

## CHAPTER 8

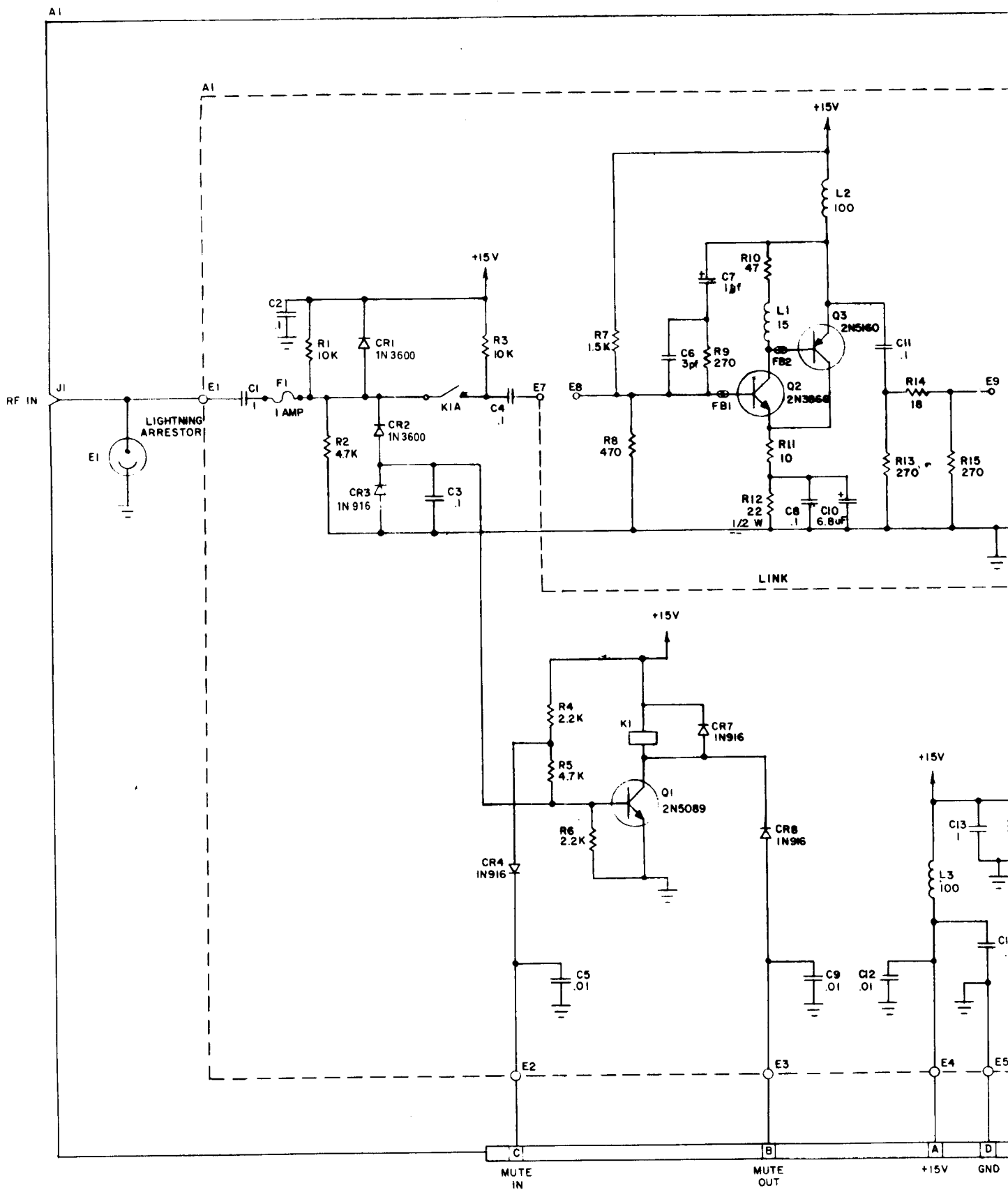
### DIAGRAMS

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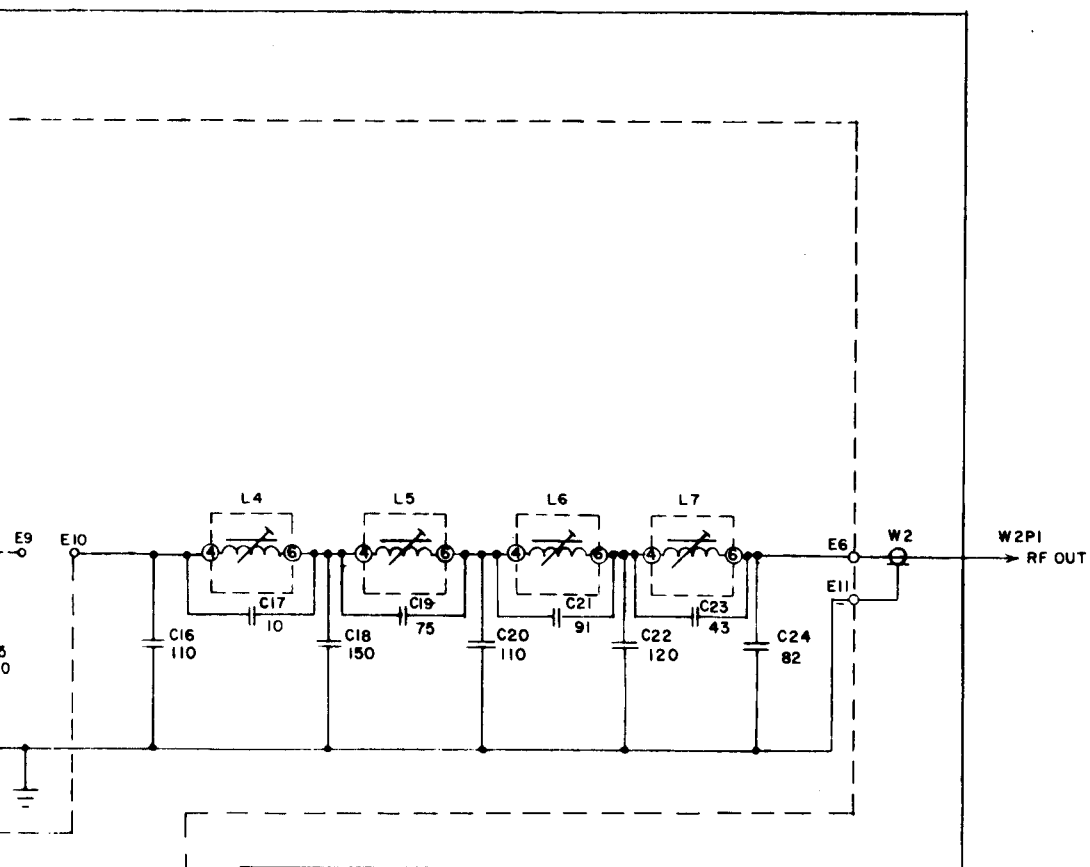
- |      |   |
|------|---|
| 8.1  | Circuit: RF Amplifier/LPF Module A1               |
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**RACAL**

TH1496 D08075

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**ADJUSTMENTS:**

- L4: ADJUST FOR MAXIMUM ATTENUATION AT 92.35 MHz
- L5: ADJUST FOR MAXIMUM ATTENUATION AT 43.19 MHz
- L6: ADJUST FOR MAXIMUM ATTENUATION AT 40.455 MHz
- L7: ADJUST FOR MAXIMUM ATTENUATION AT 52.30 MHz

**RF AMPLIFIER**

- BYPASSED BY LINKING E7 TO E10
- FITTED BY LINKING E7 TO E8 AND E9 TO E10

**UNLESS OTHERWISE NOTED**

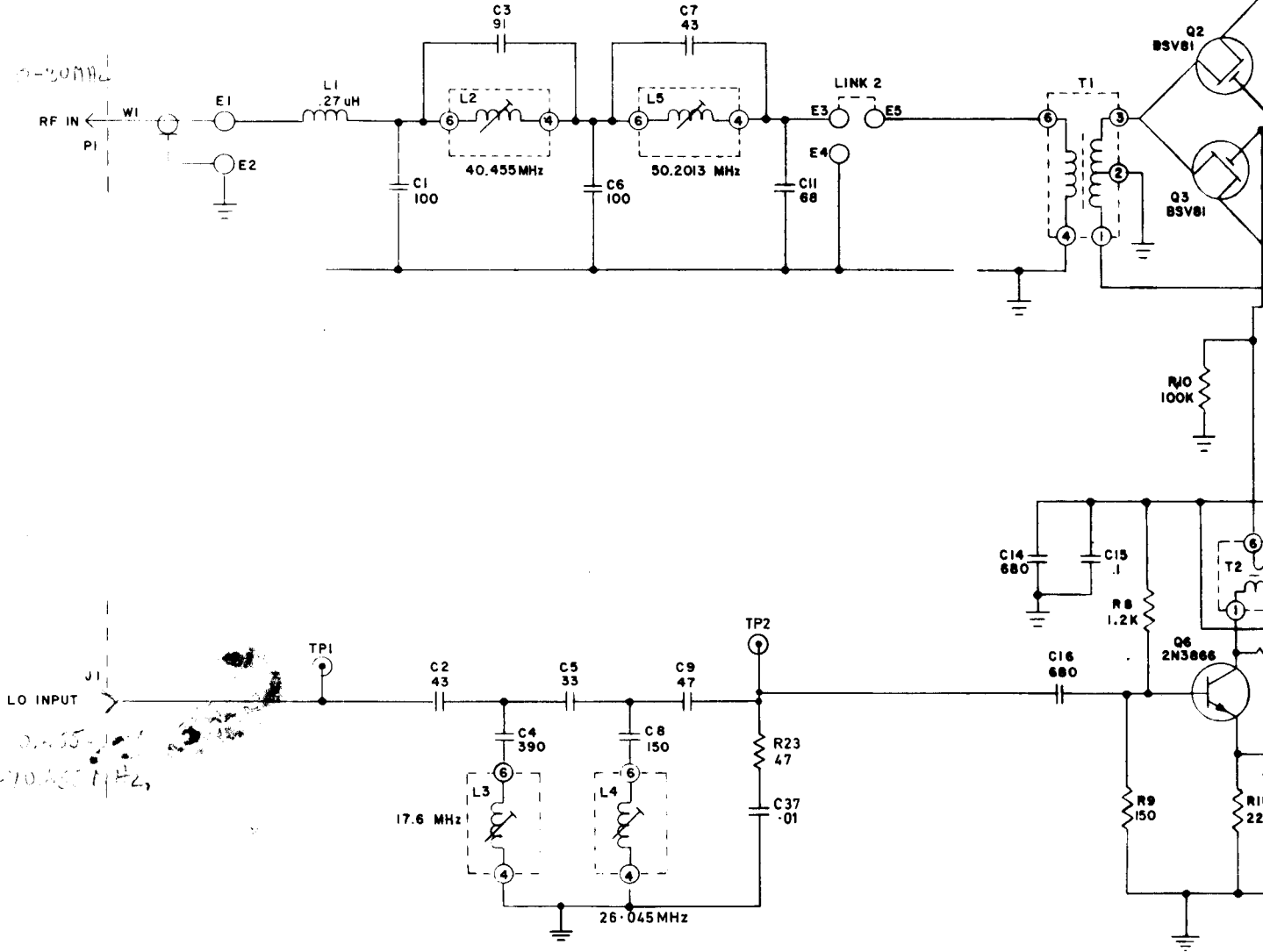
1. RESISTOR VALUES ARE IN OHMS 1/4 WATT  
K=1,000 M=1,000,000
2. CAPACITOR VALUES ONE OR GREATER  
ARE IN PICO FARADS, LESS THAN ONE  
ARE IN MICRO FARADS.
3. INDUCTANCE VALUES ONE OR GREATER  
ARE IN MICROHENRIES, LESS THAN ONE  
ARE IN MILLIHENRIES.



