

SERVICE MANUAL

Matrix-12

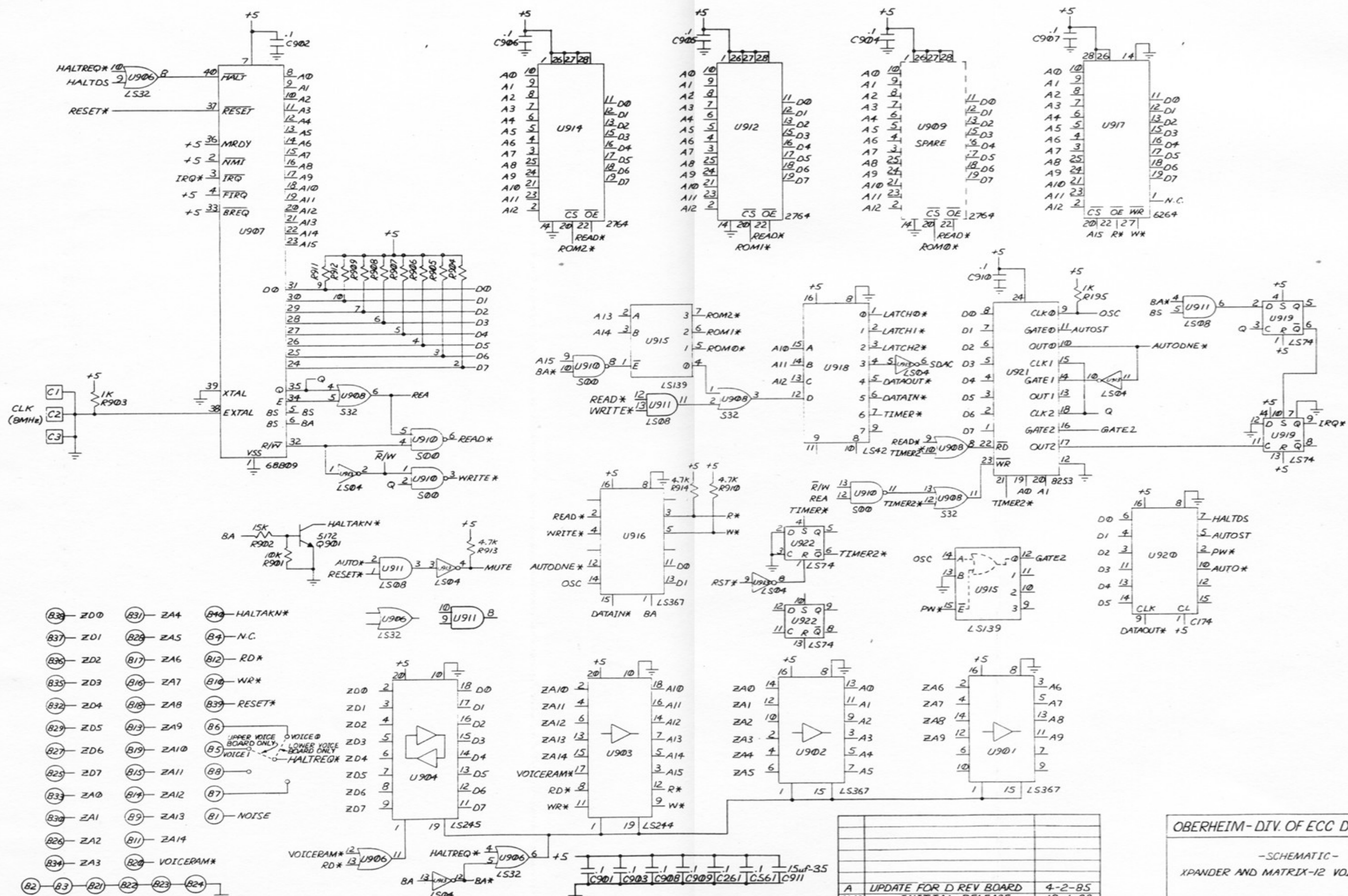


OBERHEIM

A Division of ECC Development Corporation

Preliminary Edition





- (B36) ZD0 (B31) ZA4 (B40) HALTAKN*
- (B37) ZD1 (B28) ZA5 (B4) N.C.
- (B38) ZD2 (B17) ZA6 (B12) RD*
- (B35) ZD3 (B16) ZA7 (B10) WR*
- (B32) ZD4 (B18) ZA8 (B37) RESET*
- (B29) ZD5 (B13) ZA9 (B6) VOICERAM*
- (B27) ZD6 (B19) ZA10 (B5) VOICERAM*
- (B25) ZD7 (B15) ZA11 (B8) NOISE
- (B33) ZA0 (B14) ZA12 (B7) NOISE
- (B30) ZA1 (B9) ZA13 (B1) NOISE
- (B26) ZA2 (B11) ZA14
- (B34) ZA3 (B20) VOICERAM*

A	UPDATE FOR D REV BOARD	4-2-85
N/C	INITIAL RELEASE	12-1-83
LTR	REVISION	DATE

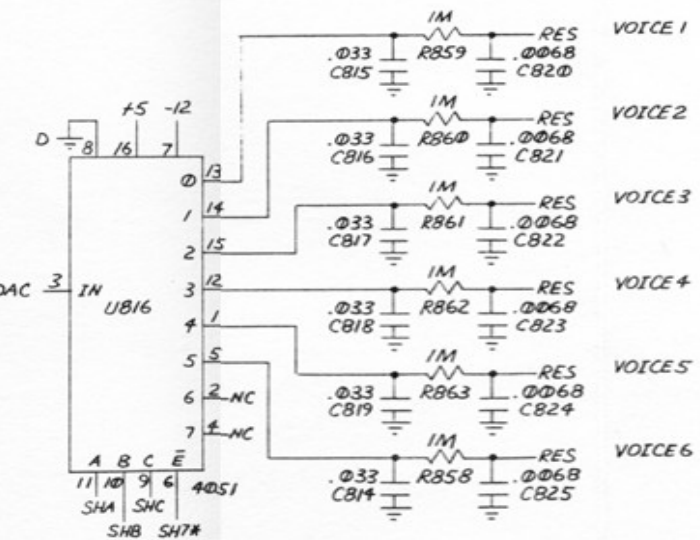
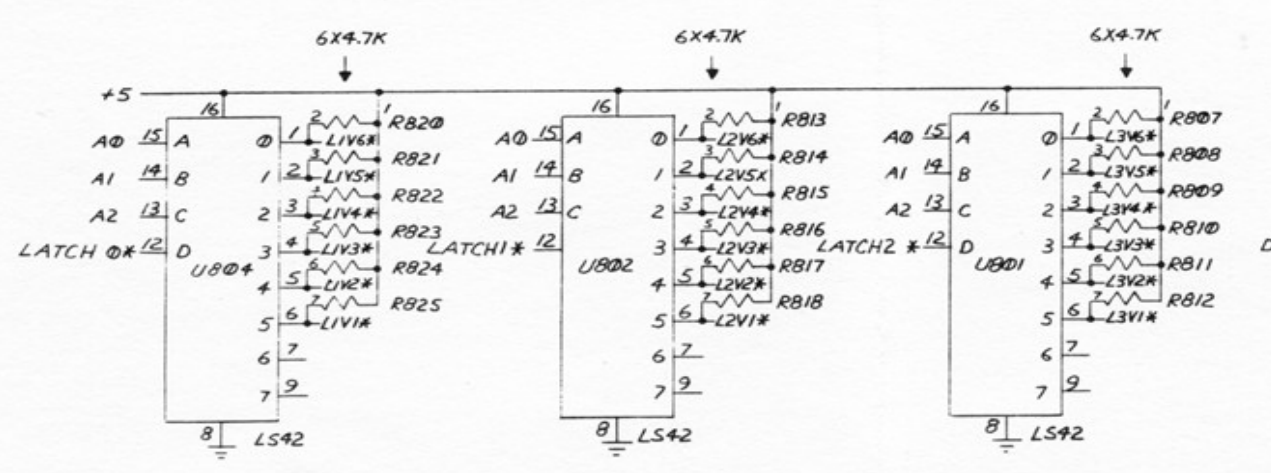
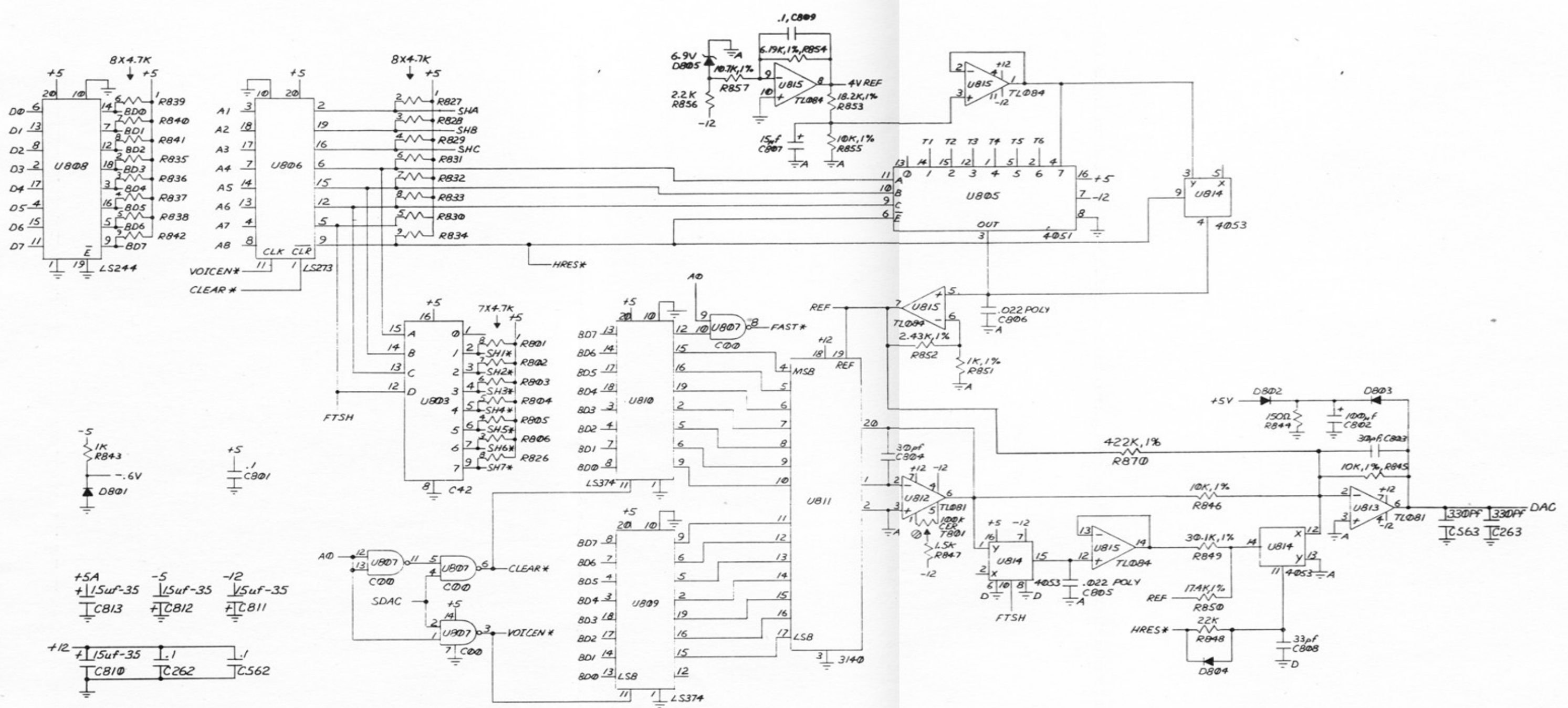
OBERHEIM-DIV. OF ECC DEV. CORP.

-SCHEMATIC-

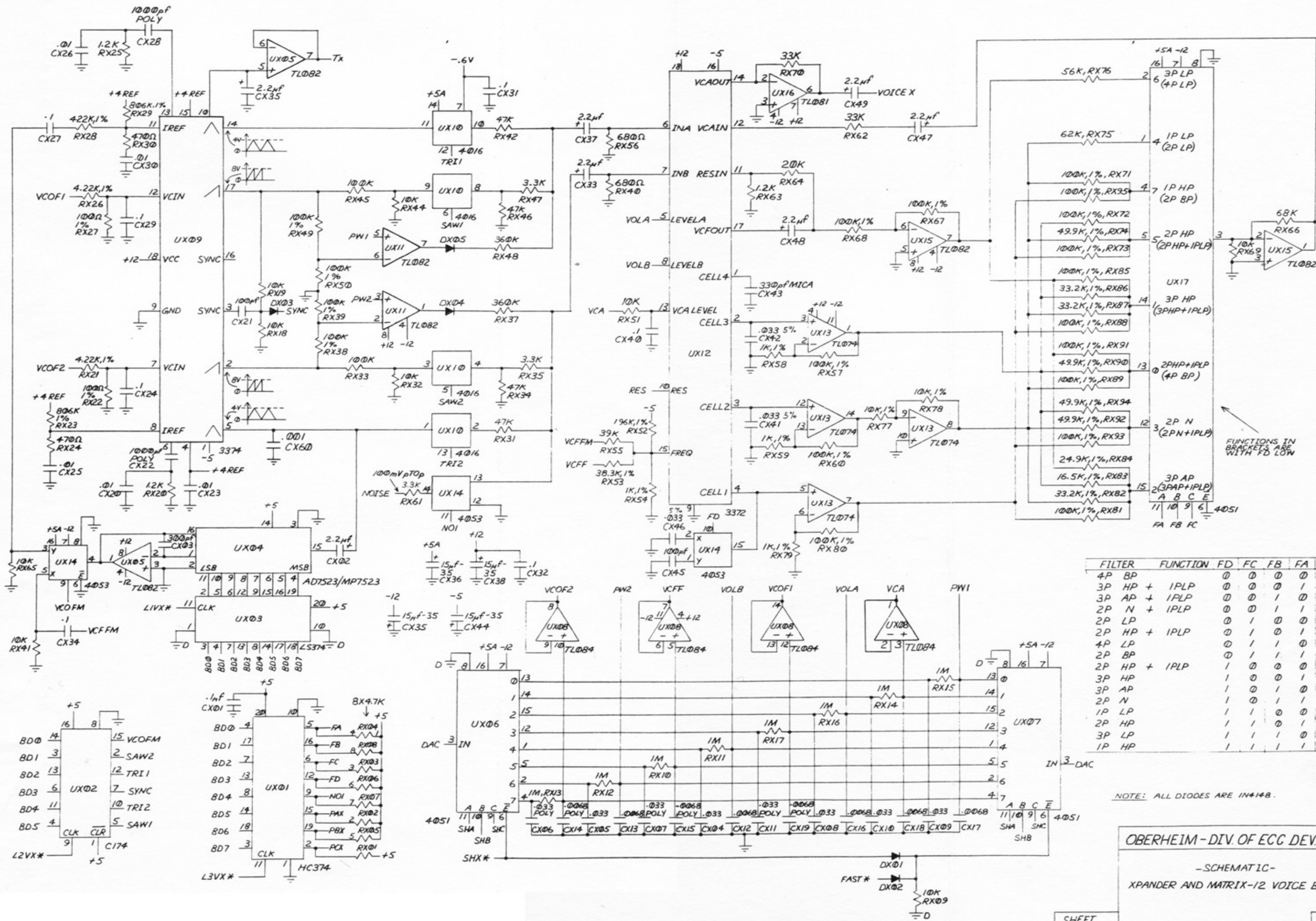
XPANDER AND MATRIX-12 VOICE BOARD

J.R.

