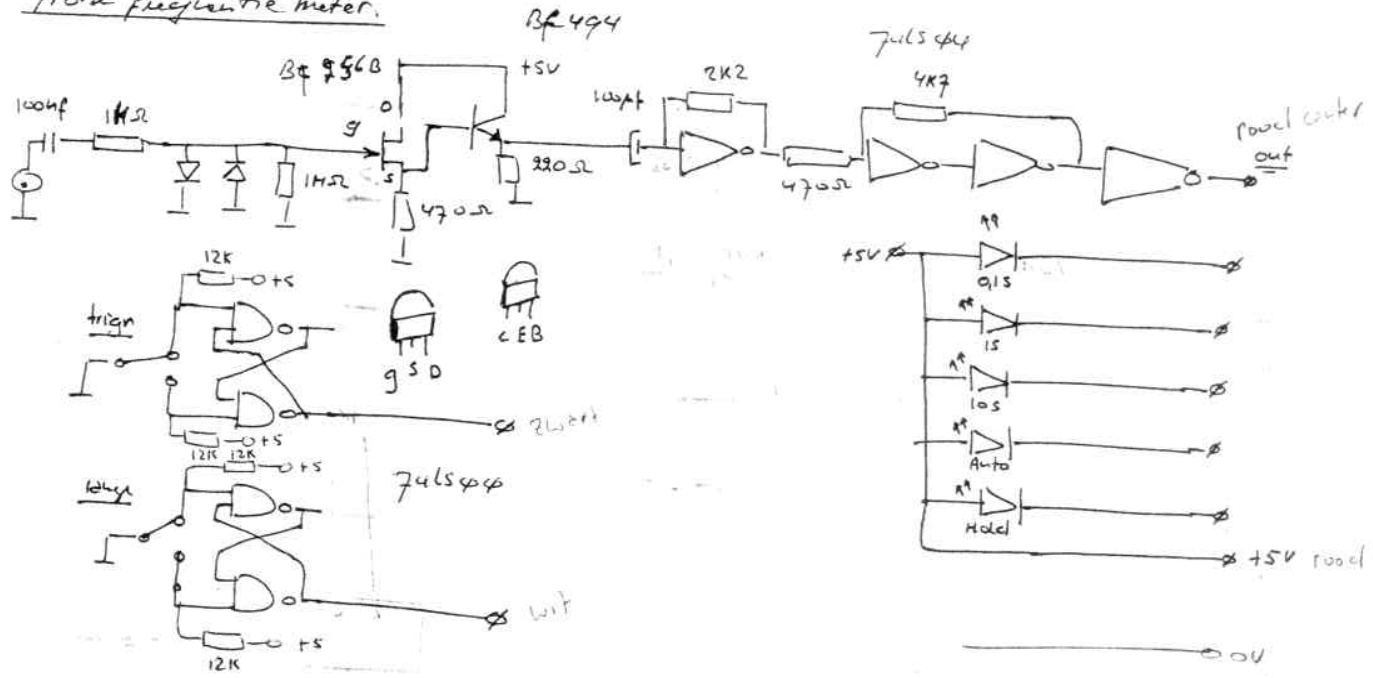
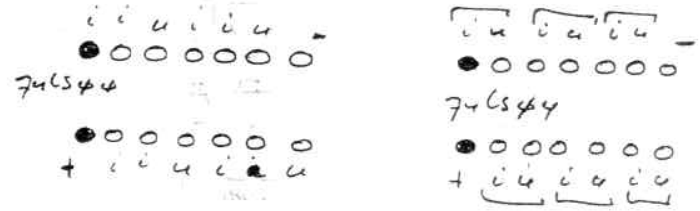
9-6-84 Active frequentie meter.



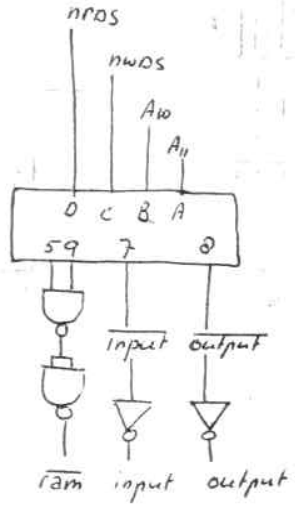
oscillerycles:



10-6-84. Address decoding. Psycho meter.