**Circuit: RF Amplifier/LPF Module A1**

**Fig. 8.**

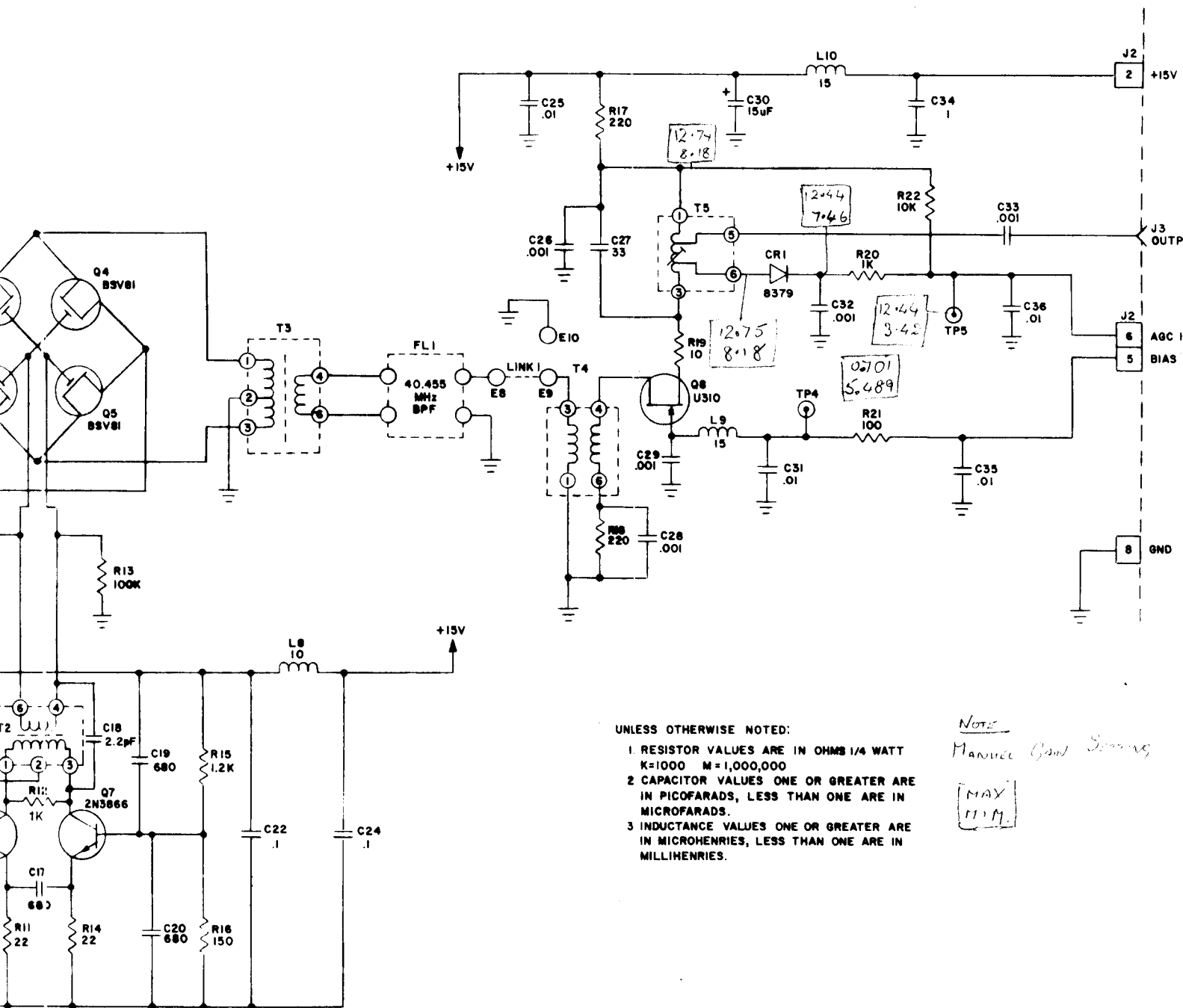
0-20MHz



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UNLESS OTHERWISE NOTED:

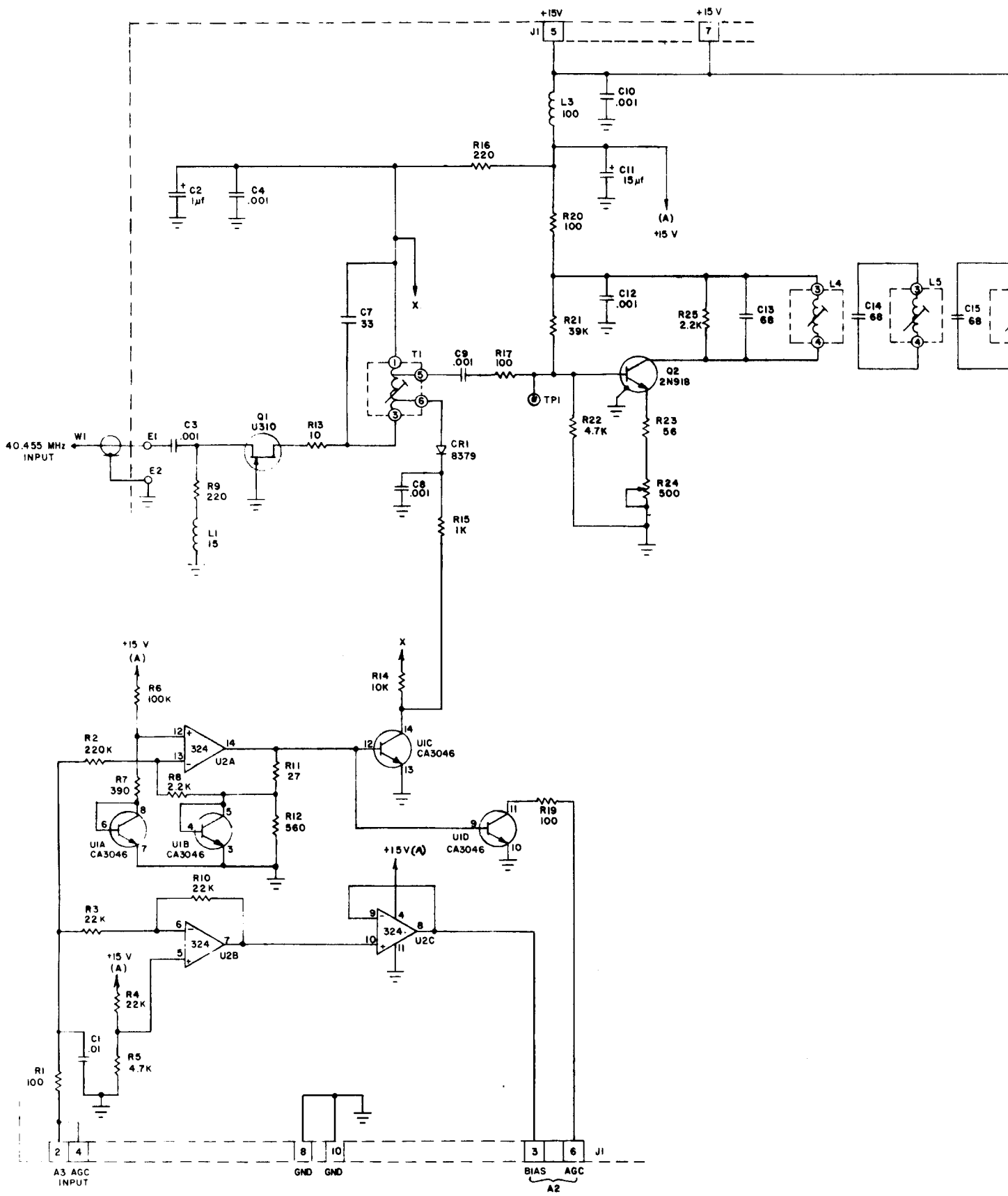
1. RESISTOR VALUES ARE IN OHMS 1/4 WATT  
K=1000 M=1,000,000
2. CAPACITOR VALUES ONE OR GREATER ARE IN PICO FARADS, LESS THAN ONE ARE IN MICROFARADS.
3. INDUCTANCE VALUES ONE OR GREATER ARE IN MICROHENRIES, LESS THAN ONE ARE IN MILLIHENRIES.

