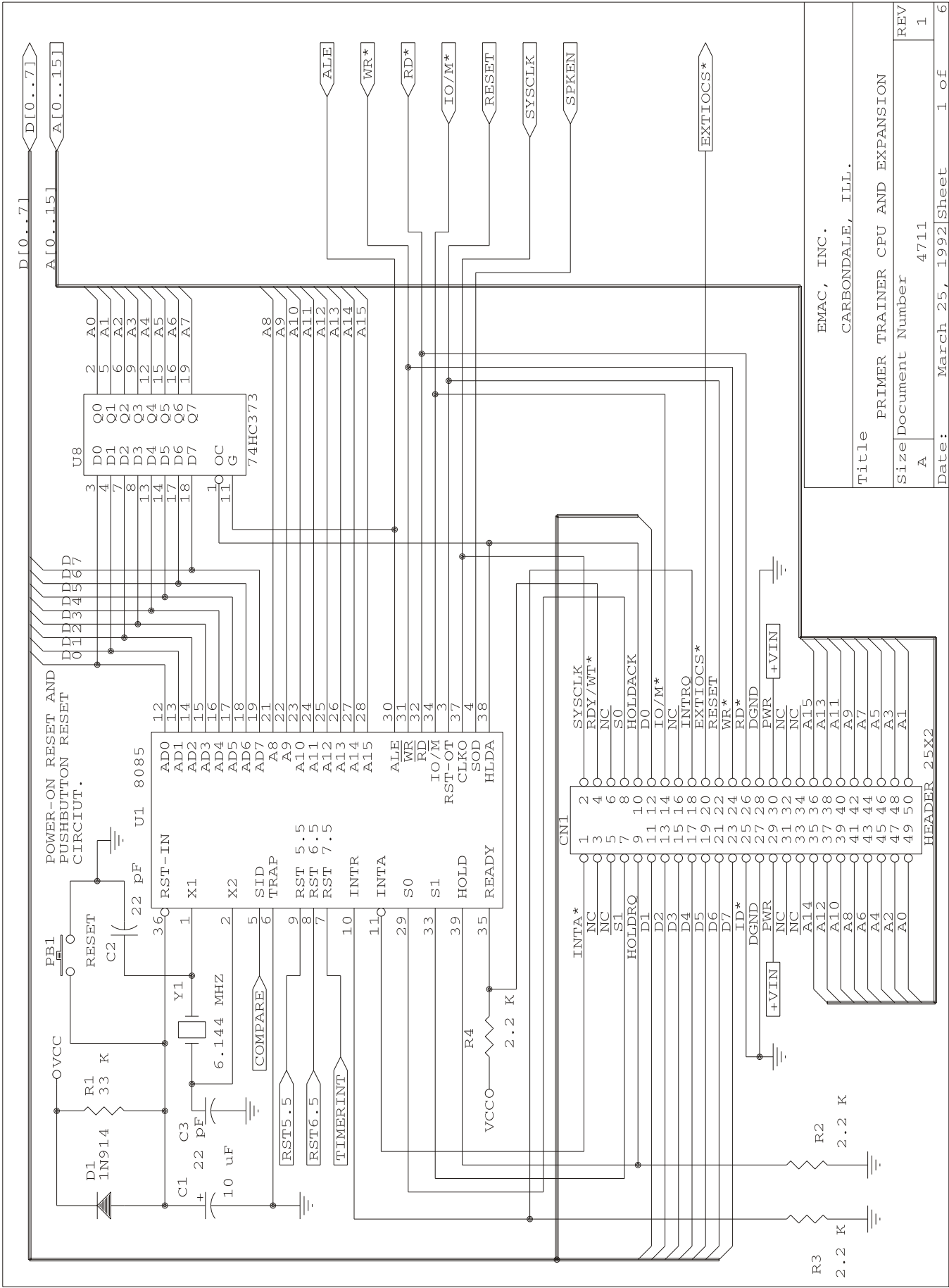


APPENDIX D

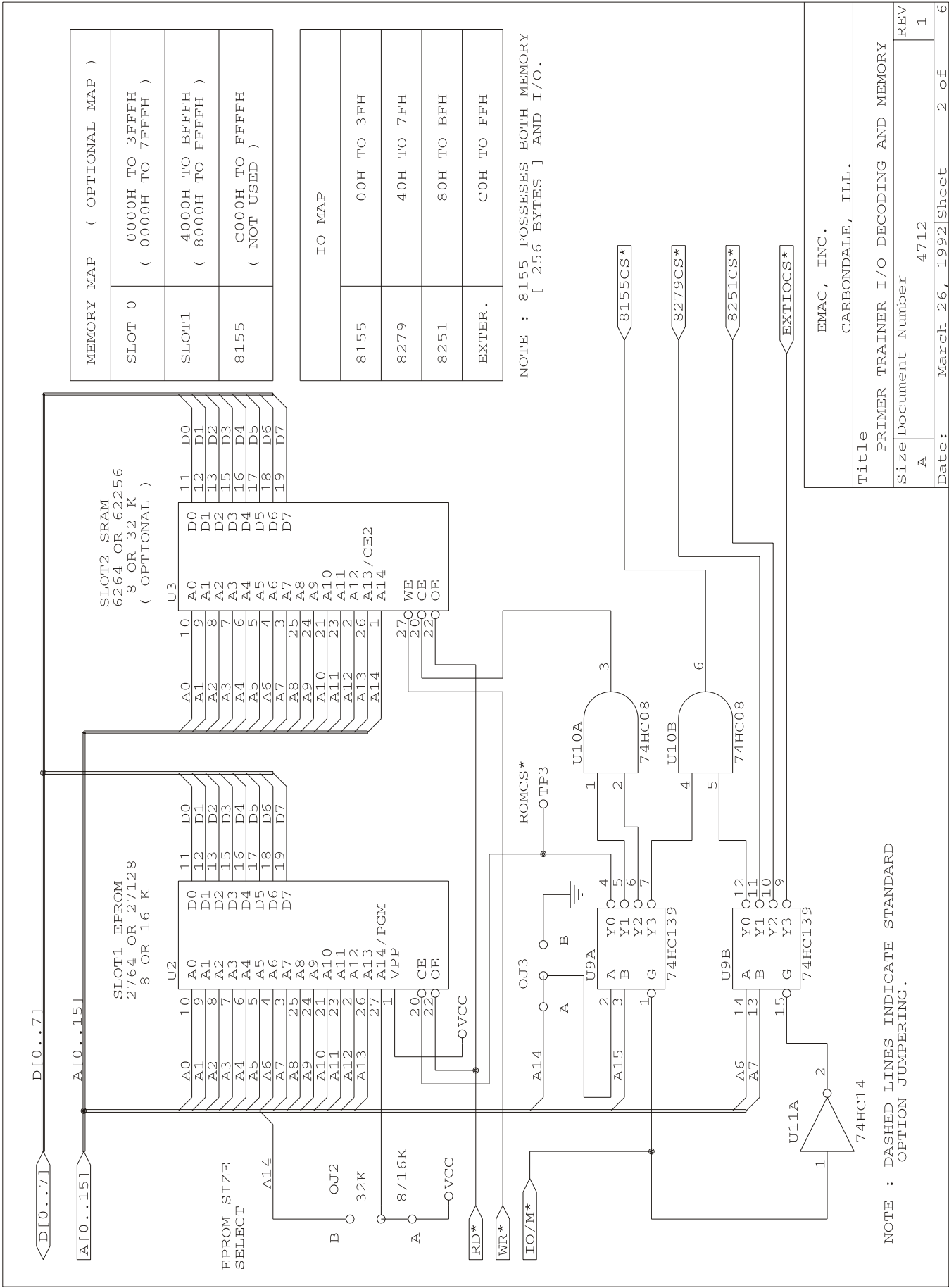
Primer Trainer Schematics

Rev 1 Boards

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Title		EMAC, INC. CARBONDALE, ILL.
Size		PRIMER TRAINER CPU AND EXPANSION
Document Number	4711	REV
A	1	1



MEMORY MAP (OPTIONAL MAP)	
SLOT 0	0000H TO 3FFFH (0000H TO 7FFFH)
SLOT1	4000H TO BFFFH (8000H TO FFFFH)
8155	C000H TO FFFFH (NOT USED)

IO MAP	
8155	00H TO 3FH
8279	40H TO 7FH
8251	80H TO BFH
EXTER.	C0H TO FFH

NOTE : 8155 POSSESSES BOTH MEMORY [256 BYTES] AND I/O.

