# TR79F

**TRDP** USERS MANUAL

## MD-11-DMQXA-B

EP-DMQXA-B-DL-A    APR 1977

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FICHE 1 OF 1    MADE IN USA

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IDENTIFICATION
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PRODUCT CODE:   MAINDEC-11-DMQXA-B-D

PRODUCT NAME:   TRDP USER MANUAL

DATE RELEASED:  MARCH 1977

MAINTAINER:     DIAGNOSTIC GROUP

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45                                    THE TRDP USER MANUAL CONSISTS OF THE FOLLMWING SECTIOLS:
46                                    SECTION 1.        TRDP  INTRODUCTION
47
48                                    SECTION 2.        TRDP GENERAL USE DOCUMENTATION
49
50                                    SECTION 3.        TRDP UPDATE PROGRAM (UPD2TR)
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SECTION 1. TRDP INTRODUCTION
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1.     WHAT IS TRDP

2.     TRDP REQUIREMENTS

3.     DISCLAIMERS

4.     CONTENTS OF A TRDP PACKAGE

5.     THE TRDP PACKAGE

1.     WHAT IS TRDP
       ------------

TRDP IS A NAME FOR A PDP-11 DIAGNOSTIC PACKAGE AVAILABLE
ON MULTIMEDIA,INCLUDES TR79F DIAGNOSTIC PACKAGE (9 TRACK
MAGTAPE).

THE TRDP PACKAGES CONTAIN PDP-11 FAMILY DIAGNOSTIC PROGRAMS ON
MEDIA OTHER THAN PAPER TAPE. TRDP PACKAGES HAVE THE FOLLOWING ADVANTAGES:

A. MORE COMPACT STORAGE MEDIA.
B. EASY AND CONVENIENT MEANS OF LOADING PROGRAMS UNDER KEYBOARD CONTROL.
C. MEANS ARE PROVIDED FOR UPDATING AND MODIFYING PROGRAMS.
D. POSSIBLE TO SEQUENTIALLY RUN A SERIES OF PROGRAMS THROUGH USE
   OF THE "CHAIN MODE" FEATURE. (PROGRAMS MUST BE CHAINABLE).

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2.        TRDP REQUIREMENTS
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2.1       ALL TRDP PACKAGES REQUIRE:

          A. PDP-11 PROCESSOR WITH AT LEAST 16K STORAGE.
          B. CONSOLE DEVICE
          C. TR79F DIAGNOSTIC PACKAGE MEDIA:

          THE ABOVE REQUIREMENTS ARE FOR LOADING AND RUNNING DIAGNOSTIC PROGRAMS
          ALREADY STORED IN THE DIAGNOSTIC PACKAGE MEDIA. THEY ARE ALSO
          SUFFICIENT FOR IMPLEMENTING PERMANENT PATCHES ON PROGRAMS WHEN REQUIRED.
2.2       TO UPDATE A DIAGNOSTIC PACKAGE, THAT IS ADD NEW PROGRAMS OR NEW
          VERSIONS OF PROGRAMS TO THE PACKAGE, THE FOLLOWING HARDWARE IS REQUIRED:

          A. PC11 HIGH SPEED READER, OR
          B. ASR 33 OR ASR 35 TELETYPE.

2.3       OPTIONAL HARDWARE:

          A. BOOTSTRAP ROM FOR THE TR79F
             IT MAKES LOADING THE TRDP MONITOR MORE CONVENIENT.

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120
121            3.      DISCLAIMERS
122                    -----------
123
124            3.1     THE TROP PACKAGES HAVE BEEN DESIGNED FOR DIAGNOSTIC PURPOSES ONLY.
125                    THE TROP SOFTWARE  IS NOT INTENDED TO BE COMPATIBLE WITH ANY OTHER
126                    PDP-11 FAMILY SOFTWARE. ANY NON-DIAGNOSTIC USES OF THE SOFTWARE, OR
127                    USES OF THE SOFTWARE IN OTHER THAN THE MANNER DESCRIBED IN THIS
128                    DOCUMENT ARE NOT SUPPORTED.
129
130            3.2     THE TROP PACKAGES ARE BINARY PACKAGES ONLY. THEY PROVIDE THE PDP-11
131                    FAMILY DIAGNOSTIC PROGRAMS IN THE MEDIA DESCRIBED. DOCUMENTATION
132                    FOR EACH OF THE PROGRAMS STORED IN A TROP PACKAGE MUST BE OBTAINED
133                    SEPARATELY, FROM SOFTWARE DISTRIBUTION CENTER (SDC).  HOWEVER, THIS
134                    DOCUMENTATION MUST BE OBTAINED AT THE SAME TIME AS THE PACKAGE, IN
135                    ORDER TO INSURE THAT THE DOCUMENTS AND THE PROGRAMS ARE AT THE SAME
136                    REVISION LEVEL.
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143                      4.        CONTENTS OF A TRDP PACKAGE
144                                --------------------------
145
146                                THE BASIC PARTS OF A TRDP PACKAGE ARE:
147
148                                A. A CONTROL PROGRAM REFERRED TO AS THE "MONITOR". THE MONITOR PROVIDES
149                                   THE MEANS TO LOAD PROGRAMS UNDER KEYBOARD CONTROL, TO OBTAIN A
150                                   DIRECTORY OF CONTENTS OF THE TRDP MEDIUM (DISK, MAGTAPE, ETC).
151
152                                B. TRDP UPDATE PROGRAM #2 (UPD2TR). A 6.5K PROGRAM THAT PROVIDES A MORE COMPREHE
153                                   SET OF COMMANDS THAT PROVIDE MORE CONVENIENCE AND EASE OF UPDATING
154                                   THE TRDP PACKAGE.
155
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160                      5.        THE TRDP PACKAGE
161                                ----------------
162
163                                THE TRDP PACKAGE PROVIDES THE PDP-11 FAMILY DIAGNOSTICS ON 9
164                                TRACK MAGTAPE (TR79F). THE PACKAGE CONSISTS OF THE FOLLOWING ITEMS
165                                THAT MUST BE ORDERED INDIVIDUALLY:
166
167                                MAINDEC-11-DMQXA          TRDP USER MANUAL (THIS DOCUMENT).
168
169                                MAINDEC-11-DMZZH-A-MB9  TRDP-TRDP TR79F DIAGNOSTIC PACKAGE (9 TRACK).
170
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SECTION 2. TRDP GENERAL USE DOCUMENTATION
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211
212                      1.1     LOADING TRDP MONITOR
213                              --------------------
214
215                              THE TRDP MONITOR CAN BE LOADED BY BMB873-S1,
216                              OR VIA A "TOGGLE-IN" PROCEDURE.
217                              THE TOGGLE-IN PROCEDURE IS ONLY VALID FOR THE TR79F.
218
219                      1.1.1   VIA BOOTSTRAP LOADER
220                              --------------------------
221
222                              A. MOUNT THE TRDP TAPE ON DRIVE 0 AND MAKE READY.
223                              B. REWIND DRIVE 0 TO "BOT" AND SET "ON-LINE"
224                              C. LOAD BMB873-S1 STARTING ADDRESS 173536
225                              D. PRESS START
226                              E. GO TO 1.4.3 STEP A.
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                    1.1.2    VIA "TOGGLE-IN" PROCEDURE
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                             A.  MOUNT TROP TAPE ON DRIVE 0 AND MAKE READY.
                             B.  REWIND DRIVE 0 TO "BOT" AND SET "ON-LINE".
                                 DRIVE SHOULD BE @ LOAD PIONT
                             C.  TOGGLE IN PROGRAM
                             D.  STARTING ADDRESS  AT LOCATION 10000
                             E.  WAIT UNTILL DRIVE & CPU HALT
                             F.  LOAD START ADDRESS AT LOCATION ZERO (0) PRESS START KEY

```
244   010000  012700  164000    START:   MOV    #164000,R0
245   010004  012701  164002             MOV    #164002,R1
246   010010  012702  164004             MOV    #164004,R2
247   010014  012703  164006             MOV    #164006,R3        ;MTBAR
248   010020  012706  077776             MOV    #77776,SP
249   010024  000005             RESET
250   010026  004767  000070             JSR    PC,READY
251   010032  005011    BURST:   CLR    @R1
252   010034  010012             MOV    R0,@R2
253   010036  012710  000005             MOV    #5,@R0
254   010042  004767  000054             JSR    PC,READY
255   010046  032711  000020             BIT    #20,@R1
256   010052  005011             CLR    @R1
257   010054  012710  000005             MOV    #5,@R0
258   010060  004767  000036             JSR    PC,READY
259   010064  005004    1$:      CLR    R4
260   010066  010413    REED:    MOV    R4,@R3
261   010070  012712  174000             MOV    #-2048.,@R2
262   010074  005011             CLR    @R1
263   010076  012710  000005             MOV    #5,@R0
264   010102  004767  000014             JSR    PC,READY
265   010106  010405    3$:      MOV    R4,R5
266   010110  112524    PACK:    MOVB   (R5)+,(R4)+
267   010112  005205             INC    R5
268   010114  020513             CMP    R5,@R3
269   010116  001374             BNE    PACK
270   010120  000000             HALT
271   010122  032710  000200    READY:   BIT    #200,@R0
272   010126  001775             BEQ    READY
273   010130  032710  100000             BIT    #100000,@R0
274   010134  001404             BEQ    RTN
275   0:0136  032711  011000             BIT    #11000,@R1
276   010142  001001             BNE    RTN
277   010144  000000    TAPERR:  HALT
278   010146  000207    RTN:     RTS    PC
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1.1.3    COMMON PROCEDURE
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A. THE MONITOR IS LOADED FROM MEDIUM.
B. THE MONITOR TYPES THE FOLLOWING MESSAGE AND IS THEN READY
   TO ACCEPT KEYBOARD COMMANDS.
        XXXXX-X TRDP - TR79F MONITOR NNK  RESTART: XXXXXX
        (HELP MESSAGE)

        .

   WHERE: NNK IS THE SYSTEM'S STORAGE UP TO 28K,
          XXXXXX IS THE MONITOR'S RESTART ADDRESS.
          THE DOT (.) INDICATES THE MONITOR IS READY TO ACCEPT COMMANDS.

C. THE HELP MESSAGE MAY BE ELIMINATED BY TYPING CTL C.
D. GO TO SECTION 2. USE PROCEDURES.


NOTE: <CR> MEANS PRESSING THE "RETURN" KEY ON KEYBOARD.

# M01

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306
307      2.       USE PROCEDURES
308               ---------------
309
310               THE USE PROCEDURES  THAT FOLLOW APPLY TO TRDP
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312
313      2.1      SET THE FILL COUNT
314               ------------------
315
316               THE TTY OUTPUT ROUTINE OF THE UPDATE PROGRAM NORMALLY OUTPUTS
317               14(8) FILLER CHARACTERS AFTER A CARRIAGE RETURN, IN ORDER TO INSURE
318               THAT THE LA30S TERMINAL PRINTS CORRECTLY, HOWEVER, ON TERMINALS OTHER
319               THAT THE LA30S THE FILLER CHARACTERS ARE NOT REQUIRED AND ARE TIME
320               CONSUMMING AND ANNOYING. THE NUMBER OF FILLER CHARACTERS OUTPUT CAN
321               BE CHANGED BY MEANS OF THE "F" COMMAND. THE F COMMAND SHOULD
322               BE THE FIRST COMMAND ISSUED IN ORDER TO PROPERLY SET UP THE CONSOL. TYPE:
323
324               F<CR>
325
326               000014  1               ;THE 000014 IS TYPED BY THE PROGRAM AND
327                                       ;INDICATES THE CURRENT FILLER COUNT. THE  1
328                                       ;INDICATES THE USER TYPED A FILLER COUNT OF 1.
329
330
331      2.2      OBTAINING A DIRECTORY
332               ---------------------
333
334               TO OBTAIN A DIRECTORY TYPE ONE OF THE FOLLOWING:
335
336               D<CR>             TO OBTAIN DIRECTORY ON CONSOLE TERMINAL, OR
337
338               D/F<CR>           TO OBTAIN SHORT DIRECTORY ON CONSOLE TERMINAL,
339
340               D/L<CR>           TO OBTAIN DIRECTORY ON LINE PRINTER. LINE PRINTER
341                                 MUST BE PRESENT ON SYSTEM. NO CHECK IS MADE FOR IT.
342
343               THE DIRECTORY CONTAINS THE FOLLOWING INFORMATION:
344
345               FILNAM.EXT        PROGRAM NAME AND EXTENSION ASSIGNED. .BIN,.BIC,
346                                 AND .SAV, ARE THE ONLY VALID EXTENSIONS FOR
347                                 TRDP MONITOR USE.
348
349               NOTE:             .BIN IS A BINARY FILE
350                                 .BIC IS A CHAINABLE BINARY FILE
351                                 .SAV IS A CORE IMAGE FILE.
352               LENGTH            NUMBER OF BLOCKS USED. DECIMAL NUMBER. (DISK).
353
354               START             STARTING BLOCK NUMBER. OCTAL NUMBER. (DISK AND DECTAPE).
355
356               DATE              DATE WHEN PROGRAM WAS PUT ON MEDIUM.
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2.3    LOADING AND RUNNING PROGRAMS
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A. TYPE "R" AND THE PROGRAM NAME (UP TO 6 CHARACTERS). DO NOT TYPE THE
   EXTENSION (.BIN,.BIC,).
   THIS WILL LOAD AND RUN THE PROGRAM. TO JUST LOAD THE PROGRAM
   TYPE "L" AND THE PROGRAM NAME. ONCE LOADED TYPING A "S"
   WILL START THE PROGRAM.

B. DEPRESS THE CTL AND C KEYS.

   IF A TYPING ERROR IS MADE, DEPRESS THE CTRL AND C KEYS AT SAME TIME.
   A DOT (.) WILL BE TYPED. RETYPE "R" AND THE PROGRAM NAME.

C. THE DESIRED PROGRAM IS LOADED, A DOT TYPED, AND,

   1. THE PROGRAM SELF STARTS IF IT IS SELF STARTING, OR
   2. THE PROGRAM IS STARTED AT LOC 000200 IF THE PROGRAM NAME WAS
      ENDED WITH AN ALTMODE CHARACTER, OR
   3. THE MONITOR WAITS FOR ANOTHER COMMAND. THE PROGRAM JUST LOADED
      MUST BE STARTED MANUALLY BY TYPING S PROGRAM NAME <CR>.

D. TO LOAD ANOTHER PROGRAM AFTER RUNNING THE PREVIOUSLY LOADED PROGRAM,
   RESTART THE MONITOR AT THE RESTART ADDRESS, OR RELOAD THE MONITOR
   AS DESCRIBED IN SECTION 1.

E. POSSIBLE ERRORS ARE DESCRIBED IN SECTION 3.

CAUTION: WHEN LOADING DIAGNOSTICS THAT TEST THE TRDP MEDIUM CARE MUST
         BE TAKEN TO INSURE THAT THE MEDIUM IS NOT ACCIDENTALLY
         DESTROYED. THAT IS THE REASON THAT THE MEDIUM MUST BE WRITE-
         LOCKED. REMOVE IT IF IT IS DESIRED TO TEST THAT DRIVE.

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399
400              2.4      CHAIN MODE OPERATION
401                       --------------------
402
403                       CHAIN MODE OPERATION CONSISTS OF THE SEQUENTIAL EXECUTION OF PROGRAMS
404                       WITHOUT OPERATOR INTERVENTION. ONLY PROGRAMS THAT HAVE BEEN MODIFIED
405                       TO RUN IN CHAIN MODE CAN BE CHAINED. CHAINABLE PROGRAMS ARE
406                       IDENTIFIED IN THE DIRECTORY BY THE EXTENSION .BIC.
407                       NOTE:    .BIC IS A CHAINABLE BINARY FILE.
408
409                       TO RUN CHAIN MODE, THE TRDP MONITOR REQUIRES A FILE INDICATING
410                       THE PROGRAMS TO RUN, AND THE NUMBER OF TIMES EACH PROGRAM MUST
411                       EXECUTE BEFORE GOING ON TO THE NEXT PROGRAM IN THE TABLE.
412
413                       A CHAIN FILE MAY BE GENERATED BY USING THE XTECO TEXT EDITOR,
414                       AND THE USER MUST PUT A .CCC EXTENSION ON THE CHAIN FILE.
415                       TO SUMMARIZE:
416
417                       1. CHAIN MODE RUNS CHAINABLE PROGRAMS ONLY. (.BIC EXTENSIONS).
418                       2. A CHAIN FILE INDICATES THE PROGRAMS TO RUN AND THEIR PASS COUNTS.
419                       3. ONLY PROGRAMS RESIDENT ON THE SAME MEDIUM DRIVE CAN BE CHAINED.
420                       4. THE CHAIN FILE MUST BE ON THE SAME MEDIUM WITH A .CCC EXTENSION.
421
422                       NOTE:  THE .CCC EXTENSION INDICATES A CHAIN FILE
423
424                        CHAIN MODE IS ENTERED BY TYPING:
425
426                       C FILENAME<CR>             (WHILE IN MONITOR MODE).
427                       WHERE:
428                       C IS THE "CHAIN" COMMAND
429                       FILENAME IS THE VALUE OF THE ASCII FILE THAT CONTAINS THE MONITOR
430                       COMMANDS TO BE EXECUTED. THE FILE MUST HAVE A ".CCC"EXTENSION.
431
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# C02

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434
435                  2.4.1    MAKING A CHAIN ASCII FILE
436                           -------------------------
437
438                           THE CHAIN ASCII FILE MAY BE CREATED BY RUNNING THE XTECO PROGRAM AND
439                           USING THE TEXT EDITOR TO CREATE THE ASCII CHAIN FILE.  THE CHAIN FILE
440                           MAY CONTAIN ANY OF THE COMMANDS SUPPORTED UNDER THE TROP MONITOR.  THE
441                           COMMANDS IN THE ASCII FILE ARE EXECUTED IN THE ORDER IN WHICH THEY ARE
442                           ENTERED AND RUN AS A BATCH MODE.
443                           EXAMPLE OF A CHAIN FILE;
444
445                           ;CPU.CCC
446                           ;THIS CHAIN FILE EXERCISES THE XYZ PROCESSOR WITH T1-T13..
447                           ;
448                           R DOAA/1000               ;RUN T1 1000 TIMES<CR>
449                           R DOBA/1000               ;RUN T2 1000 TIMES<CR>
450                           R DOCA/1000               ;RUN T3 1000 TIMES<CR>
451                           R DODA/1000               ;RUN T4 1000 TIMES<CR>
452                           R DOEA/1000               ;RUN T5 1000 TIMES<CR>
453                           R DOFA/1000               ;RUN T6 1000 TIMES<CR>
454                           R DOGA/1000               ;RUN T7 1000 TIMES<CR>
455                           R DOHA/1000               ;RUN T8 1000 TIMES<CR>
456                           R DOJA/1000               ;RUN T9 1000 TIMES<CR>
457                           R DOKA/1000               ;RUN T10 1000 TIMES<CR>
458                           R DOLA/1000               ;RUN T11 1000 TIMES<CR>
459                           R DOMA/1000               ;RUN T12 1000 TIMES<CR>
460                           L DONA                    ;LOAD T13<CR>
461                           S/1000<CR>                ;START IT, RUN 1000 TIMES<CR>
462                           C CPU                     ;RESUBMIT CHAIN FILE AGAIN.
463
```

```
464
465          2.4.2   RUNNING A CHAIN
466                  ----------------
467
468          TO EXECUTE A CHAIN FILE THE USER TYPES;
469
470          C FILNAM<CR>              OR
471          C FILNAM/QV<CR>
472
473          IN THE FIRST CASE THE PASS COUNT SPECIFIED IN THE CHAIN FILE
474          IS USED BY THE TRDP MONITOR TO DETERMINE THE NUMBER OF PASSES TO
475          EXECUTE EACH PROGRAM.IN THE SECOND CASE THE PASS COUNT
476          IS NOT USED AND EACH PROGRAM IS EXECUTED ONLY ONCE. THE /QV SWITCH
477          PROVIDES A SINGLE EXECUTION MODE OF OPERATION OR "QUICK VERIFY".
478          THE CHAIN FILE TO BE EXECUTED MUST HAVE AN EXTENSION OF .CCC.
479
480          THE CHAIN FILE AND THE OBJECTIVE PROGRAMS TO BE RUN MUST RESIDE IN
481          THE SAME TRDP MEDIUM AND MUST BE MOUNTED ON DRIVE 0 OF TRDP DEVICE
482
483          WHEN IN CHAIN MODE SWITCH REGISTER OR SOFTWARE SWITCH REGISTER SHOULD BE SET TO 000000.
484
485          THE TRDP MONITOR WILL TYPE EACH COMMAND THAT IT EVALUATES AND THEN
486          PROCEED TO EXECUTE IT.
487
488          IF THE MONITOR ENCOUNTERS A PROGRAM THAT DOES NOT HAVE A .BIC
489          EXTENSION IT TYPES "NEXFIL". THEN IF THE ERROR RESULTED FROM A R
490          (RUN COMMAND) ONLY, IT WILL CONTINUE WITH THE CHAIN FILE COMMAND,
491          OTHERWISE IT TERMINATES THE CHAIN OPERATION.
492
493          WHEN THE LAST COMMAND OTHER THAN ANOTHER "C" COMMAND HAS BEEN EXECUTED
494           THE TRDP MONITOR TERMINATES CHAIN MODE AND TYPES A DOT(.),
495          READY TO ACCEPT ANOTHER COMMAND FROM THE CONSOLE.
496
497          IF THE USER WISHES TO TERMINATE CHAIN MODE BEFORE ITS NORMAL TERMINATION
498          HE MAY DO SO BY REPEATEDLY TYPING CTL C (↑C) AT THE CONSOLE UNTIL
499          THE MONITOR ACCEPTS IT AT THE END OF A PROGRAM PASS.
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503
504            3.      ERRORS
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506
507            3.1     TRDP RESIDENT MONITOR ERRORS
508                    ----------------------------
509
510                    INVCMD/SW               INVALID COMMAND AND/OR SWITCH. CHECK COMMAND
511                                            JUST GIVEN.
512
513                    DEVERR                  DEVICE ERROR ON EITHER INPUT OR OUTPUT DEVICE.