1808A



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 -SCHEMATIC-
 XPANDER AND MATRIX-12 VOICE BOARD



FILTER	FUNCTION	FD	FC	FB	FA
4P BP		0	0	0	0
3P HP + IPLP		0	0	0	1
3P AP + IPLP		0	0	1	0
2P N + IPLP		0	0	1	1
2P LP		0	1	0	0
2P HP + IPLP		0	1	0	1
4P LP		0	1	1	0
2P BP		0	1	1	1
2P HP + IPLP		1	0	0	0
3P HP		1	0	0	1
3P AP		1	0	1	0
2P N		1	0	1	1
1P LP		1	1	0	0
2P HP		1	1	0	1
3P LP		1	1	1	0
1P HP		1	1	1	1

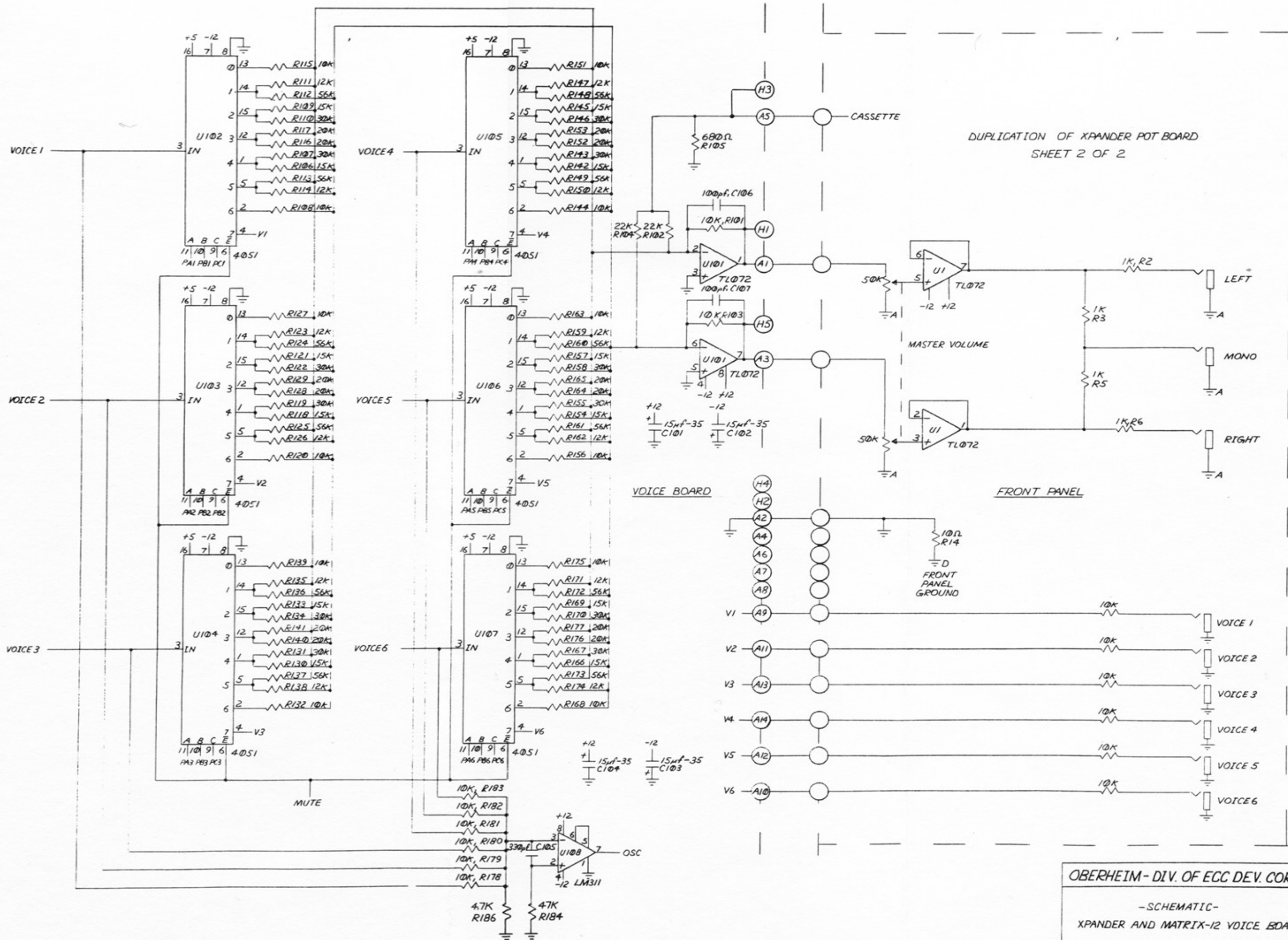
NOTE: ALL DIODES ARE 1N4148.

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-SCHEMATIC-
XPANDER AND MATRIX-12 VOICE BOARD

SHEET 3 OF 4

J.R.

1808A



DUPLICATION OF XPANDER POT BOARD
SHEET 2 OF 2

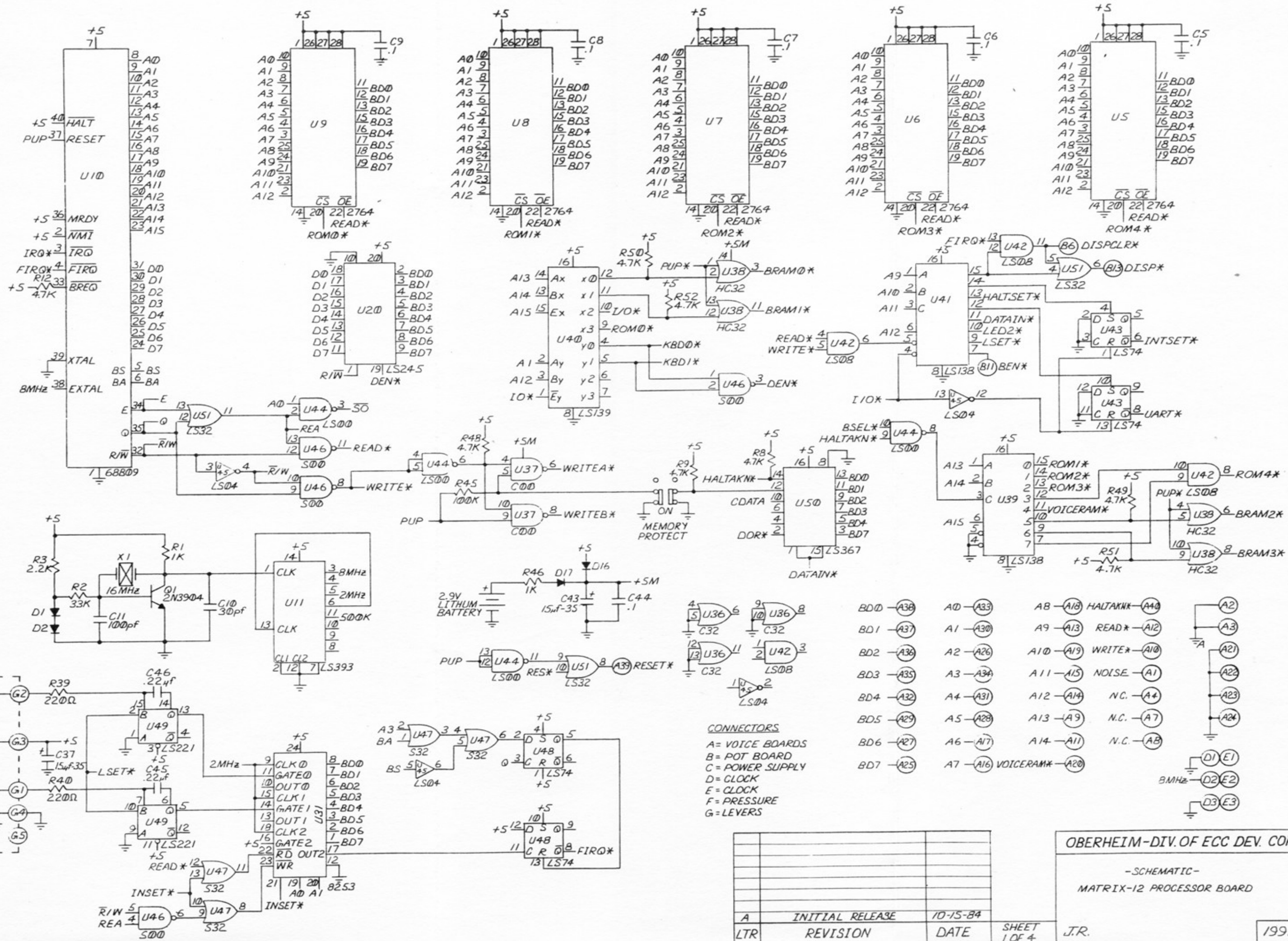
OBERHEIM - DIV. OF ECC DEV. CORP.