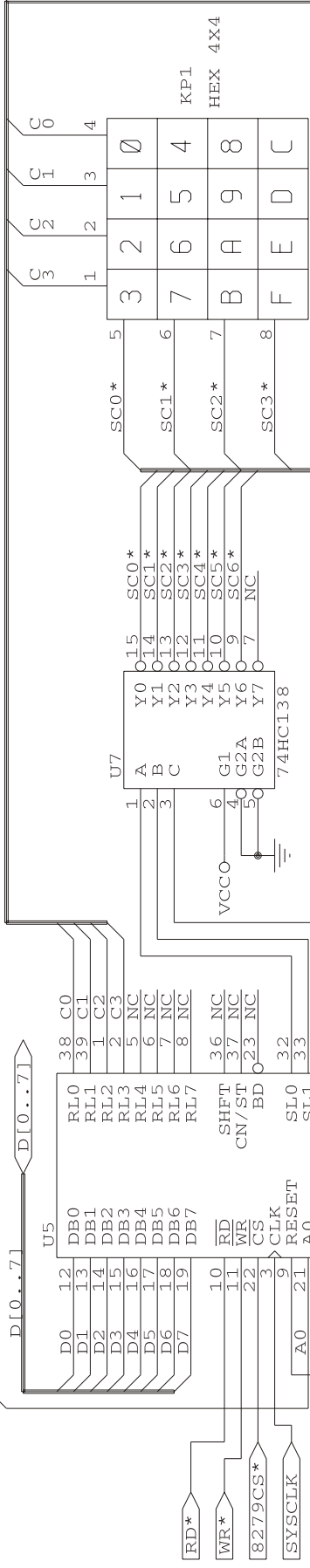
Title	
PRIMER TRAINER I/O DECODING AND MEMORY	
Size	Document Number
A	4712
Date:	March 26, 1992
Sheet	2 of 6
REV	1

NOTE : DASHED LINES INDICATE STANDARD OPTION JUMPERING.

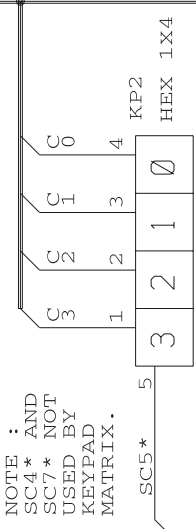
EMAC, INC.
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KEYPAD BUS

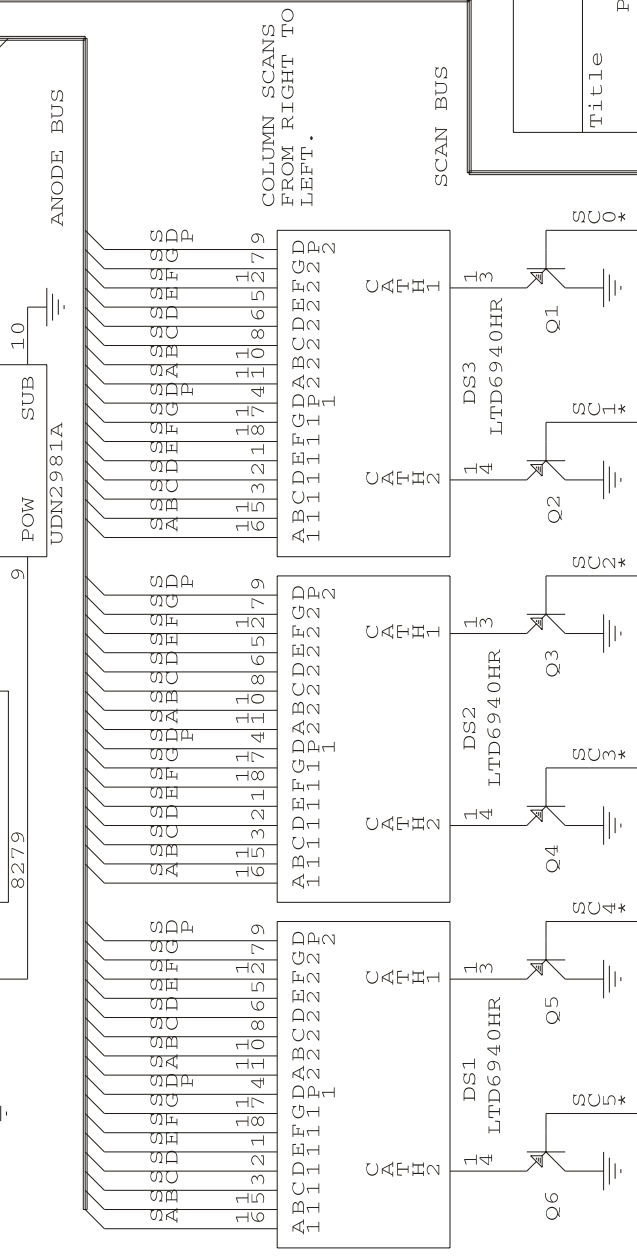
A[0..15]
D[0..7]



NOTE :
SC4* AND
SC7* NOT
USED BY
KEYPAD
MATRIX.