514                                            CHECK THAT OUTPUT DEVICE IS WRITE-ENABLED.
515
516                    EOM                     END OF MEDIUM.  OCCURS DURING INPUT OPERATIONS
517                                            WHEN THE PROGRAM ATTEMPTS TO INPUT AND THE FILE
518                                            IS AT AN END.  SERIOUS PROBLEM.  FILE IN STOR-
519                                            AGE IS PROBABLY WIPED OUT.
520
521                    INVADR                  INVALID ADDRESS.  MUST BE EVEN WITHIN EXISTING
522                                            LOCORE AND HICORE LIMITS, AND MUST NOT BE WITHIN
523                                            UPDATE PROGRAM.
524
525                    CKSMER                  CHECKSUM ERROR DURING "LOAD" COMMAND.
526
527                    POFLO                   PROGRAM TOO LARGE TO LOAD WITHIN EXISTING CORE
528                                            SPACE.
529
530                    INVNAM                  INVALID CHARACTER TYPED FOR FILE NAME.
531
532                    NEXFIL                  NON-EXISTENT FILE. IF IN CHAIN MODE
533                                            THE PROGRAM TO BE RUN DOES NOT HAVE
534                                            .BIC EXTENSION.
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APPENDIX A.  TRDP RESIDENT MONITOR COMMANDS
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F<CR>           SET CONSOLE FILL COUNT.

D<CR>           DIRECTORY ON THE TTY CONSOLE.

D/F<CR>         SHORT DIRECTORY ON THE TTY CONSOLE.

D/L             DIRECTORY ON THE LINE PRINTER.

D/L/F           SHORT DIRECTORY ON LINE PRINTER.

R COPY          STARTS THE COPY PROGRAM.

R FILENAME      STARTS INDICATED PROGRAM.

L FILENAME      LOADS DESIRED PROGRAM.

S FILENAME      STARTS DESIRED PROGRAM WHICH WAS LOADED UNDER "L" COMMAND.

S ADDR          STARTS PROGRAM AT SPECIFIED ADDRESS.

C FILENAME      RUNS DESIRED CHAIN TABLE.

C FILENAME/QV   RUNS DESIRED CHAIN IN QUICK VERIFY.

E 0<CR>         ENABLE DRIVE 0(TADP)

E 1<CR>         ENABLE DRIVE 1(TADP)

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576
577              SECTION 3. TRDP UPDATE PROGRAMS #2 (UPD2TR)
578              -------------------------------------------------------
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585              2.    REQUIREMENTS
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587              3.    LOADING AND STARTING PROCEDURE.
588
589              4.    COMMAND DESCRIPTIONS
590
591              5.    ERRORS
592
593              6.    UPDATING TRDP MEDIA
594
595              7.    HELP ASCII REFRENCE FILE
596
597
598         APPENDIX A. UPD2TR COMMANDS
599         APPENDIX B. PERIPHERALS SUPPORTED BY UPDATE PROGRAMS
600
601         APPENDIX C. PROGRAM NAMING CONVENTIONS
602
603
604    1.        ABSTRACT
605              --------
606
607         EACH TRDP PACKAGE CONTAINS PROGRAM CALLED UPD2TR.BIN.
608         THIS PROGRAMS IS USED TO ADD, DELETE, RENAME, OR PATCH PROGRAMS ON TRDP
609         PACKAGES, AND IN GENERAL, PROVIDE FILE MAINTENANCE SERVICES.
610
611         UPD2TR IS A 8K PROGRAM WHICH RELOCATES ITSELF TO THE TOP 8K OF
612         MEMORY, LEAVING LOWER STORAGE FREE FOR OTHER PROGRAMS. IT IS
613         CAPABLE OF PERFORMING OPERATIONS ON ALL TRDP MASS STORAGE DEVICES.
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622        3.       LOADING AND STARTING PROCEDURE
623                 -------------------------------
624
625                 UPD2TR IS LOADED VIA THE TRDP MONITOR BY TYPING R  UPD2TR<CR>.
626                 ONCE LOADED, IT OUTPUTS THE FOLLOWING MESSAGE:
627
628                 XXXXX-X - TRDP UPDATE PROGRAM #2 21-FEB-76
629                 DATE:
630
631
632                 TYPE THE DATE ACCORDING TO FOLLOWING FORMAT:
633
634                 DATE:DD-MMM-YY<CR>
635
636                 DD IS THE DAY OF THE MONTH, MMM IS JAN, FEB, MAR, APR, MAY,
637                 JUN, JUL, AUG, SEP, OCT, NOV, DEC, AND YY IS BETWEEN 70 AND 99.
638
639                 TEST IS MADE TO MAKE SURE NO MONTH HAS MORE THAN 31 DAYS. BUT
640                 DATES LIKE FEB 30, APR 31, ETC.  WILL NOT BE DETECTED AS ERRORS
641                 BUT WILL BE STORED AWAY AS FEB 30, APR 1, ETC.
642
643                 THE PROGRAM WILL TYPE BACK THE DATE FOLLOWED BY:
644
645                 PROGRAM RELOCATED TO:YYYYYY      ;INITIAL ADDR WHERE PROGRAM RELOCATED TO.
646                 RESTART: XXXXXX                  ;UPD1 RESTART ADDRESS.
647                 *                               ;* INDICATES READY FOR KEYBOARD COMMANDS.
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651        4.       COMMAND DESCRIPTIONS
652                 --------------------
653
654
655        4.1      IN THE COMMAND DESCRIPTIONS THAT FOLLOW, AN INDICATION IS PROVIDED
656                 AS TO THE AVAILABILITY OF THE COMMAND UNDER UPD2TR.
657
658
659
660        4.2      THE FILL COMMAND          (UPD2TR)
661                 ----------------
662
663                 THE CONSOLE TERMINAL OUTPUT ROUTINE OF THE UPDATE PROGRAM NORMALLY OUTPUTS
664                 14(8) FILLER CHARACTERS AFTER A CARRIAGE RETURN, IN ORDER TO INSURE
665                 THAT THE LA30 TERMINAL PRINTS CORRECTLY. HOWEVER, ON TERMINALS OTHER
666                 THAN THE LA30 THE FILLER CHARACTERS ARE NOT REQUIRED AND ARE TIME
667                 CONSUMMING AND ANNOYING. THE NUMBER OF FILLER CHARACTERS OUTPUT CAN
668                 BE CHANGED BY MEANS OF THE "FILL" COMMAND. THE FILL COMMAND SHOULD
669                 BE THE FIRST COMMAND ISSUED IN ORDER TO PROPERLY SET UP THE CONSOLE. TYPE:
670
671                 FILL<CR>
672
673                 000014  1                ;THE 000014 IS TYPED BY THE PROGRAM AND
674                                          ;INDICATES THE CURRENT FILLER COUNT. THE 1
675                                          ;INDICATES THE USER TYPED A FILLER COUNT OF 1.
676
```

```
677                             THE FILLER COUNT SHOULD BE SET TO A 1 FOR ASR33 AND ASR35 TERMINALS.
678                             FOR OTHER TERMINALS, SET THE NUMBER TO WHATEVER PRODUCES CORRECT
679                             PRINTING AFTER A CARRIAGE RETURN, WITHOUT UNDUE DELAY.
680
681                     4.3     THE "CLR" COMMAND        (UPD2TR)
682                             -----------------
683
684                             THE "CLR" COMMAND IS USED TO CLEAR TO ZEROES ALL CORE STORAGE BELOW
685                             THE UPDATE PROGRAM. IT IS PROVIDED IN CASE THE USER WISHES CORE
686                             STORAGE TO BE "ZEROED" PRIOR TO LOADING A PROGRAM. TYPE:
687
688                             CLR<CR>
689
690                             THE PROGRAM RESPONDS WITH *
691
692
693                     4.4     LOAD COMMAND     (UPD2TR)
694                             ------------
695
696                             THE LOAD COMMAND IS USED TO LOAD FILES STORED IN ABS FORMAT.
697                             (FILES WITH EXTENSIONS OF .BIN, .BIC, OR OTHER EXTENSIONS KNOWN
698                             TO INDICATE ABS FORMAT).
699
700                             LOAD DEV: FILNAM.EXT    ;COMMAND FORMAT
701
702                             IF THE DEVICE HAS NO DIRECTORY, THEN THE FILE NAME AND EXTENSION
703                             SHOULD BE OMITTED.
704
705                             LOAD PR:               ;USER COMMAND TO LOAD FROM PAPER TAPE.
706                             XFRADR: 000050  CORE: 000000,017670
707                             *
708
709                             XFRADR: INDICATES THE STARTING ADDRESS OF THE PROGRAM LOADED. IF
710                                     IT IS 000001 OR ODD, THE PROGRAM IS NOT SELF-STARTING.
711
712                             CORE:   LEFT NUMBER INDICATES THE LOWEST LOCATION LOADED INTO DURING
713                                     THE LOAD. THE RIGHT NUMBER INDICATES THE HIGHEST LOCATION
714                                     LOADED INTO DURING THE LOAD. THE LEFT AND RIGHT NUMBERS
715                                     IN EFFECT INDICATE THE CORE LIMITS OF THE PROGRAM.
716
717                     4.5     DUMP COMMAND     (UPD2TR)
718                             ------------
719                             THE MEMORY CONTENTS CAN BE WRITTEN TO A TRDP MEDIUM  IN ABS FORMAT BY THE
720                             DUMP COMMAND.
721
722                             DUMP DEV: FILNAM.EXT    ;COMMAND FORMAT
723
724                             PROCESSING STARTS FROM PROGRAM'S LOW CORE LIMIT AND PROCEEDS TO
725                             AND INCLUDES THE PROGRAM'S HIGH CORE LIMIT.
726
727                             *DUMP DK0:XXX.BIN        ;DUMP PROGRAM ONTO DK0:. CALL IT XXX.BIN
728                             *DIR DK0:
729
730                             12-JAN-76
731                             ENTRY#          FILNAM .EXT    DATE          LENGTH          START
732                             000001          XXX    .BIN    26-AUG-72     17              000105
```

```
733                               000002        2                2-AUG-72    12C              000172
734                               000003        3                2-AUG-72    12C              000206
735                               FREE FILES: 445
736
737                               *
738
739
740            4.6    THE "XFR" COMMAND        (UPD2TR)
741                   ------------------
742
743                   ONCE A PROGRAM HAS BEEN LOADED INTO CORE VIA THE "LOAD" COMMAND, IT
744                   CAN BE MADE SELF-STARTING OR NOT SELF-STARTING AT THE USER'S DISCRETION.
745                   AS DESCRIBED UNDER "LOAD COMMAND", THE LOAD ROUTINE TYPES: XFRADR :XXXXXX
746                   INDICATING WHETHER A PROGRAM IS OR IS NOT SELF-STARTING. THE USE OF "XFR" IS:
747
748                   XFR<CR>            ;REQUEST CURRENT TRANSFER ADDRESS.
749                   000001  000050    ;000001 IS THE CURRENT XFR ADDRESS. 000050 IS THE
750                                     ;NEW XFR ADDRESS ENTERED BY THE USER.
751
752                   NOTE: DIAGNOSTIC PROGRAMS ARE PURPOSELY MADE NOT SELF-STARTING.
753
754            4.7    THE "START" COMMAND      (UPD2TR)
755                   --------------------
756
757                   THE "START" COMMAND IS USED TO BEGIN EXECUTION OF A PROGRAM IN CORE.
758
759                   START<CR>          ;USED TO START A SELF-STARTING PROGRAM.
760
761                   START ADR<CR>      ;USED TO A START A PROGRAM AT A SPECIFIC LOCATION.
762
763                   NOTE: IF THE COMMAND START<CR> IS GIVEN FOR A NON-SELF-START PROGRAM,
764                   THE PROCESSOR WILL TRAP OUT WITHOUT AN ERROR MESSAGE.
765
766            4.8    THE SAVE COMMAND         (UPD2TR)
767                   ----------------
768
769                   THE CONTENTS OF CORE ARE WRITTEN ONTO THE OUTPUT DEVICE AS A SINGLE
770                   BLOCK OF DATA, STARTING AT LOC 000000 AND PROCEEDING TO THE HIGH
771                   LIMIT OF THE PROGRAM IN CORE. THE SAVE COMMAND IN EFFECT, SAVES
772                   A "CORE IMAGE" OF THE CONTENTS OF CORE. FOR TRDP PURPOSES THE ONLY
773                   VALID EXTENSION FOR SAVED PROGRAMS IS .SAV.
774
775                   THE ONLY CURRENT USE OF THE SAVE COMMAND IS TO
776                   PLACE A CORE IMAGE OF THE TRDP MONITOR ON CASSETTE
777                   AND MAGTAPE.  TRDP PACKAGES DO NOT CONTAIN ANY OTHER
778                   CORE IMAGE FILES
779                   NOTE:   .SAV IS A CORE IMAGE FILE.
780
781                   SAVE DEV: FILNAM.EXT    ;COMMAND FORMAT.
782
783                   *SAVE DK0: UPDATE.SAV
784                   *DIR DK0:
785
786                   12-JAN-76
787                   ENTRY#              FILNAM .EXT    DATE          LENGTH         START
788                   000001             UPDATE .BIN    26-AUG-72     17             000105
```

```
789                              000002         2                    2-AUG-72    12C                 000172
790                              000003         UPDATE  .SAV         26-AUG-72   12C                 000247
791                              FREE FILES: 445
792                              *
793
794        4.9     THE GET COMMAND (UPD2TR)
795                ----------------
796
797                THE GET COMMAND PLACES THE "SAVED" PROGRAM INTO CORE STARTING AT LOC 000000.
798
799                GET DEV:FILNAM.EXT
800
801                ↑C
802                *GET DK0:UPDATE.SAV
803                *
804
805                NOTE:   SAVE CORE IMAGE FILES (.SAV FILES) ARE NO
806                        LONGER IN USE, THE "GET" COMMAND IS NO
807                        LONGER VERY USEFUL.  IT HAS BEEN LEFT AS
808                        THE COMPLEMENTARY COMMAND FOR THE SAVE COMMAND.
809
810
811        4.10    THE MOD COMMAND (UPD2TR)
812                ----------------
813
814                ONCE A PROGRAM IS LOADED IT CAN BE PATCHED BY THE MOD COMMAND.
815
816
817                MOD ADR          CAUSES UPDATE TO PRINT THE FOLLOWING:
818
819                ADR      CONTENTS OF ADR,
820
821                AND WAITS FOR USER RESPONSE.
822
823                THE USER MAY TYPE IN AN OCTAL NUMBER AND A TERMINATOR, OR JUST
824                A TERMINATOR.
825
826                IF A NUMBER IS TYPED, IT IS USED AS THE NEW CONTENT OF ADR.
827
828                THE TERMINATOR CAN BE EITHER A CARRIAGE RETURN OR A LINE FEED.
829                CARRIAGE RETURN TAKES THE PROGRAM BACK TO COMMAND MODE, WHEREAS
830                THE LINE FEED CAUSES THE NEXT WORD (ADR+2) TO BE OPENED FOR
831                MODIFICATION
832
833                *MOD 50
834                000050  000005   3 <LF>
835                000052  012737   4 <LF>
836                000054  000340   5 <CR>
837                *MOD 50
838                000050  000003     <LF>
839                000052  000004     <CR>
840                *
841
842                THE MOD COMMAND WILL NOT ALLOW THE USER TO GO BEYOND THE PROGRAM'S
843                PROTECTION LIMIT, AN "INVCOR" ERROR WILL OCCUR.
844        (SEE SECTION 4.13)
```

```
845
846     4.11    THE CORE COMMAND           (UPD2TR)
847             ------------------
848
849             THE CORE COMMAND CAUSES THE LOWER AND UPPER LIMITS OF THE PROGRAM
850             IN CORE TO BE TYPED:
851
852             *CORE<CR>
853             000000,014776              ;LEFT NUMBER IS THE LOWER CORE LIMIT,
854                                        ;RIGHT NUMBER IS THE UPPER CORE LIMIT.
855
856     4.12    THE "LOCORE" COMMAND       (UPD2TR)
857             --------------------
858
859             THE "LOCORE" COMMAND IS USED TO CHANGE THE LOWER LIMIT OF THE PROGRAM IN CORE:
860
861             *LOCORE ADR<CR>            ;WHERE ADR IS THE NEW LOW CORE LIMIT.  IT IS RECOMMENDED
862                                        ;THAT ADDRESS BE EVEN.
863
864     4.13    THE "HICORE" COMMAND       (UPD2TR)
865             --------------------
866
867             THE "HICORE" COMMAND IS USED TO CHANGE THE UPPER LIMIT OF THE PROGRAM IN CORE:
868
869             *HICORE ADR<CR>            ;WHERE ADR IS THE NEW HIGH CORE LIMIT.  RECOMMEND THAT
870                                        ;ADDRESS BE EVEN, BUT MUST BE HIGHER THAN THE LOWER
871                                        ;LIMIT, AND MUST BE LOWER THAN START OF UPDATE PROGRAM.
872
873             TYPICALLY, THE HICORE COMMAND IS USED TO RESERVE AN AREA FOR PATCHING
874             A PROGRAM. THE UPDATE PROGRAM WILL NOT ALLOW MODIFICATION OF CORE
875             OUTSIDE THE UPPER AND LOWER CORE LIMITS. THEREFORE, THE NEW LIMITS
876             MUST BE SET FIRST. THIS PROTECTS THE CORE OUTSIDE THE PROGRAM FOR THE USER.
877
878
879     4.14    THE DIRLP AND DIR COMMANDS
880             --------------------------
881
882             DIR     (UPD2TR)
883             DIRLP   (UPD2TR)
884             *DIRLP DEV:      ;COMMAND FORMAT
885             COMMAND EXAMPLES;
886             UPD2TR ONLY
887             ---------
888             *DIR DEV:*.BIN                        ;GIVES A DIRECTORY OF ALL FILES
889                                                   WITH A ".BIN" EXTENSION.
890             *DIR DEV:*.BI?                        ;GIVES A DIRECTORY OF ALL FILES
891                                                   WITH AN EXTENSION BEGINING WITH
892                                                   "BI" AND ANY OTHER CHARACTER
893                                                   SUCH AS BIN OR BIC.
894             DIR DEV:ZTC???.BI?                    ;GIVES A DIRECTORY OF ALL FILES
895                                                   WITH THE FIRST THREE CHARACTERS
896                                                   OF THE FILENAME BEING "ZTC"
897                                                   AND HAVING AN EXTENSION BEGINING
898                                                   WITH "BI". EXAMPLES; ZTCA.BIN,
899                                                   ZTCB.BIN, ZTCC.BIC.
900     NOTE: AT THE END OF THE DIRECTORY THE FREE FILES AND FREE BLOCKS WILL BE
```

