```
00010                   XLIST
```

01970

```
00030
00040
00050
00060                EXTERNAL BUFCLC,ERROR,IOSETC,IOIERR,BUFCLR
00070                EXTERNAL SETBYT,UINTQ,WAIT1,WSYNC,ADRCK
00080                EXTERNAL UXIT,USRJDA,JOBJDA,ILLMOD,PUUOAC,PIOMOD
00090                EXTERNAL JOB,ASSIN,PJOBN,ADRERR,USRREL,CUXIT1,CUXIT2
00100                EXTERNAL SETIOS
00110
00120     ;FOR PURPOSES OF COMMENTING THIS SUBROUTINE THE
00130     ;TERM BUFFER HEADER SHALL REFER TO THE 3 WORD HEADER
00140     ;WHICH IS USED BY THE USER PROGRAM AND THIS EXEC FOR
00150     ;REFERING TO THE RING BUFFERS.
00160
00170     ;THE CONTENTS OF THE 3 WORD HEADER (AS SET BY THE MONITOR FOR THE USE
00180     ;                    FROM USERS PROGRAM BY AN INPUT OR AN OUTPUT UUO
00190     ;                    BIT 18-35=ADDRESS OF SECOND WORD OF THE
00200     ;                    CURRENT BUFFER IN RING.
00210     ;          WORD 2:   BYTE POINTER TO CURRENT ITEM.
00220     ;          WORD 3:   POSITIVE ITEM COUNT (NO. OF ITEMS LEFT ON
00230     ;                    INPUT, NO. OF FREE ITEMS TO GO ON OUTPUT).
00240
00250     ;EACH BUFFER IN THE RING HAS FOLLOWING FORMAT (AS THE USER SEES IT)
00260
00270     ;          WORD 1:   RESERVED FOR BLOCK NUMBER FOR FIXED ADDRESS DEVIC
00280     ;          WORD 2:   BIT 0=USE BIT FOR THIS BUFFER
00290     ;                    BIT 1-17=NO. OF WORDS WHICH FOLLOW (LENGTH OF BUF
00300     ;                    BIT 18-35=ADDRESS OF SECOND WORD OF NEXT BUFFER I
00310     ;          WORD 3:   LH=LINK TO NEXT BLOCK (SET BY MONITOR FOR DECTAPE
00320     ;                    RH=NO. OF WORDS OF DATA WHICH FOLLOW (USUALLY
00330     ;                    SET BY EXEC EXCEPT IF THE USER HAS SPECIFIED
00340     ;                    THAT HE WANTS TO COMPUTE WORD COUNT
00350     ;                    HIMSELF INSTEAD OF HAVING THE MONITOR DO IT
00360     ;                    USING THE BYTE POINTER IN THE 3 WORD HEADER).
```

```
00370
00380      ,H. R. MORSE        2/21/65
00390      ,CALLING SEQUENCE
00400      ,          CLOSE D,
00410      ,          EXIT                    ALWAYS RETURNS HERE
00420      , THIS ROUTINES PROCESSES THE CLOSE UUO AND DETERMINES WHETHER THE
00430      ,OUTPUT ROUTINE SHOULD BE CALLED IF OUTPUT WERE ACTIVE, CLEARS
00440      ,THE INPUT BUFFER AREA IF INPUT WERE ACTIVE, AND CLEARS THE
00450      ,ITEM COUNTS OF BOTH INPUT AND OUTPUT HEADERS SERVING TO BOTH
00460      ,TERMINATE THE USE OF THE DEVICE AND SET THE I/O ROUTINES TO
00470      ,ACCEPT ANOTHER INPUT OR OUTPUT COMMAND IN A CLEAR STATE.
00480      ,IN THE CASE OF OUTPUT DEVICES, THE CLOSE ROUTINE OF THE DEVICE HANDL
00490      ,ING ROUTINE IS CALLED IN CASE ANY SPECIAL HANDLING IS REQUIRED.
00500      ,MONITOR INTERFACE
00510      ,          STORAGE:  30
00520      ,          ROUTINES CALLED:    DCL, WAIT1, UXIT
00530      ,          SYMBOLS SET/USED:
00540      ,              ACCUMULATORS:            DAT     S/U         PROG U
00550      ,                                       DEVDAT  U           TAC  S/U
00560      ,                                       IOS     S/U         TAC1 S/U
00570      ,                                       PDP     U
00580      ,              DEVICE DATA BLOCK:       DEVBUF  U
00590      ,                                       DEVIOS  S/U
00600      ,                                       DEVSER  U
00610      ,              IO STATUS WORD:          IOACT   S           IODTER S
00620      ,                                       IOBEG   S           IOEND  S
00630      ,                                       IOBKTL  S           IOFST  S
00640      ,                                       IODEND  S           IOIMPM S
00650      ,                                       IODERR  S           IOSTRT S
00660      ,                                       IODISC  S           IOW    S
00670      ,                  JOB BUFFER AREA:     IOUSE   S
00680      ,                                       JBFCTR  S
```

```
                                00690
                                00700      INTERNAL CLOSE1
                                00710
000000  663300 002000           00720      CLOSE1:   TLOE DEVDAT,CLOSB    ;HAS A CLOSE ALREADY BEEN DONE?
000001  254000 000000           00730                JRST UXIT            ;YES, FOR THIS CHANNEL
000002  135040 000000           00740                LDB TAC,PUUOAC       ;USER DEVICE CHANNEL NO.
000003  502301 000000           00750                HLLM DEVDAT,USRJDA(TAC)
000004  261140 000005           00760                PUSH PDP,DAT
000005  135040 000000           00770                LDB TAC,PIOMOD
000006  305040 000016           00780                CAIGE TAC,DR
000007  254000 000013'          00790                JRST UCLS4
000010  200046 000003           00800                MOVE TAC,DEVSER(DEVDAT)
000011  260141 000001           00810                PUSHJ PDP,DCL(TAC)
000012  254000 000060'          00820                JRST UCLS3
000013  260140 000000           00830      UCLS4:    PUSHJ PDP,WAIT1;     WAIT UNTIL DEVICE IS INACTIVE.
000014  606600 000002           00840                TRNN UUO,CLSIN       ;SUPPRESS INPUT?
000015  607300 200000           00850                TLNN DEVDAT,IBUFB    ;NO, WAS INPUT BUFFER SPECIFIED?
000016  254000 000041'          00860                JRST UCLS2                                ;NO
000017  550106 000006           00870                HRRZ TAC1,DEVBUF(DEVDAT)
000020  505100 000007           00880                HRLI TAC1,PROG
000021  550260 000002           00890                HRRZ DAT,@TAC1       ;FIRST WORD OF 3 WORD BUFFER HEADER
000022  540120 000002           00900                HRR TAC1,@TAC1       ;REMEMBER CURRENT BUFFER IN TAC1
000023  515040 400000           00910                HRLZI TAC,IOUSE      ;USED BOTH FOR HEADER AND EACH BUFFER
000024  322240 000034'          00920                JUMPE DAT,UCLS1      ;HAS A RING BEEN SETUP?(NO IF 0)
000025  505240 000007           00930                HRLI DAT,PROG        ;YES
000026  540260 000005           00940      UCLS0:    HRR DAT,@DAT;        ADVANCE CURRENT INPUT BUFFER ADDRESS
                                00950                ADRCHK DAT ;IS ADDRESS OK?
000027  260140 000000                     PUSHJ PDP,ADRCK
000030  550040 000005                     HRRZ TAC,DAT
000031  412060 000005           00960                ANDCAM TAC,@DAT      ;YES, CLEAR USE BIT.