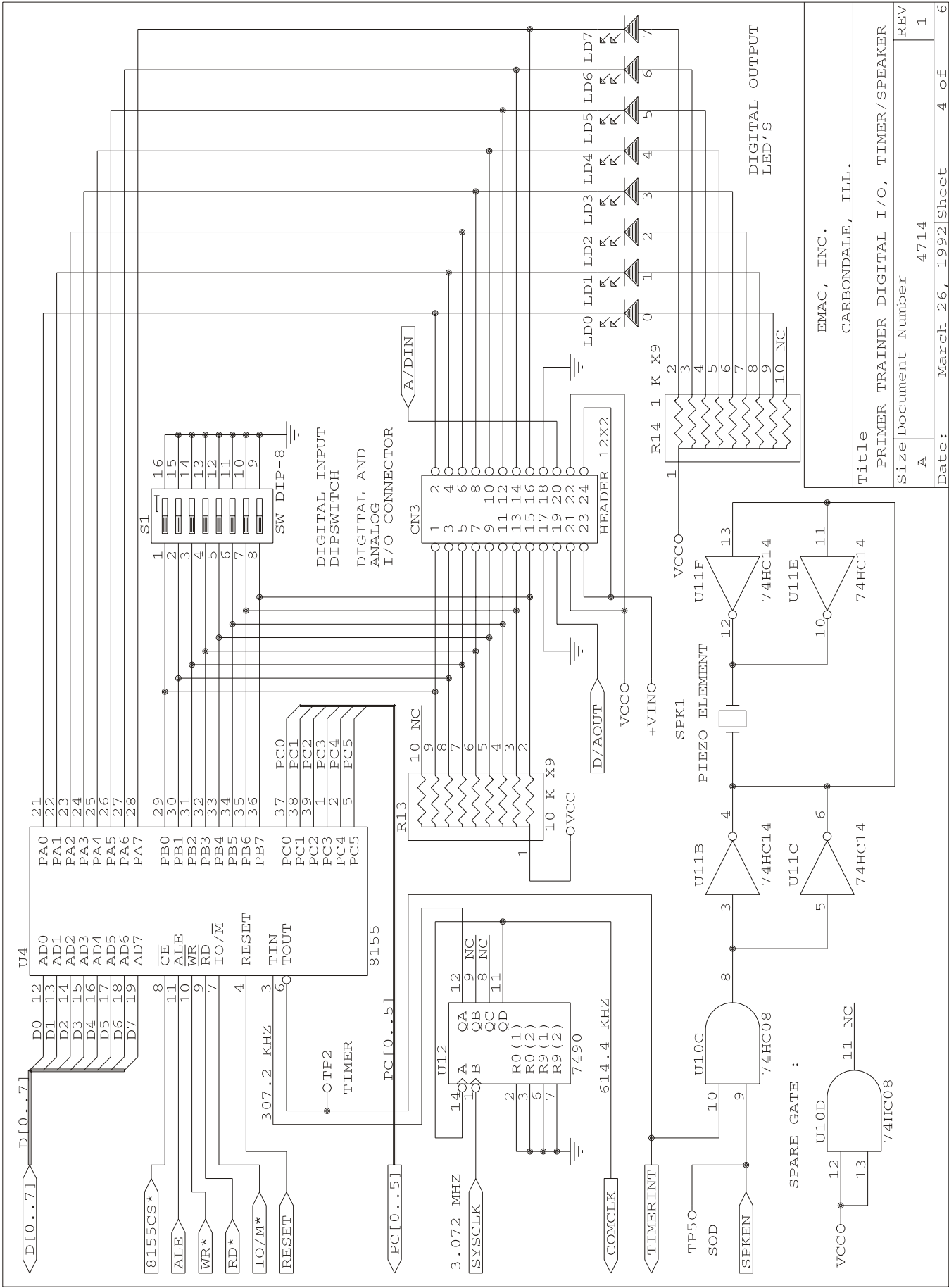


THIS ROW OF KEYS
OPTIONAL.