# M02

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901
902
903
904
905
906                    INDICATED ONLY ON RANDOM ACCESS DEVICES.
907
908           NOTE: DIR IN UPDATE #1 GIVES ONLY THE SHORT DIRECTORY (NO LENGTH, NO START).
909
910
911
912                    DIRLP CAUSES THE DIRECTORY OF DEV: TO PRINTED ON LINE PRINTER. IF
913                    DIR IS USED, THE DIRECTORY IS TYPED ON CONSOLE DEVICE. DO NOT USE
914                    DIRLP UNLESS A LINE PRINTER EXISTS, AS NO CHECK IS MADE FOR ITS
915                    EXISTENCE. THE PROGRAM WILL PROBABLY TRAP.
916
917                    *DIR DKO:
918                    12-JAN-76
919                    ENTRY#        FILNAM  .EXT    DATE            LENGTH         START
920                    000001        1               2-AUG-72        14             000105
921                    000002        2               2-AUG-72        12C            000172
922                    000003        3               2-AUG-72        12C            000206
923                    000004        5               2-AUG-72        12C            000222
924                    FREE FILES: 444
925                    *
926
927                    LENGTH IS THE NUMBER OF BLOCKS (10) THE FILE OCCUPIES. A "C" AFTER
928                    THE FILE LENGTH INDICATES THE FILE IS CONTIGUOUS.
929
930                    START IS THE ADDR OF FIRST BLOCK OF FILE. OCTAL NUMBER.
931                    DATE IS THE FILE CREATION DATE.
932
933
934          4.15     THE DELETE COMMAND       (UPD2TR)
935                   ------------------
936
937                   DEL DEV:FILNAM.EXT
938
939                   CAUSES THE FILE NAMED TO BE DELETED FROM THE DIRECTORY.
940
941                   *DEL DKO:1
942                   *DIR DKO:
943
944                   12-JAN-76
945                   ENTRY#        FILNAM  .EXT    DATE            LENGTH         START
946                   000002        2               2-AUG-72        12C            000172
947                   000003        3               2-AUG-72        12C            000206
948                   000004        5               2-AUG-72        12C            000222
949                   FREE FILES: 444
950                   *
951          4.16     THE ZERO COMMAND         (UPD2TR)
952                   ------------------
953
954                   ZERO DEV:
955
956                   DESTROYS THE DIRECTORY. AS FAR AS UPDATE IS CONCERNED, THERE IS
                      NOTHING ON THE DEVICE. THIS SHOULD BE DONE ON A BRAND NEW TAPE
                      OR CARTRIDGE SINCE UPDATE USES THE ZERO COMMAND TO RESERVE SOME
                      ROOM FOR USE BY THE TRDP MONITOR. VALID FOR ALL MASS STORAGE DEVICES.

                      *ZERO DKO:
```

```
957                    *DIR DK0:
958                    26-AUG-72
959
960                    FILNAM.EXT      LENGTH  START   DATE
961
962                    FREE FILES: 448
963
964                    *
965
966      4.17    THE BOOT        (UPD2TR)
967              --------
968
969      4.17.1  BOOT DEV:
970
971              CAUSES BLOCK 0 OF DEV TO BE LOADED INTO MEMORY, STARTING AT LOC 000000.
972              BLOCK 0 IS ASSUMED TO HAVE A BOOT LOADER. THE PROGRAM THEN JUMPS TO
973              LOC 000000 TO START THE BOOT LOADER.
974
975              EXAMPLE:
976
977
978              BOOT DK0:<CR>            ;BOOTS IN THE RKDP MONITOR.
979
980              BOOT MT0·<CR>           ;BOOTS IN THE TRDP MONITOR.
981
982
983
984
985
986      4.17.2  SAVM DEV:       (UPD2TR)
987              ---------
988
989              CAUSES THE FIRST 4K TO BE WRITTEN IN .SAV FORMAT (CORE IMAGE)
990              STARTING AT THE MONITOR CORE IMAGE BLOCK OF THE DEVICE.
991              THIS COMMAND IS USED TO WRITE THE TRDP MONITOR ON THE
992              DEVICE AS A CORE IMAGE THAT IS BOOTABLE.
993
994              *LOAD DK1:RKDP.BIN      ;LOAD RKDP MONITOR.
995              *SAVM DK0:              ;SAVE IT AS CORE IMAGE ON DK0:
996
997              THE SAVM COMMAND IS VALID ONLY ON RANDOM ACCESS DEVICES.
998
999              NOTE:  SAVM IS NOT A DIRECTORY ENTRY IT WILL NOT SHOW
1000                    ON DIRECTORY.
1001     4.18    THE RENAME COMMAND       (UPD2TR)
1002             ------------------
1003
1004             *REN DEV:NEWNAM.EXT+DEV:OLDNAM.EXT
1005
1006             RENAMES THE OLD FILE. THE DEVICES MUST BE THE SAME. NOT ALLOWED
1007             ON MAGTAPE OR CASSETTE.
1008
1009             *DIR DK0:
1010
1011             12-JAN-76
1012             ENTRY#          FILNAM .EXT     DATE            LENGTH       ' START
```

