

# SEM-1A ELECTRONICS BOARD

## JUMPERS

B1 → D1

B3 → D3

I → H

F → Y

G → J

G<sup>0</sup> → Z

B → E

A → W

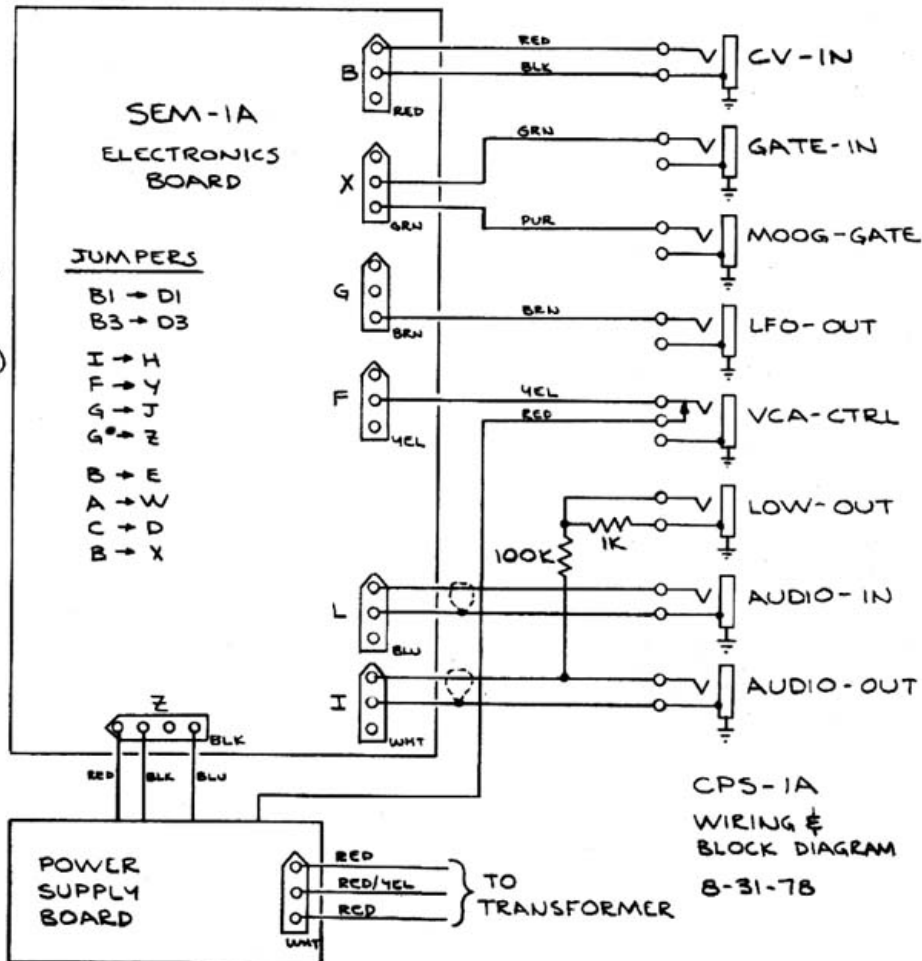
C → D

B → X

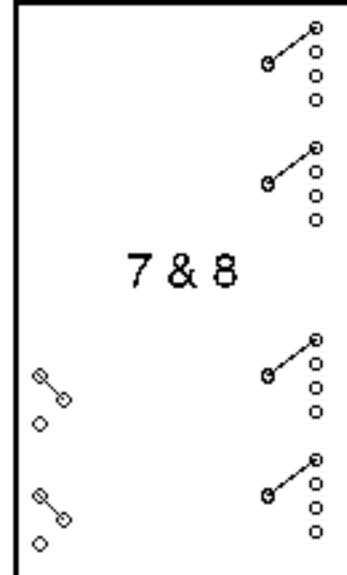
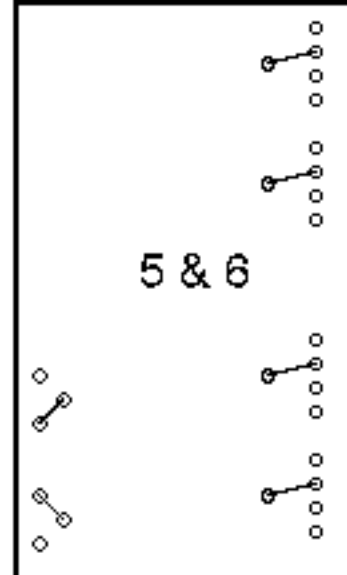
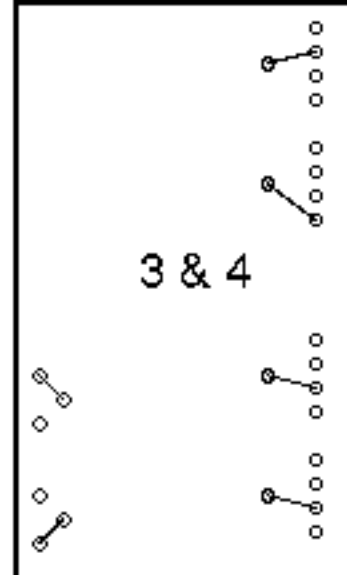
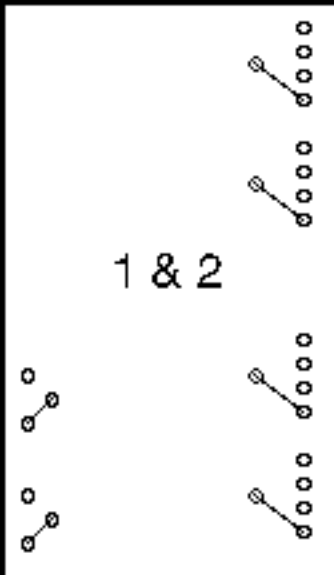
CHANGES  
TO SEM-1A  
ELECTRONICS  
BOARD WHEN  
USED IN CPS-1A

1) VCA "ON-SW"  
RESISTOR (22K)  
IS REMOVED.

2) AUDIO-IN  
SUMMING  
RESISTOR  
(R155, 220K)  
IS PARALLELED  
WITH 47K.



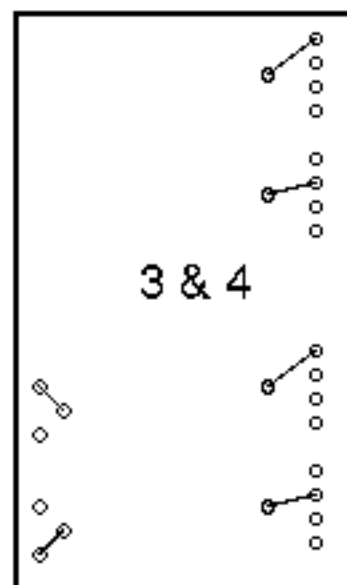
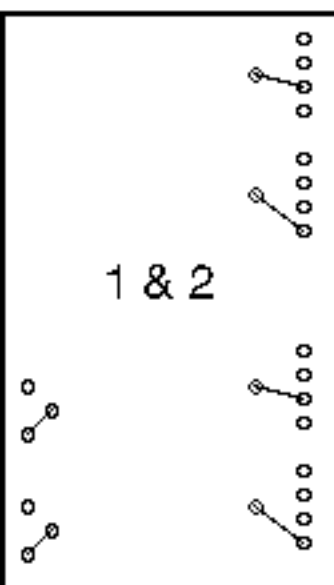
CPS-1A  
WIRING &  
BLOCK DIAGRAM  
8-31-78