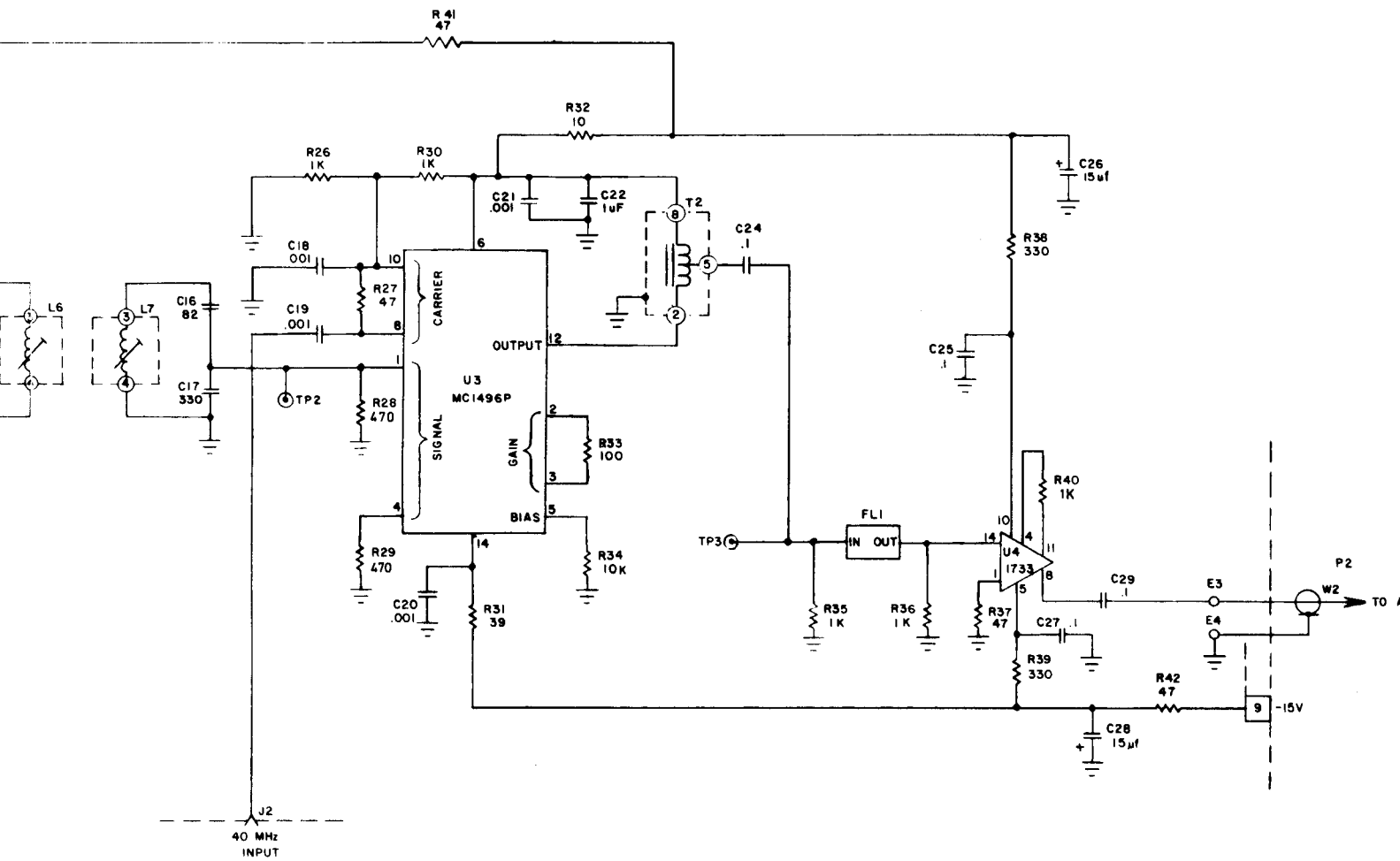
*NOTE*  
Manual Gain Setting

**MAX**  
11.1

Circuit: First Mixer Module A2

Fig.8.2



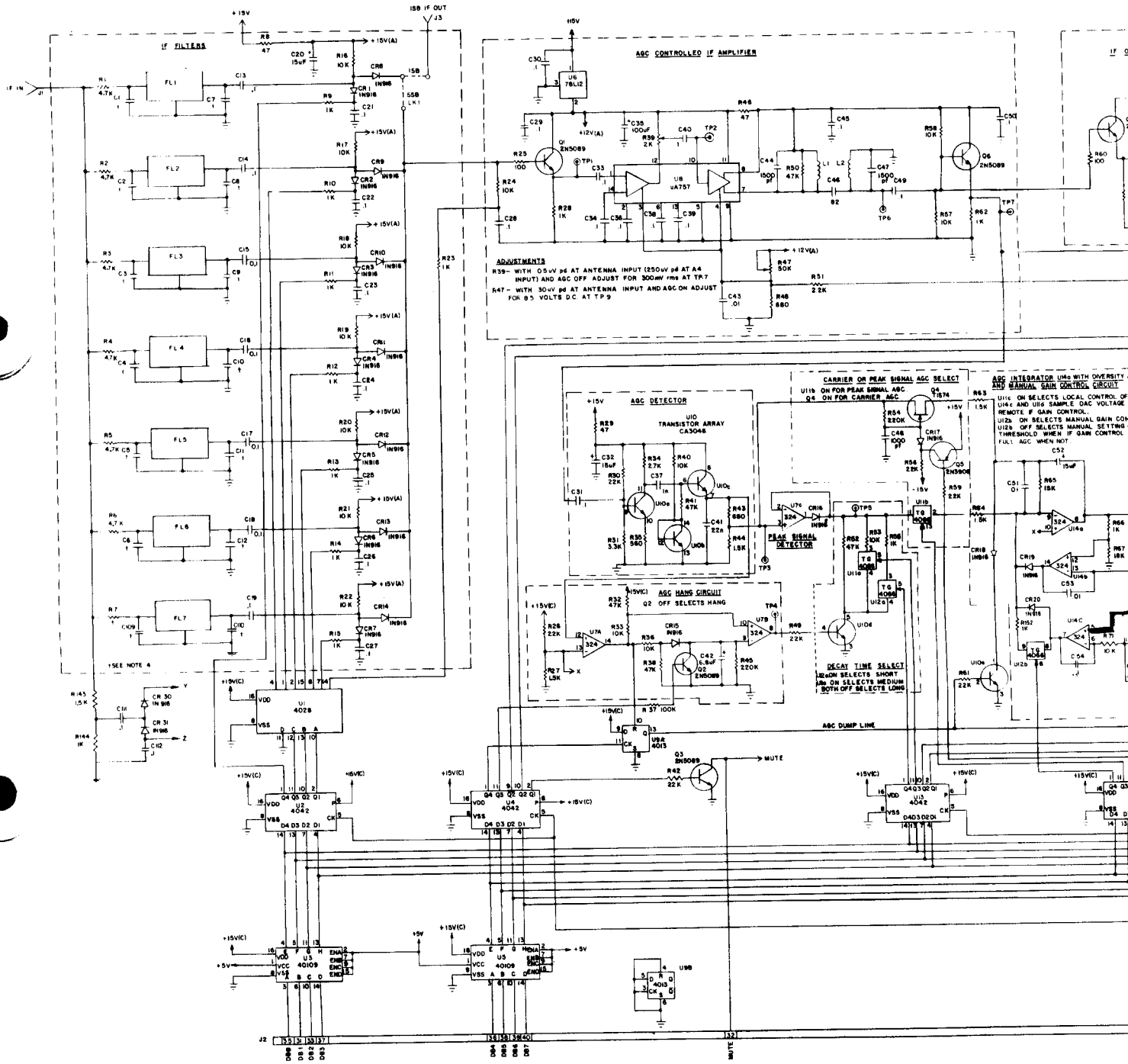


UNLESS OTHERWISE NOTED:

- 1 RESISTOR VALUES ARE IN OHMS 1/4 WATT  
K=1000 M=1,000,000
- 2 CAPACITOR VALUES ONE OR GREATER ARE  
IN PICO FARADS, LESS THAN ONE ARE IN  
MICROFARADS.
- 3 INDUCTANCE VALUES ONE OR GREATER ARE  
IN MICROHENRIES, LESS THAN ONE ARE IN  
MILLIHENRIES.
- 4 C5, C6, C23, L2, R18 NOT USED

Circuit: Second Mixer Module A3

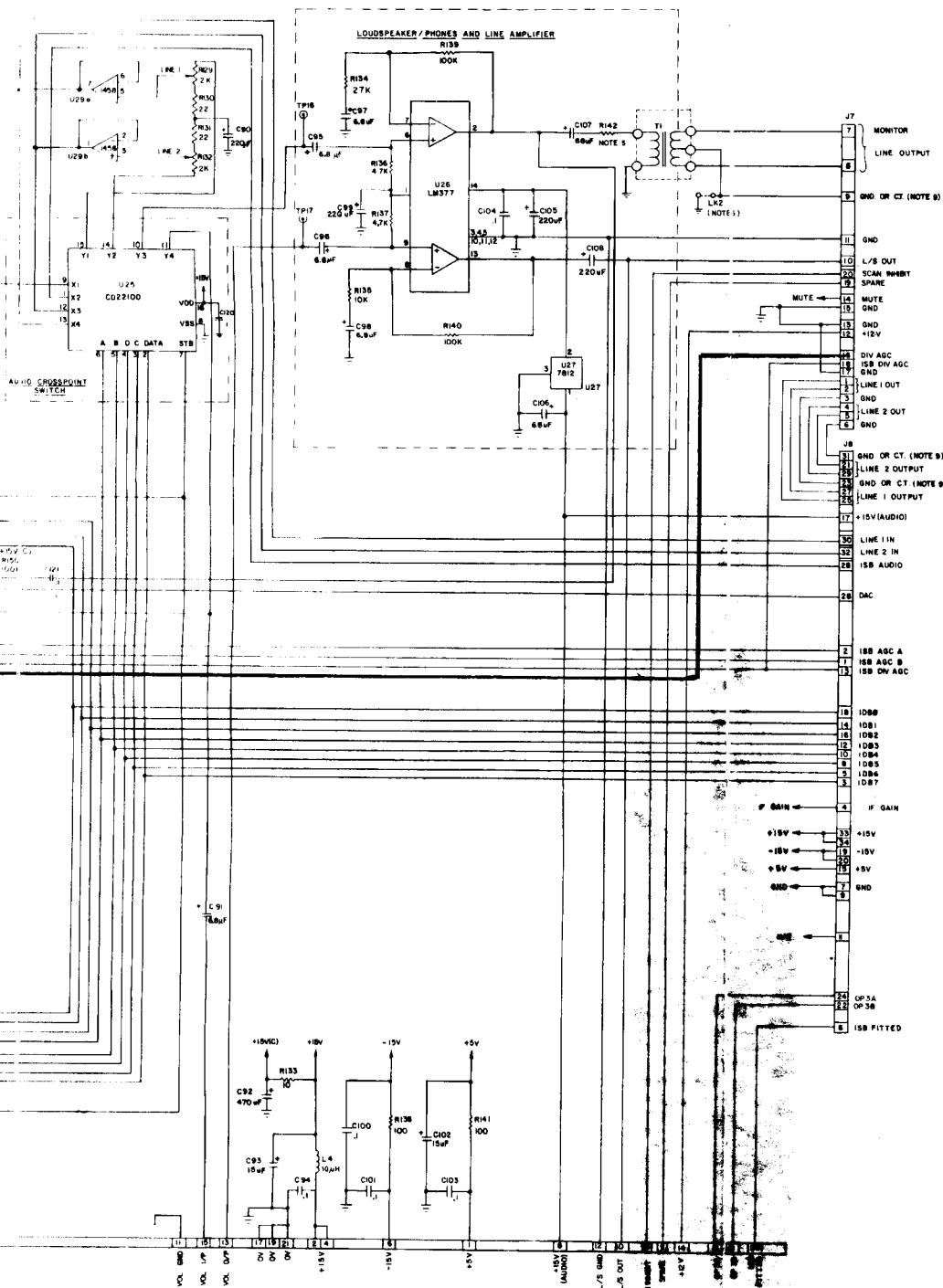
Fig.8.3



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 111154 1102256  
 11





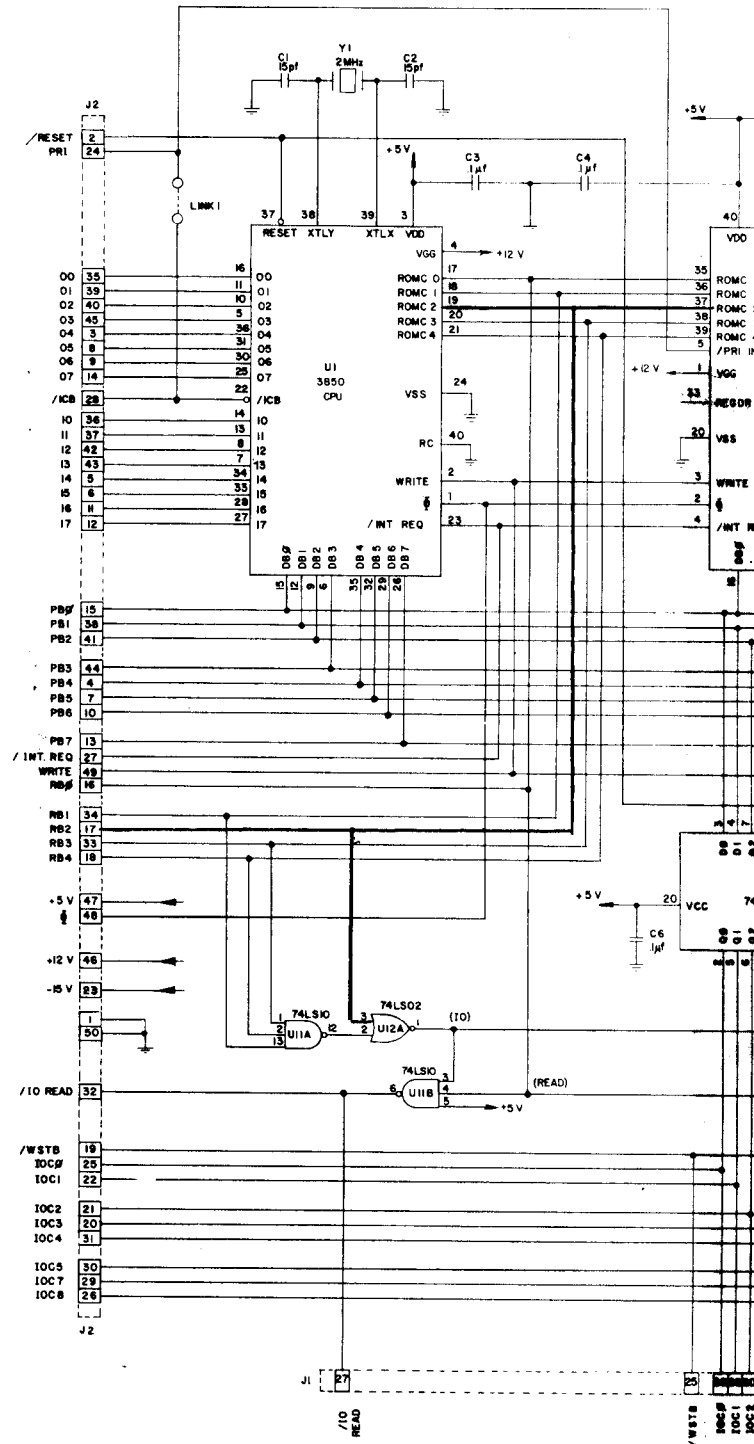


- NOTES**
1. RESISTOR VALUES ARE IN OHMS, K=1000, M=1000 000
  2. CAPACITOR VALUES ONE OR GREATER ARE IN PICO FARADS, LESS THAN ONE ARE IN MICROFARADS
  3. INDUCTANCE VALUES ONE OR GREATER ARE IN MICROHENRES, LESS THAN ONE ARE IN MILLIHENRES
  4. A VALUE DEPENDENT ON FILTER COMPONENT
  5. R142 VALUE DEPENDS ON T1
  6. IF T1 HAS NO CENTRE TAP L42 IS OMITTED IF T1 HAS CENTRE TAP L42 IS OMITTED