```
1013                        000001           ASD       .123    26-AUG-76        16C              000105
1014                        FREE FILES: 447
1015
1016
1017                        *REN DKO:123.ASD+DKO:ASD.123
1018                        *DIR   DKO:
1019                        12-JAN-76
1020                        ENTRY#           FILNAM    .EXT    DATE            LENGTH           START
1021                        000001           123       .ASD    26-AUG          16C              000105
1022                        FREE FILES: 447
1023                        *
1024
1025
1026
1027
1028            4.19    PIP COMMAND       (UPD2TR)
1029                    ----------
1030
1031                    PIP IS USED TO COPY A LINKED FILE FROM ANY DEVICE THAT CAN INPUT
1032                    TO ANY DEVICE THAT CAN PERFORM OUTPUT OPERATIONS.  FILE DATA IS
1033                    NOT CHECKED FOR FORMAT OR CHECKSUMS.
1034
1035                    PIP DEV1:FILNAM.EXT+DEV2:FILNAM.EXT
1036
1037                    PIP PP:+PR:     (COPIES PAPER TAPE)
1038                    *PIP DKO:123.456<PR:     ;PAPER TAPE TO DISK
1039                    *PIP PP:<DKO:123.456              ;DISK TO PAPER TAPE PUNCH.
1040                    *DIR DKO:
1041
1042                    12-JAN-76
1043                    ENTRY#           FILNAM    .EXT    DATE            LENGTH           START
1044                    000001           123       .ASD    26-AUG-72       16C              000105
1045                    000002           123       .456    26-AUG-72       3                000125
1046                    FREE FILES: 446
1047                    *
1048
1049                    THE USER SHOULD MAKE SURE THAT THE OUTPUT FILE NAME DOESN'T EXIST
1050                    ALREADY ON THE OUTPUT DEVICE DIRECTORY.
1051
1052                    PIP     DKO:A+DKO:A    ;IS A NO NO.
1053                    DELOLD                 ;CAUSES THIS ERROR. DELETE OLD FILE 1ST.
1054
1055                    PIP HAS OTHER USEFUL FEATURES:
1056
1057                    PIP PP:+PR:     COPIES A PAPER TAPE.
1058
1059                    IMPORTANT!!!
1060
1061                    A PROGRAM THAT HAS BEEN "PIPPED" TO A TRDP DEVICE
1062                    MUST BE LOADED IMMEDIATELY VIA THE "LOAD" COMMAND
1063                    TO INSURE THAT NO ERRORS HAVE OCCURRED DURING THE
1064                    "PIP" COMMAND AS THE PIP COMMAND DOES NOT CHECKSUM
1065                    INPUT DATA!
1066
1067
1068            4.20    THE "FILE" COMMANDS     (UPD2TR)
```

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1103
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1123
1124

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UPD2TR INCLUDES A GROUP OF COMMANDS WHICH CAN EXECUTE ON MULTIPLE
FILES WITHOUT REQUIRING THE NAME OF EACH FILE TO BE INDIVIDUALLY
LISTED IN THE COMMAND STRINGS. THESE ARE THE "FILE" COMMANDS,
INCLUDING FILE, FILEF, FILEL, FILEG, FILED, AND FILET. FOLLOWING
THIS GENERAL DESCRIPTION, THEIR DIFFERENCES WILL BE INDIVIDUALLY
EXPLAINED. NOTE THAT THE "FILE" COMMANDS IN GENERAL, CAN NOT BE USED
WITH NON-DIRECTORY DETICES (SUCH AS PR,PP, LP).

THE "FILE" COMMANDS RECOGNIZE TWO SPECIAL CHARACTERS IN THE FILE NAME
AND EXTENSION. THESE CHARACTERS, THE ASTERISK (*) AND THE QUESTION-
MARK (?) ALLOW A SINGLE NAME TO REFERENCE SEVERAL FILES.

NOTE THAT FILE NAMES ARE ALWAYS RECORDED AS HAVING 6 CHARACTERS,
AND EXTENSIONS ALWAYS HAVE 3 CHARACTERS. THEY ARE LEFT-JUSTIFIED
WITH TRAILING BLANKS ADDED, AND THE BLANKS ARE PART OF THE NAME.

BECAUSE THE "FILE" COMMANDS CAN HANDLE SEVERAL FILES PER COMMAND
ISSUED, THEIR TREATMENT OF ERROR CONDITIONS SHOULD BE NOTED. IF A
DEVICE ERROR OCCURS IN THE PROCESS OF FINDING A FILE (I.E. WHEN THE
DIRECTORY IS REFERENCED IN THE CASE OF DISK OR DECTAPE, OR THE BLOCKS
ARE SCANNED IN THE CASE OF CASSETTE OR MAGTAPE), THE "FILE" COMMAND
IS ABORTED AND THE ERROR IS PRINTED.  IF A DEVICE ERROR, CHECKSUM
ERROR, OR END OF MEDIUM ERROR OCCURS WHILE READING A FILE (FILEL,
FILEG, AND FILET) THE ERROR IS REPORTED AND THEN PROCESSING
OF THE COMMAND IS CONTINUED.

THE "FILE" COMMANDS LIST THE DESCRIPTIVE INFORMATION ABOUT EACH
FILE AS IT IS PROCESSED, INCLUDING FILE NAME, TRANSFER ADDRESS,
AND LOCORE AND HICORE VALUES. THE /N AND /LP SWITCHES ARE INCLUDED
TO ALTER THIS IF DESIRED.

4.21    THE "ASTERISK" CONSTRUCTION
        ---------------------------

THE "ASTERISK" CONSTRUCTION PERMITS REFERENCE TO ALL FILES HAVING A
DESIRED EXTENSION (ANY FILENAME), TO ALL FILES HAVING A DESIRED
FILENAME (ANY EXTENSION), OR TO ALL FILES ON A DEVICE. ITS USE IN
THE FILENAME POSITION MEANS "ANY FILENAME" AND IN THE FILE EXTENSION
POSITION MEANS "ANY EXTENSION".

        TO REFER TO ALL FILES HAVING A DESIRED EXTENSION (ANY
        FILENAME), AN ASTERISK IS TYPED FOR THE FILENAME:

            DK0:*.OBJ        MEANS ALL FILES ON DISK 0 WITH
                             A .OBJ EXTENSION


        TO REFER TO ALL FILES WITH A DESIRED FILENAME (ANY EXTENSION),
        AN ASTERISK IS TYPED FOR THE EXTENSION:

            DK0:UPD2TR.*     MEANS ALL FILES ON DISK 0 WITH THE
                             FILENAME UPD2TR, SUCH AS UPD2TR.P11,
                             UPD2TR.LST, AND UPD2TR.DOC

# D03

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1125
1126                                        TO REFER TO ALL FILES ON A DEVICE (ANY FILENAME, ANY EXTENSION),
1127                                        ASTERISKS ARE TYPED FOR BOTH THE FILENAME AND THE EXTENSION:
1128
1129                                            MT3:*.*          MEANS ALL FILES ON MAGTAPE 3
1130
1131
1132                       4.22     THE "WILD CHARACTER" CONSTRUCTION
1133                                ------------------------------------
1134
1135                                THE "WILD CHARACTER" CONSTRUCTION PERMITS REFERENCE TO ALL FILES
1136                                WHOSE FILE NAMES DIFFER IN SPECIFIC CHARACTER POSITIONS. WHEN
1137                                SEARCHING FOR FILES CORRESPONDING TO THE NAME IN THE COMMAND STRING,
1138                                ANY CHARACTER IS ACCEPTED AS MATCHING A QUESTION MARK. FOR EXAMPLE:
1139
1140                                    DK0:UPD?.DOC      MEANS ANY FILE WHOSE NAME BEGINS WITH "UPD",
1141                                                      HAS ANY CHARACTER NEXT (INCLUDING A BLANK)
1142                                                      AND THEN TWO BLANKS, WITH A .DOC EXTENSION.
1143                                                      UPD1.DOC AND UPD2TR.DOC WOULD BOTH QUALIFY.
1144
1145
1146
1147                       4.23     THE FILE COMMAND        (UPD2TR)
1148                                ------------------
1149
1150                                THE FILE COMMAND IS USED TO DO BULK TRANSFERS FROM ONE DEVICE TO
1151                                ANOTHER. IT IS SIMILAR TO A PIP COMMAND EXCEPT THAT IT CAN UTILIZE
1152                                THE "ASTERISK" AND "WILD CHARACTER" CONSTRUCTIONS. IF A FILE OF THE
1153                                SAME NAME ALREADY EXISTS ON THE OUTPUT DEVICE, THE FILE COMMAND
1154                                (UNLIKE THE PIP COMMAND) WILL DELETE THE OLD FILE. NOTE ALSO THAT
1155                                THE FILE COMMAND CAN TRANSFER BOTH LINKED AND CONTIGUOUS (CORE-
1156                                IMAGE) FILES.
1157
1158                                FILE DEV:<DEV:FILNAM.EXT                    ;COMMAND FORMAT
1159
1160                                WHERE THE DEVICE NAME ON THE LEFT IS THE OUTPUT DEVICE AND
1161                                THAT ON THE RIGHT IS THE INPUT DEVICE.
1162
1163
1164                       4.24     THE FILEF COMMAND       (UPD2TR)
1165                                ------------------
1166
1167                                THE FILEF COMMAND IS USED TO DO FAST TRANSFERS ONTO ALL DIRECTORY DEVICES.
1168                                FOR MAG TAPE LOGICAL END OF TAPE IS FOUND AND ALL THE REQUESTED
1169                                FILES ARE TRANSFERRED SEQUENTIALLY ONTO THE TAPE STARTING AT THAT
1170                                POINT. THIS FAST TRANSFER COMMAND ELIMINATES THE CHECK OF THE TAPE
1171                                DIRECTORY WHICH IS MADE BEFORE EACH FILE TRANSFER IF THE FILE COMMAND
1172                                IS USED.
1173
1174                                FOR RANDOM ACCESS DEVICES THE FILE IS TRANSFERED TO THE FIRST
1175                                AVAILABLE SPACE ON THE DEVICE.
1176
1177
1178                                FILEF   DEV:<DEV:FILNAM.EXT              ;COMMAND FORMAT
1179
1180
```

```
1181        4.25    THE FILED COMMAND         (UPD2TR)
1182                -------------------
1183
1184                THE FILED COMMAND DELETES THE FILES NAMED FROM THE DEVICE'S DIRECTORY.
1185
1186                FILED   DEV:FILNAM.EXT                 ;COMMAND FORMAT
1187
1188                UPD2TR NOW PERMITS THE USE OF THE DEL(ETE) COMMAND WITH * AND WILD CHARACTER
1189                FILENAME CONSTRUCTION. EXAMPLE:
1190
1191                DEL DK0:*.BIN                    ;DELETES ALL FILES IN DK0: WITH .BIN
1192                                                 ;EXTENSION.
1193
1194                CAUTION!!!       THE UPD2TR PROGRAM DOES NOT REQUIRE VERIFICATION OF A MASS
1195                                 DELETION COMMAND. THE USER MUST BE CAREFUL NOT TO
1196                                 SPECIFY A DELETE THAT HE DOES NOT REALLY MEAN TO OCCUR.
1197                                 IF IT SHOULD, TYPING CONTROL C WILL ABORT THE COMMAND
1198                                 AT THE EARLIEST OPPORTUNITY.
1199
1200        4.26    THE FILEL COMMAND         (UPD2TR)
1201                -------------------
1202
1203                THE FILEL COMMAND SEQUENTIALLY LOADS INTO CORE EACH FILE REFERENCED.
1204                IT ASSUMES THAT ALL REFERENCED FILES ARE ABS FORMAT (IF NOT A CKSMER
1205                OR EOM ERROR WILL OCCUR). ITS PURPOSE IS TO SHOW THAT ALL ABS
1206                FORMATTED FILES CAN BE CORRECTLY LOADED (CHECKS FOR DEVICE AND
1207                CHECKSUM ERRORS). IF AN ERROR OCCURS, IT WILL IDENTIFY THE TYPE OF
1208                ERROR AND THE DEVICE.
1209
1210                FILEL   DEV:FILNAM.EXT                 ;COMMAND FORMAT
1211                THE LOAD COMMAND MAY ALSO BE USED IN UPD2TR TO PERFORM THE SAME FUNCTIONS
1212                AS THE FILEL COMMAND.
1213
1214
1215        4.27    THE FILEG COMMAND         (UPD2TR)
1216                -------------------
1217
1218                THE FILEG (FILE GET) COMMAND IS SIMILAR TO THE FILEL COMMAND EXCEPT
1219                THAT IT LOADS AND CHECKS CONTIGUOUS (CORE-IMAGE) FILES INSTEAD OF
1220                ABS FORMAT FILES. DEVICE ERRORS AND SIZE ERRORS WILL BE REPORTED.
1221
1222                FILEG   DEV:FILNAM.EXT                 ;COMMAND FORMAT
1223
1224                THE GET COMMAND MAY ALSO BE USED IN UPD2TR TO PERFORM THE SAME FUNCTIONS
1225                AS THE FILEG COMMAND.
1226
1227        4.28    THE FILET COMMAND         (UPD2TR)
1228
1229                -------------------
1230
1231                THE FILET COMMAND TESTS ALL FILES NAMED BY READING THEM INTO A BUFFER
1232                TO MAKE CERTAIN THAT NO DEVICE ERRORS OCCUR. ANY DEVICE ERRORS ARE
1233                LISTED AS THEY OCCUR.
1234
1235                FILET   DEV:FILNAM.EXT                 ;COMMAND FORMAT
1236
```