Eight Voice

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Four Voice



# FOUR VOICE ELECTRONICS CONNECTIONS

## CHANNEL OUTPUT (TYPICAL FOUR PLACES)

<u>PIN</u>	<u>FUNCTION</u>
1	} GATE OUT
2	
3	} GROUND
4	
5	} CONTROL VOLTAGE OUT
6	

## KEYBOARD CONNECTOR

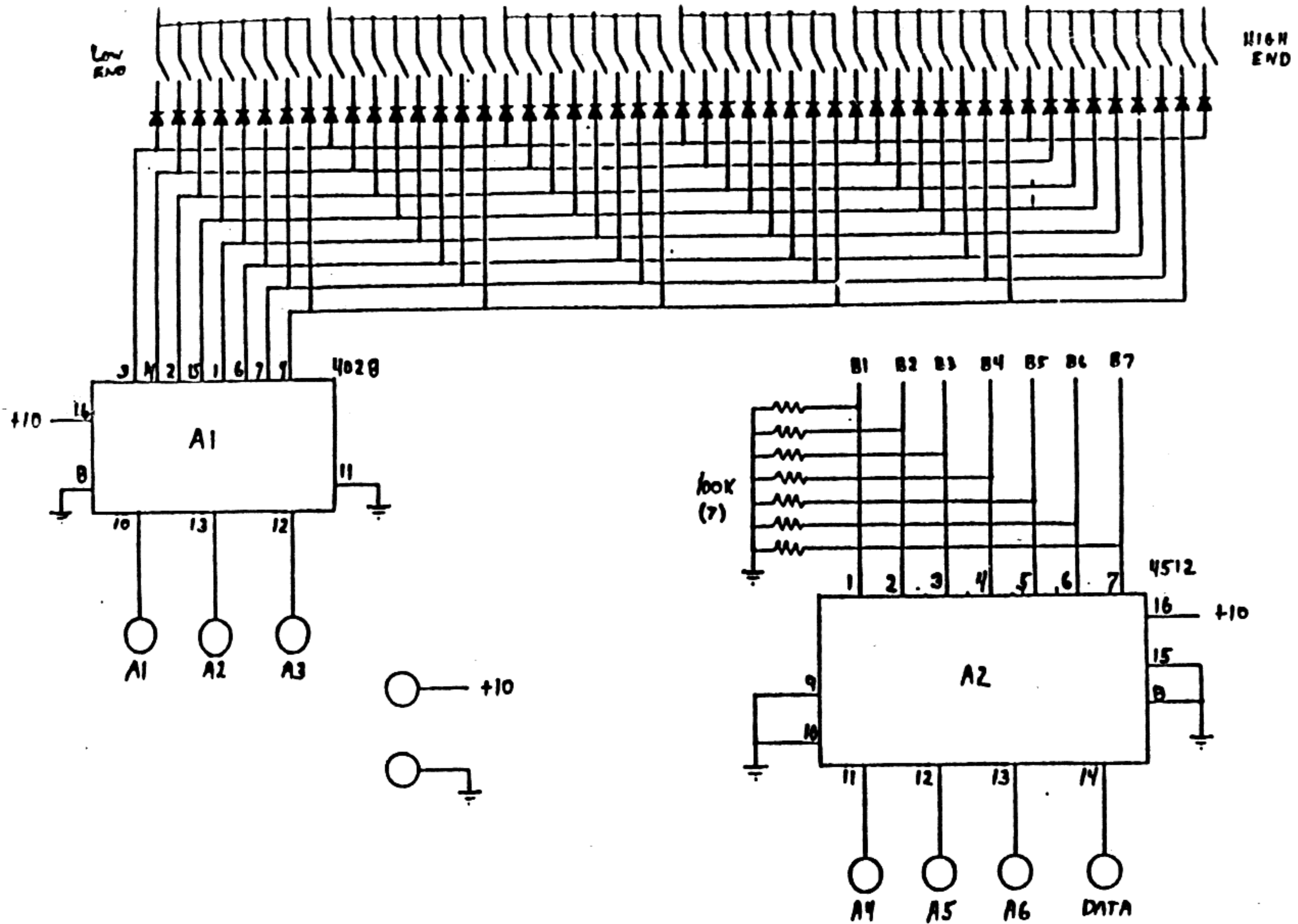
<u>PIN</u>	<u>PIN ON DECODE BOARD CONN. (12 PIN MOLEX)</u>	
1	12	(A1)
2	11	(A2)
3	10	(A3)
4	1	(A4)
5	3	(A5)
6	2	(A6)
7	7	(GND1)
8	4	(+V)
9	9	(KBUS)
10 (KEY)	—	

## POWER CONNECTOR

<u>PIN</u>	<u>FUNCTION</u>
1	+18.5
2	GND
3 (KEY)	—
4	-18.5

## TUNE CONNECTOR

<u>PIN</u>	<u>FUNCTION</u>
1	VCO TUNE
2	GROUND
3	VCF TUNE



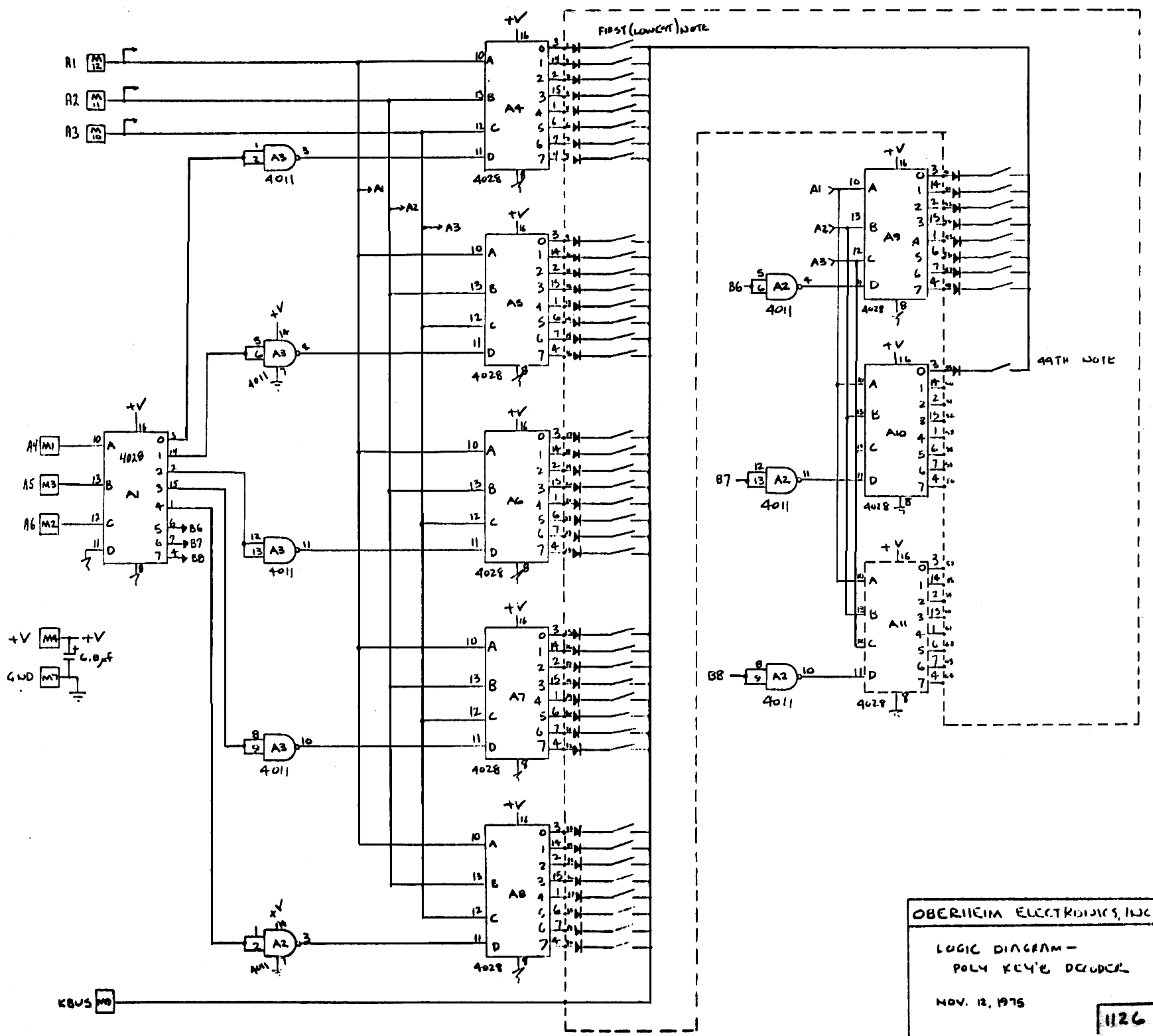
NOTES:

- 1) A1 AND A2 TO BE MOUNTED IN SOCKETS
- 2) ○ DENOTES SOLDERABLE PINS ON P.C BOARD
- 3) ALL RESISTORS 5% 1/4 OR 1/2 WATT