	Eprom	ram	counters	outputs
A_0	A_0	A_0	A_0	D_0 (A)
A_1	A_1	A_1	A_1	D_1 (B)
A_2	A_2	A_2	A_2	D_2 (C)
A_3	A_3	A_3		D_3 (D)
A_4	A_4	A_4		D_0 (Leds)
A_5	A_5	A_5		D_1 (Leds)
A_6	A_6	A_6		D_2 (Leds)
A_7	A_7	A_7		D_3 (Leds)
A_8	A_8			D_4 (Leds)
A_9	A_9			
A_{10}	A_{10}	0	1	0
A_{11}	0 ($\overline{CS}$)	1	1	0
nwos	1	1 0 ($\overline{WS}$)	1	0
nros	0 ($\overline{OE}$)	0 1	0	1
		resetband in 0	resetband in 1	resetband in 0

	A	n	o	n'
00	0	1	0	1
01	0	1	1	0
10	0	1	1	0
11	1	0	1	0



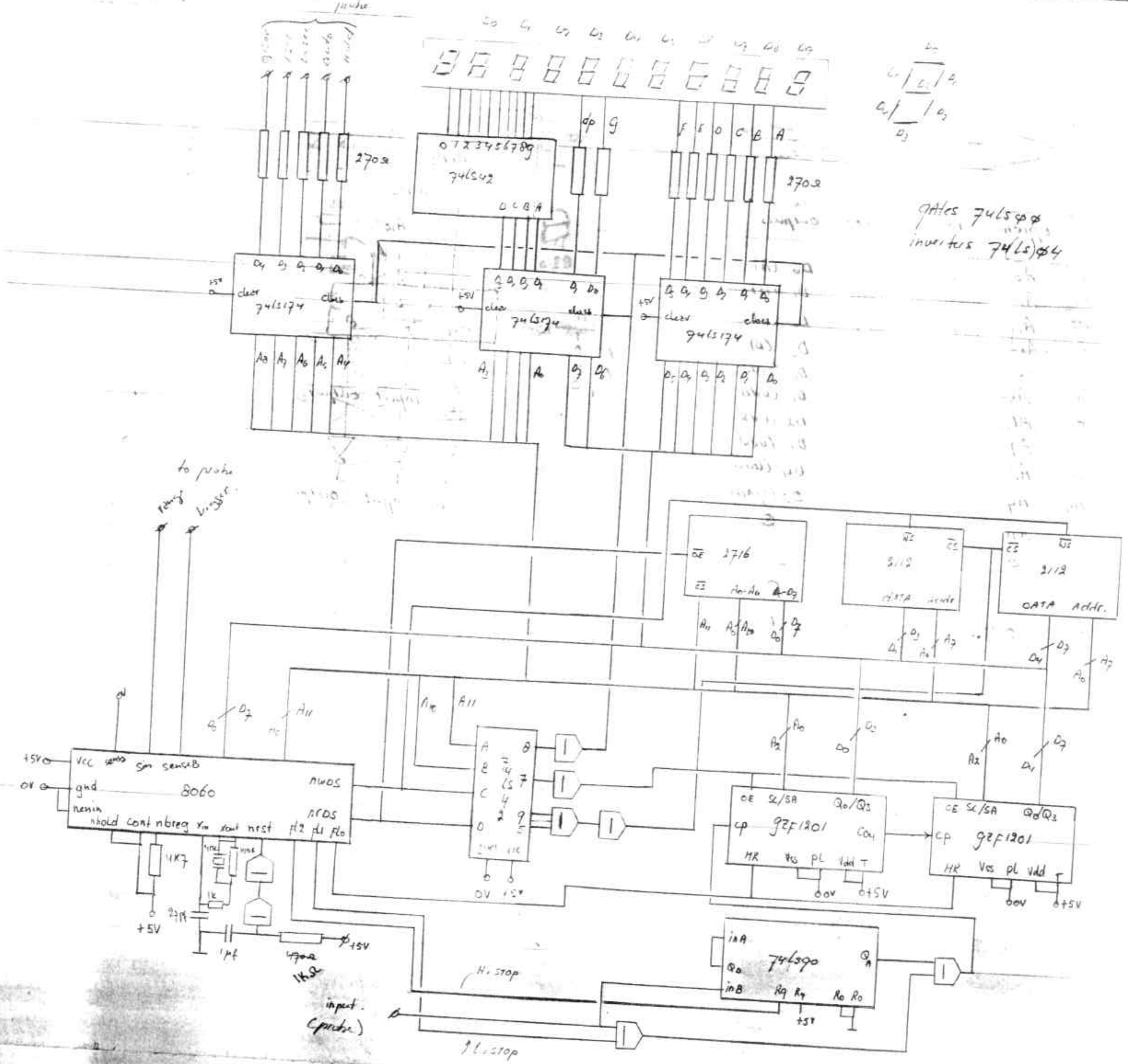
Outputs schuine $\phi\phi\phi\phi$

Eprom $\phi\phi\phi\phi$ - $\phi 7FF$ lezen

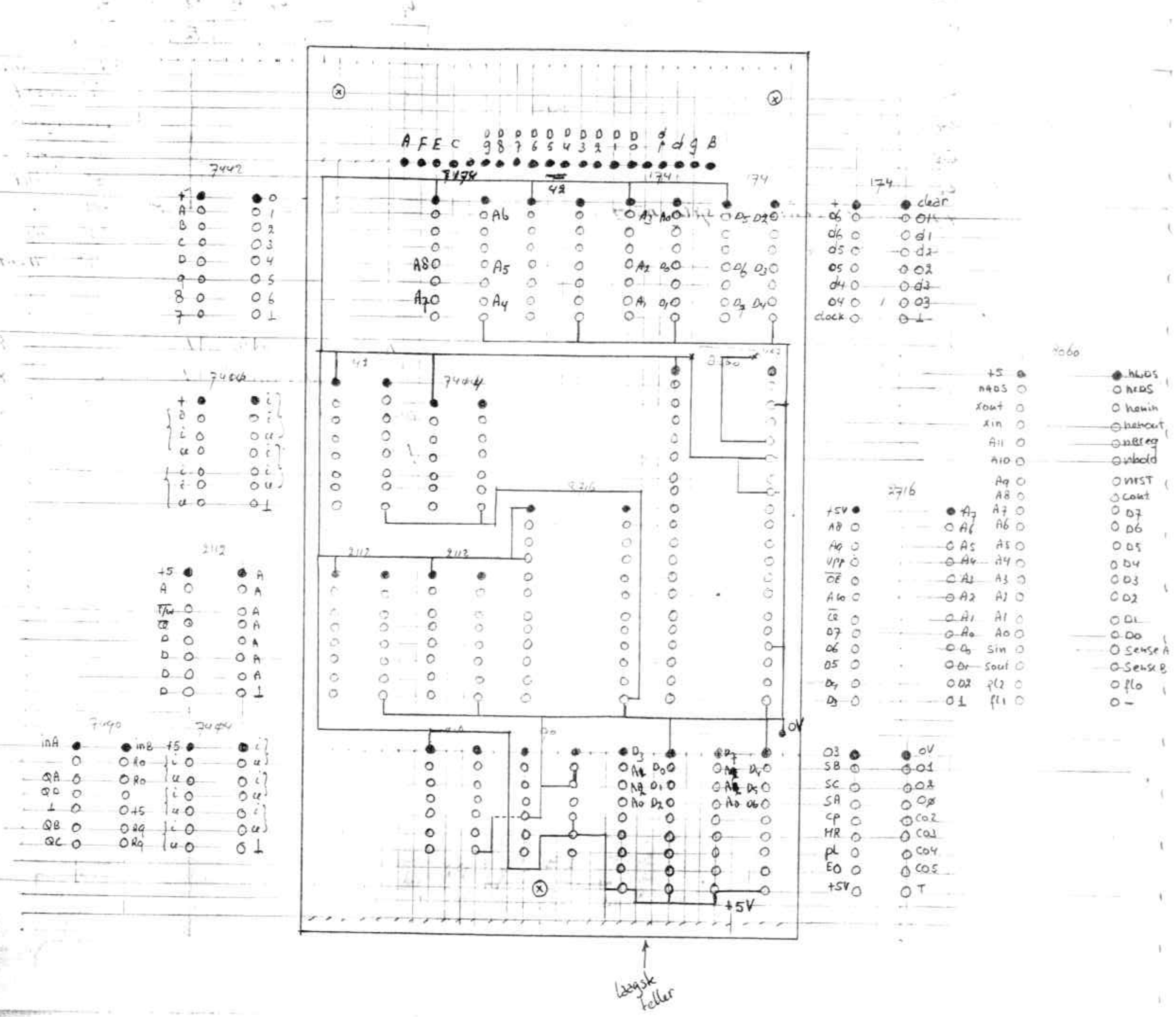
ram $\phi 8\phi\phi$ - $\phi 8FF$ lees/sch.

