74,FREE&11            BLANK LABEL FIELD       7  0876  M 174 111            54
419  3 87          S     &1,WAREA2                                          7  0883  S R44 A14            54
420  3 88          C     WAREA2,&00                                         7  0890  C A14 R51            54
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SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

421  3 89          BL    CHNLP                                              5  0897  B 872 T              54
422  3 90          B     PSTNU                                              4  0902  B 630                54
423  3 91   GENPS  MCW   @&1 @,FREE&15                                      7  0906  M R57 115            54
424  3 92          B     PUT                                                4  0913  B 586                55
425  3 93          MCW   FREE&73,FREE&72            TO HIGHEST ADDRESS OF   7  0917  M 173 172            55
426  3 94          MCW   @C@,FREE&75                OBJECT CORE             7  0924  M R53 175            55
427  3 95          MCW   HIVAL,FREE&25                                       7  0931  M M58 125            55
428  3 96          MCW   @EQU  @                                            4  0938  M R62                55
429  3 97          MCW                                                      1  0942  M                    55
430  3 98          MCW   @$HIVAL &P @                                       4  0943  M R72                55
431  3 99          MCW   FREE&73                                           4  0947  M 173                56
432  4 00          MCW   &NUREC,GENPS&3                                     7  0951  M R75 909            56
433  4 01          MCW   @B@,ISHIV                                          7  0958  M R76 969            56
434  4 02          B     NUREC                                              4  0965  B 626                56
435  4 03   ISHIV  NOP   PSTNU                                              4  0969  N 630                56
436  4 04          MCW   HIVAL,FREE&25              SET NEW HIGHEST VALUE   7  0973  M M58 125            56
437  4 05          MCW   @B@,PSSW2                                          7  0980  M R76 '37            57
438  4 06          B     TSTRE                                              4  0987  B '53                57
439  4 07   REG    S     XL3&1                                              4  0991  S 100                57
440  4 08          S                                                        1  0995  S                    57
441  4 09          S                                                        1  0996  S                    57
442  4 10          C     FREE&18,@   @                                      7  0997  C 118 R79            57
443  4 11          BU    SVUP3                                              5  1004  B '17 /              57
444  4 12          BCE   TSTRE,FREE&19,                                     8  1009  B '53 119            58
445  4 13   SVUP3  MCW   FREE&20,SAVOP#9                                    7  1017  M 120 R88            58
446  4 14          MCW                                                      1  1024  M                    58
447  4 15          C     FREE&11, @$HIVAL@          HIVAL EQUATE PRESENT    7  1025  C 111 R94            58
448  4 16          BE    ISHIV                                              5  1032  B 969 S              58
449  4 17   PSSW2  NOP   TSTRE                                              4  1037  N '53                58
450  4 18          C     FREE&10,@$P   @            Q. ARITH MACRO PRESENT  7  1041  C 110 R99            58
451  4 19          BE    GENPS                                              5  1048  B 906 S              59
452  4 20   TSTRE  BCE   ISREA,FREE&85,R                                    8  1053  B '96 185 R          59
453  4 21          B     TLUOP                      LOOKUP MNEMONIC         4  1061  B M65                59
454  4 22   STFUN  MCW   FREE&15,SAVOP-5                                    7  1065  M 115 R83            59
455  4 23          BW    NUREC,EQVADD               Q. INSTRUCTION          8  1072  V 626 A69 1          59
456  4 24          C     FREE&15,@3 @                                       7  1080  C 115 ?01            59
457  4 25          BE    EOJ                                                5  1087  B Q75 S              60
458  4 26          B     NUREC                                              4  1092  B 626                60
459  4 27   ISREA  SW    FREE&12                                            4  1096  , 112                60
460  4 28          LCA   FREE&15,EQVADD                                     7  1100  L 115 A69            60
461  4 29          CW    FREE&12                                            4  1107  ) 112                60
462  4 30          BCE   TYPCL,FREE&15,&                                    8  1111  B /26 115 &          60
463  4 31          CHAIN 3                                                                  MACRO
464                BCE                                                      1  1119  B           GEN      60
465                BCE                                                      1  1120  B           GEN      61
466                BCE                                                      1  1121  B           GEN      61
467  4 32          B     STFUN                                              4  1122  B '65                61
468  4 33   TYPCL  SW    EQVADD-2                                           4  1126  , A67                61
469  4 34          BCE   STFUN,FREE&12,&                                    8  1130  B '65 112 &          61
470  4 35          SW    EQVADD-1                                           4  1138  , A68                61
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

471  4 36          BCE   STFUN,FREE&13,&                                   8  1142  B '65 113 &         61
472  4 37          SW    EQVADD                                            4  1150  , A69               62
473  4 38          B     STFUN                                             4  1154  B '65               62
474  4 39          DCW   0                                                 1  1158                      62
475  4 40          DCW   @}@                       SYSTEM GROUP MARK       1  1159            GMARK     62
476  4 41          XFR   0                                                       B 000                   63
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

477  4 42          JOB   1401 AUTOCODER-PASS 3 PROCESS FIX FORM  -VERSION 3
478  4 43          ORG   OVL2                                                    0626
479  4 44   *
480  4 45   *BEGINNING OF NEW FIXED FORM RECORD ANALYSIS
481  4 46   *
482  4 47   ENTSPS B     PUT                       PUT LAST RECORD           4  0626  B 586               66
483  4 48          BW    GTFRE,FREESW              Q. FREE DONE IN FIXED     8  0630  V 503 H09 1         66
484  4 49   RSTMOD CW    MODESW#1,ABSW             RESET SWITCHES            7  0638  ) ?02 A10           66
485  4 50          B     RDTAP                     GET A RECORD              4  0645  B 554               66
486  4 51          MCW   INAREA&79,INPUT&80        MOVE TO FIXED FORM        7  0649  M I82 412           66
487  4 52          CHAIN 5                                                                 MACRO
488                MCW                                                     1  0656  M                   GEN     66
489                MCW                                                     1  0657  M                   GEN     66
490                MCW                                                     1  0658  M                   GEN     67
491                MCW                                                     1  0659  M                   GEN     67
492                MCW                                                     1  0660  M                   GEN     67
493  4 53   PROFIX MCW   INPUT&80,FREE&80          MOVE IDENTIFICATION       7  0661  M 412 180           67
494  4 54          MCW   BLANK,FREE&75            SET OPERAND PORTION       7  0668  M A54 175           67
495  4 55          MCW   FREE&75                   OF -FREE- TO BLANKS       4  0675  M 175               67
496  4 56          MCW   FREE&75,FREE&20           SET BALANCE TO BLANK      7  0679  M 175 120           67
497  4 57          MCW                                                     1  0686  M                   68
498  4 58          MCW                                                     1  0687  M                   68
499  4 59          MCW   INPUT&82,FREE&86          BLANK CODE POSITIONS      7  0688  M 414 186           68
500  4 60          MCW   INPUT&13,FREE&11          MOVE LANE AND PG/LINE     7  0695  M 345 111           68
501  4 61          MCW   INPUT&5                    NO TO -FREE-              4  0702  M 337               68
502  4 62          BCE   COMCRD,INPUT&8,*          Q. COMMENTS CARD          8  0706  B Y71 340 *         68
503  4 63          BCE   LBERR,FREE&11,,           CHECK FOR INVALID         8  0714  B 778 111 ,         68
504  4 64          CHAIN 4                          CHARACTERS IN LABELS                                  MACRO
505                BCE                                                     1  0722  B                   GEN     69
506                BCE                                                     1  0723  B                   GEN     69
507                BCE                                                     1  0724  B                   GEN     69
508                BCE                                                     1  0725  B                   GEN     69
509  4 65          BCE   LBERR,FREE&10,-                                   8  0726  B 778 110 -         69
510  4 66          CHAIN 4                                                                 MACRO
511                BCE                                                     1  0734  B                   GEN     69
512                BCE                                                     1  0735  B                   GEN     69
513                BCE                                                     1  0736  B                   GEN     70
514                BCE                                                     1  0737  B                   GEN     70
515  4 67          BCE   LBERR,FREE&10,#                                   8  0738  B 778 110 #         70
516  4 68          CHAIN 4                                                                 MACRO
517                BCE                                                     1  0746  B                   GEN     70
518                BCE                                                     1  0747  B                   GEN     70
519                BCE                                                     1  0748  B                   GEN     70
520                BCE                                                     1  0749  B                   GEN     70
521  4 69          BCE   LBERR,FREE&10,&                                   8  0750  B 778 110 &         71
522  4 70          CHAIN 4                                                                 MACRO
523                BCE                                                     1  0758  B                   GEN     71
524                BCE                                                     1  0759  B                   GEN     71
525                BCE                                                     1  0760  B                   GEN     71
526                BCE                                                     1  0761  B                   GEN     71
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

527  4 71          BCE   LBERR,FREE&10,'                                      8  0762  B 778 110 '         71
528  4 72          CHAIN 4                                                                    MACRO
529                BCE                                                        1  0770  B           GEN     71
530                BCE                                                        1  0771  B           GEN     72
531                BCE                                                        1  0772  B           GEN     72
532                BCE                                                        1  0773  B           GEN     72
533  4 73          B     BCK1                                                 4  0774  B 798               72
534  4 74  LBERR   CS    332                                                  4  0778  / 332               72
535  4 75          CS                                                         1  0782  /                   72
536  4 76          MCW   @ILLEGAL LABEL - SEQUENCE NUMBER@,231                7  0783  M ?33 231           72
537  4 77          MCS   ALTRNO,236                                           7  0790  Z 184 236           73
538  4 78          W                                                          1  0797  2                   73
539  4 79  BCK1    C     INPUT&15,BLNK2             Q. ACTUAL OP CODE         7  0798  C 347 A55           73
540  4 80          BE    ABSFIX                      PRESENT IN FIXED FORM    5  0805  B S70 S             73
541  4 81          MCW   BLNK2,SAVOP                                          7  0810  M A55 R88           73
542  4 82          MCW   INPUT&16                                             4  0817  M 348               73
543  4 83          MCW   INPUT&16,FREE&18           MOVE MNEMONIC TO FREE     7  0821  M 348 118           73
544  4 84  TLUFIX  S     XL3&1                      RESET INDEX LOCATIONS     4  0828  S 100               74
545  4 85          S                                 TO ZERO                  1  0832  S                   74
546  4 86          S                                                          1  0833  S                   74
547  4 87          B     TLUOP                      LOOKUP MNEMONIC           4  0834  B M65               74
548  4 88          BW    FIXINS,EQVADD              Q. INSTRUCTION            8  0838  V 854 A69 1         74
549  4 89          BCE   FOUND,EQVADD,              Q. CONTROL OP             8  0846  B T40 A69           74
550  4 90  *
551  4 91  * PROCESS INSTRUCTION
552  4 92  *
553  4 93  FIXINS BCE   LKNOP,INPUT&17,            Q. A OPERAND              8  0854  B 974 349           74
554  4 94          BCE   FIXALF,INPUT&17,@          Q. ALPHA LITERAL          8  0862  B /84 349 @         75
555  4 95          B     SCAN                       SCAN A OPERAND            4  0870  B Z09               75
556  4 96  CKB     BCE   CKMOD,INPUT&28,           Q. B OPERAND              8  0874  B 950 360           75
557  4 97          A     &1,XL2                     MOVE COMMA TO FREE        7  0882  A R44 094           75
558  4 98          MCW   @,@,FREE&21&X2              TO SEPARATE OPERANDS     7  0889  M ?34 1K1           75
559  4 99          A     &1,XL2                                               7  0896  A R44 094           76
560  5 00          MCW   @011@,XL1                                            7  0903  M ?37 089           76
561  5 01          BCE   FIXALF,INPUT&28,@          Q. ALPHA LITERAL          8  0910  B /84 360 @         76
562  5 02          B     SCAN                       SCAN B OPERAND            4  0918  B Z09               76
563  5 03  CKOP    C     INPUT&16,@B  @             Q. BRANCH INSTRUCTION     7  0922  C 348 ?40           76
564  5 04          BE    MAKBCE                                               5  0929  B '40 S             76
565  5 05          C     INPUT&16,@  B@             Q. ACTUAL BRANCH INST     7  0934  C 348 ?43           77
566  5 06          BE    MOVMOD                                               5  0941  B '18 S             77
567  5 07          B     LKNOP                                                4  0946  B 974               77
568  5 08  CKMOD   C     INPUT&16,@B  @             Q. BRANCH INSTRUCTION     7  0950  C 348 ?40           77
569  5 09          BE    ALTROP                                               5  0957  B '51 S             77
570  5 10          C     INPUT&16,@  B@             Q. ACTUAL BRANCH INST     7  0962  C 348 ?43           77
571  5 11          BE    ALTROP                                               5  0969  B '51 S             78
572  5 12  LKNOP   C     INPUT&16,@NOP@             Q. NOP INSTRUCTION        7  0974  C 348 ?46           78
573  5 13          BE    CKNOP                                                5  0981  B /46 S             78
574  5 14          BW    PICKUP,ABSW                Q. ACTUAL OP CODE         8  0986  V '29 A10 1         78
575  5 15          BCE   PICKUP,INPUT&39,           Q. D CHARACTER            8  0994  B '29 371           78
576  5 16  ISMOD   BCE   MOVMOD,FREE&15,           Q. ILLEGAL OP             8  1002  B '18 115           79
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

577  5 17          BWZ   IOTYP,FREE&15,2            Q. I/O INSTRUCTION        8  1010  V /54 115 2         79
578  5 18  MOVMOD  MCW   INPUT&39,FREE&23&X2        MOVE D CHARACTER TO       7  1018  M 371 1K3           79
579  5 19          MCW   @,@                         FREE AREA                4  1025  M ?34               79
580  5 20  PICKUP  MCW   INPUT&55,FREE&72           PICKUP COMMENTS           7  1029  M 387 172           79
581  5 21          B     ENDFIX                                               4  1036  B 626               79
582  5 22  MAKBCE  MCW   @BCE@,FREE&18             MOVE -BCE- MNEMONIC       7  1040  M ?49 118           80
583  5 23          B     ISMOD                       TO OPERATION FIELD       4  1047  B '02               80
584  5 24  ALTROP  BCE   PICKUP,INPUT&39,           Q. D CHARACTER, I.E.,     8  1051  B '29 371           80
585  5 25          MCW   @BIN@,FREE&18              UNCONDITIONAL BRANCH      7  1059  M ?52 118           80
586  5 26          MCW   @& B@,FREE&15              SET FIVE CHAR BRANCH      7  1066  M ?55 115           80
587  5 27          S     XL1&1                                                4  1073  S 090               80
588  5 28          MCW   BLNK2,FREE&20                                        7  1077  M A55 120           81
589  5 29  TLUBIN  C     BINTBL&X1,INPUT&39         SEARCH 5-CHARACTER        7  1084  C H/4 371           81
590  5 30          BE    BINFND                      BRANCH TABLE FOR         5  1091  B /15 S             81
591  5 31          BCE   MOVMOD,BINTBL&5&X1,        APPROPRIATE UNIQUE       8  1096  B '18 H/9           81
592  5 32          A     &5,XL1                      MNEMONIC, IF NOT         7  1104  A ?56 089           81
593  5 33          B     TLUBIN                      PRESENT LEAVE            4  1111  B '84               81
594  5 34  BINFND  MCW   BINTBL-1&X1,FREE&19        MNEMONIC -BIN-           7  1115  M H/3 119           82
595  5 35          MCW                                                        1  1122  M                   82
596  5 36          C     FREE&18,@BSS@              Q. BRANCH SENSE SWITCH    7  1123  C 118 ?59           82
597  5 37          BE    MOVMOD                                               5  1130  B '18 S             82
598  5 38          MCW   INPUT&39,FREE&14           PICKUP DE CHARACTER       7  1135  M 371 114           82
599  5 39          B     PICKUP                                               4  1142  B '29               82
600  5 40  CKNOP   BCE   PICKUP,INPUT&39,                                      8  1146  B '29 371           82
601  5 41  IOTYP   MCW   INPUT&39,FREE&14           CODE I/O INSTRUCTION      7  1154  M 371 114           83
602  5 42          MCW   @&@                         IN ACTUAL IN             4  1161  M ?60               83
603  5 43          MCW   INPUT&39,FREE&20           OPERATION FIELD           7  1165  M 371 120           83
604  5 44          MCW   FREE&15                                              4  1172  M 115               83
605  5 45          MCW   BLANK3                                               4  1176  M A56               83
606  5 46          B     PICKUP                                               4  1180  B '29               83
607  5 47  FIXALF  BCE   ENDALF,INPUT&27&X1,@       SCAN FOR AT SIGN          8  1184  B S18 3V9 @         83
608  5 48          CHAIN 8                                                                    MACRO
609                BCE                                                        1  1192  B           GEN     84
610                BCE                                                        1  1193  B           GEN     84
611                BCE                                                        1  1194  B           GEN     84
612                BCE                                                        1  1195  B           GEN     84
613                BCE                                                        1  1196  B           GEN     84
614                BCE                                                        1  1197  B           GEN     84
615                BCE                                                        1  1198  B           GEN     84
616                BCE                                                        1  1199  B           GEN     85
617  5 49  VALUE   A     &1,XL2                     PROCESS STATEMENT AS      7  1200  A R44 094           85
618  5 50          MCW   @$$@,FREE&21&X2             UNPROCESSABLE ALPHA      7  1207  M ?62 1K1           85
619  5 51          B     WHCHOP                      LITERAL ILLEGAL OPND     4  1214  B S54               85
620  5 52  ENDALF  SBR   WAREA3                     PICKUP LITERAL AND        4  1218  H A15               85
621  5 53          S     &VALUE&2,WAREA3             MOVE TO FREE FORM        7  1222  S ?65 A15           85
622  5 54          ZS    WAREA3                      AREA                     4  1229  ! A15               85
623  5 55          A     WAREA3,XL1                                           7  1233  A A15 089           86
624  5 56          A     WAREA3,XL2                                           7  1240  A A15 094           86
625  5 57          MCW   INPUT&17&X1,FREE&21&X2                             7  1247  M 3U9 1K1           86
626  5 58  WHCHOP  C     XL1,@011@                  EXIT ON BASIS OF WHICH    7  1254  C 089 ?37           86
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

627  5 59           BH    CKB                          OPERAND ACTING UPON     5  1261  B 874 U           86
628  5 60           B     CKOP                                                 4  1266  B 922             86
629  5 61   ABSFIX  BCE   SAMFIX,INPUT&16,             PRINT OUT MESSAGE ONLY  8  1270  B T28 348         87
630  5 62           MCW   INPUT&16,FREE&19             ONCE THAT ACTUAL OPS    7  1278  M 348 119         87
631  5 63           MCW   INPUT&39,FREE&20             ARE PRESENT IN FIXED    7  1285  M 371 120         87
632  5 64   SW1     NOP   SETABS                       FORM IMAGES             4  1292  N T20             87
633  5 65           CS    332                          THIS ACCOUNTS FOR       4  1296  / 332             87
634  5 66           CS                                 THE POSSIBILITY THAT    1  1300  /                 87
635  5 67           MCW   @ACTUAL OP CODES PRESENT IN FIXED FORM IMAGES@,270   7  1301  M A09 270         87
636  5 68           CC    1                            THE USER FORGOT TO      2  1308  F 1               88
637  5 69           W                                  USE AN ENTER            1  1310  2                 88
638  5 70           CC    1                            AUTOCODER STATEMENT     2  1311  F 1               88
639  5 71           MCW   @B@,SW1                      WHEN RETURNING TO       7  1313  M R76 S92         88
640  5 72   SETABS  SW    ABSW#1                       FREE FORM               4  1320  , A10             88
641  5 73           B     TLUFIX                                               4  1324  B 828             88
642  5 74   SAMFIX  MCW   SAVOP,FREE&20                PROCESS SAME OP CODE    7  1328  M R88 120         88
643  5 75           MCW                                                        1  1335  M                 89
644  5 76           B     TLUFIX                                               4  1336  B 828             89
645  5 77   *
646  5 78   * BEGINNING OF PROCESS CONTROL AND DECLARATIVE OPERATION CODES
647  5 79   *
648  5 80   FOUND   BW    FIXINS,EQVADD                DETERMINE TYPE OF       8  1340  V 854 A69 1       89
649  5 81           S     XL3&1                        CONTROL OP AND GO TO    4  1348  S 100             89
650  5 82           MN    EQVADD-1,XL3                 APPROPRIATE ROUTINE     7  1352  D A68 099         89
651  5 83           A     XL3                                                  4  1359  A 099             89
652  5 84           A     XL3                                                  4  1363  A 099             89
653  5 85           B     *&1&X3                                               4  1367  B TG1             90
654  5 86           B     BADOP                        DA ILLEGAL IN FIXED FORM 4  1371  B P28             90
655  5 87           B     DCWSTM                       GO TO CONSTANT ROUTINE  4  1375  B U84             90
656  5 88           B     ERHLT                        SHOULD NEVER OCCUR      4  1379  B U73             90
657  5 89           B     ONEOP                        END, EX, XFR            4  1383  B X60             90
658  5 90           B     ONEOP                        GO TO SUFFIX RTN        4  1387  B X60             90
659  5 91           B     ERHLT                        SHOULD NEVER OCCUR      4  1391  B U73             90
660  5 92           B     CKLOR                        GO TO ORIGIN ROUTINE    4  1395  B Y89             91
661  5 93           B     DSTYP                        GO TO DS, EQU ROUTINE   4  1399  B X88             91
662  5 94           B     INSPC                        GO TO SPECIAL ROUTINE   4  1403  B U21             91
663  5 95           MCW   INPUT&55,FREE&59                                     7  1407  M 387 159         91
664  5 96           MCW                                TO FREE FORM AREA       1  1414  M                 91
665  5 97           MCW                                                        1  1415  M                 91
666  5 98           MCW                                                        1  1416  M                 91
667  5 99           B     ENDFIX                                               4  1417  B 626             92
668  6 00   INSPC   BCE   NOPND,INPUT&17,             PROCESS                 8  1421  B U62 349         92
669  6 01           MCW   @B@,FREE&18                  CC AND CCB AND SS       7  1429  M R76 118         92
670  6 02           MCW   EQVADD-2,EQVADD              AND SSB                 7  1436  M A67 A69         92
671  6 03           LCA   BLANK                                                4  1443  L A54             92
672  6 04           MCW   EQVADD,FREE&15                                       7  1447  M A69 115         92
673  6 05           MCW   @ &@                                                 4  1454  M A12             93
674  6 06           B     FIXINS                                               4  1458  B 854             93
675  6 07   NOPND   MCW   INPUT&39,FREE&21             PROCESS TWO CHARACTER   7  1462  M 371 121         93
676  6 08           B     ENDFIX                       INSTRUCTIONS            4  1469  B 626             93
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