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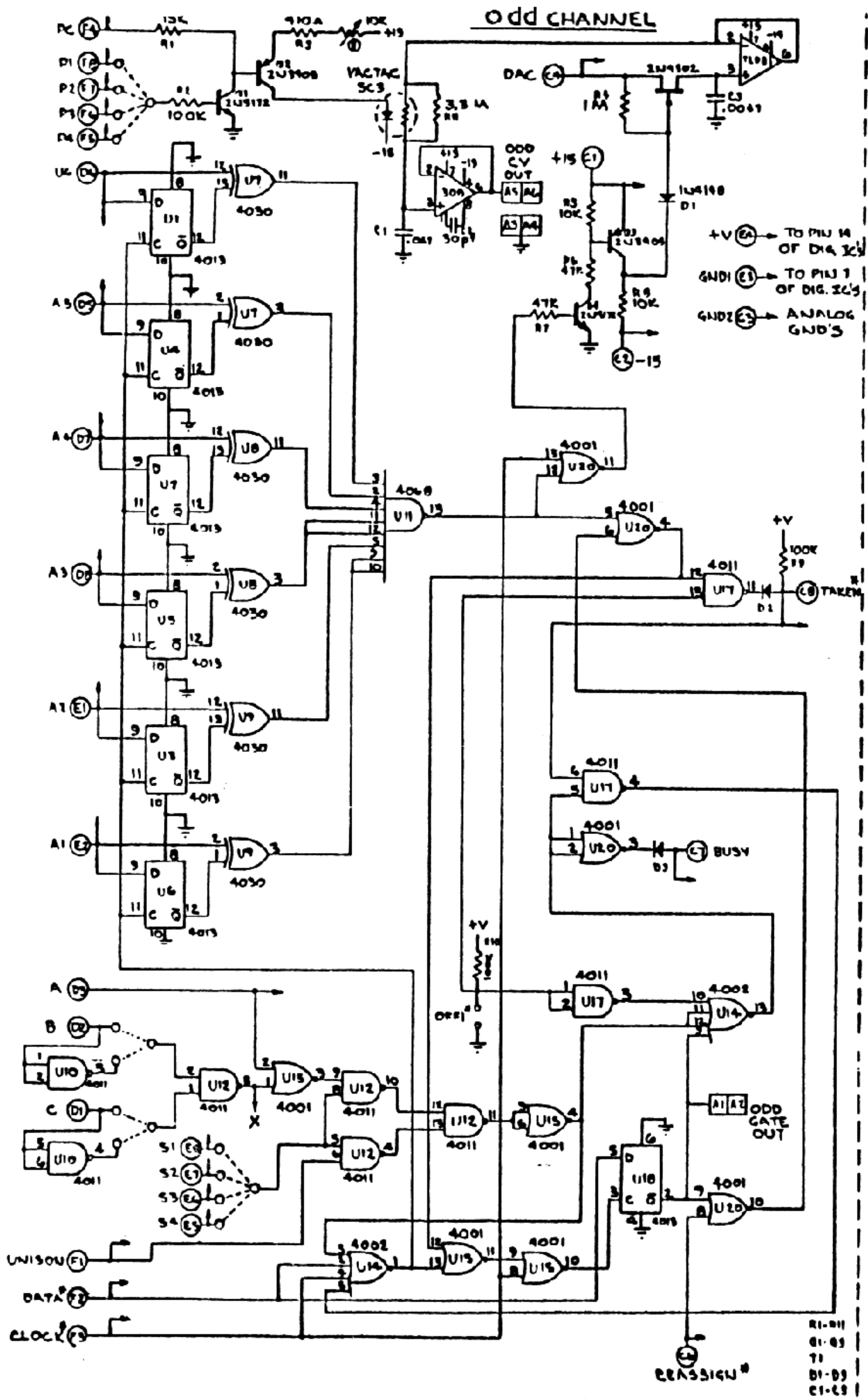
49 NOTE KEYBOARD  
WITH DECODER