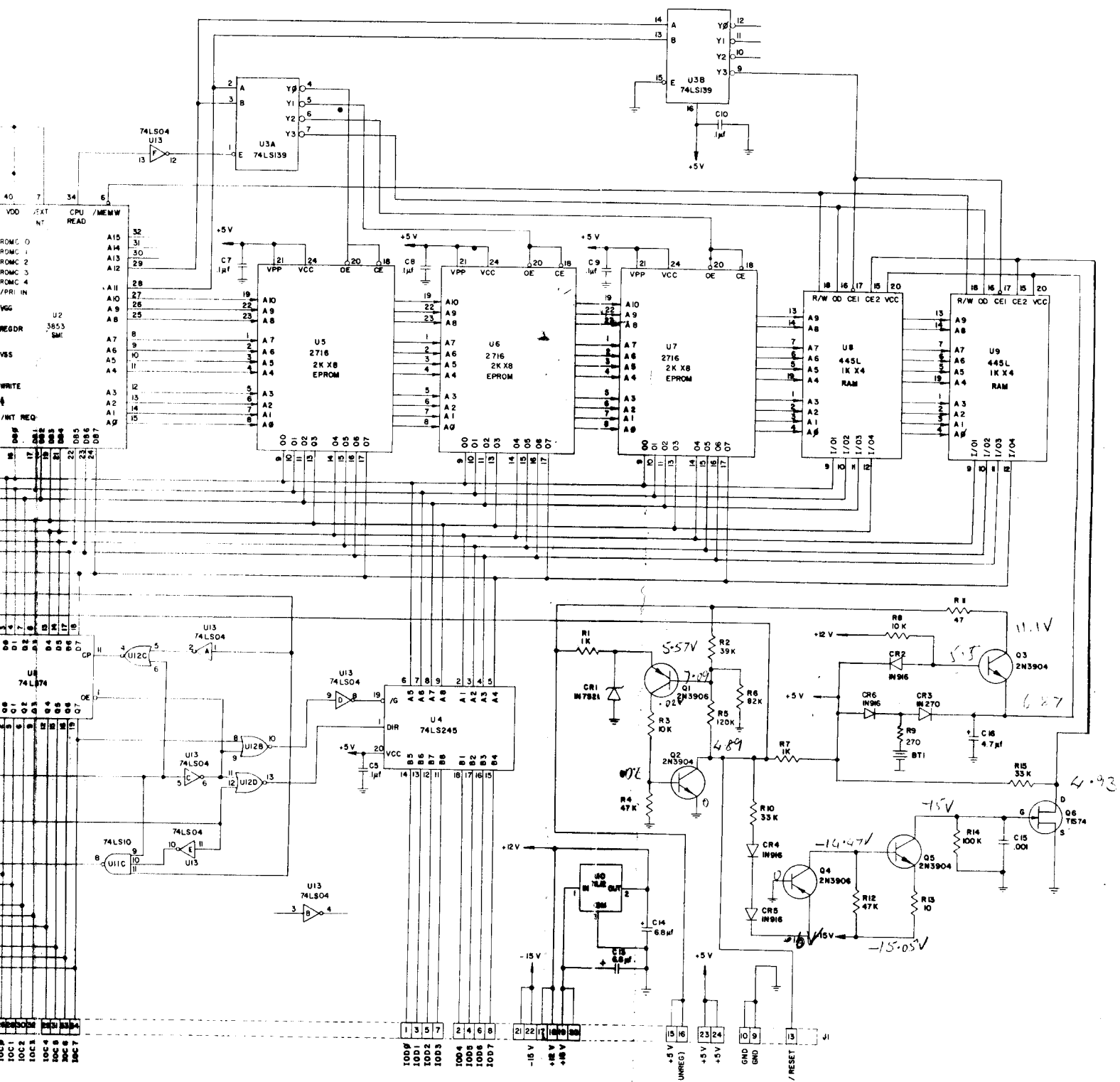
IC NO	DEVICE	QND	+15V(B)	+5V(C)	-5V
U7	324	11		4	
U14	324	11		4	
U17	324	11		4	
U8	4013	7		14	
U11	4066	7		14	
U12	4066	7		14	
U16	4053	6,7,8		16	
U22	1458		8	4	
U24	339	12	8	3	
U28	1458		8	4	
U29	1458	4	8		

Circuit: Main IF/AF Module A4 Fig.8.4

	U1	U2	U3	U4	U5	U6	U7	U8	U9	U10	U11	U12	U13	U14
ROMD	24	20	8	10	12	12	8	8	3	7	7	7	7	10
+5	3	40	16	20	21	21	24					14	14	20
+12	4	1												
+15														



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Circuit : Microcomputer Module A6 A2

Fig.8.5

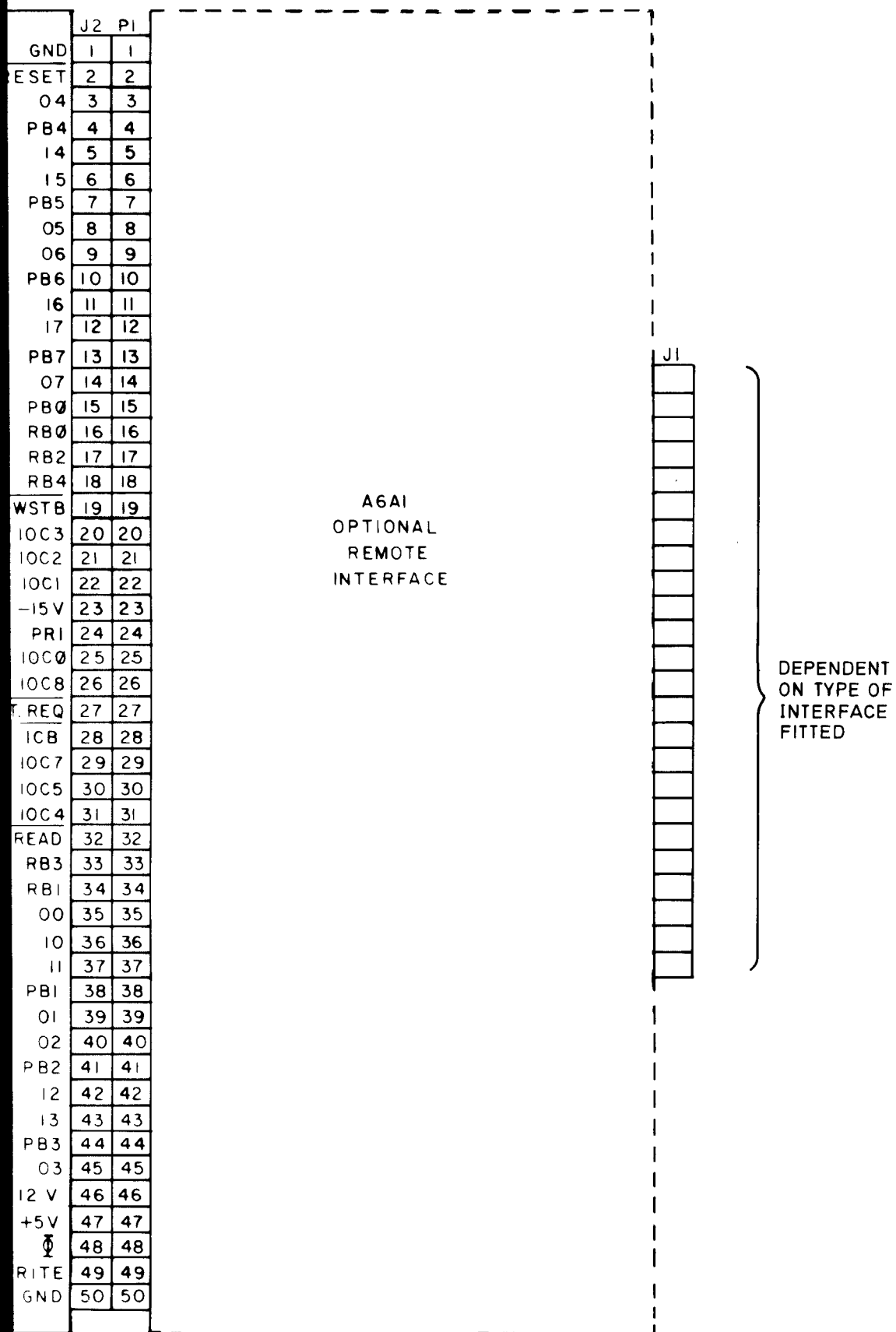
J1	
1	I0D0
2	I0D4
3	I0D1
4	I0D5
5	I0D2
6	I0D6
7	I0D3
8	I0D7
9	GND
10	GND
11	N/C
12	N/C
13	RESET
14	N/C
15	+5V (UNREG)
16	+5V (UNREG)
17	+12V
18	+12V
19	+15V
20	+15V
21	-15V
22	-15V
23	+5V
24	+5V
25	WSTB
26	I0C0
27	I0 READ
28	I0C1
29	I0C4
30	I0C2
31	I0C5
32	I0C3
33	I0C6
34	I0C7

