Compiler 2 - 160-A

AC1.00-2D


```
                        REM          160 FORTRAN A    END CODE
       0107             ORG    107
                        SUPB
0107   0000   PTA7      BSS    24
       0134             ORG    134
0134   0400   RDRECD    LDN                  READS PAPER TAPE RECORD
0135   4011             STD    R9            INTO BUFFER AREA PIT
0136   7551             EXF    READCD        EXIT VIA TEMP1
0137   2245             LDF    ZMX3          ERROR STOP FOR
0140   4025             STD    R5            PARITY ERROR
0141   7600   ZMX1      INA
0142   6401             ZJB    1
0143   6103             NZF    3
0144   7600             INA                  RETURN TO HERE
0145   6040             ZJF    ZMX4
0146   4035             STD    R6
0147   0102             SHA    2
0150   1435             LSD    R6
0151   0102             SHA    2
0152   1435             LSD    R6
0153   4010             STD    R8
0154   0110             SHA    10
0155   1410             LSD    R6
0156   6202             PJF    2
0157   0340             LSN    40
0160   0240             LPN    40            (A)=0 IF EVEN PARITY, (A)=40 IF OD
0161   6102             NZF    2
0162   0000             ERR                  PARITY ERROR STOP
0163   2011             LDD    R9
0164   0301             LSN    1
0165   4011             STD    R9
0166   6011             ZJF    ZMX2
0167   5425             AOD    R5
0170   2035             LDD    R6
0171   0277             LPN    77
0172   0110             SHA    10
0173   0110             SHA    10
0174   4125             STI    R5
0175   7101             JFI    1
0176   0144                    ZMX1      3
0177   2035   ZMX2      LDD    R6
0200   0277             LPN    77
0201   5125             RAI    R5
0202   7101             JFI    1
0203   0144                    ZMX1      3
0204   0212   ZMX3             PIT      -1
0205   7503   ZMX4      EXF    WRCD
0206   7072             JPI    TEMP1
0207   4102   READCD           4102
0210   4104   WRCD             4104
0211   0400   DUMP      LDN
0212   7700             HLT
0213   2206   PIT       LDF    LSTT
0214   4072             STD    TEMP1
0215   0701             SBN    1
0216   4312             STB    ZMX3
0217   7101             JFI    1
0220   0134                    RDRECD
0221   0643   LSTT             STT
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      0643            ORG   643
0643  2207  STT       LDF   7
0644  4077            STD   77
0645  2204            LDF   4
0646  4177            STI   77
0647  7101            JFI   1
0650  0720                  LEND2
0651  0212                  PIT     -1
0652  0204                  ZMX3
0653  4074  STORID     STD   TEMP3          START HERE, PIT
0654  0502            LCN   2              IS ALSO BUFFER AREA
0655  5062            RAD   VLC            STORID CREATES IDLIST
0656  2172            LDI   TEMP1          ERR IF OBJCODE TOO LARGE
0657  4075            STD   TEMP4          IDLOGF, IDEXPF, IDCOSF
0660  0601            ADN   1
0661  4073            STD   TEMP2
0662  2062            LDD   VLC
0663  4173            STI   TEMP2
0664  0506            LCN   6
0665  4073            STD   TEMP2          TEMP2 NOW A CNTR
0666  2175  STR       LDI   TEMP4
0667  4174            STI   TEMP3
0670  5474            AOD   TEMP3
0671  5475            AOD   TEMP4
0672  5473            AOD   TEMP2
0673  6505            NZB   STR
0674  5472            AOD   TEMP1
0675  7072            JPI   TEMP1
0676  4042  IDLOGF          4042
0677  0000                  0
0700  0006                  6
0701  0000                  0
0702  3350                  3350
0703  4645                  4645
0704  4042  IDEXPF          4042
0705  0000                  0
0706  0006                  6
0707  0000                  0
0710  4461                  4461
0711  5145                  5145
0712  4042  IDCOSF          4042
0713  0000                  0
0714  0006                  6
0715  0000                  0
0716  4250                  4250
0717  5445                  5445
0720  7560  LEND2     EXF   PUNCD          PUNCH REMNANTS
0721  2206            LDF   6              OF OBJCODE
0722  4021            STD   R1
0723  2205            LDF   5
0724  4121            STI   R1
0725  7101            JFI   1
0726  1775                  PAWB85
0727  2001                  PAWB83
0730  0731                  END50
0731  2054  END50     LDD   LIDFWA         ZEROIZE DIGIT IN
0732  4024            STD   R4             EAPACK ENTRIES
0733  2220            LDF   LEND03
0734  4072            STD   TEMP1
0735  2217            LDF   LEND51
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```
0736  4073          STD   TEMP2
0737  2124  END51   LDI   R4
0740  0270          LPN   70
0741  6010          ZJF   END51A
0742  2024          LDD   R4
0743  0602          ADN   2
0744  4074          STD   TEMP3
0745  0507          LCN   7
0746  1174          LPI   TEMP3
0747  6002          ZJF   2
0750  4174          STI   TEMP3
0751  7101  END51A   JFI   1
0752  1647                INCR
0753  0755  LEND03       END03
0754  0737  LEND51       END51
0755  7523  END03   EXF   PUNCD
0756  7400          OTN
0757  7400          OTN
0760  0400          LDN
0761  4070          STD   FLAG
0762  2214          LDF   LEND5
0763  4072          STD   TEMP1
0764  2213          LDF   LEND4
0765  4073          STD   TEMP2
0766  2054          LDD   LIDFWA
0767  4024          STD   R4
0770  2124  END4    LDI   R4
0771  0270          LPN   70
0772  0340          LSN   40
0773  6006          ZJF   END06
0774  7101          JFI   1
0775  1647                INCR
0776  1055  LEND5        END5
0777  0770  LEND4        END4
1000  4104  PUNCD        4104
1001  2024  END06   LDD   R4
1002  0604          ADN   4
1003  4021          STD   R1
1004  2121          LDI   R1
1005  4021          STD   R1          (R1)=1ST 2 CODES FOR
1006  0505          LCN   5           LIB FN NAME
1007  4023          STD   R3
1010  0401          LDN   1
1011  4022          STD   R2          FOR CHANGING FLAG
1012  2235  END07   LDF   FNTAB
1013  1421          LSD   R1
1014  6122          NZF   NOT
1015  2023          LDD   R3
1016  0602          ADN   2
1017  6107          NZF   MODFLG
1020  2024          LDD   R4
1021  0605          ADN   5
1022  4011          STD   R9
1023  2111          LDI   R9
1024  1630          LSF   NF
1025  6111          NZF   NOT
1026  2022  MODFLG  LDD   R2
1027  1470          LSD   FLAG        FLAG CONFIGURATION,
1030  4070          STD   FLAG        CO,SI,EX,LO,PW
1031  2215          LDF   LTABL
```

```
1032  3023          ADD   R3
1033  4074          STD   TEMP3
1034  2024          LDD   R4
1035  4174          STI   TEMP3
1036  4422  NOT     SRD   R2
1037  5725          AOB   END07
1040  5423          AOD   R3
1041  6527          NZB   END07
1042  0505          LCN   5
1043  5331          RAB   END07
1044  7101          JFI   1
1045  1647          INCR
1046  1356  LTABL   TABLE 5
1047  5160  FNTAB   5160          PW
1050  3350          3350          LO
1051  4461          4461          EX
1052  5430          5430          SI
1053  4250          4250          CO
1054  3545  NF      3545
1055  2070  END5    LDD   FLAG          CREATE NECESSARY
1056  0203          LPN   3             IDLIST ENTRIES
1057  0301          LSN   1
1060  6115          NZF   TSTEXP  1
1061  2212          LDF   LSTEXP
1062  4072          STD   TEMP1
1063  2207          LDF   TABLO
1064  4074          STD   TEMP3
1065  0506          LCN   6
1066  5054          RAD   LIDFWA
1067  4174          STI   TEMP3
1070  7101          JFI   1
1071  0653          STORID
1072  1352  TABLO   TABLE 1
1073  1074  LSTEXP  TSTEXP
1074  0676  TSTEXP  IDLOGF
1075  2070          LDD   FLAG
1076  0205          LPN   5
1077  0301          LSN   1
1100  6115          NZF   TSTCOS  1
1101  2212          LDF   LSTCOS
1102  4072          STD   TEMP1
1103  2207          LDF   TABEX
1104  4074          STD   TEMP3
1105  0506          LCN   6
1106  5054          RAD   LIDFWA
1107  4174          STI   TEMP3
1110  7101          JFI   1
1111  0653          STORID
1112  1353  TABEX   TABLE 2
1113  1114  LSTCOS  TSTCOS
1114  0704  TSTCOS  IDEXPF
1115  2070          LDD   FLAG
1116  0230          LPN   30
1117  0310          LSN   10
1120  6115          NZF   END08   1
1121  2212          LDF   LEND08
1122  4072          STD   TEMP1
1123  2207          LDF   TABCO
1124  4074          STD   TEMP3
1125  0506          LCN   6
```

```
1126  5054          RAD   LIDFWA
1127  4174          STI   TEMP3
1130  7101          JFI   1
1131  0653                STORID
1132  1355  TABCO         TABLE   4
1133  1134  LEND08        END08
1134  0712  END08         IUCOSF
1135  2204  END14   LDF   LEND11
1136  4072          STD   TEMP1
1137  7101          JFI   1
1140  0134                READRECD        READ RECORD
1141  1142  LEND11        END11
1142  2226  END11   LDF   LPIT
1143  4024          STD   R4
1144  2124          LDI   R4
1145  3604          SBF   ENDLIB
1146  6104          NZF   4
1147  7101          JFI   1                 TRANSFER WHEN ALL LIB FNS READ
1150  1273                END21
1151  1717  ENDLIB        1717            END OF FILE MARK
1152  2054          LDD   LIDFWA
1153  4024          STD   R4
1154  2212          LDF   LEND14
1155  4072          STD   TEMP1
1156  2211          LDF   LEND15
1157  4073          STD   TEMP2
1160  2124  END15   LDI   R4              SEARCH IDLIST FOR
1161  0270          LPN   70                ENTRY CORRESPONDING
1162  0340          LSN   40                TO FN IN BUFFER
1163  6006          ZJF   END13
1164  7101          JFI   1
1165  1647                INCR
1166  1135  LEND14        END14
1167  1160  LEND15        END15
1170  0213  LPIT          PIT
1171  2301  END13   LDB   LPIT
1172  0601          ADN   1
1173  4023          STD   R3                ((R3)) IS 1ST TWO
1174  2024          LDD   R4                CODES OF FN NAME IN BUFFER
1175  0604          ADN   4
1176  4021          STD   R1                R4 IS IDLIST ADDRESS
1177  2121          LDI   R1
1200  3523          SBI   R3
1201  6003          ZJF   TEST2
1202  7101          JFI   1
1203  1647                INCR
1204  5421  TEST2   AOD   R1
1205  5423          AOD   R3
1206  2121          LDI   R1
1207  3523          SBI   R3
1210  6003          ZJF   PUNCH
1211  7101          JFI   1
1212  1647                INCR
1213  0440  PUNCH   LDN   40
1214  0102          LS1
1215  7677          OTA                     OUTPUT BANK SETTING
1216  2024          LDD   R4                OUTPUTS LIB FN
1217  0603          ADN   3
1220  4072          STD   TEMP1             (TEMP1)=LCN IN IDLIST
1221  2063          LDD   OCC               TO HOLD (OCC)
```

```
1222  4172          STI   TEMP1          PUT OBJCODE LCN
1223  2333          LDB   LPIT           OF LIB FN IN
1224  4073          STD   TEMP2          IDLIST
1225  4072          STD   TEMP1
1226  5472          AOD   TEMP1
1227  2172  PNCHA   LDI   TEMP1
1230  3636          SBF   LARITH
1231  6503          NZB   3
1232  0501          LCN   1
1233  5072          RAD   TEMP1          (TEMP1)=LCN IN PIT
1234  4050          STD   BEGBUF         TO HOLD (OCC)
1235  2063          LDD   OCC            OBJECT CODE LCN IS
1236  4172          STI   TEMP1          1ST FRAME OUTPUT
1237  0402          LDN   2
1240  5072          RAD   TEMP1
1241  2172          LDI   TEMP1
1242  0277          LPN   77
1243  6012          ZJF   HERE
1244  4036          STD   R7
1245  2436          LCD   R7             (R7) IS NBR OF LCNS
1246  4036          STD   R7             TO BE UPPED
1247  5472          AOD   TEMP1
1250  2063          LDD   OCC
1251  0601          ADN   1
1252  5172          RAI   TEMP1          MODIFY APPROPRIATE
1253  5436          AOD   R7             LCNS OF ROUTINE
1254  6505          NZB   5              IN BUFFER
1255  0501  HERE    LCN   1
1256  5063          RAD   OCC            UP OCC BY LENGTH OF FN IN BUFFE
1257  2050          LDD   BEGBUF
1260  3173          ADI   TEMP2
1261  4051          STD   ENDBUF
1262  2203          LDF   3
1263  7101          JFI   1
1264  1762                PAWBB          PUNCH LIB, ROUTINE
1265  1267                END20          FOLLOWED BY 2 BLANKS
1266  0004  LARITH       ARITH
1267  7400  END20  OTN
1270  7400          OTN
1271  7101          JFI   1
1272  1135                END14
1273  2254  END21  LDF   LSIN           INSERT VARLIST
1274  4072          STD   TEMP1          ADDRESSES OF OTHER
1275  2260          LDF   TABLE   4      LIBRARY FNS IN PW
1276  4073          STD   TEMP2          AND SIN
1277  5473          AOD   TEMP2
1300  2173          LDI   TEMP2
1301  4172          STI   TEMP1
1302  2246          LDF   LPW
1303  4072          STD   TEMP1
1304  2246          LDF   TABLE   1
1305  4073          STD   TEMP2
1306  5473          AOD   TEMP2
1307  2173          LDI   TEMP2
1310  4172          STI   TEMP1
1311  5472          AOD   TEMP1          PW+4 IN TEMP1
1312  2241          LDF   TABLE   2
1313  4073          STD   TEMP2
1314  5473          AOD   TEMP2
1315  2173          LDI   TEMP2
```

```
1316  4172          STI   TEMP1
1317  2070          LDD   FLAG
1320  0201          LPN   1
1321  6037          ZJF   END25          PW NOT IN IDLIST
1322  0440          LDN   40
1323  0102          LS1
1324  7677          OTA                  BANK0
1325  2223          LDF   LPW            IF (A)=0
1326  0703          SBN   3
1327  4050          STD   BEGBUF
1330  0633          ADN   35
1331  4051          STD   ENDBUF
1332  2063          LDD   OCC
1333  4150          STI   BEGBUF         OBJ CODE LCN 1ST WORD OUTPUT
1334  2215          LDF   TABLE
1335  0603          ADN   3
1336  4072          STD   TEMP1
1337  2063          LDD   OCC
1340  4172          STI   TEMP1          OCC TO IDLIST
1341  0501          LCN   1
1342  5063          RAD   OCC            UP OCC
1343  2203          LDF   3
1344  7101          JFI   1
1345  1762                PAWBB
1346  1356                END25A
1347  1673  LSIN          SIN   3
1350  1731  LPW           PW    3
1351  0000  TABLE         0                  IDLIST LCNS OF, PW
1352  0000                0                  IDLIST LCNS OF, LOG
1353  0000                0                  IDLIST LCNS OF, EXP
1354  0000                0                  IDLIST LCNS OF, SIN
1355  0000                0                  IDLIST LCNS OF, COS
1356  7400  END25A   OTN
1357  7400          OTN
1360  2070  END25    LDD   FLAG
1361  0210          LPN   10
1362  6035          ZJF   END30   2      (A)=0 IF SIN NOT
1363  0440          LDN   40
1364  0102          LS1
1365  7677          OTA                  BANK0
1366  2317          LDB   LSIN           IN IDLIST
1367  0703          SBN   3
1370  4050          STD   BEGBUF
1371  0635          ADN   35
1372  4051          STD   ENDBUF
1373  2063          LDD   OCC
1374  4150          STI   BEGBUF         OBJCD LN 1ST WORD OUTPUT
1375  2321          LDB   TABLE   3
1376  0603          ADN   3
1377  4072          STD   TEMP1
1400  2063          LDD   OCC
1401  4172          STI   TEMP1          OCC TO IDLIST
1402  2050          LDD   BEGBUF
1403  0604          ADN   4
1404  4072          STD   TEMP1
1405  2063          LDD   OCC
1406  5172          RAI   TEMP1          MODIFY ADDRESS IN SIN
1407  0501          LCN   1
1410  5063          RAD   OCC            OCC UPPED
1411  2203          LDF   3
```

```
1412  7101          JFI   1
1413  1762                PAWBB
1414  1415                END30
1415  7400  END30   OTN
1416  7400          OTN
1417  2200          LDC   3310
1420  3310
1421  3463          SBD   OCC
1422  1463          LSD   OCC
1423  0201          LPN   1
1424  6103          NZF   3
1425  0427          LDN   27
1426  0000          ERR                 OBJCODE TOO LARGE
1427  2200          LDC   1075
1430  1075
1431  3462          SBD   VLC
1432  1462          LSD   VLC
1433  0201          LPN   1
1434  6103          NZF   3
1435  0427          LDN   27
1436  0000          ERR                 VARIABLE LIST TOO LARGE
1437  2054  VARLIS  LDD   LIDFWA        INSERT OBJECT CODE LOCATIONS IN R
1440  4024          STD   R4            AND PUNCH
1441  2240          LDF   LVARI1
1442  4072          STD   TEMP1
1443  2235          LDF   LVAR2
1444  4073          STD   TEMP2
1445  2124  VAR2    LDI   R4
1446  0270          LPN   70
1447  0340          LSN   40
1450  6124          NZF   VAR3
1451  0404          LDN   4
1452  3024          ADD   R4
1453  4074          STD   TEMP3
1454  2174          LDI   TEMP3
1455  1621          LSF   VAPUN
1456  6106          NZF   VAR4