# F03

```
1237                      4.29    THE /LP AND /N SWITCHES (UPD2TR)
1238                               -------------------------
1239
1240                              THE "FILE" COMMANDS NORMALLY CAUSE PRINTING OF THE NAMES OF THE FILES
1241                              CHECKED, THEIR TRANSFER ADDRESSES,AND LOCORE AND HICORE VALUES,
1242                              ON THE CONSOLE TERMINAL. THE /LP SWITCH CAUSES THIS INFORMATION TO BE
1243                              OUTPUT ON THE LINE PRINTER INSTEAD. THE /N SWITCH INHIBITS PRINTING
1244                              OF THIS INFORMATION, SO THAT ONLY ERROR PRINTOUTS ARE OUTPUT. SWITCHES MUST
1245                              NOW BE SPECIFIED AT END OF THE COMMAND STRING.
1246
1247                                  FILET DKO:*.*/LP           ;TEST ALL FILES ON DKO AND PRINT
1248                                                            ;THE FILE INFORMATION AND ERROR
1249                                                            ;INFORMATION ON THE LINE PRINTER
1250
1251
1252                                  FILEL /N MT2:*.BIN/LP      ;LOAD ALL .BIN FILES FROM MAGTAPE 2,
1253                                                            ;REPORTING ONLY ERROR INFORMATION
1254                                                            ;ON THE LINE PRINTER
1255
1256                                  DEL DKO:*.TXT/LP           ;DELETE ALL .TXT FILES FROM DKO: AND
1257                                                            ;PRINT DELETED FILES ON LINE PRINTER.
1258
1259                      4.30    THE "EOT" COMMAND        (UPD2TR)
1260                               ------------------
1261
1262                              THE "EOT" COMMAND IS PROVIDED AS A MEANS OF PLACING AN "END-OF-TAPE"
1263                              MARK OR SENTINEL FILE AT A SELECTED SPOT ON MAGTAPE OR CASSETTE. APPLICATIONS
1264                              OF THIS COMMAND INCLUDE REPLACING AN "EOT" MARK WHEN IT HAS BEEN
1265                              ACCIDENTALLY DESTROYED, OR WHEN THE USER WISHES TO DELETE FILES AT THE
1266                              END OF THE MEDIUM, AND STILL BE ABLE TO USE THE SPACE TAKEN UP BY
1267                              THOSE DELETED FILES.
1268
1269                              THE PROCEDURE TO BE USED IS AS FOLLOWS:
1270
1271                              A. POSITION THE MAGTAPE BY PERFORMING A FILET COMMAND ON THE FILE
1272                                 PRECEDING THE SPOT WHERE THE "EOT" IS TO BE PLACED. IN PRACTICE,
1273                                 IF AN "EOT" HAS BEEN LOST, THE USER SHOULD FILET THE NEXT TO THE
1274                                 LAST FILE, SINCE THE LAST FILE MAY BE UNRECOVERABLE.
1275
1276                              B. PERFORM AN "EOT" COMMAND.
1277
1278                                 EXAMPLE:
1279
1280                                     *FILET MTO:ZQRADO.BIN<CR>    ;READS FILE ZQRADO.BIN AND STOPS.
1281                                     *EOT<CR>                     ;WRITES EOT.
1282
1283                      4.31    THE TEXT COMMAND        (UPD2TR)
1284                               ----------------
1285
1286                              UPD2TR INCLUDES THE FACILITY TO EXECUTE A SEQUENCE OF COMMANDS
1287                              CONTAINED IN AN ASCII TEXT FILE. THIS ASCII TEXT FILE IS CREATED
1288                              VIA THE TEXT COMMAND. ALSO SEE SECTION 4. XTECO TEXT EDITOR.
1289
1290                              TEXT DEV:FILNAM.EXT                   ;COMMAND FORMAT
1291
1292                              WHEN THE TEXT COMMAND IS ISSUED UPD2TR OPENS THE NAMED FILE FOR
```

```
1293    OUTPUT AND RESPONDS WITH A QUOTATION MARK (") TO INDICATE ITS
1294    READINESS TO ACCEPT TEXT. ANY ASCII CHARACTER (EXCEPT CONTROL C AND
1295    RUBOUT) WILL BE ACCEPTED AS INPUT TO THE TEXT FILE. CONTROL C (↑C)
1296    WILL ABORT TEXT MODE, RETURNING TO COMMAND MODE AND CLOSING
1297    THE OUTPUT FILE. CONTROL Z (↑Z) IS THE STANDARD TERMINATOR FOR INPUT
1298    TO THE TEXT FILE. RUBOUT CAN BE USED TO DELETE CHARACTERS ON THE
1299    CURRENT LINE (BUT NOT ON PRECEDING LINES).
1300
1301    THREE CHARACTERS, THE POUND SIGN (#), THE SEMICOLON (;), AND THE DOLLAR
1302    SIGN ($) , HAVE SPECIAL SIGNIFICANCE IN THE TEXT FILE. THE # SIGN AND ; ARE
1303    USED TO START A COMMENT WHICH IS TO BE PRINTED DURING COMMAND FILE
1304    EXECUTION. THE $ SIGN IS USED TO START A COMMENT WHICH IS TO BE PRINTED
1305    AND FOLLOWED BY A HALT DURING COMMAND FILE EXECUTION (SUCH AS "$PRESS CONT
1306    WHEN READY").
1307
1308
1309    4.32    THE PRINT COMMAND        (UPD2TR)
1310            ------------------
1311
1312    THE PRINT COMMAND OUTPUTS A FILE ON THE LINE PRINTER. IT IS
1313    USED TO PRINT TEXT FILES, AND WILL OUTPUT TO THE LINE PRINTER.
1314    AFTER THE TEXT FILE IS PRINTED THE PROGRAM OUTPUTS 10 CARRIAGE RETURNS
1315    AND LINE FEEDS TO SIMULATE A FORM FEED. NOTE THAT BOTH PRINT AND TYPE
1316    COMMANDS ACCEPT # AND WILD CHARACTER CONSTRUCTION IN FILENAMES, SO
1317    THAT MULTIPLE TEXT FILES MAY BE PRINTED WITH ONE COMMAND.
1318
1319    PRINT DEV:FILNAM.EXT                    ;COMMAND FORMAT
1320
1321    PRINT DEV:*.TXT
1322
1323    WHERE DEV IS THE SOURCE DEVICE ON WHICH THE FILE RESIDES.
1324
1325    NOTE THAT NO CHECK IS MADE OF FILE PRINTABILITY.
1326
1327
1328    4.33    THE TYPE COMMAND        (UPD2TR)
1329            ------------------
1330
1331    SAME AS THE PRINT COMMAND EXCEPT THAT IT OUTPUTS TO THE CONSOLE
1332    TERMINAL INSTEAD OF TO THE LINE PRINTER.
1333
1334    TYPE DEV:FILNAM.EXT                     ;COMMAND FORMAT
1335
1336    4.34    THE DO COMMAND  (UPD2TR)
1337            ----------------
1338
1339    THE DO COMMAND IS USED TO CAUSE THE EXECUTION OF A COMMAND FILE.
1340    THE FILE MUST BE ON ONE OF THE TROP STORAGE MEDIA (DECTAPE, MAGTAPE,
1341    CASSETTE, OR DISK). THE FILE IS EXECUTED LINE BY LINE, AND MUST
1342    BE TERMINATED BY A ↑Z (CONTROL Z). EXECUTABLE FILES ARE CREATED
1343    VIA THE TEXT COMMAND, OR VIA THE XTECO TEXT EDITOR PROGRAM (SEE SECTION 4.)
1344    FOR NOTES ON THE FILE'S FORMAT AND THE USE OF SPECIAL CHARACTERS,
1345    SEE THE PRECEEDING TEXT COMMAND DESCRIPTION.
1346
1347    DO DEV:FILNAM.EXT                       ;COMMAND FORMAT
1348
```

```
1349
1350        4.35    THE ASG (ASSIGN) COMMAND          (UPD2TR)
1351                ------------------------
1352
1353                THE ASG (ASSIGN) COMMAND ALLOWS THE USE OF LOGICAL DEVICE NAMES IN
1354                COMMAND FILES.  ALLOWED LOGICAL DEVICE NAMES ARE 1,2,3,4, AND   SYS.
1355                A COMMAND FILE MAY USE A LOGICAL NAME SUCH AS "1" INSTEAD OF
1356                SPECIFYING, FOR EXAMPLE, DK0 OR DK1. THEN, BEFORE EXECUTING
1357                THE COMMAND FILE, THE USER CAN ASSIGN THE DESIRED PHYSICAL DEVICE
1358                TO THE LOGICAL NAME, PERMITTING USE OF ANY AVAILABLE UNIT.
1359                ASG PHYSICAL DEV = LOGICAL DEV           ;COMMAND FORMAT
1360
1361
1362                REVERSAL OF PHYSICAL AND LOGICAL DEVICE NAMES IN THE COMMAND STRING
1363                RESULTS IN "INVDEV" ERROR MESSAGE. THE COMMAND IS NOT PERFORMED.
1364
1365
1366                    ASG DK1: = 2:    ;ASSIGNS DISK 1 TO LOGICAL DEVICE "2"
1367
1368
1369
1370
1371        4.37    THE PATCH COMMAND          (UPD2TR)
1372                ------------------
1373
1374                THE PATCH COMMAND ENABLES THE USER TO PATCH A PROGRAM ON ANY DIRECTORY-
1375                ORIENTED (RANDOM ACCESS)  TRDP SUPPORTED DEVICE.  NO OUTPUT
1376                DEV: FILE SPECIFICATION IS REQUIRED OR PERMITTED, THE INPUT DEVICE
1377                IS ASSUMED TO BE THE DESIRED OUTPUT DEVICE.
1378
1379                THE FILE(S) TO BE PATCHED MUST BE IN ABS FORMAT
1380                BINARY FILE. THE PATCH ROUTINE DOES NOT CHECK IN ADVANCE
1381                FOR CORRECT FILE FORMAT. THE FOLLOWING EXTENSION
1382                ARE FOR TRDP ABS FORMAT FILES; .BIN, .BIC, .MPG.
1383
1384
1385                CARRIAGE-RETURN OR LINE-FEED ARE THE ONLY CHARACTERS WHICH MAY BE USED
1386                FOR TERMINATING A TYPED ENTRY.  THE LINE-FEED MAY BE THOUGHT OF AS AN
1387                "ADVANCE" KEY, WHICH WILL GO TO THE NEXT ADDRESS.  THE RUBOUT KEY MAY
1388                BE USED TO CORRECT TYPING MISTAKES MADE ON INPUT.  ALL ADDRESSES ENTERED MUST
1389                BE EVEN.  IF AN ADDRESS IS TYPED (IN RESPONSE TO A PROMPT) WHICH IS ODD, THE
1390                PROMPT WILL BE RE-ASKED.
1391
1392                IF AN ADDRESS IS TYPED WHICH IS NOT WITHIN THE CORE LOAD LIMITS OF THE FILE
1393                BEING OPERATED UPON, THE UNKNOWN CONTENTS OF THE SPECIFIED ADDRESS WILL
1394                BE INDICATED BY "XXXXXX".  THE PROGRAM WILL THEN GIVE THE USUAL "?"
1395                PROMPT, ASKING IF MODIFICATION IS DESIRED.
1396
1397                IN RESPONSE TO THE "ADDR?" PROMPT, IF A CARRIAGE-RETURN OR A
1398                LINE-FEED IS TYPED AS THE ONLY THING ON THE INPUT LINE, THE EXIT
1399                SEQUENCE WILL BE ENTERED, AT SUCH TIME, THE USER IS ASKED TO WRITE-ENABLE
1400                THE OUTPUT DEVICE AND CONFIRM THE FACT THAT THE PATCHES SHOULD BE ENTERED
1401                INTO THE SPECIFIED FILE.
1402
1403                IF A FILE IS MODIFIED BY THE USE OF THE "PATCH" COMMAND, THE DATE AND
1404                LENGTH OF THE FILE OPERATED UPON ARE UPDATED IN THE DEVICE DIRECTORY AS
```

```
1405                              REQUIRED.
1406
1407                              IF THE FILE BEING PATCHED CONTAINS REPRESENTATIONS OF ISOLATED SINGLE-BYTE
1408                              DATA, FOR EXAMPLE THOSE GENERATED BY THE FOLLOWING ASSEMBLY
1409                              CODE SEQUENCES;
1410
1411                              A.       .=24
1412                                       .BYTE 120
1413                                       .EVEN               ;GENERATES ONLY 1 BYTE OF DATA
1414
1415                              B.       .=413
1416                                       .BYTE-1
1417                                               CORE LIMITS. OCCURS DURING DUMP COMMAND.
1418
1419                              DIRERR          INVALID NAME IN DEVICE DIRECTORY.
1420
1421                              DELERR          BIT MAP ERROR DURING DELETE OPERATION ON DECTAPE OR DISK.
1422                                              NOT USUAL UNLESS MEDIUM HAS BEEN WIPED OUT. TRANSFER
1423                                              FILES TO OTHER MEDIUM. (SEE SECTION 4.).
1424
1425                              POFLOW          PROGRAM TOO LARGE TO LOAD WITHIN EXISTING CORE SPACE.
1426
1427                              INVSW           INVALID SWITCH SPECIFIED IN COMMAND STRING.
1428
1429                              DUMP ERROR      ACT MODE ONLY (SEE SECTION 7). OCCURS DURING DUMP
1430                                              COMMAND WHEN DATA DUMPED ON OUTPUT DEVICE DOES  NOT MATCH
1431                                              DATA IN CORE.
1432
1433
```

```
1434
1435                         5.        ERRORS
1436                                   ------
1437
1438                                   INVCMD        INVALID COMMAND. CHECK COMMAND JUST GIVEN.
1439
1440                                   INVDEV        INVALID DEVICE SPECIFIED FOR COMMAND GIVEN.
1441
1442                                   INVADR        INVALID ADDRESS. MUST BE EVEN, WITHIN EXISTING LOCORE
1443                                                 AND HICORE LIMITS, AND MUST NOT BE WITHIN UPDATE PROGRAM.
1444
1445                                   INVNAM        INVALID FILE NAME. NO SPECIAL CHARACTERS ALLOWED.
1446                                                 A THROUGH Z, AND 0 THROUGH 9 ARE ONLY VALID CHARACTERS.
1447                                                 ALSO OCCURS IF * OR WILD CHARACTER CONSTRUCTION FILENAMES
1448                                                 ARE SPECIFIED TO A COMMAND THAT DOES NOT ALLOW IT.
1449
1450                                   NEXFIL        NON-EXISTENT FILE. FILE DOES NOT EXIST IN DEVICE DIRECTORY.
1451
1452                                   DELOLD        DELETE OLD FILE BEFORE GIVING COMMAND THAT WOULD CREATE
1453
```

```
1454
1455                   5.1      ERRORS UNIQUE TO THE FILCMP COMMAND
1456                            ------------------------------------
1457
1458                            UNEQUAL FILE TYPES              INDICATES THE TWO FILES BEING COMPARED
1459                                                           ARE NOT OF SIMILAR STRUCTURE.
1460
1461                            UNEQUAL FILE SIZES             INDICATES THE TWO FILES BEING COMPARED
1462                                                          ARE NOT THE SAME SIZE.
1463
1464                            SCRATCH FILE SHORTER THAN MASTER FILE
1465                                                           THE SCRATCH FILE IS THE FILE ON THE
1466                                                           DEVICE WHICH IS ON THE LEFT OF THE
1467                                                           BACK ARROW IN THE COMMAND STRING.
1468
1469                            SCRATCH FILE LONGER THAN MASTER FILE
1470                                                           THE SCRATCH FILE WHICH IS ON THE
1471                                                           LEFT OF THE BACK ARROW IS LONGER
1472                                                           THAN THE FILE ON THE RIGHT.
1473
1474                            BLOCK COMPARE ERROR XTH BLOCK, YTH BYTE
1475                                                           THIS INDICATES THERE WAS AN ERROR IN
1476                                                           THE COMPARE.  X AND Y INDICATE THE
1477                                                           BLOCK NUMBER AND BYTE NUMBER WHERE THE
1478                                                           ERROR OCCURRED.
1479
1480
1481
```