677  6 09   ERHLT   H     0,301                        SYSTEM ERROR HALT       7  1473  . 000 301         93
678  6 10           B     ERHLT                                                4  1480  B U73             93
679  6 11   *
680  6 12   *PROCESS DCW, DC STATEMENTS
681  6 13   *
682  6 14   DCWSTM  BCE   DCWTYP,INPUT&17,*            Q. DCW*                 8  1484  B V51 349 *       93
683  6 15           A     BLANK,INPUT&17               ASSURE NOT BLANK        7  1492  A A54 349         94
684  6 16           MCW   FREE&18,WAREA6#6             GENERATE EQUATE         7  1499  M 118 A18         94
685  6 17           MCW                                                        1  1506  M                 94
686  6 18           MCW   @EQU@,FREE&18                                        7  1507  M A21 118         94
687  6 19           MCW   @&P @                                                4  1514  M A24             94
688  6 20           MCW   INPUT&21,FREE&25                                     7  1518  M 353 125         94
689  6 21           B     PUT                                                  4  1525  B 586             94
690  6 22           MCW   FREE&74,FREE&73                                      7  1529  M 174 173         95
691  6 23           MCW   INPUT&22,FREE&11             GENERATE FREE FORM      7  1536  M 354 111         95
692  6 24           MCW   WAREA6,FREE&18               DCW ACTUAL              7  1543  M A18 118         95
693  6 25           MCW                                                        1  1550  M                 95
694  6 26   DCWTYP  CW    INPUT&40,INPUT&39            REMOVE WORD MARKS       7  1551  ) 372 371         95
695  6 27           CW    INPUT&28                                             4  1558  ) 360             95
696  6 28           BCE   DSARTN,FREE&14,J            Q. DSA STATEMENT        8  1562  B X15 114 J       96
697  6 29           BCE   KNOWN,INPUT&23,&            Q. IS THE LENGTH OF     8  1570  B W69 355 &       96
698  6 30           BCE   KNOWN,INPUT&23,-             THE CONSTANT TO BE     8  1578  B W69 355 -       96
699  6 31           BCE   KNOWN,INPUT&23,@             COMPUTED BY THE        8  1586  B W69 355 @       96
700  6 32           MN    INPUT&7,XL1                  PROCESSOR               7  1594  D 339 089         96
701  6 33           MN                                                         1  1601  D                 97
702  6 34           A     BLANK,XL1                                            7  1602  A A54 089         97
703  6 35           C     XL1,@032@                    Q. COUNT GT 32 OR       7  1609  C 089 A27         97
704  6 36           BL    CORERR                        LT ZERO. IF            5  1616  B W80 T           97
705  6 37           C     XL1,@000@                    ERROR ATTEMPT TO        7  1621  C 089 A30         97
706  6 38           BE    CORERR                       PROCESS RECORD ANYWAY   5  1628  B W80 S           97
707  6 39   RTNDCW  MCW   INPUT&23&X1,FREE&21&X1       CONSTANT TO FREE FORM   7  1633  M 3V5 1S1         97
708  6 40           MCW   @@@,FREE&21                  ENCLOSE DCW WITHIN      7  1640  M A31 121         98
709  6 41           MCW   @@@,FREE&22&X1               AT SIGNS                7  1647  M A31 1S2         98
710  6 42   RSTWM   SW    INPUT&40,INPUT&39            RESET WORD MARKS        7  1654  , 372 371         98
711  6 43           SW    INPUT&28                                             4  1661  , 360             98
712  6 44           B     ENDFIX                                               4  1665  B 626             98
713  6 45   KNOWN   MCW   INPUT&55,FREE&53            PICKUP ENTIRE DCW AREA  7  1669  M 387 153         98
714  6 46           B     RSTWM                                                4  1676  B W54             99
715  6 47   CORERR  S     XL1&1                                                4  1680  S 090             99
716  6 48   LPERR   BCE   RTNDCW,INPUT&24&X1,         SCAN FOR FIRST BLANK    8  1684  B W33 3V6         99
717  6 49           A     &1,XL1                        IN ATTEMPT TO CORRECT  7  1692  A R44 089         99
718  6 50           C     XL1,@52@                     Q) END OF RECORD        7  1699  C 089 A33         99
719  6 51           BE    RTNDCW                                               5  1706  B W33 S           99
720  6 52           B     LPERR                                                4  1711  B W84             99
721  6 53   *
722  6 54   * PROCESS DSA STATEMENTS
723  6 55   *
724  6 56   DSARTN  S     XL2&2                        PICKUP FIXED FORM DSA   4  1715  S 096            100
725  6 57           MCW   @011@,XL1                     AND PLACE IN FREE FOR  7  1719  M ?37 089         100
726  6 58           B     SCAN                         FORM AREA               4  1726  B Z09            100
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

727  6 59           MCW   FREE&72,FREE&73          IF UNSIGNED MAKE SIGN    7  1730  M 172 173         100
728  6 60           MCW   @&@                       PLUS                     4  1737  M ?60             100
729  6 61           BCE   RSTWM,INPUT&27,          Q. NO SIGN               8  1741  B W54 359         100
730  6 62           MCW   INPUT&27,FREE&21         SIGN ADDRESS CONSTANT    7  1749  M 359 121         101
731  6 63           B     RSTWM                                              4  1756  B W54             101
732  6 64   ONEOP   B     *&5,INPUT&17,            PROCESS THOSE            8  1760  B X72 349         101
733  6 65           B     SCAN                      INSTRUCTIONS             4  1768  B Z09             101
734  6 66           C     @3 @,EQVADD               THAT ONLY HAVE ONE OP    7  1772  C ?01 A69         101
735  6 67           BE    PREOJ                    IF END CARD GO TO EOJ     5  1779  B Q67 S            101
736  6 68           B     ENDFIX                                             4  1784  B 626             101
737  6 69   *
738  6 70   * PROCESS DS, EQU STATEMENTS
739  6 71   *
740  6 72   DSTYP   BCE   DSACT,INPUT&17,*         IF DS IS REALLY AN       8  1788  B Y33 349 *         102
741  6 73           BCE   *&5,INPUT&17,             EQU CHANGE OP            8  1796  B Y08 349          102
742  6 74           B     *&8                       CODE, ASSURE             4  1804  B Y15              102
743  6 75           NOP   BLANK,INPUT&17            OPERAND NOT BLANK        7  1808  N A54 349          102
744  6 76   DOEQU   MCW   @EQU@,FREE&18                                      7  1815  M A21 118          102
745  6 77           MCW   @P@,FREE&14                                        7  1822  M A34 114          103
746  6 78           B     ONEOP                                              4  1829  B X60              103
747  6 79   DSACT   SW    INPUT&6                  PROCESS DS ACTUAL         4  1833  , 338              103
748  6 80           A     BLANK,INPUT&7                                      7  1837  A A54 339          103
749  6 81           CW    INPUT&6                                            4  1844  ) 338              103
750  6 82           C     INPUT&7,@00@             Q. NO COUNT               7  1848  C 339 A36          103
751  6 83           BE    DOEQU                                              5  1855  B Y15 S            103
752  6 84           MCW   INPUT&7,FREE&22                                    7  1860  M 339 122          104
753  6 85           B     ENDFIX                                             4  1867  B 626              104
754  6 86   *
755  6 87   *PROCESS COMMENTS CARDS
756  6 88   *
757  6 89   COMCRD  MCW   INPUT&55,FREE&53         PROCESS COMMENTS CARDS    7  1871  M 387 153          104
758  6 90           CHAIN 7                                                                 MACRO
759                  MCW                                                    1  1878  M                  GEN    104
760                  MCW                                                    1  1879  M                  GEN    104
761                  MCW                                                    1  1880  M                  GEN    104
762                  MCW                                                    1  1881  M                  GEN    104
763                  MCW                                                    1  1882  M                  GEN    105
764                  MCW                                                    1  1883  M                  GEN    105
765                  MCW                                                    1  1884  M                  GEN    105
766  6 91           B     ENTSPS                                             4  1885  B 626              105
767  6 92   *
768  6 93   * PROCESSS ORIGIN, LTORG STATEMENTS
769  6 94   *
770  6 95   CKLOR   BCE   ONEOP,FREE&16,O         CHANGE MNEMONIC TO       8  1889  B X60 116 O        105
771  6 96           MCW   @LTORG@,FREE&20           -LTORG- IF LITERAL     7  1897  M A41 120          105
772  6 97           MCW                             ORG STATEMENT          1  1904  M                  105
773  6 98           B     ONEOP                                              4  1905  B X60              106
774  6 99   *
775  7 00   *SCAN ROUTINE WHICH CONVERTS FIXED FORM INTO FREE FORM
776  7 01   *
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SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

777  7 02   SCAN    SBR   SCNXT&3                                            4  1909  H J20              106
778  7 03           S     XL3&1                    RESET INDEX 3             4  1913  S 100              106
779  7 04   LOOP1   BCE   CK1BK,INPUT&18&X1,       Q. BLANK CHARACTER        8  1917  B Z62 3V0          106
780  7 05   CXL1    C     XL3,@05@                 Q. END OF ADDRESS         7  1925  C 099 A43          106
781  7 06           BE    NDOPD                                              5  1932  B Z86 S            106
782  7 07           A     &1,XL1                   INCREASE ALL INDEX        7  1937  A R44 089          106
783  7 08           A     &1,XL2                    REGISTERS                7  1944  A R44 094          107
784  7 09           A     &1,XL3                                             7  1951  A R44 099          107
785  7 10           B     LOOP1                                              4  1958  B Z17              107
786  7 11   CK1BK   C     XL3,@04@                 TOLERATE ONE BLANK        7  1962  C 099 A45          107
787  7 12           BE    NDOPD                                              5  1969  B Z86 S            107
788  7 13           BCE   *&5,INPUT&19&X1,                                   8  1974  B Z86 3V1          107
789  7 14           B     CXL1                                               4  1982  B Z25              108
790  7 15   NDOPD   MCW   INPUT&17&X1,FREE&21&X2   MOVE ADDRESS PORTION      7  1986  M 3U9 1K1          108
791  7 16           C     XL1,@011@                 TO FREE FORM AREA        7  1993  C 089 ?37          108
792  7 17           S     XL1&2                                              4  2000  S 091              108
793  7 18           BH    *&8                                                5  2004  B !16 U            108
794  7 19           MCW   @011@,XL1                                         7  2009  M ?37 089          108
795  7 20           BCE   CKLIT2,INPUT&23&X1,      Q. NO CHARACTER ADJUST    8  2016  B J88 3V5          109
796  7 21           BWZ   MKMIN,INPUT&23&X1,K      ASSURE CHARACTER ADJ      8  2024  V J21 3V5 K        109
797  7 22           MCW   @&@,INPUT&23&X1           & OR -                   7  2032  M ?60 3V5          109
798  7 23   RTN2    SW    INPUT&24&X1,INPUT&23&X1  PROCESS CHARACTER          7  2039  , 3V6 3V5          109
799  7 24           A     BLANK,INPUT&26&X1         ADJUSTMENT               7  2046  A A54 3V8          109
800  7 25           A     &4,XL2                                             7  2053  A A46 094          110
801  7 26           MCW   INPUT&26&X1,FREE&21&X2                             7  2060  M 3V8 1K1          110
802  7 27           MCW                                                      1  2067  M                  110
803  7 28           CW    INPUT&24&X1,INPUT&23&X1                            7  2068  ) 3V6 3V5          110
804  7 29   NOADJ   BCE   FIXLIT,INPUT&17&X1,&     Q. LITERAL                8  2075  B J32 3U9 &        110
805  7 30           BCE   FIXLIT,INPUT&17&X1,-                               8  2083  B J32 3U9 -        110
806  7 31           BCE   SCNXT,INPUT&27&X1,       Q. INDEXING               8  2091  B J17 3V9          111
807  7 32           A     &3,XL2                   PROCESS INDEXING          7  2099  A A47 094          111
808  7 33           MN    INPUT&27&X1,FREE&21&X2                             7  2106  D 3V9 1K1          111
809  7 34           MCW   @&X@                                               4  2113  M A49              111
810  7 35   SCNXT   B     XXXX                     EXIT                      4  2117  B 000              111
811  7 36   MKMIN   MCW   @-@,INPUT&23&X1          SET CHAR ADJ SIGN         7  2121  M A50 3V5          111
812  7 37           B     RTN2                      TO MINUS                 4  2128  B !39              112
813  7 38   FIXLIT  BCE   NOT11,INPUT&27&X1,      PROCESS REMAINDER OF      8  2132  B J58 3V9          112
814  7 39           A     &1,XL2                    FIXED FORM NUMERIC       7  2140  A R44 094          112
815  7 40           MN    INPUT&27&X1,FREE&21&X2    LITERAL                  7  2147  D 3V9 1K1          112
816  7 41           B     SCNXT                                              4  2154  B J17              112
817  7 42   NOT11   BCE   SUBT,INPUT&26&X1,                                  8  2158  B J70 3V8          112
818  7 43           B     SCNXT                                              4  2166  B J17              113
819  7 44   SUBT    A     @I99@,XL1                                          7  2170  A A53 089          113
820  7 45           A     @I99@,XL2                                          7  2177  A A53 094          113
821  7 46           B     NOT11                                              4  2184  B J58              113
822  7 47   CKLIT2  BCE   SCNXT,INPUT&17&X1,&     Q. LITERAL                8  2188  B J17 3U9 &        113
823  7 48           BCE   SCNXT,INPUT&17&X1,-                               8  2196  B J17 3U9 -        113
824  7 49           B     NOADJ                                              4  2204  B !75              114
825  7 50           DCW   0                                                  1  2208                     114
826  7 51   SYSMK1  DCW   @}@                      SYSTEM GROUP MARK         1  2209                GMARK  114
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

827  7 52          XFR   0                                                       B 000               115
828  7 53   RTEND  EQU   *                                                 2209
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

829  7 54          JOB   1401 AUTOCODER-PASS 3 RIGHT MAIN LINE     -VERSION 3
830  7 55   *
831  7 56   *TABLE LOOKUP OF MNEMONIC OP CODE
832  7 57   *
833  7 58          ORG   BEGIN                                                    2465
834  7 59   TLUOP  SBR   TLUXT&3                                            4  2465  H O46               118
835  7 60          C     FREE&18,BLANK3#3          Q. ACTUAL                7  2469  C 118 A56           118
836  7 61          BE    ABSCOD                     OP CODE                 5  2476  B P55 S             118
837  7 62          MLC   FREE&18,XL2                                       7  2481  M 118 094           118
838  7 63          A     FREE&18,XL2-1                                     7  2488  A 118 093           118
839  7 64          A     FREE&18,XL2-2                                     7  2495  A 118 092           118
840  7 65          A     FREE&16,XL2               TABLE LOOKUP            7  2502  A 116 094           119
841  7 66   SUB1   S     &5500,XL2&1                 USES ADDRESS           7  2509  S A60 095           119
842  7 67          BWZ   SUB1,XL2&1,B              CONVERSION TECHNIQUE     8  2516  V N09 095 B         119
843  7 68          MLCWA OPND-549&X2,EQVADD#9                             7  2524  L BN9 A69           119
844  7 69          SAR   GETOP&3                                           4  2531  Q N42               119
845  7 70          S     XL2&2                                            4  2535  S 096               119
846  7 71   GETOP  MLCWA XXXX,EQVADD               SEARCH TABLE FOR        7  2539  L 000 A69           120
847  7 72          SAR   GETOP&3                    MNEMONIC                4  2546  Q N42               120
848  7 73          BCE   BADOP,EQVADD,@            Q. OP NOT IN TABLE      8  2550  B P28 A69 @         120
849  7 74          C     EQVADD,FREE&18            Q. OP CODE FOUND        7  2558  C A69 118           120
850  7 75          BU    GETOP                                             5  2565  B N39 /             120
851  7 76          LCA   EQVADD-3,EQVADD           SHIFT TABLE FUNCTION    7  2570  L A66 A69           120
852  7 77          C     @N @,EQVADD               Q. ENTER CARD           7  2577  C A71 A69           121
853  7 78          BE    ENTER                                             5  2584  B O47 S             121
854  7 79          C     EQVADD,@B @               Q. MLC, MLCWA TYPE      7  2589  C A69 A73           121
855  7 80          BE    SPECIN                                            5  2596  B O83 S             121
856  7 81          C     EQVADD,@2 @               Q. RAMAC INSTN          7  2601  C A69 A75           121
857  7 82          BE    SPECIN                                            5  2608  B O83 S             121
858  7 83   SAVCOD MCW   EQVADD,FREE&15           PLACE TABLE FUNCTION    7  2613  M A69 115           122
859  7 84          SBR   XL3                       ON RECORD PRECEDED BY   4  2620  H 099               122
860  7 85          C     XL3,&FREE&11              A PLUS SIGN             7  2624  C 099 A78           122
861  7 86          BE    *&8                                               5  2631  B O43 S             122
862  7 87          MCW   @&@,000&X3                                       7  2636  M ?60 0?0           122
863  7 88   TLUXT  B     XXXX                      EXIT                    4  2643  B 000               122
864  7 89   ENTER  C     FREE&23,@SPS@             DETERMINE TYPE OF       7  2647  C 123 A81           123
865  7 90          BE    GTFIX                      ENTER CARD AND         5  2654  B 464 S             123
866  7 91          C     INPUT&20,@AUTO@            GO TO APPROPRIATE      7  2659  C 352 A85           123
867  7 92          BE    GTFRE                      ROUTINE                5  2666  B 503 S             123
868  7 93          BW    PSTNU,MODESW                                      8  2671  V 630 ?02 1         123
869  7 94          B     RSTMOD                                            4  2679  B 638               123
870  7 95   SPECIN BWZ   MLCTYP,EQVADD-1,B        Q. MLC TYPE             8  2683  V P17 A68 B         124
871  7 96          LCA   EQVADD-2,EQVADD                                   7  2691  L A67 A69           124
872  7 97   CKEL   BCE   SAVCOD,FREE&19,          Q. SHOULD OP BE -L-     8  2698  B O13 119           124
873  7 98          MCW   @L@,EQVADD              MAKE OP CODE -L-        7  2706  M A86 A69           124
874  7 99          B     SAVCOD                                            4  2713  B O13               124
875  8 00   MLCTYP LCA   @M@,EQVADD              MAKE OP CODE -M-        7  2717  L A87 A69           125
876  8 01          B     CKEL                                              4  2724  B O98               125
877  8 02   *
878  8 03   * PROCESS ILLEGAL OPERATION CODE
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

879  8 04   *
880  8 05   BADOP  LCA   BLANK,EQVADD             MAKE OP BLANK             7  2728  L A54 A69          125
881  8 06          BW    SAVCOD,FREESW            Q. IN FREE FORM MODE      8  2735  V O13 H09 1        125
882  8 07          BW    CKFF,MODESW              Q. IN FREE FORM MODE      8  2743  V Q01 ?02 1        125
883  8 08          B     SAVCOD                                             4  2751  B O13              125
884  8 09   ABSCOD BCE   SAVCOD,FREE&19,      REW: BCE  OPBLK,FREE&19,      8  2755  B O13 119          126
885  8 10          LCA   BLANK,EQVADD             PROCESS ACTUAL OP         7  2763  L A54 A69          126
886  8 11          MCW   FREE&19,EQVADD            CODES                    7  2770  M 119 A69          126
887  8 12          BCE   SAVCOD,FREE&20,                                    8  2777  B O13 120          126
888  8 13          CW    EQVADD                                             4  2785  ) A69              126
889  8 14          SW                                                       1  2789  ,                  126
890  8 15          MCW   FREE&20,EQVADD-1                                   7  2790  M 120 A68          127
891  8 16          B     SAVCOD                                             4  2797  B O13              127
892  8 17   CKFF   BCE   SAVCOD,FREE&14,           IF RECORD APPEARS TO B    8  2801  B O13 114          127
893  8 18          MCW   FREE&80,INPUT&80          BE FIXED FORM RECORD      7  2809  M 180 412          127
894  8 19          CHAIN 9                                                                 MACRO
895                MCW                                                      1  2816  M                  GEN    127
896                MCW                                                      1  2817  M                  GEN    127
897                MCW                                                      1  2818  M                  GEN    127
898                MCW                                                      1  2819  M                  GEN    128
899                MCW                                                      1  2820  M                  GEN    128
900                MCW                                                      1  2821  M                  GEN    128
901                MCW                                                      1  2822  M                  GEN    128
902                MCW                                                      1  2823  M                  GEN    128
903                MCW                                                      1  2824  M                  GEN    128
904  8 20          CS    332                                                4  2825  / 332              128
905  8 21          CS                                                       1  2829  /                  129
906  8 22          MCW   FREE&80,PRINT&80                                   7  2830  M 180 280          129
907  8 23          CHAIN 4                                                                 MACRO
908                MCW                                                      1  2837  M                  GEN    129
909                MCW                                                      1  2838  M                  GEN    129
910                MCW                                                      1  2839  M                  GEN    129
911                MCW                                                      1  2840  M                  GEN    129
912  8 24          MCW   @PROCESSING AS FIXED FORM RECORD@,332              7  2841  M B18 332          129
913  8 25          W                                                        1  2848  2                  130
914  8 26          SW    FREESW                                             4  2849  , H09              130
915  8 27          BCV   RESTR                                              5  2853  B Q62 @            130
916  8 28          B     GTFIX                                              4  2858  B 464              130
917  8 29   RESTR  CCB   GTFIX,1                                            5  2862  F 464 1            130
918  8 30   *
919  8 31   * END OF JOB PROCEDURE
920  8 32   *
921  8 33   PREOJ  RTW   SYSTAP,OVL2              SKIP PAST OVERLAY         8  2867  L %U1 626 R        130
922  8 34   EOJ    B     PUT                      PUT END CARD              4  2875  B 586              130
923  8 35          WTM   OUTAPE                   WRITE TAPE MARK           5  2879  U %U4 M            131
924  8 36   *        MESSG@PASS 3 COMPLETED@,60,K,1
925    01          CC    K                                                  2  2884  F K                131
926    02          CS    332                                                4  2886  / 332              131
927    03          CS                                                       1  2890  /                  131
928    04          MCW   @PASS 3 COMPLETED@,60&200                          7  2891  M B34 260          131
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SEQ PG LIN  LABEL  OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

