$N = \overline{B} + \overline{C.A}$

$N = \overline{B \cdot \overline{B.\overline{C.A}}} = \overline{B \cdot (\overline{B} + C.A)} = \overline{B} + \overline{\overline{B} + CA}$

INPUTS FROM SERVO HBD

	G	H	K
SS	0	0	0
W/C	0	0	1
HR	0	1	X
HL	1	0	X
HB	1	1	X

INPUTS FROM HS HBD

	A	B	C
SS	1	1	1
W/C	1	1	0
HR	1	0	0
HL	0	1	0
HB	0	0	0

BINARY I/P TO D to A CONVERTER

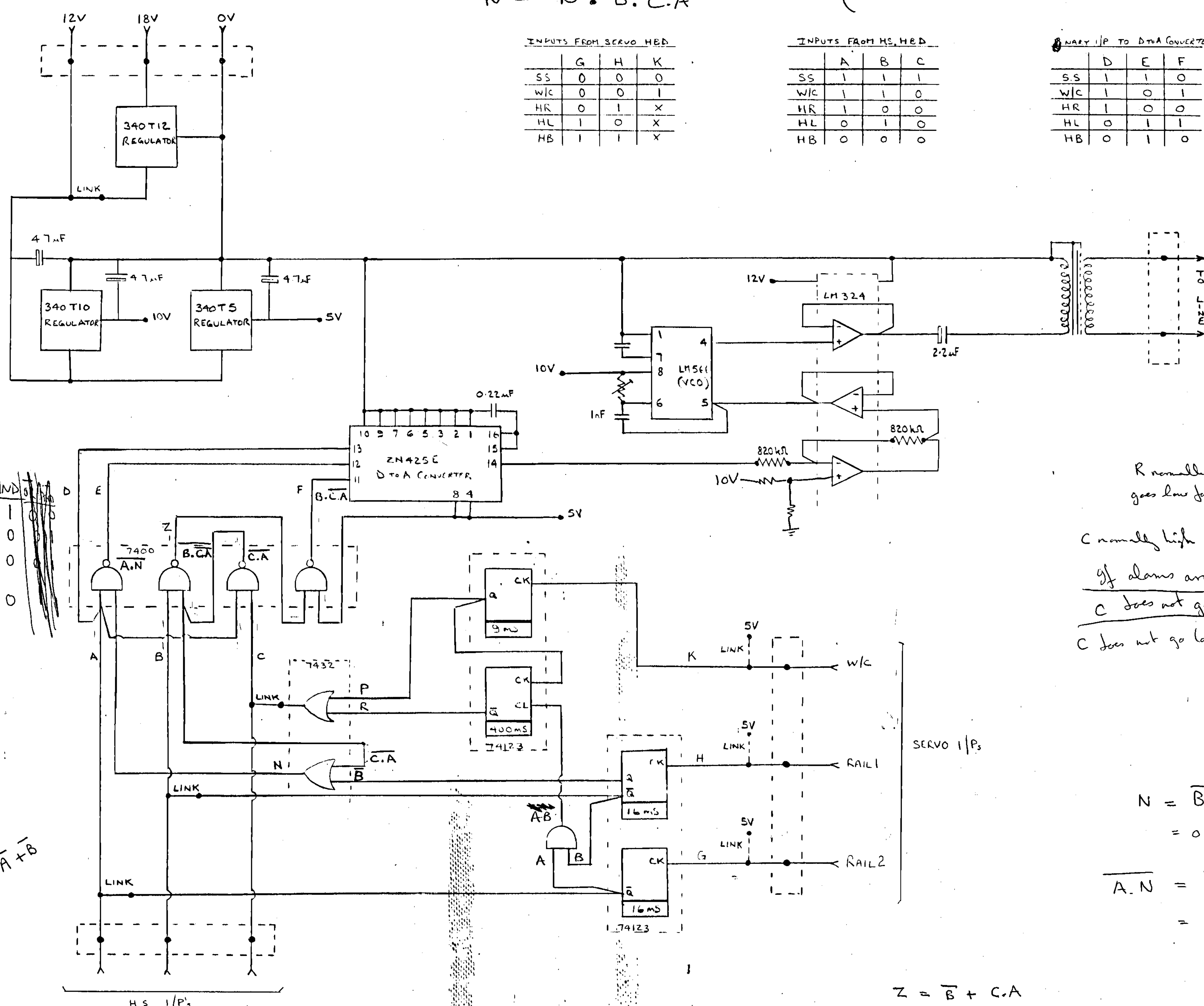
	D	E	F
S.S	1	1	0
W/C	1	0	1
HR	1	0	0
HL	0	1	1
HB	0	1	0

F

C \ AB	11	10	00	01
1	0	X	X	X
0	1	0	0	1

E

C \ AB	11	10	00	01
1	1	X	X	X
0	0	0	1	1



A	B	OR	AND
1	1	1	1
0	1	1	0
1	0	1	0
0	0	0	0

$\overline{A.B} = \overline{A} + \overline{B}$

R normally high goes low for 400ms follow W/C

C normally high goes low for 391ms, 9ms after W/C

If alarm arrives within 9ms of W/C then C does not go low.

C does not go low during alarm.

R latch amount of K before alarm edge.

If next W/C arrives before end of alarm it does not get through

$N = \overline{B} + \overline{C.A}$

$= 0 + \overline{C.A}$

$\overline{A.N} = \overline{A.\overline{C.A}}$

$= \overline{A(\overline{C} + \overline{A})}$

G	H	K	CL	R
0	0	0	1	1
0	0	1	1	0 (400ms)
1	0	1	0	1
0	1	1	0	1
1	1	1	0	1

$Z = \overline{B} + C.A$

	A	B	C	N	E	F	D	K	H	G	A	B	C
HR	1	0	1	1	0	0	1 ✓	1	0	0	1	1	0 (after 9mS)
HL	0	1	1	1	1	1	0 ✓	0	0	0	1	1	1
HB	0	0	1	1	1	0	0 ✓	X	1	0	1	0	1
WC	1	1	0	1	0	1	1 ✓	X	0	1	0	1	1
SS													

Revisions

$N = \overline{B} + \overline{CA}$

British Railways Board - Scottish Region
Chief Signal and Telecommunications Engineer

HOT BOX DETECTOR
FM TRANSMITTER

Y

C \ AB	11	10	00	01
1	[illegible]	[illegible]	[illegible]	[illegible]
0	[illegible]	[illegible]	[illegible]	[illegible]

British Rail

Chief S & T Engineer

No. TD 79/20