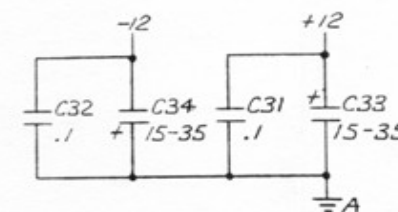
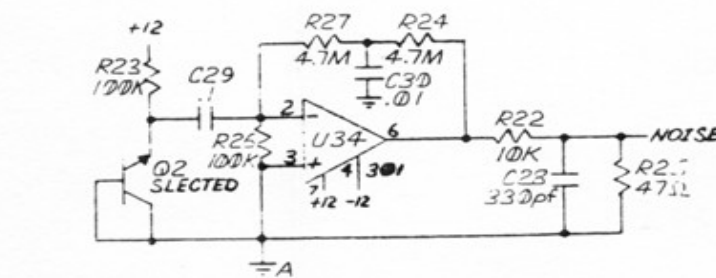
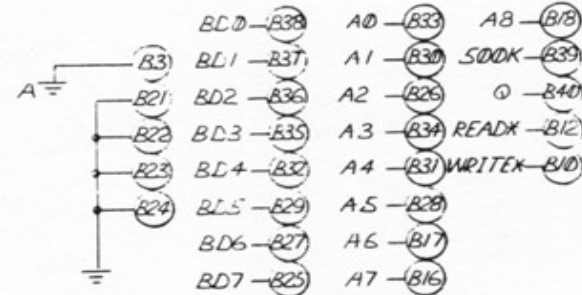
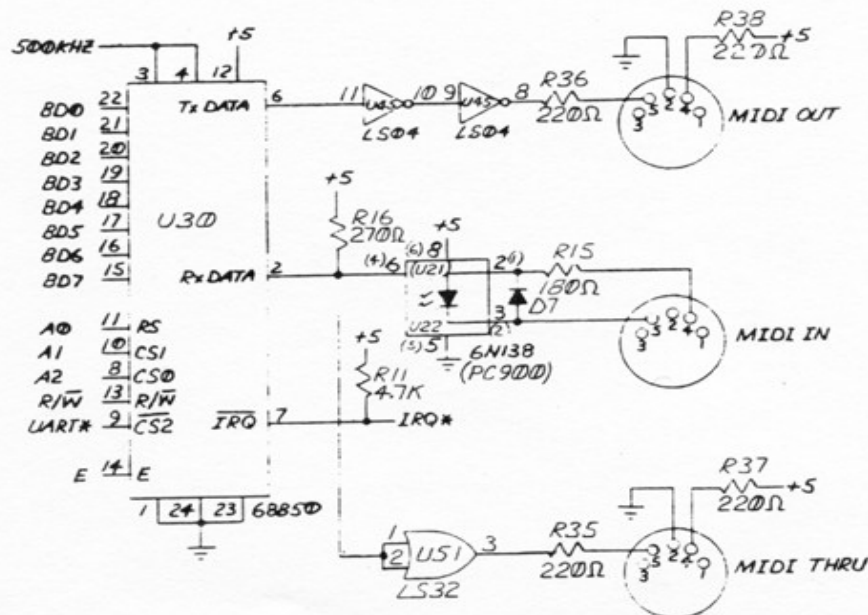
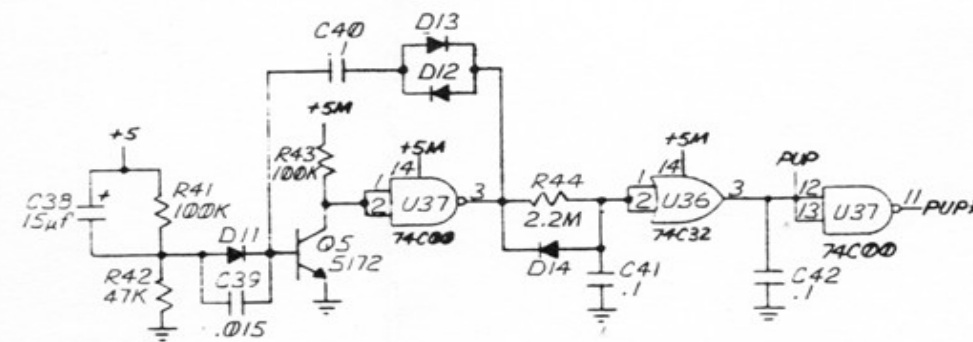
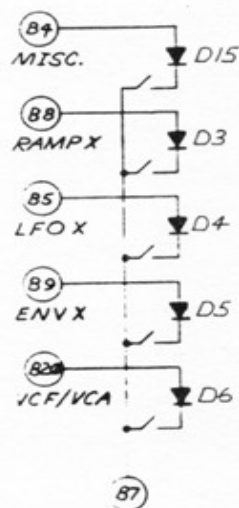
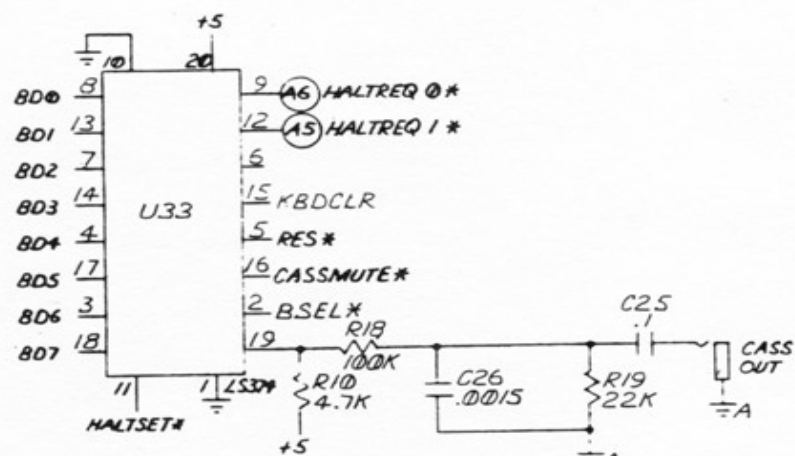
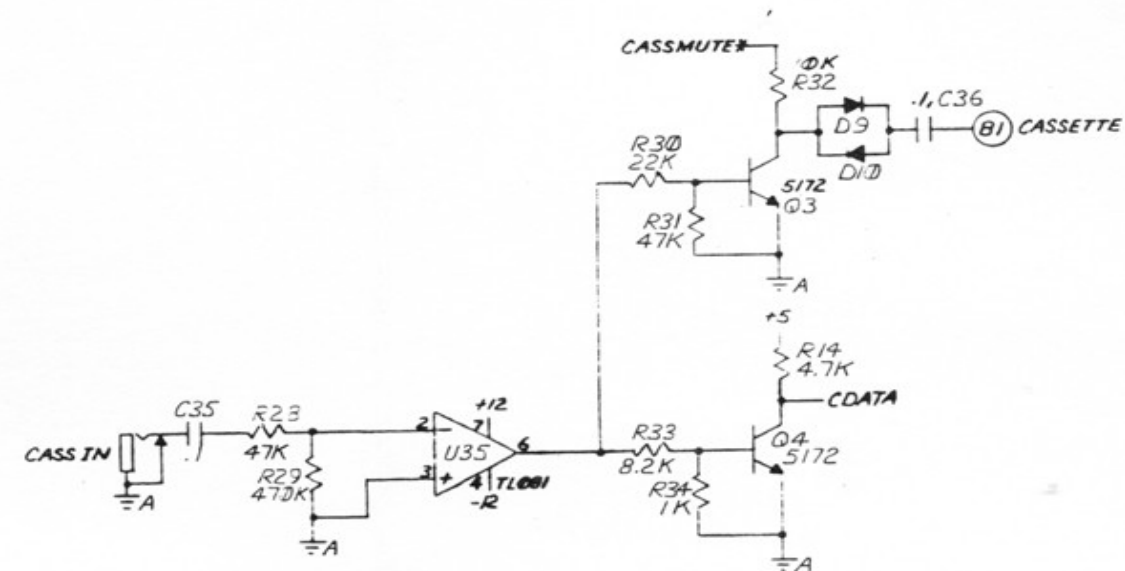
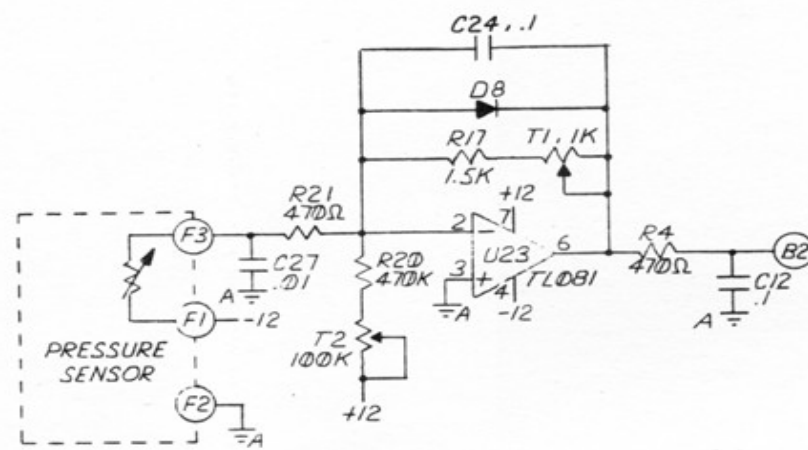
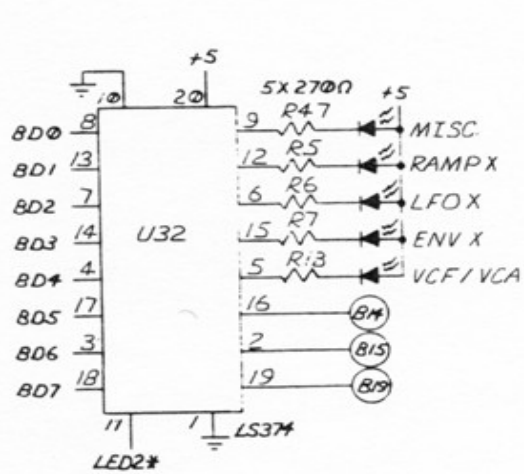
- SCHEMATIC -
XPANDER AND MATRIX-12 VOICE BOARD

SHEET
4 OF 4

J.R.

1808A





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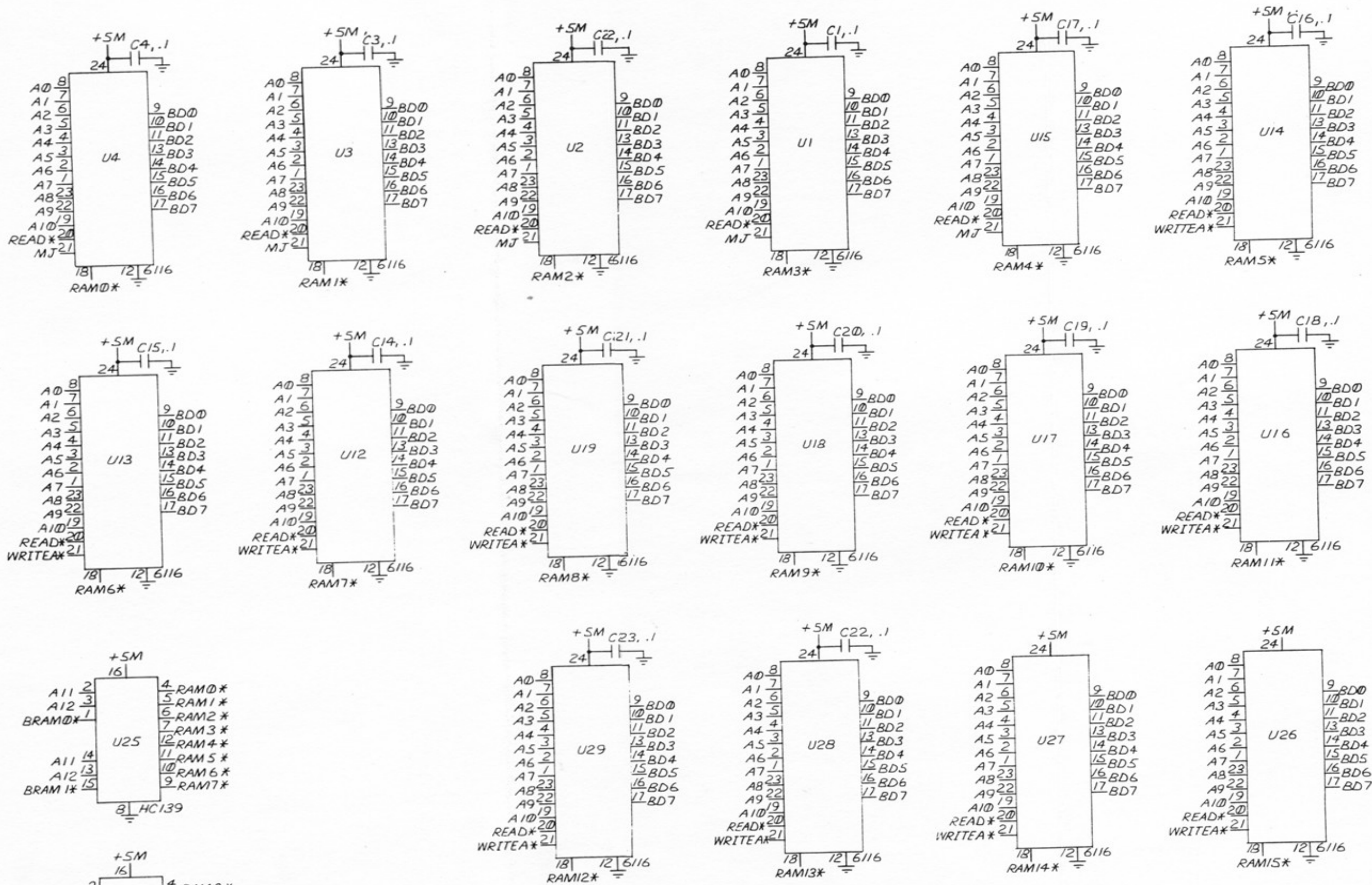
-SCHEMATIC-

MATRIX-12 PROCESSOR BOARD

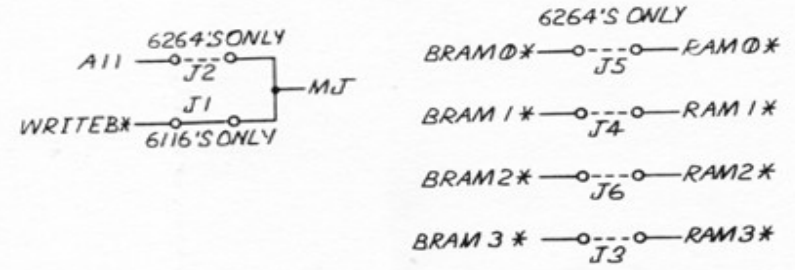
SHEET 4

J.R.

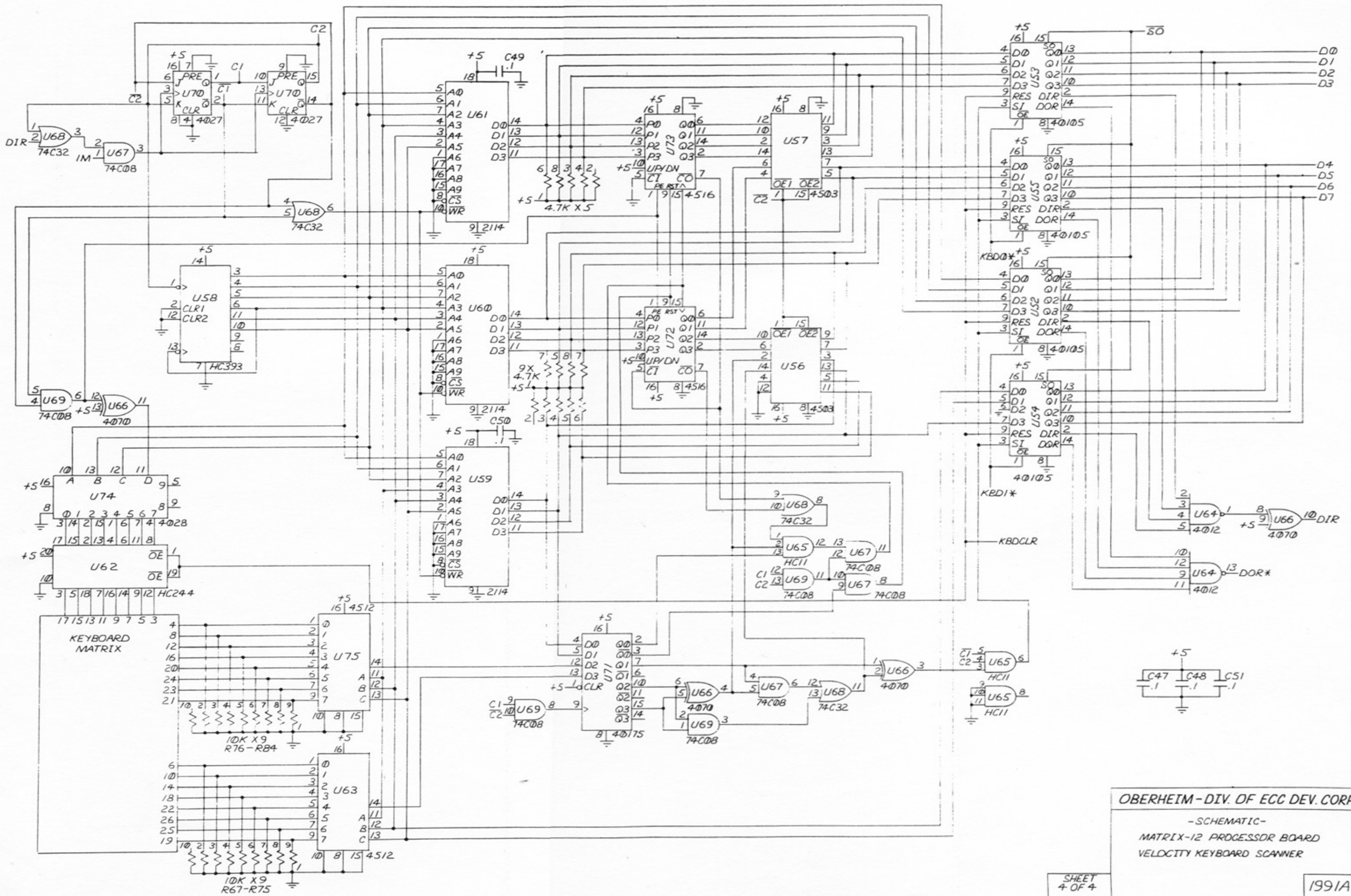
1991A



U24 AND U25 ARE LEFT OFF WHEN USING 6264'S.