Counts. $\phi C\phi\phi$ - $\phi C\phi 4$ lezen

-04 frequentie meter.

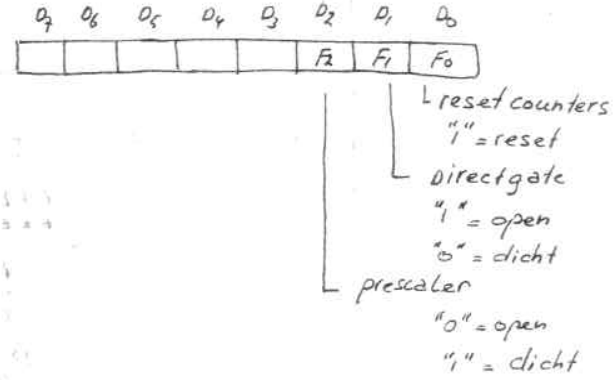


11-9-84. frequentie teller.



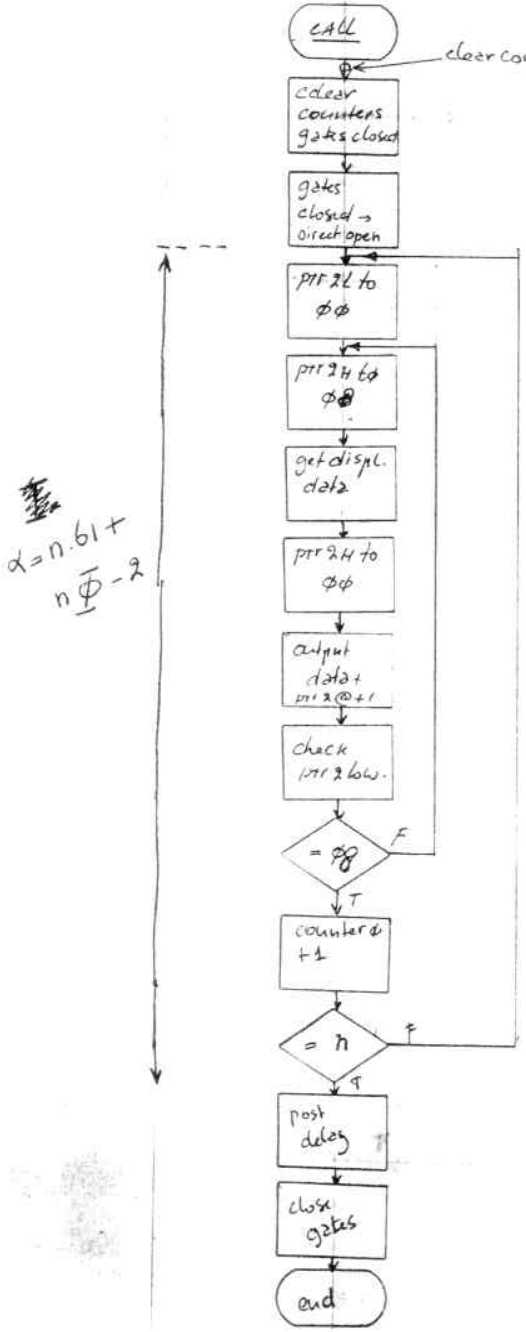
17-6-84 Frequentie meter test software

$\phi 8 \phi \phi$	$\phi \phi$	meest linkse display nō 0
$\phi 8 \phi 1$	$\phi 1$	
$\phi 8 \phi 2$	$\phi 2$	
$\phi 8 \phi 3$	$\phi 3$	
$\phi 8 \phi 4$	$\phi 4$	
$\phi 8 \phi 5$	$\phi 5$	
$\phi 8 \phi 6$	$\phi 6$	
$\phi 8 \phi 7$	$\phi 7$	meest rechtse display nō 7
$\phi 8 \phi 8$	$\phi 8$	counter ϕ



reset gates dicht	1	0	1	$\phi 5$
gates dicht	1	0	0	$\phi 4$
direct gate open	1	1	0	$\phi 6$
prescaler open	0	0	0	$\phi \phi$

Scands routine. 17-6-84



α = n.61 + n Φ - 2

18 delay.

total delay =

1370 + 16AC + 4119 disp. = Φ

tijd voor één scan 12

1øø	ø8	ptr 2 = scratch.		
ø1	3F			
ø2	C4øø	clear counter ø		
ø4	C9ø3			
	~~C4øø~~ 3			
