

Canola 1200

LOGIC & TIMING CHART

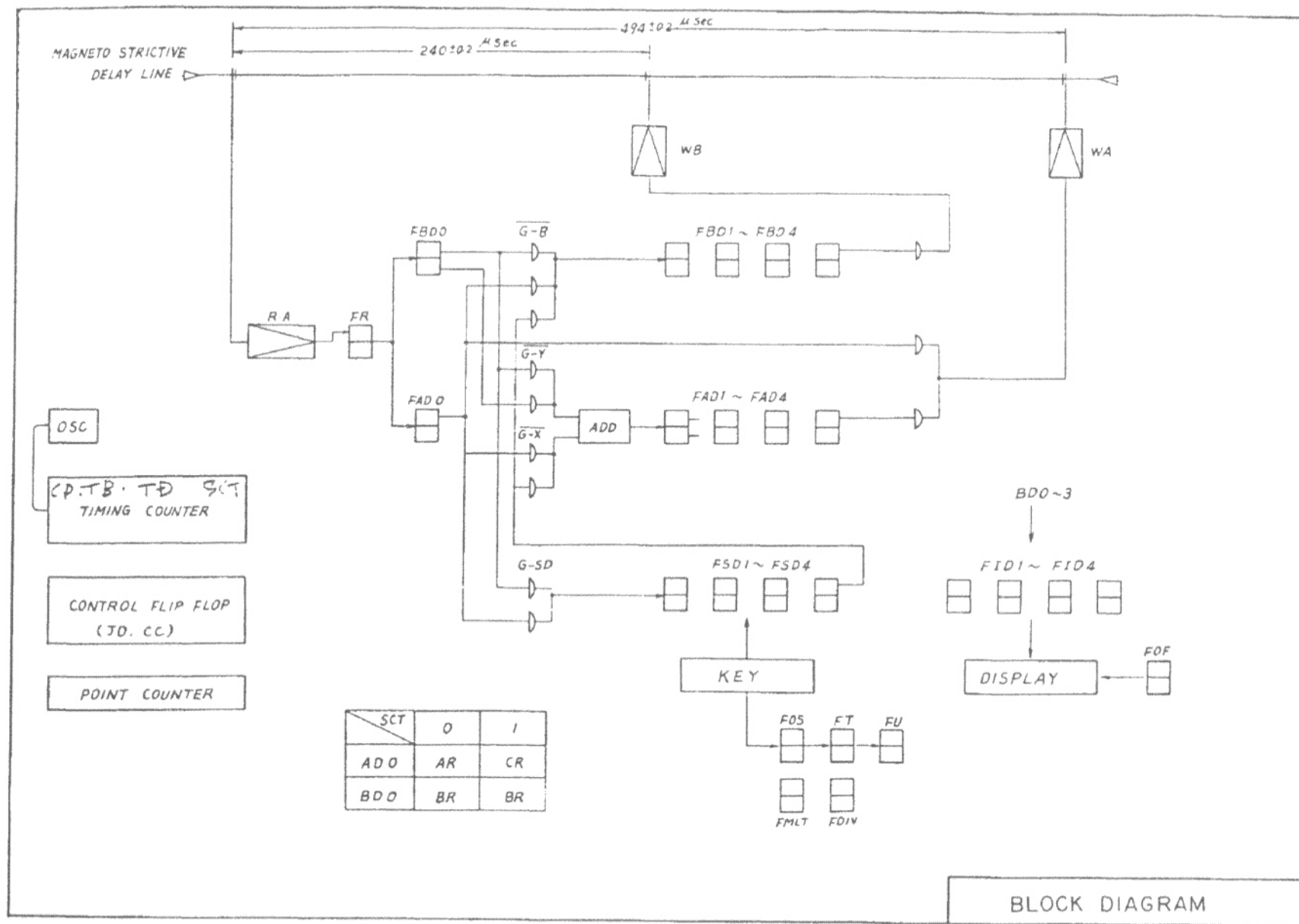
CANON INC.

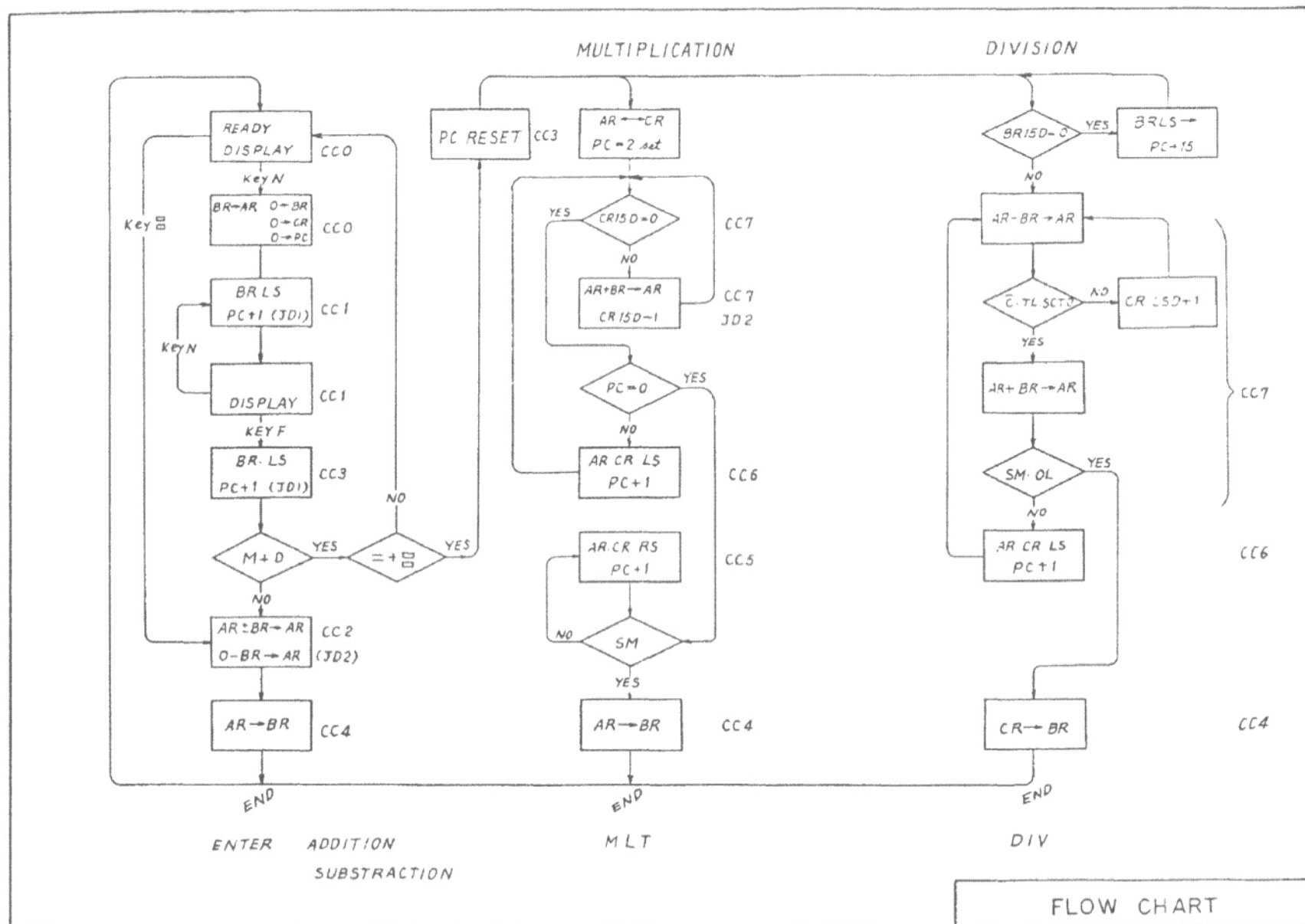
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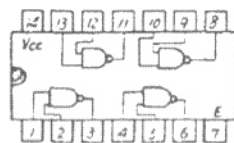
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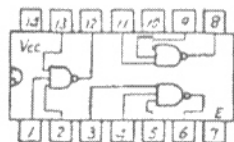
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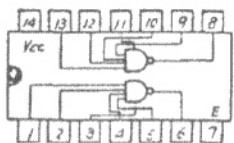




