NELSON RESEARCH LABORATORIES
STAFFORD E. E. CO. LTD.

NS t 1053
Sheet No.: 1

DEUCE Programmes Nos. 79 and 80. (ZP15/1 and ZP16/1)

Set up Clock Track and Synchronise with Clock Track

SUMMARY.

These two one-card routines enable information on the drum to be utilised after the machine has lost whatever was in the high speed store.

"Set up" replaces the initial card of the first main programme.

"Synchronise" replaces the initial card of all programmes using information previously stored on the drum.

DEUCE Programmes Nos. 79 and 80. (ZP15/1 and ZP16/1)

Set up Clock Track and Synchronise with Clock Track

OPERATING INSTRUCTIONS.

Parameters. Determine a track, A/B, of the drum not used by any of the ensuing programmes.

Set Up.
Punch A P_5 on X-row
Punch B P_5 on 8-row

Synchronise.
Punch A P_5 on X-row
Punch B P_5 on 6-row

Procedure. Set the "STOP" key to normal; these programmes are inoperative if the "STOP" key is not in the normal position.

Replace the initial card of the first main programme with the "Set up" routine.

Replace each initial card of all subsequent programmes run in on the initial input key with the "Synchronise" routine.

Note that if display is synchronised prior to setting up the clock track all subsequent programmes synchronised to the clock track will be automatically synchronised with display.

Failure. If during the use of "synchronise" the machine enters the loop

0 30-11

DEUCE has failed, either in the set-up or synchronise routines. Probably DS21 is at fault.

MATHEMATICAL PHYSICS LABORATORY.

METHOD.

Set-up Routine.

Row	NIS	S - D	ch	W	. T	
Y	Blank					
X	1	A - 31	1	0	26	
0	1	4 - 24		0	28	
1	1	29 - 22		1	28	
2	1	21 - 28		0	28	
3	1	30 - 21	1	0	28	
4	1	0 - 11	1	29	28	X
5	0	30 - 11	1	1	0	
6	1	0 - 11		28	28	X
7	1	30 - 8	1	31	30	
8	1	B - 30	1	0	28	
9	1	30 - 11	1	29	28	

The set up routine performs the functions of an initial card, and in addition fills track A/B with the instructions.

m.c.0	1	30 - 8	1	31	30
m.c's 1-31	0	30 - 11	1	1	0

before clearing the high speed store preparatory to reading in the main programme.

Synchronise Routine.

Row	NIS	S - D	ch	W	T
Y	Blank				
X	1	A - 31		0	26
0	1	4 - 24		0	28
1	1	31 - 21	1	0	28
2	1	27 - 22		0	28
3	1	21 - 28	1	0	28
4	1	30 - 21	1	0	28
5	1	30 - 16		0	28
6	1	B - 30		0	28
7	1	0 - 0		0	28
8	1	11 - 8	1	29	28
9	0	30 - 11	1	29	28

The synchronise routine also acts as an initial card and transfers the contents of track A/B to DL8 before entering DL8 in an even m.c. The instruction 0 30-11 1 1 0 is obeyed in successive even m.c.'s until the instruction in m.c.0 is reached, that is to say 1 30-8 1 31 30. This clears DL8 and takes its next instruction from 1_0 (assumed empty) and the machine is ready to read in the main programme.

If through a machine fault DL8 is entered in an odd m.c. the machine will "loop" on 0 30-11 but the main programme will continue to run in, although the cards will not be read.

T.D. Westrup

MATHEMATICAL PHYSICS LABORATORY.

JJ m.D.

NW