1457  0501          LCN   1
1460  5074          RAD   TEMP3
1461  0401          LDN   1
1462  4174          STI   TEMP3
1463  6111          NZF   VAR3
1464  2174  VAR4    LDI   TEMP3
1465  1612          LSF   VARED
1466  6106          NZF   VAR3
1467  0501          LCN   1
1470  5074          RAD   TEMP3
1471  2200          LDC   525
1472  0525
1473  4174          STI   TEMP3
1474  7101  VAR3    JFI   1
1475  1647                INCR
1476  5156  VAPUN         5156
1477  5344  VARED         5344
1500  1445  LVAR2         VAR2
1501  1502  LVARI1        VARI1
1502  2054  VARI1   LDD   LIDFWA
1503  4024          STD   R4
1504  2250          LDF   LFINAL
1505  4072          STD   TEMP1
```

```
1506  2247          LDF   LEND31
1507  4073          STD   TEMP2
1510  6103          NZF   3
1511  7400  END31   OTN                 OUTPUT VARLIS LCNS,
1512  7400          OTN                 AND CONTENTS
1513  2024          LDD   R4
1514  0601          ADN   1
1515  4050          STD   BEGBUF
1516  2124          LDI   R4
1517  0270          LPN   70
1520  0770          SBN   70
1521  6051          ZJF   END47         TYPE7
1522  0630          ADN   30
1523  6074          ZJF   END44         TYPE4
1524  0630          ADN   30
1525  6055          ZJF   END41         TYPE1
1526  0720          SBN   20
1527  6047          ZJF   END43         TYPE3
1530  0610          ADN   10
1531  6056          ZJF   END42         TYPE2
1532  0730          SBN   30
1533  6073          ZJF   END45         TYPE5
1534  2124          LDI   R4
1535  0110          SHA   10
1536  0204          LPN   4             A=0 IF L,=3
1537  6023          ZJF   END40
1540  2050          LDD   BEGBUF
1541  0604          ADN   4
1542  4051          STD   ENDBUF
1543  0503          LCN   3
1544  5150          RAI   BEGBUF
1545  2050          LDD   BEGBUF
1546  4075          STD   TEMP4
1547  7401          OTN   1             OUTPUT-BANK SETTING
1550  2203          LDF   3
1551  7101          JFI   1
1552  1762                PAWBB
1553  1556                END35
1554  1631  LFINAL       FINAL
1555  1511  LEND31       END31
1556  0403  END35  LDN   3
1557  5175          RAI   TEMP4
1560  7101          JFI   1
1561  1647                INCR
1562  2050  END40  LDD   BEGBUF
1563  0601          ADN   1
1564  4051  OUT    STD   ENDBUF
1565  7401          OTN   1             OUTPUT BANK SETTING
1566  2203          LDF   3
1567  7101          JFI   1
1570  1762                PAWBB
1571  1647                INCR
1572  2124  END47  LDI   R4
1573  0207          LPN   7
1574  0610          ADN   10
1575  6103          NZF   3
1576  2124  END43  LDI   R4
1577  0207          LPN   7
1600  3050          ADD   BEGBUF
1601  6515          NZR   OUT
```

```
1602  2124  END41  LDI   R4
1603  0207          LPN   7
1604  0601          ADN   1
1605  3050          ADD   BEGBUF
1606  6522          NZR   OUT
1607  2024  END42  LDD   R4
1610  0603          ADN   3
1611  4074          STD   TEMP3
1612  2174          LDI   TEMP3
1613  6113          NZF   15
1614  0620          ADN   20
1615  0000          ERR                   UNDEFINED LABEL
1616  6110          NZF   10
1617  2024  END44  LDD   R4
1620  0603          ADN   3
1621  4074          STD   TEMP3
1622  2174          LDI   TEMP3
1623  6103          NZF   3
1624  0630          ADN   30
1625  0000          ERR                   LIB FUNCTION NOT ON TAPE
1626  0402  END45  LDN   2
1627  3050          ADD   BEGBUF
1630  6544          NZR   OUT
1631  0531  FINAL  LCN   31
1632  0110          SHA   10
1633  7400          OTN                   OUTPUT TRAILER
1634  0601          ADN   1
1635  6502          NZR   2
1636  2210          LDF   LDUMP
1637  4072          STD   TEMP1
1640  0705          SBN   5
1641  4073          STD   TEMP2
1642  0604          ADN   4
1643  4173          STI   TEMP2
1644  7101          JFI   1
1645  0134                RDRECD          READ IN DUMP ROUTINES AND HALT
1646  0211  LDUMP       DUMP              APPROPRIATELY
1647  2124  INCR   LDI   R4                INCREASES (R4) TO NEXT
1650  4074          STD   TEMP3           IDLIST ENTRY
1651  0270          LPN   70              TEMP1 EXIT IF (R4)=0
1652  0370          LSN   70              TEMP2 EXIT IF (R4)=0
1653  6103          NZF   3               AFTER INCREMENTING
1654  0410          LDN   10
1655  5024          RAD   R4
1656  2074          LDD   TEMP3
1657  0207          LPN   7
1660  5024          RAD   R4
1661  2074          LDD   TEMP3
1662  0110          SHA   10
1663  0207          LPN   7
1664  5024          RAD   R4
1665  6102          NZF   2
1666  7072          JPI   TEMP1
1667  7073          JPI   TEMP2
1670  0000  SIN          0                OBJCD LCN
1671  0004               ARITH            LENGTH IS 35 LCNS
1672  4002               4002
1673  0000               0                LL(COS)
1674  0031               31               L(PI/2)
1675  0047               47               ≠OP2
```

```
1676  4026                    4026          + FE1
1677  4035                    4035          STO FE1
1700  0165                    165           DOF7
1701  2021          LDD       STOTRA
1702  4215          STF       KST1
1703  2006          LDD       ARINT1
1704  4214          STF       KST2
1705  7101          JFI       1
1706  0100                    ARITHA
1707  0036                    36            TRAOP1
1710  0225                    225           DOF11
1711  2206          LDF       KST1
1712  4021          STD       STOTRA
1713  2205          LDF       KST2
1714  4006          STD       ARINT1
1715  7101          JFI       1
1716  0100                    ARITHA
1717  0000  KST1                            STORES STOTRA
1720  0000  KST2                            STORES ARINT1
1721  4016                    4016          RTR
1722  0005                    5
1723  2043                    2043          PI/2
1724  7303                    7303
1725  1703                    1703
1726  0000  PW                0             OBJCD LCN
1727  0004                    ARITH         33 IS LENGTH
1730  4002                    4002
1731  0000                    0             LL(LOG)
1732  0000                    0             LL(EXR)
1733  4046                    4046          +FE2
1734  4175                    4175          STO FE7
1735  0165                    165           DOF7
1736  2021          LDD       STOTRA
1737  4220          STF       KPT1
1740  2006          LDD       ARINT1
1741  4217          STF       KPT2
1742  7101          JFI       1
1743  0100                    ARITHA
1744  0036                    36            TRA OP1
1745  4170                    4170          X FE7
1746  4035                    4035          STO FE1
1747  0056                    56            TRA OP2
1750  0225                    225           DOF11
1751  2206          LDF       KPT1
1752  4021          STD       STOTRA
1753  2205          LDF       KPT2
1754  4006          STD       ARINT1
1755  7101          JFI       1
1756  0100                    ARITHA
1757  0000  KPT1                            STORES STOTRA
1760  0000  KPT2                            STORES ARINT1
1761  4016                    4016          RTR
      0021  R1      EQU       21
      0022  R2      EQU       22
      0023  R3      EQU       23
      0024  R4      EQU       24
      0025  R5      EQU       25
      0035  R6      EQU       35
      0036  R7      EQU       36
      0010  R8      EQU       10
```

```
                0011    R9      EQU     11
                0062    VLC     EQU     62
                0063    OCC     EQU     63
                0100    ARITHA  EQU     100
                0004    ARITH   EQU     4
                0021    STOTRA  EQU     21
                0006    ARINT1  EQU     6
                0046    PTLOC   EQU     46
                0065    PT1     EQU     65
                0070    FLAG    EQU     70
                0054    LIDFWA  EQU     54
                0050    BEGBUF  EQU     50
                0051    ENDBUF  EQU     51
                0071    K       EQU     71
                0072    TEMP1   EQU     72
                0073    TEMP2   EQU     73
                0074    TEMP3   EQU     74
                0075    TEMP4   EQU     75
1762    4217    PAWBB   STF     PAWBB3
1763    2205            LDF     PAWBB2
1764    4046            STD     PTLOC
1765    2150            LDI     BEGBUF
1766    7101            JFI     1
1767    2013                    PTAWAY.
1770    1771    PAWBB2          PAWBB1
1771    5450    PAWBB1  AOD     BEGBUF
1772    0701            SBN     1
1773    1451            LSD     ENDBUF
1774    6507            NZB     7
1775    2065    PAWBB5  LDD     PT1
1776    1637            LSF     PTA4
1777    6103            NZF     3
2000    7101            JFI     1
2001    0000    PAWBB3          0                       EXIT
2002    2065            LDD     PT1
2003    4260            STF     PTA66
2004    2203            LDF     PTABB4
2005    4046            STD     PTLOC
2006    6130            NZF     PTA5
2007    2010    PTABB4          PTABB4  1
2010    2224            LDF     PTA3
2011    4252            STF     PTA66
2012    6512            NZB     PAWBB3 -1
2013    4217    PTAWAY  STF     PTA1
2014    0277            LPN     77
2015    4216            STF     PTA2
2016    1614            LSF     PTA1
2017    0110            SHA     10
2020    0110            SHA     10
2021    4165            STI     PT1             LOW CORE LOCN OF BUFF
2022    5463            AOD     OCC
2023    5465            AOD     PT1
2024    2207            LDF     PTA2
2025    4165            STI     PT1
2026    5465            AOD     PT1
2027    1634            LSF     PTA66
2030    6006            ZJF     PTA5
2031    7046            JPI     PTLOC
2032    0000    PTA1    BSS     1
2033    0000    PTA2    BSS     1
```

```
2034  0133  PTA3          PIA7    24
2035  0107  PTA4          PTA7
2036  2301  PTA5    LDB   1                BUFFER FILLED  OUTPUT
2037  4065          STD   PI1                AND COMPUTE PARITY
2040  2165  PTA6    LDI   PT1
2041  0102          SHA   2
2042  1565          LSI   PI1
2043  0102          SHA   2
2044  1565          LSI   PT1
2045  4313          STB   PIA1
2046  0110          SHA   10
2047  1715          LSB   PTA1
2050  0240          LPN   40
2051  0340          LSN   40
2052  0102          SHA   2
2053  5165          RAI   PT1
2054  5465          AOD   PI1
2055  1606          LSF   PIA66
2056  6516          NZR   PTA6
2057  2322          LDB   PTA4
2060  4065          STD   PT1
2061  7504          EXF   4
2062  7304          OUT   4
2063  0133  PTA66         PIA7    24
2064  7046          JPI   PTLOC
2065  4104                4104
2066  0107                PTA7
      0000          END
```

```
        7773  absf      org     7773
7773    0007  length            nrtr    02
7774    4041  ab                4041                    absf(x)
7775    5445  sf                5445
7776    0004  arith             04
0000    4000  modeno            4000
0001    4026            aad     01                      if x
0002    0073            tpf     nrtr                    +,go exit
0003    4035            sad     01                      -,store
0004    4027            sud     01                      and make +
0005    4016  nrtr      rtr                             exit
        0000            end
```

```
                7773            org     7773
7773    0140                    pio2    05
7774    4250                    4250                    co
7775    5445                    5445                    sf
7776    0004                    arith
0000    4007                    4007
0001    0107    lone            one
0002    0111    lintgr          intger
0003    0113    15              c5
0004    0117    14              c4
0005    0123    13              c3
0006    0127    12              c2
0007    0133    lpio2           pio2
0010    4026    cos     aad     x
0011    0171            dvi     lpio2                   divide argument by pi over 2
0012    4035            sad     x
0013    4026            aad     x
0014    0055            sai     lintgr                  get inter part
0015    4026            aad     x
0016    0047            sui     lintgr                  get fractional part
0017    0665            dof     loop
0020    2626            lcf     signbt
0021    1003            lpd     03
0022    4003            std     03
0023    2267            ldf     intger  +01
0024    6202            pjf     02
0025    2665            lcf     intger  +01
0026    0203            lpn     03
0027    0702            sbn     02
0030    6305            njf     onortw
0031    6142            nzf     arthad  -01
0032    0501            lcn     01
0033    5010            rad     locc
0034    6137            nzf     arthad  -01
0035    0601    onortw  adn     01
0036    6003            zjf     03
0037    0503            lcn     03
0040    5010            rad     locc
0041    2003            ldd     03
0042    6031            zjf     arthad  -01
0043    1603            lsf     signbt
0044    4003            std     03
0045    6126            nzf     arthad  -01
0046    4000    signbt          4000
0047    0026            aai     lone
0050    0044            trf     loop
0051    0027            sui     lone
0052    4035    loop    sad     x
0053    4027            sud     x
0054    4030            mpd     x
0055    4055            sad     fac                     factor=-x2
0056    0125            dof     loop1
0057    2203            ldf     loop1   -01             initialize to address of last
0060    4203            stf     loop1                   constant
0061    7113            jfi     arthad
0062    0066            aai     15
0063    0066    loop1   aai     15                      (term+a(2))(-x2)=ter
0064    4050            mpd     fac
0065    4075            sad     term
0066    0265            dof     loop2                   check and increase counter
```

```
0067  0420          ldn     20
0070  5305          rab     loop1
0071  3607          sbf     07
0072  6003          zjf     03
0073  7101          jfi     01
0074  0100  arthad         aritha
0075  0402          ldn     02
0076  5010          rad     locc
0077  6504          nzb     arthad  -01
0100  0166          aai     lpio2
0101  4066  loop2   aad     term
0102  4364          trb     loop1
0103  4066  loop3   aad     term
0104  0166          aai     lpio2
0105  4030          mpd     x
0106  4016          rtr
0107  0002  one             02
0110  0001                  01
0111  0002  intger          02
0112  0000                  00
0113  0005  c5              05
0114  1643                  1643
0115  6224                  6224
0116  0643                  643
0117  0005  c4              05
0120  1713                  1713
0121  5341                  5341
0122  1220                  1220
0123  0005  c3              05
0124  1763                  1763
0125  7261                  7261
0126  1247                  1247
0127  0005  c2              05
0130  2020                  2020
0131  1124                  1124
0132  0563                  563
0133  0005  pio2            05
0134  2043                  2043
0135  7303                  7303
0136  1703                  1703
      0004  arith   equ     04
      0010  locc    equ     10
      0001          con     01
0001  0000  x
0002  0000  fac
0003  0000  term
      0100  aritha  equ     100
      0000          end
```

```
         7772  signf     org     7772
7772     0016  length            rtr     02
7773     5430  si                5430                    signf(x,y)
7774     4635  gn                4635
7775     4525  fblank            4525
7776     0004  arith             04
0000     4000  modeno            4000
0001     4046                    aad     02              y
0002     0173                    tpf     pos
0003     4055                    sad     02              y negative
0004     4026                    aad     01              if x
0005     2073                    tnf     rtrn            negative, ok
0006     4035  merge             sad     01              store as x
0007     4027                    sud     01              change sign of x
0010     4016  rtrn              rtr                     return
0011     4055  pos               sad     02              y positive
0012     4027                    sud     01              if x
0013     6133                    tnb     merge           negative, back to correct
0014     4016  rtr               rtr                     positive, return
         0000                    end
```