OBERHEIM-DIV. OF ECC DEV. CORP.
-SCHEMATIC-
MATRIX-12 PROCESSOR BOARD

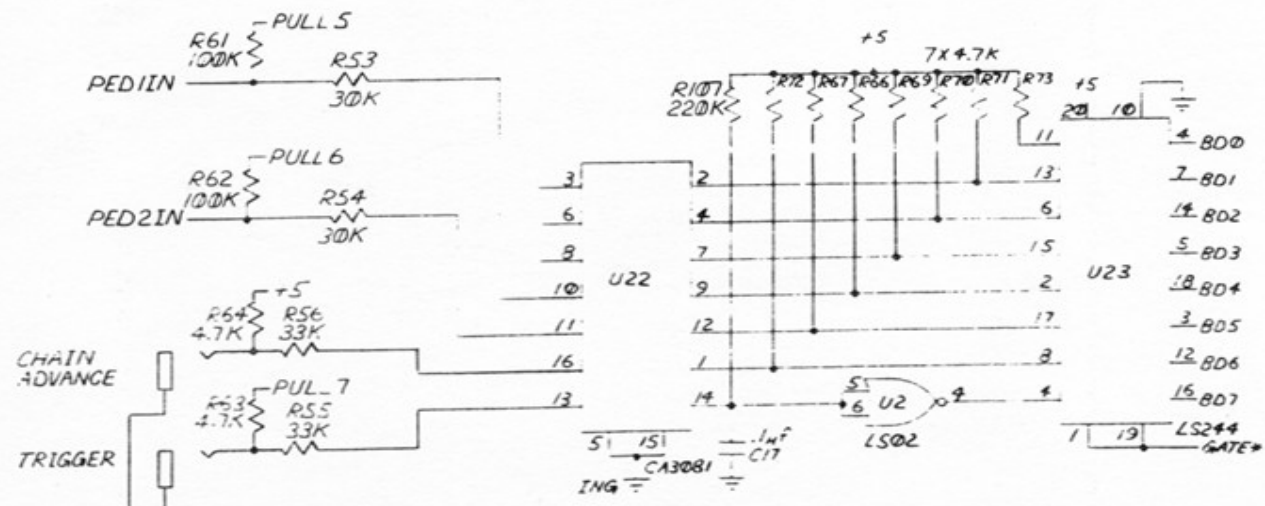
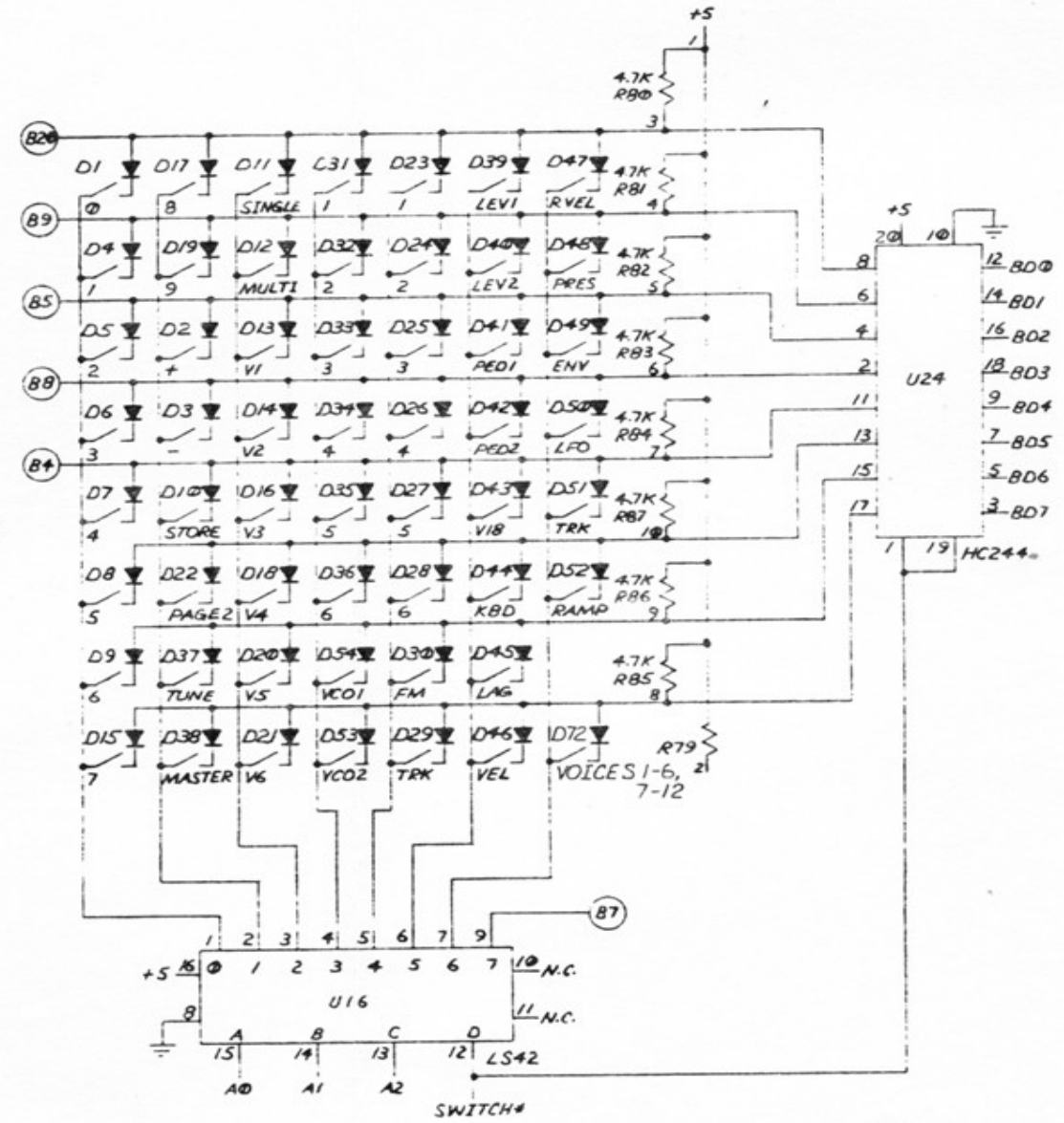
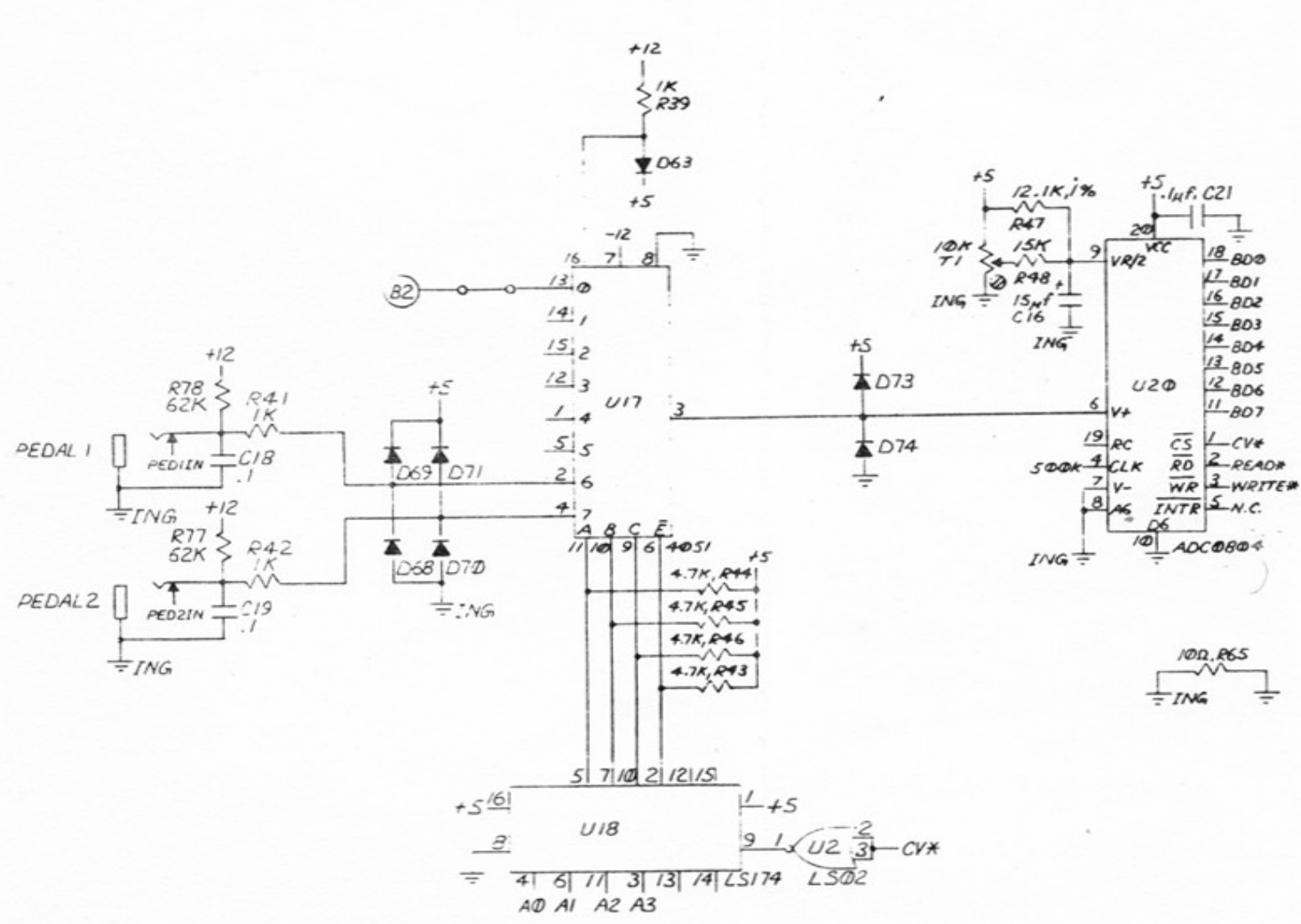


OBERHEIM-DIV. OF ECC DEV. CORP.

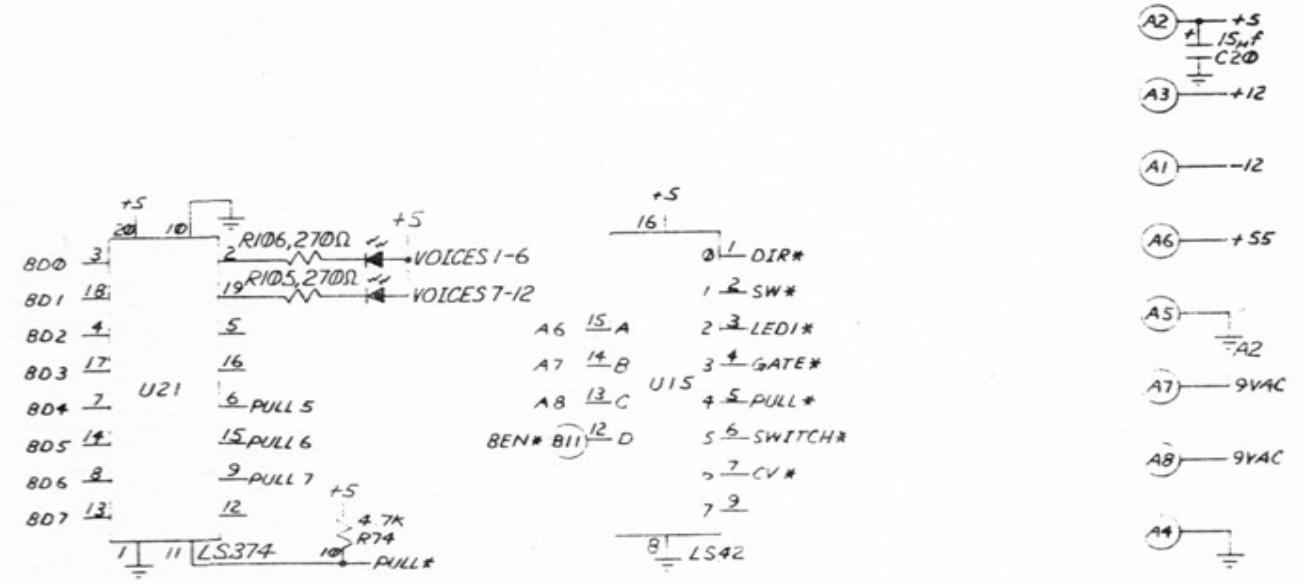
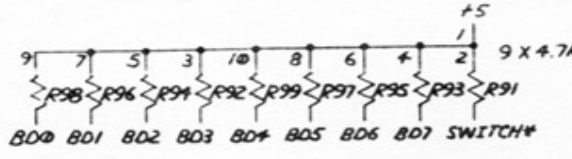
-SCHEMATIC-
MATRIX-12 PROCESSOR BOARD
VELOCITY KEYBOARD SCANNER

SHEET
4 OF 4

1991A



NOTE - ALL DIODES ARE IN4148.

