

# THE ENGLISH ELECTRIC CO., LTD.

NELSON RESEARCH LABORATORIES

STAFFORD

MATHEMATICAL PHYSICS LABORATORY.

Telephone:—Stafford 700.

Report No. NS t 61

Date 23.8.55.

Reference

Order No.

Front Sheet.  
Data Sheet 1.  
Figure sheet S6/10162

DEUCE Subroutine No. 68. (D13).

Report by

N.P.L.

## SUMMARY.

The attached document contains details of a DEUCE Subroutine which has been prepared and tested by N.P.L.



MATHEMATICAL PHYSICS LABORATORY.

1.8.55

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NELSON RESEARCH LABORATORIES  
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NS t 61  
Sheet No.: 1.

Description. Division of triple length number by double length number giving single length answer. First Order.

Data.

$$a = 2^{64} a_1 + 2^{32} a_2 + a_3$$

$$b = 2^{32} b_1 + b_2$$

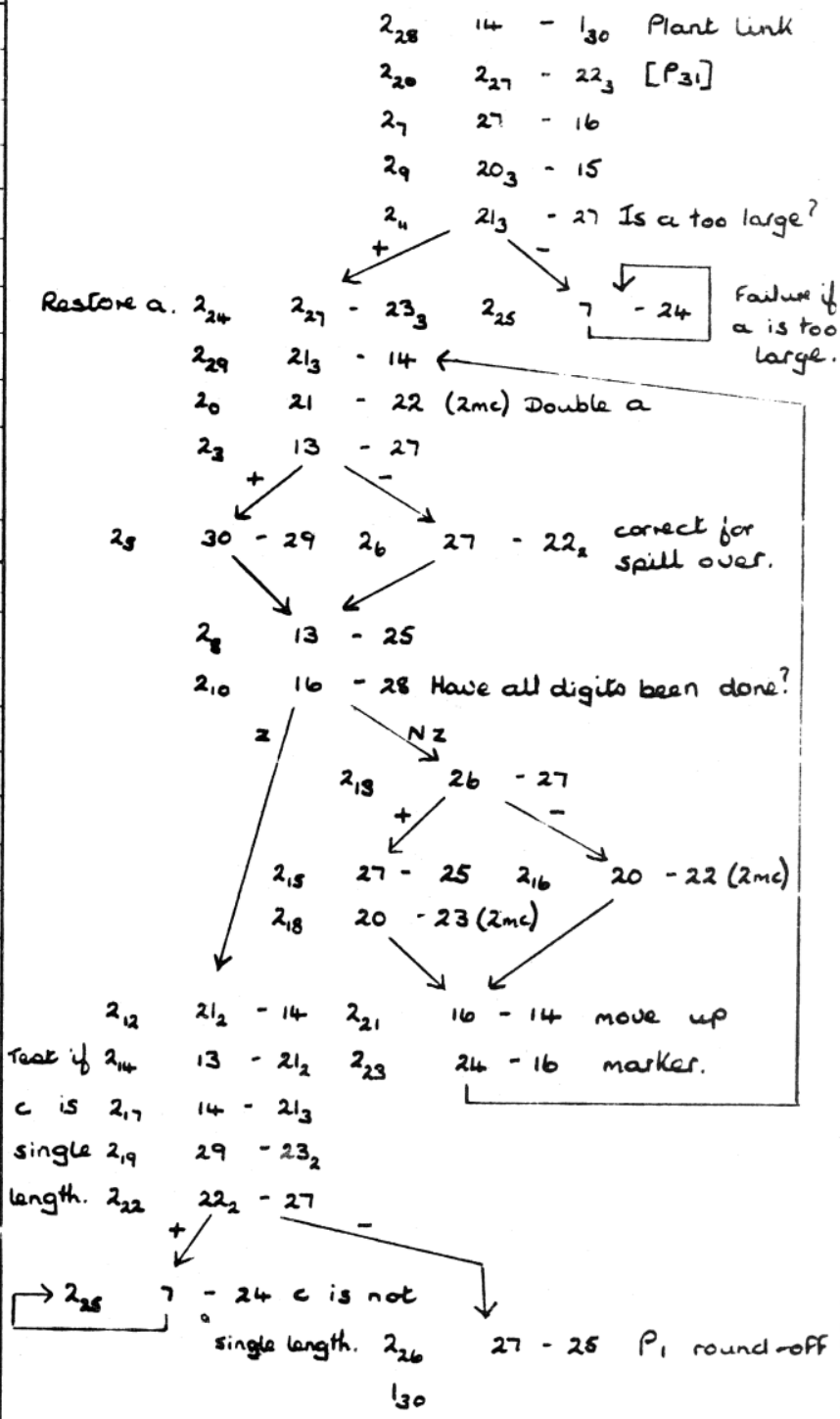
Result.  $c = \frac{a}{b}$  to nearest odd integer.

Failure (buzzer) if c is not single length.

Instructions for Use.

Stores used.	13	14	15	16	20	21 <sub>2</sub>	21 <sub>3</sub>
Contents at Entry.	a <sub>3</sub>	Link	-	-	b	a <sub>2</sub>	a <sub>1</sub>
Contents at Exit.	c	-	b <sub>1</sub>	zero	b	-	-
Occupies.	m.c. 0, 3, 5-29						
Entry.	m.c. 28						
Time.							
Constants available.	P <sub>31</sub> in m.c. 27						
Failure Instruction.	2 <sub>25</sub> 7 - 24 if c is not single length.						

D.L. 2.		Track						
Card Nos.								
mc	NIS	S	D	C	W	T		
							Y	
							X	
							0	
							1	
0	2	21	22	d	o	1	2	
1							3	
2							4	
3	2	13	27		o	o	5	
4							6	
5	2	30	29		o	1	7	
6	2	27	22		o	o	8	
7	2	27	16		o	o	9	
8	2	13	25		o	o	Y	
9	2	20	15		o	o	X	
10	2	16	28		o	o	0	
11	2	21	27		o	11	1	
12	2	21	14		o	o	2	
13	2	26	27		o	o	3	
14	2	13	21		o	1	4	
15	2	27	25		o	1	5	
16	2	20	22	d	o	3	6	
17	2	14	21		o	o	7	
18	2	20	23	d	o	1	8	
19	2	29	23		1	1	9	
20	2	2	22		5	17	Y	
21	2	16	14		o	o	X	
22	2	22	27		o	1	0	
23	2	24	16		o	4	1	
24	2	2	23		1	3	2	
25	2	7	24		o	30	3	
26	1	27	25		o	2	4	
27							5	
28	2	14	1		o	22	6	
29	2	21	14		o	1	7	
30							8	
31							9	



FLOW DIAGRAM AND CODING FOR SUBROUTINE NO. 68. (D13) Division, triple-length number by double-length number.

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