SQRTF Library Routine

```
                7772            org     7772
7772    0114    length          last    02
7773    5452    sq              5452
7774    5355    rt              5355
7775    4525    folank          4525
7776    0004    arith           04
0000    4004                    4004
0001    0073    )a)             a
0002    0077    )b)             b
0003    0103    )rnge)          rnge
0004    0107    )half)          half
0005    4026            aad     x
0006    1474            tzf     exit                    zero go exit
0007    0125            dof     interl
0010    2665            lcf     a       02
0011    1003            lpd     acc
0012    4003            std     acc                     absolute value
0013    6235            pjf     jumper
0014    4035    interl  sad     x
0015    4026            aad     x
0016    1025            dof     interp
0017    2003            ldd     acc
0020    0277            lpn     77
0021    4235            stf     temp                    temp has 1 bit
0022    0740            sbn     40                      of exponent
0023    6205            pjf     odd
0024    2227            ldf     )82)
0025    4247            stf     a       01
0026    2226            ldf     )26)
0027    6204            pjf     merge
0030    2222    odd     ldf     )26)                    create proper
0031    4243            stf     a       01              coefficient of
0032    2221            ldf     )82)                    linear combination
0033    4245    merge   stf     b       01
0034    2003            ldd     acc
0035    3621            sbf     temp
0036    0110            sha     10
0037    0102            sha     02
0040    0110            sha     10
0041    0102            sha     02
0042    0110            sha     10
0043    3211            adf     hi1
0044    4240            stf     rnge    01              range has exponent
0045    2210            ldf     hi2
0046    3210            adf     temp
0047    4003            std     acc
0050    7101    jumper  jfi     01
0051    0100                    100
0052    2006    )26)            2006
0053    2024    )82)            2024
0054    1042    hi1             1042
0055    2000    hi2             2000
0056    0000    temp
0057    0030    interp  mpi     )a)
0060    0046            aai     )b)
0061    0070            mpi     )rnge)
0062    4055    loop    sad     y                       new approx
0063    4026            aad     x
0064    4051            dvd     y
0065    4047            sud     y
```

```
0066  0110          mpi     )half)
0067  4046          aad     y
0070  0003          sno
0071  4016  exit    rtr
0072  4204          trb     loop
0073  0005  a               05
0074  0000                  00
0075  4000                  4000
0076  0000                  00
0077  0005  b               05
0100  0000                  00
0101  4000                  4000
0102  0000                  00
0103  0005  rnge            05
0104  0000                  00
0105  4000                  4000
0106  0000                  00
0107  0005  half            05
0110  2014                  2014
0111  4000                  4000
0112  0000  last            00
      0001  x       equ     01
      0002  y       equ     02
      0003  acc     equ     03
      0000          end
```

LOGF Library Routine

```
                7773    expf    org     7773
7773            0116    length          last    02
7774            4461    ex              4461
7775            5145    pf              5145
7776            0004    arith           04
0000            4004    modeno          4004
0001            0075    )1)             one
0002            0101    )10)            ten
0003            0105    )e)             e
0004            0111    )e10)           e10
0005            4026            aad     x
0006            0073            tpf     stoab
0007            4035            sad     x
0010            4027            sud     x
0011            4055    stoab   sad     y               y=absf(x)
0012            0026            aai     )1)             n=1
0013            4075    stoen   sad     eint
0014            4046            aad     y               reduce y
0015            0047            sui     )10)            mod 10.
0016            2173            tnf     clrac
0017            0003            sno                     if y exceeds 10''10
0020            1064            trf     stor            exit
0021            4055            sad     y
0022            4066            aad     eint            create e
0023            0110            mpi     )e10)           to integer (y)
0024            4224            trb     stoen
0025            4115    clrac   sad     dummy           clear accumulator
0026            4046    tstl    aad     y               reduce y
0027            0027            sui     )1)             mod 1.
0030            2153            tnf     fract
0031            4055            sad     y
0032            4066            aad     eint            create e
0033            0070            mpi     )e)             to integer (y)
0034            4075            sad     eint
0035            4164            trb     tstl
0036            4115    fract   sad     dummy           clear accumulator
0037            0026            aai     )1)
0040            4115            sad     m               m=1
0041            4046            aad     y
0042            4155            sad     f               f=y
0043            4046            aad     y
0044            0026            aai     )1)             1+y
0045            4135    loop    sad     s               store s
0046            4106            aad     m
0047            0026            aai     )1)
0050            4115            sad     m               m=m+1
0051            4146            aad     f
0052            4050            mpd     y               f'y/m
0053            4111            dvd     m               replaces
0054            4155            sad     f               f
0055            4126            aad     s
0056            4146            aad     f               s+f
0057            0003            sno
0060            0044            trf     02              jump if converged
0061            4304            trb     loop            else, back to loop
0062            4070            mpd     eint
0063            4075    stor    sad     eint            expf(y)
0064            4026            aad     x
0065            0133            tpf     load
0066            4035            sad     x               if x negative
```

```
0067  0026          aai     )1)       compute
0070  4071          dvd     eint      reciprocal
0071  4016          rtr               return
0072  4035  load    sad     x         clear accumulator
0073  4066          aad     eint      load expf(x)
0074  4016          rtr               return
0075  0005  one             05
0076  2042                  2042      .1.
0077  4000                  4000
0100  0000                  00
0101  0005  ten             05
0102  2102                  2102      10.
0103  4000                  4000
0104  0000                  00
0105  0005  e               05
0106  2046                  2046      2.7
0107  6266                  6266      182
0110  1462                  1462      818=e
0111  0005  e10             05
0112  2245                  2245      22,
0113  4032                  4032      026.
0114  0722  last            722       466=expf(10)
      0001  x       equ     01
      0002  y       equ     02
      0003  eint    equ     03
      0004  dummy   equ     04
      0004  m       equ     04
      0005  s       equ     05
      0006  f       equ     06
      0000          end
```

LOGF Library Routine

```
                                rem
            7773                org     7773
    7773    0156                        final   02              log function 4-12-62
    7774    3350                        3350                    lo
    7775    4645                        4645                    gf
    7776    0004                        arith
    0000    4007                        4007
    0001    0055    exp                 lexpt
    0002    0127    one                 lone
    0003    0131    two                 ltwo
    0004    0135    logh                llogh
    0005    0141    logt                llogt
    0006    0145    mid                 lomid
    0007    0151    lmid                lolmid
    0010    4115                sad     sum
    0011    4026                aad     m
    0012    0265                dof     stor
    0013    2003                ldd     acc                     pick off exponent
    0014    0102                sha     02
    0015    0110                sha     10
    0016    0110                sha     10
    0017    0277                lpn     77
    0020    0740                sbn     40
    0021    4235                stf     lexp
    0022    6212                pjf     tsac
    0023    6311                njf     tsac
    0024    4016                rtr                             error return
    0025    4035    stor        sad     m
    0026    0106                aai     logh                    increase by ln 1/2
    0027    4106                aad     sum
    0030    4115                sad     sum
    0031    4026                aad     m
    0032    4026                aad     m
    0033    4145                dob     stor                    normalize no. in a
    0034    2003    tsac        ldd     acc
    0035    0237                lpn     37
    0036    6106                nzf     fxac
    0037    2220                ldf     ovf                     overflow return
    0040    4003                std     acc
    0041    4023                std     swtl
    0042    0501                lcn     01
    0043    6107                nzf     fixl
    0044    1614    fxac        lsf     pow                     normalize m
    0045    4003                std     acc
    0046    0237                lpn     37
    0047    0714                sbn     14
    0050    6303                njf     lev                     fraction less than 0.48
    0051    0434                ldn     nxt     -stor
    0052    5010    fixl        rad     locc
    0053    7101    lev         jfi     01
    0054    0100                        aritha
    0055    0002    lexpt               02
    0056    0000    lexp                00
    0057    7740    ovf                 7740
    0060    2000    pow                 2000
    0061    4035    nxt         sad     m
    0062    0026                aai     exp
    0063    0130                mpi     logt                    n ln 10
    0064    4106                aad     sum
    0065    0166                aai     lmid
```

```
0066  4115          sad     sum          sum of initial terms
0067  4026          aad     m            series computation
0070  0146          aai     mid          2t+2t3/3+2t5/5+...
0071  4135          sad     templ
0072  4026          aad     m
0073  0147          sui     mid
0074  4131          dvd     templ
0075  4035          sad     m            first term of series
0076  4026          aad     m
0077  4030          mpd     m
0100  4055          sad     ms
0101  0066          aai     two
0102  0046          aai     one
0103  4075          sad     dv
0104  4026          aad     m            double t
0105  4026          aad     m            m store for twice odd
0106  4035          sad     m              powers of t
0107  4026          aad     m
0110  4106          aad     sum
0111  4115          sad     sum
0112  4026  start   aad     m
0113  4050          mpd     ms
0114  4035          sad     m            store odd powers of t
0115  4026          aad     m
0116  4071          dvd     dv
0117  4106          aad     sum
0120  0003                  03           no-op, has sum changed
0121  4016          rtr                   no, exit from routine
0122  4115          sad     sum          yes, continue
0123  0066          aai     two
0124  4066          aad     dv
0125  4075          sad     dv
0126  4304          trb     start
                    rem                  constants
0127  0002  lone            02
0130  0001                  01
0131  0005  ltwo            05
0132  2045                  2045
0133  0000                  00
0134  0000                  00
0135  0005  llogh           05           ln (1/2)
0136  6021                  6021
0137  2472                  2472
0140  1317                  1317
0141  0005  llogt           05           ln(10)
0142  2045                  2045
0143  6031                  6031
0144  1523                  1523
0145  0005  lomid           05           0.7
0146  2021                  2021
0147  4000                  4000
0150  0000                  00
0151  0005  lolmid          05           ln (.7)
0152  6010                  6010
0153  7233                  7233
0154  0756  final           756
                    rem                  equ table for log
      0003  acc     equ     03
      0015  op      equ     15
      0010  locc    equ     10
```