000032  312100 000005           00970                CAME TAC1,DAT;       DONE?
000033  254000 000026'          00980                JRST UCLS0
000034  505240 000007           00990      UCLS1:    HRLI DAT,PROG
000035  540246 000006           01000                HRR DAT,DEVBUF(DEVDAT)
000036  436060 000005           01010                IORM TAC,@DAT        ;FLAG AS VIRGIN BUFFER IN 3 WORD HEADER
000037  271240 000002           01020                ADDI DAT,2;          JBFCTR:=0
000040  402020 000005           01030                SETZM @DAT           ;CLEAR INPUT ITEM COUNT.
000041  606600 000001           01040      UCLS2:    TRNN UUO,CLSOUT      ;SUPPRESS OUTPUT?
000042  607300 100000           01050                TLNN DEVDAT,OBUFB    ;NO,WAS OUTPUT BUFFER SPECIFIED?
000043  254000 000060'          01060                JRST UCLS3                        ;NO
000044  544246 000006           01070                HLR DAT, DEVBUF(DEVDAT)           ;VIRGIN OUBPUT BUFFER?
000045  505240 000007           01080                HRLI DAT, PROG
000046  337020 000005           01090                SKIPG @DAT
000047  254000 000060'          01100                JRST UCLS3           ;YES
000050  200046 000003           01110                MOVE TAC,DEVSER(DEVDAT)
000051  260141 000001           01120                PUSHJ PDP,DCL(TAC); CLOSE OUTPUT BUFFER
000052  544246 000006           01130                HLR DAT,DEVBUF(DEVDAT)
000053  505240 000007           01140                HRLI DAT,PROG
000054  515040 400000           01150                HRLZI TAC,IOUSE
000055  436060 000005           01160                IORM TAC,@DAT
000056  271240 000002           01170                ADDI DAT,2
000057  402020 000005           01180                SETZM @DAT;          JBFCTR:=0
000060  260140 000013'          01190      UCLS3:    PUSHJ PDP,WAIT1
000061  262140 000005           01200                POP PDP,DAT
000062  630000 000473'          01210                TDZ IOS,[XWD IOEND,IODEND]
000063  661000 000002           01220                TLO IOS,IOBEG
000064  202006 000002           01230                MOVEM IOS,DEVIOS(DEVDAT);     IODISC:=0
```

```
000065  254000 000001'   01240          JRST UXIT;          EXIT THIS UUO
```

```
01250
01260      ,DEC 06 00 EX UUO L PT PRE 02 INBUF,OUTBUF
01270      ,H. R. MORSE          64-12-26
01280      ,CALLING SEQUENCE
01290      ,          INBUF D,N
01300      ,          EXIT                    RETURNS HERE IF MEMORY NOT EXCEEDED
01310      ,CALLING SEQUENCE
01320      ,          OUTBUF D,N
01330      ,          EXIT                    RETURNS HERE IF MEMORY NOT EXCEEDED
01340      , SETS UP AN N BUFFER RING FOLLOWING THE USERS PROGRAM FOR DEVICE
01350      , D AND INITIALIZES THE JOB BUFFER AREA HEADER:
01360      ,          JBFADR0:=1,             JBFADR 1-17:=0
01370      ,          JBFADR 18-35:=ADDRESS OF FIRST BUFFER IN RING
01380      ,INPUT SETS DEVIAD:=ADDRESS OF FIRST BUFFER IN RING
01390      ,OUTPUT SET DEVOAD:=ADDRESS OF FIRST BUFFER IN RING
01400      ,BUFPNT IS RESTORED.
01410      ,MONITOR INTERFACE
01420      ,          STORAGE:13
01430      ,          ROUTINES CALLED: BUFCLC,  UXIT
01440      ,          SYMBOLS SET/USED:
01450      ,              ACCUMULATORS:    BUFPNT  S/U          PROG  U
01460      ,                               DEVDAT  U            TAC   S/U
01470      ,                               PDP     U            TAC1  S/U
01480      ,              DEVICE DATA BLOCK:        DEVBUF  U
01490      ,                               DEVIAD  S
01500      ,                               DEVOAD  S
01510      ,              JOB BUFFER AREA:          JBFADR  S
```

```
                                    01520
                                    01530                   INTERN UINBF, UOUTBF
                                    01540
                                    01550
000066  261140 000012     01560     UOUTBF:   PUSH PDP,BUFPNT;     SAVE BUFPNT ON STACK
000067  260140 000000     01570               PUSHJ PDP,BUFCLC;    SET UP BUFFER RING
000070  544046 000006     01580               HLR TAC,DEVBUF(DEVDAT);TAC:=OUTPUT BUFFER AREA HEADER ADDRE
000071  542506 000010     01590               HRRM BUFPNT,DEVOAD(DEVDAT);DEVOAD:=ADDRESS OF FIRST BUFFER
                           01600               ,                                  IN RING
000072  505040 000007     01610     UOBF1:    HRLI TAC,PROG;       RELOCATE BUFFER AREA HEADER ADDRESS
000073  202520 000001     01620               MOVEM BUFPNT,@TAC;   JBFADR:=IOUSE,ADDRESS OF FIRST BUFFER
                           01630               ,                                  IN RING
000074  262140 000012     01640               POP PDP,BUFPNT;      RESTORE BUFPNT FROM STACK
000075  254000 000065'    01650               JRST UXIT;           EXIT THIS UUO
000076  261140 000012     01660     UINBF:    PUSH PDP,BUFPNT;     SAVE BUFPNT ON STACK
000077  260140 000067'    01670               PUSHJ PDP,BUFCLC;    SET UP BUFFER RING
000100  542506 000007     01680               HRRM BUFPNT,DEVIAD(DEVDAT); DEVIAD:=ADDRESS OF FIRST BUFFER
                           01690               ,                                  IN RING
000101  540046 000006     01700               HRR TAC,DEVBUF(DEVDAT); TAC:=INPUT BUFFER AREA HEADER ADDRE
000102  254000 000072'    01710               JRST UOBF1
```

```
01720
01730
01740     ,DEC 06 00 EX UUO L PT PRE 03 INIT
01750     ,H. R. MORSE AND D. A. WITCRAFT          2/21/65
01760     ,CALLING SEQUENCE
01770     ,          INIT D,MODUS          D=JOB DEVICE CHANNEL
01780     ,                                MODUS=IORDEL,IOCON,IOWC,MODE.