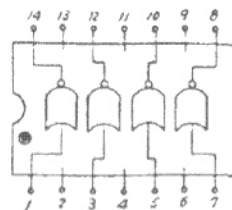
SN 3925
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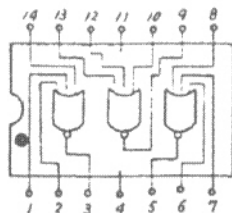
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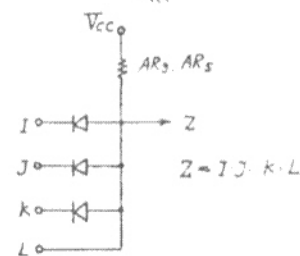
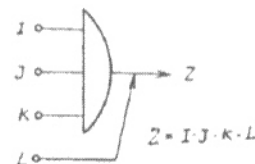
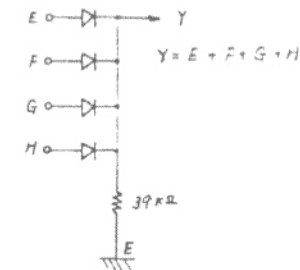
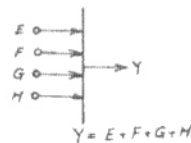
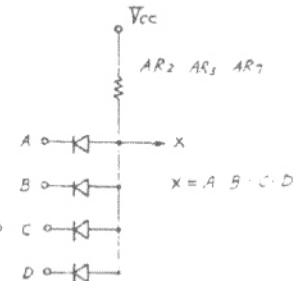
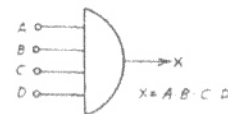
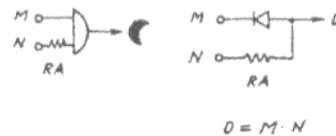
SN 4553



T4021



T4022



$AR_2 = 2 \text{ k}\Omega$
 $AR_3 = 3.9 \text{ k}\Omega$
 $AR_5 = 10 \text{ k}\Omega$
 $AR_7 = 3.3 \text{ k}\Omega$

IC LOGIC CIRCUIT

BASIC CIRCUIT

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Table 1 2 4 2 1 code.

	2	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	1	0	1	1
6	1	1	0	0
7	1	1	0	1
8	1	1	1	0
9	1	1	1	1

Table 2 correction

	C	SUM	AD ₁	AD ₂	AD ₃	EXP	C	AD ₁	AD ₂	AD ₃	AD ₄
0	0	0	0	0	0	---	0	0	0	0	0
1	0	0	0	0	1	0+1	0	0	0	0	0
2	0	0	0	1	0	1+1	0	0	0	1	0
3	0	0	0	1	1	2+1	0	0	0	1	1
4	0	1	0	0	0	3+1	0	1	0	0	0
5	0	1	0	0	1	3+2	1	0	0	0	0
6	0	1	1	0	0	3+3	1	0	0	0	0
7	0	1	1	0	1	4+3	1	0	0	0	1
8	1	0	0	0	0	4+4	1	0	0	0	0
9	1	0	0	0	1	---	1	0	0	0	1
10	1	0	1	1	0	5+5	1	0	0	0	0
11	1	0	1	1	1	6+5	1	0	0	0	1
12	1	1	0	0	0	7+5	1	0	0	1	0
13	1	1	0	0	1	8+5	1	0	0	1	1
14	1	1	0	1	0	9+5	1	0	1	0	0
15	1	1	0	1	1	9+6	1	0	1	0	1
16	1	1	1	0	0	9+7	1	0	1	0	1
17	1	1	1	0	1	9+8	1	0	1	1	0
18	1	1	1	1	0	9+9	1	0	1	1	1
19	1	1	1	1	1	10+9	1	0	1	1	1

Addition Result

Fig 1.

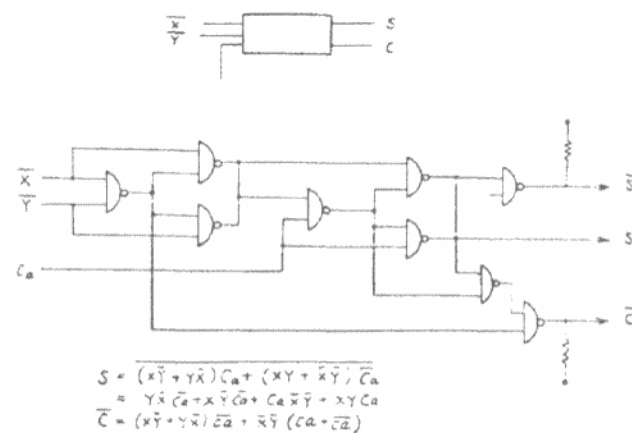
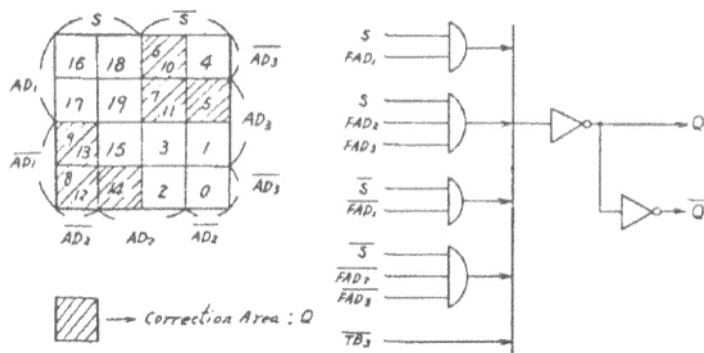