929    05          W                                                        1  2898  2                  131
930    06          CC    1                                                  2  2899  F 1                131
931  8 37          CW    SYSMK1                   CLEAR GROUP MK W/ WM      4  2901  ) K09              132
932  8 38          CW    GMK1,GMK2                                          7  2905  ) I89 187          132
933  8 39          RTW   SYSTAP,OVL2                                       8  2912  L %U1 626 R        132
934  8 40          RTW   SYSTAP,085               READ IN PASS 4            8  2920  L %U1 085 R        132
935  8 41          NOP   0                                                  4  2928  N 000              132
936  8 42          BER   TPERR                                              5  2932  B K10 L            132
937  8 43          B     PASSB2                   GO TO NEXT PASS           4  2937  B 200              133
938  8 44          LTORG *                                                                  2941
                   DCW   &INAREA&12                                         3  2943  I15          ADCON  133
                   DCW   &1                                                 1  2944                LIT    133
                   DCW   @CHA@                                              3  2947                LIT    133
                   DCW   @S@                                                1  2948                LIT    133
                   DCW   @Z@                                                1  2949                LIT    133
                   DCW   &00                                                2  2951                LIT    133
             HLDCD DCW   #01                                                1  2952                AREA   134
                   DCW   @C@                                                1  2953                LIT    134
                   DCW   @Y@                                                1  2954                LIT    134
                   DCW   @&1 @                                              3  2957                LIT    134
                   DCW   @EQU  @                                            5  2962                LIT    134
                   DCW   @$HIVAL &P @                                      10  2972                LIT    134
                   DCW   &NUREC                                             3  2975  626           ADCON  134
                   DCW   @B@                                                1  2976                LIT    135
                   DCW   @   @                                              3  2979                LIT    135
             SAVOP DCW   #09                                                9  2988                AREA   135
                   DCW   @$HIVAL@                                           6  2994                LIT    135
                   DCW   @$P   @                                            5  2999                LIT    135
                   DCW   @3 @                                               2  3001                LIT    135
             MODESW DCW  #01                                                1  3002                AREA   135
                   DCW   @ILLEGAL LABEL - SEQUENCE NUMBER@                 31  3033                LIT    136
                   DCW   @,@                                                1  3034                LIT    136
                   DCW   @011@                                              3  3037                LIT    136
                   DCW   @B  @                                              3  3040                LIT    136
                   DCW   @  B@                                              3  3043                LIT    137
                   DCW   @NOP@                                              3  3046                LIT    137
                   DCW   @BCE@                                              3  3049                LIT    137
                   DCW   @BIN@                                              3  3052                LIT    137
                   DCW   @& B@                                              3  3055                LIT    137
                   DCW   &5                                                 1  3056                LIT    137
                   DCW   @BSS@                                              3  3059                LIT    137
                   DCW   @&@                                                1  3060                LIT    138
                   DCW   @$$@                                               2  3062                LIT    138
                   DCW   &VALUE&2                                           3  3065  S02           ADCON  138
                   DCW   @ACTUAL OP CODES PRESENT IN FIXED FORM IMAGES@    44  3109                LIT    140
             ABSW  DCW   #01                                                1  3110                AREA   140
                   DCW   @ &@                                               2  3112                LIT    140
             WAREA6 DCW  #06                                                6  3118                AREA   140
                   DCW   @EQU@                                              3  3121                LIT    140
                   DCW   @&P @                                              3  3124                LIT    141
```

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

                    DCW   @032@                                     3  3127              LIT    141
                    DCW   @000@                                     3  3130              LIT    141
                    DCW   @@@                                       1  3131              LIT    141
                    DCW   @52@                                      2  3133              LIT    141
                    DCW   @P@                                       1  3134              LIT    141
                    DCW   @00@                                      2  3136              LIT    141
                    DCW   @LTORG@                                   5  3141              LIT    142
                    DCW   @05@                                      2  3143              LIT    142
                    DCW   @04@                                      2  3145              LIT    142
                    DCW   &4                                        1  3146              LIT    142
                    DCW   &3                                        1  3147              LIT    142
                    DCW   @&X@                                      2  3149              LIT    142
                    DCW   @-@                                       1  3150              LIT    142
                    DCW   @I99@                                     3  3153              LIT    143
             BLANK3 DCW   #03                                       3  3156              AREA   143
                    DCW   &5500                                     4  3160              LIT    143
             EQVADD DCW   #09                                       9  3169              AREA   143
                    DCW   @N @                                      2  3171              LIT    143
                    DCW   @B @                                      2  3173              LIT    143
                    DCW   @2 @                                      2  3175              LIT    143
                    DCW   &FREE&11                                  3  3178  111         ADCON  144
                    DCW   @SPS@                                     3  3181              LIT    144
                    DCW   @AUTO@                                    4  3185              LIT    144
                    DCW   @L@                                       1  3186              LIT    144
                    DCW   @M@                                       1  3187              LIT    144
                    DCW   @PROCESSING AS FIXED FORM RECORD@        31  3218              LIT    145
                    DCW   @PASS 3 COMPLETED@                       16  3234              LIT    146
 939  8 45   *
 940  8 46   *TABLE OF MNEMONIC OPERATION CODES
 941  8 47   *
 942  8 48          ORG   3253                                                 3253
 943  8 49          DCW   @@@                                       1  3253              LIT    147
 944  8 50          DCW   #4                                        4  3257              LIT    147
 945  8 51          DCW   #2                                        2  3259              LIT    147
 946  8 52          DCW   @NNOP@                                    4  3263              LIT    147
 947  8 53          DCW   @C XFR@                                   5  3268              LIT    147
 948  8 54          DCW   @O LOR@                                   5  3273              LIT    147
 949  8 55          DCW   @I JOB@                                   5  3278              LIT    147
 950  8 56          DCW   @/CS @                                    4  3282              LIT    148
 951  8 57          DCW   @0 DA @                                   5  3287              LIT    148
 952  8 58          DCW   @S2WSS@                                   5  3292              LIT    148
 953  8 59   MASYM  DCW   @#MA @                                    4  3296              LIT    148
 954  8 60          DCW   @3 END@                                   5  3301              LIT    148
 955  8 61          DCW   @PMCM@                                    4  3305              LIT    148
 956  8 62          DCW   @N ENT@                                   5  3310              LIT    148
 957  8 63          DCW   @BRMRTB@                                  6  3316              LIT    149
 958  8 64          DCW   @ABBLC@                                   5  3321              LIT    149
 959  8 65          DCW   @ @                                       1  3322              LIT    149
 960  8 66          DCW   @BMMBC@                                   5  3327              LIT    149
 961  8 67          DCW   @%D  @                                    4  3331              LIT    149
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SEQ PG LIN  LABEL   OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

 962  8 68          DCW   @F3WM2 WDC@                             9  3340              LIT    149
 963  8 69          DCW   @ FCCB@                                  5  3345              LIT    149
 964  8 70          DCW   @S1DUDCR@                               7  3352              LIT    150
 965  8 71          DCW   @YMLZ@                                    4  3356              LIT    150
 966  8 72          DCW   @@M  @                                    4  3360              LIT    150
 967  8 73          DCW   @UEUSKP@                                  6  3366              LIT    150
 968  8 74          DCW   @O ORG@                                   5  3371              LIT    150
 969  8 75          DCW   @HSBR@                                    4  3375              LIT    150
 970  8 76          DCW   @K8 SS @                                  6  3381              LIT    150
 971  8 77          DCW   @YMZ @                                    4  3385              LIT    151
 972  8 78          DCW   @ @                                       1  3386              LIT    151
 973  8 79          DCW   @)CW @                                    4  3390              LIT    151
 974  8 80          DCW   @UWLWTW@                                  6  3396              LIT    151
 975  8 81          DCW   @B MLC@                                   5  3401              LIT    151
 976  8 82          DCW   @ZMCS@                                    4  3405              LIT    151
 977  8 83          DCW   @UWMWT @                                  6  3411              LIT    151
 978  8 84          DCW   @MMCW@                                    4  3415              LIT    152
 979  8 85          DCW   @F2WM2 WDT@                               9  3424              LIT    152
 980  8 86          DCW   @QSAR@                                    4  3428              LIT    152
 981  8 87          DCW   @R6WRF@                                   5  3433              LIT    152
 982  8 88          DCW   @S1EUECR@                                 7  3440              LIT    152
 983  8 89          DCW   @8SRF@                                    4  3444              LIT    152
 984  8 90          DCW   @)2WM @                                   5  3449              LIT    152
 985  8 91          DCW   @1VBW @                                   5  3454              LIT    153
 986  8 92          DCW   @9BBC9@                                   5  3459              LIT    153
 987  8 93          DCW   @1R  @                                    4  3463              LIT    153
 988  8 94          DCW   @URLRTW@                                  6  3469              LIT    153
 989  8 95          DCW   @F1RMRD @                                 7  3476              LIT    153
 990  8 96          DCW   @F1RLRDW@                                 7  3483              LIT    153
 991  8 97          DCW   @MMU @                                    4  3487              LIT    153
 992  8 98          DCW   @VBWZ@                                    4  3491              LIT    154
 993  8 99          DCW   @,SW @                                    4  3495              LIT    154
 994  9 00          DCW   @RBBPC@                                   5  3500              LIT    154
 995  9 01          DCW   @CC  @                                    4  3504              LIT    154
 996  9 02          DCW   @C4PCB@                                   5  3509              LIT    154
 997  9 03          DCW   @DMLN@                                    4  3513              LIT    154
 998  9 04          DCW   @UMUWTM@                                  6  3519              LIT    154
 999  9 05          DCW   @EMCE@                                    4  3523              LIT    155
1000  9 06          DCW   @C EX @                                   5  3528              LIT    155
1001  9 07          DCW   @ UCU @                                   5  3533              LIT    155
1002  9 08          DCW   @ZBBAV@                                   5  3538              LIT    155
1003  9 09          DCW   @5RP @                                    4  3542              LIT    155
1004  9 10          DCW   @.H  @                                    4  3546              LIT    155
1005  9 11          DCW   @LLU @                                    4  3550              LIT    155
1006  9 12          DCW   @BWMWTB@                                  6  3556              LIT    156
1007  9 13          DCW   @ KSSB@                                   5  3561              LIT    156
1008  9 14          DCW   @KBBEF@                                   5  3566              LIT    156
1009  9 15          DCW   @PMRC@                                    4  3570              LIT    156
1010  9 16          DCW   @UBUBSP@                                  6  3576              LIT    156
1011  9 17          DCW   @URMRT @                                  6  3582              LIT    156
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1012  9 18          DCW   @SBBE @                                    5  3587                    156
1013  9 19          DCW   @3WR @                                     4  3591                    157
1014  9 20          DCW   @SS  @                                     4  3595                    157
1015  9 21          DCW   @BB  @                                     4  3599                    157
1016  9 22          DCW   @1 DCW@                                    5  3604                    157
1017  9 23          DCW   @WBBE@                                     4  3608                    157
1018  9 24          DCW   @J DSA@                                    5  3613                    157
1019  9 25          DCW   @LLCA@                                     4  3617                    157
1020  9 26          DCW   @A DC @                                    5  3622                    158
1021  9 27          DCW   @F1WLWDW@                                  7  3629                    158
1022  9 28          DCW   @7WRP@                                     4  3633                    158
1023  9 29          DCW   @ BBIN@                                    5  3638                    158
1024  9 30          DCW   @KVBM @                                    5  3643                    158
1025  9 31          DCW   @PBBPB@                                    5  3648                    158
1026  9 32          DCW   @9SPF@                                     4  3652                    158
1027  9 33          DCW   @M SFX@                                    5  3657                    159
1028  9 34          DCW   @4P  @                                     4  3661                    159
1029  9 35          DCW   @F0RMSD @                                  7  3668                    159
1030  9 36          DCW   @@BBCV@                                    5  3673                    159
1031  9 37          DCW   @!ZS @                                     4  3677                    159
1032  9 38          DCW   @O LTO@                                    5  3682                    159
1033  9 39          DCW   @P EQU@                                    5  3687                    159
1034  9 40          DCW   @ BBSS@                                    5  3692                    160
1035  9 41          DCW   @F8 CC @                                   6  3698                    160
1036  9 42          DCW   @AA  @                                     4  3702                    160
1037  9 43          DCW   @LBBER@                                    5  3707                    160
1038  9 44          DCW   @/BBU @                                    5  3712                    160
1039  9 45          DCW   @BBCE@                                     4  3716                    160
1040  9 46          DCW   @UBBH @                                    5  3721                    160
1041  9 47          DCW   @TBBL @                                    5  3726                    161
1042  9 48          DCW   @X DS @                                    5  3731                    161
1043  9 49          DCW   @F2RM2 RDT@                                9  3740                    161
1044  9 50          DCW   @AMMBD@                                    5  3745                    161
1045  9 51          DCW   @2W  @                                     4  3749                    161
1046  9 52          DCW   @F1WMWD @                                  7  3756                    161
1047  9 53          DCW   @DMN @                                     4  3760                    161
1048  9 54          DCW   @C1RCB@                                    5  3765                    162
1049  9 55          DCW   @6WP @                                     4  3769                    162
1050  9 56          DCW   @XMIZ@                                     4  3773                    162
1051  9 57          DCW   #9                                         9  3782                    162
1052  9 58          DCW   #3                                         3  3785                    162
1053  9 59          DCW   @?ZA @                                     4  3789                    162
1054  9 60          DCW   #1                                         1  3790                    162
1055  9 61          DCW   @UUURWU@                                   6  3796                    163
1056  9 62          DCW   @URURWD@                                   6  3802                    163
1057  9 63          DCW   @R4RF @                                    5  3807                    163
1058  9 64   OPND   DCW   #1                                         1  3808                    163
1059  9 65   *
1060  9 66   * CONSTANTS AND TABLES
1061  9 67   *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1062  9 68   FREESW DC    0                                        1  3809                    163
1063  9 69   BINTBL DCW   @BAV Z@                                  5  3814                    163
1064  9 70          DCW   @BC9 9@                                  5  3819                    163
1065  9 71          DCW   @BU  /@                                  5  3824                    163
1066  9 72          DCW   @BCV @@                                  5  3829                    164
1067  9 73          DCW   @BE  S@                                  5  3834                    164
1068  9 74          DCW   @BEF K@                                  5  3839                    164
1069  9 75          DCW   @BER L@                                  5  3844                    164
1070  9 76          DCW   @BH  U@                                  5  3849                    164
1071  9 77          DCW   @BL  T@                                  5  3854                    164
1072  9 78          DCW   @BLC A@                                  5  3859                    164
1073  9 79          DCW   @BPB P@                                  5  3864                    165
1074  9 80          DCW   @BPCBR@                                  5  3869                    165
1075  9 81          DCW   @BSS B@                                  5  3874                    165
1076  9 82          DCW   @BSS C@                                  5  3879                    165
1077  9 83          DCW   @BSS D@                                  5  3884                    165
1078  9 84          DCW   @BSS E@                                  5  3889                    165
1079  9 85          DCW   @BSS F@                                  5  3894                    165
1080  9 86          DCW   @BSS G@                                  5  3899                    166
1081  9 87   *
1082  9 88   *TAPE INPUT AREA
1083  9 89   *
1084  9 90          DS    3                                           3902
1085  9 91   INAREA DA    1X86,G                                      3903   3988
1085                 DCW   @"@                                      1  3989             GMARK  167
1086  9 92   GMK1   EQU   *                                           3989
1087  9 93   *
1088  9 94   *  EQUATES
1089  9 95   *
1090  9 96   BLANK  EQU   BLANK3-2                                    3154
1091  9 97   BLNK2  EQU   BLANK3-1                                    3155
1092  9 98   ENDFIX EQU   ENTSPS                                      0626
1093  9 99   WAREA3 EQU   WAREA6-3                                    3115
1094 10 00   WAREA2 EQU   WAREA6-4                                    3114
1095 10 01          EX    LIBRN                                            B 000              168
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1096 10 02          JOB   1401 AUTOCODER-PASS 4-LEFT MAIN LINE  -VERSION 3
1097 10 03          SFX   Z                                                 Z
1098 10 04   *
1099 10 05   * INITIALIZATION OF INDEX LOCATIONS
1100 10 06   *
1101 10 07          ORG   85                                                Z          0085
1102 10 08   GRPMK1 DC    @}@                                               Z   1  0085            GMARK  171
1103 10 09          DC    0                                                 Z   1  0086                   171
1104 10 10   XL1    DCW   000                                               Z   3  0089                   171
1105 10 11          DC    00                                                Z   2  0091                   171
1106 10 12   XL2    DCW   000                                               Z   3  0094                   171
1107 10 13          DC    00                                                Z   2  0096                   171
1108 10 14   XL3    DCW   000                                               Z   3  0099                   171
1109 10 15          DS    1                                                 Z      0100
1110 10 16   *
1111 10 17   *FIXED FORM IMAGE AREA
1112 10 18   *
1113 10 19   IMAGE  EQU   *                                                 Z      0100
1114 10 20          DS    84                                                Z      0184
1115 10 21   GRPMK4 DC    @}@                                               Z   1  0185            GMARK  172
1116 10 22   ZONE   DCW   @2SKB@                                            Z   4  0189                   172
1117 10 23   EXOVFL DCW   99                      CONSTANTS USED IN         Z   2  0191                   172
1118 10 24   EXNUMB DCW   00                       MAKING IN LITERAL LABELS Z   2  0193                   172
1119 10 25   PROCOR DCW   #1                                                Z   1  0194                   172
1120 10 26   TOTLBL DCW   &0000                                             Z   4  0198                   173
1121 10 27   JOBSW  DCW   0                                                 Z   1  0199                   173
1122 10 28   *
1123 10 29   * READ IN CONTROL CARD OVERLAY
1124 10 30   *
1125 10 31   PASSB2 RTW   SYSTAP,DOPROG                                     Z   8  0200  L %U1 N75 R        173
1126 10 32          NOP   0                                                 Z   4  0208  N 000              173
1127 10 33          BER   TPERR                                             Z   5  0212  B 221 L           173
1128 10 34          B     START                                             Z   4  0217  B N75             173
1129 10 35   *
1130 10 36   *TAPE REDUNDANCY ROUTINE
1131 10 37   *
1132 10 38   TPERR  SBR   XL3                                               Z   4  0221  H 099             173
1133 10 39          SBR   REDXT&3                                           Z   4  0225  H 293             174
1134 10 40          MZ    &9,XL3                                            Z   7  0229  Y 464 099         174
1135 10 41          MCW   4000-10&X3,TPINS&7         BRING IN INSTRUCTION  Z   7  0236  M II0 284         174
1136 10 42          MN    TPINS&3,BSP1&3               THAT CAUSED          Z   7  0243  D 280 260         174
1137 10 43          MCW   TPINS&7,INST2&7             REDUNDANCY           Z   7  0250  M 284 393         174
1138 10 44   BSP1   BSP   INITAP                      BACKSPACE TAPE       Z   5  0257  U %U0 B           174
1139 10 45          BCE   WRTRD,TPINS&7,W            Q. WRITE REDUNDANCY  Z   8  0262  B 366 284 W      175
1140 10 46          MCW   &9,RDCT#1                  INITIALIZE COUNTER   Z   7  0270  M 464 465         175
1141 10 47   TPINS  RT    INITAP,XXXX                RE-READ              Z   8  0277  M %U0 000 R        175
1142 10 48          BER   RDERR                      Q. REDUNDANCY        Z   5  0285  B 294 L           175
1143 10 49   REDXT  B     XXXX                       EXIT                 Z   4  0290  B 000             175
1144 10 50   RDERR  MN    TPINS&3,BSP2&3                                  Z   7  0294  D 280 304         175
1145 10 51   BSP2   BSP   INITAP                      BACKSPACE AGAIN      Z   5  0301  U %U0 B           176
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 SEQ PG LIN  LABEL  OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1146 10 52          S     &1,RDCT                    REDUCE COUNTER       Z   7  0306  S 466 465         176
1147 10 53          BWZ   TPINS,RDCT,B               Q. 10 SUCCESSIVE RETRIES Z 8  0313  V 277 465 B      176
1148 10 54          MN    TPINS&3,TPHLT&6                                 Z   7  0321  D 280 334         176
1149 10 55   TPHLT  H     XXXX,490                   HALT                 Z   7  0328  . 000 490         176
1150 10 56          MCW   TPINS&7,*&8                                    Z   7  0335  M 284 349         177
1151 10 57          RT    INITAP,XXXX                RE-READ              Z   8  0342  M %U0 000 R        177
1152 10 58          BSS   BSP1,E                     DETERMINE OPTION     Z   5  0350  B 257 E           177
1153 10 59          H     XXXX,402                   HALT AGAIN           Z   7  0355  . 000 402         177
1154 10 60          B     REDXT                      EXIT                 Z   4  0362  B 290             177
1155 10 61   WRTRD  SKP   SYSTAP                     ERASE TAPE           Z   5  0366  U %U1 E           177