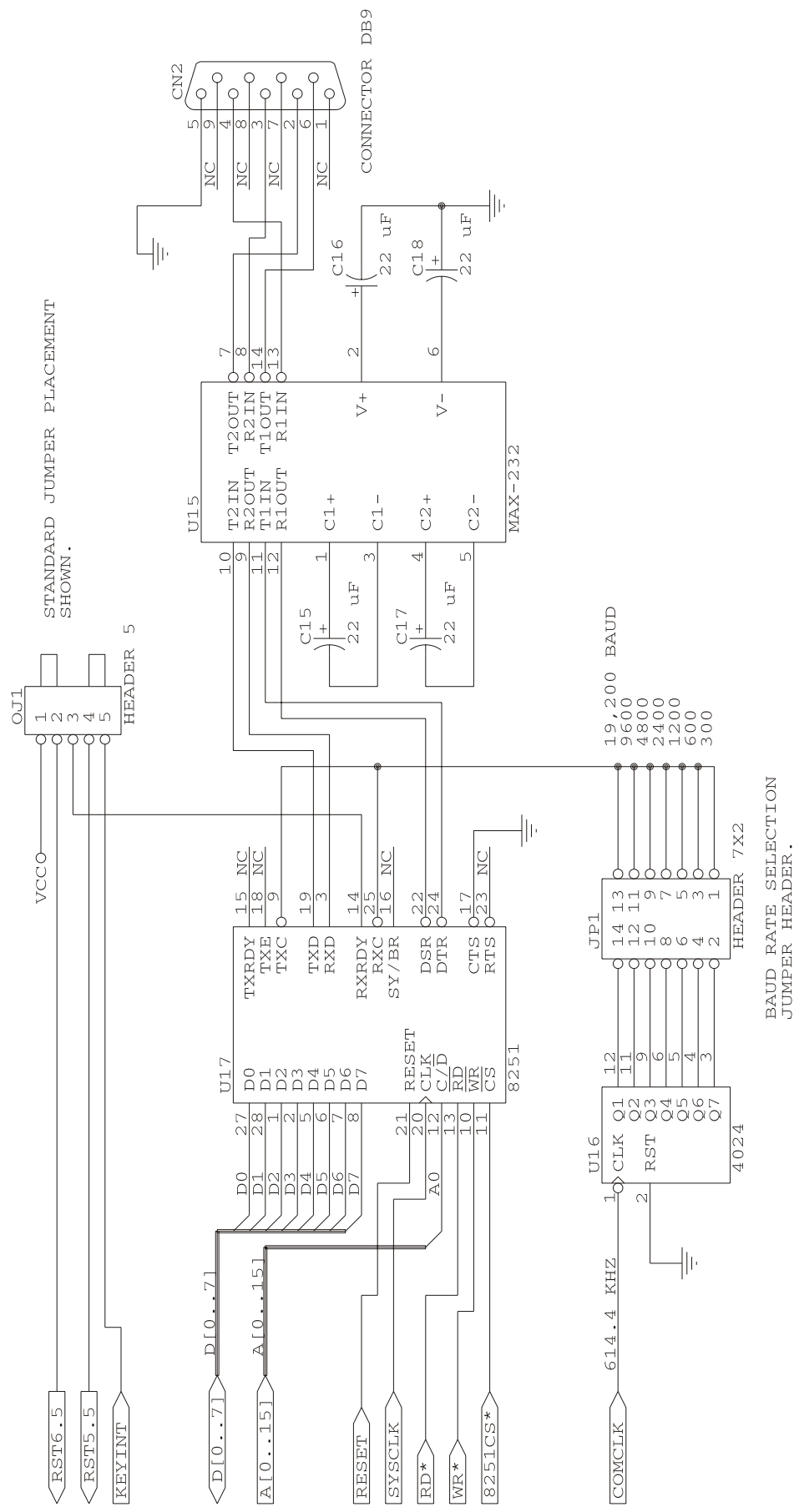


ALL TRANSISTORS HERE ARE 2N4403

Title		EMAC, INC. CARBONDALE, ILL.	
Size	Document Number	4713	REV
A			1
Date:	March 26, 1992	Sheet	3 of 6