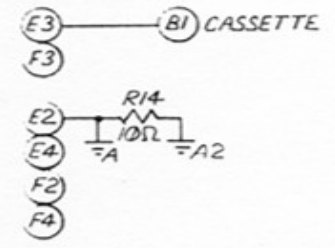
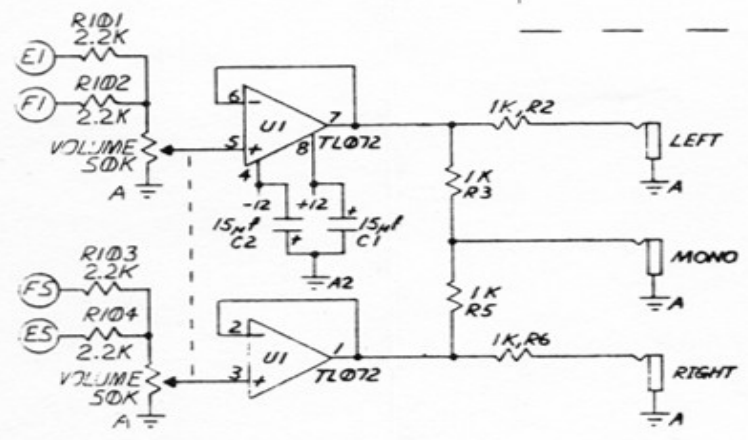
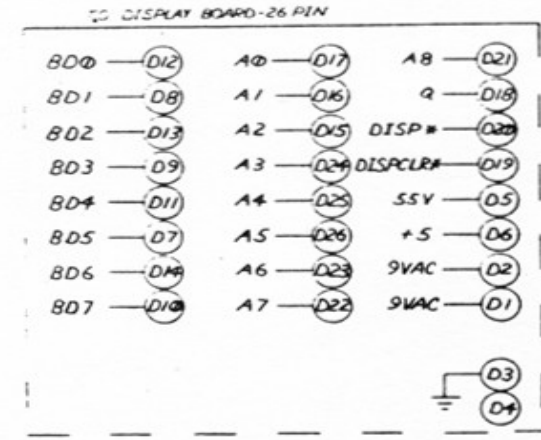
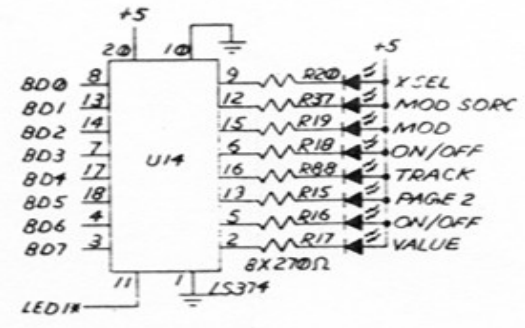
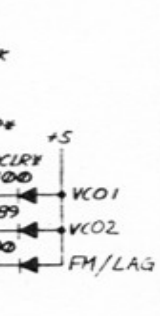
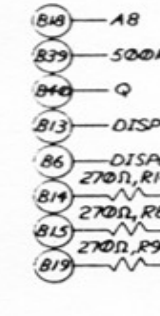
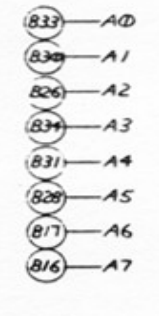
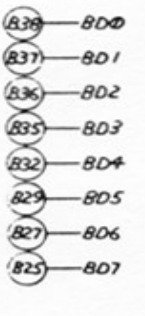
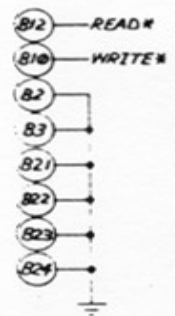
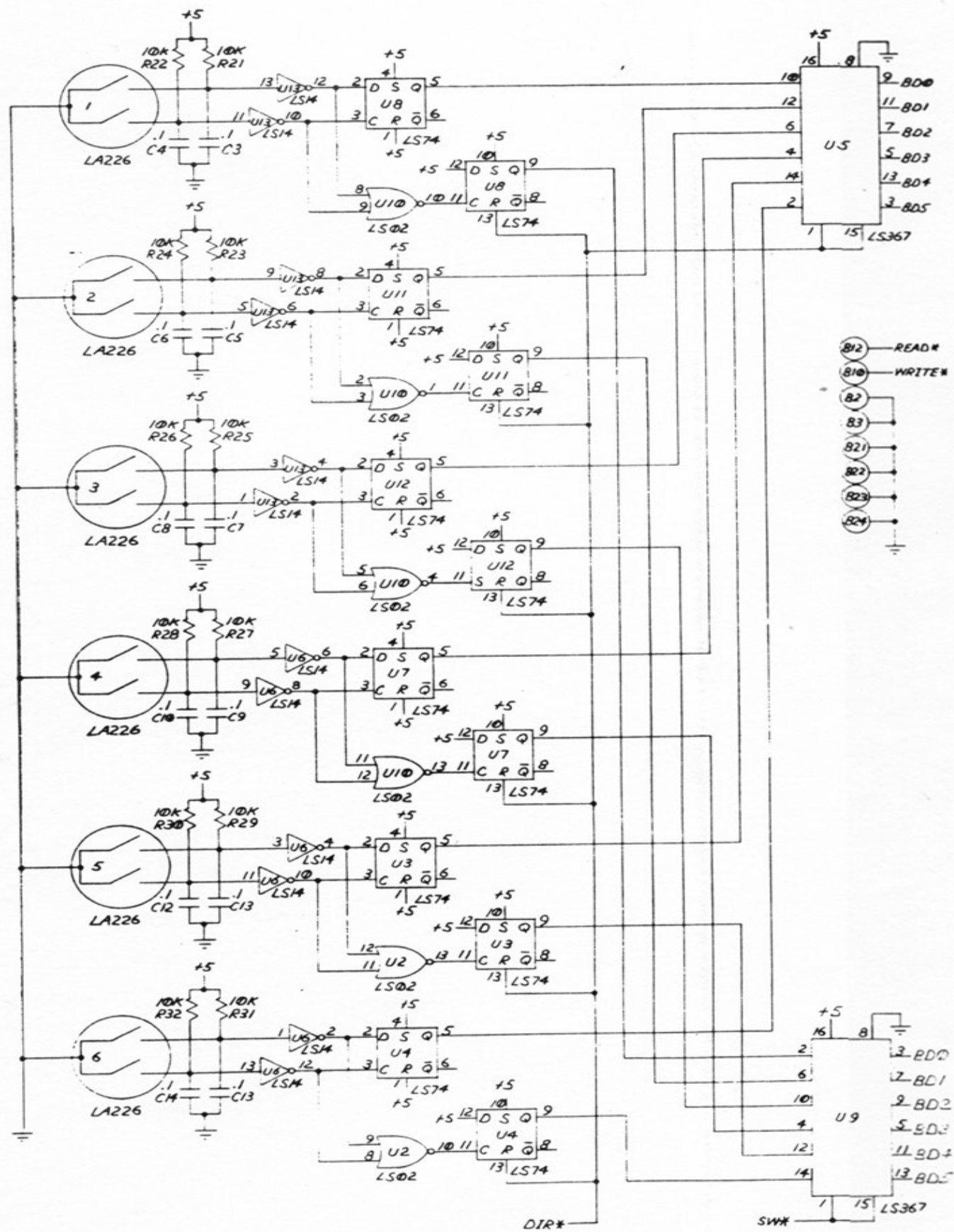


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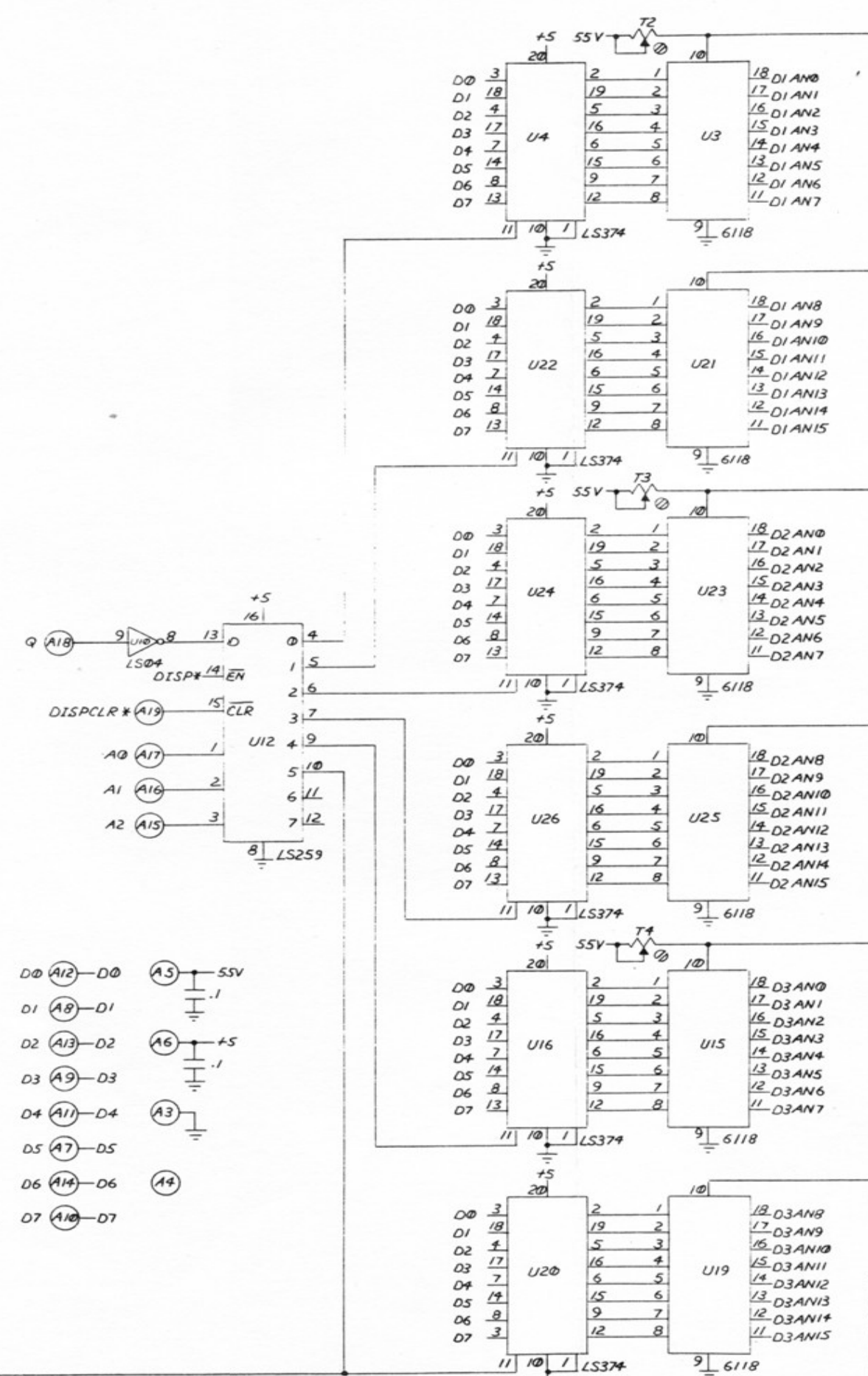
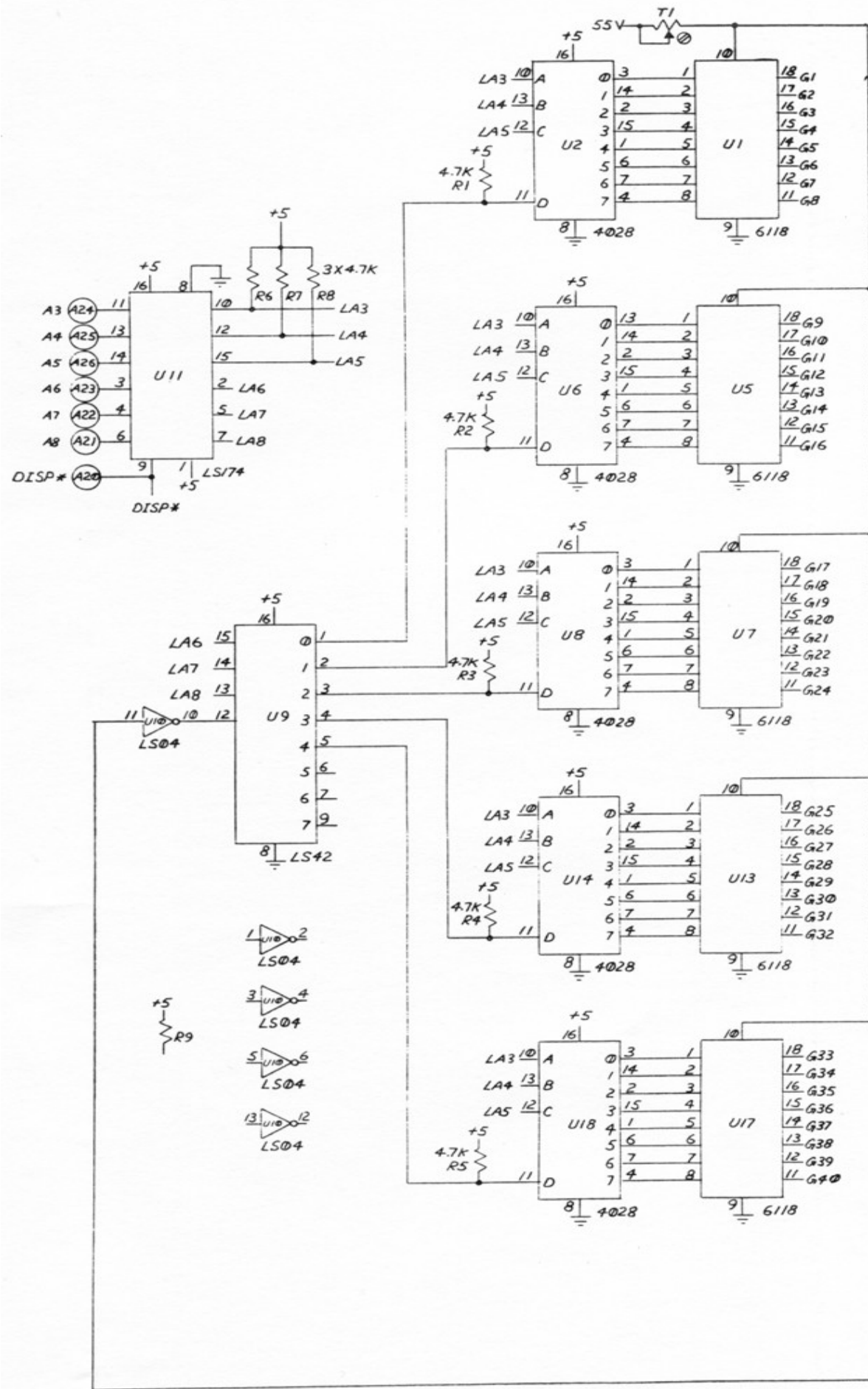
- SCHEMATIC -
MATRIX-12 POT BOARD