ø6	C4ø5	reset + gates dicht		
ø8	ø7			
øq	C4ø4	gates dicht		
øb	ø7			
øc	C4ø6	gates open		
øE	ø7 ⇐			
ø7	C4øø	ptr 2L to øø	10	
	32		8	
	C4ø3	ptr 2H to ø3	10	
14	36		8	
15	C2øø	get displ.	18	
17	ø1	data to EX	7	
18	C4øø	ptr 2H to displ.	10	
1A	36		8	
1B	4ø	EX → AC	6	
1C	CE ø1	to displ.	18	
1E	C4ø4	delay.	10	
2ø	3F ø4		13 + 2AC + 514 disp	
22	32		8	
23	ø1		7	
24	4ø		6	
25	32		8	
26	4ø		6	
27	E4 ø3		10	
29	9C E7		11	19
2B	A9 ø3	counter +1	22	

1d	E432		10
2f	9CDE		11
31	C4 ~~ø3~~	post delay 40	
33	3F ~~ø4~~ ø1		
35	C4ø4	close gates	10
37	ø7		6
38	9øC6	return	

total delay

n.61 + n Φ - 2 +

39 + 2Ac² + 514 disp²

total delay $T = n.61 + n(1310 + 16AC + 4112.disp) + 37 + 2AC'$

eis $T =$ f_{osc} $3{,}579545 / T_c =$ (0,1174604 . 10−6) μc tyd.

nodig $\underline{894\,886}$ μc.

~~50 ... T = 1/50 / μc tyd =~~

~~17898 μc~~

stel $AC' = 2\phi$ (32)

