```
00010                   XLIST
```

01970

```
                                00030
                                00040     EXTERNAL UXIT,ERROR,USRDDT,USRPOV,PUUOAC,USRREL
                                00050
                                00060     ;RETURN THE DATE TO THE USER
                                00070
                                00080               INTERNAL DATE,THSDAT
                                00090
000000  200240 000002'          00100     DATE:     MOVE DAT, THSDAT
000001  254000 000005'          00110               JRST STOAC
                                00120
000002  000000 000000           00130     THSDAT:   0          ;CONTAINS THE DATE
                                00140
                                00150     ;RETURN TIME SYSTEM HAS RUN IN 60THS OF A SECOND
                                00160
                                00170     INTERNAL TIMER
                                00180     EXTERNAL TIME
                                00190
000003  334240 000000           00200     TIMER:    SKIPA DAT, TIME     ;FALL INTO STOAC
                                00210
                                00220     ;RETURN DATA SWITCHES
                                00230
                                00240     INTERNAL SWITCH
                                00250
000004  700040 000005           00260     SWITCH:   DATAI DAT
                                00270
                                00280
                                00290     ;STORE DAT IN USER AC
                                00300
                                00310     INTERNAL STOAC
                                00320
000005  135040 000000           00330     STOAC:    LDB TAC, PUUOAC
000006  505040 000007           00340               HRLI TAC, PROG
000007  202260 000001           00350               MOVEM DAT,@TAC
000010  254000 000000           00360               JRST UXIT
                                00370
                                00380     ;RETURN DEVICE CHARACTERISTICS
                                00390
                                00400     INTERNAL DVCHR
                                00410     EXTERNAL JOB,DEVSRC,PJOBN
                                00420
000011  200200 000000           00430     DVCHR:    MOVE ITEM,JOB
000012  260140 000000           00440               PUSHJ PDP,DEVSRC    ;SEARCH FOR DEVICE
000013  334240 000034'          00450               SKIPA DAT,[0]       ;NOT A DEVICE
000014  334246 000004           00460               SKIPA DAT,DEVMOD(DEVDAT)
000015  254000 000005'          00470               JRST STOAC
000016  135040 000000           00480               LDB TAC,PJOBN       ;GET JOB NUMBER
000017  312040 000011'          00490               CAME TAC,JOB        ;DOES USER ALREADY HAVE THIS DEVICE?
000020  606240 600000           00500               TRNN DAT,ASSCON+ASSPRG        ;NO
000021  661240 000040           00510               TLO DAT,DVAVAL      ;NO, BUT HE CAN GET IT
000022  254000 000005'          00520               JRST STOAC
```

```
00530
00540      , CALLING SEQUENCE
00550      ,         PUSHJ PDP,HASH
00560      ,         EXIT;                ALWAYS RETURNS HERE
00570      , COMPUTES XOR HASH TYPE INDEX FROM NAME (SIXBIT CODE) IN AC DAT
00580      , AND LEAVES THE RESULT (00<OR= INDEX <OR=77) AS AN INTEGER IN TAC.
00590      , THE ALGORITHM IS AS FOLLOWS: (V = EXCLUSIVE OR)
00600      , BIT     35:=8V17V26V35
00610      ,         34:=7V16V25V34
00620      ,         33:=6V15V24V33
00630      ,         32:=5V11V23V29
00640      ,         31:=4V10V22V28
00650      ,         30:=3V9V21V27
00660      , MONITOR INTERFACE
00670      ,         SYMBOLS SET/USED:
00680      ,                   ACCUMULATORS:       DAT U              TAC  S/U
00690      ,                                       PDP S/U            TAC1 S/U
00700      ;         INTERN HASH
00710
00720
00730      ;HASH:    HLR TAC,DAT
00740      ;         MOVE TAC1,DAT
00750      ;         XORB TAC1,TAC
00760      ;         ROT TAC1,-11
00770      ;         XOR TAC,TAC1
00780      ;         ANDI TAC,UTBNM1
00790      ;         POPJ PDP,            ;         RETURN
```

```
                                00800
                                00810                   INTERNAL SETDDT
                                00820
000023  505040 010000           00830   SETDDT:         HRLI TAC,10000
000024  202040 000000           00840                   MOVEM TAC,USRDDT
000025  254000 000010'          00850                   JRST UXIT
                                00860
                                00870
                                00880                   INTERNAL SETPOV
                                00890
000026  505040 010000           00900   SETPOV:         HRLI TAC,10000
000027  202040 000000           00910                   MOVEM TAC,USRPOV
000030  254000 000025'          00920                   JRST UXIT
                                00930
                                00940   ;WAIT FOR IO TO BECOME INACTIVE ON CHANNEL AC
                                00950
                                00960   INTERNAL WAIT
                                00970   EXTERNAL IOIERR,WAIT1
                                00980
000031  322300 000000           00990   WAIT:           JUMPE DEVDAT,IOIERR ;CHANNEL ASSIGNED?
000032  260140 000000           01000                   PUSHJ PDP,WAIT1     ;WAIT TILL INACTIVE
000033  254000 000030'          01010                   JRST UXIT
000034  000000 000000           01020                   END,
```