# L03

```
1482
1483          6.      UPDATING TROP MEDIA
1484                  --------------------
1485
1486                  UPDATING TROP MEDIA CONSISTS OF:
1487
1488                  A. PATCHING EXISTING PROGRAMS (DEPO), OR
1489                  B. REPLACING PROGRAMS WITH NEWER VERSIONS, OR
1490                  C. ADDING NEW PROGRAMS.
1491
1492                  WHEN FIRST BECOMING ACQUAINTED WITH THE USE OF THE UPDATE PROGRAMS
1493                  THE USER SHOULD MAKE EXTRA SURE THAT A BACKUP FOR THE MEDIUM  TO
1494                  BE MODIFIED EXISTS,  IN ORDER TO BE ABLE TO RECOVER FROM FATAL ERRORS.
1495                  (ZEROING THE MEDIUM, DELETING THE WRONG FILE, ETC.).
1496
1497          6.1     PATCHING EXISTING PROGRAMS
1498                  --------------------------
1499
1500                  PATCHING A  PROGRAM IN A TROP MEDIUM CONSISTS OF:
1501                  A. LOADING EXISTING PROGRAM INTO MEMORY (LOAD COMMAND)
1502                  B. MAKING MODIFICATIONS (PATCHING - MOD COMMAND)
1503                  C. DELETING OLD PROGRAM (DEL COMMAND)
1504                  D. STORING MODIFIED PROGRAM (DUMP COMMAND).
1505
1506                  AN ALTERNATE, SAFER, PROCEDURE WOULD STORE THE PATCHED PROGRAM FIRST,
1507                  AND THEN AFTER TRYING THE MODIFIED PROGRAM, THE OLD PROGRAM WOULD
1508                  BE DELETED.
1509
1510                  EXAMPLE:
1511
1512                  ↑C
1513                  *LOAD MTO:DOSA0.BIN            (LOAD PROGRAM)
1514                  *MOD 3450                     (MODIFY PROGRAM)
1515                  003450  012737  000000
1516                  *MOD 3766
1517                  003766  012737  000000
1518                  003770  000005  000000
1519                  *DEL MTO:DOSA0.BIN            (DELETE OLD PROGRAM)
1520                  *DUMP MTO:DOSA1.BIN           (STORE MODIFIED PROGRAM)
1521                  *LOAD MTO:DOSA1.BIN           (LOAD NEW PROGRAM)
1522                  *START 200                    (TRY OUT NEW PROGRAM)
1523
1524                  IT IS IMPORTANT WHEN IMPLEMENTING DEPO'S THAT THE NAME OF THE
1525                  PROGRAM REFLECT THE DEPO LEVEL OF THE PROGRAM. SEE APPENDIX D.
1526                  PROGRAM NAMING CONVENTIONS.
1527
1528
1529
1530          6.2     REPLACING PROGRAMS WITH NEWER VERSIONS, OR
1531                  -----------------------------------------
1532                  ADDING NEW PROGRAMS
1533                  -------------------
1534
1535                  TO REPLACE A PROGRAM, OR TO ADD A NEW  ONE:
1536
1537                  A. DELETE OLD PROGRAM IF REPLACING IT,
```

```
1538                                    B. LOAD NEW PROGRAM INTO MEMORY,
1539                                    C. DUMP PROGRAM ONTO DEVICE.
1540
1541                                    EXAMPLE 1:
1542
1543                                    *DEL MTO:DOSA1.BIN           (DELETE OLD PROGRAM)
1544                                    *LOAD PR:                    (LOAD NEW PROGRAM )
1545                                    *DUMP MTO:DOSBO.BIN          (STORE NEW PROGRAM)
1546                                    *LOAD MTO:DOSBO.BIN          (LOAD NEW PROGRAM)
1547                                    *START 200                   (TRY NEW PROGRAM)
1548
1549                                    EXAMPLE 2:
1550
1551                                    DEL MTO:DOSA1.BIN     ;DELETES OLD PROGRAM.
1552                                    LOAD PR:              ;LOADS NEW PROGRAM FROM PAPER TAPE.
1553                                    DUMP MTO:DOSBO.BIN    ;ADDS NEW PROGRAM.
1554                                    LOAD MTO:DOSBO.BIN    ;CHECKS THAT PROGRAM LOADS CORRECTLY.
1555
1556                                    NOTE: DELETING A PROGRAM FROM CASSETTE OR MAGTAPE DOES NOT PHYSICALLY
1557                                    REMOVE THE PROGRAM FROM THE MEDIUM. IT STILL TAKES UP SPACE. TO
1558                                    CLEAN UP THE CASSETTE OR MAGTAPE, IT MUST BE COPIED VIA ITS TROP
1559                                    MONITOR'S COPY ROUTINE, WHICH COPIES ONLY "GOOD" FILES.
1560
1561
1562                                    *PIP MTO:OVLY.BIN+PR:        (PIP TO MTO: FROM PR:)
1563                                    *LOAD MTO:OVLY.BIN           (LOAD OVERLAY)
1564
1565                                    RELOADING OF A PROGRAM THAT HAS BEEN "PIPPED" DIRECTLY TO A DEVICE
1566                                    IS IMPORTANT, TO INSURE THAT NO READING ERRORS HAVE OCCURRED.
1567                                    THE PIP COMMAND DOES NOT CHECKSUM INPUT DATA.
1568
1569                            6.3     GENERATING A TROP MEDIUM
1570                                    ------------------------
1571
1572                                    IT MAY BE DESIRABLE TO CREATE A CUSTOM MADE MEDIUM CONTAINING ONLY
1573                                    THOSE PROGRAMS REQUIRED TO TEST A PARTICULAR SYSTEM. AS AN EXAMPLE,
1574                                    SUCH A MEDIUM COULD CONTAIN:
1575
1576                                    A. PROCESSOR TESTS
1577                                    B. MEMORY TESTS
1578                                    C. I/O PROGRAMS FOR THAT SYSTEM
1579
1580                                    WITH SUCH A MEDIUM, THE ENTIRE SYSTEM COULD BE TESTED USING THE
1581                                    CHAIN MODE OF OPERATION, WITHOUT HAVING TO SWITCH DECTAPES, OR CASSETTES.
1582
1583                                    THE PROCEDURES FOR GENERATING A NEW MEDIUM FOLLOW.
1584
1585
1586                            6.3.1   CREATING A NEW TROP MAGTAPE
1587                                    ---------------------------
1588
1589                                    A. MOUNT "NEW" MAGTAPE ON DRIVE 0
1590                                    B. PERFORM THE FOLLOWING COMMANDS:
1591
1592                                            FOR A TR79F
1593
```

```
1594                        ZERO: MTO:
1595                        LOAD DKO:TROP.BIN
1596                        SAVE MTO:TROP.SAV
1597                        DUMP MTO:TROP.BIN
1598                        LOAD DKO:UPDTR.BIN
1599                        DUMP MTO:UPDTR.BIN
1600
1601
1602
1603              6.3.9    CREATING A TROP MEDIUM - COMMON PROCEDURE
1604                       --------------------------------------------
1605
1606                       ONCE THE MONITOR HAS BEEN SAVED ON THE MEDIUM,UPD2TR.BIN
1607                       SHOULD BE SAVED:
1608
1609                            FILEF DEV1:<DEVO:UPD?.BIN        ;TRANSFERS UPD1.BIN AND UPD2TR.BIN
1610
1611                       CONTIGUOUS (CORE-IMAGE) FILES SH  LD BE TRANSFERRED NEXT (TO GUARANTEE
1612                       ROOM ON THE MEDIUM). THIS CAN BE DONE VIA THE FILEF COMMAND:
1613
1614                            FILEF DEV1:<DEVO:A.SAV          ;TRANSFER A.SAV
1615
1616                       FROM THIS POINT ON, THE DESIRED PROGRAMS ARE TRANSFERRED FROM THE
1617                       INPUT MEDIA TO THE OUTPUT MEDIUM VIA THE FILEF COMMAND. USE OF THE
1618                       SPECIAL FEATURES CAN CONSIDERABLY DECREASE THE NUMBER OF COMMANDS
1619                       REQUIRED. FOR EXAMPLE, TO TRANSFER ALL DECTAPE DIAGNOSTICS TO THE
1620                       NEW MEDIUM A SINGLE FILEF COMMAND WILL SUFFICE:
1621
1622                            FILEF DEV1:<DEVO:XTC???.*       ;TRANSFERS ALL PROGRAMS WHOSE
1623                                                           ;NAMES START WITH "XTC"
1624
1625                       AFTER ALL THE DESIRED FILES HAVE BEEN STORED ON THE NEW MEDIUM,
1626                       IT SHOULD BE TESTED VIA THE FILET, FILEL, AND FILEG COMMANDS:
1627
1628                            FILET  DEV1:*.*/LP        ;READ EVERY FILE ON THE NEW MEDIUM,
1629                                                      ;LISTING ALL INFORMATION ON THE
1630                                                      ;LINE PRINTER
1631                            FILEL  DEV1:*.BI?/N       ;LOAD ALL ABS FORMAT FILES
1632                                                      ;TO VERIFY THAT NO ERRORS
1633                                                      ;OCCUR. LIST ERRORS ONLY.
1634                            FILEG  DEV1:*.SA?/N       ;LOAD ALL CONTIGUOUS FILES TO
1635                                                      ;VERIFY THAT NO ERRORS OCCUR.
1636                                                      ;LIST ERRORS ONLY.
1637
1638                       IT IS ALSO A GOOD IDEA TO DUPLICATE THE NEW MEDIUM TO PROVIDE A
1639                       BACKUP.
1640
1641
```

# B04

```
1642
1643                                APPENDIX B. UPD2TR PROGRAM COMMANDS
1644                                -------------------------------
1645
1646            FILL<CR>                        SETS UP TERMINAL FOR CORRECT PRINT
1647                                            AFTER CRLF.
1648
1649            CLR<CR>                         CLEARS CORE BELOW UPDATE PROGRAM
1650
1651            XFR<CR>                         PERMITS MAKING PROGRAM SELF-STARTING,
1652                                            OR NON SELF-STARTING.
1653
1654            DUMP DEV:FILNAM.EXT             WRITES MEMORY CONTENTS IN ABS FORMAT
1655
1656            LOAD DEV:DILNAM.EXT             LOADS ABS FORMAT PROGRAM (.BIN, .BIC)
1657
1658            PIP DEV1:FILNAM.EXT+DEV2:FILNAM.EXT    COPIES FILE FROM ONE DEVICE TO ANOTHER.
1659
1660            SAVE DEV:FILNAM.EXT             WRITES MEMORY CONTENTS ONTO CONTIGUOUS BLOCKS
1661
1662            GET DEV:FILNAM.EXT              LOADS CORE IMAGE PROGRAM
1663
1664            MOD ADR                         MODIFIES CORE CONTENTS
1665
1666            CORE                            TYPES PROTECTION LIMITS
1667
1668            LOCORE ADR                      ENTERS LOW PROTECTION LIMIT
1669
1670            HICORE ADR                      ENTERS HIGH PROTECTION LIMIT
1671
1672            DIR DEV:                        TYPES DEV DIRECTORY ON TTY
1673
1674            DIRLP DEV:                      TYPES DEV DIRECTORY ON LINE PRINTER.
1675
1676            DEL DEV:FILNAM.EXT              DELETES FILE FROM DEV DIRECTORY
1677
1678            ZERO DEV:                       ZEROES DEVICE DIRECTORY
1679
1680            BOOT DEV:                       LOADS BLOCK 0 OF  DEV STARTING AT LOC 000000
1681            SAVM DEV:                       WRITES 4K ONTO DEV STARTING AT BLOCK 30
1682
1683            START                           STARTS PROGRAM AT LOC 000000
1684
1685            START ADR                       STARTS PROGRAM AT ADR
1686
1687            ACT                             PUTS UPD2TR PROGRAM IN "ACT MODE"
1688
1689            NOTACT                          TAKES UPD2TR PROGRAM OUT OF "ACT MODE"
1690
1691
1692            FILE DEV:<DEV:FILENAM.EXT       COPIES FILE(S) FROM ONE DEVICE TO
1693                                            ANOTHER, DELETING FILE OF SAME NAME
1694                                            BEFORE DOING THE TRANSFER
1695
1696            FILEF DEV:<DEV:FILNAM.EXT       SAME AS FILE EXCEPT THAT WITH CASSETTE OR
1697                                            MAGTAPE FAST TRANSFERS ARE PERFORMED (NO DIR CHE
```

# C04

```
1698
1699        FILET DEV:FILNAM.EXT           READS FILE AND CHECKS FOR DEVICE
1700                                       ERRORS (FILE "TEST")
1701
1702        FILEL DEV:FILNAM.EXT           LOADS FILES (ASSUMES ABS FORMAT)
1703                                       CHECKING FOR DEVICE AND CHECKSUM ERRORS
1704
1705        FILEG DEV:FILNAM.EXT           LOADS FILES (ASSUMES CONTIGUOUS FORMAT)
1706                                       CHECKING FOR DEVICE AND FILE SIZE ERRORS
1707
1708        FILED DEV:FILNAM.EXT           DELETES NAMED FILES
1709
1710        FILCMP DEV:<DEV:FILNAM.EXT     COMPARES TWO FILES AGAINST
1711                                       EACH OTHER ON TWO TROP MEDIUMS.
1712
1713        PATCH                          ENABLE THE USER TO PATCH A
1714                                       PROGRAM.
1715        TEXT DEV:FILNAM.EXT            CREATES TEXT FILE FOR PRINTING
1716                                       OR FOR COMMAND EXECUTION
1717
1718        PRINT DEV:FILNAM.EXT           OUTPUTS A FILE TO THE LINE PRINTER
1719                                       (ASSUMES IT ENDS WITH A †Z)
1720
1721        TYPE DEV:FILNAM.EXT            OUTPUTS A FILE TO THE CONSOLE TERMINAL
1722
1723        DO DEV:FILNAM.EXT              EXECUTES A COMMAND FILE.
1724
1725        ASG PHYSICAL = LOGICAL         ASSIGNS A PHYSICAL DEVICE TO A
1726                                       LOGICAL DEVICE NAME
1727
1728        EOT                            WRITES END OF TAPE MARK (FILE) ON MAGTAPE
1729                                       OR CASSETTE AFTER TAPE HAS BEEN POSITIONED.
1730
1731        PATCH DEV:FILNAM.EXT           ENABLES PATCHING CAPABILITIES
1732                                       TO A FILE ON THE TROP MEDIA.
1733
1734        FILCMP DEV:=DEV:FILNAM.EXT     COMPARES TWO FILES WITH
1735                                       EACH OTHER.
1736
1737
1738        †C (CONTROL C)                 RETURNS TO COMMAND MODE (OPEN OUTPUT FILE
1739                                       IS CLOSED).
1740        †Z (CONTROL Z)                 ENDS INPUT TO A TEXT FILE
1741
1742
1743        *                              USED FOR FILE NAMING TO MEAN "ANY"
1744                                       (ANY FILE NAME OR ANY FILE EXTENSION)
1745
1746        ?                              USED FOR FILE NAMING TO INDICATE A WILD
1747                                       CHARACTER (ANY CHARACTER WILL MATCH IT)
1748
1749        ! OR ;                         USED IN A FILE OF EXECUTABLE COMMANDS
1750                                       TO START A COMMENT LINE WHICH IS TO
1751                                       BE TYPED DURING EXECUTION
1752
1753        $                              SAME AS ! BUT CAUSES A HALT AFTER
```

```
1754                                              THE COMMENT IS PRINTED
1755
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```

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```

APPENDIX C. PERIPHERALS SUPPORTED BY UPDATE PROGRAMS
------------------------------------------------------------

TRDP SUPPORTS OR WILL SUPPORT THE FOLLOWING DEVICES:

PR:      PC11 HIGH SPEED PAPER TAPE READER        (UPD2TR)

PP:      PC11 HIGH SPEED PAPER TAPE PUNCH        (UPD2TR)

KB:      TTY KEYBOARD, OR LOW SPEED READER        (UPD2TR)

PT:      TTY PRINTER AND PUNCH    (UPD2TR)


DKN:     RK11/RK05 DISK   (UPD2TR, N=0-3)

MTN:     TR79F MAGTAPE 9 TRACK     (UPD2TR, N=0)

CTN:     TA11 CASSETTE            (UPD2TR, N=0 OR 1).

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```

APPENDIX D. PROGRAM NAMING CONVENTIONS
-----------------------------------------

THE FOLLOWING PROGRAM NAMING CONVENTION HAS BEEN USED FOR TRDP.
ITS USE WILL PERMIT USERS TO DETERMINE BOTH THE VERSION, AND THE
MCN LEVEL OF THE STORED PROGRAMS. CONTINUED USE OF THIS SCHEME WHEN
PROGRAMS ARE UPDATED IN THE FIELD IS HIGHLY RECOMMENDED.