houden over: $894\,785 = n61 + n(1310 + 16AC + 4112\ displ)$

$n = 50$

$17834{,}7 = (1310 + 16AC + 4112\ disp)$

$16524{,}7 = 16AC + 4112\ disp$

$disp = 4$

$76{,}7 = 16AC$

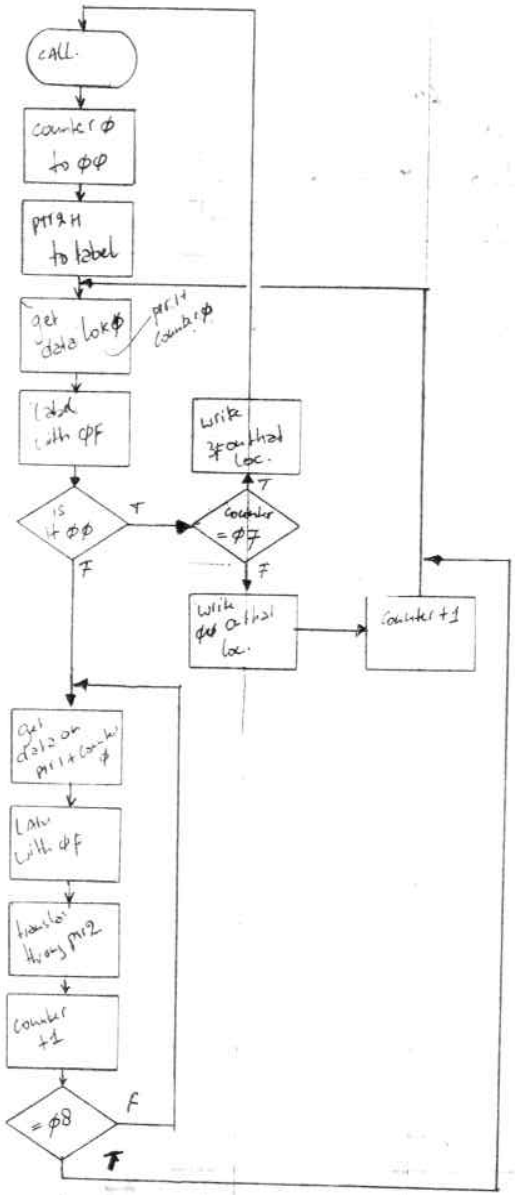
$AC = 4_5 ...$

699 − $disp' = \underline{\phi 1}$

$AC' = 93_{dec} = \underline{8d}$

$n = 32_{Hex}$ $AC = \phi 4$ $disp = \phi 4$ $disp' = \phi 1$ $AC' = 8d.$

Routine Format.



ϕ244	ϕ8	CALL/return
ϕ1	3F	
ϕ2	C4ϕϕ	reset counter ϕ
ϕ4	Cqϕ8	
ϕ6	C4ϕ3	ptr 2 to label
ϕ8	36	(label on ϕ3ϕϕ)
ϕq	C1ϕ8	get data on ∝
ϕb	ϕ1	ptr 1 + counter ϕ
ϕc	C18ϕ	
ϕE	D4ϕf	label ϕf
10	qC14	skip if not ϕϕ
12	C18ϕ	
14	E4ϕ7	
16	qCϕ6	skip if not 7
18	C43f	
1A	Cq3ϕ	
1c	qϕE2	to ϕϕ
1E	C4ϕϕ	
2ϕ	Cq3ϕ	
22	Aqϕ8	
24	qϕE3	to ∝
26	C18ϕ	
28	D4ϕF	
2A	32	
2b	C2ϕϕ	
2d	Cq3ϕ	
2f	Aqϕ8	(31 ϕ14ϕ
33	E4ϕ8	
35	qCϕEf	
37	qϕqc7	

ϕ3ϕϕ	3f
ϕ1	ϕb
ϕ2	5b
ϕ3	4f
ϕ4	66
ϕ5	6d
ϕ6	7d
ϕ7	ϕ7
ϕ8	7f
ϕ9	6f
ϕA	77
ϕb	7c
ϕc	39
ϕd	5E
ϕE	79
ϕF	71

17-6-84 Program Routine Input

	φ4φφ	φ8
	φ1	3F
	φ2	C4φφ
	φ4	33
	φ5	C4φC
	φ7	36
	φ8	C2φφ
	φA	φ1 /40
φb	φC	D4φF
φC	φE	C9φ7
φE	10	4φ
11	12	D4fφ
13	14	1C1C1C1C
17	16	C9φ3
19	18	C2φ1
1b	1A	φ1 /4φ
1C	1C	D4φf
1D	1E	C9φ6
21	20	4φ
22	24	D4fφ
24	28	1C1C1C1C
28	26	C9φ2
2A	2B	C2φ2
2C	2A	φ1 /40
2D	2C	
2E	30	D4φF
34	34	C9φ5
32	36	4φ
33	38	D4fφ
35	3C	1C1C1C1C
39	3E	C9φ1

φDφφ +	φφ	φ1	φ2	φ3	φ4	φ5	φ6	φ7
φCφφ				HN				LN
φCφ1			HN				LN	
φCφ2		HN				LN		
φCφ3	HN				LN			
	9	8	7	6	5	4	3	2

3b	33	C2φ3
3d	3E	φ1 /4φ
3F	3C	D4φF
41	44	C9φ4
43	48	4φ
44	4A	D4fφ
46	4E	1C1C1C1C
4A	42	C9φφ
4C	40	9φ B62