1156 10 62          BCE   SBCTR,WRTCR-1,5            Q. FIFTY SKIPS       Z   8  0371  B 403 467 5      178
1157 10 63          A     &1,WRTCR#2                 INCREASE COUNT       Z   7  0379  A 466 468         178
1158 10 64   INST2  WT    INITAP,XXXX                RE-WRITE             Z   8  0386  M %U0 000 W      178
1159 10 65          BER   BSP1                       Q. REDUNDANCY AGAIN  Z   5  0394  B 257 L           178
1160 10 66          B     REDXT                                           Z   4  0399  B 290             178
1161 10 67   SBCTR  S     WRTCR                      RESET COUNTER        Z   4  0403  S 468             178
1162 10 68          MN    TPINS&3,*&7                                     Z   7  0407  D 280 420         179
1163 10 69          H     XXXX,460                   HALT                 Z   7  0414  . 000 460         179
1164 10 70          B     INST2                                           Z   4  0421  B 386             179
1165 10 71   *
1166 10 72   * NOISE RECORD ROUTINE
1167 10 73   *
1168 10 74   NOISE  SBR   XL3                                               Z   4  0425  H 099             179
1169 10 75          SBR   NSXT&3                                            Z   4  0429  H 463             179
1170 10 76          MZ    &9,XL3                                            Z   7  0433  Y 464 099         179
1171 10 77   N2     BCE   4000-12&X3,XXXX,}          SCAN FOR GROUP MARK  Z   8  0440  B IH8 000 } GMARK  180
1172 10 78          CHAIN 12                                                Z                      MACRO
1173                BCE                                                   Z   1  0448  B                GEN    180
1174                BCE                                                   Z   1  0449  B                GEN    180
1175                BCE                                                   Z   1  0450  B                GEN    180
1176                BCE                                                   Z   1  0451  B                GEN    180
1177                BCE                                                   Z   1  0452  B                GEN    180
1178                BCE                                                   Z   1  0453  B                GEN    180
1179                BCE                                                   Z   1  0454  B                GEN    181
1180                BCE                                                   Z   1  0455  B                GEN    181
1181                BCE                                                   Z   1  0456  B                GEN    181
1182                BCE                                                   Z   1  0457  B                GEN    181
1183                BCE                                                   Z   1  0458  B                GEN    181
1184                BCE                                                   Z   1  0459  B                GEN    181
1185 10 79   NSXT   B     XXXX                                            Z   4  0460  B 000             181
1186 10 80          LTORG *                                                 Z           0464
                    DCW   &9                                              Z   1  0464                   LIT    182
             RDCTZ  DCW   #01                                             Z   1  0465                   AREA   182
                    DCW   &1                                              Z   1  0466                   LIT    182
             WRTCRZ DCW   #02                                             Z   2  0468                   AREA   182
1187 10 81   *
1188 10 82   *END OF CONTROL CARD ANALYSIS, READ IN MAIN LINE
1189 10 83   *
1190 10 84   CWI98  CW    3998                                              Z   4  0469  ) I98             182
1191 10 85          SW    JOBSW                                             Z   4  0473  , 199             182
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

1192 10 86           B     PUT                                              Z  4  0477  B 610             182
1193 10 87   RTNJB     CW    JOBSW                                            Z  4  0481  ) 199             183
1194 10 88           B     WRTP                                             Z  4  0485  B 578             183
1195 10 89   LDOPTB  RTW   SYSTAP,DOPROG              READ IN MAIN LINE       Z  8  0489  L %U1 N75 R       183
1196 10 90           NOP   0                                                Z  4  0497  N 000             183
1197 10 91           BER   TPERR                                            Z  5  0501  B 221 L           183
1198 10 92           CW    GRPMK5,GRPMK8                                    Z  7  0506  ) N74 H99         183
1199 10 93           MLC   @0@,FACTOR-3                                     Z  7  0513  M M83 H45         183
1200 10 94   *
1201 10 95   *BEGINNING OF MAIN LINE
1202 10 96   *
1203 10 97   BYPASS  B     GET                        PROCESS BYPASSED CARDS  Z  4  0520  B 538             184
1204 10 98           S     XL3&1                                            Z  4  0524  S 100             184
1205 10 99           S                                                      Z  1  0528  S                 184
1206 11 00           S                                                      Z  1  0529  S                 184
1207 11 01           B     CKCOM                                            Z  4  0530  B 706             184
1208 11 02   *
1209 11 03   *BEGINNING OF NEW CARD ANALYSIS
1210 11 04   *
1211 11 05   NUREC   B     PUT  ??? SO GETXT GOES TO CKCOM ???  PUT LAST RECORD Z  4  0534  B 610             184
1212 11 06   GET     SBR   GETXT&3                    GET ROUTINE             Z  4  0538  H 577             184
1213 11 07           CS    INPUT&80                                         Z  4  0542  / 080             185
1214 11 08           SW    INPUT&21                                         Z  4  0546  , 021             185
1215 11 09           SBR   N2&6,INPUT&13                                    Z  7  0550  H 446 013         185
1216 11 10           RT    INTAP,INPUT&1              READ TAPE               Z  8  0557  M %U4 001 R       185
1217 11 11           B     NOISE                      CHECK FOR NOISE         Z  4  0565  B 425             185
1218 11 12           BER   TPERR                                            Z  5  0569  B 221 L           185
1219 11 13   GETXT   B     XXXX                       EXIT                    Z  4  0574  B 000             185
1220 11 14   *
1221 11 15   *IMAGE TO OUTPUT AREA
1222 11 16   *
1223 11 17   WRTP    SBR   WRTXT&3                                          Z  4  0578  H 609             186
1224 11 18           WT    OUTAP,OUTPUT&1             WRITE TAPE              Z  8  0582  M %U5 I18 W       186
1225 11 19           NOP   0                                                Z  4  0590  N 000             186
1226 11 20           BER   TPERR                                            Z  5  0594  B 221 L           186
1227 11 21           MLC   @000@,HOLDC                                      Z  7  0599  M M86 M91         186
1228 11 22   WRTXT   B     XXXX                                             Z  4  0606  B 000             186
1229 11 23   PUT     SBR   PUTXT&3                                          Z  4  0610  H 705             186
1230 11 24           MLC   HOLDC,XL3                                        Z  7  0614  M M91 099         187
1231 11 25           MLC   IMAGE&80,OUTPUT&80&X3       WORK AREA TO OUTPUT  Z  7  0621  M 180 II7         187
1232 11 26           CHAIN 10                                               Z                    MACRO
1233                 MLC                                                    Z  1  0628  M           GEN   187
1234                 MLC                                                    Z  1  0629  M           GEN   187
1235                 MLC                                                    Z  1  0630  M           GEN   187
1236                 MLC                                                    Z  1  0631  M           GEN   187
1237                 MLC                                                    Z  1  0632  M           GEN   187
1238                 MLC                                                    Z  1  0633  M           GEN   188
1239                 MLC                                                    Z  1  0634  M           GEN   188
1240                 MLC                                                    Z  1  0635  M           GEN   188
1241                 MLC                                                    Z  1  0636  M           GEN   188
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 SEQ PG LIN  LABEL   OP    OPERANDS                                        SFX CT  LOCN  INSTRUCTION TYPE  CARD

1242                 MLC                                                    Z  1  0637  M           GEN   188
1243 11 27   TPYET   A     &80,HOLDC#3                                      Z  7  0638  A M88 M91         188
1244 11 28   CKTAP   BCE   WRTP,XL3-2,0                Q. WRITE YET          Z  8  0645  B 578 097 0       188
1245 11 29           BW    DCWXT,DCWSW2               Q. DCW GT 30 CARDS    Z  8  0653  V J85 H92 1       189
1246 11 30           BW    SPGLIN,INITSW              Q. DA RECORD          Z  8  0661  V 692 H87 1       189
1247 11 31           CS    INPUT&80                   CLEAR INPUT AND       Z  4  0669  / 080             189
1248 11 32           SW    INPUT&21                    IMAGE AREAS          Z  4  0673  , 021             189
1249 11 33           MRCM  INPUT&1,IMAGE&1                                  Z  7  0677  P 001 101         189
1250 11 34           BW    RTNJB,JOBSW                Q. JOB CARD           Z  8  0684  V 481 199 1       189
1251 11 35   SPGLIN  S     IMAGE&5                    WIPE OUT PG/LIN NUMBER  Z  4  0692  S 105             190
1252 11 36           S     XL3&1                                            Z  4  0696  S 100             190
1253 11 37           S                                                      Z  1  0700  S                 190
1254 11 38           S                                                      Z  1  0701  S                 190
1255 11 39   PUTXT   B     XXXX                                             Z  4  0702  B 000             190
1256 11 40   SAVE2   ORG   *                                                Z     0706   0706
1257 11 41   CKCOM   BCE   BYPASS,INPUT&6,*            Q. COMMENTS CARD      Z  8  0706  B 520 006 *       190
1258 11 42           MN    INPUT&75,CK2&7                                   Z  7  0714  D 075 735         190
1259 11 43           MZ    INPUT&75,CK2&7                                   Z  7  0721  Y 075 735         191
1260 11 44   CK2     BCE   BYPASS,@RSWZ@,0                                  Z  8  0728  B 520 M95 0       191
1261 11 45           CHAIN 3                                                Z                    MACRO
1262                 BCE                                                    Z  1  0736  B           GEN   191
1263                 BCE                                                    Z  1  0737  B           GEN   191
1264                 BCE                                                    Z  1  0738  B           GEN   191
1265 11 46           MLC   INPUT&84,IMAGE&80          ALTER NO TO FIXED FORM  Z  7  0739  M 084 180         191
1266 11 47           BWZ   *&5,INPUT&6,2              Q. IS THERE LABEL       Z  8  0746  V 758 006 2       191
1267 11 48           B     PROLBL                     PROCESS LABEL           Z  4  0754  B V38             192
1268 11 49           MCW   INPUT&18,IMAGE&16          MNEMONIC TO FIXED FORM  Z  7  0758  M 018 116         192
1269 11 50           SW    SCANSW                     RESET SCAN SWITCH       Z  4  0765  , N15             192
1270 11 51           MLC   @000@,FREEA#3                                     Z  7  0769  M M86 M98         192
1271 11 52           LCA   BLANK4,EQUADD              RETRIEVE TABLE FUNCTION Z  7  0776  L H62 N11         192
1272 11 53           MCW   @I9I@,XL1                   THAT WAS              Z  7  0783  M N01 089         192
1273 11 54   PLSCAN  BCE   PLUSFD,INPUT&15&X1,&       GENERATED BY PASS 3     Z  8  0790  B 817 0/5 &       193
1274 11 55   GOBK    C     XL1,@I9G@                                        Z  7  0798  C 089 N04         193
1275 11 56           A     @I99@,XL1                                        Z  7  0805  A N07 089         193
1276 11 57           BL    PLSCAN                                           Z  5  0812  B 790 T           193
1277 11 58   PLUSFD  BCE   GOBK,INPUT&14&X1,&                               Z  8  0817  B 798 0/4 &       193
1278 11 59           SW    EQUADD&1&X1                                      Z  4  0825  , N/2             193
1279 11 60           MCW   INPUT&15,EQUADD#4                                Z  7  0829  M 015 N11         194
1280 11 61           S     XL1&2                                            Z  4  0836  S 091             194
1281 11 62           BW    INSTR,EQUADD               Q. REGULAR INSTRUCTION  Z  8  0840  V N75 N11 1       194
1282 11 63           BCE   CTRLOP,EQUADD,             Q. CONTROL OP           Z  8  0848  B C61 N11         194
1283 11 64           B     INSTR                                            Z  4  0856  B N75             194
1284 11 65   *
1285 11 66   *SCAN FOR COMMA OR BLANK
1286 11 67   *
1287 11 68   COMSCN  SBR   CSCNXT&3                   INDEX LOCATION 3        Z  4  0860  H 932             194
1288 11 69           S     XL3&1                       CONTAINS TOTAL         Z  4  0864  S 100             194
1289 11 70           SW    INPUT&21&X2,SCANSW          POSITIONS SCANNED      Z  7  0868  , 0K1 N15         195
1290 11 71   TSTCOM  A     &1,XL2                      INCLUDING COMMA OR     Z  7  0875  A N12 094         195
1291 11 72           A     &1,XL3                      BLANK FOR OPERAND      Z  7  0882  A N12 099         195
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1292 11 73          BCE   PRSCXT,INPUT&20&X2,,      INDEX LOCATION 2          Z   8  0889  B 925 0K0 ,        195
1293 11 74          C     INPUT&21&X2,BLANK2         CONTAINS TOTAL           Z   7  0897  C 0K1 H60          195
1294 11 75          BE    CSCNXT                     POSITIONS SCANNED FOR    Z   5  0904  B 929 S           196
1295 11 76          C     XL2,@54@                   ALL OPERANDS             Z   7  0909  C 094 N14          196
1296 11 77          BE    SCNERR                    SCANSW SHOWS WHETHER      Z   5  0916  B 933 S           196
1297 11 78          B     TSTCOM                     SCAN TERMINATED BY       Z   4  0921  B 875             196
1298 11 79  PRSCXT CW    SCANSW#1                   COMMA OR TWO BLANKS      Z   4  0925  ) N15             196
1299 11 80  CSCNXT B     XXXX                                                Z   4  0929  B 000             196
1300 11 81  SCNERR MZ    BBIT,IMAGE&5                                        Z   7  0933  Y 188 105          196
1301 11 82          BCE   CSCNXT,IMAGE&75,3                                 Z   8  0940  B 929 175 3       197
1302 11 83          B     NUREC                                               Z   4  0948  B 534             197
1303 11 84  *
1304 11 85  *CONVERT FREE TO FIXED
1305 11 86  *
1306 11 87  FR2FIX SBR   FR2FXT&3                                            Z   4  0952  H S32             197
1307 11 88          MCW   BLANK,W6AREA                                      Z   7  0956  M H59 H77         197
1308 11 89          MCW   XL2&1,XL3&1                                       Z   7  0963  M 095 100         197
1309 11 90  SCNDEX C     XL3,@04@                  ANY CHARACTER ADJ         Z   7  0970  C 099 N17         197
1310 11 91          BH    DOADRS                     OR INDEXING              Z   5  0977  B /50 U           198
1311 11 92          BE    CKADJ                                               Z   5  0982  B '17 S           198
1312 11 93          C     INPUT&18&X3,@&X@          Q. INDEXING               Z   7  0987  C 0A8 N19         198
1313 11 94          BU    CKADJ                     PROCESS INDEXING          Z   5  0994  B '17 /           198
1314 11 95          MN    INPUT&19&X3,IMAGE&27&X1                             Z   7  0999  D 0A9 1S7         198
1315 11 96          A     &K4K-3,XL3                                          Z   7  1006  A N22 099         198
1316 11 97          B     SCNDEX                                              Z   4  1013  B 970             199
1317 11 98  CKADJ   BCE   CKMIN,INPUT&18&X3,&                                 Z   8  1017  B /34 0A8 &       199
1318 11 99  SCANB   EQU   *-1                      CHARACTER ADJUSTMENT      Z      1023
1319 12 00          BCE                            OR AREA DEFINITION        Z   1  1025  B                199
1320 12 01          BCE                            LITERAL CODE              Z   1  1026  B                199
1321 12 02  DOMIN   BCE   ISADJ,INPUT&18&X3,-                                 Z   8  1027  B '51 0A8 -       199
1322 12 03          BCE                                                       Z   1  1035  B                199
1323 12 04          BCE                                                       Z   1  1036  B                199
1324 12 05          BCE   ISADJ,INPUT&18&X3,#                                 Z   8  1037  B '51 0A8 #       200
1325 12 06          BCE                                                       Z   1  1045  B                200
1326 12 07          BCE                                                       Z   1  1046  B                200
1327 12 08          B     DOADRS                                              Z   4  1047  B /50             200
1328 12 09  ISADJ   SBR   W3AREA                    PROCESS CHARACTER         Z   4  1051  H H74            200
1329 12 10  PROADJ S     &SCANB,W3AREA              ADJUSTMENT                Z   7  1055  S N25 H74        200
1330 12 11          MLC   XL2,HOLD3                                           Z   7  1062  M 094 H65        200
1331 12 12          MLNS  W3AREA,XL2                                          Z   7  1069  D H74 094        201
1332 12 13          MLC   @00@                                               Z   4  1076  M N27            201
1333 12 14          MLC   INPUT&19&X3,W3AREA-4&X2                           Z   7  1080  M 0A9 HP0        201
1334 12 15          S     XL2&1,XL3&1                                         Z   7  1087  S 095 100        201
1335 12 16          MZ    INPUT&20&X3,W3AREA-4&X2                           Z   7  1094  Y 0B0 HP0        201
1336 12 17          MN    INPUT&20&X3,W6AREA                                Z   7  1101  D 0B0 H77        201
1337 12 18          SW    IMAGE&24&X1                                       Z   4  1108  , 1S4            202
1338 12 19          A     W3AREA-4&X2,IMAGE&26&X1   ADD CHAR ADJUSTMENT TO  Z   7  1112  A HP0 1S6        202
1339 12 20          CW    IMAGE&24&X1                FIXED FORM               Z   4  1119  ) 1S4            202
1340 12 21          MLC   HOLD3,XL2                                           Z   7  1123  M H65 094        202
1341 12 22          B     SCNDEX                                              Z   4  1130  B 970            202
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1342 12 23  CKMIN   SBR   W3AREA                   ACCOUNT FOR POSSIBLE      Z   4  1134  H H74            202
1343 12 24          BCE   DOMIN,INPUT&18&X3,-        MULTI-CHAR ADJ OF       Z   8  1138  B '27 0A8 -       202
1344 12 25          B     PROADJ                     &1-2 TYPE               Z   4  1146  B '55            203
1345 12 26  DOADRS  S     FREEA,XL3                 PROCESS ADDRESS           Z   7  1150  S M98 099        203
1346 12 27          C     XL3,&007                  Q. OLLEGAL ADDRESS        Z   7  1157  C 099 N30        203
1347 12 28          BL    FIXER                      LENGTH                   Z   5  1164  B S33 T          203
1348 12 29          A     FREEA,XL3                                           Z   7  1169  A M98 099        203
1349 12 30          MZ    BLANK,XL3                                           Z   7  1176  Y H59 099        203
1350 12 31          MCW   @'@,INPUT&20&X3                                    Z   7  1183  M N31 0B0        204
1351 12 32          MLC   FREEA,XL3                                           Z   7  1190  M M98 099        204
1352 12 33          MRCM  INPUT&21&X3,IMAGE&17&X1   MOVE ADDRESS TO IMAGE     Z   7  1197  P 0B1 1/7         204
1353 12 34          SBR   XL3                                                 Z   4  1204  H 099            204
1354 12 35          MZ    ABBIT,XL3                                           Z   7  1208  Y 189 099        204
1355 12 36          MCW   BLANK,4000-1&X3                                    Z   7  1215  M H59 II9        204
1356 12 37          MN    W6AREA,IMAGE&23&X1                                  Z   7  1222  D H77 1S3        205
1357 12 38  FR2FXT B     XXXX                      EXIT                      Z   4  1229  B 000            205
1358 12 39  FIXER   SW    FIXSW#1                                             Z   4  1233  , N32            205
1359 12 40  OPDER   MCW   @0000,XL3                 CODE STATEMENT            Z   7  1237  M M86 099        205
1360 12 41          MZ    ABIT,IMAGE&5               BAD BUT PROCESSABLE      Z   7  1244  Y 187 105        205
1361 12 42          BCE   *&8,XL1,0                                           Z   8  1251  B S66 089 0       205
1362 12 43          MCW   @003@,XL3                                           Z   7  1259  M N35 099        206
1363 12 44          MCW   @####@,IMAGE&70&X3                                 Z   7  1266  M N38 1G0        206
1364 12 45          MZ    ABBIT,IMAGE&1&X3                                    Z   7  1273  Y 189 171        206
1365 12 46          BW    FR2FXT,FIXSW                                        Z   8  1280  V S29 N32 1      206
1366 12 47          B     LTER2                                               Z   4  1288  B U09            206
1367 12 48  *
1368 12 49  *SCAN FOR SIGN
1369 12 50  *
1370 12 51  SCANAT SBR   SCNATX&3                                            Z   4  1292  H T85            206
1371 12 52          SW    INPUT&21&X2,SCANSW        SCAN IS EXECUTED FROM     Z   7  1296  , 0K1 N15        207
1372 12 53          ZA    @510@,XL3&1                RIGHT TO LEFT            Z   7  1303  ? N41 100        207
1373 12 54  A1ALF   BCE   NDASCN,INPUT&21&X3,@                                 Z   8  1310  B T29 0B1 @      207
1374 12 55          S     &10,XL3&1                                           Z   7  1318  S N43 100        207
1375 12 56          B     A1ALF                                               Z   4  1325  B T10            207
1376 12 57  NDASCN  C     XL2,XL3                   Q. NO ENDING AT SIGN      Z   7  1329  C 094 099        208
1377 12 58          BE    LTERR                                               Z   5  1336  B T94 S          208
1378 12 59          BCE   SETSW,INPUT&22&X3,,       Q. IS ENDING AT SIGN      Z   8  1341  B T86 0B2 ,      208
1379 12 60          C     INPUT&23&X3,BLANK2         FOLLOWED BY COMMA OR     Z   7  1349  C 0B3 H60        208
1380 12 61          BU    LTERR                      TWO BLANKS               Z   5  1356  B T94 /          208
1381 12 62  SXL     S     XL2&1,XL3&1                                         Z   7  1361  S 095 100        208
1382 12 63          A     &2,XL3                                              Z   7  1368  A N44 099        209
1383 12 64          A     XL3,XL2                                             Z   7  1375  A 099 094        209
1384 12 65  SCNATX B     XXXX                      XXXX                      Z   4  1382  B 000            209
1385 12 66  SETSW   CW    SCANSW                                              Z   4  1386  ) N15            209
1386 12 67          B     SXL                                                 Z   4  1390  B T61            209
1387 12 68  *
1388 12 69  *IMPROPERLY CODED STATEMENT ROUTINE
1389 12 70  *
1390 12 71  LTERR   MLZS  ABIT,IMAGE&5              MARK STATEMENT            Z   7  1394  Y 187 105        209
1391 12 72          CW    FIXSW                      BAD BUT PROCESSABLE      Z   4  1401  ) N32            209
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

1392 12 73          B     OPDER                                       Z   4  1405  B S37             210
1393 12 74   LTER2   B     COMSCN                                      Z   4  1409  B 860             210
1394 12 75          MCW   @@@,INPUT&20&X3                            Z   7  1413  M N45 0B0          210
1395 12 76          A     &1,XL3                                      Z   7  1420  A N12 099          210
1396 12 77          B     SCNATX                                      Z   4  1427  B T82             210
1397 12 78   *
1398 12 79   *PLACE LITERALS ON  MASTER TAPE
1399 12 80   *
1400 12 81   CALL   BW    CKLOR,LITSW#1              Q. ANY LITERALS  Z   8  1431  V U85 N46 1       210
1401 12 82          RT    SYSTAP,INPUT&1             READ IN PROCESS  Z   8  1439  M %U1 001 R       211
1402 12 83          RTW   SYSTAP,DOPROG               LITERALS OVERLAP Z   8  1447  L %U1 N75 R       211
1403 12 84          NOP   0                                           Z   4  1455  N 000             211
1404 12 85          BER   TPERR                                       Z   5  1459  B 221 L           211
1405 12 86          B     OVLLIT                     GO TO ROUTINE    Z   4  1464  B N75             211
1406 12 87   RECALL RTW   SYSTAP,DOPROG             RECALL MAIN LINE Z   8  1468  L %U1 N75 R       211
1407 12 88          NOP   0                           OVERLAP         Z   4  1476  N 000             212
1408 12 89          BER   TPERR                                       Z   5  1480  B 221 L           212
1409 12 90   CKLOR  BCE   BYPASS,IMAGE&75,           Q. LITERAL ORIGIN Z   8  1485  B 520 175         212
1410 12 91          BCE   NUREC,IMAGE&75,C           Q. EXECUTE       Z   8  1493  B 534 175 C       212
1411 12 92          RT    SYSTAP,INPUT&1             SKIP PAST OVERLAPS Z   8  1501  M %U1 001 R      212
1412 12 93          RT    SYSTAP,INPUT&1              AND READ IN END OF Z   8  1509  M %U1 001 R      213
1413 12 94          RTW   SYSTAP,EOJRT                JOB OVERLAP      Z   8  1517  L %U1 706 R       213
1414 12 95          NOP   0                                           Z   4  1525  N 000             213
1415 12 96          BER   TPERR                                       Z   5  1529  B 221 L           213
1416 12 97          B     EOJRT                                       Z   4  1534  B 706             213
1417 12 98   *
1418 12 99   *GENERATE ENTRY ADDRESS FOR LABELS
1419 13 00   *
1420 13 01   PROLBL SBR   XTLABL&3                                    Z   4  1538  H V77             213
1421 13 02          MLC   INPUT&11,IMAGE&13                          Z   7  1542  M 011 113         214
1422 13 03          MLC   IMAGE&13,W6AREA                            Z   7  1549  M 113 H77         214
1423 13 04          B     PROLAB                                      Z   4  1556  B W47             214
1424 13 05          MLC   W3AREA,IMAGE&56                           Z   7  1560  M H74 156         214
1425 13 06          A     &1,TOTLBL                                   Z   7  1567  A N12 198         214
1426 13 07   XTLABL B     XXXX                                        Z   4  1574  B 000             214
1427 13 08   *
1428 13 09   *CONVERT FREE FORM NUMBER TO FIVE CHARACTERS
1429 13 10   *
1430 13 11   CVRT5  SBR   CVT5XT&3                                    Z   4  1578  H V93             215
1431 13 12          BCE   *&5,W5AREA,&                               Z   8  1582  B V94 H76 &       215
1432 13 13   CVT5XT B     XXXX                                        Z   4  1590  B 000             215
1433 13 14          ZA    W5AREA-1,W5AREA                           Z   7  1594  ? H75 H76         215
1434 13 15          B     CVRT5&4                                     Z   4  1601  B V82            215
1435 13 16   *
1436 13 17   * CHECK FOR FINAL OPERAND
1437 13 18   *
1438 13 19   FNLOP  SBR   FNLXT&3                    Q. FINAL OPERAND Z   4  1605  H W27             215
1439 13 20          BW    FNLXT,SCANSW               FOLLOWED BY TWO  Z   8  1609  V W24 N15 1       215