A6A2  
MICROCOMPUTER  
MODULE  
E08202

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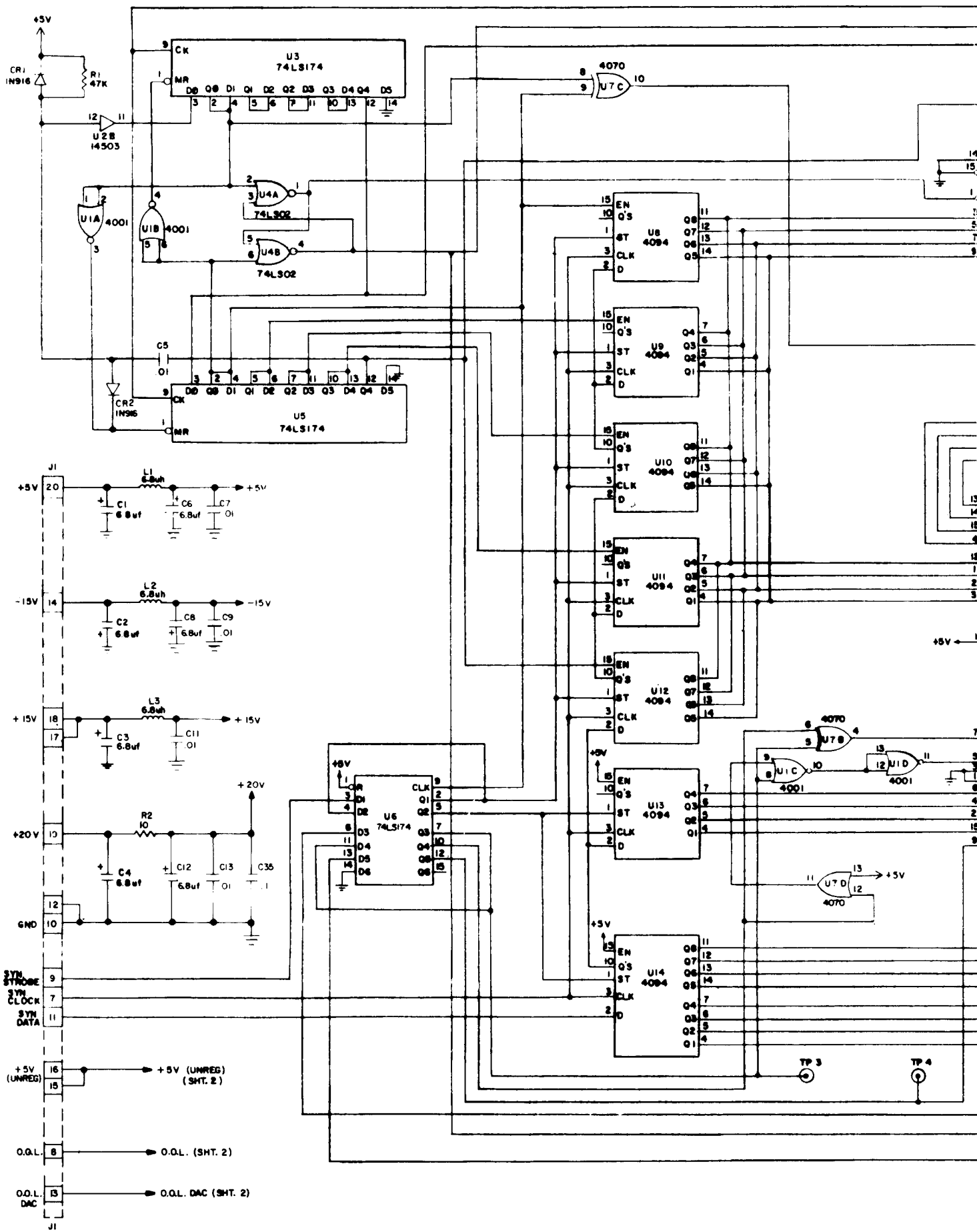
TH1496 DO 8305

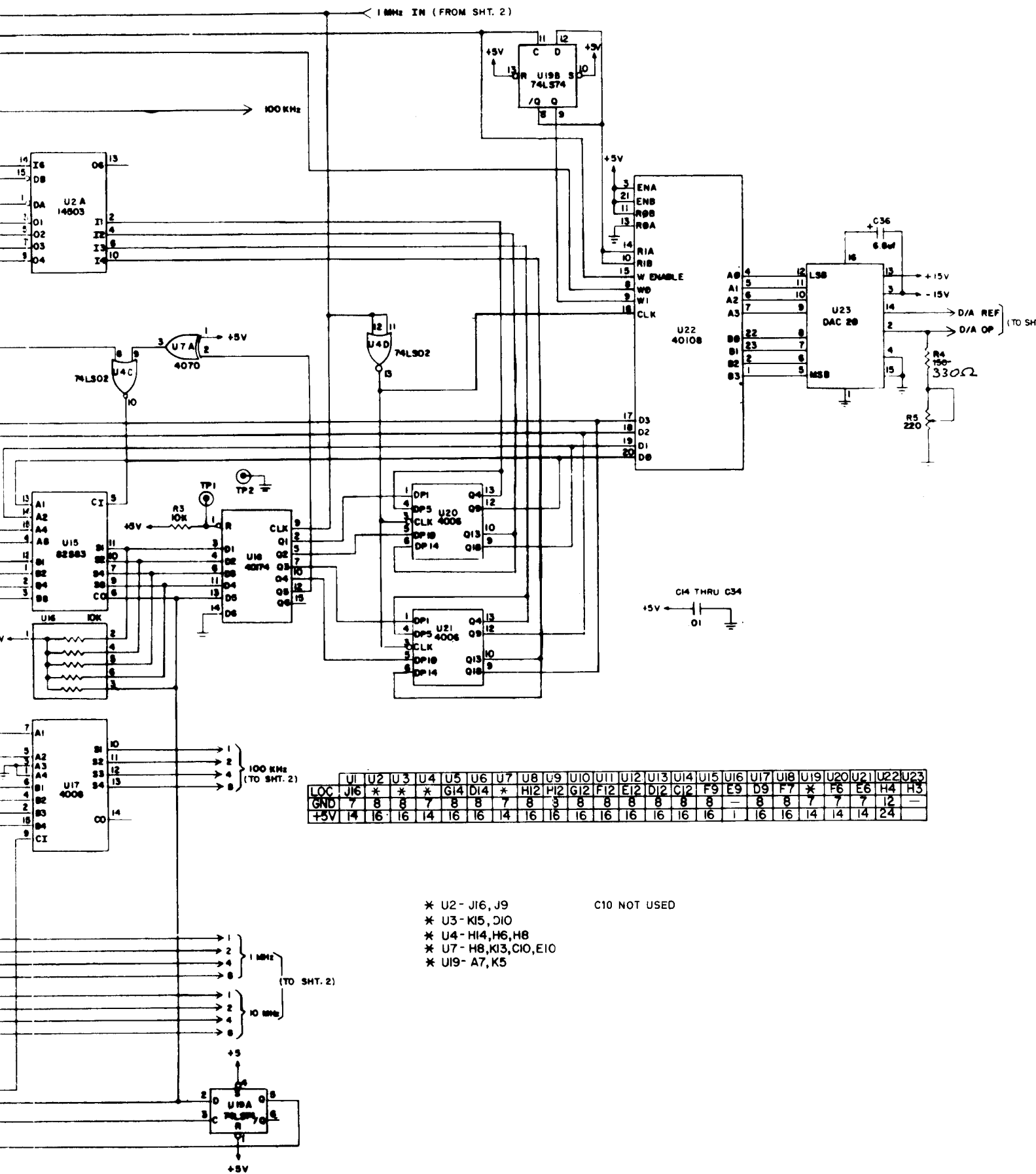
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Interconnection Diagram : A6 A1 and A6 A2

Fig.8.6





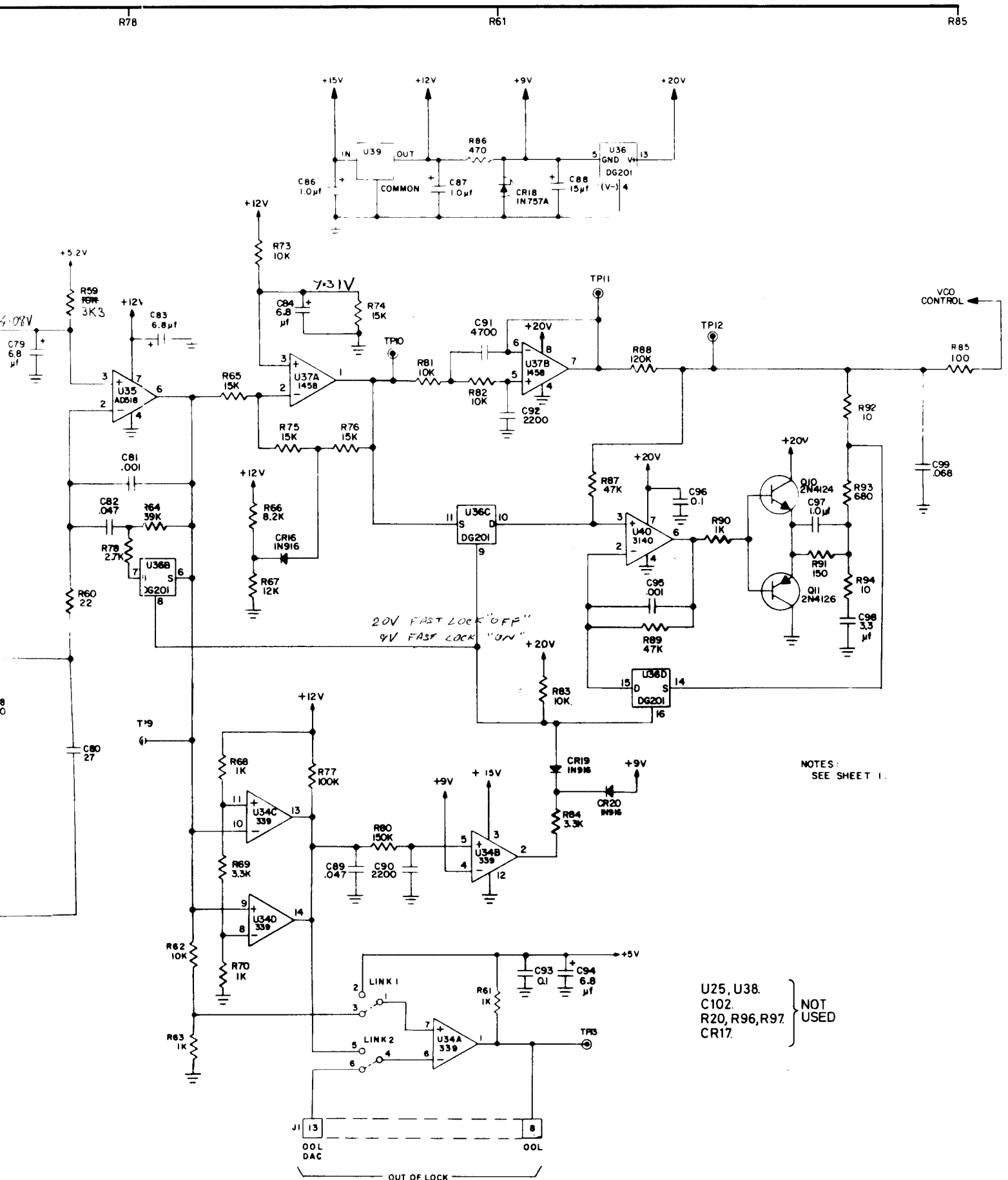
Circuit: First LO Synthesizer A7 (Sheet 1)