01790     ,          SIXBIT/NAME/          DEVICE NAME
01800     ,          XWD OBUF,IBUF         BUFFER AREA HEADER ADDRESSES
01810     ,          EXIT1                 DEVICE NOT AVAILABLE
01820     ,          EXIT2                 DEVICE PROPERLY ASSIGNED
01830     ,THE LEFT HALF OF NAME CONTAINS THE THREE LETTER DEVICE MNEMONIC,
01840     ,   THE RIGHT HALF IS EITHER ŻERO (SYSTEM WILL ASSIGN AN ARBITRARY
01850     ,   UNIT) OR NON-ŻERO TO REQUEST A SPECIFIC UNIT (LEFT JUSTIFIED).
01860     ,IF THE SELECTED DEVICE IS NOT AVAILABLE, CONTROL RETURNS TO EXIT1.
01870     ,OTHERWISE, THE DEVICE IS ASSIGNED TO THE USER AND ATTACHED TO HIS
01880     ,CHANNEL D.  THE DEVICE IS INITIALIŻED IN THE FOLLOWING MANNER AFTER
01890     ,IOACT IS ŻERO:
01900     ,          IOBEG:=1
01910     ,          DATA MODE:=BITS 32-35 OF AC UUO
01920     ,          IOCON:=BIT 31 OF AC UUO
01930     ,          IOWC:=BIT 30 OF AC UUO
01940     ,          IORDEL:=BIT 29 OF AC UUO
01950     ,          IOACT:=IODEND:=IOBKTL:=IODTER:=IODERR:=IOIMPM:=0
01960     ,          JBFADR:=JBFCTR:=0 FOR THE SPECIFIED BUFFERS.
01970     ,          DEVBUF:=OBUF,IBUF
01980     ,MONITOR INTERFACE
01990     ,          STORAGE:  20
02000     ,          ROUTINES CALLED:    UINTQ, ASSIGN(UASG1),USEL,UINITŻ,UXIT
02010     ,          SYMBOLS SET/USED:
02020     ,              ACCUMULATORS:   DEVDAT  U
02030     ,                              PDP     U          TAC   U
02040     ,                              PROG    U          TAC1  S/U
02050     ,              DEVICE DATA BLOCK:        DEVBUF  S
```

```
                                02060
                                02070                   INTERN UINIT,UINIT1
000103  135040 000002'  02080   UINIT:  LDB TAC,PUUOAC          ;USER DEVICE CHANNEL NO.
000104  332301 000003'  02090           SKIPE DEVDAT,USRJDA(TAC)       ;IS A DEVICE ALREADY HERE?
000105  260140 000430'  02100           PUSHJ PDP,RELEA0        ;YES, RELEASE IT
000106  200600 000040   02110           MOVE UUO,40             ;RESTORE AC UUO FROM LOC 40
000107  260140 000000   02120           PUSHJ PDP,UINTQ         ;GET SIXBIT DEVICE NAME FROM USER
000110  350003 000000   02130           AOS (PDP)
000111  200200 000000   02140   UINIT1: MOVE ITEM,JOB           ;CALLED BY SAVGET
000112  260140 000000   02150           PUSHJ PDP,ASSIN;        TRY TO ASSIGN DEVICE
000113  254000 000000   02160           JRST CUXIT1;            NOT AVAILABLE
000114  135040 000103'  02170           LDB TAC,PUUOAC
000115  552301 000104'  02180           HRRZM DEVDAT,USRJDA(TAC)       ;STORE DDB ADR IN DEVICE TABL
000116  515040 000002   02190           HRLZI TAC,IOBEG
000117  202046 000002   02200           MOVEM TAC,DEVIOS(DEVDAT)
000120  260140 000000   02210           PUSHJ PDP,SETIOS        ;SET DDB IOS STATUS WORD
                        02220                                   ;FROM RT. HALF OF UUO
000121  260140 000107'  02230           PUSHJ PDP,UINTQ
000122  505300 400000   02240           HRLI DEVDAT, INITB      ;SET INIT UUO BIT
000123  607040 777777   02250           TLNN TAC,-1
000124  254000 000127'  02260           JRST UINIT4             ;OUTPUT NOT SPECIFIED
000125  502046 000006   02270           HLLM TAC,DEVBUF(DEVDAT)
000126  661300 100000   02280           TLO DEVDAT,OBUFB        ;SET OUTPUT BUFFER SPECIFIED BIT
000127  606040 777777   02290   UINIT4: TRNN TAC,-1;            IS IBUF SPECIFIED?
000130  254000 000133'  02300           JRST UINIT5             ;INPUT BUF NOT SPECIFIED
000131  542046 000006   02310           HRRM TAC,DEVBUF(DEVDAT);       DEVBUF 18-35:=IBUF
000132  661300 200000   02320           TLO DEVDAT,IBUFB        ;SET INPUT BUFFER SPECIFIED BIT
000133  550100 000001   02330   UINIT5: HRRZ TAC1,TAC;          TAC1:=PROG,IBUF
000134  260140 000142'  02340           PUSHJ PDP,UINITZ;       JBFADR:=JBFCTR:=0 FOR IBUF
000135  544100 000001   02350           HLR TAC1,TAC;           TAC1:=PROG,OBUF
000136  260140 000142'  02360           PUSHJ PDP,UINITZ;       JBFADR:=JBFCTR:=0 FOR OBUF
000137  135040 000114'  02370           LDB TAC,PUUOAC          ;STORE UUO BITS FOR THIS CHANNEL
000140  502301 000115'  02380           HLLM DEVDAT,USRJDA(TAC)
000141  254000 000000   02390           JRST CUXIT2
```

```
                                02400
                                02410      ,DEC 06 00 EX COM L PT PRE 03 UINITZ
                                02420      ,H. R. MORSE        64-12-26
                                02430      ,CALLING SEQUENCE
                                02440      ,          PUSHJ PDP,UINITZ
                                02450      ,          EXIT                 RETURNS HERE IF MEMORY NOT EXCEEDED.
                                02460      ,SETS JBFADR:=JBFCTR:=0 FOR THE BUFFER AREA HEADER WHOSE ADDRESS
                                02470      ,IS IN AC TAC1.  ALSO,JBFPTR 0-5:=JBFPTR 12-17:=0,JBFPTR 6-11:=BYTE S
                                02480      ,MONITOR INTERFACE
                                02490      ,          STORAGE:15
                                02500      ,          ROUTINES CALLED:    ADRCK, SETBYT
                                02510      ,          SYMBOLS SET/USED:
                                02520      ,              ACCUMULATORS:   PDP   U              TAC   S/U
                                02530      ,                              TAC1  S/U
                                02540      ,             JOB BUFFER AREA:  JBFADR S
                                02550      ,                                    JBFCTR S
                                02560      ,                                    JBFPTR S
                                02570                 INTERN UINITZ
                                02580
000142  606100 777777           02590      UINITZ:    TRNN TAC1,-1;        IS BUFFER SPECIFIED?