A	INITIAL RELEASE	10-15-84	SHEET 1 OF 2
LTR	REVISION	DATE	

2056A

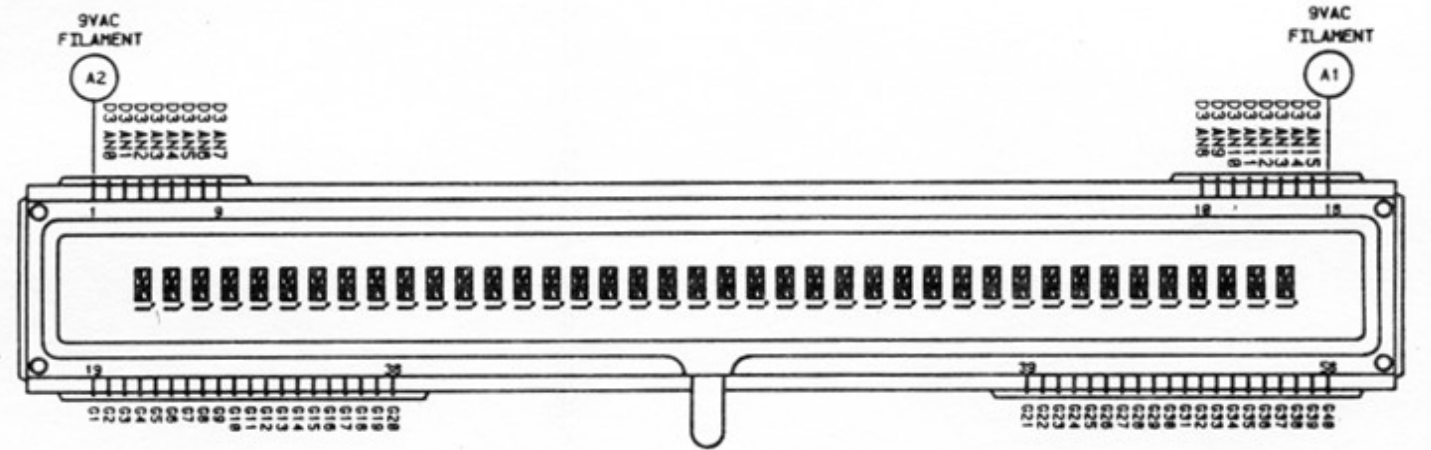
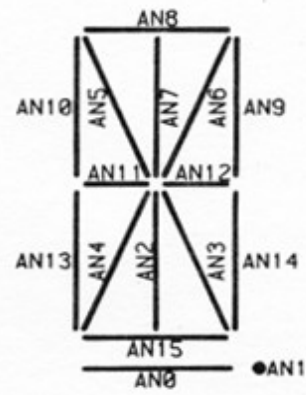
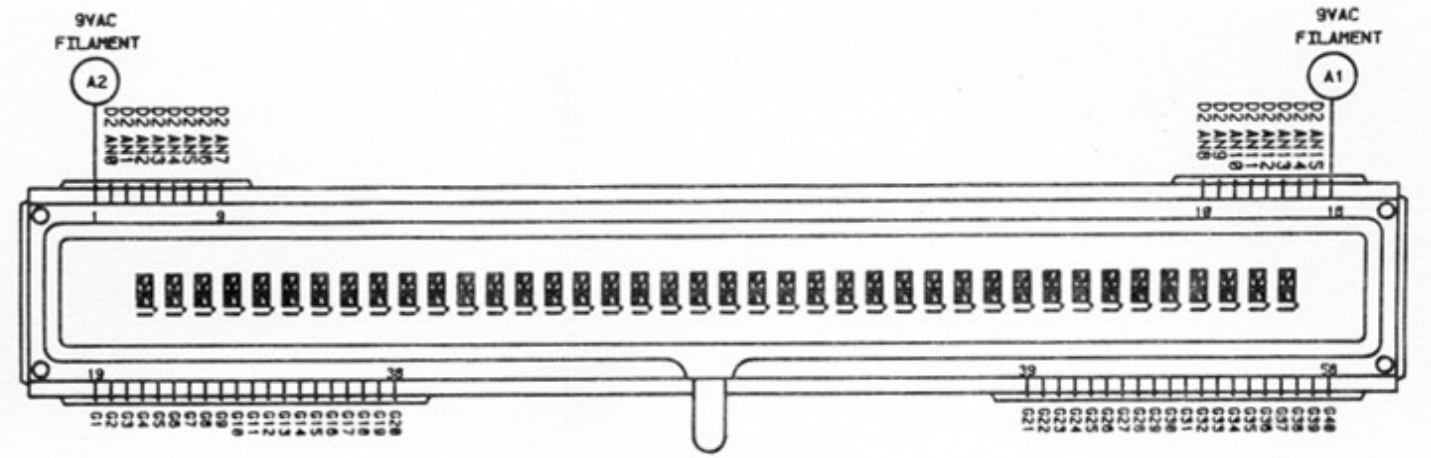
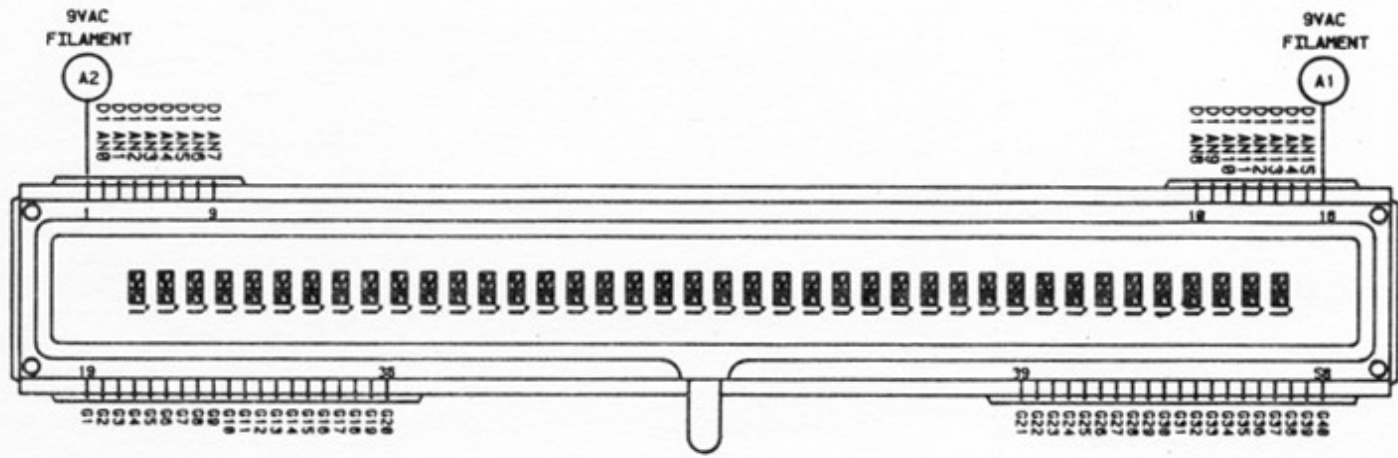


OBERHEIM-DIV. OF ECC DEV. CORP.
-SCHEMATIC-
MATRIX-12 POT BOARD



- D0 (A12) - D0 (A5) 55V
- D1 (A8) - D1 (A1) .1
- D2 (A13) - D2 (A6) +5
- D3 (A9) - D3 (A3) .1
- D4 (A11) - D4 (A3) GND
- D5 (A7) - D5 (A3)
- D6 (A14) - D6 (A4)
- D7 (A10) - D7 (A4)

OBERHEIM-DIV. OF ECC DEV. CORP.
 - SCHEMATIC -
 MATRIX-12 AND XPANDER DISPLAY BOARD



LTR	REVISION	DATE

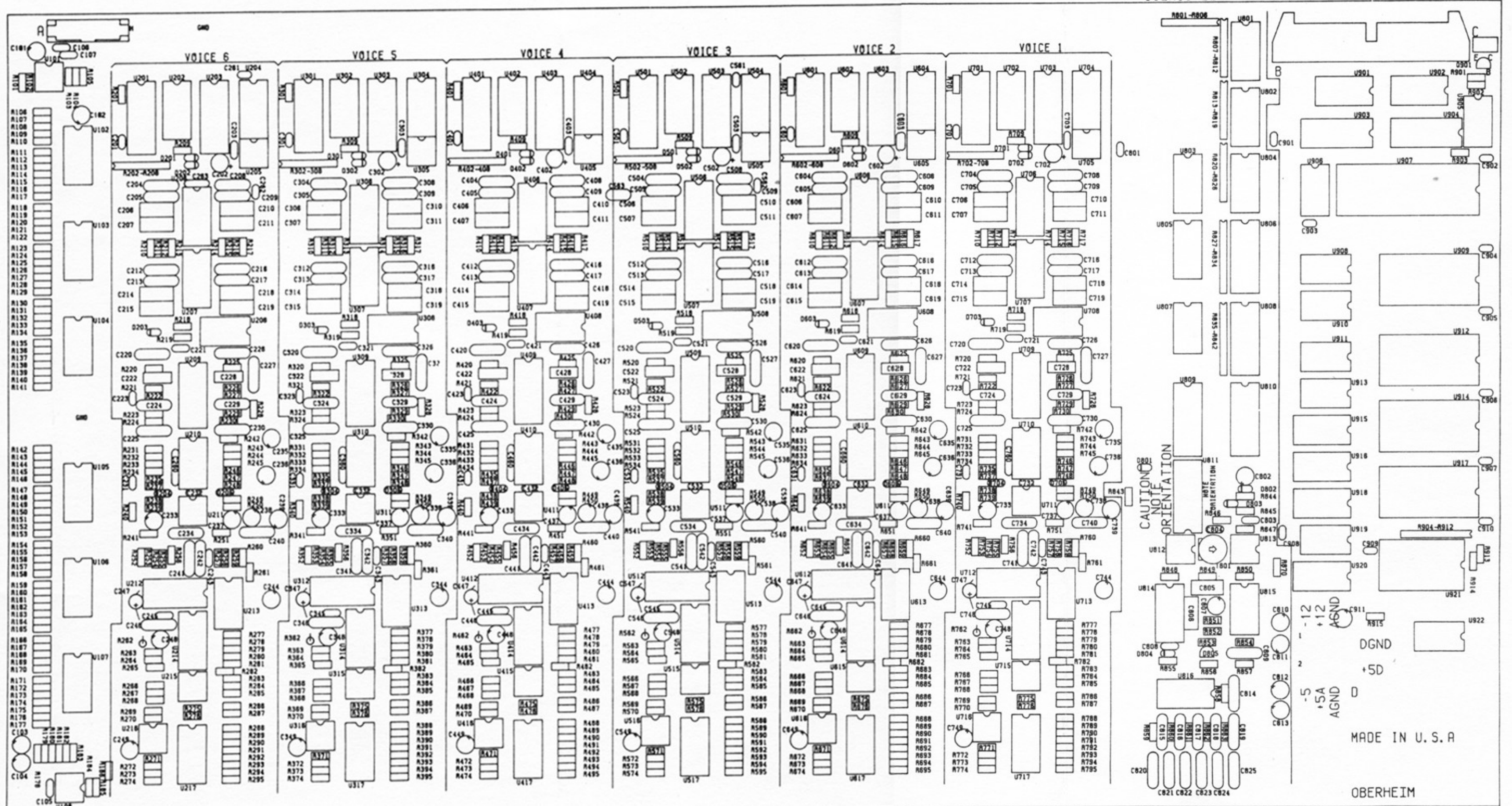
OBERHEIM-DIV. OF ECC DEV. CORP.