Fig. 8



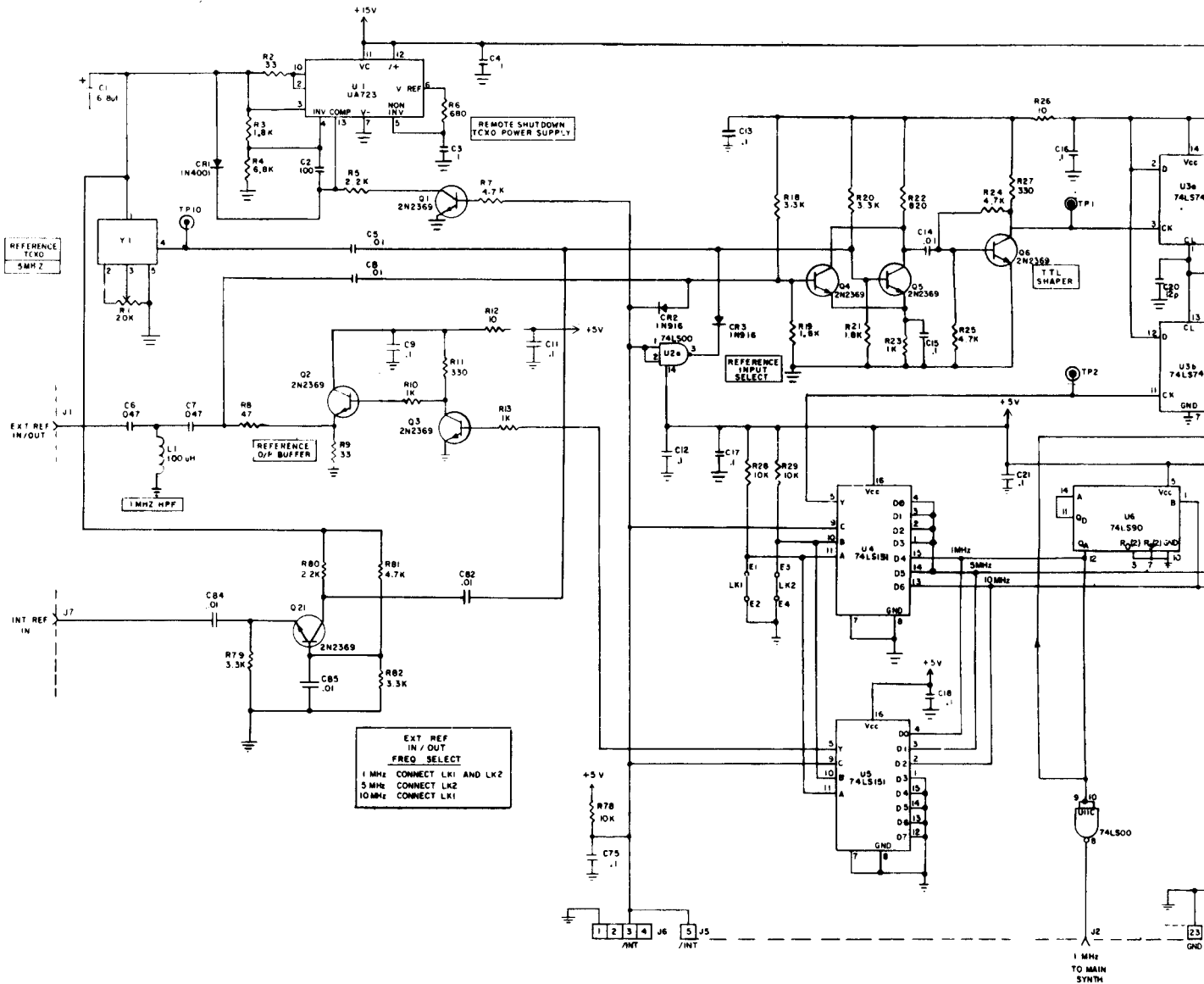




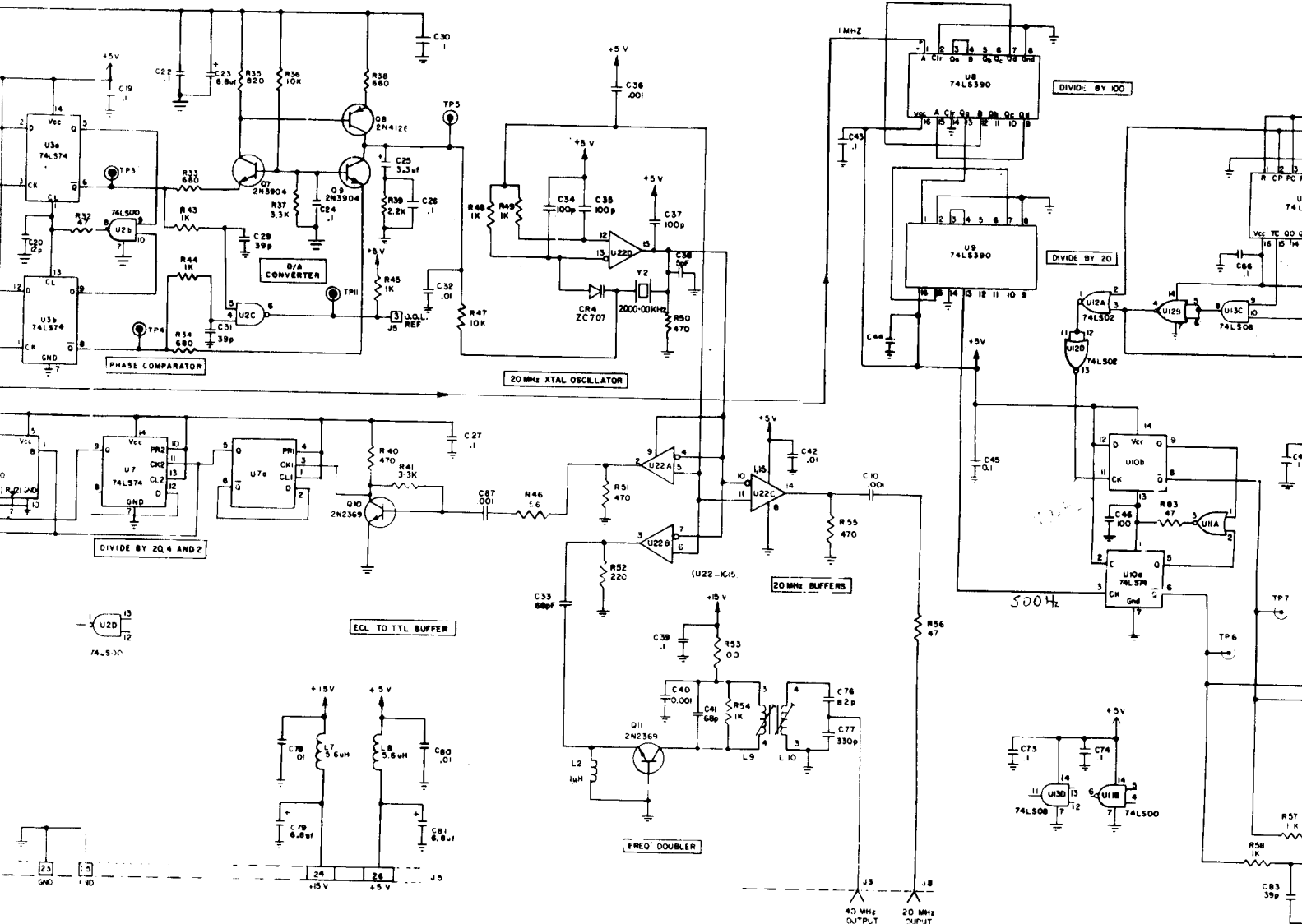


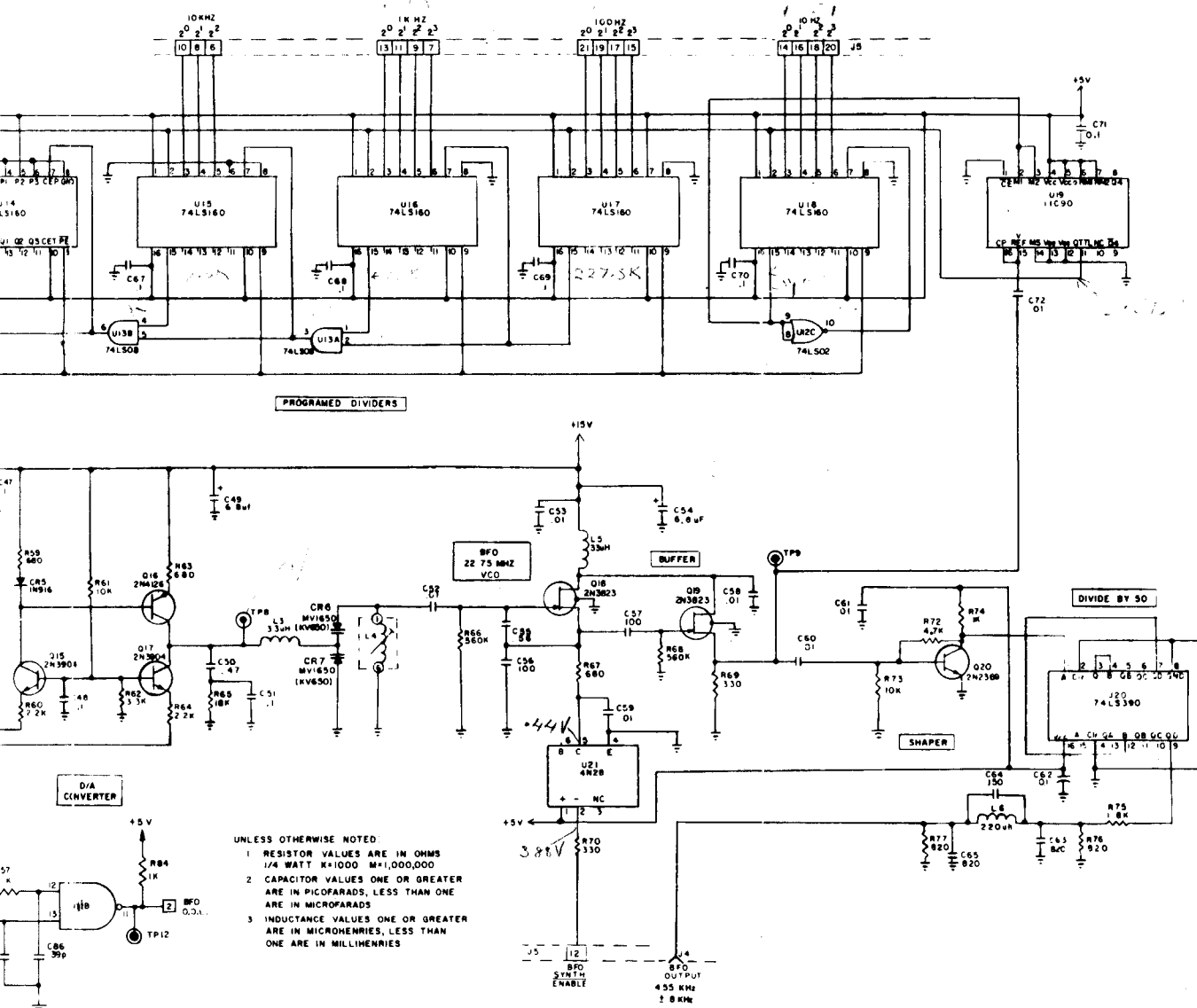
Circuit: First LO Synthesizer A7

Fig.8.8



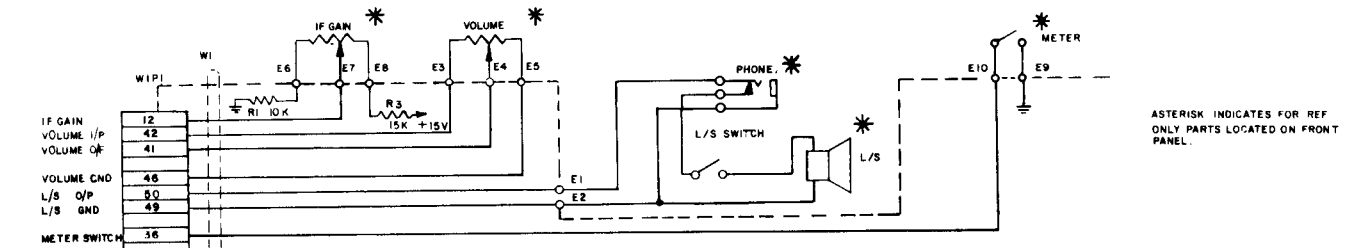
**RACAL**  
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 1