Fig 2 correction circuit (1)



$$Q = S \cdot FAD_1 + S \cdot FAD_2 \cdot FAD_3 + \bar{S} \cdot FAD_1 + \bar{S} \cdot FAD_2 \cdot FAD_3 + \bar{S} \cdot FAD_3 + \bar{S} \cdot FAD_4$$

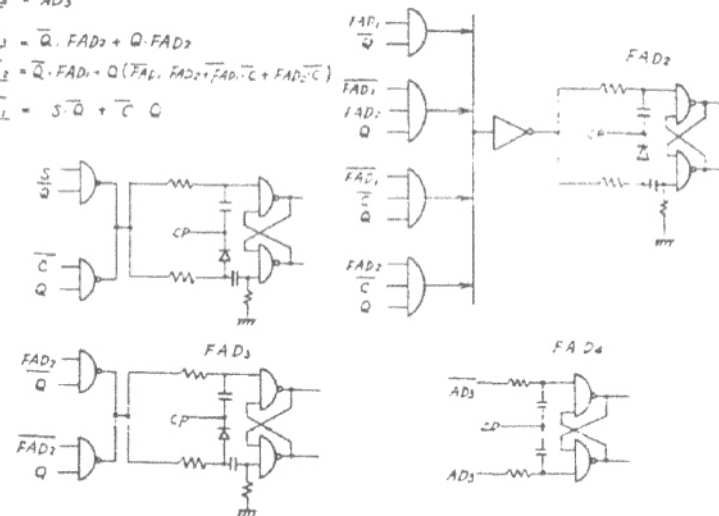
Fig 3 Correction Circuit (2)

$$FAD_1 = AD_3$$

$$FAD_2 = \bar{Q} \cdot FAD_1 + Q \cdot FAD_3$$

$$FAD_3 = \bar{Q} \cdot FAD_1 + Q \cdot (FAD_1 \cdot FAD_2 + FAD_1 \cdot C + FAD_2 \cdot C)$$

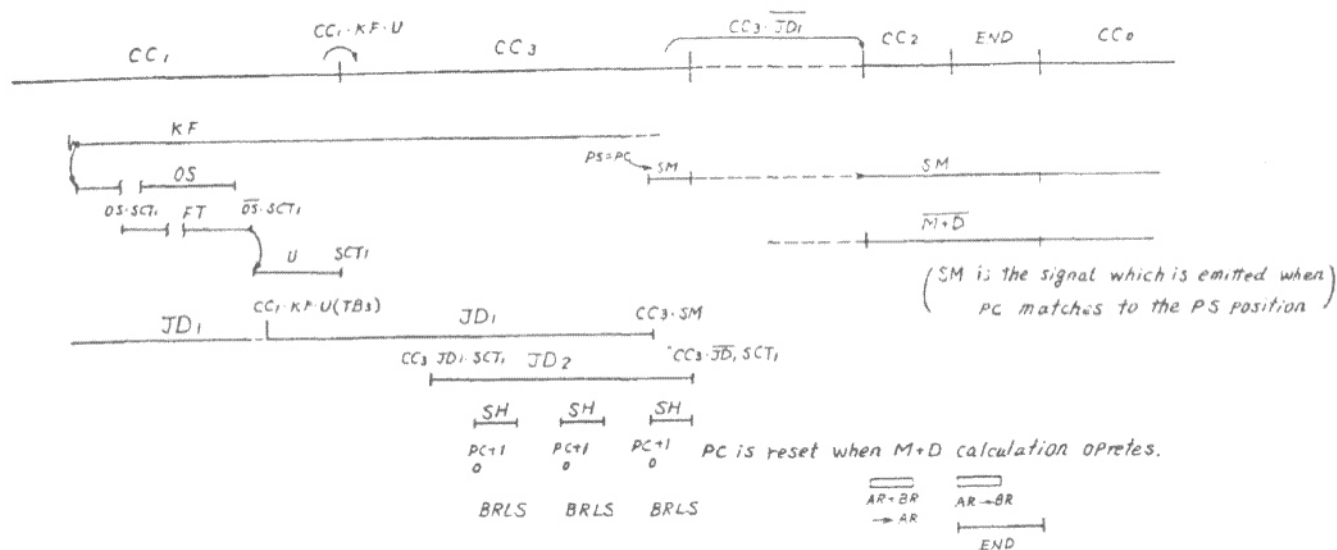
$$FAD_4 = S \cdot \bar{Q} + \bar{C} \cdot Q$$