7/77

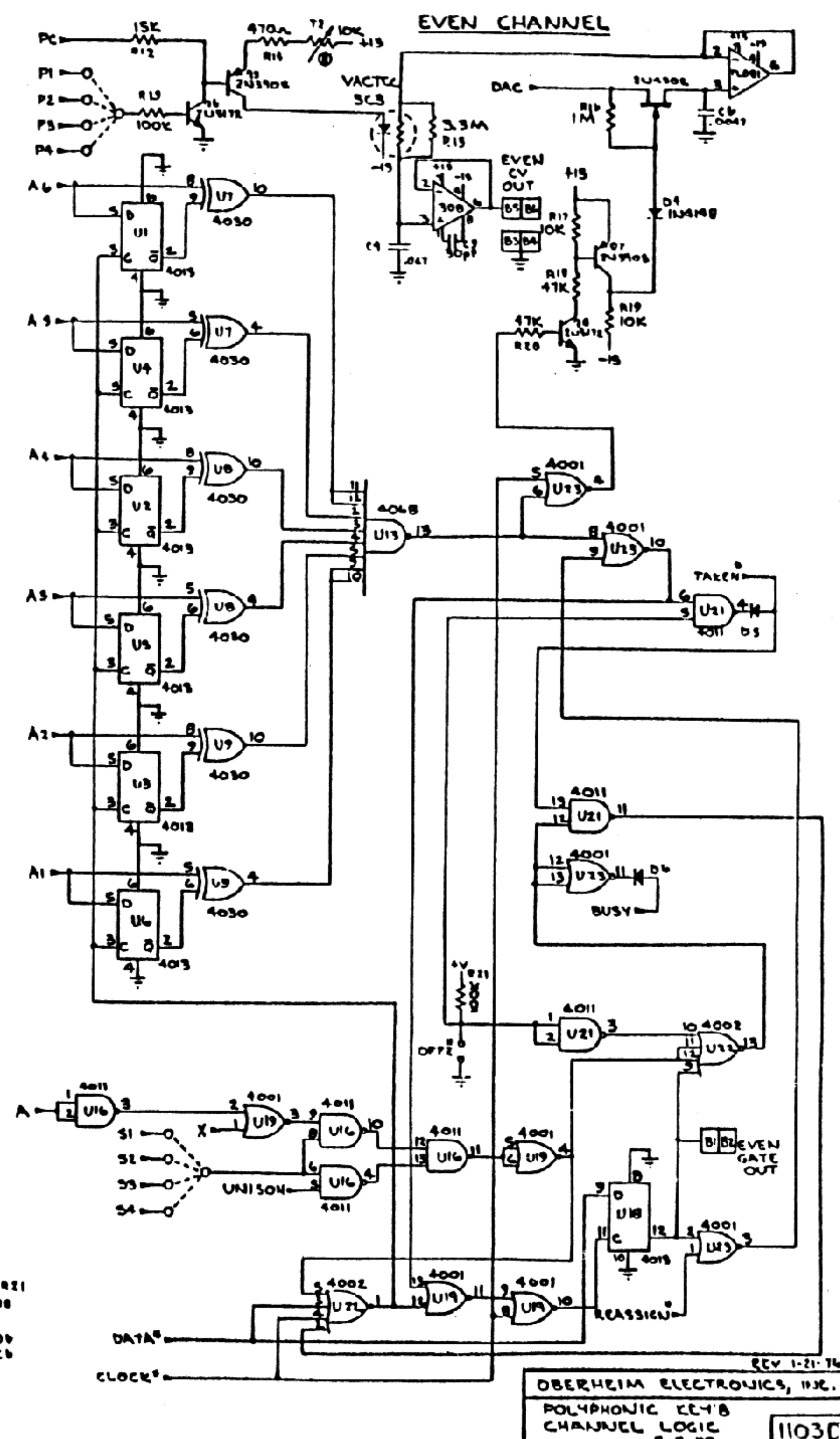


OBERHEIM ELECTRONICS, INC  
 LOGIC DIAGRAM -  
 POLY KEY'S DECODER  
 NOV. 12, 1975

**ODD CHANNEL**



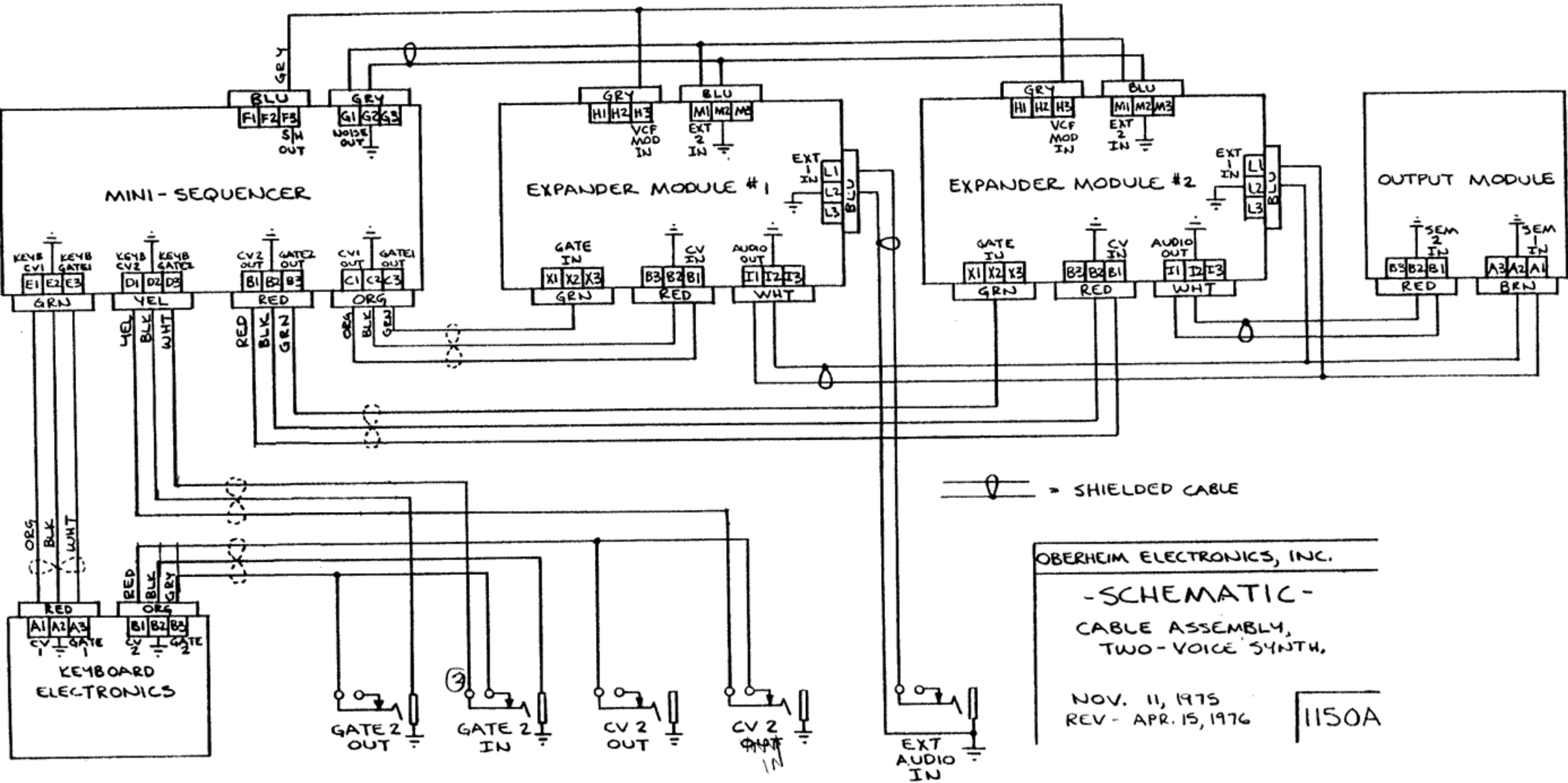
**EVEN CHANNEL**

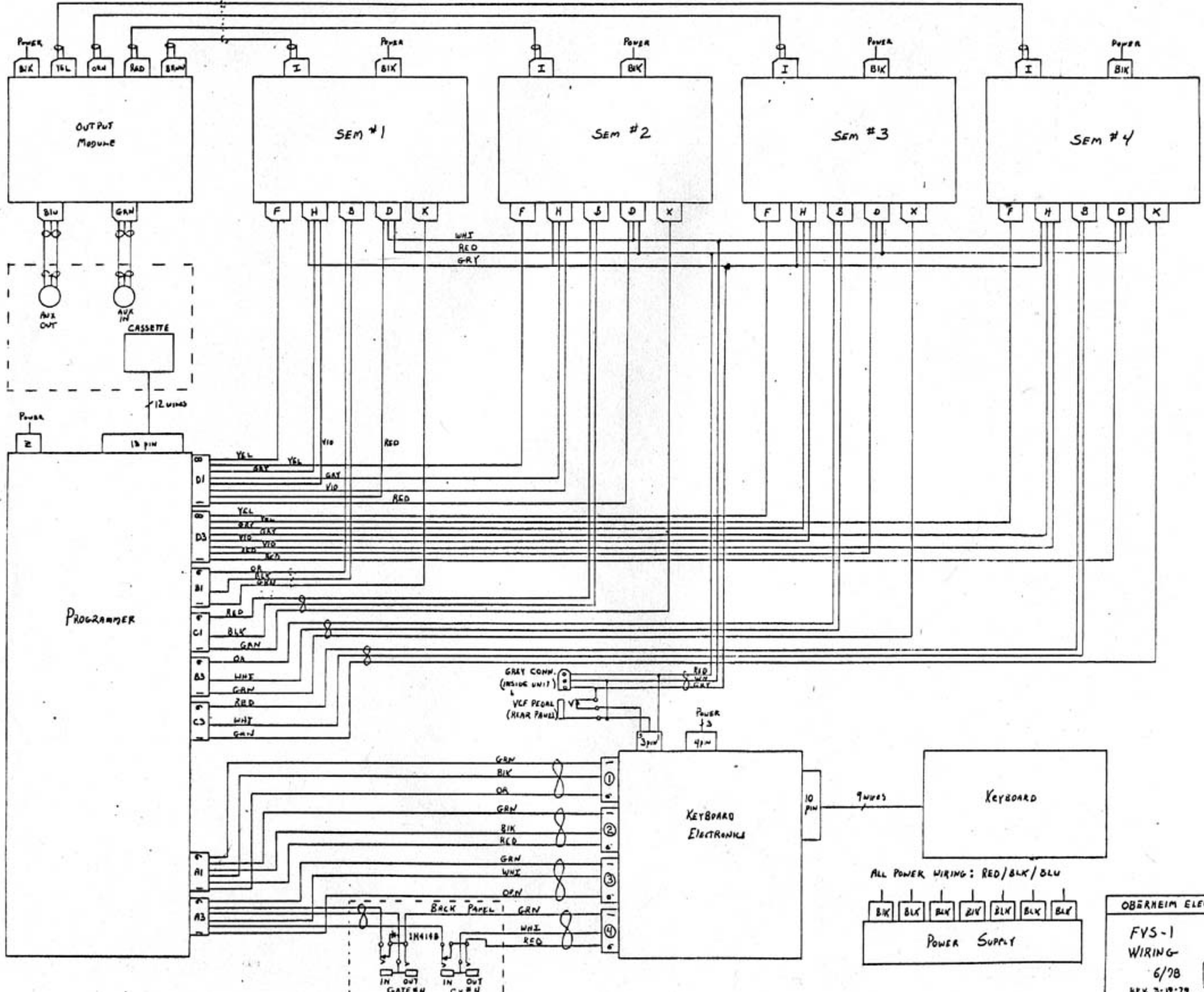


R1-R11  
03-88  
T2  
01-88  
02-26

R1-R11  