1440 13 21          MZ    ABIT,IMAGE&5               BLANKS           Z   7  1617  Y 187 105         216
1441 13 22   FNLXT  B     XXXX                                        Z   4  1624  B 000             216
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 SEQ PG LIN  LABEL  OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

1442 13 23   *
1443 13 24   *CONVERT FLOATING A OPERAND ACTUAL ADDRESS TO FIVE CHARACTERS
1444 13 25   *
1445 13 26   CVTFLA SBR   FLAXT&3                                    Z   4  1628  H W46             216
1446 13 27          ZA    IMAGE&21,W5AREA                           Z   7  1632  ? 121 H76         216
1447 13 28          B     CVRT5                      LINK TO SUBROUTINE Z   4  1639  B V78            216
1448 13 29   FLAXT  B     XXXX                                        Z   4  1643  B 000             216
1449 13 30   *
1450 13 31   *CONVERT SYMBOLS TO THREE CHARACTER ENTRY ADDRESS
1451 13 32   *
1452 13 33   PROLAB SBR   LBLXT&3                                    Z   4  1647  H Y10             216
1453 13 34          ZA    &2,HOLD2                                  Z   7  1651  ? N44 H64         217
1454 13 35          BCE   *&5,W6AREA,               ADD SUFFIX CHAR TO Z   8  1658  B W70 H77         217
1455 13 36          B     *&8                        LABELS FIVE CHARS Z   4  1666  B W77             217
1456 13 37          MCW   SFXHLD,W6AREA              OR LESS          Z   7  1670  M H86 H77         217
1457 13 38          ZA    W6AREA-2,HOLD4                            Z   7  1677  ? H75 H71         217
1458 13 39          A     W6AREA,HOLD4               FOLD SYMBOL TO   Z   7  1684  A H77 H71         218
1459 13 40          A     W6AREA,HOLD4-2              FOUR CHARACTERS Z   7  1691  A H77 H69         218
1460 13 41          MLZS  BLANK,HOLD4                               Z   7  1698  Y H59 H71         218
1461 13 42          ZA    FACTOR,HOLD7               MULTIPLY BY FACTOR Z   7  1705  ? H48 H84         218
1462 13 43   MPYLP  MLNS  HOLD7,HOLD1                               Z   7  1712  D H84 H85         218
1463 13 44          ZA                                              Z   1  1719  ?                218
1464 13 45   MULT   BCE   NXTDGT,HOLD1,?                           Z   8  1720  B X46 H85 ?       219
1465 13 46          A     HOLD4,HOLD7-2                             Z   7  1728  A H71 H82         219
1466 13 47          S     &1,HOLD1                                  Z   7  1735  S N12 H85         219
1467 13 48          B     MULT                                      Z   4  1742  B X20            219
1468 13 49   NXTDGT S     &1,HOLD2                                  Z   7  1746  S N12 H64         219
1469 13 50          BWZ   MPYLP,HOLD2,B                            Z   8  1753  V X12 H64 B       220
1470 13 51          S     W5AREA                                    Z   4  1761  S H76            220
1471 13 52          BAV   *&1                                       Z   5  1765  B X70 Z           220
1472 13 53   LOOP1  A     &96,HOLD7-5                FOLD FIVE CHARACTER Z   7  1770  A N48 H79         220
1473 13 54          BAV   LOOP1                       RESULT TO THREE  Z   5  1777  B X70 Z           220
1474 13 55          MLZS  HOLD7-6,W3AREA             CHARACTER TABLE ENTRY Z   7  1782  Y H78 H74         220
1475 13 56          MLC   HOLD7-3                    ADDRESS          Z   4  1789  M H81            221
1476 13 57          MLNS  HOLD7-5,*&4                               Z   7  1793  D H79 Y03         221
1477 13 58          MLZS  ZONE,W3AREA-2                             Z   7  1800  Y 189 H72         221
1478 13 59   LBLXT  B     XXXX                                        Z   4  1807  B 000             221
1479 13 60   *
1480 13 61   *PROCESS DCW, DC, DSA CARDS
1481 13 62   *
1482 13 63   DCWCD  BCE   DCWALF,INPUT&21,@          Q. ALPHA CONSTANT Z   8  1811  B K44 021 @       221
1483 13 64          BCE   ARDEF,INPUT&21,#          Q. AREA DEFINITION Z   8  1819  B L01 021 #       221
1484 13 65          BCE   CKDCW,INPUT&21,&          Q. NUMERIC LITERAL Z   8  1827  B Y58 021 &       222
1485 13 66          BCE   CKDCW,INPUT&21,-                          Z   8  1835  B Y58 021 -       222
1486 13 67          MLC   INPUT&72,INPUT&73         SHIFT RIGHT      Z   7  1843  M 072 073         222
1487 13 68          MLC   @&@                                       Z   4  1850  M N49             222
1488 13 69          SW    DCWSW                     SET NO ZONING SWITCH Z   4  1854  , H89             222
1489 13 70   CKDCW  B     COMSCN                    SCAN FOR BLANK   Z   4  1858  B 860             222
1490 13 71          BCE   ISDSA,INPUT&22,@          Q. ADCON OF LITERAL Z   8  1862  B Y90 022 @       223
1491 13 72          B     FNLOP                     CHECK LAST OPERAND Z   4  1870  B W05             223
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1492 13 73           BCE   ISDSA,IMAGE&75,J          Q. DSA STATEMENT  Z  8  1874  B Y90 175 J       223
1493 13 74           BWZ   ISDCW,INPUT&22,2          Q. DC, DCW STATEMENT Z  8  1882  V K71 022 2       223
1494 13 75   *
1495 13 76   *PROCESS DSA CARDS, SUBSET OF DCW
1496 13 77   *
1497 13 78   ISDSA   MLC   @011@,XL1                                 Z  7  1890  M N52 089          223
1498 13 79           MLNS  &2,IMAGE&75               CODE RECORD       Z  7  1897  D N44 175          224
1499 13 80           MZ    INPUT&21,IMAGE&27                         Z  7  1904  Y 021 127          224
1500 13 81           MCW   BLANK,INPUT&21                            Z  7  1911  M H59 021          224
1501 13 82           BWZ   *&5,IMAGE&75,K                           Z  8  1918  V Z30 175 K        224
1502 13 83           B     *&8                                       Z  4  1926  B Z37              224
1503 13 84           MZ    BLANK,IMAGE&75                            Z  7  1930  Y H59 175          225
1504 13 85           SW    DSASW2                      SET DSA SWITCH Z  4  1937  , H91             225
1505 13 86           MLC   @0010,FREEA                               Z  7  1941  M N55 M98          225
1506 13 87           MCW   INPUT&34,IMAGE&53                        Z  7  1948  M 034 153          225
1507 13 88           BCE   DSADC,INPUT&22,@                         Z  8  1955  B L54 022 @        225
1508 13 89           BCE   DSADC,INPUT&22,&                         Z  8  1963  B L54 022 &        226
1509 13 90           BCE   DSADC,INPUT&22,-                         Z  8  1971  B L54 022 -        226
1510 13 91           B     FR2FIX                    CONVERT FREE TO FIXED Z  4  1979  B 952            226
1511 13 92           MZ    IMAGE&27,INPUT&21                         Z  7  1983  Y 127 021          226
1512 13 93   DSAX1   MZ    IMAGE&27,IMAGE&40                         Z  7  1990  Y 127 140          226
1513 13 94           MLC   @03@,IMAGE&7              INSERT COUNT      Z  7  1997  M N57 107          227
1514 13 95           MLC   @03@,XL2                                  Z  7  2004  M N57 094          227
1515 13 96   CKAOP   BCE   DCWAST,INPUT&6,           Q. ANY LABEL      Z  8  2011  B !68 006          227
1516 13 97           BWZ   DCWAST,IMAGE&75,S         Q. LITERAL        Z  8  2019  V !68 175 S        227
1517 13 98           BWZ   *&5,INPUT&6,2             Q. ACTUAL ADDRESS Z  8  2027  V !39 006 2        227
1518 13 99           B     DCWAST                                    Z  4  2035  B !68             228
1519 14 00           MLC   INPUT&10,IMAGE&21         PROCESS ACTUAL    Z  7  2039  M 010 121          228
1520 14 01           B     CVTFLA                     ADDRESS           Z  4  2046  B W28             228
1521 14 02   DCWACT  MLC   W5AREA,IMAGE&21           ADDRESS TO FIXED  Z  7  2050  M H76 121          228
1522 14 03           MLC   W5AREA,IMAGE&61           FORM              Z  7  2057  M H76 161          228
1523 14 04           B     CKMACR                                    Z  4  2064  B !89             228
1524 14 05   DCWAST  A     XL2,ORGCTR                BUMP ORIGIN COUNTER Z  7  2068  A 094 H58          229
1525 14 06   BMPCTR  MCW   @*@,IMAGE&17              SET TO DCW *      Z  7  2075  M N58 117          229
1526 14 07   DSETAD  A     ORGCTR,IMAGE&61           ASSIGN ADDRESS    Z  7  2082  A H58 161          229
1527 14 08   CKMACR  BCE   NUREC,IMAGE&75,P          Q. EQU STATEMENT  Z  8  2089  B 534 175 P        229
1528 14 09           BCE   NUREC,IMAGE&75,X          Q. DS STATEMENT   Z  8  2097  B 534 175 X        229
1529 14 10           BW    DCWXT,DSASW2              Q. DSA STATEMENT  Z  8  2105  V J85 H91 1        230
1530 14 11           MLC   INPUT&51,IMAGE&53         MOVE CONSTANT TO  Z  7  2113  M 051 153          230
1531 14 12           MLC                             FIXED FORM        Z  1  2120  M                  230
1532 14 13           MLC                                               Z  1  2121  M                  230
1533 14 14           MLC   XL2,IMAGE&7               COUNT TO FIXED FORM Z  7  2122  M 094 107          230
1534 14 15           C     XL2,@030@                 Q. COUNT GREATER THAN Z  7  2129  C 094 N61          230
1535 14 16           BH    DCWXT                      30                Z  5  2136  B J85 U            230
1536 14 17           MN    @8@,INPUT&75              WRITE FREE FORM RECORD Z  7  2141  D N62 075          231
1537 14 18           BWZ   *&8,IMAGE&75,B            ON TAPE           Z  8  2148  V J63 175 B        231
1538 14 19           MZ    IMAGE&75,INPUT&75                         Z  7  2156  Y 175 075          231
1539 14 20           MCW   HOLDC,XL3                                 Z  7  2163  M M91 099          231
1540 14 21           MCW   INPUT&80,OUTPUT&80&X3                     Z  7  2170  M 080 II7          231
1541 14 22           SW    DCWSW2                                    Z  4  2177  , H92              232
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1542 14 23           B     TPYET                                     Z  4  2181  B 638              232
1543 14 24   DCWXT   CW    DSASW2,DCWSW2             RESET SWITCHES    Z  7  2185  ) H91 H92          232
1544 14 25           BW    *&5,LITSW2                                Z  8  2192  V K04 H90 1        232
1545 14 26           B     NUREC                                     Z  4  2200  B 534              232
1546 14 27           BCE   LITRTN,INPUT&21,@                         Z  8  2204  B P31 021 @        232
1547 14 28           BCE   LTGEN,INPUT&22,&           Q. ADCON OF LITERAL Z  8  2212  B M00 022 &        233
1548 14 29           BCE   LTGEN,INPUT&22,-                         Z  8  2220  B M00 022 -        233
1549 14 30           BCE   LTGEN,INPUT&22,@                         Z  8  2228  B M00 022 @        233
1550 14 31           B     LITRTN                                    Z  4  2236  B P31              233
1551 14 32   PDCWLF  S     XL2&2                                     Z  4  2240  S 096              233
1552 14 33   DCWALF  B     SCANAT                    SCAN FOR ENDING AT SIGN Z  4  2244  B S92              233
1553 14 34           B     FNLOP                     CHECK LAST OPERAND Z  4  2248  B W05              234
1554 14 35           BW    ACNRT,DSASW2              Q. ADCON OF LITERAL Z  8  2252  V L62 H91 1        234
1555 14 36           S     &30,XL2&1                                 Z  7  2260  S N64 095          234
1556 14 37           B     CKAOP                                     Z  4  2267  B !11             234
1557 14 38   ISDCW   S     &20,XL2&1                                 Z  7  2271  S N66 095          234
1558 14 39           BW    NOZONE,DCWSW              Q. CONSTANT ZONED Z  8  2278  V K93 H89 1        234
1559 14 40           MLZS  INPUT&21,INPUT&21&X2      ZONE CONSTANT     Z  7  2286  Y 021 0K1          235
1560 14 41   NOZONE  CW    DCWSW                                     Z  4  2293  ) H89              235
1561 14 42           B     CKAOP                                     Z  4  2297  B !11             235
1562 14 43   ARDEF   SW    INPUT&22                  PROCESS AREA      Z  4  2301  , 022              235
1563 14 44           ZA    INPUT&24,W5AREA                           Z  7  2305  ? 024 H76          235
1564 14 45           B     CVRT5                                     Z  4  2312  B V78              235
1565 14 46           MLZS  ABBIT,IMAGE&4             CODE RECORD       Z  7  2316  Y 189 104          235
1566 14 47           MLNS  W5AREA,XL2                                Z  7  2323  D H76 094          236
1567 14 48           MLC                                             Z  1  2330  M                  236
1568 14 49           C     XL2,@053@                 Q. ILLEGAL LENGTH Z  7  2331  C 094 N69          236
1569 14 50           BH    CKAOP                                     Z  5  2338  B !11 U           236
1570 14 51           MZ    BBIT,IMAGE&5              MARK BAD STATEMENT Z  7  2343  Y 188 105          236
1571 14 52           B     CKAOP                                     Z  4  2350  B !11             236
1572 14 53   DSADC   BCE   PDCWLF,INPUT&22,@         Q. ADCON OF ALPHA LIT Z  8  2354  B K40 022 @        236
1573 14 54   ACNRT   S     &10,XL3&1                                 Z  7  2362  S N43 100          237
1574 14 55           MCW   XL3,W3AREA                                Z  7  2369  M 099 H74          237
1575 14 56           C     XL3,@006@                 Q. LARGE LITERAL  Z  7  2376  C 099 N72          237
1576 14 57           BL    DOBIG                                     Z  5  2383  B A57 T           237
1577 14 58           BCE   XALF1,INPUT&22,@         Q. ALPHA LITERAL  Z  8  2388  B ?93 022 @        237
1578 14 59           B     XLIT1                                     Z  4  2396  B B82              237
1579 14 60   LTGEN   B     PUT                       PUT ADCON         Z  4  2400  B 610              238
1580 14 61           MCW   @/@,IMAGE&75             SET UP LITERAL    Z  7  2404  M N73 175          238
1581 14 62           MCW   LAREA&72,INPUT&72         TO BE PROCESSED   Z  7  2411  M H31 072          238
1582 14 63           MCW                             NOTE, ADDRESS CONSTANT Z  1  2418  M                  238
1583 14 64           MCW                             LOGIC MAKES IT    Z  1  2419  M                  238
1584 14 65           MCW                             RECURSIVE         Z  1  2420  M                  238
1585 14 66           MCW   LAREA&74,LAREA&73                         Z  7  2421  M H33 H32          238
1586 14 67           B     PROLBL                                    Z  4  2428  B V38              239
1587 14 68           S     XL2&2                                     Z  4  2432  S 096              239
1588 14 69           S                                               Z  1  2436  S                  239
1589 14 70           B     DCWCD                                     Z  4  2437  B Y11              239
1590 14 71   *
1591 14 72   *CALL IN DA ROUTINE
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1592 14 73   *
1593 14 74   DARTN   RTW   SYSTAP,DOPROG          CALL DA ROUTINE    Z   8  2441  L %U1 N75 R       239
1594 14 75           NOP   0                                         Z   4  2449  N 000             239
1595 14 76           BER   TPERR                                     Z   5  2453  B 221 L           239
1596 14 77           B     DASTMT                 GO TO DA ROUTINE   Z   4  2458  B N75            240
1597 14 78   FINDA   RTW   SYSTAP,DOPROG                            Z   8  2462  L %U1 N75 R       240
1598 14 79           NOP   0                                         Z   4  2470  N 000            240
1599 14 80           BER   TPERR                                     Z   5  2474  B 221 L           240
1600 14 81           B     CKCOM                                     Z   4  2479  B 706            240
1601 14 82           LTORG *                                         Z          2483
                     DCW   @0@                                       Z   1  2483            LIT   240
                     DCW   @000@                                     Z   3  2486            LIT   240
                     DCW   &80                                       Z   2  2488            LIT   241
             HOLDCZ  DCW   #03                                       Z   3  2491            AREA  241
                     DCW   @RSWZ@                                    Z   4  2495            LIT   241
             FREEAZ  DCW   #03                                       Z   3  2498            AREA  241
                     DCW   @I9I@                                     Z   3  2501            LIT   241
                     DCW   @I9G@                                     Z   3  2504            LIT   241
                     DCW   @I99@                                     Z   3  2507            LIT   241
             EQUADD  DCW   #04                                       Z   4  2511            AREA  242
                     DCW   &1                                        Z   1  2512            LIT   242
                     DCW   @54@                                      Z   2  2514            LIT   242
             SCANSW  DCW   #01                                       Z   1  2515            AREA  242
                     DCW   @04@                                      Z   2  2517            LIT   242
                     DCW   @&X@                                      Z   2  2519            LIT   242
                     DCW   &K4KZ-3                                   Z   3  2522  I97         ADCON 242
                     DCW   &SCANBZ                                   Z   3  2525  '23         ADCON 243
                     DCW   @00@                                      Z   2  2527            LIT   243
                     DCW   &007                                      Z   3  2530            LIT   243
                     DCW   @'@                                       Z   1  2531            LIT   243
             FIXSWZ  DCW   #01                                       Z   1  2532            AREA  243
                     DCW   @003@                                     Z   3  2535            LIT   243
                     DCW   @####@                                    Z   3  2538            LIT   243
                     DCW   @510@                                     Z   3  2541            LIT   244
                     DCW   &10                                       Z   2  2543            LIT   244
                     DCW   &2                                        Z   1  2544            LIT   244
                     DCW   @@@                                       Z   1  2545            LIT   244
             LITSWZ  DCW   #01                                       Z   1  2546            AREA  244
                     DCW   &96                                       Z   2  2548            LIT   244
                     DCW   @&@                                       Z   1  2549            LIT   244
                     DCW   @011@                                     Z   3  2552            LIT   245
                     DCW   @001@                                     Z   3  2555            LIT   245
                     DCW   @03@                                      Z   2  2557            LIT   245
                     DCW   @*@                                       Z   1  2558            LIT   245
                     DCW   @030@                                     Z   3  2561            LIT   245
                     DCW   @8@                                       Z   1  2562            LIT   245
                     DCW   &30                                       Z   2  2564            LIT   245
                     DCW   &20                                       Z   2  2566            LIT   246
                     DCW   @053@                                     Z   3  2569            LIT   246
                     DCW   @006@                                     Z   3  2572            LIT   246
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

                     DCW   @/@                                       Z   1  2573            LIT   246
1602 14 83   GRPMK5  DCW   @}@                                       Z   1  2574            GMARK 246
1603 14 84           EX    DOZERO                                    Z          B 000            247
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 SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1604 14 85          JOB   1401 AUTOCODER-PASS 4 PROCESS JOB/CTL  -VERSION 3 Z
1605 14 86   *
1606 14 87   *PROCESS CONTROL CARD
1607 14 88   *
1608 14 89   DOPROG ORG   *                                                 Z      2575   2575
1609 14 90   START  CS    INPUT&84                                          Z   4  2575  / 084              250
1610 14 91          CS    3999                                              Z   4  2579  / I99              250
1611 14 92          SW    INPUT&21,INPUT&81          SET WORD MARKS IN      Z   7  2583  , 021 081          250
1612 14 93          SW    IMAGE&1,IMAGE&6             FIXED FORM IMAGE AREA Z   7  2590  , 101 106          250
1613 14 94          SW    IMAGE&8,IMAGE&14                                  Z   7  2597  , 108 114          250
1614 14 95          SW    IMAGE&17,IMAGE&28                                 Z   7  2604  , 117 128          250
1615 14 96          SW    IMAGE&39,IMAGE&57                                 Z   7  2611  , 139 157          251
1616 14 97          SW    IMAGE&62,IMAGE&67                                 Z   7  2618  , 162 167          251
1617 14 98          SW    IMAGE&23                                          Z   4  2625  , 123              251
1618 14 99          SW    GRPMK1,GRPMK8              INITIALIZE GROUP MARKS Z   7  2629  , 085 H99          251
1619 15 00          SW    GRPMK3,GRPMK4                                     Z   7  2636  , H44 185          251
1620 15 01          CW    INITSW                                            Z   4  2643  ) H87              251
1621 15 02          RWD   INTAP                                             Z   5  2647  U %U4 R            252
1622 15 03          RWD   OUTAP                                             Z   5  2652  U %U5 R            252
1623 15 04          RWD   LITAPE                                            Z   5  2657  U %U6 R            252
1624 15 05          MLC   @000@,HOLDC                                       Z   7  2662  M R16 M91          252
1625 15 06          B     GET                        GET JOB CARD           Z   4  2669  B 538              252
1626 15 07          MCW   INPUT&80,IMAGE&21          PROCESS JOB CARD       Z   7  2673  M 080 121          252
1627 15 08          MCW   @I@,IMAGE&75                IDENTIFICATION       Z   7  2680  M R17 175          253
1628 15 09          SW    3998                                              Z   4  2687  , I98              253
1629 15 10          B     GET                        GET SECOND RECORD      Z   4  2691  B 538              253
1630 15 11          BCE   NOCTL,INPUT&6,*            Q. COMMENTS CARD       Z   8  2695  B Q71 006 *        253
1631 15 12          C     INPUT&18,@CTL@             Q. CONTROL CARD        Z   7  2703  C 018 R20          253
1632 15 13          BU    NOCTL                                             Z   5  2710  B Q71 /            253
1633 15 14          MLNS  INPUT&21,CTL3&7            CHECK PROCESSOR SIZE   Z   7  2715  D 021 P29          254
1634 15 15   CTL3   BCE   CTL2,CKPRO,                 FOR VALID CODE         Z   8  2722  B P37 R13          254
1635 15 16          BCE                                                     Z   1  2730  B                 254
1636 15 17          BCE                                                     Z   1  2731  B                 254
1637 15 18          BCE                                                     Z   1  2732  B                 254
1638 15 19          B     NOCTL                                             Z   4  2733  B Q71              254
1639 15 20   CTL2   MLC   INPUT&21,PROCOR            INITIALIZE AREAS       Z   7  2737  M 021 194          254
1640 15 21          ZA    INPUT&21,XL1                                      Z   7  2744  ? 021 089          255
1641 15 22          S     &30,XL1&1                   PROCESSOR MACHINE     Z   7  2751  S R22 090          255
1642 15 23          A     XL1                         SIZE                  Z   4  2758  A 089              255
1643 15 24          A     XL1                                               Z   4  2762  A 089              255
1644 15 25          MLC   FCTBL&X1,FACTOR                                   Z   7  2766  M QZ7 H48          255
1645 15 26          MLC   @0@,FACTOR-3                                      Z   7  2773  M R23 H45          255
1646 15 27          MLC   FCTBL-3&X1,CKTAP&7                               Z   7  2780  M QZ4 652          256
1647 15 28          BCE   IS16K,INPUT&21,6           Q. 16K PROCESSOR       Z   8  2787  B Q52 021 6        256
1648 15 29          BCE   IS16K,INPUT&21,5           Q. 16K PROCESSOR       Z   8  2795  B Q52 021 5        256
1649 15 30          BCE   IS8K,INPUT&21,4            Q. 8K PROCESSOR        Z   8  2803  B Q33 021 4        256
1650 15 31          MLC   @3@,PROCOR                                        Z   7  2811  M R24 194          256
1651 15 32   *
1652 15 33   * INITIALIZE OUTPUT AREA AND SET UP BLOCKING SIZE
1653 15 34   *
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 SEQ PG LIN  LABEL   OP    OPERANDS                                          SFX CT  LOCN  INSTRUCTION TYPE  CARD

1654 15 35   IS4K   LCA   GRPMK8,3998               SET GROUP MARK AT END   Z   7  2818  L H99 I98          257
1655 15 36          B     PUT                                               Z   4  2825  B 610              257
1656 15 37          B     LDOPTB                      OF OUTPUT AREA        Z   4  2829  B 489              257
1657 15 38   IS8K   LCA   GRPMK8,4318                                       Z   7  2833  L H99 31Y          257
1658 15 39          MCW   @%@                                               Z   4  2840  M R25              257
1659 15 40          MCW   4317                                              Z   4  2844  M 31X              257
1660 15 41          B     CWI98                                             Z   4  2848  B 469              257
1661 15 42   IS16K  LCA   GRPMK8,4718                                       Z   7  2852  L H99 71Y          258
1662 15 43          MCW   @%@                                               Z   4  2859  M R25              258
1663 15 44          MCW   4717                                              Z   4  2863  M 71X              258
1664 15 45          B     CWI98                                             Z   4  2867  B 469              258
1665 15 46   NOCTL  MLC   FCTBL,FACTOR               PROCESS WHEN NO        Z   7  2871  M Q97 H48          258
1666 15 47          MLC   @3@,PROCOR                  CONTROL CARD         Z   7  2878  M R24 194          258
1667 15 48          BSP   INTAP                                             Z   5  2885  U %U4 B            258
1668 15 49          B     IS4K                                              Z   4  2890  B Q18              259
1669 15 50   FCTBL  DCW   0015                                              Z   4  2897                     259
1670 15 51          DCW   3051                                              Z   4  2901                     259
1671 15 52          DCW   7087                                              Z   4  2905                     259
1672 15 53          DCW   7127                                              Z   4  2909                     259
1673 15 54   CKPRO  DCW   3456                                              Z   4  2913                     259
1674 15 55          LTORG *                                                 Z           2914
                    DCW   @000@                                             Z   3  2916              LIT    259
                    DCW   @I@                                               Z   1  2917              LIT    260
                    DCW   @CTL@                                             Z   3  2920              LIT    260
                    DCW   &30                                               Z   2  2922              LIT    260