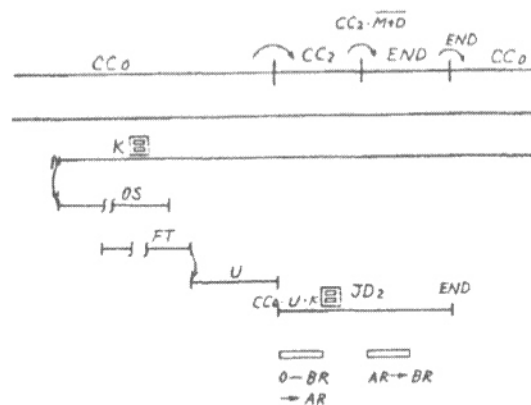
FULL ADDER

TIMING CHART

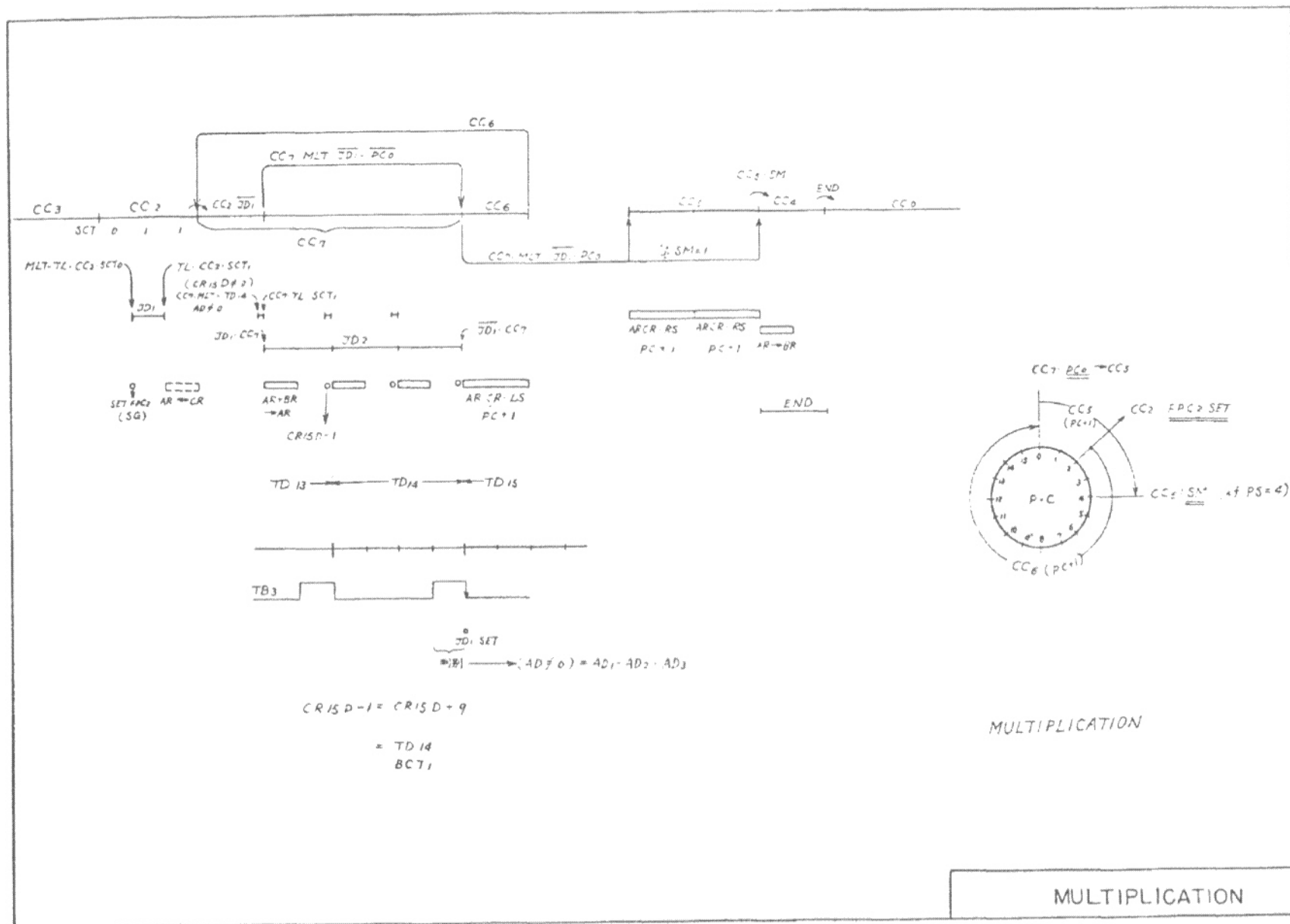
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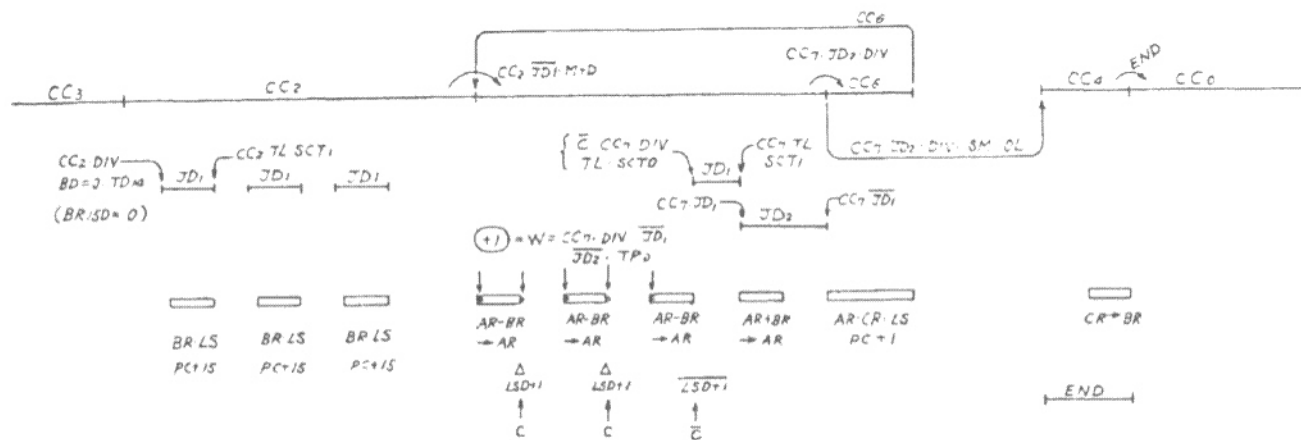


At CC_0 (Ready), Complement conversion is done when pressed Key.