000143  263140 000000           02600                 POPJ PDP,;RETURN
000144  505100 000007           02610                 HRLI TAC1,PROG
000145  260140 000027'          02620                 PUSHJ PDP,ADRCK      ;CHECK 3 WORD BUFFER HEADER
000146  551042 000002           02630                 HRRZI TAC,2(TAC1)
000147  402020 000002           02640                 SETZM @TAC1;         JBFADR:=0
000150  350000 000002           02650                 AOS TAC1
000151  261140 000001           02660                 PUSH PDP,TAC
000152  261140 000002           02670                 PUSH PDP,TAC1
000153  350000 000002           02680                 AOS TAC1
000154  402020 000002           02690                 SETZM @TAC1;         JBFCTR:=0
000155  260140 000000           02700                 PUSHJ PDP,SETBYT;    JBFPTR 6-11:=BYTE SIZE
000156  621040 770077           02710                 TLZ TAC,770077
000157  262140 000002           02720                 POP PDP,TAC1
000160  502060 000002           02730                 HLLM TAC,@TAC1
000161  262140 000001           02740                 POP PDP,TAC
000162  263140 000000           02750                 POPJ PDP,;           RETURN
```

```
                                02760
                                02770
                                02780      INTERNAL IN
                                02790
000163  603000 000020           02800      IN:       TLNE IOS,IO           ;IS THIS DEVICE ALREADY DOING OUTPUT?
000164  260140 000060'          02810                PUSHJ PDP,WAIT1       ;YES,WAIT TILL IT IS FINISHED
000165  135040 000137'          02820                LDB TAC,PUUOAC        ;SET BIT THAT SAYS AN INPUT UUO HAS OCC
000166  661300 010000           02830                TLO DEVDAT,INPB       ;FOR THIS DEVICE
000167  502301 000140'          02840                HLLM DEVDAT,USRJDA(TAC)       ;IN LH OF CURRENT JOB DEVICE
000170  135040 000005'          02850                LDB TAC,PIOMOD        ;IO MODE
000171  301040 000016           02860                CAIL TAC,DR           ;IS THE IO MODE DUMP MODE?
000172  254000 000271'          02870                JRST INDMP            ;YES
000173  540246 000006           02880      IN1:      HRR JBUF,DEVBUF(DEVDAT)       ;NO, GET ADDRESS OF 3 WORD BU
000174  515040 400000           02890                HRLZI TAC,IOUSE       ;BUFFER INUSE BIT
000175  505240 000007           02900                HRLI JBUF,PROG        ;SET INDEX FIELD FOR RELOCATION USING A
000176  260140 000145'          02910                PUSHJ PDP,ADRCK       ;CHECK BUFFER HEADER
000177  551045 000002           02920                HRRZI TAC,2(JBUF)     ;END ADDRESS OF 3 WORD HEADER
000200  200120 000005           02930                MOVE TAC1,@JBUF       ;GET WORD 1 OF 3 WORD BUFFER HEADER (PO
000201  505100 000007           02940                HRLI TAC1,PROG        ;SET INDEX FIELD COR RELOCATION USING A
000202  337020 000005           02950                SKIPG @JBUF           ;HAS A BUFFER RING BEEN SET UP (RH NON-
                                02960                                      ;WHICH HAS BEEN REFERENCED BY PREVIOUS
000203  254000 000256'          02970                JRST INPUTF           ;NO. GO SET UP BUFFER IF NECESSARY AND
                                02980                ADRCHK TAC1           ;YES, CHECK ADDRESS TO SEE IF IN BOUNDS
000204  260140 000176'          PUSHJ PDP,ADRCK
000205  550040 000002                    HRRZ TAC,TAC1
000206  413060 000002           02990                ANDCAB TAC,@TAC1      ;FLAG THIS BUFFER AS BEING FILLED (USE
                                03000                                      ;AND GET POINTER TO NEXT BUFFER
000207  542060 000005           03010                HRRM TAC,@JBUF        ;SET WORD 1 IN 3 WORD HEADER TO NEXT BU
                                03020                ADRCHK TAC ;AND CHECK ITS ADDRESS TO SEE IF IN BOUNDS
000210  260140 000204'          PUSHJ PDP,ADRCK
000211  550040 000001                    HRRZ TAC,TAC
                                03030
000212  200006 000002           03040      INPUT0:   MOVE IOS,DEVIOS(DEVDAT)       ;GET IO STATUS WORD
000213  606000 010000           03050                TRNN IOS,IOACT        ;IS THE DEVICE ALREADY ACTIVE (FILLING
000214  254000 000220'          03060                JRST INPT0B           ;NO.
000215  606000 000040           03070                TRNN IOS,IOCON        ;DOES THE USER WANT TO STOP AFTER EVERY
000216  254000 000224'          03080                JRST INPT0C           ;NO. HE WANTS NORMAL CONTINUOUS OVERLAP
000217  260140 000000           03090                PUSHJ PDP,WSYNC       ;YES, WAIT TILL DEVICE FINISHES WITH ON
000220  505040 000007           03100      INPT0B:   HRLI TAC,PROG         ;SET FOR RELOCATION
000221  540060 000001           03110                HRR TAC,@TAC          ;GET POINTER 1 BLOCK AHEAD OF NEXT BBUF
000222  331020 000001           03120                SKIPL @TAC            ;IS THE USE BIT SET?
000223  260140 000276'          03130                PUSHJ PDP,CALIN
000224  540120 000002           03140      INPT0C:   HRR TAC1,@TAC1
000225  335020 000002           03150      INPT0A:   SKIPGE @TAC1
000226  254000 000236'          03160                JRST INPUT2
000227  260140 000217'          03170      INPUT1:   PUSHJ PDP,WSYNC
000230  335020 000002           03180                SKIPGE @TAC1
000231  254000 000236'          03190                JRST INPUT2
000232  612000 000474'          03200                TDNE IOS,[XWD IOEND,IODERR]
000233  254000 000250'          03210                JRST INEOF
000234  200006 000002           03220                MOVE IOS,DEVIOS(DEVDAT)
000235  254000 000227'          03230                JRST INPUT1
                                03240
000236  271100 000001           03250      INPUT2:   ADDI TAC1,1
000237  550220 000002           03260                HRRZ ITEM,@TAC1
000240  275100 000001           03270                SUBI TAC1,1
000241  261140 000004           03280                PUSH PDP,ITEM         ;SAVE WORD COUNT AS STORED BY IO SERVIC
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```
000242  260140 000000    03290                PUSHJ PDP,IOSETC
000243  262140 000004    03300                POP PDP,ITEM
000244  135040 000170'   03310                LDB TAC,PIOMOD      ;GET DEVICE DATA MODE
000245  306040 000010    03320                CAIN TAC, I         ;IMAGE MODE?