                    DCW   @0@                                               Z   1  2923              LIT    260
                    DCW   @3@                                               Z   1  2924              LIT    260
                    DCW   @%@                                               Z   1  2925              LIT    260
1675 15 56   *
1676 15 57   *M A I N   L I N E   C O N S T A N T S   A N D   W O R K   A R E A S
1677 15 58   *
1678 15 59   *LITERAL HOLD AREA
1679 15 60   *
1680 15 61          ORG   SAVE                                              Z           3760
1681 15 62   LAREA  EQU   *                                                 Z      3759
1682 15 63          DCW   &00000                                            Z   5  3764                     261
1683 15 64          DCW   #10                                               Z  10  3774                     261
1684 15 65          DCW   @DCW  @                                           Z   5  3779                     261
1685 15 66          DCW   #1                                                Z   1  3780                     261
1686 15 67          DS    53                                                Z      3833
1687 15 68          DCW   @/@                                               Z   1  3834                     262
1688 15 69          DS    9                                                 Z      3843
1689 15 70   GRPMK3 DC    @}@                                               Z   1  3844              GMARK  263
1690 15 71   HLDLIT EQU   LAREA&1                                           Z      3760
1691 15 72   *
1692 15 73   *CONSTANTS AND WORK AREAS
1693 15 74   *
1694 15 75   FACTOR DCW   @0000@                    LABEL CONVERSION FACTOR Z   4  3848                     263
1695 15 76   BIGCTR DCW   @00000@                   BIG LITERAL LABEL CNTR  Z   5  3853                     263
1696 15 77   ORGCTR DCW   @00332@                   ORIGIN COUNTER          Z   5  3858                     263
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1697 15 78   BLANK4 DCW   #4                        BLANKS            Z   4  3862                    263
1698 15 79   B2CNTR DCW   #5                        WORK AREA         Z   5  3867                    264
1699 15 80   HOLD4  DCW   #4                        WORK AREA         Z   4  3871                    264
1700 15 81   W6AREA DCW   #6                        WORK AREA         Z   6  3877                    264
1701 15 82   HOLD7  DCW   #7                        USED FOR LABEL    Z   7  3884                    264
1702 15 83   HOLD1  DCW   &0                         CONVERSION ONLY   Z   1  3885                    264
1703 15 84   SFXHLD DCW   0                         SUFFIX CHARACTER  Z   1  3886                    264
1704 15 85   INITSW DCW   0                         DA SWITCH         Z   1  3887                    264
1705 15 86   MARKSW DC    0                         DA SWITCH         Z   1  3888                    264
1706 15 87   DCWSW  DC    0                         DCW SWITCH        Z   1  3889                    264
1707 15 88   LITSW2 DC    0                         LITERAL SWITCH    Z   1  3890                    264
1708 15 89   DSASW2 DC    0                         DSA SWITCH        Z   1  3891                    264
1709 15 90   DCWSW2 DC    0                         DCW SWITCH        Z   1  3892                    264
1710 15 91   GRPMK8 EQU   3899                                        Z      3899                    264
1711 15 92   3899   DCW   @)@                       SYSTEM GROUP MARK Z   1  3899          GMARK     265
1712 15 93          EX    DOZERO                                      Z          B 000                266
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1713 15 94          JOB   1401 AUTOCODER-PASS 4 MAIN LINE OVERLAY   -VERSION 3 Z
1714 15 95   *
1715 15 96   *PROCESS INSTRUCTION STATEMENTS
1716 15 97   *
1717 15 98          ORG   DOPROG                                     Z           2575                 269
1718 15 99   INSTR  MCW   EQUADD,IMAGE&67           GET ACTUAL OP     Z   7  2575  M N11 167          269
1719 16 00          CW    LENSW#1                  RESET SWITCH      Z   4  2582  ) G34              269
1720 16 01          MLC   @01@,IMAGE&7             SET COUNT TO 1    Z   7  2586  M G36 107          269
1721 16 02          BW    *&5,EQUADD               Q. REGULAR OP CODE Z   8  2593  V O05 N11 1       269
1722 16 03          B     AUGMNT                                     Z   4  2601  B R06              269
1723 16 04   DOCNT  BCE   DONE,INPUT&21&X2,        Q. IS THERE OPERAND Z   8  2605  B P31 0K1          269
1724 16 05          BCE   XISALF,INPUT&21&X2,@     Q. ALPHAMERIC LITERAL Z 8  2613  B ?77 0K1 @        270
1725 16 06          LCA   BLANK2&1,INPUT&20&X2     WIPE OUT PREV OPERAND Z 7  2621  L H61 0K0          270
1726 16 07          B     COMSCN                   SCAN FOR COMMA, BLANK Z   4  2628  B 860              270
1727 16 08          MLC   XL3,W3AREA                                   Z   7  2632  M 099 H74          270
1728 16 09          MLC   FREEA,XL3                                   Z   7  2639  M M98 099          270
1729 16 10          BCE   XISLIT,INPUT&21&X3,&     Q. NUMERIC LITERAL OR Z 8  2646  B B51 0B1 &        271
1730 16 11          BCE   XISLIT,INPUT&21&X3,-      ADDRESS CONSTANT  Z   8  2654  B B51 0B1 -        271
1731 16 12          B     FR2FIX                   CONVERT FREE TO FIXED Z 4  2662  B 952              271
1732 16 13          BCE   SMLTYP,IMAGE&23&X1,#     Q. AREA DEF LITERAL Z 8  2666  B ?40 1S3 #        271
1733 16 14   CKDONE A     &3,IMAGE&7               ADD THREE TO COUNT Z   7  2674  A G37 107          271
1734 16 15          BW    FREMOD,LENSW             Q. FIVE CHAR INST  Z   8  2681  V P39 G34 1       272
1735 16 16          C     XL1,@010@                Q. B OPERAND JUST  Z   7  2689  C 089 G40          272
1736 16 17          BL    DONE                      PROCESSED         Z   5  2696  B P31 T            272
1737 16 18          MLC   @011@,XL1                                   Z   7  2701  M G43 089          272
1738 16 19          BW    *&5,SCANSW               Q. TWO BLANKS AFTER OP Z 8  2708  V P20 N15 1       272
1739 16 20          B     ELMBLK                   ELIMINATE BLANKS  Z   4  2716  B Q83              272
1740 16 21   INTXL1 MCW   XL2,FREEA                                   Z   7  2720  M 094 M98          273
1741 16 22          B     DOCNT                                      Z   4  2727  B O05              273
1742 16 23   DONE   BW    CKMOD1,SCANSW            Q. D MODIFIER IN  Z   8  2731  V Q03 N15 1       273
1743 16 24   FREMOD MLC   INPUT&21&X2,IMAGE&39      OPERAND FIELD     Z   7  2739  M 0K1 139          273
1744 16 25          BCE   *&5,IMAGE&39,            Q. D MODIFIER OFFSET Z 8  2746  B P58 139          273
1745 16 26          B     C1                        ONE POSITION      Z   4  2754  B P80              273
1746 16 27          BCE   C1,INPUT&22&X2,          IF BOTH POSITIONS Z   8  2758  B P80 0K2          274
1747 16 28          MCW   INPUT&22&X2,IMAGE&39      BLANK ASSUME FIRST Z  7  2766  M 0K2 139          274
1748 16 29          A     &1,XL2                    BLANK SIGNIFICANT Z   7  2773  A G44 094          274
1749 16 30   C1     C     INPUT&23&X2,BLANK2       Q. D MODIFIER     Z   7  2780  C 0K3 H60          274
1750 16 31          BE    ISMOD                     FOLLOWED BY TWO   Z   5  2787  B Q11 S            274
1751 16 32          MZ    ABIT,IMAGE&5              BLANKS            Z   7  2792  Y 187 105          275
1752 16 33          B     ISMOD                                      Z   4  2799  B Q11              275
1753 16 34   CKMOD1 BCE   DOIADD,IMAGE&39,         Q. D CHARACTER    Z   8  2803  B Q32 139          275
1754 16 35   ISMOD  A     &1,IMAGE&7               PROCESS D CHARACTER Z 7  2811  A G44 107          275
1755 16 36          MLC   IMAGE&7,XL2                                Z   7  2818  M 107 094          275
1756 16 37          MLC   IMAGE&39,IMAGE&66&X2                      Z   7  2825  M 139 1O6          276
1757 16 38   DOIADD MLC   ORGCTR,IMAGE&61          ASSIGN ADDRESS AND Z  7  2832  M H58 161          276
1758 16 39          A     &1,IMAGE&61               BUMP UP COUNTER   Z   7  2839  A G44 161          276
1759 16 40          A     IMAGE&7,ORGCTR                             Z   7  2846  A 107 H58          276
1760 16 41          MLC   BLANK,IMAGE&75           CODE RECORD       Z   7  2853  M H59 175          276
1761 16 42          B     NUREC                                      Z   4  2860  B 534              276
1762 16 43   LOOPBL A     &1,XL2                   WEED OUT BLANKS   Z   7  2864  A G44 094          277
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1763 16 44          C     XL2,@51@                   BETWEEN OPERANDS  Z  7  2871  C 094 G46          277
1764 16 45          BL    ERRBLK                                       Z  5  2878  B Q95 T            277
1765 16 46  ELMBLK BCE    LOOPBL,INPUT&21&X2,                          Z  8  2883  B Q64 0K1          277
1766 16 47          B     INTXL1                                       Z  4  2891  B P20             277
1767 16 48  ERRBLK MZ     ABIT,IMAGE&5                                 Z  7  2895  Y 187 105          277
1768 16 49          B     CKDONE                                       Z  4  2902  B O74              278
1769 16 50  *
1770 16 51  *PROCESS UNIQUE MNEMONICS
1771 16 52  *
1772 16 53  AUGMNT MCW     EQUADD-1,IMAGE&39          D MOD TO IMAGE AREA  Z  7  2906  M N10 139         278
1773 16 54          BCE   ISFIVE,EQUADD-1,           Q. BIN TYPE          Z  8  2913  B ?32 N10         278
1774 16 55  CKREG   BW    DOCNT,EQUADD-1             Q. TYPICAL UNIQUE MNEM Z  8  2921  V O05 N10 1      278
1775 16 56          BW    TAPAUG,EQUADD-2            Q. TAPE TYPE         Z  8  2929  V R52 N09 1      278
1776 16 57          MCW   EQUADD-2,IMAGE&70          ERGO RAMAC TYPE      Z  7  2937  M N09 170        279
1777 16 58          MLC   @%@                                          Z  4  2944  M G47            279
1778 16 59          B     OPDONE                                       Z  4  2948  B ?21            279
1779 16 60  TAPAUG C     INPUT&21,@0@               PROCESS TAPE TYPE OF Z  7  2952  C 021 G48         279
1780 16 61          BH    DOCNT                       UNIQUE MNEMONICS    Z  5  2959  B O05 U          279
1781 16 62          BCE   MSCSW,INPUT&22,,          CHECK FOR PROPERLY   Z  8  2964  B R95 022 ,      279
1782 16 63          C     INPUT&23,BLANK2            CODED A OPERAND      Z  7  2972  C 023 H60         280
1783 16 64          BE    GETPOP                                       Z  5  2979  B R99 S            280
1784 16 65          MCW   @####@,IMAGE&70                             Z  7  2984  M G51 170         280
1785 16 66          B     OPDONE                                       Z  4  2991  B ?21             280
1786 16 67  MSCSW   CW    SCANSW                                       Z  4  2995  ) N15             280
1787 16 68  GETPOP MN     INPUT&21,IMAGE&70                            Z  7  2999  D 021 170         280
1788 16 69          MCW   EQUADD-2                                     Z  4  3006  M N09             280
1789 16 70          MCW   @%@                                          Z  4  3010  M G47             281
1790 16 71          MLC   @002@,XL2                                    Z  7  3014  M G54 094         281
1791 16 72  OPDONE MLZS    ABBIT,IMAGE&1              MARK A OPERAND DONE  Z  7  3021  Y 189 101        281
1792 16 73          B     CKDONE                                       Z  4  3028  B O74             281
1793 16 74  ISFIVE SW     LENSW                      SET SWITCH FOR FIVE  Z  4  3032  , G34             281
1794 16 75          B     CKREG                       CHAR INSTRUCTION    Z  4  3036  B R21             281
1795 16 76  *
1796 16 77  *PROCESS AREA DEFINITION LITERAL
1797 16 78  *
1798 16 79  SMLTYP SW     IMAGE&24&X1                MOVE LENGTH TO       Z  4  3040  , 1S4             281
1799 16 80          MLC   IMAGE&26&X1,LAREA&24        LITERAL HOLD AREA   Z  7  3044  M 1S6 G83         282
1800 16 81          MLC   @#@                                           Z  4  3051  M G55             282
1801 16 82          CW    IMAGE&24&X1                REMOVE LENGTH FROM   Z  4  3055  ) 1S4             282
1802 16 83          MCW   BLANK4,IMAGE&26&X1          CHAR ADJ PORTION    Z  7  3059  M H62 1S6        282
1803 16 84          MCW   INPUT&84,LAREA&4            OF OPERAND AND SAVE Z  7  3066  M O84 G63        282
1804 16 85          B     WRTLIT                      ALTER NUMBER        Z  4  3073  B A89             282
1805 16 86  *
1806 16 87  *PROCESS ALPHAMERIC LITERALS
1807 16 88  *
1808 16 89  XISALF B     SCANAT                     SCAN FOR AT SIGN     Z  4  3077  B S92             282
1809 16 90          C     XL3,@07@                   Q. BIG LITERAL       Z  7  3081  C 099 G57         283
1810 16 91          BL    DOBIG                                        Z  5  3088  B A57 T           283
1811 16 92  XALF1   A     XL3,XL1                                      Z  7  3093  A 099 089         283
1812 16 93          MCW   INPUT&19&X2,IMAGE&15&X1    GENERATE UNIQUE LABEL Z  7  3100  M 0J9 1/5        283
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1813 16 94          BCE   GM1,FREE&18&X2,}            AND STRIP ZONING   Z  8  3107  B A43 0J8 } GMARK  283
1814 16 95          BCE                               OFF GROUP MARKS IN   Z  1  3115  B                283
1815 16 96          BCE                               LITERAL TO ELIMINATE Z  1  3116  B                283
1816 16 97          BCE                               CONFLICT             Z  1  3117  B                284
1817 16 98  ADD     S     XL3&1,XL1&1                 WITH NOISE RECORD    Z  7  3118  S 100 090         284
1818 16 99          MZ    EXOVFL-1,IMAGE&17&X1        ROUTINE              Z  7  3125  Y 190 1/7         284
1819 17 00  SETEX   MCW   EXNUMB-1,IMAGE&22&X1       GIVE LITERAL SECTION  Z  7  3132  M 192 1S2         284
1820 17 01          B     PROLIT                      CODE                 Z  4  3139  B A82             284
1821 17 02  GM1     MZ    BLANK4,IMAGE&14&X1                               Z  7  3143  Y H62 1/4         284
1822 17 03          MZ                                                     Z  1  3150  Y                284
1823 17 04          MZ                                                     Z  1  3151  Y                285
1824 17 05          MZ                                                     Z  1  3152  Y                285
1825 17 06          B     ADD                                              Z  4  3153  B A18             285
1826 17 07  *
1827 17 08  *PROCESS BIG LITERALS
1828 17 09  *
1829 17 10  DOBIG   MLC   BIGCTR,IMAGE&22&X1         GENERATE BIG LITERAL  Z  7  3157  M H53 1S2         285
1830 17 11          MLC   @$@                         LABEL                Z  4  3164  M G58             285
1831 17 12          A     &1,BIGCTR                                        Z  7  3168  A G44 H53         285
1832 17 13          MCW   INPUT&84,LAREA&4           SAVE ALTER NUMBER    Z  7  3175  M O84 G63         285
1833 17 14  *
1834 17 15  *PLACE LITERALS IN HOLD AREA AND WRITE OUT ON LITERAL TAPE
1835 17 16  *
1836 17 17  PROLIT MLC   INPUT&19&X2,LAREA&19&X3    LITERAL TO HOLD AREA  Z  7  3182  M 0J9 GG8         286
1837 17 18  WRTLIT MLC   IMAGE&22&X1,LAREA&11       LITERAL LABEL TO AREA Z  7  3189  M 1S2 G70         286
1838 17 19          BW    DSAX1,LITSW2                                     Z  8  3196  V Z90 H90 1       286
1839 17 20          WT    LITAPE,HLDLIT               WRITE OUT LITERAL    Z  8  3204  M %U6 G60 W       286
1840 17 21          NOP   0                                                Z  4  3212  N 000             286
1841 17 22          BER   TPERR                                           Z  5  3216  B 221 L           286
1842 17 23          MCW   BLANK4,LAREA&4              CLEAR HOLD AREA      Z  7  3221  M H62 G63         287
1843 17 24          MLC   LAREA&74,LAREA&73                                Z  7  3228  M H33 H32         287
1844 17 25          CW    LITSW                       SET SW TO INDICATE AT Z  4  3235  ) N46             287
1845 17 26          BW    DSAX1,DSASW2                Q. RECURSIVE DCW      Z  8  3239  V Z90 H91 1       287
1846 17 27          B     CKDONE                      LEAST ONE LIT EXISTS  Z  4  3247  B O74             287
1847 17 28  *
1848 17 29  *PROCESS NUMERIC LITERALS
1849 17 30  *
1850 17 31  XISLIT C     INPUT&22&X3,@0@             Q. ADDRESS CONSTANT   Z  7  3251  C 0B2 G48         287
1851 17 32          MLC   W3AREA,XL3                                       Z  7  3258  M H74 099         288
1852 17 33          BH    DOBIG                                            Z  5  3265  B A57 U           288
1853 17 34          C     XL3,@07@                    Q. BIG LITERAL       Z  7  3270  C 099 G57         288
1854 17 35          BL    DOBIG                                            Z  5  3277  B A57 T           288
1855 17 36  XLIT1   A     XL1,XL3                     PROCESS SMALL NUMERIC Z  7  3282  A 089 099         288
1856 17 37          MLC   INPUT&19&X2,IMAGE&14&X3     LITERALS            Z  7  3289  M 0J9 1A4         288
1857 17 38          MZ    EXOVFL-1,IMAGE&21&X1        GENERATE UNIQUE LABEL Z  7  3296  Y 190 1S1         289
1858 17 39          MLC   FREEA,XL3                   FOR LITERAL          Z  7  3303  M M98 099         289
1859 17 40          MLZS  INPUT&21&X3,IMAGE&18&X1                          Z  7  3310  Y 0B1 1/8         289
1860 17 41          MLC   W3AREA,XL3                                       Z  7  3317  M H74 099         289
1861 17 42          B     SETEX                                            Z  4  3324  B A32             289
1862 17 43  *
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1863 17 44   *GENERATE LABEL ENTRY ADDRESS FOR SYMBOLIC OPERANDS
1864 17 45   *
1865 17 46   PROPND SBR   BOPXT&3                                    Z   4  3328  H C60             289
1866 17 47            B   BOPXT,IMAGE&17        ??? ORIGINALLY 7-CHAR BCE  Z   7  3332  B C57 117         290
1867 17 48          MCW   IMAGE&22,W6AREA                           Z   7  3339  M 122 H77         290
1868 17 49          B     PROLAB                 LINK TO SUBROUTINE  Z   4  3346  B W47             290
1869 17 50          MLC   W3AREA,IMAGE&70                          Z   7  3350  M H74 170         290
1870 17 51   BOPXT  B     XXXX                                      Z   4  3357  B 000             290
1871 17 52   *
1872 17 53   *DETERMINE TYPE OF CONTROL OP
1873 17 54   *
1874 17 55   CTRLOP MCW   EQUADD-1,IMAGE&75      CODE RECORD         Z   7  3361  M N10 175         290
1875 17 56          S     XL3&1                                     Z   4  3368  S 100             291
1876 17 57          MN    EQUADD-1,XL3           BRANCH TO APPROPRIATE  Z   7  3372  D N10 099        291
1877 17 58          A     XL3                     ROUTINE           Z   4  3379  A 099             291
1878 17 59          A     XL3                                       Z   4  3383  A 099             291
1879 17 60          B     *&1&X3                                    Z   4  3387  B CI1             291
1880 17 61          B     DARTN                                     Z   4  3391  B M41             291
1881 17 62          B     DCWCD                                     Z   4  3395  B Y11             291
1882 17 63          B     ERRHLT                                    Z   4  3399  B D63             292
1883 17 64          B     EXEND                                     Z   4  3403  B G10             292
1884 17 65          B     DOSFX                                     Z   4  3407  B F92             292
1885 17 66          B     ERRHLT                                    Z   4  3411  B D63             292
1886 17 67          B     ORGSTM                                    Z   4  3415  B D74             292
1887 17 68          B     DSSTMT                                    Z   4  3419  B F00             292
1888 17 69          B     INSPC                                     Z   4  3423  B D38             292
1889 17 70          MCW   INPUT&80,IMAGE&21                         Z   7  3427  M 080 121         293
1890 17 71          B     NUREC                                     Z   4  3434  B 534             293
1891 17 72   INSPC  MCW   EQUADD-2,IMAGE&67      PROCESS CC, SS      Z   7  3438  M N09 167         293
1892 17 73          MCW   BLANK2,IMAGE&75         TYPE OF           Z   7  3445  M H60 175         293
1893 17 74          MLC   @01@,IMAGE&7            INSTRUCTIONS      Z   7  3452  M G36 107         293
1894 17 75          B     FREMOD                                    Z   4  3459  B P39            293
1895 17 76   ERRHLT H     0,0402                 SYSTEM ERROR HALT   Z   7  3463  . 000 402        294
1896 17 77          B     ERRHLT                  SHOULD NEVER OCCUR  Z   4  3470  B D63             294
1897 17 78   *
1898 17 79   *PROCESS LITERAL ORIGIN AND ORIGIN CARDS
1899 17 80   *
1900 17 81   ORGSTM B     COMSCN                 SCAN FOR BLANK      Z   4  3474  B 860             294
1901 17 82          B     FNLOP                  CHECK LAST OPERAND  Z   4  3478  B W05             294
1902 17 83          B     FR2FIX                 FREE TO FIXED FORM  Z   4  3482  B 952             294
1903 17 84          BCE   SUBORG,IMAGE&24,X      Q. ADJUSTMENT &XOD  Z   8  3486  B E63 124 X       294
1904 17 85          BCE   ORGPRO,IMAGE&17,*      Q. ASTERISK OPERAND Z   8  3494  B E89 117 *       294
1905 17 86          ZS    &1,ORGCTR              SET COUNTER TO -1   Z   7  3502  ! G44 H58         295
1906 17 87          BCE   ORGADJ,IMAGE&17,       Q. BLANK OPERAND    Z   8  3509  B E33 117         295
1907 17 88          BWZ   ORGCVT,IMAGE&17,2      Q. ACTUAL ORIGIN    Z   8  3517  V E78 117 2       295
1908 17 89          S     XL2&1                  PROCESS A OPERAND OF  Z   4  3525  S 095            295
1909 17 90          B     PROPND                  SYMBOLIC ORIGIN   Z   4  3529  B C28             295
1910 17 91   ORGADJ A     IMAGE&26,ORGCTR        ADD CHAR ADJUSTMENT Z   7  3533  A 126 H58         295
1911 17 92   TYPORG MLC   ORGCTR,IMAGE&61        SAVE ORIGIN VALUE   Z   7  3540  M H58 161         296
1912 17 93          BCE   NUREC,INPUT&16,O       Q. ORIGIN CARD      Z   8  3547  B 534 016 O       296
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

1913 17 94          B     PUT                    PUT LTORG RECORD    Z   4  3555  B 610             296
1914 17 95          B     CALL                   GO TO LITERAL ROUTINE  Z   4  3559  B U31          296
1915 17 96   SUBORG ZS    &1,ORGCTR              SET COUNTER TO -1   Z   7  3563  ! G44 H58         296
1916 17 97          B     PROPND                 PROCESS A OPERAND   Z   4  3570  B C28             296
1917 17 98          B     TYPORG                                     Z   4  3574  B E40             296
1918 17 99   ORGCVT B     CVTFLA                 RESET COUNTER TO ACTL  Z   4  3578  B W28           297
1919 18 00          A     W5AREA,ORGCTR           ADDRESS LESS ONE   Z   7  3582  A H76 H58         297
1920 18 01   ORGPRO MZ    ABBIT,IMAGE&1          MARK A OPERAND      Z   7  3589  Y 189 101         297
1921 18 02          B     ORGADJ                  PROCESSED          Z   4  3596  B E33             297
1922 18 03   *
1923 18 04   *PROCESS DS STATEMENTS
1924 18 05   *
1925 18 06   DSSTMT B     COMSCN                 SCAN FOR COMMA/BLANK  Z   4  3600  B 860           297
1926 18 07          B     FNLOP                  CHECK LAST OPERAND  Z   4  3604  B W05             297
1927 18 08          B     FR2FIX                 CONVERT TO FIXED FORM  Z   4  3608  B 952          297
1928 18 09          BWZ   CKEQU,INPUT&21,2       Q. ACTUAL OPERAND   Z   8  3612  V F55 021 2       298
1929 18 10          BCE   CK4ADJ,IMAGE&17,*      Q. ASTERISK OPERAND Z   8  3620  B F44 117 *       298
1930 18 11          BCE   NUREC,IMAGE&17,%       Q. I/O OPERAND      Z   8  3628  B 534 117 %       298
1931 18 12          B     PROPND                 GENERATE LABEL ADDRESS  Z   4  3636  B C28          298
1932 18 13          B     NUREC                                      Z   4  3640  B 534             298
1933 18 14   CK4ADJ ZA    IMAGE&26,IMAGE&61      PICKUP CHARACTER    Z   7  3644  ? 126 161         298
1934 18 15          B     DSETAD                  ADJUSTMENT         Z   4  3651  B !82            299
1935 18 16   CKEQU  ZA    IMAGE&21,W5AREA        CONVERT ACTUAL OPND OF  Z   7  3655  ? 121 H76      299
1936 18 17          B     CVRT5                   EQU AND DS         Z   4  3662  B V78            299
1937 18 18          A     IMAGE&26,W5AREA        ADD CHARACTER ADJ   Z   7  3666  A 126 H76         299
1938 18 19          BCE   DCWACT,IMAGE&75,P      Q. EQU CODE         Z   8  3673  B !50 175 P       299
1939 18 20          A     W5AREA,ORGCTR          PROCESS DS          Z   7  3681  A H76 H58         299
1940 18 21          B     BMPCTR                                     Z   4  3688  B !75            300
1941 18 22   *
1942 18 23   *PROCESS SUFFIX STATEMENTS
1943 18 24   *
1944 18 25   DOSFX  MLC   INPUT&21,IMAGE&17       SABE SUFFIX         Z   7  3692  M 021 117         300
1945 18 26          MCW   INPUT&21,SFXHLD          CHARACTER         Z   7  3699  M 021 H86         300
1946 18 27          B     NUREC                                      Z   4  3706  B 534            300
1947 18 28   *
1948 18 29   *PROCESS EXECUTE, END STATEMENTS
1949 18 30   *
1950 18 31   EXEND  B     COMSCN                 SCAN FOR COMMA/BLANK  Z   4  3710  B 860           300
1951 18 32          B     FNLOP                  CHECK LAST OPERAND  Z   4  3714  B W05             300
1952 18 33          B     FR2FIX                 CONVERT TO FIXED FORM  Z   4  3718  B 952          300
1953 18 34          BCE   NUREC,INPUT&16,X                          Z   8  3722  B 534 016 X       301
1954 18 35          B     CALL                   MERGE LITERALS      Z   4  3730  B U31             301
1955 18 36          LTORG *                                        Z          3734
             LENSWZ DCW   #01                                      Z   1  3734            AREA    301
                    DCW   @01@                                     Z   2  3736            LIT     301
                    DCW   &3                                       Z   1  3737            LIT     301
                    DCW   @010@                                    Z   3  3740            LIT     301
                    DCW   @011@                                    Z   3  3743            LIT     301
                    DCW   &1                                       Z   1  3744            LIT     302
                    DCW   @51@                                     Z   2  3746            LIT     302
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

                     DCW   @%@                                         Z   1  3747              LIT    302
                     DCW   @0@                                         Z   1  3748              LIT    302
                     DCW   @####@                                      Z   3  3751              LIT    302
                     DCW   @002@                                       Z   3  3754              LIT    302
                     DCW   @#@                                         Z   1  3755              LIT    302
                     DCW   @07@                                        Z   2  3757              LIT    303
                     DCW   @$@                                         Z   1  3758              LIT    303
1956 18 37   GRPMK2 DCW   @}@                  SYSTEM GROUP MARK      Z   1  3759              GMARK  303
1957 18 38   SAVE   EQU   *&1                                          Z      3760
1958 18 39          EX    DOZERO                                      Z             B 000              304
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 SEQ PG LIN  LABEL   OP    OPERANDS                                    SFX CT  LOCN  INSTRUCTION TYPE  CARD

1959 18 40          JOB   1401 AUTOCODER-PASS 4 PROCESS DA -VERSION 3 Z
1960 18 41   *
1961 18 42   *PROCESS DA STATEMENTS
1962 18 43   *
1963 18 44          ORG   DOPROG                                      Z              2575