-SCHEMATIC-

MATRIX-12 AND XPANDER DISPLAY BOARD

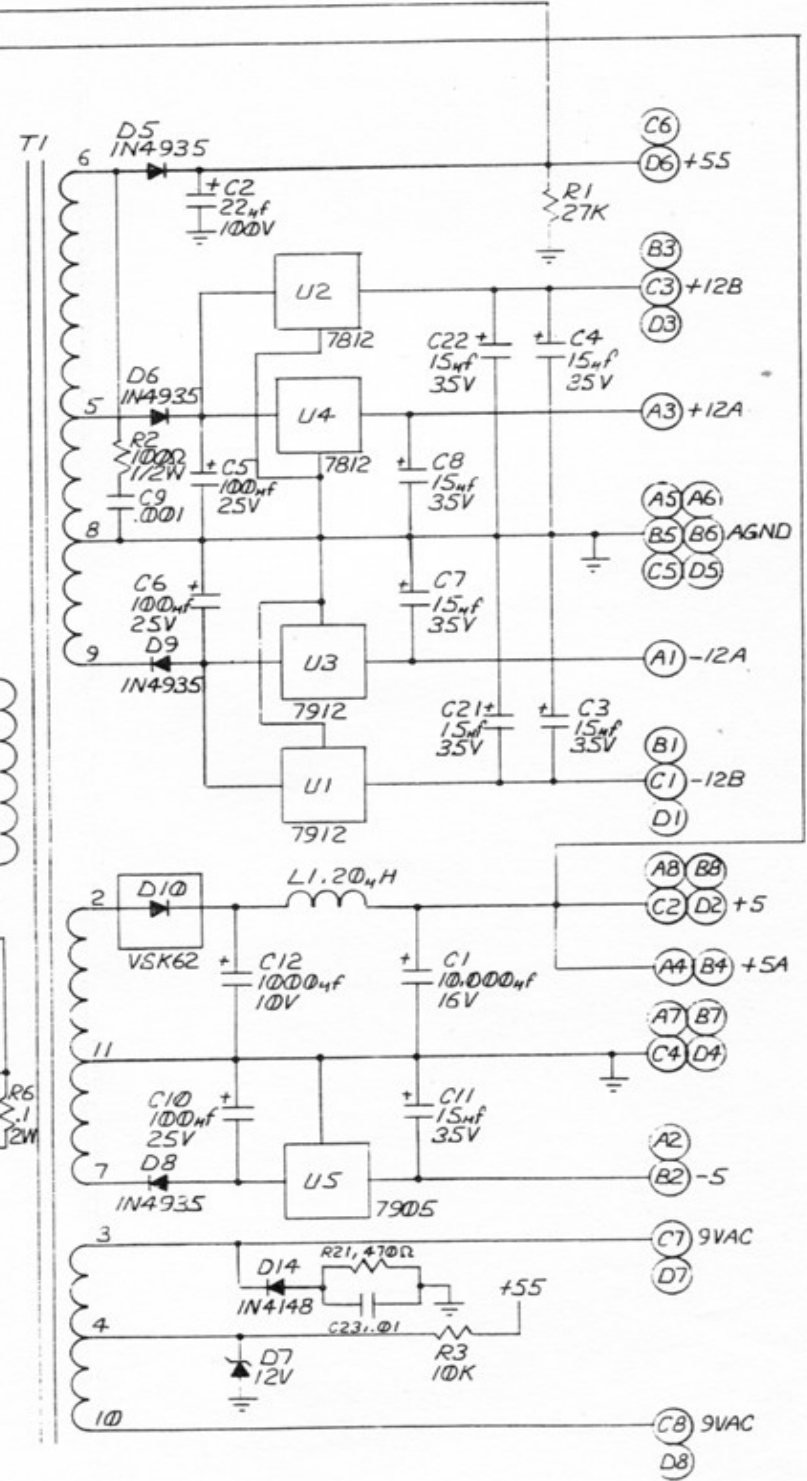
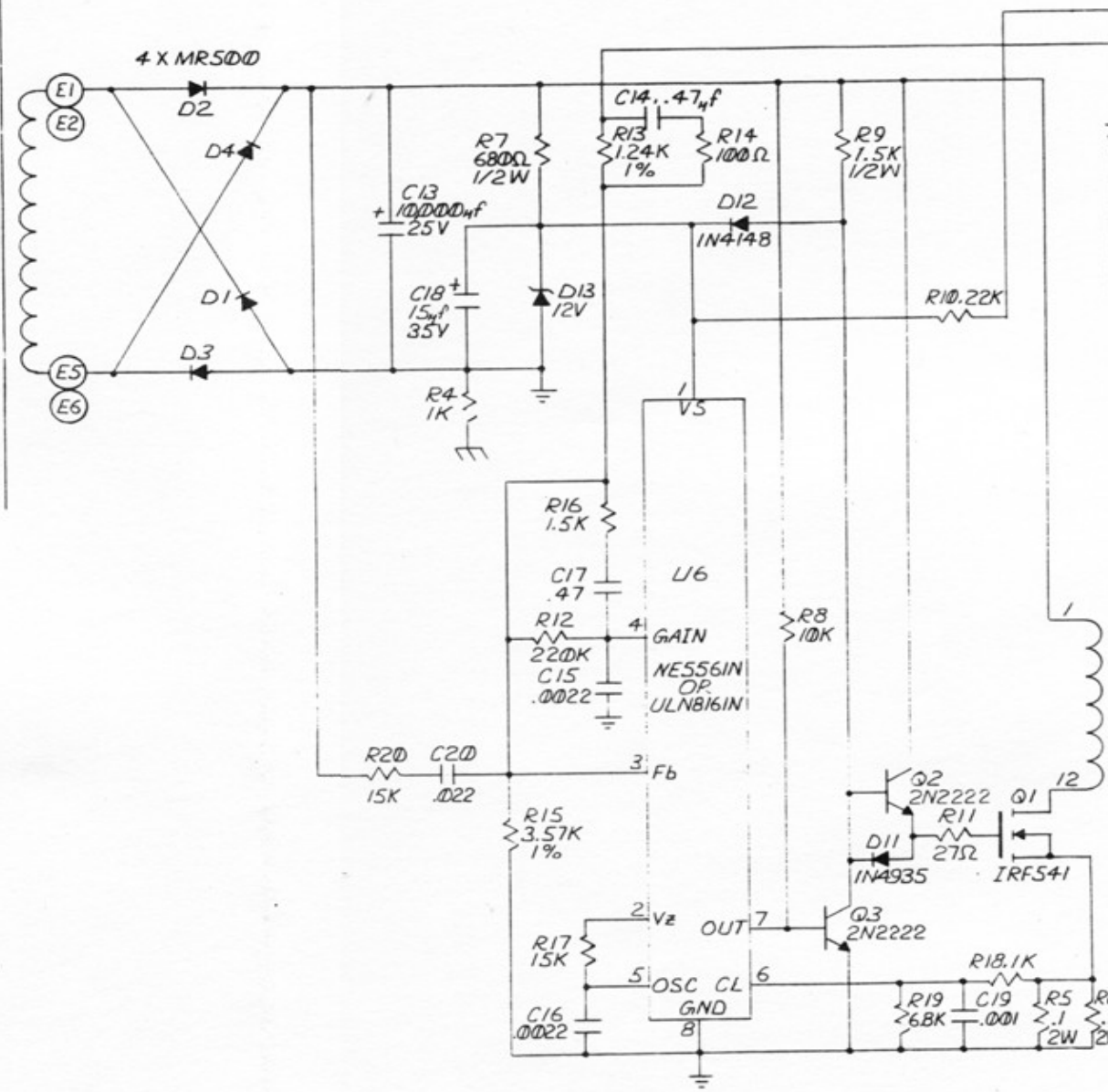
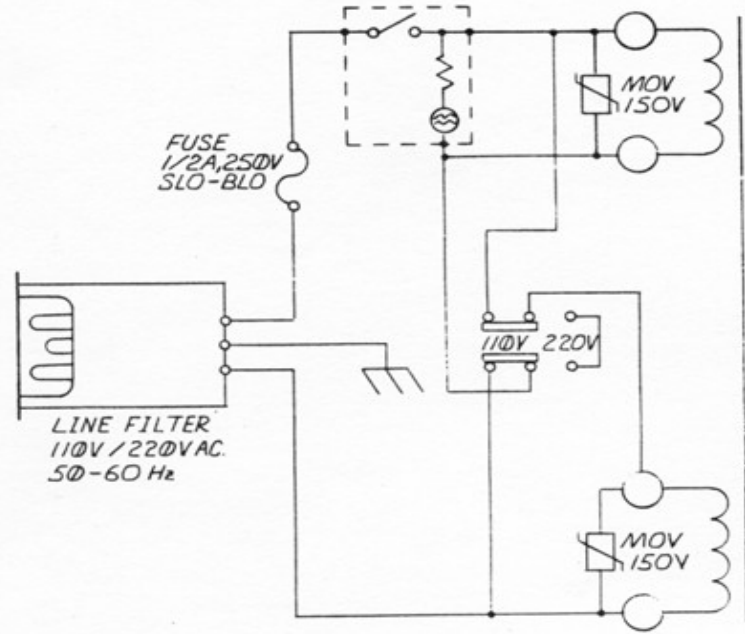
J. R.

1841



OBERHEIM-DIV. OF ECC DEV. CORP.

-PARTS LAYOUT-
MATRIX-12 VOICE BOARD



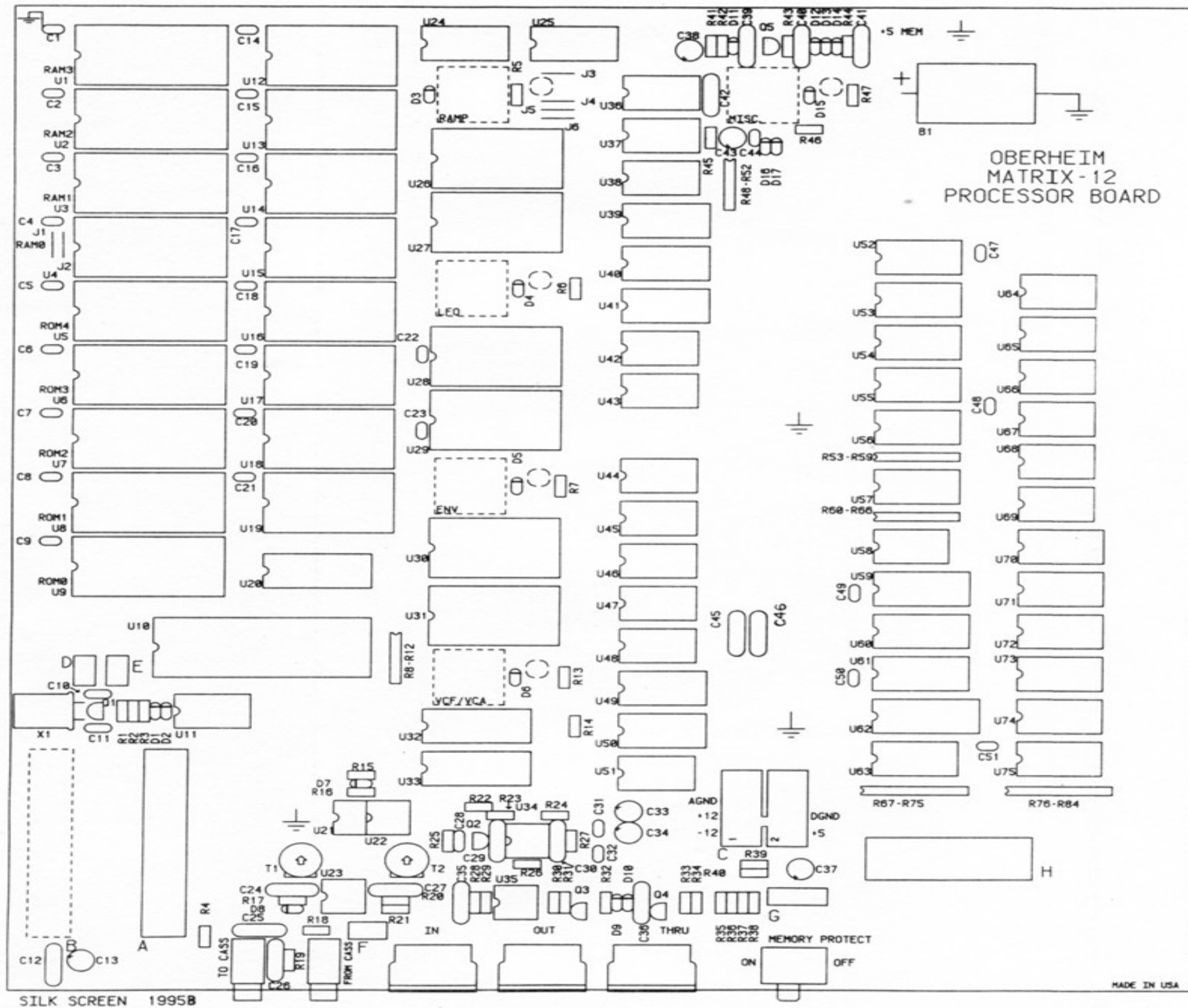
U6
Q3
R21
L1
D14
C23
LAST COMPONENT #'S USED

A	INITIAL RELEASE	10-15-84
LTR	REVISION	DATE

OBERHEIM - DIV. OF ECC DEV. CORP.