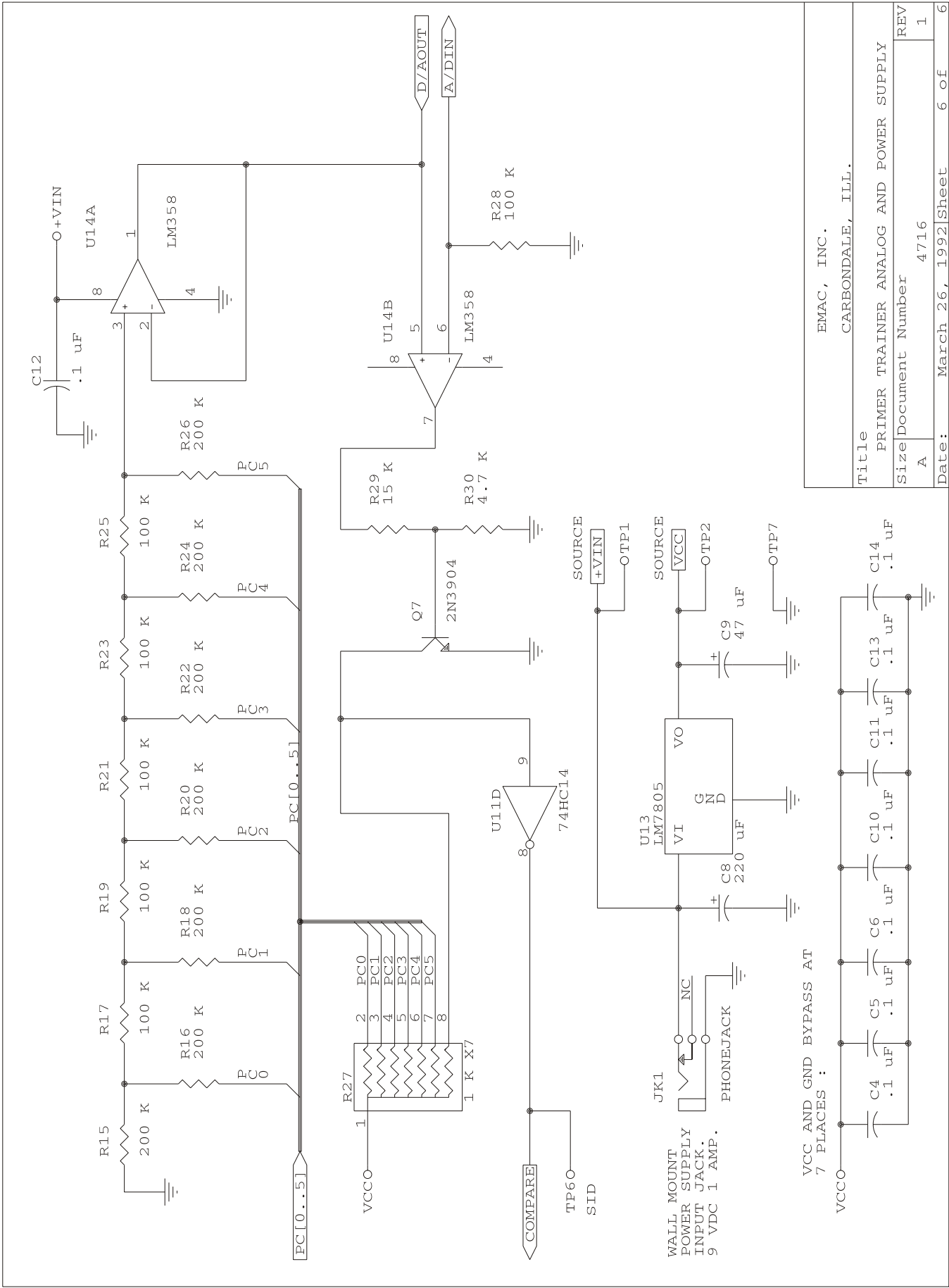
Title		EMAC, INC.	
PRIMER TRAINER DIGITAL I/O, TIMER/SPEAKER		CARBONDALE, ILL.	
Size	Document Number	4714	
REV		1	
Date:	March 26, 1992	Sheet	4 of 6



STANDARD JUMPER PLACEMENT SHOWN.

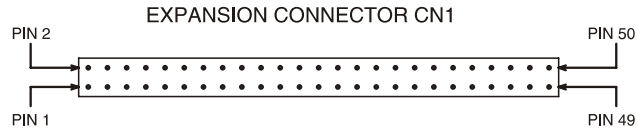
NOTE : COMPONENTS ON THIS SHEET PRESENT ONLY ON BOARDS WITH THE COMMUNICATION OPTION.

