```
\def\vpush#1#2{\xdef #1{\xdef \↓↓{#2}\xdef #1{#1}}}
\def\vpop#1#2{#2\xdef #1{\↓↓}}
\def\rdarray#1#2#3{\def\↓↓#1{\ifpos9{\gdef\tmp{\let#1=##1}\advcount9by-1}\else
                    {}}\setcount9#3#2\tmp}
\def\wrarray#1#2#3{\def\↓↓#1{\advcount9by-1\ifzero9{\gdef##1{#3}}\else
                    {}}\setcount9#2#1}
```

. . . . . . . .

*Editor's note: The preceding item is reproduced from Canon copy supplied by the author. He provided the editor with several other documents which were not able to be processed satisfactorily in time for the deadline (the editor's fault, not Les'). Les is using a DEC 10-compatible system, and has developed a macro package (FaCSL TEX,based on Max Díaz' Fácil TEX) with an EMACS preprocessor (PRETEX) capable of performing syntax checks and expanding bibliographic citations from references stored separately from the root file. One particularly interesting feature permits a user to create "just about any kind of picture you want that doesn't contain curved lines", such as:*
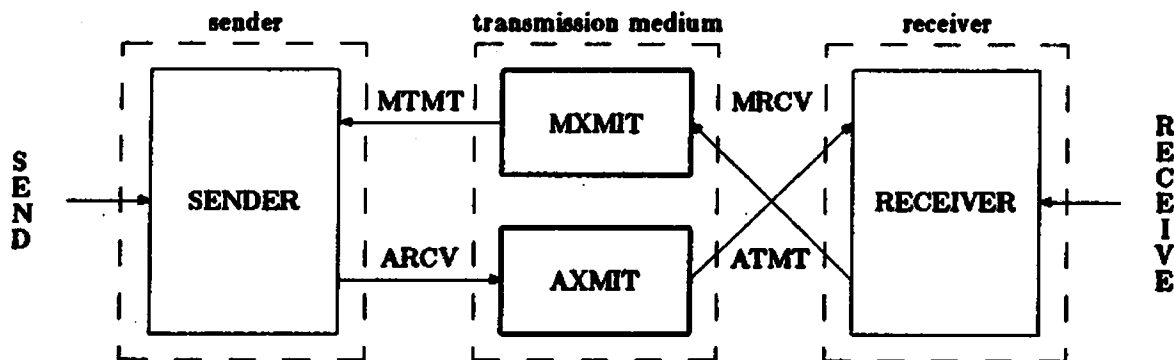


*This feature requires fonts not yet available at AMS. We will try to install them and present the details in the next issue.*

\* \* \* \* \* \* \* \* \* \*

## UNBLOCKING AN $\mathcal{AMS}$-TEX TAPE

Barbara Beeton
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Several recipients of $\mathcal{AMS}$-TEX tapes written for computers other than DEC 10/20s have complained that the tape format does not conform to the description supplied with the tape. The description specifies fixed records, fixed blocks, with the implication that no carriage return or line-feed codes are present. In fact, these tapes contain variable-length records, blocked, with each record terminated by a CR/LF.

Donald C. Wells, of the National Radio Astronomy Observatory, was kind enough to send a listing of a VAX/VMS Fortran program which "reads entire blocks, of arbitrary length, and scans them character by character to build up the proper lines of text. [The] program produces an auxiliary file which tabulates the lengths of all the blocks in the 20 files on the tape. ... It might be of assistance to someone else who is using a VAX under VMS."

```
      PROGRAM AMSTAP
C--------------------------------------------------------------------
C  Program to unblock Fred's AMS macro tape.
C
C     ALL MMAO: TAPE
C     MOU/FOR/BLO=2000 TAPE: DUMMY
C
C  DCW 17May82.
C--------------------------------------------------------------------
C
      PARAMETER      (MAXBLK = 2000)
      PARAMETER      (MAXLIN = 100)
      INTEGER*2      NF, NR, NBYTE, L, K
      CHARACTER      BLOCK*(MAXBLK), RTYPE*8, DFILE*6, SCLOSE*6,
     *               LINE*(MAXLIN)
C
      LT = 1
      RTYPE = 'VARIABLE'
      OPEN (UNIT=LT, FILE='TAPE:', STATUS='OLD', READONLY,
     *          ACCESS='SEQUENTIAL', FORM='FORMATTED',
     *          RECORDTYPE=RTYPE, RECL=MAXBLK, BUFFERCOUNT=2)
      REWIND LT
C
      LD = 2
      LS = 3
      NF = 0
C
 10   CONTINUE
      NF = NF + 1
      WRITE (DFILE, '(''AMS'', I2.2, ''.'')') NF
      OPEN (UNIT=LD, NAME=DFILE, STATUS='NEW', CARRIAGECONTROL='LIST')
      NR = 0
      LINE = ' '
      L = 0
C
 20   CONTINUE
         READ (LT, '(Q, A)', END=40) NBYTE, BLOCK(1:NBYTE)
         NR = NR + 1
         TYPE      *, 'NF=', NF, ', NR=', NR, ', NBYTE=', NBYTE
         WRITE (LS, *) 'NF=', NF, ', NR=', NR, ', NBYTE=', NBYTE
C
         DO 35 I = 1, NBYTE
            K = ICHAR (BLOCK(I:I))
            IF (K.NE.13) GO TO 24
C                                          carriage return:
            GO TO 35
C
 24         CONTINUE
            IF (K.NE.10) GO TO 27
C                                          line feed:
            WRITE (LD, '(A)') LINE (1:MAX(1,L))
            LINE = ' '
            L = 0
            GO TO 35
C
 27         CONTINUE
            IF (K.NE.0) GO TO 30
C                                          zero bytes:
            GO TO 35
 30         CONTINUE
C
            L = L + 1
            LINE(L:L) = CHAR (K)
C
 35         CONTINUE
         GO TO 20
C
 40   CONTINUE
      IF (L.GT.0) WRITE (LD, '(A)') LINE(1:L)
      SCLOSE = 'KEEP'
      IF (NR.LE.0) SCLOSE = 'DELETE'
      CLOSE (UNIT=LD, STATUS=SCLOSE)
      TYPE *, DFILE, SCLOSE, 'NR=', NR
      WRITE (LS, *) 'TAPEMARK.'
      IF (NR.GT.0) GO TO 10
C
      END
```