



Significant Figures Switch

This switch may be used to give a variable round-off; i.e., a product which is rounded off in a different place for each program control. This switch governs the addition of 5 pulses into the proper place of the left-hand product acc. (#11, 12) during the second addition time of the multiplication.

It does not control the deletion of the non-significant digits of the product nor the placing of the subtract pulse in the proper channel of the product on a subtract transmission. Since these vary with the setting of the significant figures switch, they must be taken care of at the accumulator which receives the product. Hence in cases where every product is to be rounded-off to the same number of places, it is best to use the round-off facilities of the right-hand product acc. (#13, 14).

Places Switch

This governs the number of places of the multiplier that are to be used in the multiplication. The multiplier digits are used from left to right, so that the most significant digits are used first. The places referred to are the places of the multiplier acc. counted from the left.

The places switch is completely independent of the significant figures switch. The reason for this is that all digits of the multiplicand are used in the multiplication process. The only purpose of the places switch is to save time.

Time schedule for multiplication

A multiplication requires from 6 to 14 addition times (depending upon the setting of the places switch) including the time required for receiving the multiplier and multiplicand, but not including the time required for disposal of the product.

Addition time (Program input pulse received at end of 0th addition time)	Operation
1	Multiplier and multiplicand received
2	Five round-off pulses transmitted to left-hand product acc. (#11, 12)
3	Multiplicand multiplied by first place (10th decade) of multiplier and left and right hand components transmitted to left and right hand product acc.
p+2	This is continued up to the p+2th addition time, where p is setting of places switch
p+3	Complement corrections are made when necessary.
p+4	Accumulated left hand products are added into accumulated right hand products.
(Program output pulse and answer disposal pulses emitted at end of p+4th addition time)	

MOORE SCHOOL OF ELECTRICAL ENGINEERING UNIVERSITY OF PENNSYLVANIA		
HIGH-SPEED MULTIPLIER FRONT PANEL NO. 2		
MATERIAL	FINISH	SCALE
Drawn by JEBELSKK	Checked by <i>[Signature]</i>	Approved by:
DEC. 1944		PX-6-303