000246  202220 000005    03330                MOVEM ITEM,@JBUF    ;YES, STORE WORD COUNT NOT ITEM COUNT
000247  254000 000075'   03340                JRST UXIT
```

```
                                03350
000250  551000 020000           03360     INEOF:    HRRZI IOS,IODEND
000251  436006 000002           03370               IORM IOS,DEVIOS(DEVDAT)
000252  254000 000247'          03380               JRST UXIT
                                03390
                                03400
                                03410
000253  540100 000014           03420     INPUTA:   HRR TAC1,UUO
000254  412060 000002           03430               ANDCAM TAC,@TAC1
000255  254000 000212'          03440               JRST INPUT0
                                03450
                                03460     ;HERE ON FIRST INPUT AFTER INIT, INIT & LOOKUP, OR INIT & LOOKUP & IN
000256  412060 000005           03470     INPUTF:   ANDCAM TAC,@JBUF     ;MARK THAT BUFFERS HAVE BEEN REFERENCED
000257  540060 000005           03480               HRR TAC,@JBUF        ;PICKUP ADDRESS OF FIRST BUFFER IN RING
000260  542046 000007           03490               HRRM TAC,DEVIAD(DEVDAT)       ;SET CURRENT RING BUFFER ADDR
                                03500                                             ;IN DEVICE DATA BLOCK
000261  336020 000005           03510               SKIPN @JBUF          ;HAS A RING BEEN SET UP YET?
000262  254000 000265'          03520               JRST INPUT3          ;NO. GO SET UP A 2 BUFFER RING
000263  260140 000276'          03530               PUSHJ PDP,CALIN      ;YES. GO START IO SERVICE ROUTINE
                                03540                                             ;FILLING BUFFER
000264  254000 000225'          03550               JRST INPT0A
000265  541600 000002           03560     INPUT3:   HRRI UUO,2           ;BUFFERS NOT SETUP YET.
                                03570                                             ;SET UP 2
000266  260140 000076'          03580               PUSHJ PDP, UINBF
000267  513000 000014           03590               HLLZS UUO            ;CLEAR RIGHT HALF
000270  254000 000173'          03600               JRST IN1
                                03610
                                03620
000271  260140 000227'          03630     INDMP:    PUSHJ PDP,WSYNC
000272  200046 000003           03640               MOVE TAC,DEVSER(DEVDAT)
000273  260141 000007           03650               PUSHJ PDP,DDI(TAC)
000274  260140 000164'          03660               PUSHJ PDP,WAIT1
000275  254000 000252'          03670               JRST UXIT
```

```
                                03680
                                03690
                                03700
                                03710
000276  603000 000040           03720     CALIN:    TLNE IOS,IOEND
000277  263140 000000           03730               POPJ PDP,
000300  260140 000271'          03740               PUSHJ PDP,WSYNC
000301  261140 000002           03750               PUSH PDP,TAC1
000302  200046 000003           03760               MOVE TAC,DEVSER(DEVDAT)
000303  260141 000003           03770               PUSHJ PDP,DIN(TAC)
000304  262140 000002           03780               POP PDP,TAC1
000305  263140 000000           03790               POPJ PDP,
                                03800
                                03810
```

```
03820
03830     ,DEC 06 00 EX COM  L PT PRE 03 OUTPUT
03840     ,H.R. MORSE    2/21/65
03850     ,CALLING SEQUENCE
03860     ,      OUTPUT D,
03870     ,      EXIT
03880     ,OR
03890     ,      OUTPUT D, ADR
03900     ,      EXIT
03910
03920     ,IF INPUT IS ACTIVE, WAIT FOR IT TO COMPLETE.
03930     ,IF DUMP MODE WAS SELECTED BY THE LAST INIT UUO, THEN A CHECK IS MADE
03940     ,   TO SEE IF DUMP FILES ARE LEGAL FOR THIS DEVICE.  IF DUMP FILES AR
03950     ,   NOT LEGAL, (IORET=0) AN ERROR MESSAGE IS PRINTED ON THE TTY AND
03960     ,   CONTROL IS TRANSFERRED TO THE COMMAND INPUT ROUTINE.
03970     ,   OTHERWISE,THE PROGRAM WAITS UNTIL THE DEVICE IS INACTIVE AND THEN
03980     ,   WRITES THE DUMPFILE AND RETURNS CONTROL TO THE USERS PROGRAM
03990     ,IF THE MODE IS NOT DUMP, THEN
04000     ,1) IF ADR IS NOT ŻERO, WAIT FOR DEVICE TO BECOME INACTIVE THEN SET T
04010     ,   CURRENT BUFFER ADDRESS EQUAL TO ADR AND AN INDICATOR (JBFADR0)
04020     ,   SPECIFYING THAT THIS BUFFER RING HAS NEVER BEEN REFERENCED FROM T
04030     ,   USERS PROGRAM BY AN INPUT OR AN OUTPUT UUO.  OTHERWISE, GO TO
04040     ,   2) DIRECTLY.
04050
04060     ,2) IF THE BUFFER RING HAS NEVER BEEN REFERENCED (JBFADR0=1), THE
04070     ,   BUFFER IS CLEARED, IOUSE SET TO ŻERO AND
04080     ,      IF THE CURRENT BUFFER ADDRESS IS ŻERO, A TWO BUFFER RING IS SE
04090     ,      THEN GO TO 8
04100     ,
04110     ,3) IF THE BUFFER RING HAS BEEN REFERENCED (JBFADR0=0       ,THEN A C
04120     ,   MADE TO DETERMINE IF THE WORD COUNT IS TO BE COMPUTED.
04130     ,      IF THE WORD COUNT IS TO BE COMPUTED (IOWC=0), IT IS SET EQUAL
04140     ,      TO THE ADDRESS FOR THE LAST DATA WORD MINUS THE ADDRESS OF THE
04150     ,      BUFFER MINUS ONE.
04160
04170     ,4) IOUSE IS SET TO ONE, INDICATING THAT THE BUFFER IS FULL OR BEING
04180     ,   EMPTIED, AND THE CURRENT BUFFER ADDRESS IS ADVANCED.
04190
04200     ,5) IF THE DEVICE IS NOT ACTIVE (IOACT=0), OUTPUT IS STARTED.
04210     ,6) IF THE CURRENT BUFFER IS FULL OR BEING EMPTIED (IOUSE=1),
04220     ,   THE PROGRAM WAITS UNTIL THE DEVICE IS INACTIVE.
04230     ,7) THE CURRENT BUFFER IS CLEARED.
04240     ,8) THE ITEM POINTER IS INITIATED TO THE CURRENT BUFFER ADDRESS+1
04250     ,   AND THE ITEM COUNT IS SET TO THE PRODUCT OF THE BUFFER SIŻE
04260     ,   MINUS ONE AND THE INTEGER PART OF 36/BYTE SIŻE.
