

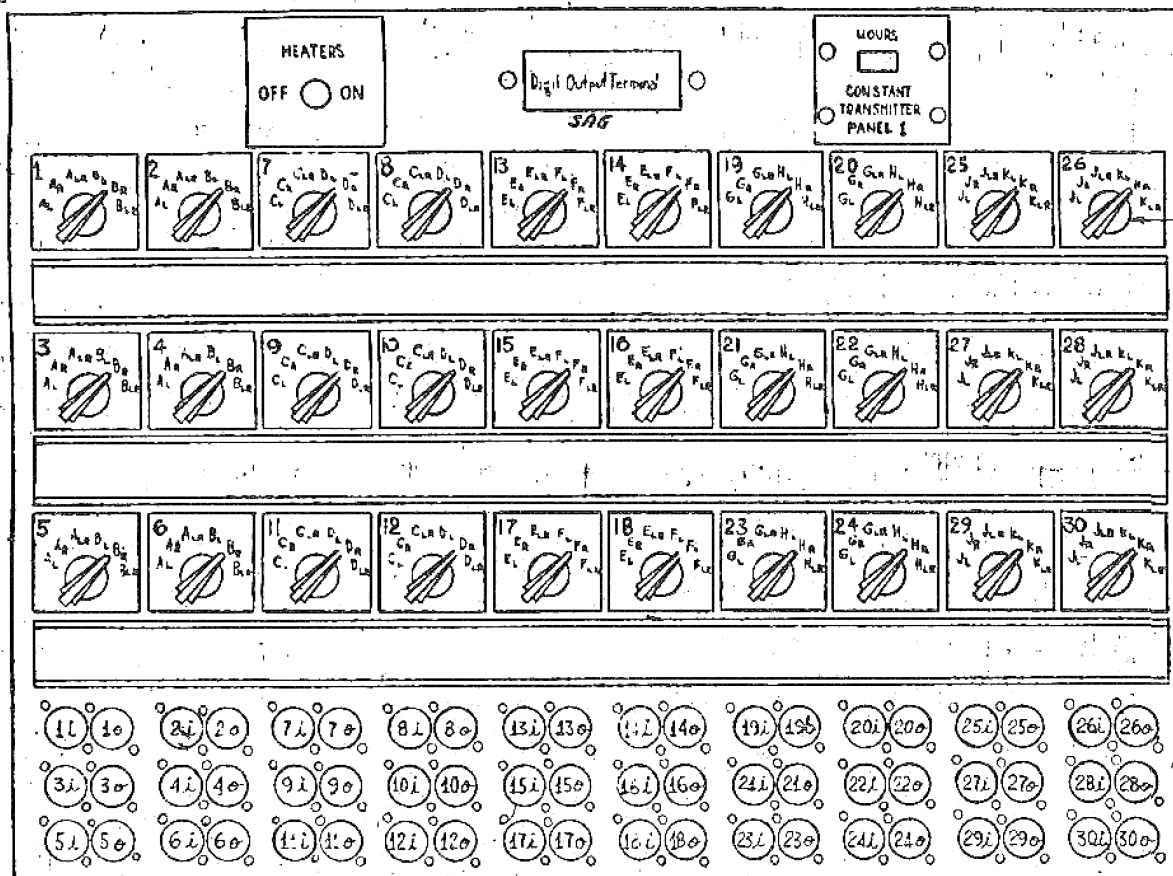
Digit Output Terminal

Whenever the transmission of a constant is programmed digit pulses representing this constant are emitted from this terminal. This terminal is to be connected to a digit trunk (tray) (See PX-11-306) by a digit cable for transmission of the constant to another unit of the ENIAC.

A table showing the connecting of this terminal for left-hand and right-hand five digit groups, and combined left and right-hand ten digit sets, appears below. It should be noted that a left-hand five-digit group would be received in the left-hand half of an accumulator and a right-hand five-digit group would be received in the right-hand half if no shifter were used.

Line	10-digit number (LR)	5-digit left-hand number (L)	5-digit right-hand number (R)
12	Ground	Ground	Ground
11	PM (of L)	PM (of L)	PM (of R)
10	Billions place	Ten-thousandths place	PM* (of R)
9	.....	.....	PM* (of R)
8	.....	.....	PM* (of R)
7	.....	Tens place	PM* (of R)
6	.....	Units place	PM* (of R)
5	.....	Nothing	Ten-thousandths place
4	.....	Nothing	.....
3	Hundreds place	Nothing	.....
2	Tens place	Nothing	Tens place
1	Units place	Nothing	Units place

\*Thus 0 pulses are transmitted on these lines when the constant is positive, 9 pulses when it is a complement. Hence it is unnecessary to use a shifter on a receiving accumulator to receive this constant into the units to ten-thousands decades of that accumulator.



Terminals 1i, 2i, ..., 30i  
Program pulse input terminals for program controls 1-30

Terminals 1, 2, ..., 30  
Program pulse output terminals for program controls 1-30

Constant selector switch

General Explanation of the Constant Transmitter

The constant transmitter has a capacity of 100 digits and 20 signs. These are divided into 10 sets (A, B, ..., J, K, L) each consisting of 10 digits and 2 signs. Eight of these sets (A, B, ..., H) are supplied from IRM cards through the IRM reader when proper connections are made on the IRM reader plug board (see PX-11-305). Two of these sets (J, K) are supplied from the constant set switches and PM set switches of panel 2 (see PX-11-303).

Each set may be further divided into two groups, a left-hand group and a right-hand group, each consisting of 5 digits and a sign. This division must remain fixed throughout a given set-up. For example, if the C set is divided into five-digit groups, then any or all of the constant selector switches 7 to 12 may be set to C<sub>L</sub> or C<sub>R</sub> but not to C<sub>1</sub>. Conversely, if the I set is not divided, then any or all of the constant selector switches 13 to 18 may be set to I<sub>1</sub> but not to I<sub>L</sub> or I<sub>R</sub>.

The IRM reader is programmed from the initiating unit (see PX-9-302). The IRM reader controls and plug-board are described on PX-11-305.

Constant Transmitter Program Controls

There are 30 constant transmitter program controls, each capable of transmitting certain of the constants over the digit output terminal. Only one program control can be used at a time, hence only one number can be transmitted at a time.

Each program control consists of

- 1) Program pulse input terminal (when stimulated with program pulse causes program control to program transmission of number set on its constant selector switch)
- 2) Constant selector switch
- 3) Program pulse output terminal (emits program pulse after constant has been transmitted, i.e., one addition time after the program pulse input terminal has received a pulse.)
- 4) Associated transceiver (for Neon bulbs see PX-11-306)

Program controls 1-24, which transmit constants read from the IRM cards, cannot be used during the operation of the card reader, except during the first 50 addition times of this operation. That is, after a pulse is supplied to R1 on the initiating unit front panel (see PX-9-302), these controls may be used during the 50 subsequent addition times, but not thereafter until a pulse is emitted from R0.

MOORE SCHOOL OF ELECTRICAL ENGINEERING UNIVERSITY OF PENNSYLVANIA		
CONSTANT TRANSMITTER FRONT PANEL No. 1		
MATERIAL	FINISH	SCALE
Drawn by: GEDELSKY	Checked by: awg 11/1/45	Approved by: DY-11-200