THERE ARE NO ERRORS

PROGRAM BREAK IS 000035

SYMBOL TABLE

```
A                   000000  INT
AC1                 000015  INT
AC2                 000016  INT
AC3                 000017  INT
AL                  000001  INT
ASSCON              400000  INT
ASSPRG              200000  INT
B                   000014  INT
BUFPNT              000012  INT
BUFWRD              000013  INT
CLOSR               002000  INT
CLSIN               000002  INT
CLSOUT              000001  INT
D                   000017  INT
DAT                 000005  INT
DATE                000000' INT
DCL                 000001  INT
DCW                 020000  INT
DDI                 000007  INT
DDO                 000006  INT
DDTMEM              000037  INT
DDTSYM              000036  INT
DEN                 000004  INT
DEVADR              000007  INT
DEVBUF              000006  INT
DEVCHR              000001  INT
DEVCTR              000011  INT
DEVDAT              000006  INT
DEVIAD              000007  INT
DEVIOS              000002  INT
DEVLOG              000005  INT
DEVMOD              000004  INT
DEVNAM              000000  INT
DEVOAD              000010  INT
DEVPTR              000010  INT
DEVSER              000003  INT
DEVSRC              000012' EXT
DGF                 000012  INT
DIN                 000003  INT
DLK                 000005  INT
DOU                 000002  INT
DR                  000016  INT
DRL                 000000  INT
DSI                 000011  INT
DSO                 000010  INT
DTW                 040000  INT
DVAVAL              000040  INT
DVCDR               100000  INT
DVCHR               000011' INT
DVDIR               000004  INT
DVDIRI              400000  INT
DVIN                000002  INT
DVLPT               040000  INT
DVMTA               000020  INT
DVOUT               000001  INT
```

SYMBOL TABLE

```
DVTTY           000010  INT
ENTRB           020000  INT
ERROR           000000  EXT
I               000010  INT
IB              000013  INT
IBUFB           200000  INT
INITB           400000  INT
INPB            010000  INT
IO              000020  INT
IOACT           010000  INT
IOREG           000002  INT
IORKTL          040000  INT
IOCON           000040  INT
IODEND          020000  INT
IODERR          200000  INT
IODISC          400000  INT
IODONE          400000  INT
IODTER          100000  INT
IOEND           000040  INT
IOFST           000004  INT
IOIERR          000031' EXT
IOIMPM          400000  INT
IONRCK          000100  INT
IORDEL          000100  INT
IORET           000020  INT
IOS             000000  INT
IOSTRT          000010  INT
IOUSE           400000  INT
IOW             000001  INT
IOWC            000020  INT
IOWS            400000  INT
ITEM            000004  INT
JBFADR          000000  INT
JBFCTR          000002  INT
JBFPTR          000001  INT
JBUF            000005  INT
JDAT            000011  INT
JERR            002000  INT
JIOW            100000  INT
JNA             004000  INT
JOB             000017' EXT
LOOKB           040000  INT
MTW             010000  INT
OBUFB           100000  INT
OUTPB           004000  INT
PDP             000003  INT
PICHN           000100  INT
PJOBN           000016' EXT
PROG            000007  INT
PUUOAC          000005' EXT
RUN             200000  INT
RUNABL          204000  INT
SETDDT          000023' INT
SETPOV          000026' INT
STOAC           000005' INT
```

SYMBOL TABLE

```
SWITCH          000004' INT
TAC             000001  INT
TAC1            000002  INT
TEM             000010  INT
THSDAT          000002' INT
TIME            000003' EXT
TIMER           000003' INT
TTYATC          020000  INT
TTYUSE          010000  INT
USRDDT          000024' EXT
USRMOD          010000  INT
USRPOV          000027' EXT
USRREL          000000  EXT
UUO             000014  INT
UXIT            000033' EXT
WAIT            000031' INT
WAIT1           000032' EXT

END OF ASSEMBLY
```