04270     ,9) RETURN TO THE USERS PROGRAM
```

```
04280
04290      ,MONITOR INTERFACE
04300      ,     STORAGE:  54
04310      ,     ROUTINES CALLED:  ADRCK, BUFCLR, CALOUT, INOUT, IOSETC, OUTA,
04320      ,                       OUTBUF, UXIT, WSYNC,
04330      ,     SYMBOLS SET/USED:
04340      ,        ACCUMULATORS:  DEVDAT U      PROG U
04350      ,                       IOS U         TAC S/U
04360      ,                       ITEM S/U      TAC1 S/U
04370      ,                       JBUF S/U      UUO S
04380      ,                       PDP U
04390      ,     DEVICE DATA BLOCK: DEVBUF U         DEVOAD S
04400      ,     IO STATUS WORD:     IOACT U
04410      ,                         IOWC U
04420      ,     JOB BUFFER AREA:    JBFADR S/U
04430      ,                         JBFCTR S
04440      ,                         JBFPTR S/U
04450      ,                         BUFFER SIZE U
04460      ,                         IOUSE S/U
04470      ,                         WORD COUNT S
```

```
                                04480
                                04490
                                04500                   INTERN OUT
                                04510
000306  607000 000020           04520       OUT:        TLNN IOS,IO             ;IS THIS DEVICE ALREADY DOING INPUT?
000307  260140 000274'          04530                   PUSHJ PDP,WAIT1         ;YES, WAIT TILL IT BECOMES INACTIVE
000310  135040 000165'          04540                   LDB TAC,PUUOAC
000311  661300 004000           04550                   TLO DEVDAT,OUTPB
000312  502301 000167'          04560                   HLLM DEVDAT,USRJDA(TAC)
000313  135040 000244'          04570                   LDB TAC,PIOMOD
000314  301040 000016           04580                   CAIL TAC,DR
000315  254000 000402'          04590                   JRST OUTDMP
000316  260140 000407'          04600                   PUSHJ PDP,OUTA
000317  544246 000006           04610       OUT1:       HLR JBUF,DEVBUF(DEVDAT)
000320  260140 000210'          04620                   PUSHJ PDP,ADRCK         ;CHECK END OF 3 WORD HEADER
000321  551045 000002           04630                   HRRŽI TAC,2(JBUF)
000322  505240 000007           04640                   HRLI JBUF,PROG
000323  515040 400000           04650                   HRLŽI TAC, IOUSE
000324  337120 000005           04660                   SKIPG TAC1, @JBUF               ;HAS THIS BUFFER EVER BEEN
                                04670                                                   ;;REFERENCED?(JBFADR0=0?)
000325  254000 000361'          04680                   JRST OUTF
000326  350000 000005           04690                   AOS JBUF
000327  550060 000005           04700                   HRRŽ TAC, @JBUF
000330  271100 000001           04710                   ADDI TAC1, 1
000331  274040 000002           04720                   SUB TAC, TAC1
000332  505100 000007           04730                   HRLI TAC1,PROG
000333  602000 000020           04740                   TRNE IOS, IOWC                  ;COMPUTE WORD COUNT?(IOWC=0?)
000334  254000 000340'          04750                   JRST OUT2
                                04760                   ADRCHK TAC1             ;PROCEED IF ADDRESS OF WORD COUNT
000335  260140 000320'          PUSHJ PDP,ADRCK
000336  550040 000002                 HRRŽ TAC,TAC1
                                04770                                           ;<PROTECTION ADDRESS
000337  542060 000002           04780                   HRRM TAC, @TAC1                 ;WORD COUNT:=C(JBFPTR18-35)
                                04790                                           ;               -C(JBFADR18-35)-
000340  275240 000001           04800       OUT2:       SUBI JBUF,1
000341  275100 000001           04810                   SUBI TAC1,1
000342  515040 400000           04820                   HRLŽI TAC, IOUSE
000343  437060 000002           04830                   IORB TAC, @TAC1                 ;IOUSE:=1
                                04840                   ADRCHK TAC1
000344  260140 000335'          PUSHJ PDP,ADRCK
000345  550040 000002                 HRRŽ TAC,TAC1
000346  542060 000005           04850                   HRRM TAC,@JBUF                  ;ADVANCE CURRENT BUFFER ADDRE
000347  200006 000002           04860                   MOVE IOS,DEVIOS (DEVDAT)
000350  606000 010000           04870                   TRNN IOS,IOACT
000351  260140 000421'          04880                   PUSHJ PDP, CALOUT               ;START OUTPUT
000352  544246 000006           04890                   HLR JBUF,DEVBUF(DEVDAT)
000353  505240 000007           04900                   HRLI JBUF,PROG
000354  200120 000005           04910                   MOVE TAC1,@JBUF
000355  505100 000007           04920                   HRLI TAC1,PROG
000356  337020 000002           04930                   SKIPG @TAC1                     ;IOUSE=1?
000357  260140 000300'          04940                   PUSHJ PDP, WSYNC                ;WAIT FOR DEVICE TO BECOME IN
000360  254000 000372'          04950                   JRST OUTS
```

```
                                04960
000361  332120 000005   04970   OUTF:   SKIPE TAC1,@JBUF
000362  254000 000367'   04980           JRST OUTF1
000363  541600 000002    04990           HRRI UUO,2
000364  260140 000066'   05000           PUSHJ PDP,UOUTBF
000365  544246 000006    05010           HLR JBUF,DEVBUF(DEVDAT)
000366  505240 000007    05020           HRLI JBUF,PROG
000367  515040 400000    05030   OUTF1:  HRLŻI TAC, IOUSE
000370  413060 000005    05040           ANDCAB TAC, @JBUF               ;IOUSE:=0
000371  542046 000010    05050           HRRM TAC,DEVOAD(DEVDAT)
000372  550060 000005    05060   OUTS:   HRRŻ TAC,@JBUF
000373  260140 000000    05070           PUSHJ PDP,BUFCLR
000374  540120 000005    05080           HRR TAC1,@JBUF
000375  505100 000007    05090           HRLI TAC1,PROG
000376  135200 000475'   05100           LDB ITEM,[POINT 17,@TAC1,17]
000377  275200 000001    05110           SUBI ITEM,1
000400  260140 000242'   05120           PUSHJ PDP,IOSETC    ;JBFPTR18-35:=CURRENT BUFFER
                         05130                               ;ADDRESS+1
                         05140                               ;JBFCTR:=(BUFFER SIŻE-1)*[36/BYTE
                         05150                               ;SIŻE]
000401  254000 000275'   05160           JRST UXIT           ;RETURN TO USERS PROGRAM
                         05170
000402  260140 000357'   05180   OUTDMP: PUSHJ PDP,WSYNC
000403  200046 000003    05190           MOVE TAC,DEVSER(DEVDAT)
000404  260141 000006    05200           PUSHJ PDP,DDO(TAC)
000405  260140 000307'   05210           PUSHJ PDP,WAIT1
000406  254000 000401'   05220           JRST UXIT
```

```
                                05230
                                05240
                                05250      ,DEC 06 00 EX COM L PT PRE 01 OUTA
                                05260      ,H.R. MORSE     64-12-26
                                05270
                                05280      ,CALLING SEQUENCE:
                                05290      ,          PUSHJ PDP,OUTA
                                05300      ,          EXIT                 ALWAYS RETURNS HERE
                                05310      ,IF THE ADDRESS FIELD OF AC UUO IS ZERO,EXIT. OTHERWISE,CHECK IOACT.
                                05320      ,IF IOACT=1, WAIT FOR IOACT=0.
