

THE ENGLISH  ELECTRIC CO., LTD.

NELSON RESEARCH LABORATORIES

STAFFORD

MATHEMATICAL PHYSICS LABORATORY.

Telephone:—Stafford 700.

Report No. NS t 104

Date 2.3.56.

Reference

Order No.

Front Sheet.  
Data Sheet 1.  
Figure Sheet S6/10373

DEUCE Subroutine No. 114 (TO3)

Report by

R.A.E.

SUMMARY.

The attached document contains details of a DEUCE Subroutine which has been prepared and tested by R.A. E.

*S. J. M. Denison*MATHEMATICAL PHYSICS LABORATORY.

NW

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

NS t 104  
Sheet No.: 1.

Description. Second order subroutine to evaluate  $\sinh x$ ,  
Data.  $x$  to 30 binary places.  
Uses. MD4/1 with a shift of 1 in D.L. A.  
Result.  $\sinh x$  to 29 binary places.

Instructions for Use.

Stores Used.	13	14	15	16	21 <sub>2</sub>	21 <sub>3</sub>
Contents at Entry.	-	-	link	$x$	-	-
Contents at Exit.	-	$x$	link	$\frac{\sinh x}{x}$ (30 b.p.)	-	$\sinh x$
Occupies.	D.L. 2 <sub>10-31</sub>					
Entry.	m.c. 12					
Time.	28 $\frac{1}{2}$ m.s.					
Constants available.	P31 in m.c. 21					
Parameters.	N.I.S. of A in m.c's. 14 and 18.					

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