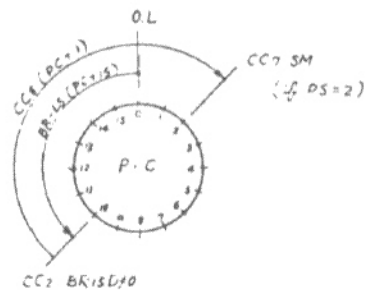


ADDITION & SUBTRCTION

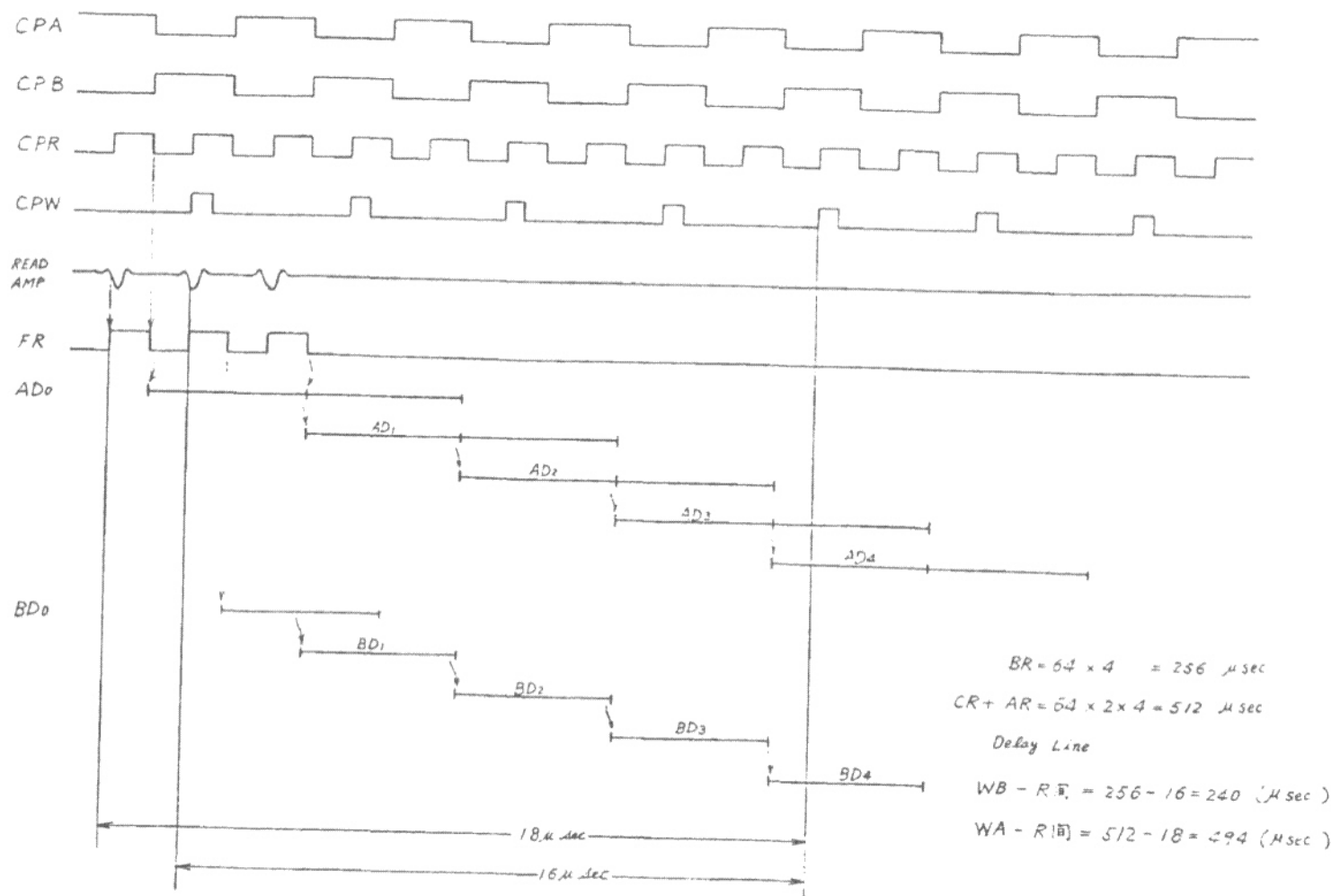




$$DL = CC_7 \cdot PC_0$$