-SCHEMATIC-
MATRIX-12 POWER SUPPLY

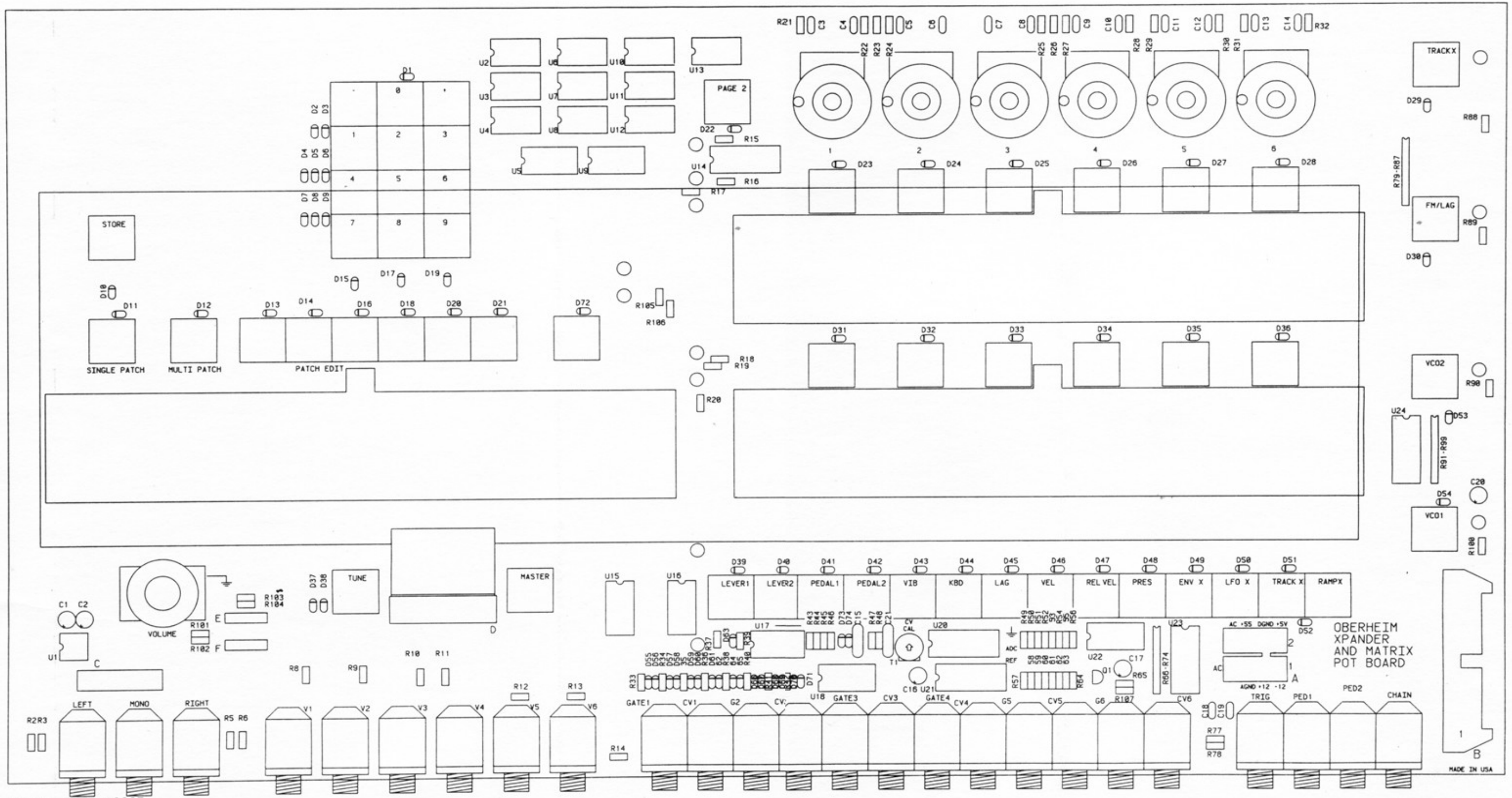
1925A



OBERHEIM-DIV. OF ECC DEV. CORP.

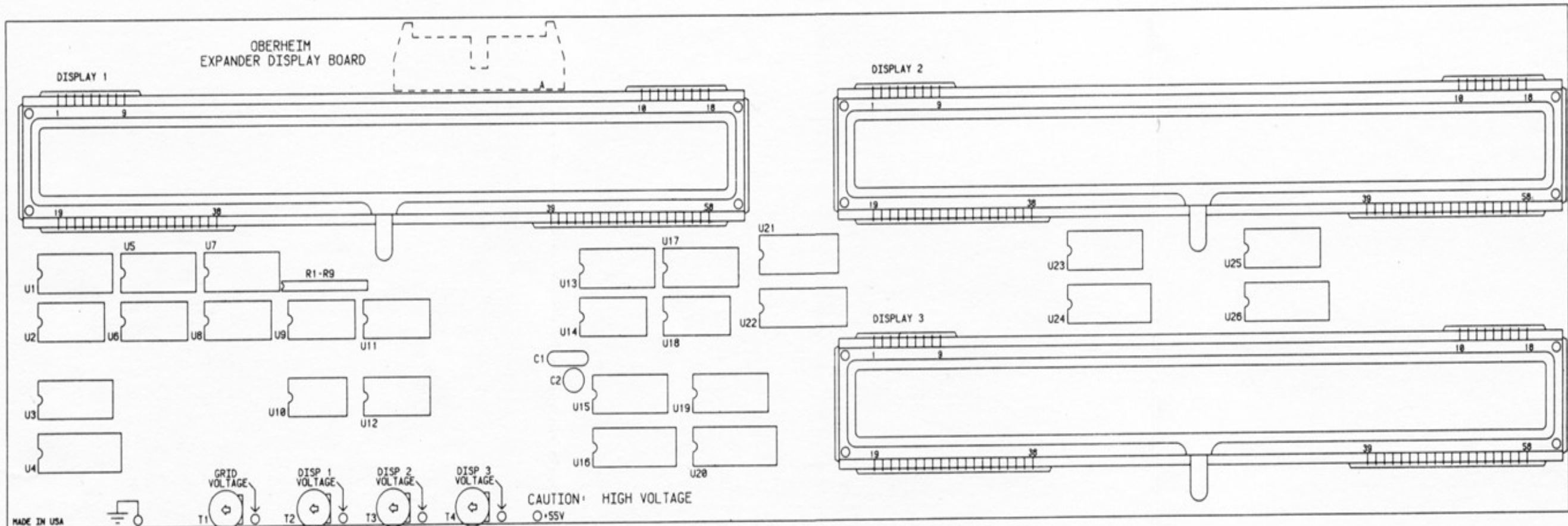
-PARTS LAYOUT-
MATRIX-12 PROCESSOR BOARD

1998B



SILK SCREEN 1863E

OBERHEIM-DIV. OF ECC DEV. CORP.
 -PARTS LAYOUT-
 MATRIX-12 POT BOARD
 1860F

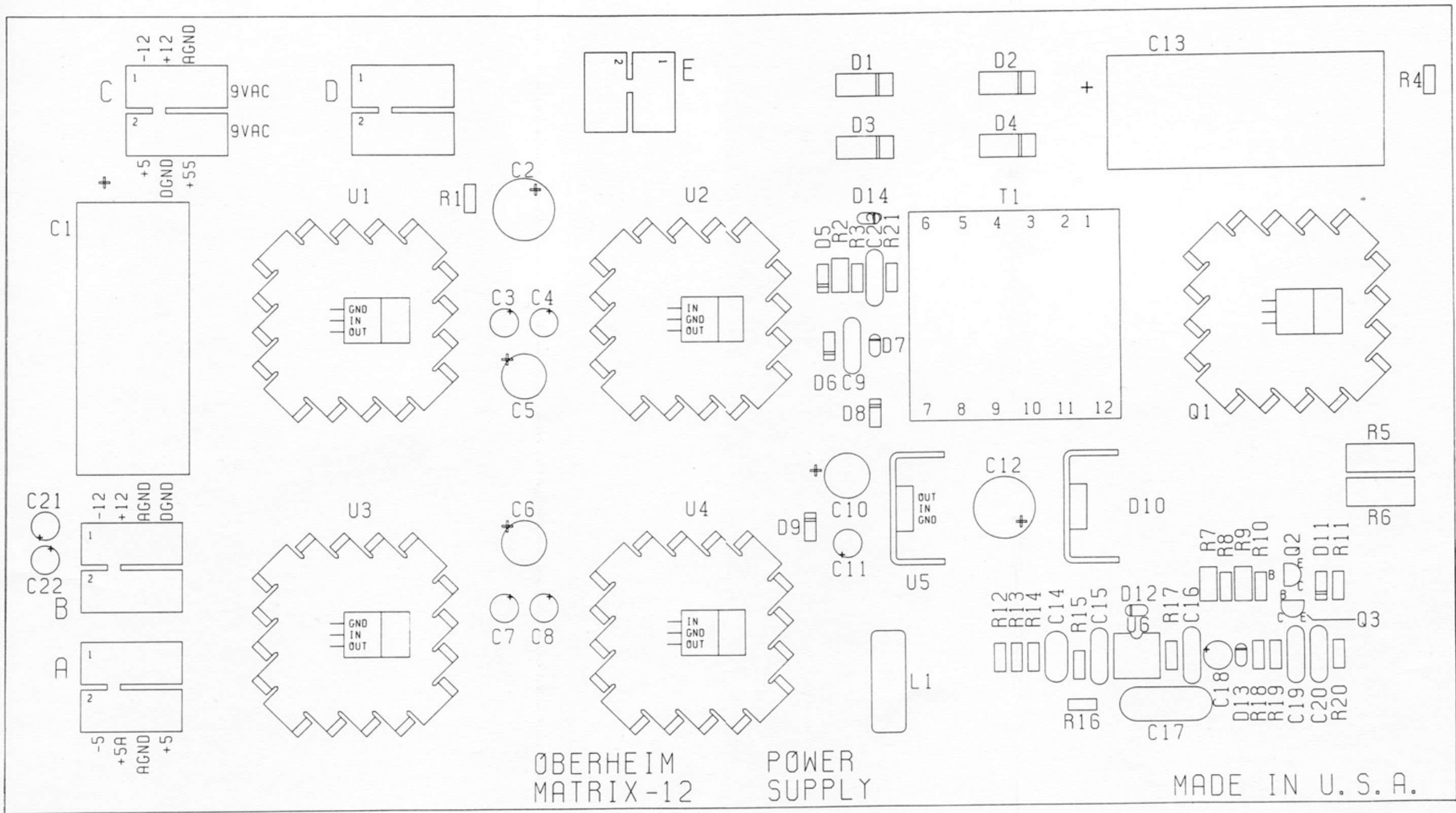


MADE IN USA
SILK SCREEN 1845A

OBERHEIM-DIV. OF ECC DEV. CORP.

-PARTS LAYOUT-
MATRIX-12 DISPLAY BOARD

1848A



OBERHEIM - DIV. OF ECC DEV. CORP.

-PARTS LAYOUT-
MATRIX-12 POWER SUPPLY

1932C

ENGINEERING CHANGE ORDER

PRODUCT AFFECTED:

MATRIX-12

DRAWINGS AFFECTED:

NONE

ECO No.

801

AFFECTIVITY:

- AS REQUIRED IN TEST
- FUTURE PRODUCTION
- RETROFIT PRODUCTION & INVENTORY
- RETROFIT IN FIELD AS NEEDED
- DRAWING CORRECTION ONLY
- _____

REASON FOR CHANGE:

1. IMPROVE VCO 1 PULSE WIDTH TUNING.
2. ELIMINATE SMALL GLITCH IN MIDDLE OF RANDOM LFO WAVEFORMS.
3. IMPROVE VOICE BOARD REVISION RECOGNITION RELIABILITY.

WRITTEN BY:

MARCUS RYLE

DATE:

3-8-85

APPROVED BY:



DATE:

3-8-85

DESCRIPTION OF CHANGE:

ON EACH VOICE BOARD (2):

- REPLACE 2764 EPROM AT LOCATION U912 LABELED CA 1.3 0 WITH CA 1.4 0.**
- REPLACE 2764 EPROM AT LOCATION U914 LABELED CA 1.3 1 WITH CA 1.4 1.**



ENGINEERING CHANGE ORDER

PRODUCT AFFECTED:
MATRIX-12

DRAWINGS AFFECTED:
NONE

ECO No.
802

AFFECTIVITY:

- AS REQUIRED IN TEST
 FUTURE PRODUCTION
 RETROFIT PRODUCTION & INVENTORY
 RETROFIT IN FIELD AS NEEDED
 DRAWING CORRECTION ONLY

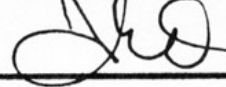
REASON FOR CHANGE:

TO ELIMINATE THE POSSIBILITY OF THE CLOCK CABLES BECOMING DISCONNECTED FROM THE PROCESSOR BOARD WHILE IN TRANSIT.

WRITTEN BY:
MARCUS RYLE

DATE:
4/3/85

APPROVED BY:



DATE:
4/3/85

DESCRIPTION OF CHANGE:

- 1. MODIFY TWO CABLE ASSEMBLIES #4 (OBERHEIM PART #750185-0) BY REMOVING ONE OF THE TWO 3 PIN MOLEX CONNECTORS ON EACH SO THAT THERE IS A CONNECTOR ON ONLY ONE END OF EACH CABLE .**
- 2. REMOVE THE 3 PIN MALE MOLEX CONNECTORS (OBERHEIM PART #219340) ON THE MATRIX-12 PROCESSOR BOARD (720102) AT CONNECTOR LOCATIONS D AND E.**
- 3. SOLDER THE BARE WIRE END OF CABLE ASSEMBLIES TO THE PROCESSOR BOARD AT LOCATIONS D AND E. THE SHIELD OF ONE OF THE CABLES SHOULD BE SOLDERED TO PIN 1 OF CONNECTOR D, AND THE CENTER CONDUCTOR OF THE SAME CABLE SHOULD BE SOLDERED TO PIN 2 OF CONNECTOR D. THE OTHER CABLE SHOULD BE CONNECTED IN THE SAME MANNER TO CONNECTOR E.**