Title		EMAC, INC.
Size		CARBONDALE, ILL.
A		PRIMER TRAINER COMMUNICATION OPTION
Document Number	4715	REV
Date:	March 25, 1992	Sheet 5 of 6



EMAC, INC. CARBONDALE, ILL.	
Title PRIMER TRAINER ANALOG AND POWER SUPPLY	
Size A	Document Number 4716
REV 1	Date: March 26, 1992
Sheet 6 of 6	

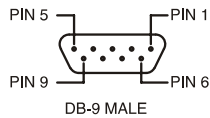
PRIMER CONNECTORIZATION (REV. 1)



PIN	DESCRIPTION
1	INTERRUPT ACKNOWLEDGE NOT OUTPUT
2	SYSTEM CLOCK OUTPUT
3	NO CONNECTION
4	READY OR WAIT NOT INPUT
5	NO CONNECTION
6	NO CONNECTION
7	STATUS LINE S1 OUTPUT
8	STATUS LINE S0 OUTPUT
9	HOLD REQUEST INPUT
10	HOLD ACNOWLEDGE OUTPUT
11	DATA BUS BIT D1 I/O
12	DATA BUS BIT D0 I/O
13	DATA BUS BIT D2 I/O
14	IO OR MEMORY NOT SELECT OUTPUT
15	DATA BUS BIT D3 I/O
16	NO CONNECTION
17	DATA BUS BIT D3 I/O
18	INTERRUPT REQUEST INPUT
19	DATA BUS BIT D5 I/O
20	EXTERNAL I/O CHIP SELECT NOT
21	DATA BUS BIT D6 I/O
22	RESET OUTPUT
23	DATA BUS BIT D7 I/O
24	WRITE NOT STROBE OUTPUT
25	IDENTIFICATION PIN (GROUNDED)

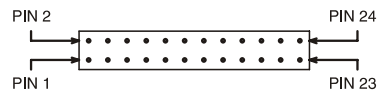
PIN	DESCRIPTION
26	READ STROBE NOT OUTPUT
27	DIGITAL AND POWER GROUND
28	DIGITAL AND POWER GROUND
29	RAW POWER SUPPLY OUTPUT
30	RAW POWER SUPPLY OUTPUT
31	NO CONNECTION
32	NO CONNECTION
33	NO CONNECTION
34	NO CONNECTION
35	ADDRESS LINE A14 OUTPUT
36	ADDRESS LINE A15 OUTPUT
37	ADDRESS LINE A12 OUTPUT
38	ADDRESS LINE A13 OUTPUT
39	ADDRESS LINE A10 OUTPUT
40	ADDRESS LINE A11 OUTPUT
41	ADDRESS LINE A8 OUTPUT
42	ADDRESS LINE A9 OUTPUT
43	ADDRESS LINE A6 OUTPUT
44	ADDRESS LINE A7 OUTPUT
45	ADDRESS LINE A4 OUTPUT
46	ADDRESS LINE A5 OUTPUT
47	ADDRESS LINE A2 OUTPUT
48	ADDRESS LINE A3 OUTPUT
49	ADDRESS LINE A0 OUTPUT
50	ADDRESS LINE A1 OUTPUT

COMMUNICATION CONNECTOR (OPTIONAL) CN2



PIN	DESCRIPTION
1	NO CONNECTION
2	RS232 TRANSMIT
3	RS232 RECIEVE
4	DSR IN
5	GROUND
6	DTR OUT
7	NO CONNECTION
8	NO CONNECTION
9	NO CONNECTION

EXTERNAL DIGITAL AND ANALOG CONNECTOR CN3



PIN	DESCRIPTION
1	INPUT 1
3	INPUT 2
5	INPUT 3
7	INPUT 4
9	INPUT 5
11	INPUT 6
13	INPUT 7
15	INPUT 8
17	GROUND
19	D/A LADDER OUTPUT
21	+5 VOLTS (VCC)
23	+ VIN (RAW DC)

PIN	DESCRIPTION
2	OUTPUT 1
4	OUTPUT 2
6	OUTPUT 3
8	OUTPUT 4
10	OUTPUT 5
12	OUTPUT 6
14	OUTPUT 7
16	OUTPUT 8
18	GROUND
20	A/D INPUT
22	+5 VOLTS (VCC)
24	+ VIN (RAW DC)