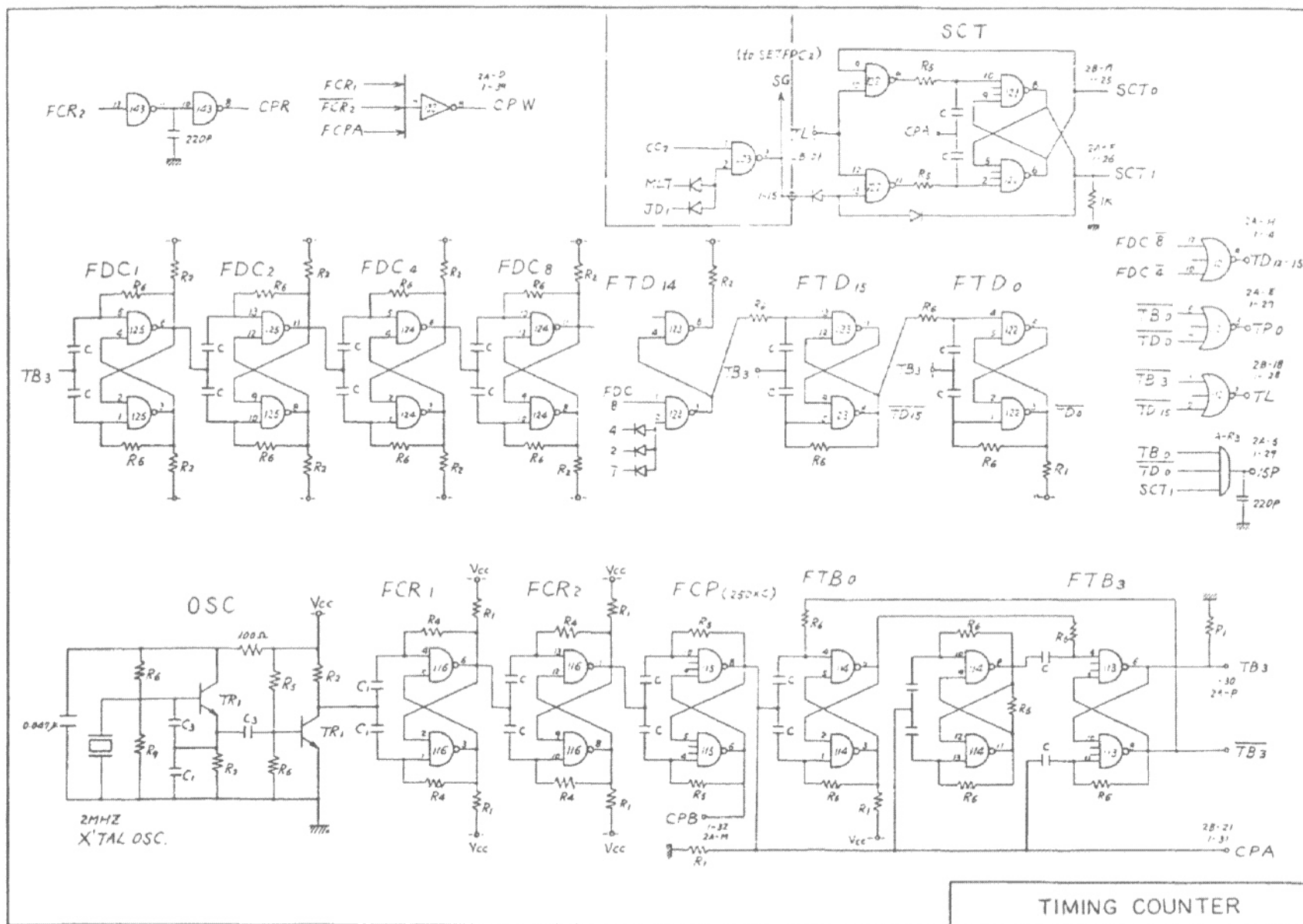
DIVISION

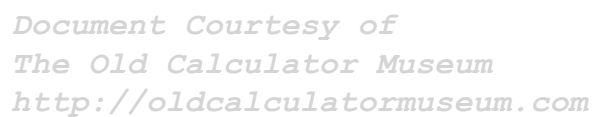


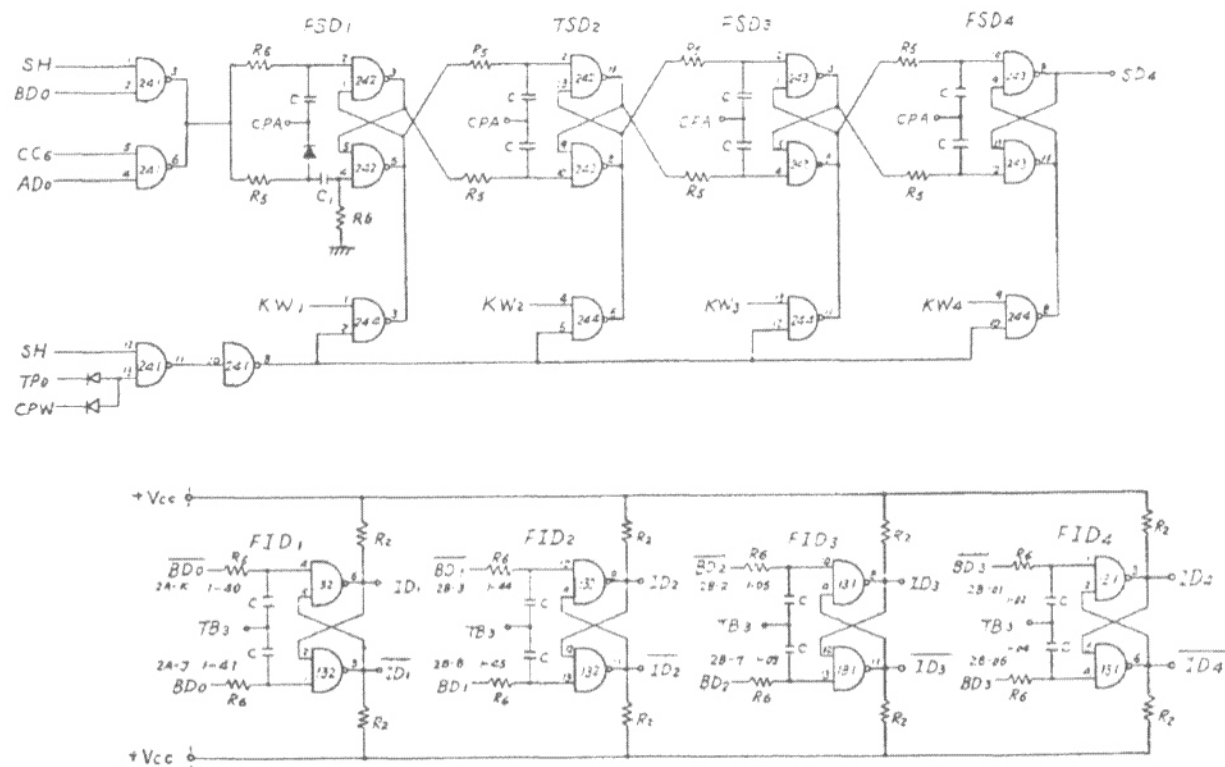
AD0 & BD0

LOGIC CHART