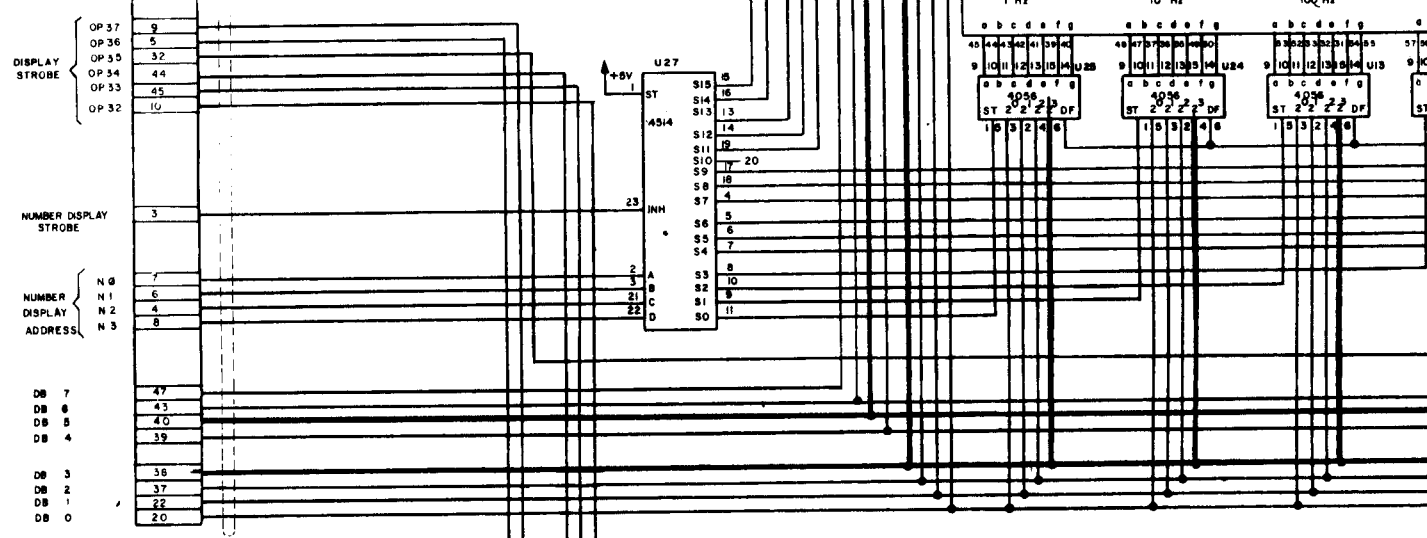
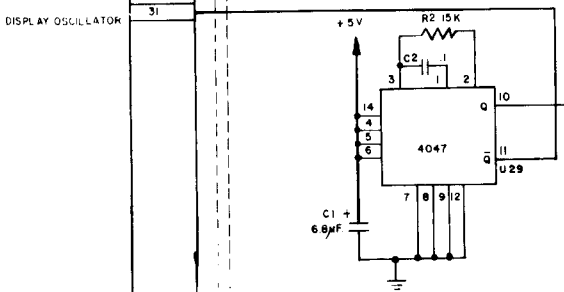
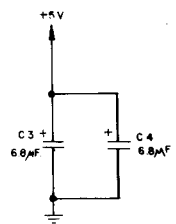
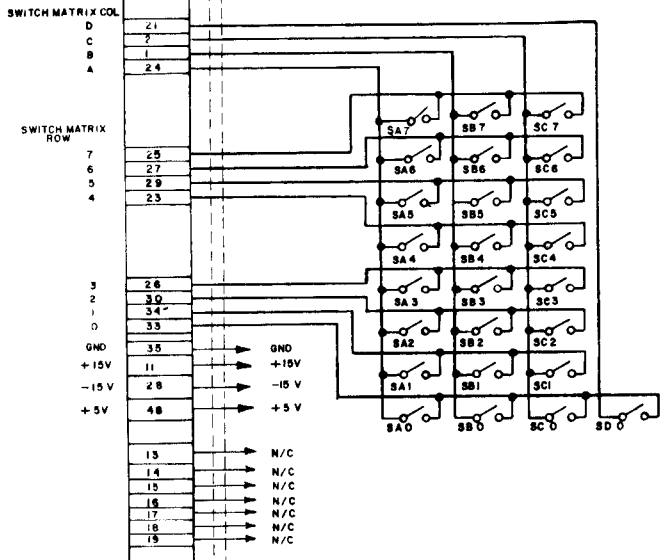


Circuit: Second LO/BFO Synthesizer Module A8

Fig. 8.9

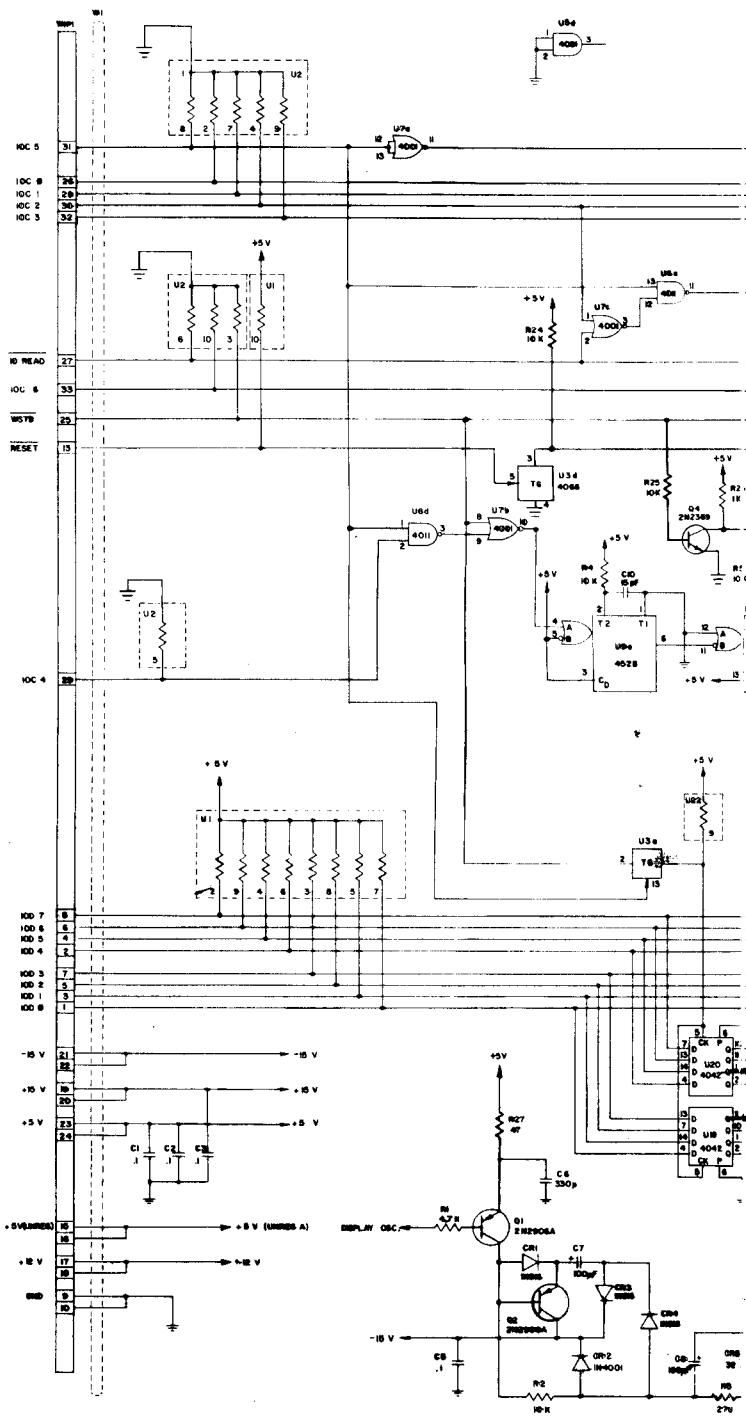


ASTERISK INDICATES FOR REF ONLY PARTS LOCATED ON FRONT PANEL.

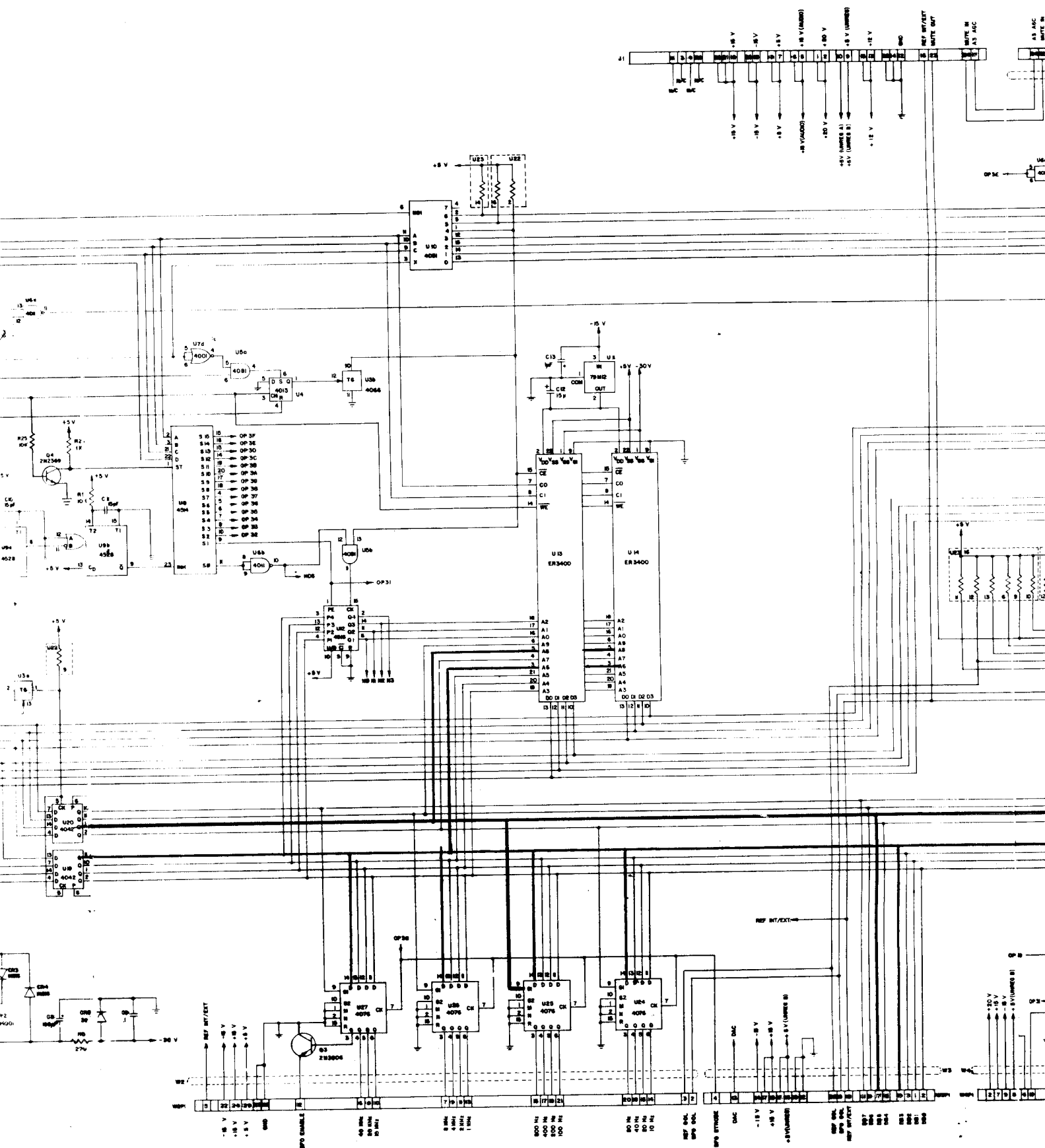








REF. DESIG.	IC	QND	+5V	+15V
U7	4001	7	16	
U8	4008	7	14	
U9	4008	7	14	
U10	4010	8	16	
U11	4017	7	16	
U12	4028	8	16	
U13	4048	8	16	
U14	4048	8	16	
U15	4048	8	16	
U16	4048	8	16	
U17	4048	8	16	
U18	4048	8	16	
U19	4048	8	16	
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U79	4048	8	16	
U80	4048	8	16	
U81	4048	8	16	
U82	4048	8	16	
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U86	4048	8	16	
U87	4048	8	16	
U88	4048	8	16	
U89	4048	8	16	
U90	4048	8	16	
U91	4048	8	16	
U92	4048	8	16	
U93	4048	8	16	
U94	4048	8	16	
U95	4048	8	16	
U96	4048	8	16	
U97	4048	8	16	
U98	4048	8	16	
U99	4048	8	16	
U100	4048	8	16	