                                05330      ,SET JBFADR18-35:=ADDRESS FIELD OF AC UUO. JBFADR0:=1 AND EXIT.
                                05340
                                05350      ,MONITOR INTERFACE
                                05360      ,          STORAGE:13
                                05370      ,          ROUTINES CALLED:    WSYNC
                                05380      ,          SYMBOLS SET/USED:
                                05390      ,              ACCUMULATORS:   DEVDAT U
                                05400      ,                              IOS U                PROG U
                                05410      ,                              JBUF S/U             TAC S/U
                                05420      ,                              PDP S/U              UUO S/U
                                05430      ,          DEVICE DATA BLOCK:  DEVIOS U           DEVBUF U
                                05440      ,          IO STATUS WORD:     IOACT U
                                05450      ,          JOB BUFFER AREA:    IOUSE U
                                05460      ,                              JBFADR S
                                05470
                                05480               INTERN OUTA
000407  606600 777777           05490      OUTA:    TRNN UUO, 777777     ;IS BUFFER ADDRESS SPECIFIED?
000410  263140 000000           05500               POPJ PDP,            ;NO
000411  260140 000405'          05510               PUSHJ PDP,WAIT1
000412  544246 000006           05520               HLR JBUF,DEVBUF(DEVDAT)
000413  505240 000007           05530               HRLI JBUF,PROG
000414  542620 000005           05540               HRRM UUO,@JBUF
000415  542606 000010           05550               HRRM UUO,DEVOAD(DEVDAT)
000416  515040 400000           05560               HRLZI TAC,IOUSE
000417  412060 000005           05570               ANDCAM TAC,@JBUF
000420  263140 000000           05580               POPJ PDP,            ;RETURN
```

```
                                05590
                                05600
                                05610      ,DEC 06 00 EX COM L PT PRE 03 CALOUT
                                05620      ,H.R. MORSE      2/21/65
                                05630
                                05640      ,CALLING SEQUENCE
                                05650      ,          PUSHJ PDP,CALOUT
                                05660      ,          EXIT
                                05670
                                05680      ,DISPATCH TO DEVICE SERVICE ROUTINE DOU TO INITIATE OUTPUT.
                                05690
                                05700      ,MONITOR INTERFACE
                                05710      ,          STORAGE:2
                                05720      ,          SYMBOLS SET/USED:
                                05730      ,              ACCUMULATORS:   DEVDAT U
                                05740      ,                              TAC U
                                05750      ,          DEVICE DATA BLOCK:  DEVSER U
                                05760
                                05770                 INTERN CALOUT
000421  606000 010000           05780      CALOUT:    TRNN IOS,IOACT
000422  254000 000426'          05790                 JRST CALOU1
000423  606000 000040           05800                 TRNN IOS,IOCON
000424  263140 000000           05810                 POPJ PDP,
000425  260140 000402'          05820                 PUSHJ PDP,WSYNC
000426  200046 000003           05830      CALOU1:    MOVE TAC,DEVSER(DEVDAT)
000427  254001 000002           05840                 JRST DOU(TAC)
```

```
                                05850
                                05860     ,RELEASE A DEVICE
                                05870
                                05880     INTERNAL RELEA1,RELEA2,RELEA3,RELEA5
                                05890
000430  200006 000002           05900     RELEA0:   MOVE IOS,DEVIOS(DEVDAT)       ;CALLED FROM INIT
                                05910     RELEA2:RELEA3:
000431  620600 777777           05920     RELEA1:   TRŻ UUO,-1            ;CLOSE BOTH INPUT AND OUTPUT
000432  260140 000000'          05930               PUSHJ PDP,CLOSE1
000433  260140 000411'          05940               PUSHJ PDP,WAIT1     ;WAIT FOR DEVICE TO BECOME INACTIVE
000434  200046 000003           05950     RELEA5:   MOVE TAC, DEVSER(DEVDAT)      ;RELEASE WITHOUT WAITING
000435  260141 000000           05960               PUSHJ PDP, DRL (TAC)
000436  135040 000310'          05970               LDB TAC,PUUOAC
000437  402001 000312'          05980               SETŻM USRJDA(TAC)
000440  201040 000017           05990               MOVEI TAC,17        ;IS THE DEVICE ON AONTHER USER CHANNEL?
000441  550101 000437'          06000     RELEA4:   HRRŻ TAC1,USRJDA(TAC)
000442  302106 000000           06010               CAIE TAC1,(DEVDAT)
000443  365040 000441'          06020               SOJGE TAC,RELEA4
000444  325040 000406'          06030               JUMPGE TAC,UXIT     ;EXIT IF ON ANOTHER CHANNEL
000445  201100 200000           06040               MOVEI TAC1,ASSPRG   ;OTHERWISE CLEAR ASSIGNED BY PROG. BIT
000446  413106 000004           06050               ANDCAB TAC1,DEVMOD(DEVDAT)
000447  616100 000476'          06060               TDNN TAC1,[XWD TTYUSE,ASSCON] ;ASSIGNED BY CONSOLE OR TTY I
000450  137600 000000           06070               DPB UUO,PJOBN       ;NO, CLEAR JOB NUMBER
000451  254000 000444'          06080               JRST UXIT
                                06090
```

```
                                06100
                                06110
                                06120      ,DEC 06 00 EX UUO L PT PRE 01 STATO
                                06130      ,H.R. MORSE     64-12-26
                                06140
                                06150      ,CALLING SEQUENCE
                                06160      ,          STATO D,MASK
                                06170      ,          EXIT1                ALL SELECTED BITS ARE 0
                                06180      ,          EXIT2                SOME SELECTED BITS ARE 1
                                06190      ,TESTS BITS OF I/O STATUS WORD OF DEVICE ON USERS CHANNEL D WHICH
                                06200      ,ARE SELECTED BY MASK.
                                06210
                                06220      ,MONITOR INTERFACE
                                06230      ,          STORAGE:             3
                                06240      ,          ROUTINES CALLED:     UXIT
                                06250      ,          SYMBOLS SET/USED:
                                06260      ,              ACCUMULATORS:    IOS U
                                06270      ,                               PDP U
                                06280      ,                               UUO U
                                06290
                                06300                 INTERN USTATO
                                06310
000452  602014 000000           06320      USTATO:    TRNE IOS,(UUO)       ;SKIP IF ANY INDICATED BITS ARE ONE
000453  350003 000000           06330                 AOS (PDP)
000454  254000 000451'          06340                 JRST UXIT
```

```
                                    06350
                                    06360
                                    06370      ,DEC 06 00 EX UUO L PT PRE 01 STATUS
                                    06380      ,H.R. MORSE   64-12-26
                                    06390
                                    06400      ,CALLING SEQUENCE
                                    06410      ,          STATUS D,ADR
                                    06420      ,          EXIT                 ALWAYS RETURNS HERE
                                    06430      ,STORES I/O STATUS WORD OF DEVICE ON CHANNEL D IN LOCATION ADR.