```
D        ZFPKA#
↑        ↑↑↑↑↑↑
I        II III
I        II III-----# = INDICATES MCN LEVEL
I        II II       O = INDICATES NO MCN ISSUED
I        II II------A THRU Z = REVISION DESIGNATION
I        II I-------A THRU Z = PROGRAM DESIGNATION
I        II         O THRU 9 = OVERLAY DESIGNATION
I        II--------2 DIGITS = OPTION DESIGNATION
I        I---------A = 11/05,15,20 PROCESSORS
I                  B = 11/25 PROCESSOR
I                  C = 11/45 PROCESSOR
I                  Z = ALL PROCESSORS
I
I------------------D INDICATES A DIAGNOSTIC PROGRAM, AND IS NOT USED
                   IN NAMING A PROGRAM.
```

.BIN EXTENSION USED TO STORE PROGRAM IN ABS FORMAT.
.SAV EXTENSION USED TO STORE PROGRAM IN CORE IMAGE FORMAT.
.BIC EXTENSION INDICATES ABS FORMAT CHAINABLE PROGRAM.

# G04

```
1812
1813          7.        HELP ASCII REDRENCE FILE
1814                    -----------------------
1815
1816
1817
1818                    THIS FILE RESIDENT TO THE DIAGNOSTIC DISTRIBUTION
1819                    MIEDIA IS FOP QUICK COMMAND STRING REFRENCE.
1820                    THE FILE CAN BE TYPED/PRINTED OUT BY USING STANDARD
1821                    UPDATE COMMANDS.
1822
1823          DETAILED CMM'D DISCRIPTION REFRENCE TRDP USER MANUAL M-11-DMQXA
1824
1825          TRDP RESIDENT MONITOR COMMANDS
1826          ------------------------------
1827          F<CR>             SET CONSOLE FILL COUNT
1828          D<CR>             DIRECTORY ON THE TTY CONSOLE
1829          D/F<CR>           SHORT DIRECTORY ON THE TTY CONSOLE
1830          D/L<CR>           DIRECTORY ON THE LINE PRINTER
1R31          D/L/F<CR>         SHORT DIRECTORY ON THE LINE PRINTER
1632          R FILENAME<CR>    STARTS THE INDICATED PROGRAM
1833          L FILENAME<CR>    LOADS THE INDICATED PROGRAM
1834          S FILENAME<CR>    STARTS THE DESIRED PROGRAM THAT WAS LOADED UNDER "L" COMMAND.
1835          S ADDR<CR>        STARTS PROGRAM AT SPECIFIED ADDRESS
1836          C FILENAME<CR>    RUNS DESIRED CHAIN TABLE
1837          C FILENAME/QV<CR>      RUNS DESIRED CHAIN IN QUICK VERIFY
1838
1839
1840          XXDP RESIDENT MONITOR ERRORS
1841          ----------------------------
1842          INVCMD/SW         INVALID COMMAND AND/OR SWITCH, CHECK COMMAND JUST GIVEN.
1843          DEVERR            DEVICE ERROR ON INPUT  DEVICE.
1844          EOM               END OF MEDIUM, OCCURS DURING INPUT OPERATIONS WHEN
1845                            THE PROGRAM ATTEMPTS TO INPUT AND THE FILE IS AT
1846                            AN END. SERIOUS PROBLEM. FILE IN STORAGE IS PROBABLY
1847                            WIPED OUT.
1848          INVADR            INVALID ADDRESS. MUST BE EVEN.
1849          CKSMER            CHECKSUM ERROR DURING "LOAD" COMMAND.
1850          POFLO             PROGRAM TOO LARGE TO LOAD WITHIN AVAILABLE CORE SPACE.
1851          INVNAM   INVALID CHARACTER USED FOR FILE NAME
1852          NEXFIL            NON-EXISTENT FILE, FILE DOES NOT EXIST ON MEDIUM
1853
1854
1855          UPD2 PROGRAM COMMANDS
1856          ---------------------
1857          FILL<CR>                          SETS UP TERMINAL FOR CORRECT PRINT
1858                                            AFTER CRLF.
1859          CLR<CR>                           CLEARS CORE BELOW UPDATE PROGRAM
1860          XFR<CR>                           PERMITS MAKING PROGRAM SELF-STARTING,
1861                                            OR NON SELF-STARTING.
1862          DUMP DEV:FILNAM.EXT ADR           WRITES MEMORY CONTENTS IN ABS FORMAT
1863          LOAD DEV:FILNAM.EXT               LOADS ABS FORMAT PROGRAM (.BIN, .BIC)
1864          PIP DEV1:FILNAM.EXT+DEV2:FILNAM.EXT  COPY FILE FROM DEVICE TO DEVICE
1865          SAVE DEV:FILNAM.EXT ADR           WRITES MEMORY CONTENTS ONTO CONTIGUOUS BLOCKS
1866          GET DEV:FILNAM.EXT                READ CONTIGUOUS BLOCKS INTO MEMORY
1867          MOD ADR                           MODIFIES CORE CONTENTS
```

# H04

```
1868          CORE                          TYPES PROTECTION LIMITS
1869          LOCORE ADR                    ENTERS LOW PROTECTION LIMIT
1870          HICORE ADR                    ENTERS HIGH PROTECTION LIMIT
1871          DIR DEV:                      TYPES DEV DIRECTORY ON TTY
1872          DIRLP DEV:                    TYPES DEV DIRECTORY ON LINE PRINTER.
1873          DEL DEV:FILNAM.EXT            DELETES FILE FROM DEV DIRECTORY
1874          ZERO DEV:                     ZERO DEVICE DIRECTORY
1875          BOOT DEV:                     LOADS BLOCK 0 OF  DEV STARTING AT LOC 000000
1876          SAVM DEV:                     WRITES 4K ONTO DEV STARTING AT BLOCK 30
1877          START                         STARTS PROGRAM AT ITS TRANSFER ADDRESS
1878          START ADR                     STARTS PROGRAM AT ADR
1879          ACT                           UPD2  "ACT MODE"
1880          NOTACT                        UPD2  OUT OF "ACT MODE"
1881          FILE DEV:<DEV:FILENAM.EXT     COPIES FILE(S) FROM ONE DEVICE TO
1882                                        ANOTHER, DELETING FILE OF SAME NAME
1883                                        BEFORE DOING THE TRANSFER
1884          FILEF DEV:<DEV:FILNAM.EXT     SAME AS FILE EXCEPT THAT WITH CASSETTE OR
1885                                        MAGTAPE FAST TRANSFERS ARE PERFORMED (NO DIR CHECKING)
1886          FILET DEV:FILNAM.EXT          READS FILE AND CHECKS FOR DEVICE
1887                                        ERRORS (FILE "TEST")
1888          FILEL DEV:FILNAM.EXT          LOADS FILES (ASSUMES ABS FORMAT)
1889                                        CHECKING FOR DEVICE AND CHECKSUM ERRORS
1890          FILEG DEV:FILNAM.EXT          LOADS FILES (ASSUMES CONTIGUOUS FORMAT)
1891                                        CHECKING FOR DEVICE AND FILE SIZE ERRORS
1892          FILED DEV:FILNAM.EXT          DELETES NAMED FILES
1893          TEXT DEV:FILNAM.EXT           CREATES TEXT FILE FOR PRINTING
1894                                        OR FOR COMMAND EXECUTION
1895          PATCH DEV:FILNAM.EXT<CR>      ENABLES THE USER TO PATCH AN ABS FORMAT PROGRAM
1896                                        ON ANY XXDP RANDOM ACCESS DEVICE.
1897          PRINT DEV:FILNAM.EXT          OUTPUTS A FILE TO THE LINE PRINTER
1898          TYPE DEV:FILNAM.EXT           OUTPUTS A FILE TO THE CONSOLE TERMINAL
1899          DO DEV:FILNAM.EXT             EXECUTES A COMMAND FILE.
1900          ASG PHYSICAL = LOGICAL        ASSIGNS A PHYSICAL DEVICE TO A
1901                                        LOGICAL DEVICE NAME
1902          EOT                           WRITES END OF TAPE MARK (FILE) ON MAGTAPE
1903                                        OR CASSETTE AFTER TAPE HAS BEEN POSITIONED.
1904          ↑C (CONTROL C)                RETURN TO COMMAND MODE (OPEN OUTPUT FILE IS CLOSED).
1905          ↑Z (CONTROL Z)                ENDS INPUT TO A TEXT FILE
1906          *                             USED FOR FILE NAMING TO MEAN "ANY"
1907                                        (ANY FILE NAME OR ANY FILE EXTENSION)
1908          ?                             USED FOR FILE NAMING TO INDICATE A WILD
1909                                        CHARACTER (ANY CHARACTER WILL MATCH IT)
1910          # OR ;                        USED IN A FILE OF EXECUTABLE COMMANDS
1911                                        TO START A COMMENT LINE WHICH IS TO
1912                                        BE TYPED DURING EXECUTION
1913          $                             SAME AS # BUT CAUSES A HALT AFTER
1914                                        THE COMMENT IS PRINTED
1915          /LP                           LINE PRINTER OUTPUT
1916          /N                            ABORTS TYPE OUTS
1917
1918          ERRORS
1919          ------
1920          INVCMD          INVALID COMMAND
1921          INVDEV          INVALID DEVICE
1922          INVADR          INVALID ADDRESS
1923          INVNAM          INVALID FILE NAME
```

# IO4

```
1924                    NEXFIL          NON-EXISTENT FILE
1925                    DELOLD          DELETE OLD FILE BEFORE GIVING COMMAND
1926                    DEVERR          DEVICE ERROR ON EITHER INPUT OR OUTPUT DEVICE
1927                    NOTRDY          PAPER TAPE DEVICE IS NOT READY
1928                    CKSMER          CHECKSUM ERROR
1929                    EOM             END OF MEDIUM
1930                    DEVFUL          DEVICE FULL
1931                    INVCOR          HIGH CORE LIMIT LOWER THAN LOWER CORE LIMIT
1932                    DIRERR          INVALID NAME IN DEVICE DIRECTORY
1933                    DELERR          BIT MAP ERROR DURING DELETE OPERATION ON DECTAPE OR DISK
1934                    POFLOW          PROGRAM TOO LARGE TO LOAD WITHIN EXISTING CORE SPACE
1935                    INVSW           INVALID SWITCH SPECIFIED IN COMMAND STRING
1936                    DUMP ERROR      ACT MODE ONLY DATA DUMPED ON OUTPUT DEVICE DOES  NOT MATCH
1937
1938                    PERIPHERALS SUPPORTED BY UPDATE PROGRAMS
1939                    ----------------------------------------
1940                    PR:     PC11 HIGH SPEED PAPER TAPE READER       (UPD2)
1941                    PP:     PC11 HIGH SPEED PAPER TAPE PUNCH        (UPD2)
1942                    KB:     TTY KEYBOARD, OR LOW SPEED READER       (UPD2)
1943                    PT:     TTY PRINTER AND PUNCH    (UPD2)
1944                    DKN:    RK11/RK05 DISK  (UPD2, N=0-3)
1945                    MTN:    TR79F   (UPD2, N=0)
1946
1947
1948                    CREATING A NEW XXDP DECPACK
1949                    ---------------------------
1950                    ZERO DK1:
1951                    LOAD DK0:RKDP.BIN
1952                    SAVM DK1:
1953                    DUMP DK1:RKDP.BIN
1954                    LOAD DK0:UPD1.BIN
1955                    DUMP DK1:UPD1.BIN
1956                    LOAD DK0:UPD2.BIN
1957                    DUMP DK1:UPD2.BIN
1958
1959                    CREATING A NEW XXDP MAGTAPE (TR79F)
1960                    ----------------------------------
1961                    ZERO: MT0:
1962                    LOAD DK0:TRDP.BIN
1963                    SAVE MT0:TRDP.SAV
1964                    DUMP MT0:TRDP.BIN
1965                    LOAD DK0:UPDTR.BIN
1966                    DUMP MT0:UPDTR.BIN
1967
1968
1969                    ↑Z
1970                    %
1971                            .ENABLE ABS
1972       000001               .END
```

.MAIN.  MACY11 27(732)  01-MAR-77  10:39  PAGE 48
DMQXAB.M11        SYMBOL TABLE

PC   =%000007          R1   =%000001          R3   =%000003          R5   =%000005          .    = 000000


 ERRORS DETECTED:  0
 DEFAULT GLOBALS GENERATED:  0

 *,DMQXAB.SEQ/SOL=DMQXAB.M11
 RUN-TIME: 1 3 0 SECONDS
 RUN-TIME RATIO: 108/4=23.6
 CORE USED:  5K  (9 PAGES)

EOF1DMQXABSEQ              00010000      770325            PDP10 411         7