ATANF Library Routine

			rem			arctangent subroutine
	7772		org	7772		
7772	0136			last	02	no. of locations
7773	4055			4055		a t
7774	4035			4035		a n
7775	4525			4525		f blank
7776	0004			arith		
0000	4004			4004		
0001	0115	lone		one		
0002	0121	leps		eps		
0003	0125	lsqrt		sqrt		
0004	0131	lpiby4		piby4		
0005	4026		aad	fe1		z
0006	1114		tzf	atanb		transfer for zero
0007	0225		dof	atana		
0010	2003		ldd	acc		
0011	1237		lpf	hibit		
0012	4237		stf	sign		store sign of number
0013	2635		lcf	hibit		
0014	1003		lpd	acc		
0015	4003		std	acc		magnitude of number
0016	7101		jfi	01		
0017	0100			aritha		
0020	4035	atana	sad	fe1		magnitude of argument
0021	4026		aad	fe1		
0022	0067		sui	lsqrt		
0023	0026		aai	lone		2'' 1/2 - 1
0024	2573		tnf	atanc		z in 1st range
0025	0027		sui	lone		no
0026	0027		sui	lone		
0027	2213		tnf	atand		z in 2nd range
0030	4055		sad	fe2		clear acc.
0031	0027		sui	lone		
0032	4031		dvd	fe1		
0033	4035		sad	fe1		-1/z
0034	0106		aai	lpiby4		pi/4
0035	0106	atanf	aai	lpiby4		
0036	0344		trf	atane		
0037	4055	atand	sad	fe2		clear acc.
0040	4026		aad	fe1		
0041	0026		aai	lone		
0042	4055		sad	fe2		z+1
0043	4026		aad	fe1		
0044	0027		sui	lone		z-1
0045	4051		dvd	fe2		
0046	4035		sad	fe1		z-1/z+1 = t
0047	4244		trb	atanf		
0050	4000	hibit		4000		
0051	0000	sign				
0052	4016	atanb	rtr			
0053	4055	atanc	sad	fe2		clear acc
0054	4055	atane	sad	fe2		store psi
0055	4027		sud	fe1		
0056	4030		mpd	fe1		
0057	4075		sad	fe3		-(z''2)
0060	4026		aad	fe1		
0061	0534		tzf	atanz		
0062	4115		sad	fe4		z''n
0063	0026		aai	lone		
0064	4135		sad	fe5		coeff.
0065	4175	atani	sad	fe7		clear acc.

```
0066  4126             aad     fe5
0067  0026             aai     lone
0070  0026             aai     lone
0071  4135             sad     fe5          coeff. + 2
0072  4106             aad     fe4
0073  4070             mpd     fe3          z''(n+2)
0074  4115             sad     fe4
0075  4106             aad     fe4
0076  4131             dvd     fe5
0077  4026             aad     fel          plus sum
0100  0003             sno
0101  0064             trf     atang        transf. if convergence reached
0102  4035             sad     fel            to sum
0103  4344             trb     atani
0104  4175  atang      sad     fe7          clear all
0105  4026             aad     fel          arctan t
0106  4046  atanz      aad     fe2           + psi
0107  4725             dob     atanb
0110  2003             ldd     acc
0111  1740             lsb     sign
0112  4003             std     acc          proper sign to results
0113  7101             jfi     01
0114  0100                     aritha
0115  0005  one                05           1.0
0116  2042                     2042
0117  4000                     4000
0120  0000                     00
0121  0005  eps                05           .5x10-8
0122  1414                     1414
0123  4000                     4000
0124  0000                     00
0125  0005  sqrt               05           1.4142136
0126  2043                     2043
0127  4216                     4216
0130  0210                     210
0131  0005  piby4              05           .785398263
0132  2023                     2023
0133  5033                     5033
0134  1472  last               1472
      0001  fel      equ       01
      0002  fe2      equ       02
      0003  fe3      equ       03
      0004  fe4      equ       04
      0005  fe5      equ       05
      0006  fe6      equ       06
      0007  fe7      equ       07
      0004  arith    equ       04
      0100  aritha   equ       100
      0003  acc      equ       03
      0000           end
```

```
                        REM
        0000            BNK0
                        SUPB
        0000            CON
0000    7001            JPI     1
0001    0500    XSUB            500
0002    0100    LTABLE          TABLE
0003    7400    OUT     OTN
0004    1000    MASK1           1000
0005    0700    MASK2           700
0006    7700    MASK3           7700
0007    1602    LM01            M01
0010    1604    LM02            M02
0011    1606    LM03            M03
0012    1607    LM04            M04
0013    1612    LM05            M05
0014    1573    LLOOP           LOOP
0015    1540    LRET            RET
0016    7707    LINES           7707
0017    0000    TEMP1A
0020    0000    TEMP2
0021    0000    TEMP3
0022    0000    TEMP4
0023    0000    TEMP5
0024    0000    TEMP6
0025    0000    OBJCD
0026    0000    XSUB1
0027    4400    LOBJCD          4400
        0017    TEMP1   EQU     17
        0211            PRG     211
0211    0130            CTA
0212    0270            LPN     70
0213    6107            NZF     SERVIC
0214    0477            LDN     77
0215    4100            STM     204
0216    0204
0217    0021            SIC1
0220    7101            JFI     1
0221    0134                    134
0222    0020    SERVIC  SIC0
0223    0515            LCN     15
0224    4017            STD     TEMP1
0225    2207            LDF     CONST
0226    4002            STD     2
0227    5702            AOB     2
0230    5702            AOB     2
0231    5417            AOD     TEMP1
0232    6505            NZB     5
0233    6016            ZJF     COMCE
0234    0100    CONST           TABLE
0235    7400            OTN
0236    1000                    1000
0237    0700                    700
0240    7700                    7700
0241    1602                    M01
0242    1604                    M02
0243    1606                    M03
0244    1607                    M04
0245    1612                    M05
0246    1573                    LOOP
```

```
0247  1540                    RET
0250  7707                    7707
0251  0400  COMCE   LDN
0252  7700          HLT                     POKE BRANCH POINT INTO A REG
0253  0703          SBN   3           A=3   CHANGE TAB SETTINGS
0254  6025          ZJF   DELTAB      A=2   TYPE OBJECT CODE
0255  6604          PJB   COMCE       A=1   TYPE IDLIST
0256  0601          ADN   1
0257  6043          ZJF   TYPOBJ
0260  0601          ADN   1
0261  6032          ZJF   TYPEID
0262  0601          ADN   1
0263  6051          ZJF   COMENC
0264  6513          NZB   COMCE
0265  4070  REVISE  STD   70
0266  2071          LDD   71
0267  0601          ADN   1
0270  4072          STD   72
0271  2172  REVIS1  LDI   72
0272  4073          STD   73
0273  2171          LDI   71
0274  4173          STI   73
0275  5472          AOD   72
0276  5470          AOD   70
0277  6506          NZB   REVIS1
0300  6427          ZJB   COMCE
0301  2204  DELTAB  LDF   LDLTB1
0302  4071          STD   71
0303  0504          LCN   4
0304  6717          NJB   REVISE
0305  0306  LDLTB1        DLTB1
0306  0600  DLTB1   ADN
0307  1027                CNT5A
0310  1040                CNT5B
0311  1450                CNT9A
0312  1461                CNT9B
0313  2204  TYPEID  LDF   LTYPID
0314  4071          STD   71
0315  0501          LCN   1
0316  6731          NJB   REVISE
0317  0320  LTYPID        TYPID
0320  4210  TYPID         4210
0321  0357                PNCH
0322  2204  TYPOBJ  LDF   LTYOBJ
0323  4071          STD   71
0324  0504          LCN   4
0325  6740          NJB   REVISE
0326  0327  LTYOBJ        TYOBJ
0327  4210  TYOBJ         4210
0330  1750                WRITE
0331  2020                RITE
0332  3357                WRITE1
0333  3704                WRITT
0334  7523  COMENC  EXF   PNCH
0335  0520          LCN   20
0336  0110          SHA   10
0337  4304          STB   4
0340  7400          OTN
0341  5706          AOB   6
0342  6502          NZB   2
```

```
0343  7101          JFI   1
0344  1576                SUBR6A
0345  2214  CONT1   LDF   LHEAD1
0346  4073          STD   73
0347  0607          ADN   7
0350  4074          STD   74
0351  7447          OTN   47
0352  2206          LDF   LPRT1
0353  4113          STI   LM05
0354  4001          STD   XSUB
0355  7101          JFI   1
0356  1545                SUBR3
0357  4104  PNCH          4104
0360  0362  LPRT1         PRT1
0361  0207  LHEAD1        HEAD1
0362  2204  PRT1    LDF   LCNT1A
0363  4001          STD   XSUB
0364  7101          JFI   1
0365  1507                SUBR1       PRINTS ((70)+1)
0366  0367  LCNT1A        CNT1A
0367  2070  CNT1A   LDD   70
0370  0603          ADN   3
0371  4073          STD   73            (73) IS STARTING LCN
0372  2170          LDI   70
0373  0207          LPN   7
0374  3073          ADD   73
0375  4074          STD   74            (74) IS TERM LCN
0376  2204          LDF   LCNT1B
0377  4001          STD   XSUB
0400  7101          JFI   1
0401  1542                SUBR2       PRINT AN IDENTIFIER
0402  0403  LCNT1B        CNT1B
0403  2170  CNT1B   LDI   70
0404  1005          LPD   MASK2
0405  6016          ZJF   W           JP IF RANK 0
0406  0110          SHA   10
0407  0110          SHA   10
0410  3002          ADD   LTABLE
0411  4072          STD   72
0412  0021          SIC1
0413  2172          LDI   72
0414  0020          SIC0
0415  7457          OTN   57
0416  7446          OTN   46
0417  7404          OTN   4
0420  3003          ADD   OUT
0421  4201          STF   1
0422  7400          OTN   0           PRINT RANK
0423  7445  W       OTN   45
0424  7101          JFI   1
0425  1553                SUBR4
0426  2211  CONT2   LDF   LCONT3      ARRAYS
0427  4114          STI   LLOOP
0430  0503          LCN   3
0431  5112          RAI   LM04
0432  2204          LDF   LCN2A
0433  4113          STI   LM05
0434  7101          JFI   1
0435  1576                SUBR6A
0436  0441  LCN2A         CN2A
```

```
0437  0563  LCONT3        CONT3
0440  0454  LPRT2         PRT2
0441  2212  CN2A   LDF    LHEAD2
0442  4073         STD    73
0443  0607         ADN    7
0444  4074         STD    74
0445  7447         OTN    47
0446  2306         LDB    LPRT2
0447  4113         STI    LM05
0450  4001         STD    XSUB
0451  7101         JFI    1
0452  1545                SUBR3
0453  0200  LHEAD2        HEAD2
0454  2204  PRT2   LDF    LCNT2A
0455  4001         STD    XSUB
0456  7101         JFI    1
0457  1507                SUBR1          PRINT VARLIS LCN
0460  0461  LCNT2A        CNT2A
0461  2070  CNT2A  LDD    70
0462  0606         ADN    6
0463  4073         STD    73
0464  2170         LDI    70
0465  0207         LPN    7
0466  3073         ADD    73
0467  4074         STD    74
0470  2204         LDF    LCNT2B
0471  4001         STD    XSUB
0472  7101         JFI    1
0473  1542                SUBR2          PRINT AN IDENT
0474  0475  LCNT2B        CNT2B
0475  2170  CNT2B  LDI    70
0476  1005         LPD    MASK2
0477  6021         ZJF    W1             JP IF RANK 0
0500  0110         SHA    10
0501  0110         SHA    10
0502  0207         LPN    7
0503  3002         ADD    LTABLE
0504  4072         STD    72
0505  0021         SIC1
0506  2172         LDI    72
0507  0020         SIC0
0510  7457         OTN    57
0511  7446         OTN    46
0512  7404         OTN    4
0513  3003         ADD    OUT
0514  4201         STF    1
0515  7400         OTN    0              PRINT RANK
0516  7446         OTN    46
0517  7404         OTN    4
0520  7447  W1     OTN    47             U.C.
0521  7454         OTN    54             (
0522  7457         OTN    57             L, C,
0523  2070         LDD    70
0524  0604         ADN    4
0525  4071         STD    71
0526  2171         LDI    71
0527  4206         STF    DWD1
0530  2204         LDF    LDWD1
0531  4001         STD    XSUB
0532  7101         JFI    1
```

```
0533  1666                SUBR9A
0534  0535  LDWD1         DWD1
0535  0000  DWD1
0536  0501          LCN   1
0537  5071          RAD   71
0540  2171          LDI   71
0541  6016          ZJF   PARN          JP IP NXT DIM 0
0542  7446          OTN   46
0543  7404          OTN   4             SP
0544  4206          STF   DWD2
0545  2204          LDF   LDWD2
0546  4001          STD   XSUB
0547  7101          JFI   1
0550  1666                SUBR9A
0551  0552  LDWD2         DWD2
0552  0000  DWD2          0
0553  2071          LDD   71
0554  0702          SBN   2
0555  3470          SBD   70
0556  6520          NZB   DWD1    1
0557  7454  PARN    OTN   54            )
0560  7445          OTN   45            CR
0561  7101          JFI   1
0562  1553                SUBR4
0563  2215  CONT3   LDF   LCONT4       INTEGER CONSTANTS
0564  4114          STI   LLOOP
0565  0410          LDN   10
0566  5107          RAI   LMO1
0567  2210          LDF   NOP
0570  4111          STI   LMO3
0571  0676          ADN   76
0572  4112          STI   LMO4
0573  2207          LDF   LCN3A
0574  4113          STI   LMO5
0575  7101          JFI   1
0576  1576                SUBR6A
0577  0203  NOP     LPN   3
0600  0641  LCONT4       CONT4
0601  0616  LPRT3       PRT3
0602  0603  LCN3A       CN3A
0603  2212  CN3A    LDF   LHEAD3
0604  4073          STD   73
0605  0611          ADN   11
0606  4074          STD   74
0607  7447          OTN   47
0610  2307          LDB   LPRT3
0611  4113          STI   LMO5
0612  4001          STD   XSUB
0613  7101          JFI   1
0614  1545                SUBR3
0615  0164  LHEAD3       HEAD3
0616  2204  PRT3    LDF   LCNT3A
0617  4001          STD   XSUB
0620  7101          JFI   1
0621  1507                SUBR1
0622  0623  LCNT3A      CNT3A
0623  0403  CNT3A   LDN   3
0624  3070          ADD   70
0625  4071          STD   71
0626  2171          LDI   71
```

```
0627  4206          STF   DWD3
0630  2204          LDF   LDWD3
0631  4001          STD   XSUB
0632  7101          JFI   1
0633  1671                SUBR9B
0634  0635    LDWD3       D*D3
0635  0000    DWD3
0636  7445          OTN   45
0637  7101          JFI   1
0640  1553                SUBR4
0641  2210    CONT4 LDF   LCONT5      FLTNG CONSTANTS
0642  4114          STI   LLOOP
0643  0402          LDN   2
0644  5112          RAI   LM04
0645  2206          LDF   LCN4A
0646  4113          STI   LM05
0647  7101          JFI   1
0650  1576                SUBR6A
0651  0772    LCONT5      CONT5
0652  0667    LPRT4       PRT4
0653  0654    LCN4A       CN4A
0654  2212    CN4A  LDF   LHEAD4
0655  4073          STD   73
0656  0611          ADN   11
0657  4074          STD   74
0660  7447          OTN   47
0661  2307          LDB   LPRT4
0662  4113          STI   LM05
0663  4001          STD   XSUB
0664  7101          JFI   1
0665  1545                SUBR3
0666  0216    LHEAD4      HEAD4
0667  2204    PRT4  LDF   LCNT4A
0670  4001          STD   XSUB
0671  7101          JFI   1
0672  1507                SUBR1
0673  0674    LCNT4A      CNT4A
0674  2070    CNT4A LDD   70
0675  0603          ADN   3
0676  4071          STD   71          71 IS LCN 2
0677  2171          LDI   71
0700  0102          SHA   2
0701  0201          LPN   1
0702  6003          ZJF   PLUS        JP IF POS NBR
0703  7452          OTN   52          MINUS SIGN
0704  6102          NZF   INTG
0705  7404    PLUS  OTN   4           SP
0706  7442    INTG  OTN   42          DECIMAL POINT
0707  2171          LDI   71
0710  0237          LPN   37
0711  0102          SHA   2
0712  0102          SHA   2
0713  4214          STF   DWD3A
0714  5471          ADD   71
0715  2171          LDI   71
0716  0102          SHA   2
0717  0102          SHA   2
0720  0203          LPN   3
0721  5206          RAF   DWD3A
0722  2204          LDF   LDWD3A
```

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0723  4001          STD   XSUB
0724  7101          JFI   1
0725  1674                SUBR9D
0726  0727    LDWD3A      DWD3A
0727  0000    DWD3A
0730  0502          LCN   2
0731  4072          STD   72
0732  2171    RRPT  LDI   71
0733  1206          LPF   MASK5
0734  4207          STF   DWD4
0735  2205          LDF   LDWD4
0736  4001          STD   XSUB
0737  7101          JFI   1
0740  1663                SUBR9C
0741  1777    MASK5       1777
0742  0743    LDWD4       DWD4
0743  0000    DWD4
0744  5471          AOD   71
0745  5472          AOD   72
0746  6514          NZB   RRPT
0747  7420          OTN   20                E
0750  0503          LCN   3
0751  5071          RAD   71
0752  2171          LDI   71
0753  0110          SHA   10
0754  0110          SHA   10
0755  0102          SHA   2
0756  0277          LPN   77
0757  0740          SBN   40
0760  4206          STF   DWD5
0761  2204          LDF   LDWD5
0762  4001          STD   XSUB
0763  7101          JFI   1
0764  1666                SUBR9A
0765  0766    LDWD5       DWD5
0766  0000    DWD5
0767  7445          OTN   45
0770  7101          JFI   1
0771  1553                SUBR4
0772  2212    CONT5 LDF   LCONT6          LABELS
0773  4114          STI   LLOOP
0774  0410          LDN   10
0775  5107          RAI   LMO1
0776  0404          LDN   4
0777  5110          RAI   LMO2
1000  2206          LDF   LCN5A
1001  4113          STI   LMO5
1002  7101          JFI   1
1003  1576                SUBR6A
1004  1100    LCONT6      CONT6
1005  1022    LPRT5       PRT5
1006  1007    LCN5A       CN5A
1007  2212    CN5A  LDF   LHEAD5
1010  4073          STD   73
1011  0625          ADN   25
1012  4074          STD   74
1013  7447          OTN   47
1014  2307          LDB   LPRT5
1015  4113          STI   LMO5
1016  4001          STD   XSUB
```

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1017  7101          JFI   1
1020  1545                SUBR3
1021  0227  LHEAD5        HEAD5
1022  2204  PRT5    LDF   LCNT5A
1023  4001          STD   XSUB
1024  7101          JFI   1
1025  1507                SUBR1
1026  1027  LCNT5A        CNT5A
1027  7451  CNT5A   OTN   51
1030  0600          ADN                 NOP
1031  0402          LDN   2
1032  5070          RAD   70
1033  2204          LDF   LCNT5B
1034  4001          STD   XSUB
1035  7101          JFI   1
1036  1507                SUBR1
1037  1040  LCNT5B        CNT5B
1040  7451  CNT5B   OTN   51
1041  0600          ADN                 NOP
1042  0402          LDN   2
1043  3070          ADD   70
1044  4071          STD   71
1045  2171          LDI   71
1046  4206          STF   DWD6
1047  2204          LDF   LDWD6
1050  4001          STD   XSUB
1051  7101          JFI   1
1052  1671                SUBR9B
1053  1054  LDWD6         DWD6
1054  0000  DWD6
1055  7451          OTN   51
1056  0600          ADN                 NOP
1057  0502          LCN   2
1060  5070          RAD   70
1061  2170          LDI   70
1062  0110          SHA   10
1063  0110          SHA   10
1064  0207          LPN   7
1065  3002          ADD   LTABLE
1066  4072          STD   72
1067  0021          SIC1
1070  2172          LDI   72
1071  0020          SIC0
1072  3003          ADD   OUT
1073  4201          STF   1
1074  7400          OTN   0             OUTPUT RANK
1075  7445          OTN   45            CR.
1076  7101          JFI   1
1077  1553                SUBR4
1100  2210  CONT6   LDF   LCONT7
1101  4114          STI   LLOOP
1102  0410          LDN   10
1103  5107          RAI   LM01
1104  2206          LDF   LCN6A
1105  4113          STI   LM05
1106  7101          JFI   1
1107  1576                SUBR6A
1110  1354  LCONT7        CONT7
1111  1131  LPRT6         PRT6
1112  1113  LCN6A         CN6A
```