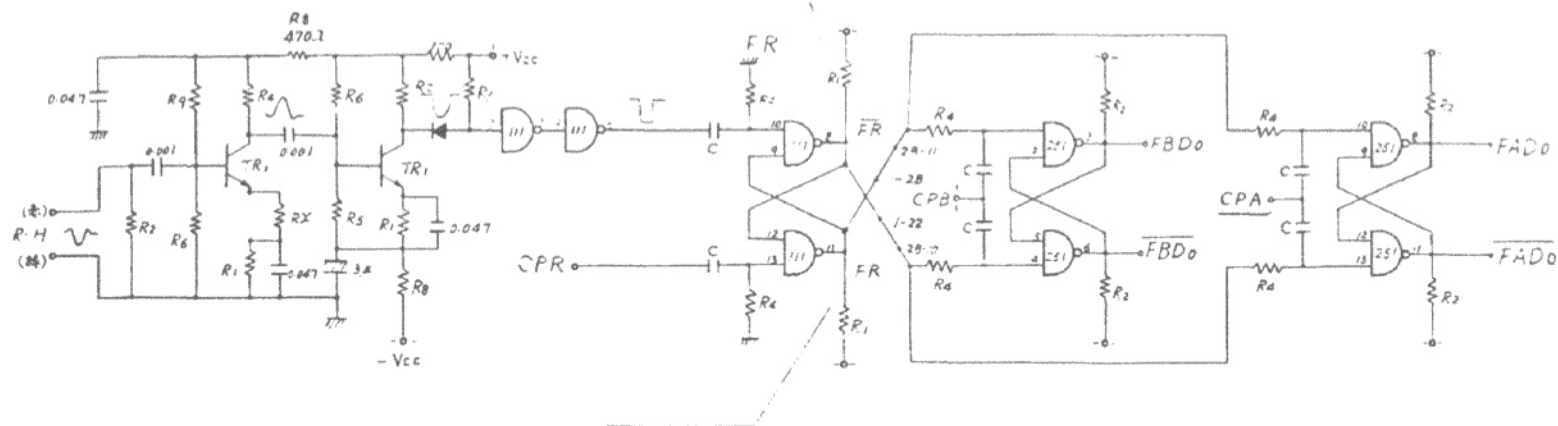
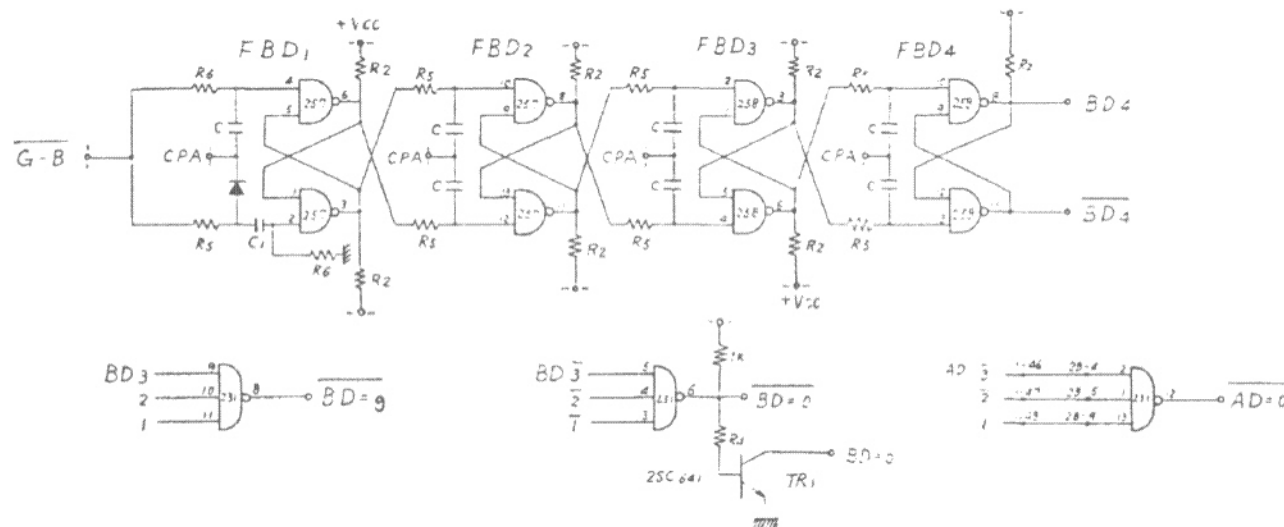
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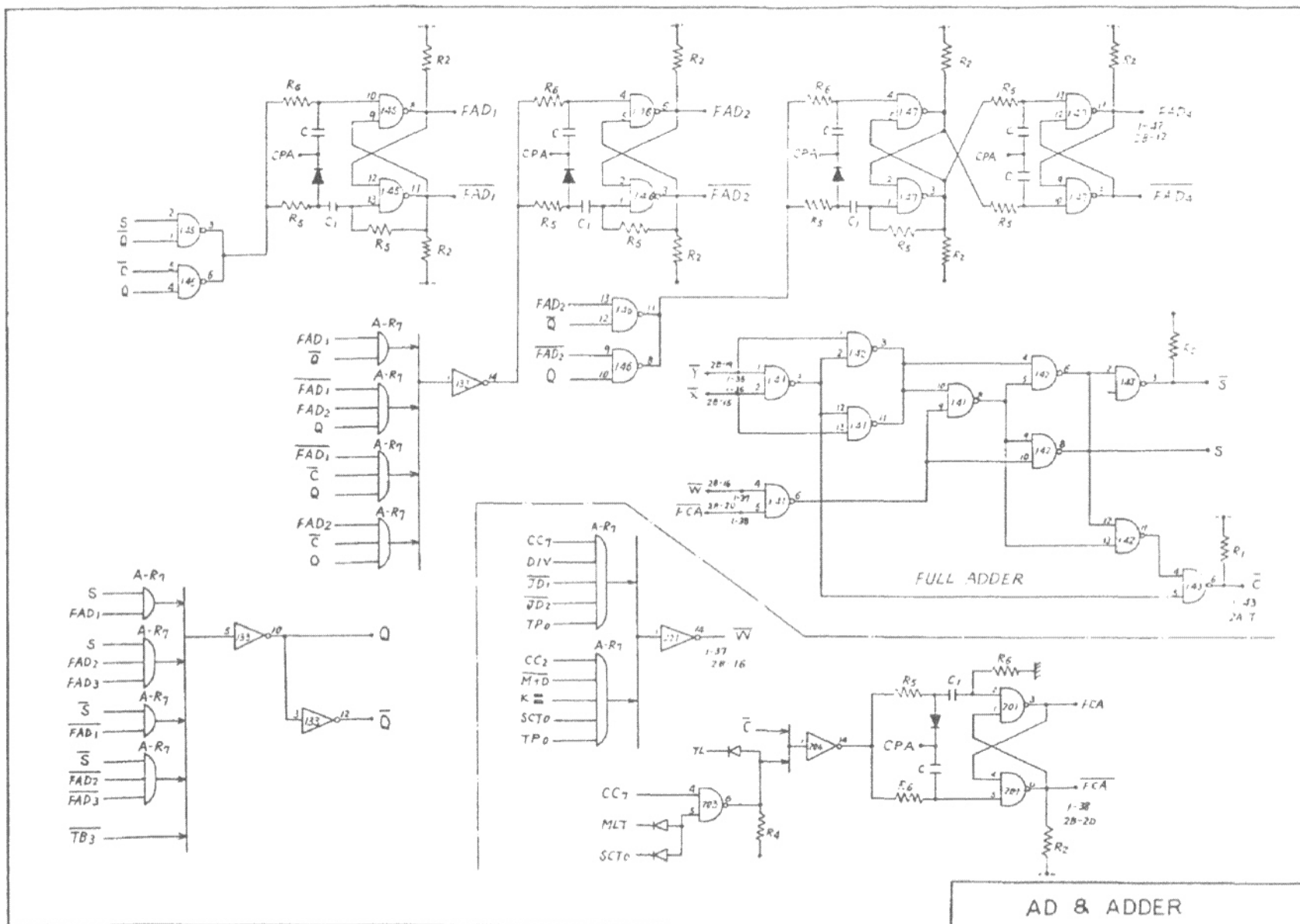