01-85  
T1  
01-85  
01-85

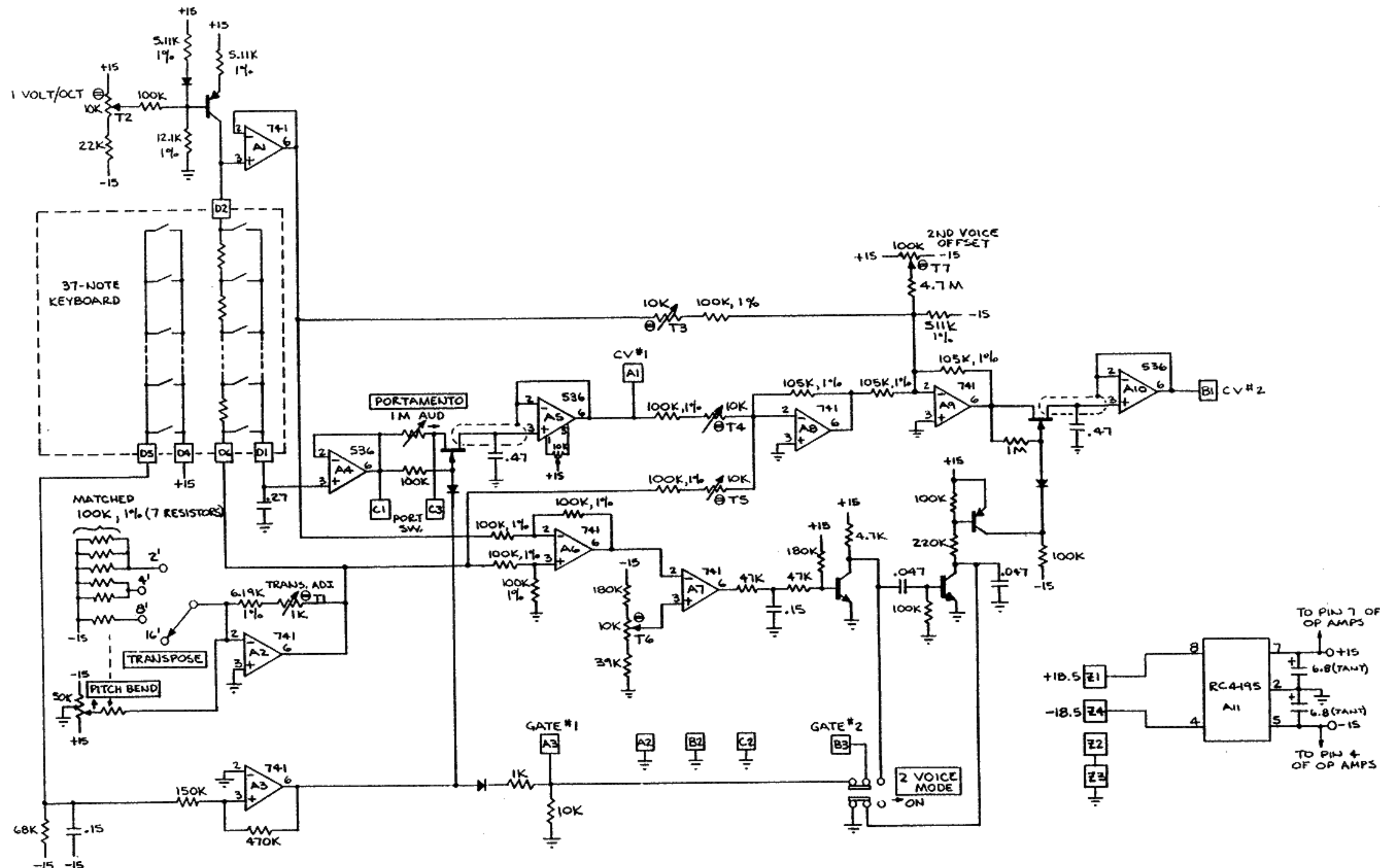




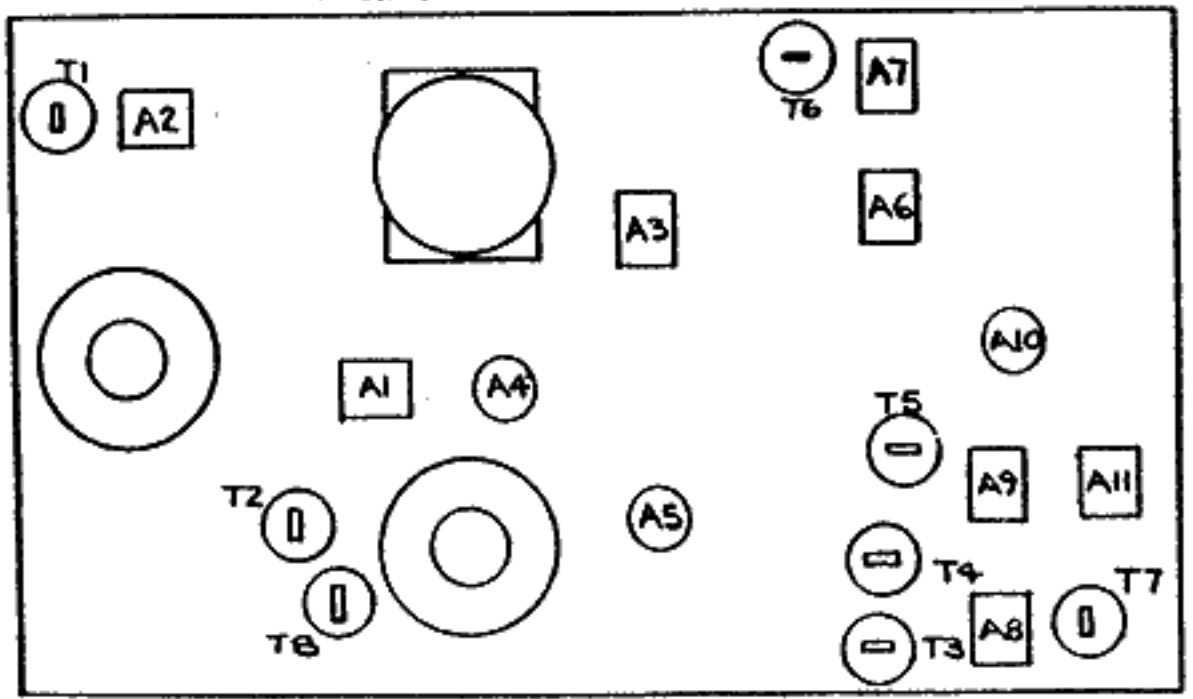


OBERHEIM ELECTRONICS, INC.  
 FYS-1  
 WIRING  
 6/78  
 REV. 3-19-79

1153D



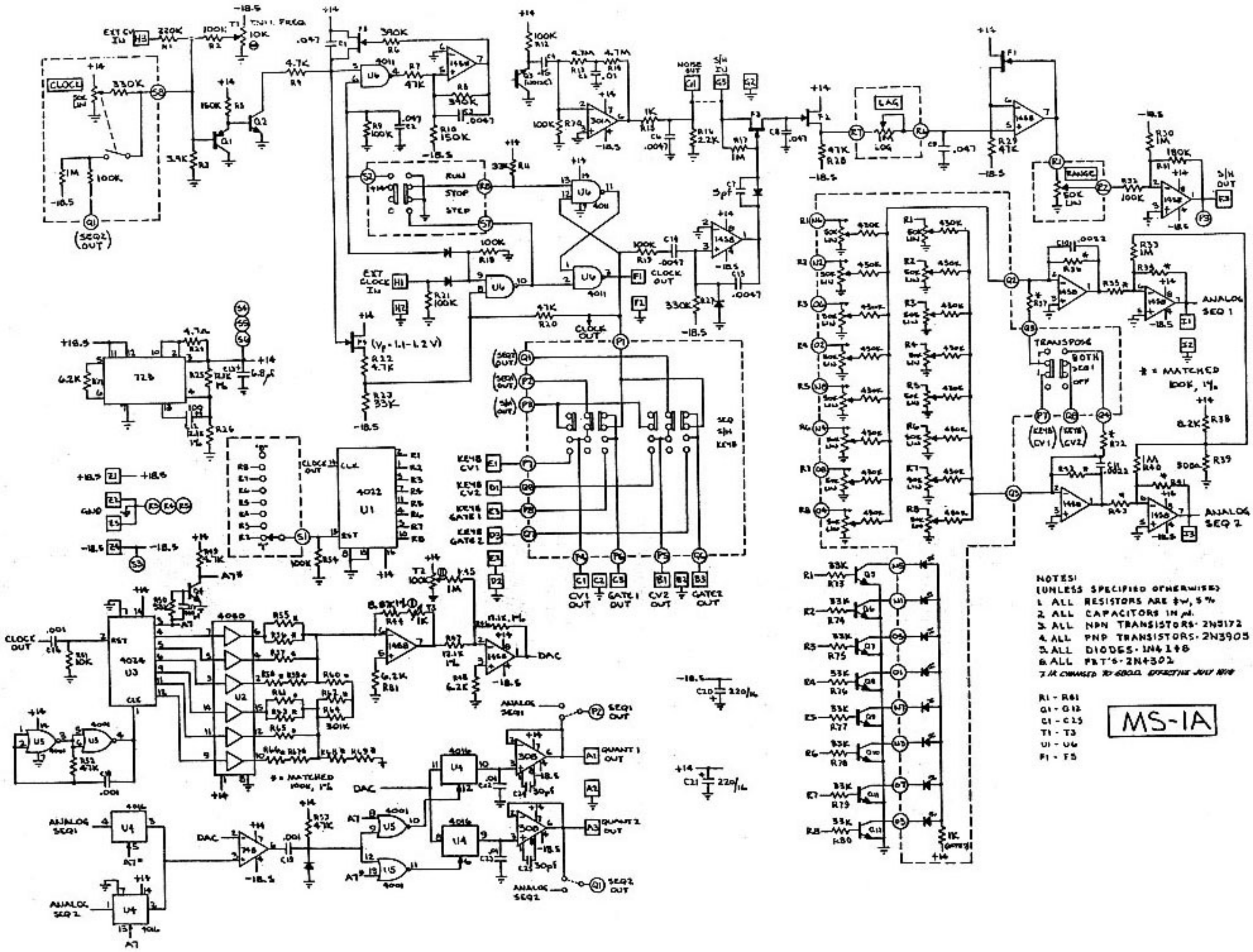
TRIMPOT PLACEMENT



NOTES (UNLESS OTHERWISE SPECIFIED):