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1113  2215  CN6A    LDF   LCN7A
1114  4114        STI   LLOOP
1115  2212  CN6AA   LDF   LHEAD6
1116  4073        STD   73
1117  0603        ADN   3
1120  4074        STD   74
1121  7447        OTN   47
1122  2311        LDH   LPRT6
1123  4113        STI   LM05
1124  4001        STD   XSUB
1125  7101        JFI   1
1126  1545        SUBR3
1127  0254  LHEAD6      HEAD6
1130  1351  LCN7A       CN7A
1131  2204  PRT6    LDF   LCNT6A
1132  4001        STD   XSUB
1133  7101        JFI   1
1134  1507        SUBR1
1135  1136  LCNT6A      CNT6A
1136  2070  CNT6A   LDD   70
1137  0603        ADN   3
1140  4060        STD   60
1141  2160        LDI   60
1142  4060        STD   60
1143  2204        LDF   LCNT6B
1144  4001        STD   XSUB
1145  7101        JFI   1
1146  1615        SUBR7
1147  1150  LCNT6B      CNT6B
1150  7447  CNT6B   OTN   47
1151  7454        OTN   54
1152  2070        LDD   70
1153  4067        STD   67
1154  0602        ADN   2
1155  4064        STD   64
1156  0503        LCN   3
1157  4066        STD   66
1160  4065        STD   65
1161  5465        AOD   65
1162  2164        LDI   64
1163  4264        STF   LUS
1164  0402        LDN   2
1165  5064        RAD   64
1166  0400        LDN   0
1167  4256        STF   CARDQ2
1170  4256        STF   CARDQ3
1171  4656  A       SRF   LUS
1172  0201        LPN   1
1173  6002        ZJF   NOBIT
1174  5652  LCARIN  AOF   CARDQ3
1175  5466  NOBIT   AOD   66
1176  6505        NZB   A
1177  5465        AOD   65
1200  6006        ZJF   B1
1201  0503        LCN   3
1202  4066        STD   66
1203  0501        LCN   -1
1204  5310        RAB   LCARIN
1205  6514        NZB   A
1206  5712  B1      AOB   LCARIN
```

(70) INTO 67, IDLIST LCN OF EAPACK
(66)=-3, (65)=-2
(66)=I-1=3
(64)=LCN OUTPUT PAR
(65)=QI

```
1207  0401          LDN   1
1210  4066          STD   66
1211  2234          LDF   CARDQ2
1212  6005          ZJF   B2
1213  5466          AOD   66
1214  2232          LDF   CARDQ3
1215  6002          ZJF   B2
1216  5466          AOD   66
1217  2466  B2      LCD   66
1220  4066          STD   66
1221  2064          LDD   64
1222  3223          ADF   CARDQ2
1223  3223          ADF   CARDQ3
1224  4064          STD   64
1225  2222  B       LDF   LQS
1226  0110          SHA   10
1227  4220          STF   LQS
1230  0207          LPN   7
1231  6061          ZJF   PARENA
1232  4065          STD   65
1233  0206          LPN   6
1234  0306          LSN   6
1235  6120          NZF   T2
1236  2164          LDI   64
1237  4212          STF   DWD7
1240  2210          LDF   LDWD7
1241  4001          STD   XSUB
1242  7457          OTN   57
1243  7101          JFI   1
1244  1666                SUBR9A
1245  0000  CARDQ2
1246  0000  CARDQ3
1247  0000  LQS
1250  1251  LDWD7         DWD7
1251  0000  DWD7
1252  7447          OTN   47
1253  7444          OTN   44
1254  5464          AOD   64
1255  2065  T2      LDD   65
1256  0202          LPN   2
1257  0302          LSN   2
1260  6111          NZF   T3
1261  2164          LDI   64
1262  4060          STD   60
1263  2204          LDF   LCNT6D
1264  4001          STD   XSUB
1265  7101          JFI   1
1266  1615                SUBR7
1267  1270  LCNT6D        CNT6D
1270  5464  CNT6D  AOD   64
1271  2065  T3      LDD   65
1272  0305          LSN   5
1273  6022          ZJF   DWD8    1
1274  0201          LPN   1
1275  0301          LSN   1
1276  6017          ZJF   DWD8    1
1277  2164          LDI   64
1300  6202          PJF   SGN
1301  6303          NJF   3
1302  7447  SGN     OTN   47
```

```
1303  7446          OTN   46
1304  7457          OTN   57
1305  4207          STF   DWD8
1306  2205          LDF   LDWD8
1307  4001          STD   XSUB
1310  7101          JFI   1
1311  1666                SUBR9A
1312  6026  PARENA   ZJF   PAREN
1313  1314  LDWD8         DWD8
1314  0000  DWD8
1315  5466          AOD   66
1316  6022          ZJF   PAREN
1317  7457          OTN   57
1320  7446          OTN   46
1321  7404          OTN   4
1322  2067          LDD   67
1323  0604          ADN   4
1324  3356  B3      ADB   CARDQ3
1325  4064          STD   64
1326  2210          LDF   NOP1
1327  4303          STB   B3
1330  2361          LDB   LQS
1331  0110          SHA   10
1332  0110          SHA   10
1333  4364          STB   LQS
1334  7101          JFI   1
1335  1225                B
1336  0600  NOP1          600
1337  3356  RESTOR  ADB   56
1340  2301  PAREN   LDB   RESTOR
1341  4315          STB   B3
1342  7457          OTN   57
1343  7454          OTN   54
1344  2067          LDD   67
1345  4070          STD   70
1346  7445          OTN   45
1347  7101          JFI   1
1350  1553                SUBR4
1351  2213  CN7A    LDF   LPRTA6
1352  4113          STI   LMO5
1353  6103          NZF   3
1354  2211  CONT7   LDF   LCN6AA
1355  4113          STI   LMO5
1356  2210          LDF   LCONT8
1357  4114          STI   LLOOP
1360  0440          LDN   40
1361  5107          RAI   LMO1
1362  7101          JFI   1
1363  1576                SUBR6A
1364  1131  LPRTA6        PRT6
1365  1115  LCN6AA        CN6AA
1366  1367  LCONT8        CONT8
1367  2210  CONT8   LDF   LCONT9
1370  4114          STI   LLOOP
1371  0530          LCN   30
1372  5107          RAI   LMO1
1373  2206          LDF   LCN8A
1374  4113          STI   LMO5
1375  7101          JFI   1
1376  1576                SUBR6A
```

TYPE 4

```
1377  1416  LCONT9          CONT9
1400  1443  LPRT8           PRT9
1401  1402  LCN8A           CN8A
1402  2212  CN8A    LDF     LHEAD7
1403  4073          STD     73
1404  0632          ADN     32
1405  4074          STD     74
1406  7447          OTN     47
1407  2307          LDB     LPRT8
1410  4113          STI     LMO5
1411  4001          STD     XSUB
1412  7101          JFI     1
1413  1545                  SUBR3
1414  0257  LHEAD7          HEAD7
1415  1504  LHLT            HLT
1416  2301  CONT9   LDB     LHLT
1417  4114          STI     LLOOP
1420  0410          LDN     10
1421  5107          RAI     LMO1
1422  2205          LDF     LCN9A
1423  4113          STI     LMO5
1424  7101          JFI     1
1425  1576                  SUBR6A
1426  1443  LPRT9           PRT9
1427  1430  LCN9A           CN9A
1430  2212  CN9A    LDF     LHEAD8
1431  4073          STD     73
1432  0627          ADN     27
1433  4074          STD     74
1434  7447          OTN     47
1435  2307          LDB     LPRT9
1436  4113          STI     LMO5
1437  4001          STD     XSUB
1440  7101          JFI     1
1441  1545                  SUBR3
1442  0311  LHEAD8          HEAD8
1443  2204  PRT9    LDF     LCNT9A
1444  4001          STD     XSUB
1445  7101          JFI     1
1446  1507                  SUBR1
1447  1450  LCNT9A          CNT9A
1450  7451  CNT9A   OTN     51
1451  0600          ADN             NOP
1452  0402          LDN     2
1453  5070          RAD     70
1454  2204          LDF     LCNT9B
1455  4001          STD     XSUB
1456  7101          JFI     1
1457  1507                  SUBR1
1460  1461  LCNT9B          CNT9B
1461  7451  CNT9B   OTN     51
1462  0600          ADN             NOP
1463  0502          LCN     2
1464  5070          RAD     70
1465  0404          LDN     4
1466  3070          ADD     70
1467  4073          STD     73
1470  2170          LDI     70
1471  0207          LPN     7
1472  3073          ADD     73
```

```
1473  4074          STD   74
1474  2204          LDF   LCNT9C
1475  4001          STD   XSUB
1476  7101          JFI   1
1477  1542                SUBR2
1500  1501    LCNT9C      CNT9C
1501  7445    CNT9C OTN   45
1502  7101          JFI   1
1503  1553                SUBR4
1504  7443    HLT   OTN   43
1505  7101          JFI   1
1506  1700                DPOBCD
1507  0504    SUBR1 LCN   4
1510  4073          STD   73          73 IS CNTR
1511  7457          OTN   57          L.C.
1512  2070          LDD   70
1513  0601          ADN   1
1514  4071          STD   71
1515  2171          LDI   71
1516  0110          SHA   10
1517  4071          STD   71          (71)=WD TO BE OUTPUT
1520  0207    SELT  LPN   7           (A)=DIGIT TO BE OUTPUT
1521  3002          ADD   LTABLE
1522  4074          STD   74
1523  0021          SIC1
1524  2174          LDI   74          (A)=FLX CODE TO BE OUTPUT
1525  0020          SIC0
1526  3003          ADD   OUT
1527  4201          STF   1
1530  7400          OTN   0           OUTPUTS FLX CODE
1531  5473          AOD   73
1532  6006          ZJF   RET         JP IF 4 DIGITS OUTPUT
1533  2071          LDD   71
1534  0110          SHA   10
1535  4071          STD   71
1536  6416          ZJB   SELT
1537  6517          NZB   SELT        JP TO SELT
1540  7451    RET   OTN   51          TAB OR SP
1541  7001          JPI   XSUB
1542  2200    SUBR2 LDC   KSUBR2
1543  0340
1544  0011          SRJ1
1545  7445    SUBR3 OTN   45
1546  7445          OTN   45
1547  7445          OTN   45
1550  2200    SUBR3A LDC  KSBR3A
1551  0417
1552  0031          IRJ1
1553  2170    SUBR4 LDI   70
1554  4071          STD   71
1555  0270          LPN   70
1556  0370          LSN   70
1557  6103          NZF   3
1560  0410          LDN   10
1561  5070          RAD   70
1562  2071          LDD   71
1563  0207          LPN   7
1564  5070          RAD   70
1565  2071          LDD   71
1566  0110          SHA   10
```

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1567  0207          LPN   7
1570  5070          RAD   70
1571  6103          NZF   3
1572  7101          JFI   1
1573  0426  LOOP          CONT2
1574  7101          JFI   1
1575  1600                SUBR6
1576  2054  SUBR6A  LDD   54
1577  4070          STD   70
1600  2170  SUBR6   LDI   70          TYPE DETERMINER$ EXIT AT K IF ((70))
1601  0270          LPN   70          NOT CORRECT SUBTYPE  AT XT OTHERWISE
1602  0300  M01     LSN   0           00, 10, 20, 30, 40, 50, 70
1603  6110          NZF   K           JP TO K IF NOT CORRECT TYPE
1604  6001  M02     ZJF   1           1 IF TYPE 0 OR 1, 6 OTHERWISE
1605  2170          LDI   70
1606  0110  M03     SHA   10          NOP IF TYPE 4
1607  0204  M04     LPN   4
1610  6103          NZF   K
1611  7101  XT      JFI   1
1612  0345  M05           CONT1
1613  7101  K       JFI   1
1614  1553                SUBR4
1615  2070  SUBR7   LDD   70          (60)=VARLIS LCN OF A TYPE 0 VBLE.
1616  4061          STD   61          PRT OUT ALPHA NUM DESIGNATOR, XT SUBR
1617  2054          LDD   54
1620  4070          STD   70
1621  0402          LDN   2
1622  5014          RAD   LLOOP
1623  2114          LDI   LLOOP
1624  4062          STD   62
1625  2212          LDF   LRESM
1626  4114          STI   LLOOP
1627  5470  RESM    ADD   70
1630  2170          LDI   70
1631  3460          SBD   60
1632  6006          ZJF   T0
1633  0501          LCN   1
1634  5070          RAD   70
1635  7101          JFI   1
1636  1553                SUBR4
1637  1627  LRESM         RESM
1640  2062  T0      LDD   62
1641  4114          STI   LLOOP
1642  0502          LCN   2
1643  5014          RAD   LLOOP
1644  0501          LCN   1
1645  5070          RAD   70
1646  2170          LDI   70
1647  0110          SHA   10
1650  0207          LPN   7
1651  3070          ADD   70
1652  4073          STD   73
1653  2170          LDI   70
1654  0207          LPN   7
1655  3073          ADD   73
1656  4074          STD   74
1657  2061          LDD   61
1660  4070          STD   70
1661  7101          JFI   1
1662  1542                SUBR2
```

```
1663  2200  SUBR9C LDC   KSBR9C
1664  0461
1665  0011  KSWBNK SRJ1
1666  2200  SUBR9A LDC   KSBR9A
1667  0472
1670  6503         NZB   KSWBNK
1671  2200  SUBR9B LDC   KSBR9B
1672  0474
1673  6506         NZB   KSWBNK
1674  2200  SUBR9D LDC   KSBR9D
1675  0510
1676  6511         NZB   KSWBNK
1677  0000  LDRCT
1700  7550  DPOBCD EXF   WRITE
1701  0577         LCN   77              PUNCH LEADER
1702  4303         STB   LDRCT
1703  7400         OTN
1704  5705         AOB   LDRCT
1705  6502         NZB   2
1706  7700         HLT
1707  2210         LDF   LHED1
1710  4073         STD   73
1711  0607         ADN   7
1712  4074         STD   74
1713  2205         LDF   LNRES
1714  4001         STD   XSUB
1715  7101         JFI   1
1716  1550               SUBR3A
1717  0611  LHED1        HED1
1720  1721  LNRES        RES
1721  0507  RES    LCN   7
1722  4020         STD   TEMP2
1723  2226  AGEN   LDF   TABLE3
1724  4021         STD   TEMP3
1725  2233         LDF   MDF1
1726  4121         STI   TEMP3
1727  5704         AOB   AGEN
1730  5420         AOD   TEMP2
1731  6506         NZB   AGEN
1732  2231         LDF   LMDF2
1733  4017         STD   TEMP1A
1734  2230         LDF   LMDF2   1
1735  4020         STD   TEMP2
1736  2223         LDF   MDF2
1737  4117         STI   TEMP1A
1740  4120         STI   TEMP2
1741  2224         LDF   LMDF3
1742  4020         STD   TEMP2
1743  2217         LDF   MDF3
1744  0021         SIC1
1745  4120         STI   TEMP2
1746  0020         SIC0
1747  6117         NZF   PART2A
1750  4104  WRITE        4104
1751  0423  TABLE3       W             VARIABLE
1752  0560               PARN    1     ARRAY
1753  0636         -     DWD3    1     INTEGER CONSTANT
1754  0767               DWD5    1     FLTNG CONSTANT
1755  1075               CONT6  -3     LABEL
1756  1346               PAREN   6     EAPACK
```

```
1757  1501                    CNT9C          SUBROUTINE
1760  7026  MDF1    JPI       XSUB1
1761  1660  MDF2              SUBR9A
1762  6002  MDF3    ZJF       2
1763  1052  LMDF2             LDWD6  -1      LABEL MOD
1764  0633                    LDWD3  -1      INTG MOD
1765  0442  LMDF3             NEWORD  3
1766  7533  PART2A  EXF       READ1
1767  7101          JFI       1              PROVISION TO
1770  2000                    PART2          PASS OVER LOADER
1771  7600          INA
1772  6401          ZJB       1
1773  7600          INA
1774  6004          ZJF       PART2
1775  7600          INA
1776  6403          ZJB       3
1777  6504          NZB       4
2000  2210  PART2   LDF       LSTOB
2001  4026          STD       XSUB1
2002  7600          INA
2003  6401          ZJB       1
2004  7600          INA                      PASS OVER BANK SETTING
2005  4022          STD       TEMP4
2006  7101          JFI       1
2007  3302                    SUBR2A
2010  3626  LSTOB             STOB
2011  2025  CNT     LDD       OBJCD
2012  4027          STD       LOBJCD
2013  2207          LDF       LCNTI
2014  4026          STD       XSUB1
2015  7503          EXF       RITE
2016  7101          JFI       1
2017  3227                    SUBR2B
2020  4104  RITE              4104
2021  4102  READ1             4102
2022  2023  LCNTI             CONTIN
2023  2054  CONTIN  LDD       54
2024  4070          STD       70
2025  2070  NOMAC   LDD       70
2026  6102          NZF       2
2027  6034          ZJF       BRANCH
2030  2170          LDI       70
2031  0270          LPN       70
2032  0350          LSN       50
2033  6110          NZF       NOMAC1 -2
2034  2070          LDD       70
2035  0603          ADN       3
2036  4071          STD       71
2037  2171          LDI       71
2040  3427          SBD       LOBJCD
2041  0601          ADN       1
2042  6006          ZJF       YESS
2043  2204          LDF       LNOMAC
2044  4001          STD       XSUB
2045  7101  NOMAC1  JFI       1
2046  3405                    SUBINC
2047  2025  LNOMAC            NOMAC
2050  2210  YESS    LDF       LHED?
2051  4073          STD       73
2052  0627          ADN       27
```