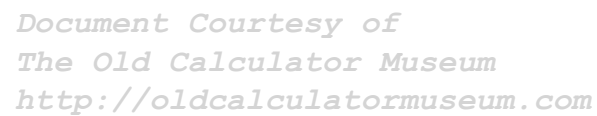


SD & ID

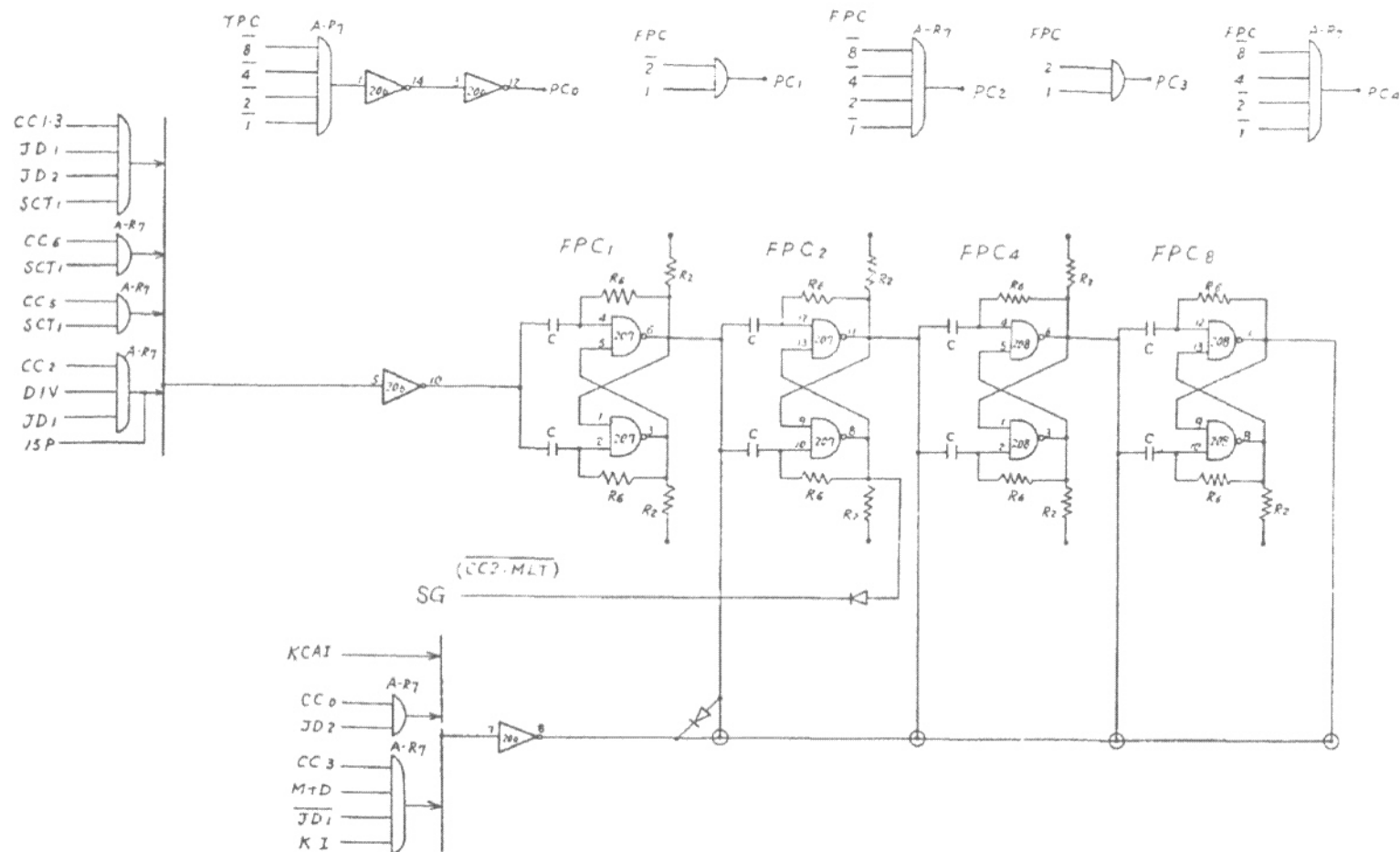


READ AMP & BD

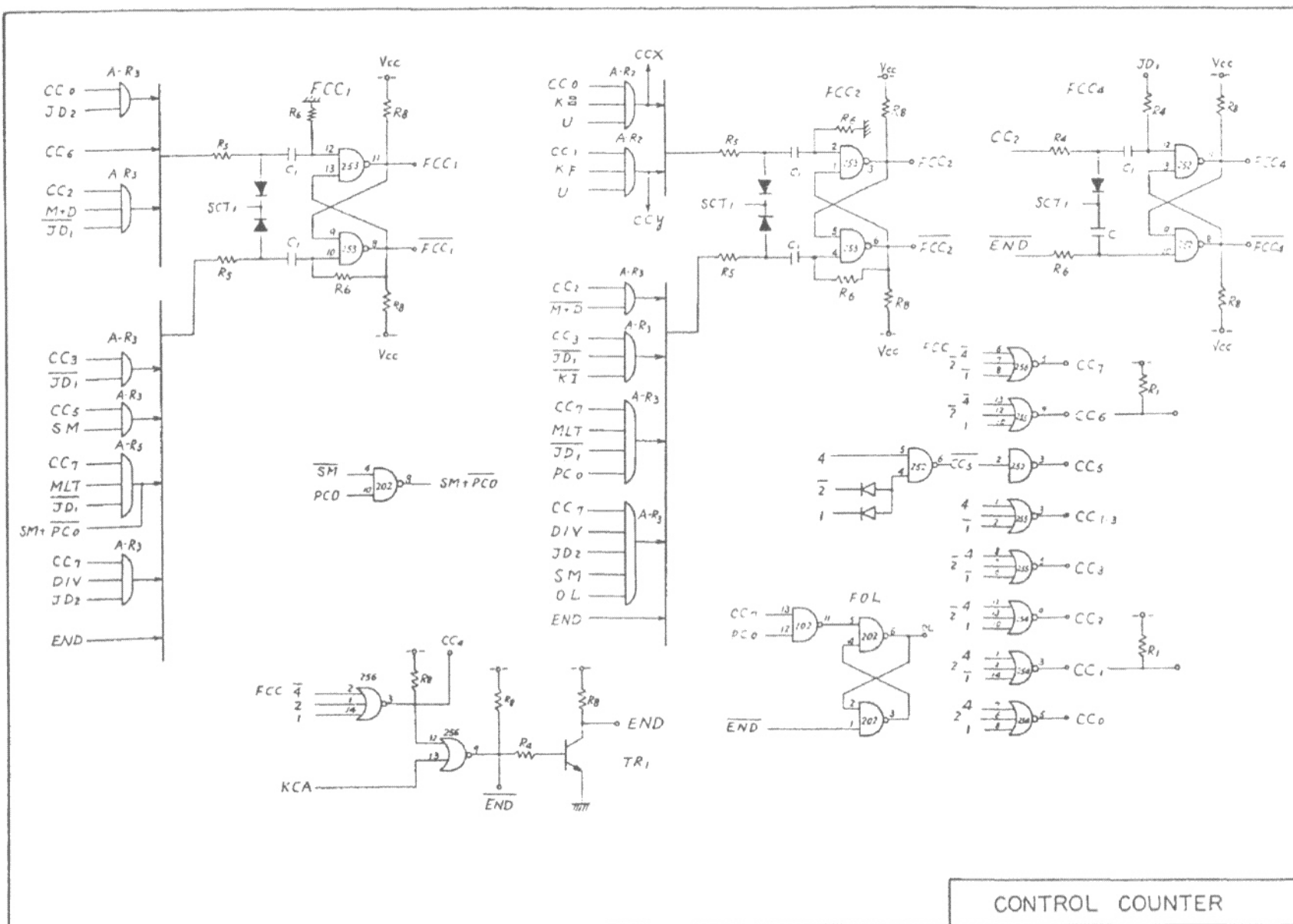




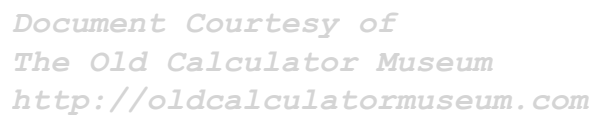
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POINT COUNTER



CONTROL COUNTER



Revised Edition 1969. 9.30

