DECUS
PROGRAM LIBRARY

DECUS NO.	8-344
TITLE	TOLEDO EXTENDED MEMORY BINARY PUNCH
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SOURCE LANGUAGE	PAL III

TOLEDO EXTENDED MEMORY BINARY PUNCH

DECUS Program Library Write-up

DECUS NO. 8-344

DESCRIPTION:

This program operates in exactly the same manner as does the DEC binary punch (DEC-8-5-U) when field designations are not desired on the binary tape. However, provision for changing the field from which data is taken, and for inserting a field designation on the punched tape are included. The program is thus more versatile than DECUS 8-142, in which field designations must always be punched.

OPERATION:

For details, see the description for DEC-8-5-U. Assuming that this program and the program to be punched are in memory, proceed stepwise as follows. The figures in (....) are the addresses in the PC at each halt, provided the program was loaded at 7600.

1. Set the console switches as follows:
   SR: The starting address of this program (i.e., 7600);
   IF: The field in which this program was loaded;
   DF: The field from which the first block of program is to be taken. (This setting is unnecessary if a field designation is to be added to the first block punched.)

2. Press LOAD ADDR and START. Leader will be punched and the computer will halt (7605).

3. Place in the SR the number of blocks of program to be punched, and press CONTINUE. The computer will halt (7611).

4. If no field designation is desired, skip this step and continue at 5 below. Set the field desired in the SR, press EXAMINE, then press CONTINUE. One char. will be punched and the computer will halt (7623).

5. Place the first address of the current block in the SR and press CONTINUE. The computer will halt (7626).

6. Place the last address of the block in the SR and press CONTINUE. The computer will punch the current block. If this is the final block the sum check and trailer will be added and the computer will halt (7654). If this is not the final block, return to step 4 or 5. Note that a return to step 4 is required when the field is to be changed. If the next block is from the same field as that preceding, continue at step 5.

MODIFICATIONS:

1. Field designation on this program: The binary version furnished has no field designation. Such designation can be added by merely loading this program in the desired field, then using it to punch out a field-designated version of itself. The version thus created is then protected against loading over the binary loader. This program uses 7600-7726.

2. Rim-load Version: Users with severe memory-space problems may wish to make a rim-load version of this program that can temporarily replace the bin loader. This can be done with the DEC RIM Punch, by loading this program in any field, loading the RIM punch, then setting IF the field containing the RIM punch and DF to the field containing this program, and following the RIM punch instructions.

3. ASR-33 punch: This program is written for the high speed punch. For the ASR-33 punch, the following modifications are required:

7601/6046
7707/6041
7711/6046

```
                /BINARY PUNCH 8-5-U MODIFIED FOR EXTENDED MEMORY
                *7600
7600  7300    BPUN, CLA CLL
7601  6026    PLS
7602  3313     DCA CKSM
7603  4255     JMS PLOT
7604  7402     HLT
7605  7604     LAS
7606  7041     CIA
7607  3314     DCA NB
7610  7402    NXBL, HLT
7611  5223     JMP JOIN  /SKIP FIELD DESIGNATION
7612  7604     LAS       /GET FIELD
7613  7106     CLL RTL
7614  7004     RAL
7615  1322     TAD C300  /PUNCH FIELD DESIGNATION
7616  4306     JMS PUN
7617  1323     TAD C5701 /CHANGE FIELD
7620  3221     DCA .+1
7621  0000     0
7622  7402     HLT
7623  7604    JOIN, LAS
7624  3315     DCA IA
7625  7402     HLT
7626  7604     LAS
7627  7001     IAC
7630  3316     DCA FA
7631  1315     TAD IA
7632  7120     STL
7633  4266    PUNL, JMS BINP
7634  1315     TAD IA
7635  7041     CIA
7636  1316     TAD FA
7637  7650     SNA CLA
7640  5245     JMP .+5
7641  1715     TAD I IA
7642  7100     CLL
7643  2315     ISZ IA
7644  5233     JMP PUNL
7645  2314     ISZ NB
7646  5210     JMP NXBL
7647  1313     TAD CKSM
7650  7100     CLL
7651  4266     JMS BINP
7652  4255     JMS PLOT
7653  7402     HLT
7654  5200     JMP BPUN
7655  0000    PLOT, 0
7656  7300     CLA CLL
7657  1317     TAD M212
7660  3320     DCA CTR1
7661  1321     TAD C200
7662  4306     JMS PUN
7663  2320     ISZ CTR1
7664  5262     JMP .-2
7665  5655     JMP I PLOT
```

```
7666  0000  BINP, 0
7667  3324   DCA TEM1
7670  1324   TAD TEM1
7671  7012   RTR
7672  7012   RTR
7673  7012   RTR
7674  0325   AND SL7
7675  4306   JMS PUN
7676  1313   TAD CKSM
7677  3313   DCA CKSM
7700  1324   TAD TEM1
7701  0326   AND SL6
7702  4306   JMS PUN
7703  1313   TAD CKSM
7704  3313   DCA CKSM
7705  5666   JMP I BINP
7706  0000  PUN, 0
7707  6021   PSF
7710  5307   JMP .-1
7711  6026   PLS
7712  5706   JMP I PUN
7713  0000  CKSM, 0
7714  0000  NB, 0
7715  0000  IA, 0
7716  0000  FA, 0
7717  7566  M212, -212  /LENGTH OF LEADER: CHANGE AS DESIRED
7720  0000  CTR1, 0
7721  0200  C200, 200
7722  0300  C300, 300
7723  5701  C5701, 5701
7724  0000  TEM1, 0
7725  0177  SL7, 177
7726  0077  SL6, 77

BINP    7666
BPUN    7600
CKSM    7713
CTR1    7720
C200    7721
C300    7722
C5701   7723
FA      7716
IA      7715
JOIN    7623
M212    7717
NB      7714
NXBL    7610
PLOT    7655
PUN     7706
PUNL    7633
SL6     7726
SL7     7725
TEM1    7724
```