

- 1. IDENTIFICATION
- 1.1 Digital-7-50-M
- 1.2 Teleprinter Input-Output Test
- 1.3 December 12, 1964

2. ABSTRACT

Tests input and output function of the teleprinter.

Four separate tests are used:

1. Repeating single character output line.
2. Repeating character sequence output line.
3. Input a line message, followed by output of same message.
4. Input of a character, output of same character.

3. REQUIREMENTS

3.3 Equipment

Teleprinter Model 33KSR or 28KSR.

4. USAGE

The following instructions are for the Model 33KSR; where treatment differs for Model 28KSR, it will be noted.

If AC switch bit 0=1, a variable time between output characters will be allowed. AC switch bits 3-9 (28KSR 3-12) specify time x 100 microseconds between characters.

RIM load the Teleprinter Test tape. The program will start automatically at location 20_g.

Fixed Character Sequence Output

Starting location 20.

Prints alphabets, digits and other characters on each line, and repeats sequence. Sequence is same for both typewriters as follows:

ABCDEFGHIJKLMNOPQRSTUVWXYZ 0123456789 /., (:&-'";?\$.!#

Repeat Input Character

Starting location 21.

After each key is struck (except carriage return tab), the printer will print the same character as the one struck. Carriage return is not automatic and must be accompanied by line feed.

Fixed Character Line Output Program

Starting location 22.

AC switch 10-17 (28KSR 13-17) bits specify code for character to print. At the completion of a line, a carriage return will automatically occur, and the line will be repeated. AC switches may be changed while the program is running.

Repeat Input Sequence

Starting location 23.

A sequence is typed on the keyboard and when the carriage return key—or line feed, or control J, or control M—(28KSR carriage return only) is pressed, the sequence will be repeated one time. At the completion of the type-out, a new message may be typed in, or typing @ while depressing the control and shift keys (28KSR blank key) will repeat the message.

8. FORMAT

Tape formats are ASCII, FIO, DEC, and FB. Occupies 20-1000.

10. PROGRAM

10.4 Program Listing

```

TELETYPE TEST TAPE PDP-7      9/13/64
                INDEX=10
                INDEX1=11
20/             JMP TELTST
                JMP ECHO
                JMP REP
                JMP TEL2
TELTST,        LAC (ALPHA-1      /PRINT ALL TELETYPE CHARACTERS
                DAC INDEX
                LAC (ALPHA-END
                DAC CNT
                KRB
                TLS 10
                LAC (-100000     /SET DELAY AFTER EACH LINE
                DAC CNT1
TELI,          LAC I INDEX      /LOOP TO PRINT ALPHABET
                JMS TY1
                ISZ CNT
                JMP TEL1
                ISZ CNT1        /DELAY AND WAIT FOR A CHARACTER TO
                JMP .-1         /BE TYPED
                KSF
                JMP TELTST      /IF NO CHARACTER TYPED, CONTINUE

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```
TEL2,          LAC (TABLE          /SET TO READ FROM THE KEYBOARD
               DAC INDEX
               LAC TEM
               DAC 1 INDEX
               KSF
               JMP .-1
               KRB
               703301
               SKP
               JMP TEL4
               SAD (10
               JMP TEND1          /EXIT IF A LINE FEED OR C.R.
               SAD (2
               JMP TEND2
               DAC 1 INDEX        /IF NOT, STORE CHARACTER TYPED
               JMP TEL2 4
TEL3,          LAC (TABLE          /SET TO PRINT LINE
               DAC INDEX1
               LAC 1 INDEX1       /PRINT TYPED LINE
               JMS OTY
               LAC INDEX1
               SAD INDEX
               JMP . 2
               JMP TEL3 2
               LAC (212
               703301
               LAC (10           /PRINT LINE FEED AND C. R.
               JMS OTY
               LAC (215
               703301
               LAC (2
               JMS OTY
               KSF                /WAIT FOR CHARACTER TO BE TYPED
               JMP .-1
               KRB                /READ CHARACTER
               DAC TEM
               703301
               SZA
               SAD (200
               JMP TEL3
               JMP TEL2
TEL4,          SAD (212
               JMP TEND1
               SAD (215
               JMP TEND2
               JMP TEL3-2
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```
/TERM CHAT ON INPUT
TEND1, LAC (215
        703301
        LAC (2
        JMS OTY
        JMP TEND2 2
TEND2, LAC (212
        703301
        LAC (10
        JMS OTY
        LAC INDEX
        SAD (TABLE
        JMP TEL2 2
        JMP TEL3

/TYPE BACK CHARACTER TYPED
ECHO   KRB
        KSF
        JMP .-1
        KRB
        JMS OTY
        JMP ECHO 1

/TYPE TEST WORD CONTINUALLY
REP,   LAC (-70 /FILL LINE WITH CHARAC IN ACSWITCHES
        DAC CNT
        LAT
        JMS OTY
        ISZ CNT
        JMP .-3
        LAC (215
        703301
        LAC (2
        JMS OTY
        LAC (212
        703301
        LAC (10
        JMS OTY
        JMP REP

/TYPE 3 CHARACTERS
TY1,   0
        JMS RL6
        JMS TYP1
        JMS RL6
        JMS TYP1
        JMS RL6
        JMS TYP1
        JMP 1 TY1
```

```
TYP1,      0
            DAC TEM
            AND (37
            SNA
            JMP TY2
            703301
            SKP
            JMP TY1B
            LAC OCL
            SPL
            LAC OCU
            SAD OCS
            JMP . 3
            JMS OTY

            DAC OCS
            LAC TEM
            JMS OTY
TY2,       LAC TEM
            JMP 1 TYP1
TY1B,      ADD (LAC BTATAB-1
            DAC .+1
            XX
            SZL
            JMP TY1C
TY1D,      JMS OTY
            JMP TY2
TY1C,      JMS RL6
            RTL
            RTL
            JMP TY1D
/INDEXED BY BAUDOT, FIGURES LEFT HALF, LETTERS RIGHT HALF
BTATAB,   265324
          215215
          271317
          240240
          243310
          254316
          256315
          212212
          251314
          264322
          246307
          270311
          260320
          272303
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273326
263305
242332
244304
277302
211323
266331
241306
257330
255301
262327
247312
377377
267325
261321
250313
377377

```

/SUBROUTINES AND DATA
QTY,          0          /TYPE 1 CHARACTER SUBROUTINE
              TLS
              LAT          /TEST FOR DELAY ON
              SPA          /BIT 0=0 MEANS NO DELAY
              JMP DELAY
              TSF
              JMP .-1      /IF NO DELAY, WAIT FOR THE FLAG
              JMP I OTY
DELAY,        RTR          RTR          RTR
              AND (3777
              CMA
              DAC CNTD
DELAY1,       LAC I .      /3x8 MS DELAY
              LAC I .
              LAC I .
              ISZ CNTD     /EACH DELAY IS ABOUT 100 MS.
              JMP DELAY1
              JMP I OTY
RL6,          0
              RTL          RTL          RTL
              JMP I RL6
/TABLE OF ALL TELETYPE CHARACTERS
ALPHA,        FLEX ABC FLEX DEF      FLEX GHI FLEX JKL
              FLEX MNO FLEX POR      FLEX STU FLEX VWX
              FLEX YZ
              FLEX 012 FLEX 345      FLEX 678 FLEX 9 /
              FLEX ., ( FLEX =+-     654337 474555
END,          130421
/CASE CONTROL STORAGE
OCS,         33
OCU,         33
OCL,         37
TABLE,       TABLE 200/
START TELTST

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