1964 18 45   DASTMT BSP   SYSTAP                 REPOSITION SYSTEM    Z   5  2575  U %U1 B            307
1965 18 46          BSP   SYSTAP                  TAPE                Z   5  2580  U %U1 B            307
1966 18 47          SW    NUMSW,DACSW           Q. FIRST CHAR -X-     Z   7  2585  , F31 F55          307
1967 18 48          SW    FRMKSW,DGMKSW         SET SWITCHES          Z   7  2592  , F58 F57          307
1968 18 49          BCE   DAERR,INPUT&21,X                           Z   8  2599  B C14 021 X        307
1969 18 50   EXSCAN BCE   NDXSCN,INPUT&22&X2,X                       Z   8  2607  B O34 0K2 X        308
1970 18 51          BCE   DAERR,XL2,4                                 Z   8  2615  B C14 094 4        308
1971 18 52          A     &1,XL2                                      Z   7  2623  A F18 094          308
1972 18 53          B     EXSCAN                                      Z   4  2630  B O07              308
1973 18 54   NDXSCN A     INPUT&21&X2,BLKCTR    GET BLOCKING FACTOR   Z   7  2634  A 0K1 F17          308
1974 18 55          A     &2,XL2                                      Z   7  2641  A F19 094          309
1975 18 56          B     COMSCN                                      Z   4  2648  B 860              309
1976 18 57          ZA    INPUT&19&X2,RECNTR#5  GET RECORD LENGTH     Z   7  2652  ? 0J9 F24          309
1977 18 58   FINHED BCE   DAINDX,INPUT&21&X2,X  Q. INDEXING           Z   8  2659  B C73 0K1 X        309
1978 18 59          BCE   DAGMRK,INPUT&21&X2,G  Q. GROUP MARK         Z   8  2667  B C91 0K1 G        309
1979 18 60          BCE   DAFMRK,INPUT&21&X2,'  Q. RECORD MARK        Z   8  2675  B D06 0K1 '        310
1980 18 61          BCE   DACLR,INPUT&21&X2,C   Q. CLEAR OPTION       Z   8  2683  B C65 0K1 C        310
1981 18 62          BCE   CMPSZ,INPUT&20&X2,    Q. NO OTHER OPTIONS   Z   8  2691  B P06 0K0          310
1982 18 63          MZ    ABIT,IMAGE&5                                Z   7  2699  Y 187 105          310
1983 18 64   CMPSZ  S     W5AREA                                      Z   4  2706  S H76              310
1984 18 65          MCW   BLKCTR,B2CNTR         COMPUTE SIZE OF AREA  Z   7  2710  M F17 H67          311
1985 18 66   DAREP  S     &1,B2CNTR             AND STORE IN B2CNTR   Z   7  2717  S F18 H67          311
1986 18 67          BM    SFANS,B2CNTR                                Z   8  2724  V P43 H67 K        311
1987 18 68          A     RECNTR,W5AREA                               Z   7  2732  A F24 H76          311
1988 18 69          B     DAREP                                       Z   4  2739  B P17              311
1989 18 70   SFANS  MCW   W5AREA,B2CNTR                              Z   7  2743  M H76 H67          312
1990 18 71          MLC   @*@,IMAGE&17                               Z   7  2750  M F25 117          312
1991 18 72          BCE   DASTR,INPUT&6,         DETERMINE WHETHER    Z   8  2757  B P73 006          312
1992 18 73          BWZ   DANUM,INPUT&6,2         LOCATION OF DA IS   Z   8  2765  V P98 006 2        312
1993 18 74   DASTR  MLC   ORGCTR,DALOC#5          ACTUAL OR ASTERISK   Z   7  2773  M H58 F30          312
1994 18 75          A     &1,DALOC               PROCESS DA*          Z   7  2780  A F18 F30          313
1995 18 76          A     W5AREA,ORGCTR          BUMP ORIGIN COUNTER  Z   7  2787  A H76 H58          313
1996 18 77          B     ENDDA                                       Z   4  2794  B Q20              313
1997 18 78   DANUM  MLC   INPUT&10,IMAGE&21      PROCESS ACTUAL DA    Z   7  2798  M 010 121          313
1998 18 79          CW    NUMSW#1                SET ACTUAL DA SWITCH  Z   4  2805  ) F31              313
1999 18 80          B     CVTFLA                                      Z   4  2809  B W28              313
2000 18 81          MLC   W5AREA,DALOC                                Z   7  2813  M H76 F30          314
2001 18 82   ENDDA  MLC   DALOC,IMAGE&66         GENERATE HIGH ORDER  Z   7  2820  M F30 166          314
2002 18 83          MLC   DALOC                   LOCATION OF DA      Z   4  2827  M F30              314
2003 18 84          A     RECNTR,IMAGE&66                             Z   7  2831  A F24 166          314
2004 18 85          S     &1,IMAGE&66                                 Z   7  2838  S F18 166          314
2005 18 86          S     &1,DALOC                                    Z   7  2845  S F18 F30          314
2006 18 87          CW    HEDSW#1                                     Z   4  2852  ) F32              315
2007 18 88          BW    DALOOP,DACSW           Q. CLEAR OPTION      Z   8  2856  V ?37 F55 1        315
2008 18 89          MCW   IMAGE&80,DAHLD         SAVE IMAGE           Z   7  2864  M 180 G54          315
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2009 18 90          CHAIN 10                                        Z                       MACRO
2010                MCW                                           Z   1  2871  M           GEN    315
2011                MCW                                           Z   1  2872  M           GEN    315
2012                MCW                                           Z   1  2873  M           GEN    315
2013                MCW                                           Z   1  2874  M           GEN    315
2014                MCW                                           Z   1  2875  M           GEN    316
2015                MCW                                           Z   1  2876  M           GEN    316
2016                MCW                                           Z   1  2877  M           GEN    316
2017                MCW                                           Z   1  2878  M           GEN    316
2018                MCW                                           Z   1  2879  M           GEN    316
2019                MCW                                           Z   1  2880  M           GEN    316
2020 18 91          MCW   @A@,IMAGE&75              CODE DC STATEMENT AND   Z   7  2881  M F33 175          316
2021 18 92          MCW   BLANK4,IMAGE&80            TO CLEAR ENTIRE DA     Z   7  2888  M H62 180          317
2022 18 93          MCW   BLANK4,IMAGE&55            AREA                   Z   7  2895  M H62 155          317
2023 18 94          MCW   BLANK4,IMAGE&27           NOTE - EACH DC IS 19    Z   7  2902  M H62 127          317
2024 18 95          SW    INITSW                     CHARACTERS             Z   4  2909  , H87              317
2025 18 96          MCW   BLANK4,IMAGE&11            OPTIMIZING THE         Z   7  2913  M H62 111          317
2026 18 97          MCW   @DC @,IMAGE&16             CONDENSED CARD         Z   7  2920  M F36 116          317
2027 18 98          MCW   @19@,IMAGE&7                                      Z   7  2927  M F38 107          318
2028 18 99          MCW   DALOC,IMAGE&61                                    Z   7  2934  M F30 161          318
2029 19 00  CKNDQ   C     B2CNTR,&0020                                      Z   7  2941  C H67 F42          318
2030 19 01          BH    DOLST                                             Z   5  2948  B R82 U            318
2031 19 02          A     &19,IMAGE&61                                      Z   7  2953  A F44 161          318
2032 19 03          MZ    ABBIT,IMAGE&1                                     Z   7  2960  Y 189 101          319
2033 19 04          B     PUT                                               Z   4  2967  B 610              319
2034 19 05          S     &19,B2CNTR                                        Z   7  2971  S F44 H67          319
2035 19 06          B     CKNDQ                                             Z   4  2978  B R41              319
2036 19 07  DOLST   C     B2CNTR,&0000                                      Z   7  2982  C H67 F48          319
2037 19 08          BE    RTMGE                                             Z   5  2989  B ?20 S            319
2038 19 09          MN    B2CNTR,IMAGE&7                                    Z   7  2994  D H67 107          320
2039 19 10          MN                                                      Z   1  3001  D                  320
2040 19 11          A     B2CNTR,IMAGE&61                                   Z   7  3002  A H67 161          320
2041 19 12          MZ    ABBIT,IMAGE&1                                     Z   7  3009  Y 189 101          320
2042 19 13          B     PUT                                               Z   4  3016  B 610              320
2043 19 14  RTMGE   MCW   DAHLD,IMAGE&80            RESTORE IMAGE AREA     Z   7  3020  M G54 180          320
2044 19 15          CHAIN 10                                        Z                       MACRO
2045                MCW                                           Z   1  3027  M           GEN    320
2046                MCW                                           Z   1  3028  M           GEN    321
2047                MCW                                           Z   1  3029  M           GEN    321
2048                MCW                                           Z   1  3030  M           GEN    321
2049                MCW                                           Z   1  3031  M           GEN    321
2050                MCW                                           Z   1  3032  M           GEN    321
2051                MCW                                           Z   1  3033  M           GEN    321
2052                MCW                                           Z   1  3034  M           GEN    321
2053                MCW                                           Z   1  3035  M           GEN    322
2054                MCW                                           Z   1  3036  M           GEN    322
2055 19 16  DALOOP  SW    INITSW                                    Z   4  3037  , H87              322
2056 19 17          ZA    &1,B2CNTR                                 Z   7  3041  ? F18 H67          322
2057 19 18  DAPUT   C     B2CNTR,BLKCTR             GENERATE -B- NUMBER     Z   7  3048  C H67 F17          322
2058 19 19          BH    PUTIT                                     Z   5  3055  B B70 U            322
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 SEQ PG LIN  LABEL  OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2059 19 20  DAGET   CW    INITSW                                    Z   4  3060  ) H87              322
2060 19 21          BW    DAPUT2,HEDSW              Q. DA HEADER    Z   8  3064  V ?90 F32 1        323
2061 19 22          MCW   IMAGE&66,GMKADD#5         SAVE LAST ADDRESS Z   7  3072  M 166 F53          323
2062 19 23          A     &1,GMKADD                  AS POTENTIAL GROUP Z   7  3079  A F18 F53          323
2063 19 24          SW    HEDSW                      MARK ADDRESS    Z   4  3086  , F32              323
2064 19 25  DAPUT2  B     PUT                                       Z   4  3090  B 610              323
2065 19 26          BW    CKFNLG,MARKSW             Q. REC MARK LOOP Z   8  3094  V E02 H88 1        323
2066 19 27  GET1    B     GET                                       Z   4  3102  B 538              324
2067 19 28          BCE   GET1,INPUT&6,*                           Z   8  3106  B A02 006 *         324
2068 19 29          C     INPUT&19,BLANK4           Q. FIELD CARD   Z   7  3114  C 019 H62          324
2069 19 30          BU    CKFMRK                                    Z   5  3121  B D21 /            324
2070 19 31          MCW   INPUT&84,IMAGE&80         PICKUP ALTER NUMBER Z   7  3126  M 084 180          324
2071 19 32          BCE   *&5,INPUT&6,              Q. LABEL        Z   8  3133  B A45 006          324
2072 19 33          B     PROLBL                                    Z   4  3141  B V38              325
2073 19 34          MLC   &0,IMAGE&75               CODE RECORD     Z   7  3145  M F54 175          325
2074 19 35          S     XL2&1                                     Z   4  3152  S 095              325
2075 19 36          B     COMSCN                                    Z   4  3156  B 860              325
2076 19 37          ZA    INPUT&19&X2,IMAGE&66                      Z   7  3160  ? 0J9 166          325
2077 19 38          C     RECNTR,IMAGE&66           Q. DOES FIELD EXCEED Z   7  3167  C F24 166          325
2078 19 39          BH    TFERR                      LIMIT OF DA    Z   5  3174  B C39 U            325
2079 19 40          BCE   SUBFLD,INPUT&20&X2,       Q. SUBFIELD     Z   8  3179  B B52 0K0          326
2080 19 41          B     COMSCN                                    Z   4  3187  B 860              326
2081 19 42          B     FNLOP                                     Z   4  3191  B W05              326
2082 19 43          ZA    INPUT&19&X2,IMAGE&61                      Z   7  3195  ? 0J9 161          326
2083 19 44          C     RECNTR,IMAGE&61           Q. DOES FIELD EXCEED Z   7  3202  C F24 161          326
2084 19 45          BH    TFERR                      LIMIT OF DA    Z   5  3209  B C39 U            326
2085 19 46          C     IMAGE&61,IMAGE&66         Q. FIELDS SPECIFIED IN Z   7  3214  C 161 166          327
2086 19 47          BH    FLDERR                     IN CORRECT ORDER Z   5  3221  B C54 U            327
2087 19 48  ADDREC  A     DALOC,IMAGE&61            CREATE ADDRESS FOR Z   7  3226  A F30 161          327
2088 19 49          A     DALOC,IMAGE&66             FIELDS         Z   7  3233  A F30 166          327
2089 19 50          BM    DAGET,IMAGE&75            Q. SUB FIELD    Z   8  3240  V ?60 175 K        327
2090 19 51          B     DALOOP                                    Z   4  3248  B ?37              327
2091 19 52  SUBFLD  MLZS  BBIT,IMAGE&75             PROCESS SUBFIELDS Z   7  3252  Y 188 175          328
2092 19 53          MLC   IMAGE&66,IMAGE&61                        Z   7  3259  M 166 161          328
2093 19 54          B     ADDREC                                    Z   4  3266  B B26              328
2094 19 55  PUTIT   B     PUT                                       Z   4  3270  B 610              328
2095 19 56          BW    *&8,MARKSW                Q. RECORD MARK LOOP Z   8  3274  V B89 H88 1        328
2096 19 57          MZ    ABIT,IMAGE&75             CODE REPEATS    Z   7  3282  Y 187 175          328
2097 19 58          A     &1,B2CNTR                                 Z   7  3289  A F18 H67          329
2098 19 59          A     RECNTR,IMAGE&61           COMPUTE FIELD LIMITS Z   7  3296  A F24 161          329
2099 19 60          A     RECNTR,IMAGE&66                           Z   7  3303  A F24 166          329
2100 19 61          B     DAPUT                                     Z   4  3310  B ?48              329
2101 19 62  DAERR   MLZS  ABBIT,IMAGE&4              IMPROPERLY CODED DA Z   7  3314  Y 189 104          329
2102 19 63          ZA    &1,BLKCTR                  HEADER ROUTINE  Z   7  3321  ? F18 F17          329
2103 19 64          ZA    &1,RECNTR                                 Z   7  3328  ? F18 F24          330
2104 19 65          B     CMPSZ                                     Z   4  3335  B P06              330
2105 19 66  TFERR   SBR   *&11                                      Z   4  3339  H C53              330
2106 19 67          MZ    ABIT,IMAGE&5                              Z   7  3343  Y 187 105          330
2107 19 68          B     XXXX                                      Z   4  3350  B 000              330
2108 19 69  FLDERR MZ    BBIT,IMAGE&5              IMPROPERLY CODED DA Z   7  3354  Y 188 105          330
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 SEQ PG LIN  LABEL    OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

2109 19 70           B     DAPUT2                   FIELD ROUTINE   Z  4  3361  B ?90              330
2110 19 71   DACLR    CW    DACSW#1                 PROCESS CLEAR OPTION Z  4  3365  ) F55              331
2111 19 72           B     DATWO                    ON HEADER RECORD Z  4  3369  B C95              331
2112 19 73   DAINDX MLNS INPUT&22&X2,IMAGE&27      PROCESS INDEXING ON Z  7  3373  D OK2 127          331
2113 19 74           A     &3,XL2                   HEADER RECORD   Z  7  3380  A F56 094          331
2114 19 75           B     FINHED                                   Z  4  3387  B O59              331
2115 19 76   DAGMRK CW    DGMKSW#1                INITIALIZE TO SHOW Z  4  3391  ) F57              331
2116 19 77   DATWO  A     &2,XL2                   THERE IS GROUP  Z  7  3395  A F19 094          331
2117 19 78           B     FINHED                   MARK AFTER AREA Z  4  3402  B O59              332
2118 19 79   DAFMRK A     &1,RECNTR               INITIALIZE TO SHOW Z  7  3406  A F18 F24          332
2119 19 80           CW    FRMKSW#1                 PRESENCE OF RECORD Z  4  3413  ) F58              332
2120 19 81           B     DATWO                    MARKS BETWEEN RECORDS Z  4  3417  B C95              332
2121 19 82   CKFMRK SW    MARKSW                                   Z  4  3421  , H88              332
2122 19 83           BW    CKFNLG,FRMKSW           Q. RECORD MARKS  Z  8  3425  V E02 F58 1        332
2123 19 84           MLC   @@'@@,IMAGE&25          GENERATE -B- NUMBER Z  7  3433  M F61 125          332
2124 19 85           MLC   @DC *@,IMAGE&17          OF RECORD MARKS Z  7  3440  M F65 117          333
2125 19 86           MLC                                            Z  1  3447  M                  333
2126 19 87           MLC   &1,IMAGE&75                             Z  7  3448  M F18 175          333
2127 19 88           MLC   @01@,IMAGE&7                           Z  7  3455  M F67 107          333
2128 19 89           MLC   DALOC,IMAGE&61                         Z  7  3462  M F30 161          333
2129 19 90           A     RECNTR,IMAGE&61                        Z  7  3469  A F24 161          333
2130 19 91           BW    DALOOP,NUMSW                           Z  8  3476  V ?37 F31 1        334
2131 19 92           MCW   BLANK,IMAGE&17                        Z  7  3484  M H59 117          334
2132 19 93           MZ    ABBIT,IMAGE&3                          Z  7  3491  Y 189 103          334
2133 19 94           B     DALOOP                                 Z  4  3498  B ?37              334
2134 19 95   CKFNLG BW    CALLOP,DGMKSW           Q. SET GROUP MARK Z  8  3502  V E93 F57 1        334
2135 19 96           MLC   @DCW@,IMAGE&16         GENERAGE RECORD TO SET Z  7  3510  M F70 116          335
2136 19 97           MLC   @1@,IMAGE&75            GROUP MARK AT END OF Z  7  3517  M F71 175          335
2137 19 98           MLC   @01@,IMAGE&7            DA STATEMENT    Z  7  3524  M F67 107          335
2138 19 99           MCW   GMKADD,IMAGE&61                        Z  7  3531  M F53 161          335
2139 20 00           MLC   @@}@@,IMAGE&25                         Z  7  3538  M F74 125          335
2140 20 01           BW    GMKAST,NUMSW                           Z  8  3545  V E75 F31 1        336
2141 20 02           MCW   BLANK,IMAGE&17                        Z  7  3553  M H59 117          336
2142 20 03           MZ    ABBIT,IMAGE&3                          Z  7  3560  Y 189 103          336
2143 20 04   PUTGMK B     PUT                     PUT GROUP MARK RECORD Z  4  3567  B 610              336
2144 20 05           B     CALLOP                  GO BACK TO MAIN LINE Z  4  3571  B E93              336
2145 20 06   GMKAST A     &1,ORGCTR                              Z  7  3575  A F18 H58          336
2146 20 07           MCW   @*@,IMAGE&17                         Z  7  3582  M F25 117          337
2147 20 08           B     PUTGMK                                 Z  4  3589  B E67              337
2148 20 09   CALLOP BSP   INTAP                                  Z  5  3593  U %U4 B            337
2149 20 10           B     GET                                    Z  4  3598  B 538              337
2150 20 11           CW    MARKSW,GRPMK6                          Z  7  3602  ) H88 G55          337
2151 20 12           B     FINDA                                  Z  4  3609  B M62              337
2152 20 13   BLKCTR DCW   &00000                                 Z  5  3617                     337
2153 20 14           LTORG *                                      Z           3618
                     DCW   &1                                     Z  1  3618             LIT   338
                     DCW   &2                                     Z  1  3619             LIT   338
             RECNTR DCW   #05                                    Z  5  3624             AREA  338
                     DCW   @*@                                    Z  1  3625             LIT   338
             DALOCZ DCW   #05                                    Z  5  3630             AREA  338
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 SEQ PG LIN  LABEL    OP    OPERANDS                                SFX CT  LOCN  INSTRUCTION TYPE  CARD

             NUMSWZ DCW   #01                                    Z  1  3631             AREA  338
             HEDSWZ DCW   #01                                    Z  1  3632             AREA  338
                     DCW   @A@                                    Z  1  3633             LIT   339
                     DCW   @DC @                                  Z  3  3636             LIT   339
                     DCW   @19@                                   Z  2  3638             LIT   339
                     DCW   &0020                                  Z  4  3642             LIT   339
                     DCW   &19                                    Z  2  3644             LIT   339
                     DCW   &0000                                  Z  4  3648             LIT   339
             GMKADD DCW   #05                                    Z  5  3653             AREA  339
                     DCW   &0                                     Z  1  3654             LIT   340
             DACSWZ DCW   #01                                    Z  1  3655             AREA  340
                     DCW   &3                                     Z  1  3656             LIT   340
             DGMKSW DCW   #01                                    Z  1  3657             AREA  340
             FRMKSW DCW   #01                                    Z  1  3658             AREA  340
                     DCW   @@'@@                                  Z  3  3661             LIT   340
                     DCW   @DC *@                                 Z  4  3665             LIT   340
                     DCW   @01@                                   Z  2  3667             LIT   341
                     DCW   @DCW@                                  Z  3  3670             LIT   341
                     DCW   @1@                                    Z  1  3671             LIT   341
                     DCW   @@}@@                                  Z  3  3674             LIT   341
2154 20 15           DA    1X80                                   Z     3675   3754
2155 20 16   DAHLD    80                                         Z     3754             SBFLD
2156 20 17   GRPMK6 DCW   @}@                      SYSTEM GROUP MARK Z  1  3755             GMARK 342
2157 20 18           EX    DOZERO                                 Z           B 000              343
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 SEQ PG LIN  LABEL   OP    OPERANDS                                  SFX CT  LOCN  INSTRUCTION TYPE  CARD

2158 20 19           JOB   1401 AUTOCODER-PASS 4 PROCESS LITERALS  -VERSION 3 Z
2159 20 20           ORG   DOPROG                                    Z           2575
2160 20 21   OVLLIT  WTM   LITAPE                                    Z   5  2575  U %U6 M             346
2161 20 22           WTW   LITAPE,IMAGE&1            SAVE IMAGE AREA Z   8  2580  L %U6 101 W         346
2162 20 23           NOP   0                                         Z   4  2588  N 000               346
2163 20 24           BER   TPERR                                     Z   5  2592  B 221 L             346
2164 20 25           BEF   *&1                       RESET EOF TRIGGER Z   5  2597  B O02 K             346
2165 20 26           WTW   LITAPE,IMAGE&1            NOTE - MUST WRITE OUT Z 8  2602  L %U6 101 W         346
2166 20 27           NOP   0                          IMAGE AREA TWICE  Z   4  2610  N 000               346
2167 20 28           BER   TPERR                      BECAUSE EOF TREATED Z 5  2614  B 221 L             347
2168 20 29   *                                       AS NOISE RECORD
2169 20 30           RWD   LITAPE                                    Z   5  2619  U %U6 R             347
2170 20 31           BSP   SYSTAP                     POSITION SYSTEM TAPE Z 5  2624  U %U1 B             347
2171 20 32           BSP   SYSTAP                     TO BRING BACK     Z   5  2629  U %U1 B             347
2172 20 33           BSP   SYSTAP                     MAIN LINE         Z   5  2634  U %U1 B             347
2173 20 34           CW    GRPMK7                                      Z   4  2639  ) Q27              347
2174 20 35           CS    INPUT&80                   BLANK INPUT AND FIXED Z 4  2643  / 080               347
2175 20 36           SW    INPUT&16,LITSW2            FORM AREA         Z   7  2647  , 016 H90           348
2176 20 37           MRCM  INPUT&1,IMAGE&1                           Z   7  2654  P 001 101           348
2177 20 38           MLC   BLANK4,IMAGE&80                          Z   7  2661  M H62 180           348
2178 20 39           S     XL2&2                                     Z   4  2668  S 096              348
2179 20 40           S                                               Z   1  2672  S                  348
2180 20 41           MLC   @DCW@,IMAGE&16                          Z   7  2673  M Q15 116           348
2181 20 42   LITGB   MCW   &INPUT&13,N2&6                          Z   7  2680  M Q18 446           349
2182 20 43           RT    LITAPE,INPUT&1             READ IN LITERAL   Z   8  2687  M %U6 001 R         349
2183 20 44           B     NOISE                                     Z   4  2695  B 425              349
2184 20 45           BER   TPERR                                     Z   5  2699  B 221 L             349
2185 20 46           BEF   RTNLIT                     Q. ANY MORE LITERALS Z 5  2704  B P39 K             349
2186 20 47           MCW   INPUT&4,IMAGE&70           CODE MOTHER RECD NUMBER Z 7  2709  M 004 170           349
2187 20 48           MLC   @/@,IMAGE&75              CODE RECORD       Z   7  2716  M Q19 175           350
2188 20 49           B     PROLBL                     PROCESS LABEL     Z   4  2723  B V38              350
2189 20 50           B     DCWCD                      PROCESS STATEMENT Z   4  2727  B Y11              350
2190 20 51   LITRTN  B     PUT                        PUT RECORD        Z   4  2731  B 610              350
2191 20 52           B     LITGB                                       Z   4  2735  B O80              350
2192 20 53   RTNLIT  MCW   &IMAGE&13,N2&6                          Z   7  2739  M Q22 446           350
2193 20 54           RTW   LITAPE,IMAGE&1             REGENERATE IMAGE AREA Z 8  2746  L %U6 101 R         350
2194 20 55           B     NOISE                                     Z   4  2754  B 425              351
2195 20 56           BER   TPERR                                     Z   5  2758  B 221 L             351
2196 20 57           RWD   LITAPE                                    Z   5  2763  U %U6 R             351
2197 20 58           SW    LITSW                      RESET LITERAL SWITCH Z 4  2768  , N46              351
2198 20 59           CW    LITSW2                                    Z   4  2772  ) H90              351
2199 20 60           A     &10,EXNUMB                 SECTION TO GUARANTEE Z 7  2776  A Q24 193           351
2200 20 61           BCE   *&5,EXNUMB-1,0             UNIQUENESS OF     Z   8  2783  B P95 192 0         351
2201 20 62           B     RECALL                     LITERAL LABELS UP TO Z 4  2791  B U68              352
2202 20 63           A     &96,EXOVFL                 80 LTORG OR EX CARDS Z 7  2795  A Q26 191           352
2203 20 64           A     &96,EXOVFL                                  Z   7  2802  A Q26 191           352
2204 20 65           B     RECALL                                      Z   4  2809  B U68              352
2205 20 66           LTORG *                                         Z           2813
                     DCW   @DCW@                                     Z   3  2815              LIT    352
                     DCW   &INPUTZ&13                                Z   3  2818  013         ADCON  352
```