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2053  4074          STD   74
2054  2205          LDF   LPTSB
2055  4001          STD   XSUB
2056  7101          JFI   1
2057  1550                SUBR3A
2060  0620  LHED2         HED2
2061  2140  LPTSB         CNT1
2062  7100  JFI           7100
2063  2025  BRANCH  LDD   OBJCD
2064  6303          NJF   3
2065  0721          SBN   21
2066  6302          NJF   2
2067  0000          ERR
2070  2025          LDD   OBJCD
2071  3307          ADB   JFI
2072  4201          STF   1
2073  7101          JFI   1
2074  2114                PCALL
2075  2176                PINIT
2076  2226                PINCR
2077  2262                PARITH
2100  2731                PIF
2101  2736                PTRA
2102  2744                PTRAI
2103  3006                PSTOP
2104  3034                PPAUSE
2105  3043                PPAUSS
2106  3066                PASSIG
2107  3076                PRETUR
2110  3110                PFAULT
2111  3117                PCHKDI
2112  3127                PIO
2113  3214                PIOC
2114  7416  PCALL   OTN   16
2115  7430          OTN   30
2116  7411          OTN   11
2117  7411          OTN   11
2120  7404          OTN   4
2121  2204          LDF   LCT1A
2122  4026          STD   XSUB1
2123  7101          JFI   1
2124  3302                SUBR2A
2125  2126  LCT1A         CNT1AA
2126  2204  CNT1AA  LDF   LCT1B
2127  4026          STD   XSUB1
2130  7101          JFI   1
2131  3374                SUBR4A
2132  2133  LCT1B         CNT5
2133  2204  CNT5    LDF   LCNT1
2134  4026          STD   XSUB1
2135  7101          JFI   1
2136  3234                SUBR2C
2137  2140  LCNT1         CNT1
2140  2425  CNT1    LCD   OBJCD
2141  0701          SBN   1
2142  4225          STF   CNTER1
2143  2025  CNT36   LDD   OBJCD
2144  4207          STF   DWD1A
2145  2205          LDF   LDWD1A
2146  7457          OTN   57
```

NAME OF MACRO NOT IN TABLE

```
2147  4026           STD   XSUB1
2150  7101           JFI   1
2151  3360                 SUBR3B
2152  2153  LDWD1A         DWD1A
2153  0000  DWD1A
2154  5613  CNT4     AOF   CNTER1
2155  6105           NZF   CNT2AA
2156  2217           LDF   LCNT3
2157  4026           STD   XSUB1
2160  7101           JFI   1
2161  3227                 SUBR2B
2162  2204  CNT2AA   LDF   LCNT2
2163  4026           STD   XSUB1
2164  7101           JFI   1
2165  3234                 SUBR2C
2166  2170  LCNT2          CNT2
2167  0000  CNTER1
2170  2204  CNT2     LDF   LCNT4
2171  4026           STD   XSUB1
2172  7101           JFI   1
2173  3374                 SUBR4A
2174  2154  LCNT4          CNT4
2175  2023  LCNT3          CONTIN
2176  7414  PINIT    OTN   14
2177  7406           OTN   6
2200  7414           OTN   14
2201  7401           OTN   1
2202  0502  CONT10   LCN   2
2203  4021           STD   TEMP3
2204  2204  CNT7     LDF   LCNT6
2205  4026           STD   XSUB1
2206  7101           JFI   1
2207  3234                 SUBR2C
2210  2211  LCNT6          CNT6
2211  2204  CNT6     LDF   LCNT8
2212  4026           STD   XSUB1
2213  7101           JFI   1
2214  3374                 SUBR4A
2215  2216  LCNT8          CNT8
2216  5421  CNT8     AOD   TEMP3
2217  6513           NZB   CNT7
2220  2204           LDF   LCNT8A
2221  4026           STD   XSUB1
2222  7101           JFI   1
2223  3227                 SUBR2B
2224  2023  LCNT8A         CONTIN
2225  2242  LCNT11         CNT11
2226  7414  PINCR    OTN   14
2227  7406           OTN   6
2230  7416           OTN   16
2231  7412           OTN   12
2232  2206           LDF   LSUB2C
2233  4310           STB   LCNT8A -1
2234  5714           AOB   CNT8    2
2235  0503           LCN   3
2236  7101           JFI   1
2237  2203                 CONT10  1
2240  3234  LSUB2C   -     SUBR2C
2241  3227  LCONTI         SUBR2B
2242  0501  CNT11    LCN   1
```

```
2243  5323          RAB   CNT8    2
2244  2303          LDB   LCONT1
2245  4322          STB   LCNT8A -1
2246  2025          LDD   OBJCD
2247  4206          STF   DWD11
2250  2204          LDF   LDWD11
2251  4026          STD   XSUB1
2252  7101          JFI   1
2253  3504                SUBR5A
2254  2255    LDWD11      DWD11
2255  0000    DWD11
2256  2332          LDB   LCNT8A
2257  4026          STD   XSUB1
2260  7101          JFI   1
2261  3227                SUBR2B
2262  7430    PARITH OTN  30
2263  7412           OTN  12
2264  7414           OTN  14
2265  7401           OTN  1
2266  7405           OTN  5
2267  2204           LDF  LCNT12
2270  4026           STD  XSUB1
2271  7101           JFI  1
2272  3234                SUBR2C
2273  2274    LCNT12      CNT12
2274  7407    CNT12  OTN  7
2275  7403           OTN  3
2276  7422           OTN  22
2277  7420           OTN  20
2300  7450           OTN  50
2301  7404           OTN  4
2302  2025           LDD  OBJCD
2303  0102           SHA  2
2304  0102           SHA  2
2305  0203           LPN  3
2306  6110           NZF  CNT13
2307  7414           OTN  14          **INTEGER**
2310  7406           OTN  6
2311  7401           OTN  1
2312  7420           OTN  20
2313  7413           OTN  13
2314  7420           OTN  20
2315  7412           OTN  12
2316  0302    CNT13  LSN  2
2317  6106           NZF  CNT14       **FLTNG**
2320  7426           OTN  26
2321  7411           OTN  11
2322  7401           OTN  1
2323  7406           OTN  6
2324  7413           OTN  13
2325  0303    CNT14  LSN  3
2326  6110           NZF  CNT15
2327  7423           OTN  23          **BOOLEAN**
2330  7403           OTN  3
2331  7403           OTN  3
2332  7411           OTN  11
2333  7420           OTN  20
2334  7430           OTN  30
2335  7406           OTN  6
2336  2025    CNT15  LDD  OBJCD
```

```
2337  0277          LPN   77
2340  4017          STD   TEMP1A        NBR PARAMETERS
2341  2417          LCD   TEMP1A
2342  4017          STD   TEMP1A
2343  2206          LDF   LBLOCK
2344  4020          STD   TEMP2
2345  2205  CNT16   LDF   LCN15A
2346  4026          STD   XSUB1
2347  7101          JFI   1
2350  3302                SUBR2A
2351  3527  LBLOCK        BLOCK
2352  2353  LCN15A        CNT15A
2353  2025  CNT15A LDD   OBJCD
2354  4120          STI   TEMP2
2355  5420          AOD   TEMP2
2356  5417          AOD   TEMP1A
2357  6512          NZB   CNT16
2360  2210  CNT17A LDF   LCNT18
2361  4026          STD   XSUB1
2362  7101          JFI   1
2363  3227                SUBR2B
2364  2204  CNT17   LDF   LCNT18
2365  4026          STD   XSUB1
2366  7101          JFI   1
2367  3234                SUBR2C
2370  2371  LCNT18        CNT18
2371  2025  CNT18  LDD   OBJCD
2372  0217          LPN   17
2373  0704          SBN   4
2374  3217          ADF   LJFI
2375  4201          STF   1
2376  7101          JFI   1
2377  2414                IV          LTRA
2400  2622                V           DROUT
2401  2441                VI          ADD
2402  2521                VII         SUB
2403  2526                X           MPY
2404  2533                XI          DIV
2405  2540                XII         PWR
2406  2545                XIII        LTPM
2407  2601                XIV         LTZNZ
2410  2673                XV          STO
2411  2700                XVI         TRASR, RTRA
2412  2721                XVII        END
2413  7101  LJFI    JFI   1
2414  4425  IV      SRD   OBJCD
2415  0201          LPN   1
2416  7401          OTN   1           TRB OR
2417  7412          OTN   12          TRF
2420  6003          ZJF   3
2421  7423          OTN   23
2422  6102          NZF   2
2423  7426          OTN   26
2424  7404          OTN   4
2425  4425          SRD   OBJCD
2426  1206          LPF   MA177
2427  4207          STF   IVA
2430  2205          LDF   LIVA
2431  4026          STD   XSUB1
2432  7101          JFI   1
```

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2433  3360                    SUBR3B
2434  0177  MA177             177
2435  2436  LIVA              IVA
2436  0000  IVA
2437  7101        JFI   1
2440  2364                    CNT17
2441  7430  VI    OTN   30
2442  7422        OTN   22
2443  7422        OTN   22
2444  7404  SUBR7A OTN  4
2445  4425        SRD   OBJCD
2446  4425        SRD   OBJCD
2447  0203        LPN   3
2450  6033        ZJF   VIA
2451  7447        OTN   47
2452  0301        LSN   1
2453  6002        ZJF   2
2454  7426        OTN   26              F
2455  7420        OTN   20              E
2456  7412        OTN   12              R
2457  7430        OTN   30              A
2460  7424        OTN   24              S
2461  7420        OTN   20              E
2462  2025        LDD   OBJCD
2463  0110        SHA   10
2464  0110        SHA   10
2465  0277        LPN   77
2466  0701        SBN   1
2467  6012        ZJF   VIG     1
2470  4210        STF   VIG
2471  2206        LDF   LVIG
2472  4026        STD   XSUB1
2473  7446        OTN   46              *
2474  7457        OTN   57
2475  7101        JFI   1
2476  3360                    SUBR3B
2477  2500  LVIG              VIG
2500  0000  VIG
2501  7101        JFI   1
2502  2364                    CNT17
2503  2025  VIA   LDD   OBJCD
2504  0110        SHA   10
2505  0110        SHA   10
2506  0277        LPN   77
2507  3210        ADF   LBLCK
2510  4017        STD   TEMP1A
2511  2117        LDI   TEMP1A
2512  4025        STD   OBJCD
2513  2205        LDF   LCNT17
2514  4026        STD   XSUB1
2515  7101        JFI   1
2516  3374                    SUBR4A
2517  3526  LBLCK             BLOCK -1
2520  2364  LCNT17            CNT17
2521  7424  VII   OTN   24              SUB
2522  7434        OTN   34
2523  7423        OTN   23
2524  7101        JFJ   1
2525  2444                    SUBR7A
2526  7407  X     OTN   7               MPY
```