Circuit : Front Panel Memory Board A9 A2

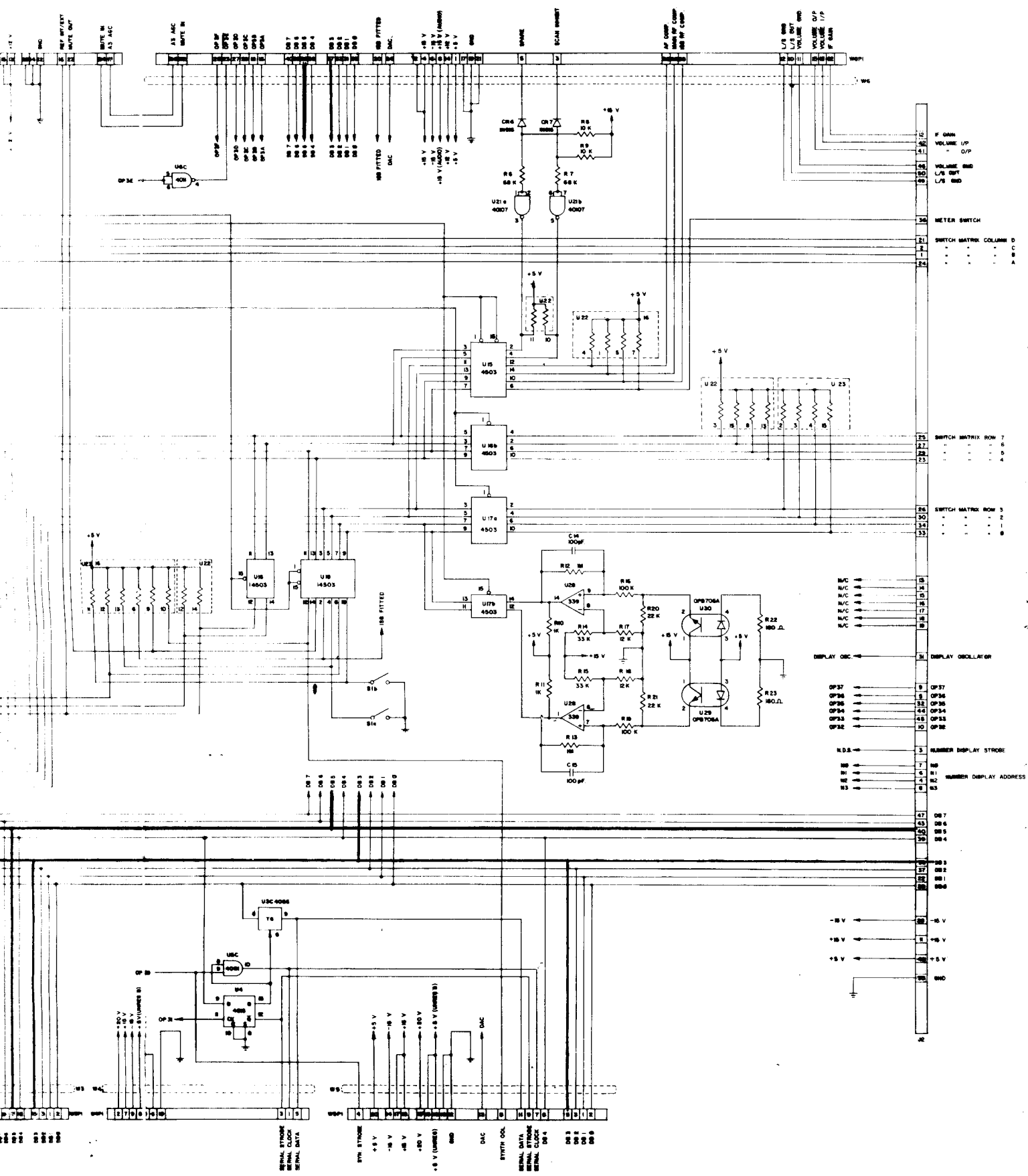
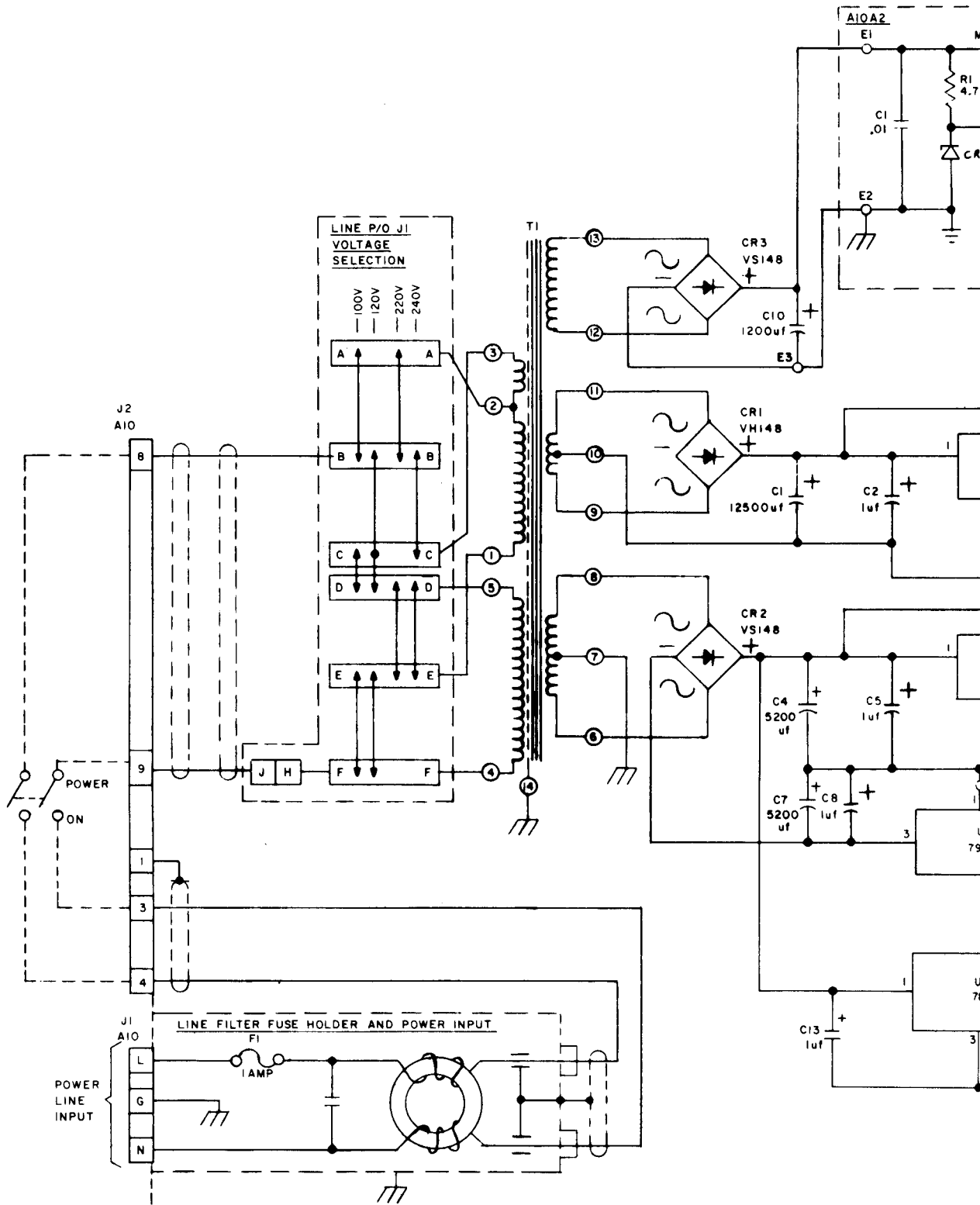


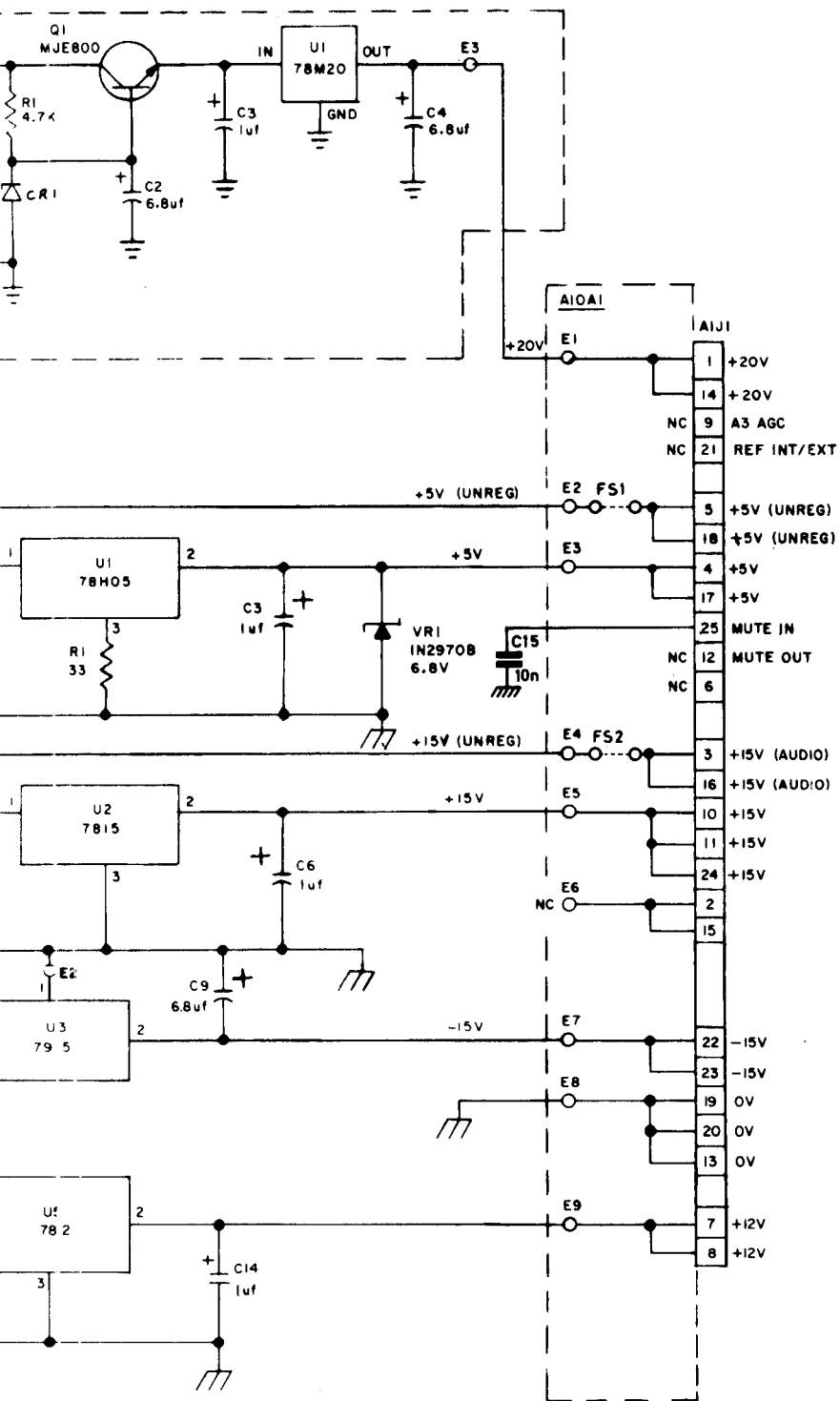
Fig. 8.11



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Circuit: AC Power Supply Module A10 Fig. 8.