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

                     DCW   @/@                                       Z   1  2819              LIT    352
                     DCW   &IMAGEZ&13                                Z   3  2822  113         ADCON  353
                     DCW   &10                                       Z   2  2824              LIT    353
                     DCW   &96                                       Z   2  2826              LIT    353
2206 20 67   GRPMK7  DCW   @}@                       SYSTEM GROUP MARK Z 1  2827              GMARK  353
2207 20 68           EX    DOZERO                                    Z           B 000              354
```

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

2208 20 69          JOB   1401 AUTOCODER-PASS 4 END OF PASS OVERLAY -VERSION 3 Z
2209 20 70          ORG   SAVE2                                     Z          0706
2210 20 71   EOJRT  RWD   LITAPE                                    Z   5  0706  U %U6 R            357
2211 20 72          B     PUT                    PUT END CARD      Z   4  0711  B 610              357
2212 20 73          WT    OUTAP,OUTPUT&1         ASSURE LAST RECORD Z   8  0715  M %U5 I18 W        357
2213 20 74          NOP   0                       IS WRITTEN       Z   4  0723  N 000              357
2214 20 75          BER   TPERR                   WHEN BLOCKING    Z   5  0727  B 221 L            357
2215 20 76          WTM   OUTAP                                    Z   5  0732  U %U5 M            357
2216 20 77          RWD   OUTAP                                    Z   5  0737  U %U5 R            357
2217 20 79          CS    INPUT&85               CLEAR ALL GROUP   Z   4  0742  / 085              358
2218 20 80          CW    GRPMK2,GRPMK3           MARKS            Z   7  0746  ) G59 H44          358
2219 20 81          CW    GRPMK4                                   Z   4  0753  ) 185              358
2220 20 82          RTW   SYSTAP,PASSC1          READ PASS 5       Z   8  0757  L %U1 Z25 R         358
2221 20 83          NOP   0                                        Z   4  0765  N 000              358
2222 20 84          BER   TPERR                                    Z   5  0769  B 221 L            358
2223 20 85          LCA   TOTLBL,2393            PASS INFORMATION TO Z  7  0774  L 198 L93          358
2224 20 86          LCA   PROCOR,2389             PASS 5           Z   7  0781  L 194 L89          359
2225 20 87          B     PASSC2                 GO TO PASS 5      Z   4  0788  B M00              359
2226 20 88          DCW   0                                        Z   1  0792                     359
2227 20 89          DCW   @}@                    SYSTEM GROUP MARK Z   1  0793           GMARK  359
2228 20 90          EX    0                                        Z          B 000              360
2229 20 91   *
2230 20 92   * EQUATES
2231 20 93   *
2232 20 94   INTAP  EQU   %U4                                      Z      %U4
2233 20 95   OUTAP  EQU   %U5                                      Z      %U5
2234 20 96   LITAPE EQU   %U6                                      Z      %U6
2235 20 97   K4K    EQU   4000                                     Z      4000
2236 20 98   W3AREA EQU   W6AREA-3                EQUATES          Z      3874
2237 20 99   W5AREA EQU   W6AREA-1                                 Z      3876
2238 21 00   BLANK  EQU   BLANK4-3                                 Z      3859
2239 21 01   BLANK2 EQU   BLANK4-2                                 Z      3860
2240 21 02   HOLD2  EQU   B2CNTR-3                                 Z      3864
2241 21 03   HOLD3  EQU   B2CNTR-2                                 Z      3865
2242 21 04   ABIT   EQU   ZONE-2                                   Z      0187
2243 21 05   BBIT   EQU   ZONE-1                                   Z      0188
2244 21 06   ABBIT  EQU   ZONE                                     Z      0189
2245 21 07   XXXX   EQU   000                                     Z      0000
2246 21 08   INPUT  EQU   000                                     Z      0000
2247 21 09   OUTPUT EQU   3917                                    Z      3917
2248 21 10   PASSC1 EQU   1925                                    Z      1925
2249 21 11   PASSC2 EQU   2400                                    Z      2400
2250 21 12   DOZERO EQU   000                                     Z      0000
2251 21 13   FREE   EQU   INPUT                                   Z      0000
2252 21 14          END   START                                   Z          / N75 080
```


SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS	SYMBOL	ADDRESS
A1ALFZ	1310	ABBITZ	189	ABITZ	187	ABSCOD	2755	ABSFIX	1270	ABSW	3110	ACNRTZ	2362
ADDREC	3226	ADDZ	3118	ALTRNO	184	ALTROP	1051	ARDEFZ	2301	AUGMNT	2906	B2CNTR	3867
BADOP	2728	BBITZ	188	BCK1	798	BEGIN	2465	BIGCTR	3853	BINFND	1115	BINTBL	3814
BLANK	3154	BLANK2	3860	BLANK3	3156	BLANK4	3862	BLANKZ	3859	BLKCTR	3617	BLNK2	3155
BLNKX	848	BMPCTR	2075	BOPXTZ	3357	BSP1	2246	BSP1Z	257	BSP2	2290	BSP2Z	301
BYPASS	520	C1Z	2780	CALLOP	3593	CALLZ	1431	CHNAD	2885	CHNLP	872	CK1BK	1962
CK2Z	728	CK4ADJ	3644	CKADJZ	1017	CKAOPZ	2011	CKB	874	CKCHN	722	CKCOMZ	706
CKDCWZ	1858	CKDONE	2674	CKEL	2698	CKEQUZ	3655	CKFF	2801	CKFMRK	3421	CKFNLG	3502
CKLIT2	2188	CKLOR	1889	CKLORZ	1485	CKMACR	2089	CKMINZ	1134	CKMOD	950	CKMOD1	2803
CKNDQZ	2941	CKNOP	1146	CKOP	922	CKPROZ	2913	CKREGZ	2921	CKTAPZ	645	CLEAR	2682
CMPSZZ	2706	CODJOB	2601	COMCRD	1871	COMSCN	860	CORERR	1680	CSCNXT	929	CSZ	2754
CTL2Z	2737	CTL3Z	2722	CTRLOP	3361	CVRT5Z	1578	CVT5XT	1590	CVTFLA	1628	CWI98Z	469
CXL1	1925	DACLRZ	3365	DACSWZ	3655	DAERRZ	3314	DAFMRK	3406	DAGETZ	3060	DAGMRK	3391
DAHLDZ	3754	DAINDX	3373	DALOCZ	3630	DALOOP	3037	DANUMZ	2798	DAPUT2	3090	DAPUTZ	3048
DAREPZ	2717	DARTNZ	2441	DASTMT	2575	DASTRZ	2773	DATWOZ	3395	DCWACT	2050	DCWALF	2244
DCWAST	2068	DCWCDZ	1811	DCWSTM	1484	DCWSW2	3892	DCWSWZ	3889	DCWTYP	1551	DCWXTZ	2185
DGMKSW	3657	DOADRS	1150	DOBIGZ	3157	DOCNTZ	2605	DOEQU	1815	DOIADD	2832	DOLSTZ	2982
DOMINZ	1027	DONEZ	2731	DOPROG	2575	DOSFXZ	3692	DOZERO	0	DSACT	1833	DSADCZ	2354
DSARTN	1715	DSASW2	3891	DSAX1Z	1990	DSETAD	2082	DSSTMT	3600	DSTYP	1788	ELMBLK	2883
ENDALF	1218	ENDDAZ	2820	ENDFIX	626	ENTER	2647	ENTSPS	626	EOJ	2875	EOJRTZ	706
EQUADD	2511	EQVADD	3169	ERHLT	1473	ERRBLK	2895	ERRHLT	3463	EXENDZ	3710	EXNUMB	193
EXOVFL	191	EXSCAN	2607	FACTOR	3848	FCTBLZ	2897	FINDAZ	2462	FINHED	2659	FIXALF	1184
FIXERZ	1233	FIXINS	854	FIXLIT	2132	FIXSWZ	2532	FLAXTZ	1643	FLDERR	3354	FNLOPZ	1605
FNLXTZ	1624	FOUND	1340	FR2FIX	952	FR2FXT	1229	FREE	100	FREEAZ	2498	FREESW	3809
FREEZ	0	FREMOD	2739	FRMKSW	3658	GENJOB	2853	GENPS	906	GET	524	GET1Z	3102
GETMN	419	GETOP	2539	GETPOP	2999	GETXT	550	GETXTZ	574	GETZ	538	GM1Z	3143
GMK1	3989	GMK2	187	GMKADD	3653	GMKAST	3575	GOBKZ	798	GRPMK1	85	GRPMK2	3759
GRPMK3	3844	GRPMK4	185	GRPMK5	2574	GRPMK6	3755	GRPMK7	2827	GRPMK8	3899	GTFIX	464
GTFRE	503	HEDSWZ	3632	HIVAL	2458	HLDCD	2952	HLDLIT	3760	HOLD1Z	3885	HOLD2Z	3864
HOLD3Z	3865	HOLD4Z	3871	HOLD7Z	3884	HOLDCZ	2491	IMAGEZ	100	INAREA	3903	INITAP	%U0
INITSW	3887	INOBJ	2797	INPUT	332	INPUTZ	0	INSPC	1421	INSPCZ	3438	INST2	2375
INST2Z	386	INSTRZ	2575	INTAPE	%U6	INTAPZ	%U4	INTXL1	2720	INTXT	460	IOTYP	1154
IS16KZ	2852	IS4K	2892	IS4KZ	2818	IS8KZ	2833	ISADJZ	1051	ISDCWZ	2271	ISDSAZ	1890
ISFIVE	3032	ISHIV	969	ISMOD	1002	ISMODZ	2811	ISREA	1096	JOBLBL	2924	JOBSWZ	199
K4KZ	4000	KNOWN	1669	LAREAZ	3759	LBERR	778	LBLXTZ	1807	LDOPTB	489	LENSWZ	3734
LIBRN	0	LITAPE	%U6	LITGBZ	2680	LITRTN	2731	LITSW2	3890	LITSWZ	2546	LKNOP	974
LOOP1	1917	LOOP1Z	1770	LOOPBL	2864	LPERR	1684	LTER2Z	1409	LTERRZ	1394	LTGENZ	2400
MAKBCE	1040	MANAM	2459	MARKSW	3888	MASYM	3296	MKMIN	2121	MLCTYP	2717	MODESW	3002
MOVMOD	1018	MPYLPZ	1712	MSCSWZ	2995	MULTZ	1720	N2	2429	N2Z	440	N3	573
N4	558	NDASCN	1329	NDOPD	1986	NDXSCN	2634	NOADJ	2075	NOCTLZ	2871	NOISE	2414
NOISEZ	425	NOPND	1462	NOT11	2158	NOZONE	2293	NSXT	2449	NSXTZ	460	NUMSWZ	3631
NUREC	626	NURECZ	534	NXTDGT	1746	OBJCOR	2453	OBJTBL	2911	ONEOP	1760	OPDERZ	1237
OPDONE	3021	OPND	3808	ORGADJ	3533	ORGCTR	3858	ORGCVT	3578	ORGPRO	3589	ORGSTM	3474
OUTAPE	%U4	OUTAPZ	%U5	OUTPUT	3917	OVL2	626	OVLLIT	2575	PASSB2	200	PASSC1	1925
PASSC2	2400	PDCWLF	2240	PHOLD	2944	PICKUP	1029	PLSCAN	790	PLUSFD	817	PRCHN	727
PREOJ	2867	PRINT	200	PROADJ	1055	PROCOR	194	PROFIX	661	PROLAB	1647	PROLBL	1538
PROLIT	3182	PROPND	3328	PROSZ	2702	PRSCXT	925	PSSW2	1037	PSTNU	630	PUT	586
PUTGMK	3567	PUTITZ	3270	PUTXT	622	PUTXTZ	702	PUTZ	610	RDCT	2461	RDCTZ	465
RDERR	2283	RDERRZ	294	RDTAP	554	RDXT	582	RECALL	1468	RECNTR	3624	REDXT	2279
REDXTZ	290	REG	991	RESTR	2862	RSTMOD	638	RSTWM	1654	RTEND	2209	RTMGEZ	3020
RTN2	2039	RTNDCW	1633	RTNJBZ	481	RTNLIT	2739	SAMFIX	1328	SAVCOD	2613	SAVE2Z	706
SAVEZ	3760	SAVOP	2988	SBCTR	2392	SBCTRZ	403	SCAN	1909	SCANAT	1292	SCANBZ	1023
SCANSW	2515	SCNATX	1382	SCNDEX	970	SCNERR	933	SCNXT	2117	SETABS	1320	SETEXZ	3132
SETHI	2899	SETSWZ	1386	SFANSZ	2743	SFXHLD	3886	SMLTYP	3040	SPECIN	2683	SPGLIN	692
STARTZ	2575	STFUN	1065	SUB1	2509	SUBFLD	3252	SUBORG	3563	SUBT	2170	SUBXL	634
SVSZ	2939	SVUP3	1017	SW1	1292	SXLZ	1361	SYSMK1	2209	SYSMK2	3003	SYSTAP	%U1
TAPAUG	2952	TFERRZ	3339	TLUBIN	1084	TLUFIX	828	TLUOP	2465	TLUXT	2643	TOTLBL	198
TPERR	2210	TPERRZ	221	TPHLT	2317	TPHLTZ	328	TPINS	2266	TPINSZ	277	TPYETZ	638
TSTCOM	875	TSTRE	1053	TYPCL	1126	TYPORG	3540	VALUE	1200	W3AREA	3874	W5AREA	3876

W6AREA	3877	WAREA2	3114	WAREA3	3115	WAREA6	3118	WHCHOP	1254	WRTCR	2464	WRTCRZ	468
WRTLIT	3189	WRTPZ	578	WRTRD	2355	WRTRDZ	366	WRTXTZ	606	XALF1Z	3093	XISALF	3077
XISLIT	3251	XL1	89	XL1Z	89	XL2	94	XL2Z	94	XL3	99	XL3Z	99
XLIT1Z	3282	XTLABL	1574	XXXX	0	XXXXZ	0	ZONEZ	189				