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2527  7415          OTN   15
2530  7425          OTN   25
2531  7101          JFI   1
2532  2444                SUBR7A
2533  7422  XI      OTN   22          DIV
2534  7414          OTN   14
2535  7417          OTN   17
2536  7101          JFI   1
2537  2444                SUBR7A
2540  7415  XII     OTN   15          PWR
2541  7431          OTN   31
2542  7412          OTN   12
2543  7101          JFI   1
2544  2364                CNT17
2545  7401  XIII    OTN   1
2546  4425          SRD   OBJCD
2547  4425          SRD   OBJCD
2550  0201          LPN   1
2551  6103          NZF   3
2552  7415          OTN   15
2553  6002          ZJF   2
2554  7406          OTN   6           N
2555  2025          LDD   OBJCD
2556  0202          LPN   2
2557  6103          NZF   3
2560  7426          OTN   26          F
2561  6002          ZJF   2
2562  7423          OTN   23          B
2563  7404  XIVA    OTN   4
2564  2025          LDD   OBJCD
2565  0110          SHA   10
2566  0110          SHA   10
2567  0277          LPN   77
2570  4206          STF   XIIIA
2571  2204          LDF   LXIIIA
2572  4026          STD   XSUB1
2573  7101          JFI   1
2574  3360                SUBR38
2575  2576  LXIIIA        XIIIA
2576  0000  XIIIA
2577  7101          JFI   1
2600  2364                CNT17
2601  4425  XIV     SRD   OBJCD
2602  4425          SRD   OBJCD
2603  0201          LPN   1
2604  6104          NZF   4
2605  7401          OTN   1           T
2606  7421          OTN   21          Z
2607  6003          ZJF   3
2610  7421          OTN   21          Z
2611  7406          OTN   6           N
2612  2025          LDD   OBJCD
2613  0202          LPN   2
2614  6103          NZF   3
2615  7426          OTN   26          F
2616  6002          ZJF   2
2617  7423          OTN   23          B
2620  7101          JFI   1
2621  2563                XIVA
2622  7422  V       OTN   22          DROUT
```

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2623  7403          OTN   3
2624  4425          SRD   OBJCD
2625  0201          LPN   1
2626  6103          NZF   3
2627  7426          OTN   26              DOF
2630  6002          ZJF   2
2631  7423          OTN   23              DO8
2632  7404          OTN   4
2633  4425          SRD   OBJCD
2634  0110          SHA   10
2635  0110          SHA   10
2636  0277          LPN   77
2637  4021          STD   TEMP3
2640  4206          STF   VD
2641  2204          LDF   LVD
2642  4026          STD   XSUB1
2643  7101          JFI   1
2644  3360                SUBR3B
2645  2646  LVD           VD
2646  0000  VD
2647  2421          LCD   TEMP3
2650  4021          STD   TEMP3
2651  5421          AOD   TEMP3
2652  2204  VC      LDF   LVA
2653  4026          STD   XSUB1
2654  7101          JFI   1
2655  3234                SUBR2C
2656  2657  LVA           VA
2657  2025  VA      LDD   OBJCD
2660  4206          STF   VB
2661  2204          LDF   LVB
2662  4026          STD   XSUB1
2663  7101          JFI   1
2664  3504                SUBR5A
2665  2666  LVB           VB
2666  0000  VB
2667  5421          AOD   TEMP3
2670  6516          NZB   VC
2671  7101          JFI   1
2672  2364                CNT17
2673  7424  XV      OTN   24              STO
2674  7401          OTN   1
2675  7403          OTN   3
2676  7101          JFI   1
2677  2444                SUBR7A
2700  4425  XVI     SRD   OBJCD
2701  0201          LPN   1
2702  6112          NZF   RTRA
2703  7401          OTN   1               **TRASR**
2704  7412          OTN   12
2705  7430          OTN   30
2706  7424          OTN   24
2707  7412          OTN   12
2710  7404          OTN   4
2711  4425          SRD   OBJCD
2712  7101          JFI   1
2713  2504                VIA   1
2714  7412  RTRA    OTN   12              **RTRA**
2715  7401          OTN   1
2716  7412          OTN   12
```

```
2717  7101  XVIA   JFI   1
2720  2364               CNT17
2721  7420  XVII   OTN   20              END
2722  7406         OTN   6
2723  7422         OTN   22
2724  2204         LDF   LCONTN
2725  4026         STD   XSUB1
2726  7101         JFI   1
2727  3227               SUBR2B
2730  2023  LCONTN        CONTIN
2731  7414  PIF    OTN   14              IF
2732  7426         OTN   26
2733  0503         LCN   3
2734  7101         JFI   1
2735  2203               CONT10  1
2736  7401  PTRA   OTN   1               TRA
2737  7412         OTN   12
2740  7430         OTN   30
2741  0501  CNT21  LCN   1
2742  7101         JFI   1
2743  2203               CONT10  1
2744  7401  PTRAI  OTN   1               TRAI
2745  7412         OTN   12
2746  7430         OTN   30
2747  7414         OTN   14
2750  2204  CNT23  LDF   LCNT22
2751  4026         STD   XSUB1
2752  7101         JFI   1
2753  3237               SUBR2D
2754  2755  LCNT22       CNT22
2755  2025  CNT22  LDD   OBJCD           IS (OBJCD) A MACRO NAME
2756  6303         NJF   LPA             NO, THEN JP
2757  0721         SBN   21
2760  6310         NJF   CNT24           YES, THEN JP
2761  7445  LPA    OTN   45
2762  7451         OTN   51
2763  2204         LDF   LCNT23
2764  4026         STD   XSUB1
2765  7101         JFI   1
2766  3374               SUBR4A
2767  2750  LCNT23       CNT23
2770  7445  CNT24  OTN   45
2771  0501         LCN   1
2772  3027         ADD   LOBJCD
2773  4206         STF   CN24A
2774  2204         LDF   LCN24A
2775  4026         STD   XSUB1
2776  7101         JFI   1
2777  3504               SUBR5A
3000  3001  LCN24A       CN24A
3001  0000  CN24A
3002  7447         OTN   47
3003  7451         OTN   51
3004  7101         JFI   1
3005  2023               CONTIN
3006  7424  PSTOP  OTN   24              STOP
3007  7401         OTN   1
3010  7403         OTN   3
3011  7415         OTN   15
3012  2204         LDF   LCNT25
```

```
3013  4026          STD   XSUB1
3014  7101          JFI   1
3015  3234                SUBR2C
3016  3017  LCNT25        CNT25
3017  2025  CNT25   LDD   OBJCD
3020  4206          STF   CNT26
3021  2204          LDF   LCNT26
3022  4026          STD   XSUB1
3023  7101          JFI   1
3024  3504                SUBR5A
3025  3026  LCNT26        CNT26
3026  0000  CNT26
3027  2204          LDF   LCNTIA
3030  4026          STD   XSUB1
3031  7101          JFI   1
3032  3227                SUBR2B
3033  2023  LCNTIA        CONTIN
3034  7415  PPAUSE  OTN   15          PAUSE
3035  7430          OTN   30
3036  7434          OTN   34
3037  7424          OTN   24
3040  7420          OTN   20
3041  7101          JFI   1
3042  3012                PSTOP  4
3043  7415  PPAUSS  OTN   15          PAUSS
3044  7430          OTN   30
3045  7434          OTN   34
3046  7424          OTN   24
3047  7424          OTN   24
3050  2204          LDF   LCNT27
3051  4026          STD   XSUB1
3052  7101          JFI   1
3053  3234                SUBR2C
3054  3055  LCNT27        CNT27
3055  2204  CNT27   LDF   LCNT28
3056  4026          STD   XSUB1
3057  7101          JFI   1
3060  3374                SUBR4A
3061  3062  LCNT28        CNT28
3062  2344  CNT28   LDB   LCNT25
3063  4026          STD   XSUB1
3064  7101          JFI   1
3065  3234                SUBR2C
3066  7430  PASSIG  OTN   30          ASSIGN
3067  7424          OTN   24
3070  7424          OTN   24
3071  7414          OTN   14
3072  7413          OTN   13
3073  7406          OTN   6
3074  7101          JFI   1
3075  2202                CONT10
3076  7412  PRETUR  OTN   12          RETURN
3077  7420          OTN   20
3100  7401          OTN   1
3101  7434          OTN   34
3102  7412          OTN   12
3103  7406          OTN   6
3104  2351          LDB   LCNTIA
3105  4026          STD   XSUB1
3106  7101          JFI   1
```

```
3107  3227                    SUBR2B
3110  7426  PFAULT  OTN  26          FAULT
3111  7430           OTN  30
3112  7434           OTN  34
3113  7411           OTN  11
3114  7401           OTN  1
3115  7101           JFI  1
3116  2202                    CONT10
3117  7416  PCHKDI   OTN  16          CHKDIV
3120  7405           OTN  5
3121  7436           OTN  36
3122  7422           OTN  22
3123  7414           OTN  14
3124  7417           OTN  17
3125  7101           JFI  1
3126  2202                    CONT10
3127  7414  PIO      OTN  14          IO
3130  7403           OTN  3
3131  2204           LDF  LCNT29
3132  4026           STD  XSUB1
3133  7101           JFI  1
3134  3234                    SUBR2C
3135  3136  LCNT29           CNT29
3136  0471  CNT29   LDN  71
3137  0110           SHA  10
3140  0110           SHA  10
3141  3025           ADD  OBJCD
3142  4201           STF  1
3143  7101           JFI  1
3144  3150                    KINPUT
3145  3171                    KOUTPT
3146  3200                    KREAD
3147  3206                    KPUNCH
3150  7414  KINPUT  OTN  14          INPUT
3151  7406           OTN  6
3152  7415           OTN  15
3153  7434           OTN  34
3154  7401           OTN  1
3155  7404  CNT33A   OTN  4           BINARY
3156  7423           OTN  23
3157  7414           OTN  14
3160  7406           OTN  6
3161  7430           OTN  30
3162  7412           OTN  12
3163  7425           OTN  25
3164  2204  CNT34A   LDF  LCNTIB
3165  4026           STD  XSUB1
3166  7101           JFI  1
3167  3227                    SUBR2B
3170  2023  LCNTIB           CONTIN
3171  7403  KOUTPT   OTN  3           OUTPUT
3172  7434           OTN  34
3173  7401           OTN  1
3174  7415           OTN  15
3175  7434           OTN  34
3176  7401           OTN  1
3177  6513           NZB  CNT34A
3200  7412  KREAD    OTN  12          READ
3201  7420           OTN  20
3202  7430           OTN  30
```

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3203  7422          OTN   22
3204  7101  CNT32   JFI   1
3205  2202                CONT10
3206  7415  KPUNCH  OTN   15          PUNCH
3207  7434          OTN   34
3210  7406          OTN   6
3211  7416          OTN   16
3212  7405          OTN   5
3213  6507          NZB   CNT32
3214  7414  PIOC    OTN   14          IOC
3215  7403          OTN   3
3216  7416          OTN   16
3217  2204          LDF   LCNT35
3220  4026          STD   XSUB1
3221  7101          JFI   1
3222  3234                SUBR2C
3223  2140  LCNT35        CNT1
3224  0000  OPT1
3225  0000  OPT2
3226  0000  OPT3
3227  0401  SUBR2B  LDN   1
3230  4304          STB   OPT1
3231  4304          STB   OPT2
3232  4304          STB   OPT3
3233  6104          NZF   SUBR2D
3234  0401  SUBR2C  LDN   1
3235  4311          STB   OPT1
3236  4310          STB   OPT3
3237  2313  SUBR2D  LDB   OPT1
3240  6002          ZJF   2
3241  7445          OTN   45
3242  5416          AOD   LINES
3243  6110          NZF   EXT
3244  0506          LCN   6
3245  4016          STD   LINES
3246  7445          OTN   45
3247  5416          AOD   LINES
3250  6502          NZB   2
3251  0574          LCN   74
3252  4016          STD   LINES
3253  2326  EXT     LDB   OPT2
3254  6022          ZJF   TAB
3255  7457          OTN   57
3256  0504          LCN   4
3257  4017          STD   TEMP1A
3260  2027  RTFLPT  LDD   LOBJCD
3261  0110          SHA   10
3262  4027          STD   LOBJCD
3263  0207          LPN   7
3264  3002          ADD   LTABL2
3265  4020          STD   TEMP2
3266  0021          SIC1
3267  2120          LDI   TEMP2
3270  0020          SIC0
3271  3003          ADD   OUT
3272  4201          STF   1
3273  7400          OTN
3274  5417          AOB   TEMP1A
3275  6515          NZB   RTFLPT
3276  2350  TAB     LDB   OPT3
```

```
3277  6002          ZJF   2
3300  7451          OTN   51
3301  7447          OTN   47
3302  0400  SUBR2A  LDN
3303  4357          STB   OPT1
3304  4357          STB   OPT2
3305  4357          STB   OPT3
3306  7550          EXF   READ2
3307  2022          LDD   TEMP4          MODIFIED TO INA
3310  6104          NZF   SBR2A
3311  7101          JFI   1
3312  3643                ALPHA
3313  7600                7600
3314  4022  SBR2A   STD   TEMP4
3315  2302          LDB   2
3316  4307          STB   SUBR2A  5
3317  2022          LDD   TEMP4
3320  0277          LPN   77
3321  0110          SHA   10
3322  0110          SHA   10
3323  4025          STD   OBJCD
3324  7600          INA
3325  4023          STD   TEMP5
3326  0277          LPN   77
3327  5025          RAD   OBJCD
3330  5427          AOD   LOBJCD
3331  7526          EXF   WRITE1
3332  6101  PARCK   NZF   1
3333  2022          LDD   TEMP4
3334  1423          LSD   TEMP5
3335  4023          STD   TEMP5          (TEMP5) SHOULD HAVE EVEN PARITY
3336  0102          SHA   2
3337  1423          LSD   TEMP5
3340  0102          SHA   2
3341  1423          LSD   TEMP5
3342  4023          STD   TEMP5
3343  0110          SHA   10
3344  1423          LSD   TEMP5          BIT7 IN POS 12 BITS 1=6 IN POS 6
3345  6202          PJF   2              JUMP IF BIT 7 IS 0
3346  0340          LSN   40
3347  0240          LPN   40             (A)=40 IF ODD PARITY((A)=0 IF EVEN
3350  6005          ZJF   5
3351  0000          ERR                  PARITY ERROR
3352  6103          NZF   3              (A)=0, DISCONTINUE PARITY CHECK
3353  0422          LDN   22
3354  5322          RAB   PARCK
3355  7026          JPI   XSUB1
3356  4102  READ2          4102
3357  4104  WRITE1         4104
3360  2207  SUBR3B  LDF   LSR3A1
3361  7457          OTN   57
3362  4001          STD   XSUB
3363  2126          LDI   XSUB1
3364  4204          STF   SR3A1
3365  7101          JFI   1
3366  1666                SUBR9A
3367  3370  LSR3A1         SR3A1
3370  0000  SR3A1    -
3371  5426          AOD   XSUB1
3372  7026          JPI   XSUB1
```

```
3373  3424  LPT11          PT11
3374  2301  SUBR4A LDB     LPT11
3375  4001         STD     XSUB
3376  2054         LDD     54          PRINT  FLEX CODES
3377  4070         STD     70          CORR TO VARLIS
3400  0601  PT      ADN     1           LCN IN OBJCD
3401  4071         STD     71
3402  2171         LDI     71
3403  3425         SBD     OBJCD
3404  6022         ZJF     PTO
3405  2170  SUBINC LDI     70
3406  4071         STD     71
3407  0270         LPN     70
3410  0370         LSN     70
3411  6103         NZF     3
3412  0410         LDN     10
3413  5070         RAD     70
3414  2071         LDD     71
3415  0207         LPN     7
3416  5070         RAD     70
3417  2071         LDD     71
3420  0110         SHA     10
3421  0207         LPN     7
3422  5070         RAD     70
3423  7001         JPI     XSUB
3424  6524  PT11    NZB     PT
3425  0000         ERR             SEARCH FAILURE
3426  2170  PTO     LDI     70
3427  0270         LPN     70
3430  6112         NZF     PT01
3431  2170         LDI     70
3432  0110         SHA     10
3433  0207         LPN     7
3434  0303         LSN     3
3435  6103         NZF     PT02
3436  7101         JFI     1
3437  0367         CNT1A           IDENTIFIERS NOT DIMENSIONED
3440  7101  PT02    JFI     1
3441  0461         CNT2A           .ARRAYS
3442  0310  PT01    LSN     10
3443  6111         NZF     PT03
3444  2170         LDI     70
3445  7457         OTN     57
3446  0202         LPN     2
3447  6103         NZF     PT04
3450  7101         JFI     1
3451  0623         CNT3A           INTEGER CONSTANT
3452  7101  PT04    JFI     1
3453  0674         CNT4A           FLTNG CONSTANT
3454  0330  PT03    LSN     30
3455  6106         NZF     PT05
3456  7457         OTN     57
3457  0402         LDN     2
3460  5070         RAD     70
3461  7101         JFI     1
3462  1042         CNT5B   2       LABELS
3463  0310  PT05    LSN     10
3464  6103         NZF     PT06
3465  7101         JFI     1
3466  1136         CNT6A           EAPACK
```

```
3467  0370   PTO6   LSN   70
3470  6103          NZF   PTO7
3471  7101          JFI   1
3472  1465                CNT9B   4       LIB FUNCT
3473  0310   PTO7   LSN   10
3474  6103          NZF   PTO8
3475  7101          JFI   1
3476  1465                CNT9B   4       SUBROUTINE
3477  0320   PTO8   LSN   20
3500  6103          NZF   PTO9
3501  7101          JFI   1
3502  1136                CNT6A
3503  0000   PTO9   ERR
3504  7457   SUBR5A OTN   57              PRINT ((XSUB))FLX.OCT
3505  0504          LCN   4               RET. JP TO (XSUB)+1
3506  4017          STD   TEMP1A
3507  2126   SBR5A  LDI   XSUB1
3510  0110          SHA   10
3511  4126          STI   XSUB1
3512  0207          LPN   7
3513  3002          ADD   LTABL2
3514  4020          STD   TEMP2
3515  0021          SIC1
3516  2120          LDI   TEMP2
3517  0020          SIC0
3520  3003          ADD   OUT
3521  4201          STF   1
3522  7400          OTN                   OUTPUT DIGIT
3523  5417          AOD   TEMP1A
3524  6515          NZB   SBR5A
3525  5426          AOD   XSUB1
3526  7026          JPI   XSUB1
      0002   LTABL2 EQU   2
3527  0000   BLOCK  BSS   77
3626  2025   STOR   LDD   OBJCD
3627  0110          SHA   10
3630  0207          LPN   7
3631  0705          SBN   5
3632  6204          PJF   LOOPA
3633  5647          AOF   INDICA
3634  7101          JFI   1
3635  2011                CNT
3636  2204   LOOPA  LDF   LLOOPA
3637  4026          STD   XSUB1
3640  7101          JFI   1
3641  3302                SUBR2A
3642  3636   LLOOPA       LOOPA
3643  7540   ALPHA  EXF   READD
3644  7600          INA
3645  7600          INA                   PASS OVER BANK SETTING
3646  7536          EXF   WRITT
3647  2232          LDF   FLAG
3650  6016          ZJF   ALPH1
3651  0501          LCN   1
3652  3027          ADD   LOBJCD
3653  4206          STF   ALPH2
3654  2204          LDF   LALPH2
3655  4026          STD   XSUB1
3656  7101          JFI   1
3657  3504                SUBR5A
```

