PDP COMPUTER
MASSACHUSETTS INSTITUTE OF TECHNOLOGY
CAMBRIDGE 39, MASSACHUSETTS

MEMORANDUM PDP-2

October 9, 1961

PDP BINARY TAPE FORMAT AND INPUT ROUTINE

The binary tape format for PDP under consideration in this memorandum has the following features:

1) A short (27 octal registers) input-routine
2) Easy to hand-read block format
3) Sum checking on each block

The input routine (attached) occupies registers 7751 through 7777, and is entered at location 7751.

The standard tape format is:

1) Title in hand-readable format (i.e., no 8th hole). This part is optional.
2) Input routine in read-in mode terminated by a "jmp 7751".
3) Data blocks consisting of

    dio fa
    dio la+1
    (la-fa+1 data words)

    .
    .
    .

    checksum (sum of all other words in this block)

4) A word "jmp x" (where x is the first executed instruction of the program).

There may be as many data blocks as desired. The length of each block is arbitrary; however, it is desirable to limit each block to a maximum of 100 (octal) words. Blocks are generally separated by 5 lines of blank tape.

The jmp x instruction at the end of the tape is executed without an intervening halt, so if it is desired for the program to halt, a suitable instruction should be placed in the loaded program.

Should the computer stop before reaching the end of the tape, two alternatives are available:

1) Start over at the beginning of the tape.
2) Pull the tape back one block and continue.

The first choice is safer, since the error may have caused a previously read in portion of memory to have been changed.

This format is the one punched by PDP-1 PUNCHY and the soon to be available TX-0 PROGRAM TRANSLATOR.

Alan Kotok

PDP-1 Input Routine

readin

7751

```
in,  51    rpb
     52    dio a
     53    xct a
     54    dio ck
     55    rpb
     56    dio en1
b,   57    rpb ✓
a,   60    xx
     61    lac i a
     62    add ck
     63    dac ck
     64    idx a
     65    sas en1
     66    jmp b
     67    lac ck
     70    add en1
     71    rpb
     72    dio ck
     73    sas ck
     74    hlt
     75    jmp in
ck,  76    0
en1, 77    0

start add in
```