                                    06440
                                    06450      ,MONITOR INTERFACE
                                    06460      ,          STORAGE:             3
                                    06470      ,          ROUTINES CALLED:     UXIT
                                    06480      ,          SYMBOLS SET/USED:
                                    06490      ,              ACCUMULATORS:    IOS U
                                    06500      ,                               PROG U
                                    06510      ,                               UUO U
                                    06520
                                    06530      INTERN USTATS
                                    06540      EXTERNAL ADRERR,USRREL
                                    06550
                                    06560
000455  200040 000000               06570      USTATS:    MOVE TAC,USRREL                ;CHECK TO SEE IF IN BOUNDS
000456  307054 000000               06580                 CAIG TAC,(UUO)
000457  260140 000000               06590                 PUSHJ PDP,ADRERR
000460  505600 000007               06600                 HRLI UUO,PROG          ;LOAD STATUS INTO INDICATED ADDRESS.
000461  552020 000014               06610                 HRRŻM IOS,@UUO
000462  254000 000454'              06620                 JRST UXIT
```

```
                                06630
                                06640
                                06650      ,CALLING SEQUENCE
                                06660      ,          SETSTS D,BITS
                                06670      ,          EXIT                 ALWAYS RETURN HERE
                                06680
                                06690      INTERNAL USETST
                                06700      EXTERNAL WAIT1,SETIOS
                                06710
000463  260140 000433'          06720      USETST:    PUSHJ PDP,WAIT1      ;WAIT TILL DEVICE INACTIVE
000464  205000 000002           06730                 MOVSI IOS, IOBEG
000465  436006 000002           06740                 IORM IOS,DEVIOS(DEVDAT)
000466  542606 000002           06750                 HRRM UUO,DEVIOS(DEVDAT)
000467  254000 000462'          06760                 JRST UXIT
```

```
06770
06780
06790      ,DEC 06 00 EX UUO L PT PRE 01 STATZ
06800      ,H.R. MORSE    64-12-26
06810
06820      ,CALLING SEQUENCE
06830      ,          STATZ D,MASK
06840      ,          EXIT1                SOME SELECTED BITS ARE 1
06850      ,          EXIT2                ALL SELECTED BITS ARE 0
06860
06870      ,TESTS BITS OF I/O STATUS WORD OF DEVICE ON USERS
06880      ,CHANNEL D WHICH ARE SELECTED BY MASK.
06890
06900
06910      ,MONITOR INTERFACE
06920      ,          STORAGE:             3
06930      ,          ROUTINES CALLED:     UXIT
06940      ,          SYMBOLS SET/USED:
06950      ,              ACCUMULATORS:    IOS U
06960      ,                               PDP U
06970      ,                               UUO U
06980
06990
07000
07010                 INTERN USTATZ
07020
000470  606014 000000  07030  USTATZ:    TRNN IOS,(UUO)       ;SKIP IF ALL INDICATED BITS ARE ZERO
000471  350003 000000  07040              AOS (PDP)
000472  254000 000467' 07050              JRST UXIT
                       07060
                       07070
                       07080
000473  000040 020000  07090              END,
000474  000040 200000
000475  222120 000002
000476  010000 400000
```

THFRE ARE NO ERRORS

PROGRAM BREAK IS 000477

SYMBOL TABLE

```
A                   000000  INT
AC1                 000015  INT
AC2                 000016  INT
AC3                 000017  INT
ADRCK               000344' EXT
ADRERR              000457' EXT
AL                  000001  INT
ASSCON              400000  INT
ASSIN               000112' EXT
ASSPRG              200000  INT
B                   000014  INT
BUFCLC              000077' EXT
BUFCLR              000373' EXT
BUFPNT              000012  INT
BUFWRD              000013  INT
CALIN               000276'
CALOU1              000426'
CALOUT              000421' INT
CLOSB               002000  INT
CLOSE1              000000' INT
CLSIN               000002  INT
CLSOUT              000001  INT
CUXIT1              000113' EXT
CUXIT2              000141' EXT
D                   000017  INT
DAT                 000005  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
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
```

SYMBOL TABLE

```
DVAVAL              000040  INT
DVCDR               100000  INT
DVDIR               000004  INT
DVDIRI              400000  INT
DVIN                000002  INT
DVLPT               040000  INT
DVMTA               000020  INT
DVOUT               000001  INT
DVTTY               000010  INT
ENTRB               020000  INT
ERROR               000000  EXT
I                   000010  INT
IB                  000013  INT
IBUFB               200000  INT
ILLMOD              000000  EXT
IN                  000163' INT
IN1                 000173'
INDMP               000271'
INEOF               000250'
INITB               400000  INT
INPB                010000  INT
INPT0A              000225'
INPT0B              000220'
INPT0C              000224'
INPUT0              000212'
INPUT1              000227'
INPUT2              000236'
INPUT3              000265'
INPUTA              000253'
INPUTF              000256'
IO                  000020  INT
IOACT               010000  INT
IOBEG               000002  INT
IOBKTL              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              000000  EXT
IOIMPM              400000  INT
IONRCK              000100  INT
IORDEL              000100  INT
IORET               000020  INT
IOS                 000000  INT
IOSETC              000400' EXT
IOSTRT              000010  INT
IOUSE               400000  INT
IOW                 000001  INT
IOWC                000020  INT
IOWS                400000  INT
ITEM                000004  INT
```

SYMBOL TABLE

```
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             000111' EXT
JOBJDA          000000  EXT
LOOKB           040000  INT
MTW             010000  INT
OBUFB           100000  INT
OUT             000306' INT
OUT1            000317'
OUT2            000340'
OUTA            000407' INT
OUTDMP          000402'
OUTF            000361'
OUTF1           000367'
OUTPB           004000  INT
OUTS            000372'
PDP             000003  INT
PICHN           000100  INT
PIOMOD          000313' EXT
PJOBN           000450' EXT
PROG            000007  INT
PUUOAC          000436' EXT
RELEA0          000430'
RELEA1          000431' INT
RELEA2          000431' INT
RELEA3          000431' INT
RELEA4          000441'
RELEA5          000434' INT
RUN             200000  INT
RUNABL          204000  INT
SETBYT          000155' EXT
SETIOS          000120' EXT
TAC             000001  INT
TAC1            000002  INT
TEM             000010  INT
TTYATC          020000  INT
TTYUSE          010000  INT
UCLS0           000026'
UCLS1           000034'
UCLS2           000041'
UCLS3           000060'
UCLS4           000013'
UINBF           000076' INT
UINIT           000103' INT
UINIT1          000111' INT
UINIT4          000127'
UINIT5          000133'
UINITZ          000142' INT
UINTQ           000121' EXT
```

SYMBOL TABLE

```
UORF1               000072'
UOUTBF              000066' INT
USETST              000463' INT
USRJDA              000441' EXT
USRMOD              010000  INT
USRREL              000455' EXT
USTATO              000452' INT
USTATS              000455' INT
USTATZ              000470' INT
UUO                 000014  INT
UXIT                000472' EXT
WAIT1               000463' EXT
WSYNC               000425' EXT

END OF ASSEMBLY
```