1. ALL RESISTORS ARE  $\frac{1}{4}$  W, 5%
2. ALL CAPACITORS IN  $\mu$ F
3. ALL NPN TRANSISTORS - 2N5172
4. ALL PNP TRANSISTORS - 2N3905
5. ALL DIODES - 1N4148
6. ALL FET'S - 2N4391

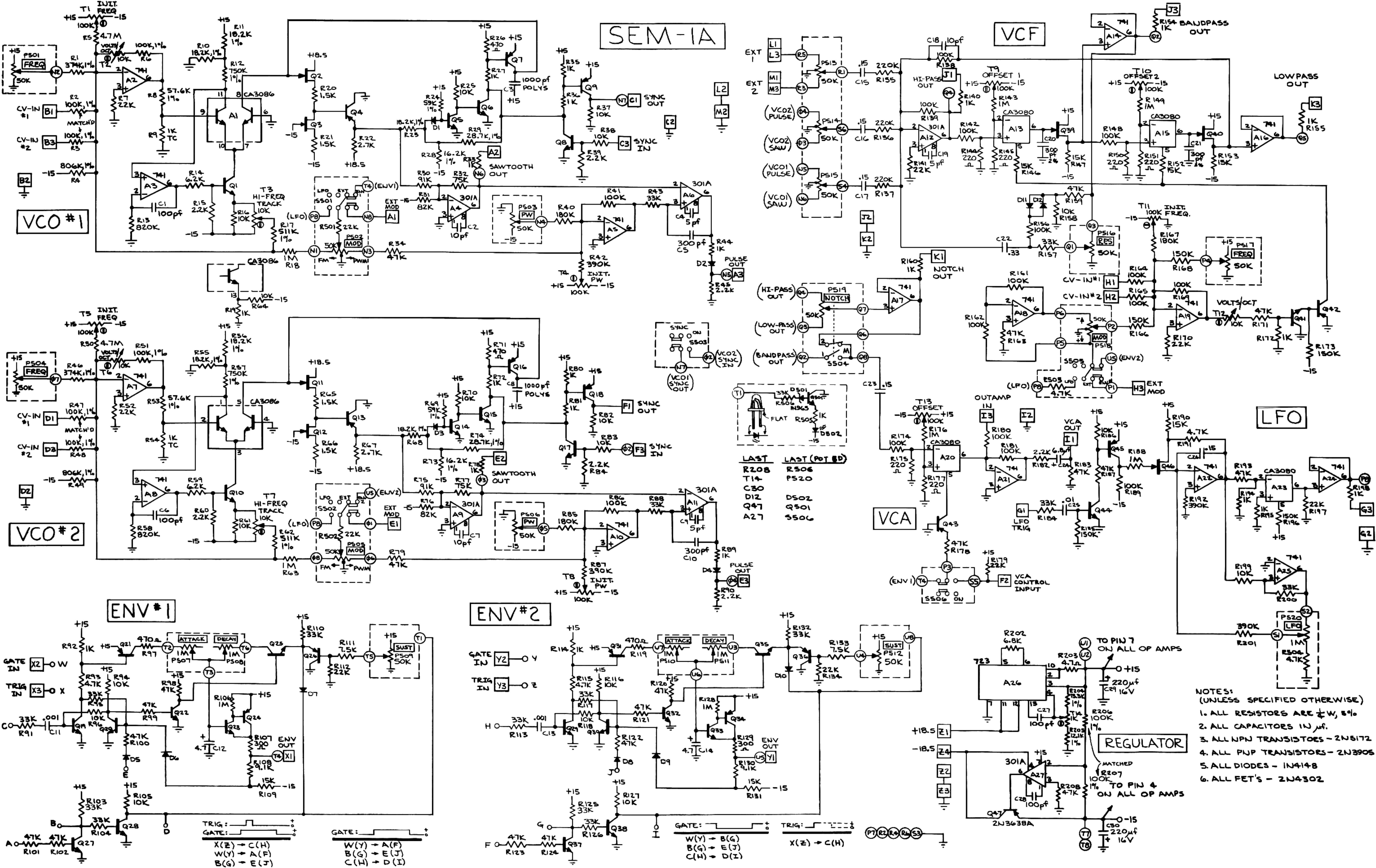
OBERHEIM ELECTRONICS, INC.  
 - SCHEMATIC -  
 2-VOICE KEYBOARD  
 ELECTRONICS  
 JULY 2 1975  
 REV- 1-21-76



NOTES:  
 (UNLESS SPECIFIED OTHERWISE)  
 1 ALL RESISTORS ARE  $\frac{1}{2}$ W, 5%  
 2 ALL CAPACITORS IN  $\mu$ F  
 3 ALL NPN TRANSISTORS - 2N3172  
 4 ALL PNP TRANSISTORS - 2N3905  
 5 ALL DIODES - 1N4148  
 6 ALL PRT'S - 2N4302  
 7 1M CHANGED TO 600K EFFECTIVE JULY 1978

- R1 - R81
- Q1 - Q12
- C1 - C15
- T1 - T3
- U1 - U6
- F1 - F5

**MS-1A**



### SEM-1A

### VCF

### LFO

### VCO #1

### VCO #2

### ENV #1

### ENV #2

### VCA

### REGULATOR

LAST (POT RD)

R208	R506
T14	PS20
C30	DS02
D12	Q501
Q47	550C
A27	

- NOTES:  
 (UNLESS SPECIFIED OTHERWISE)  
 1. ALL RESISTORS ARE 1/4W, 5%  
 2. ALL CAPACITORS IN μF.  
 3. ALL NPN TRANSISTORS - 2N5172  
 4. ALL PNP TRANSISTORS - 2N3905  
 5. ALL DIODES - 1N4148  
 6. ALL FET'S - 2N4302

TRIG: GATE:

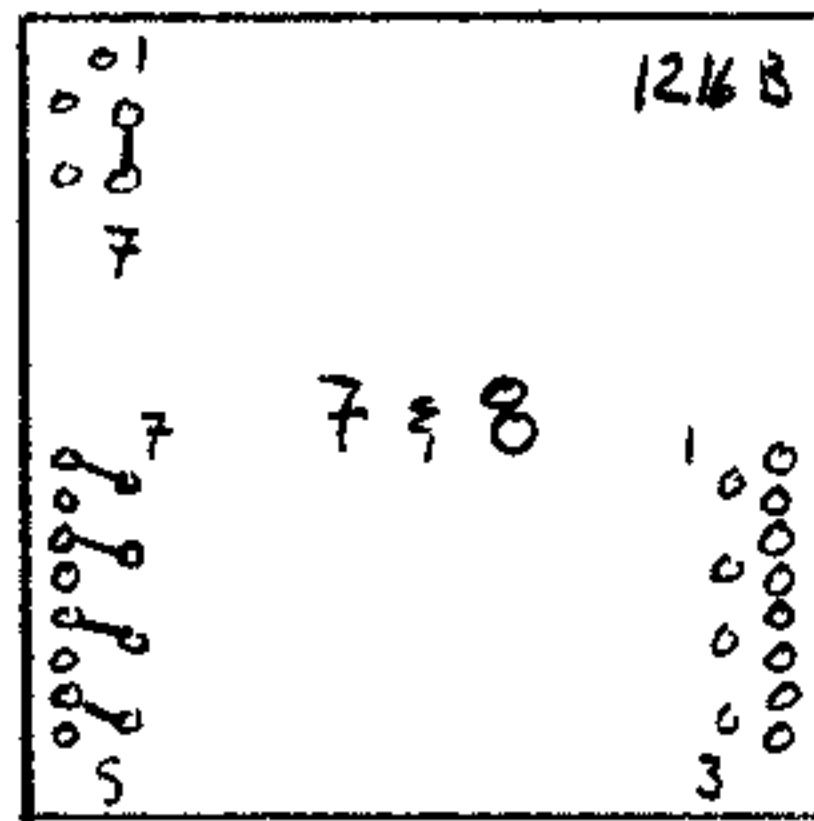
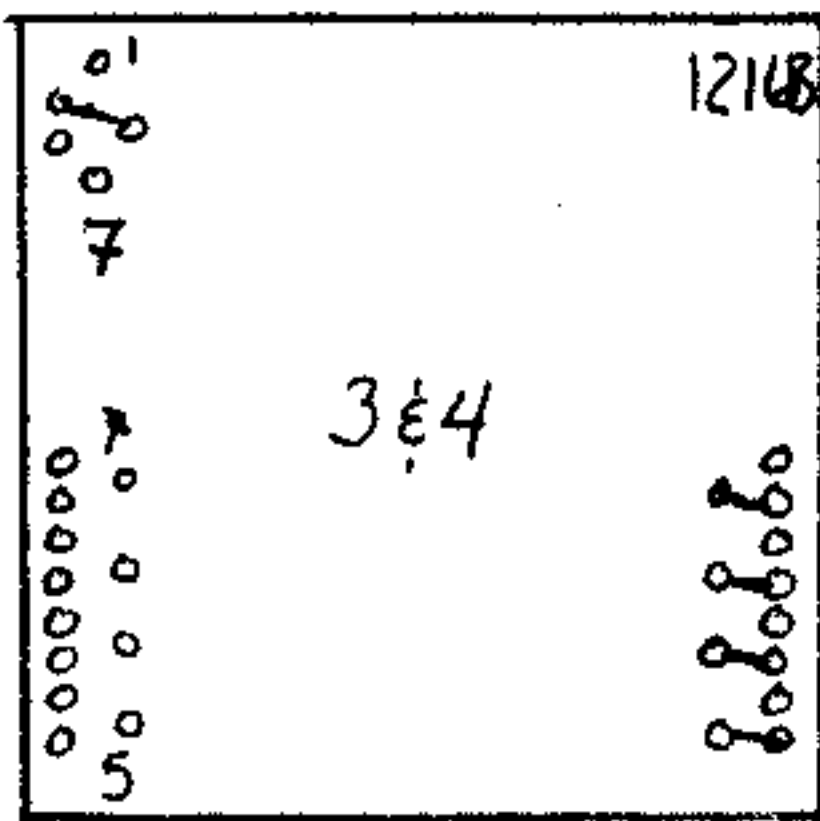
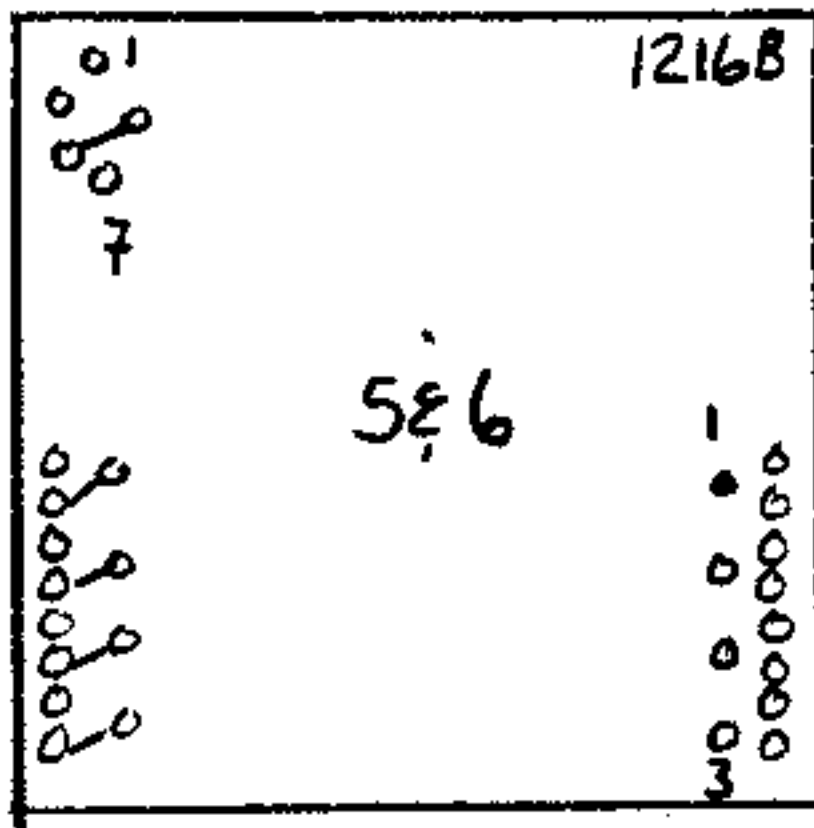
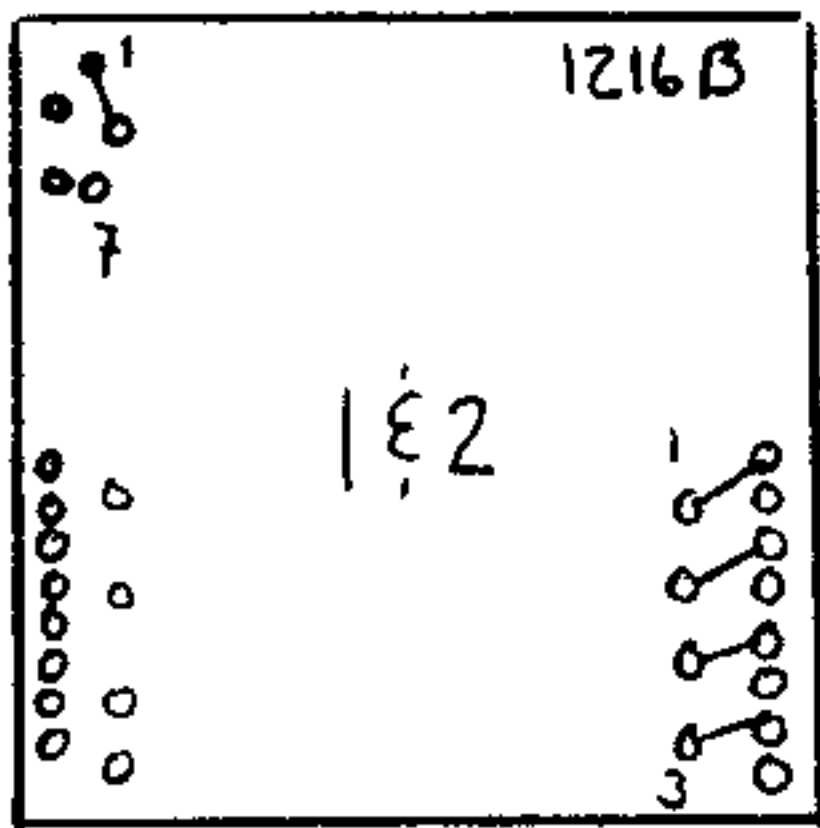
GATE:

GATE: TRIG:

X(Z) → C(H)  
 W(Y) → A(F)  
 B(G) → E(J)  
 C(H) → D(I)