```
3660  3661  LALPH2          ALPH2
3661  0000  ALPH2
3662  7445          OTN     45
3663  7451          OTN     51
3664  0400          LDN
3665  4214          STF     FLAG
3666  2212  ALPH1   LDF     TEMPP
3667  3427          SBD     LOBJCD
3670  6015          ZJF     ALPH3
3671  2027          LDD     LOBJCD
3672  4206          STF     TEMPP
3673  2204          LDF     LALPH4
3674  4026          STD     XSUB1
3675  7101          JFI     1
3676  3302                  SUBR2A
3677  3712  LALPH4          ALPH4
3700  0000  TEMPP
3701  0000  FLAG
3702  0000  INDICA
3703  4102  READD          4102
3704  4104  WRITT          4104
3705  7443  ALPH3   OTN     43
3706  7400          OTN
3707  5702          AOB     2
3710  6702          NJB     2
3711  7700          HLT
3712  2310  ALPH4   LDB     INDICA
3713  6465          ZJB     STOB
3714  2203  BRCHH   LDF     3
3715  6003          ZJF     SB1
3716  6105          NZF     SB2
3717  0000  JUNCT
3720  2027  SB1     LDD     LOBJCD
3721  0701          SBN     1
3722  4322          STB     TEMPP
3723  2323  SB2     LDB     TEMPP
3724  3425          SBD     OBJCD
3725  6004          ZJF     4
3726  5707          AOB     JUNCT
3727  7101          JFI     1
3730  3766                  VBLST     MODIFIED TO LOOP
3731  6573          NZB     LOOPA
3732  0400          LDN
3733  4314          STB     JUNCT
3734  2334          LDB     TEMPP
3735  4027          STD     LOBJCD
3736  2211          LDF     LPT
3737  4017          STD     TEMP1A
3740  2210          LDF     MOPT
3741  4117          STI     TEMP1A
3742  2204          LDF     LSRTS3
3743  4026          STD     XSUB1
3744  7101          JFI     1
3745  3374                  SUBR4A
3746  3751  LSRTS3          SRTS3
3747  3400  LPT             PT
3750  0603  MOPT    ADN     3
3751  7404  SRTS3   OTN     4
3752  2027          LDD     LOBJCD
3753  4206          STF     SRTS4
```

```
3754  2204          LDF   LSRTS4
3755  4026          STD   XSUB1
3756  7101          JFI   1
3757  3504                SUBR5A
3760  3761  LSRTS4        SRTS4
3761  0000  SRTS4
3762  7452          OTN   52
3763  5762          AOB   FLAG
3764  7101          JFI   1
3765  3636                LOOPA
3766  7447  VBLST  OTN   47
3767  7417          OTN   17                VARIABLE LIST
3770  7430          OTN   30
3771  7412          OTN   12
3772  7414          OTN   14
3773  7430          OTN   30
3774  7423          OTN   23
3775  7411          OTN   11
3776  7420          OTN   20
3777  7404          OTN   4
4000  7411          OTN   11
4001  7414          OTN   14
4002  7424          OTN   24
4003  7401          OTN   1
4004  7404          OTN   4
4005  7457          OTN   57
4006  2025          LDD   OBJCD
4007  4206          STF   SB2A
4010  2204          LDF   LSB2A
4011  4026          STD   XSUB1
4012  7101          JFI   1
4013  3504                SUBR5A
4014  4015  LSB2A         SB2A
4015  0000  SB2A
4016  7452          OTN   52
4017  2204          LDF   LSB28
4020  4026          STD   XSUB1
4021  7101          JFI   1
4022  3504                SUBR5A
4023  4024  LSB28         SB28
4024  7776  SB28          7776
4025  2206          LDF   6
4026  4022          STD   TEMP4
4027  2203          LDF   3
4030  4122          STI   TEMP4
4031  7101          JFI   1
4032  3636                LOOPA
4033  3730                SB2     5
      0001          BNK1
      0100          ORG   100
0100  0056  TABLE       56              0
0101  0074                74              1
0102  0070                70              2
0103  0064                64              3
0104  0062                62              4
0105  0066                66              5
0106  0072                72              6
0107  0060                60              7
0110  0033                33              8
0111  0037                37              9
```

```
0112  0042              42              '
0113  1042              1042            =
0114  0044              44              SLASH
0115  1044              1044            *
0116  0046              46              ,
0117  1046              1046            +
0120  0052              52              -
0121  1052              1052            -
0122  0054              54              )
0123  1054              1054            (
0124  0000              0
0125  0000              0
0126  0000              0
0127  0000              0
0130  1014              1014            I
0131  1032              1032            J
0132  1036              1036            K
0133  1011              1011            L
0134  1007              1007            M
0135  1006              1006            N
0136  0000              0
0137  0000              0
0140  1030              1030            A
0141  1023              1023            B
0142  1016              1016            C
0143  1022              1022            D
0144  1020              1020            E
0145  1026              1026            F
0146  1013              1013            G
0147  1005              1005            H
0150  1003              1003            O
0151  1015              1015            P
0152  1035              1035            Q
0153  1012              1012            R
0154  1024              1024            S
0155  1001              1001            T
0156  1034              1034            U
0157  1017              1017            V
0160  1031              1031            W
0161  1027              1027            X
0162  1025              1025            Y
0163  1021              1021            Z
0164  1406  HEAD3       1406            *INTEGER CONSTANTS*
0165  0120              120
0166  1320              1320
0167  1204              1204
0170  1603              1603
0171  0624              624
0172  0130              130
0173  0601              601
0174  2400              2400
0175  0000              0
0176  0000              0
0177  0000              0
0200  3012  HEAD2       3012            ARRAY STORAGE
0201  1230              1230
0202  2504              2504
0203  2401              2401
0204  0312              312
0205  3013              3013
```

```
0206  2077                2077
0207  1730   HEAD1        1730          VARIABLE LIST
0210  1214                1214
0211  3023                3023
0212  1120                1120
0213  0411                411
0214  1424                1424
0215  0104                104
0216  2611   HEAD4        2611          *FLOATING CONSTANTS*
0217  0330                330
0220  0114                114
0221  0613                613
0222  0416                416
0223  0306                306
0224  2401                2401
0225  3006                3006
0226  0124                124
0227  4711   HEAD5        4711          *LABELS
0230  3023                3023          VARLIST LCN
0231  2011                2011          OBJCODE LCN
0232  2445                2445          NAME(OCT)
0233  1730                1730          RANK*
0234  1211                1211
0235  1424                1424
0236  0104                104
0237  1116                1116
0240  0651                651
0241  0323                323
0242  3216                3216
0243  0322                322
0244  2004                2004
0245  1116                1116
0246  0651                651
0247  0630                630
0250  0720                720
0251  5177                5177
0252  1230                1230
0253  0636                636
0254  2030   HEAD6        2030
0255  1530                1530
0256  1636                1636
0257  1114   HEAD7        1114          *LIBRARY FUNCTION NAMES*
0260  2312                2312
0261  3012                3012
0262  2504                2504
0263  2634                2634
0264  0616                616
0265  0114                114
0266  0306                306
0267  0406                406
0270  3007                3007
0271  2024                2024
0272  4517                4517
0273  3012                3012
0274  1114                1114
0275  2401                2401
0276  0411                411
0277  1606                1606
0300  5103                5103
0301  2332                2332
```

```
0302  1603                    1603
0303  2220                    2220
0304  0411                    411
0305  1606                    1606
0306  5106                    5106
0307  3007                    3007
0310  2077                    2077
0311  2434    HEAD8           2434        *SUBROUTINE NAMES*
0312  2312                    2312
0313  0334                    334
0314  0114                    114
0315  0620                    620
0316  0406                    406
0317  3007                    3007
0320  2024                    2024
0321  7745                    7745
0322  1730                    1730
0323  1211                    1211
0324  1424                    1424
0325  0104                    104
0326  1116                    1116
0327  0651                    651
0330  0323                    323
0331  3216                    3216
0332  0322                    322
0333  2004                    2004
0334  1116                    1116
0335  0651                    651
0336  0630                    630
0337  0720                    720
0340  7447    KSUBR2  OTN     47          (71)=0 IF FLX L.C., 1 IF FLX U.C.
0341  0401            LDN     1
0342  4071            STD     71          (74)=LCN+1 OF LAST WD TO BE OUTPUT
0343  0400            LDN     0           (73)=LCN 1ST WD TO BE OUTPUT
0344  4077            STD     77          (75)=WORD TO BE CONVERTED TO FLX COD
0345  2173    BR      LDI     73          (76)=ADDRESS OF FLX CODE TO BE OUTPU
0346  0021            SIC1
0347  4075            STD     75          (77)=FLAG
0350  1006            LPD     MASK3
0351  0110            SHA     10
0352  0110            SHA     10
0353  3002    BR1     ADD     LTABLE
0354  4076            STD     76
0355  2176            LDI     76
0356  1004            LPD     MASK1
0357  6021            ZJF     NO
0360  2071            LDD     71
0361  6103            NZF     BR3
0362  7447            OTN     47
0363  5471            AOD     71
0364  2176    BR3     LDI     76
0365  0277            LPN     77
0366  3003            ADD     OUT
0367  4201            STF     1
0370  7400            OTN     0
0371  2077            LDD     77
0372  6115            NZF     YNN
0373  5477            AOD     77
0374  2075            LDD     75
0375  0277            LPN     77
```

```
0376  7101          JFI   1
0377  0353          BR1
0400  2071  NO      LDD   71
0401  6415          ZJB   BR3
0402  7457          OTN   57
0403  0400          LDN   0
0404  4071          STD   71
0405  7101          JFI   1
0406  0364          BR3
0407  0400  YNN     LDN   0
0410  4077          STD   77
0411  5473          AOD   73
0412  3474          SBD   74
0413  0020          SICO
0414  6547          NZB   BR
0415  2001          LDD   XSUB
0416  0010          SRJ0
0417  0400  KSBR3A  LDN
0420  4076          STD   76
0421  2173          LDI   73
0422  4075          STD   75
0423  0110          SHA   10
0424  0110          SHA   10
0425  0277  RPT     LPN   77
0426  3003          ADD   OUT
0427  4201          STF   1
0430  7400          OTN   0
0431  2076          LDD   76
0432  6105          NZF   NEWORD
0433  5476          AOD   76
0434  2075          LDD   75
0435  6410          ZJB   RPT
0436  6511          NZB   RPT
0437  5473  NEWORD  AOD   73
0440  3474          SBD   74
0441  6522          NZB   KSBR3A
0442  7445          OTN   45
0443  7445          OTN   45
0444  2001          LDD   XSUB
0445  0030          IRJ0
0446  3613  CH1A    SBF   13
0447  3614  CH1C    SBF   14
0450  3615  CH1D    SBF   15
0451  0600  CH2A    ADN
0452  7404  CH2B    OTN   4
0453  0503  CH3A    LCN   3
0454  0502  CH3C    LCN   2
0455  0501  CH3D    LCN   1
0456  3206  SHFTA   ADF   6
0457  3207  SHFTC   ADF   7
0460  3210  SHFTD   ADF   10
0461  2305  KSBR9C  LDB   CH3C
0462  4251          STF   CH3
0463  2314          LDB   CH1C
0464  4252          STF   CH1
0465  2306          LDB   SHFTC
0466  4255          STF   SHFT
0467  2316          LDB   CH2A
0470  4240          STF   POSTV
0471  6127          NZF   ADM2
```

OUTPUTS FLX CODES IN LCNS (73) THRU (74)-1

```
0472  2321  KSBR9A LDB   CH2A
0473  6102         NZF   ADM1
0474  2322  KSBR9B LDB   CH2B
0475  4263  ADM1   STF   CH2
0476  4232         STF   POSTV
0477  2324         LDB   CH3A
0500  4233         STF   CH3
0501  2333         LDB   CH1A
0502  4234         STF   CH1
0503  2325         LDB   SHFTA
0504  4237         STF   SHFT
0505  0400         LDN   0
0506  4075         STD   75
0507  6013         ZJF   SUBR9
0510  2333  KSBR9D LDB   CH3D
0511  4222         STF   CH3
0512  2341         LDB   CH2A
0513  4215         STF   POSTV
0514  2344         LDB   CH1D
0515  4221         STF   CH1
0516  2336         LDB   SHFTD
0517  4224         STF   SHFT
0520  0401  ADM2   LDN   1
0521  4075         STD   75
0522  2101  SUBR9  LDI   XSUB
0523  6205         PJF   POSTV
0524  7452         OTN   52
0525  2501         LCI   XSUB
0526  4101         STI   XSUB
0527  6202         PJF   POSTV1
0530  7404  POSTV  OTN   4
0531  0400  POSTV1 LDN   0
0532  4076         STD   76
0533  0503  CH3    LCN   3
0534  4077         STD   77
0535  2101  REPEAT LDI   XSUB
0536  3613  CH1    SBF   DIVS1
0537  6304         NJF   SHFT
0540  4101         STI   XSUB
0541  5476         AOD   76
0542  6605         PJB   REPEAT
0543  3206  SHFT   ADF   DIVS1
0544  4074         STD   74
0545  4101         STI   XSUB
0546  5710         AOB   CH1
0547  5704         AOB   SHFT
0550  6104         NZF   OUTPUT
0551  1750  DIVS1        1750
0552  0144  DIVS2        144
0553  0012  DIVS3        12
0554  2076  OUTPUT LDD   76
0555  6105         NZF   OUTPTA
0556  2075         LDD   75
0557  6103         NZF   OUTPTA
0560  7477  CH2    OTN   77
0561  6014         ZJF   OUTPTB
0562  5475  OUTPTA AOD   75
0563  2002         LDD   LTABLE
0564  5076         RAD   76
0565  0021         SIC1
```

```
0566  2176          LDI   76
0567  0020          SIC0
0570  3003          ADD   OUT
0571  4201          STF   1
0572  7400          OTN   0          OUTPUTS DIGIT
0573  0400          LDN   0
0574  4076          STD   76
0575  5477  OUTPTB  AOD   77
0576  6541          NZB   REPEAT
0577  2002          LDD   LTABLE
0600  5074          RAD   74
0601  0021          SIC1
0602  2174          LDI   74
0603  0020          SIC0
0604  3003          ADD   OUT
0605  4201          STF   1
0606  7400          OTN   0          OUTPUTS FINAL DIGIT
0607  5401          AOD   XSUB
0610  0010          SRJ0
0611  4703  HED1            4703     OBJECT CODE
0612  2332                  2332
0613  2016                  2016
0614  0104                  104
0615  1603                  1603
0616  2220                  2220
0617  4577                  4577
0620  2434  HED2            2434
0621  2312                  2312
0622  0334                  334
0623  0114                  114
0624  0620                  620
0625  0426                  426
0626  0311                  311
0627  1103                  1103
0630  3124                  3124
0631  5746                  5746
0632  4704                  4704
0633  0634                  634
0634  0723                  723
0635  2012                  2012
0636  0403                  403
0637  2604                  2604
0640  1530                  1530
0641  1230                  1230
0642  0720                  720
0643  0120                  120
0644  1224                  1224
0645  5004                  5004
0646  0477                  477
      0000          END
```