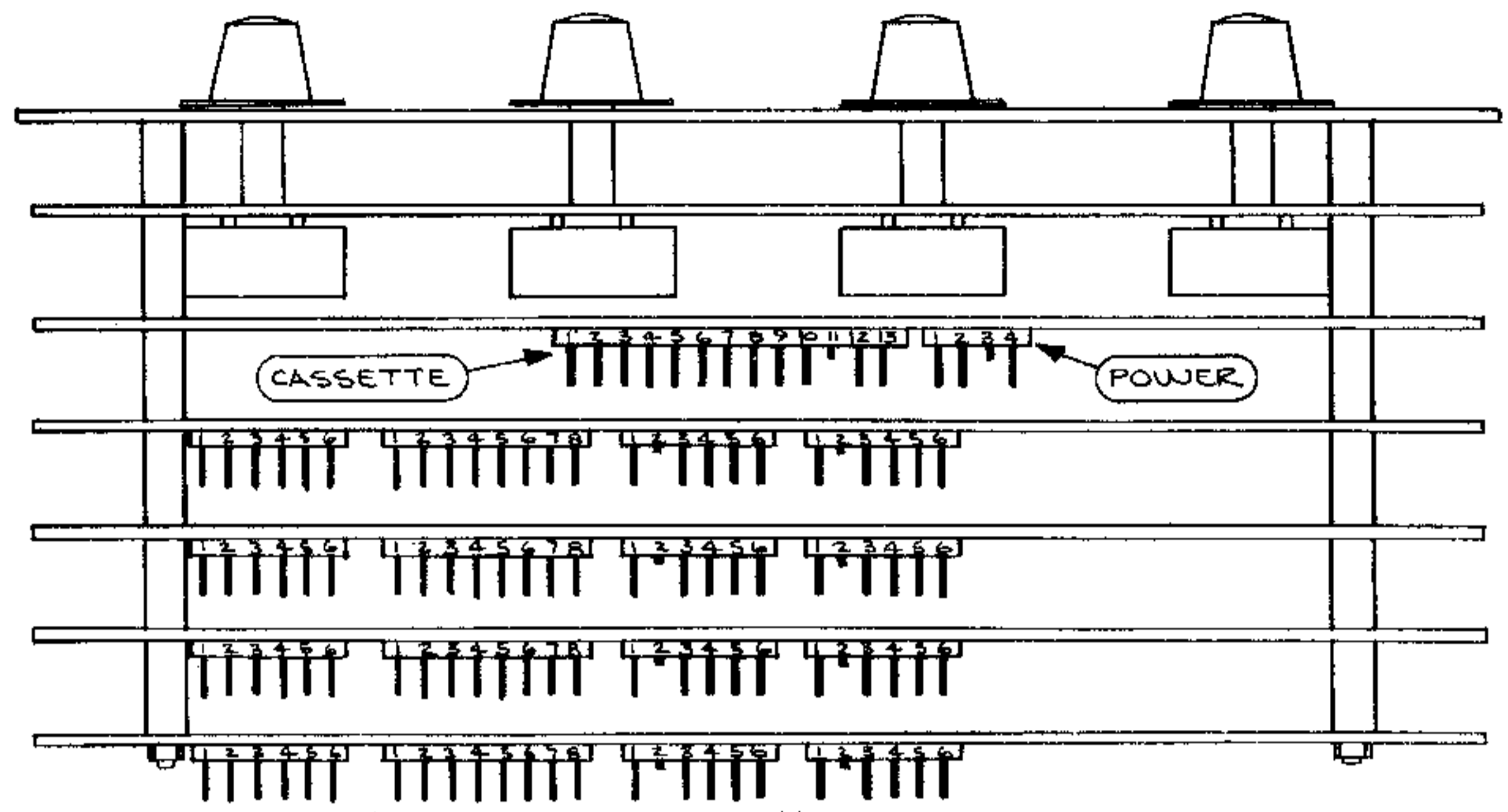
W(Y) → B(G)  
 B(G) → E(J)  
 C(H) → D(I)

TO PIN 7 ON ALL OP AMPS  
 TO PIN 4 ON ALL OP AMPS



CHANNEL T.S.  
 JUMPERING  
 PSP-1  
 6-5-78 1216B

TOP VIEW



FRONT PANEL

POT BOARD

OVERHEAD BOARD

CHANNEL BOARD #1 (CHANNELS 1 & 2)

CHANNEL BOARD #2 (CHANNELS 3 & 4)

CHANNEL BOARD #3 (CHANNELS 5 & 6)

CHANNEL BOARD #4 (CHANNELS 7 & 8)

"A" CONN.      "D" CONN.      "B" CONN.      "C" CONN.

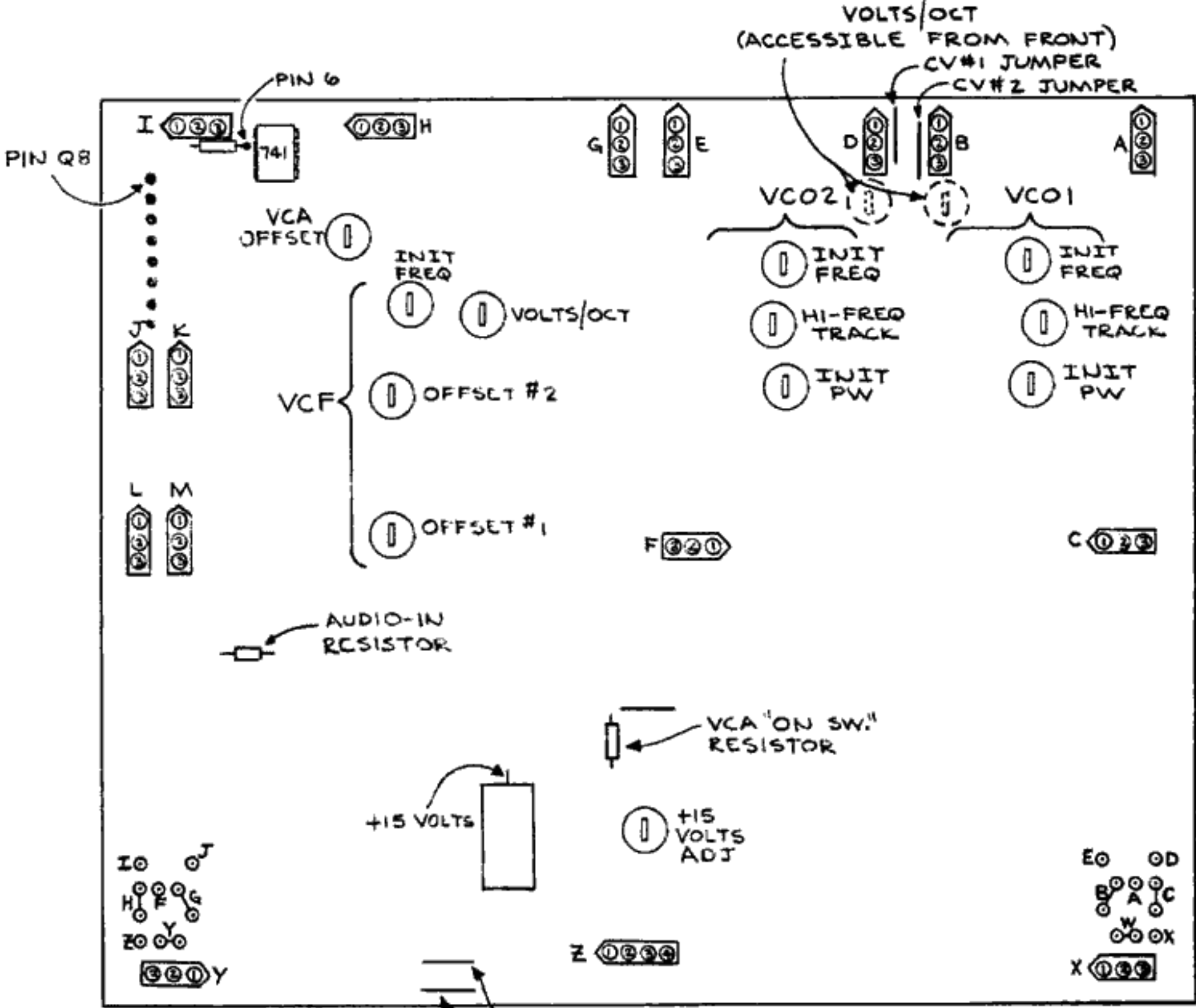
POWER PIN	CONNECTOR FUNCTION
1	+18.5 V
2	GND
3	KEY
4	-18.5 V

A CONNECTOR		D CONNECTOR		B CONNECTOR		C CONNECTOR	
PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION	PIN	FUNCTION
1	KEY 'B' CV "A" (CH'S 1,3,5,7)	1	VCO 2 CV "B" (CH'S 2,4,6,8)	1	GATE "A" (CH'S 1,3,5,7)	1	GATE "B" (CH'S 2,4,6,8)
2	KEY 'B' CV "B" (CH'S 2,4,6,8)	2	VCO 2 CV "A" (CH'S 1,3,5,7)	2	KEY	2	KEY
3	GND	3	VCF ENV "B" (CH'S 2,4,6,8)	3	GND	3	GND
4	GND	4	VCF ENV "A" (CH'S 1,3,5,7)	4	NOT USED	4	NOT USED
5	KEY 'B' GATE "B" (CH'S 2,4,6,8)	5	VCF CV "B" (CH'S 2,4,6,8)	5	NOT USED	5	NOT USED
6	KEY 'B' GATE "A" (CH'S 1,3,5,7)	6	VCF CV "A" (CH'S 1,3,5,7)	6	VCO 1 CV "A" (CH'S 1,3,5,7)	6	VCO 1 CV "B" (CH'S 2,4,6,8)
		7	VCA ENV "B" (CH'S 2,4,6,8)				
		8	VCA ENV "A" (CH'S 1,3,5,7)				

OBERHEIM ELECTRONICS, INC

PROGRAMMER  
INPUT-OUTPUT CONNECTOR  
PLACEMENTS

DEC. 15, 1976



GATE JUMPER TRIG JUMPER 2-15-75 REV 8-31-78