

REVISION HISTORY :

REVISION	DATE	DESCRIPTION	PURPOSE	PARTS ADDED/DROPPED/CHANGED	SHEET	ECO #
0	10/18/91	PRODUCE ORIGINAL SCH AND PCB AS PER CUSTOMER SPECS --- REND LAKE COLLEGE	N/A	N/A	ALL	
1	04/22/92	ADOPT ORIGINAL SCH AND PCB AS NEW EMAC PRODUCT	N/A	N/A	ALL	
1.01.00	02/18/02	REDRAW REV1 SCH AND PCB USING 21ST CENTURY CAD TO REPLACE OBSOLETE CAD SYSTEM	BRING SCHEMATIC DOCUMENTATION AND FILES UP TO CURRENT PROCEDURAL LEVELS	N/A	ALL	
2.00.00	09/15/03	START UP REV2 SCH AND PCB. REPLACE OBSOLETE & THROUGH HOLE PARTS WITH NEWER SMD DEVICES WHERE POSSIBLE.	IMPROVE PRODUCT MANUFACTURABILITY AND EXTEND PRODUCT LIFETIME.	NUMEROUS	ALL	
	09/18/03	PROJECT REVISIONS PLACED ON HOLD PENDING DEVELOPMENT OF PIC SUBSTITUTE FOR OBSOLETE 8279	PRODUCE SUBSTITUTE PART WITH ALL IMPORTANT LEGACY CAPABILITIES AND MORE SIDE FEATURES COMPATIBLE WITH EXISTING SOFTWARE	N/A	N/A	
	11/11/04	RESTART PROJECT FOR 2005 RELEASE	N/A	N/A	N/A	
	11/26/04	SCH & PCB DESIGN REVIEWS COMPLETED	N/A	N/A	N/A	
	11/26/04	PCB RELEASE TO PILOT PRODUCTION	N/A	N/A	N/A	
2.01.00	12/07/04	CORRECT DEVICE PART TYPE AT U6	CHIP INCORRECTLY SPECIFIED AS ULN2803, S/B ULN2982	ADMINISTRATIVE CORRECTION, NO WIRING IMPACT	4	
3.00.00	12/09/04	START UP REV3 SCH AND PCB.	FIX PROBLEMS FOUND IN PILOT RUN FOR PUBLIC RELEASE	N/A	N/A	
		ADD A PULLUP RESISTOR TO 8279_RDY	PIC LINE RA4/T0CK1 IS OPEN DRAIN - REQUIRES PULLUP	R32 ADDED	4	IHWO # 404
		CORRECT DEVICE MARKING ON PCB AT U6	PCB SILKSCREEN FOLLOW-UP PER BOM CHANGE ABOVE	PCB ISSUE ONLY -- NO ELECTRICAL CHANGES	N/A	IHWO # 405
		MOVE KEYPAD CONNECTOR CNS 0.050 RT	IMPROVE FIT & FINISH OF KEYPAD INTERCONNECT	PCB ISSUE ONLY -- NO ELECTRICAL CHANGES	N/A	IHWO # 406
		CHANGE CRYSTALS Y1 & Y2 TO SMD	ENHANCE AUTOMATED ASSEMBLY	PCB & BOM ISSUE -- NO ELECTRICAL CHANGES	2, 4	IHWO # 407
		INCREASE VALUE OF LED RESISTORS	REDUCE SURFACE TEMP OF RESISTORS	R5 - R12 INCREASED TO 270 OHMS	4	IHWO # 408
		RE-ARRANGE D/A R-2R RESISTORS	PCB COSMETIC CHANGE FOR EDUCATIONAL PURPOSES	PCB ISSUE ONLY -- NO ELECTRICAL CHANGES	N/A	IHWO # 410
3.01.00	12/27/04	TUNEUPS TO HIDDEN ATTRIBUTE FIELDS	IMPROVE MANUFACTURING FLOWS & AND BOM ACCURACY	ADMINISTRATIVE CORRECTIONS, NO WIRING IMPACT	N/A	PER MATT E.

JUMPER TABLE

LOCATION	STYLE	FUNCTION	DEFAULT SETTINGS TO LEGENDS SHOWN ON PCB	QTY OF JUMPERS REQUIRED PER LOCATION
JP1	DUAL ROW 2 pins X 7 location	USED TO SET 8251 COM PORT BAUD RATE	9600	ONE ONLY
OU1	SINGLE ROW 5 pins	USED TO SET INTERRUPT OPTIONS	1 & 2 SHORTED 3 OPEN 4 & 5 SHORTED	TWO
OU2	NO LONGER PRESENT	RETIRED EPROM SIZE SELECT	N/A	NONE
OU3	SINGLE ROW 3 pins	SRAM MEMORY MAP OPTION	POSITION A	ONE ONLY

OPTION KEY :

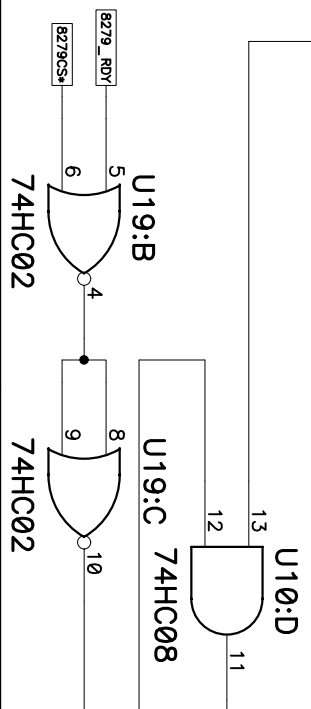
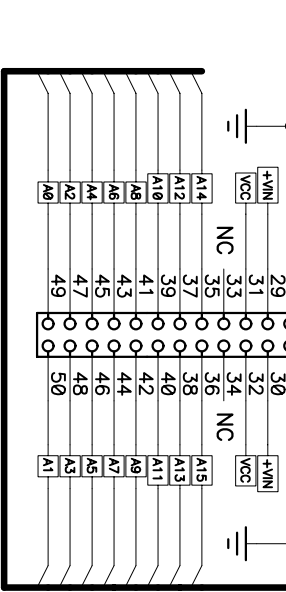
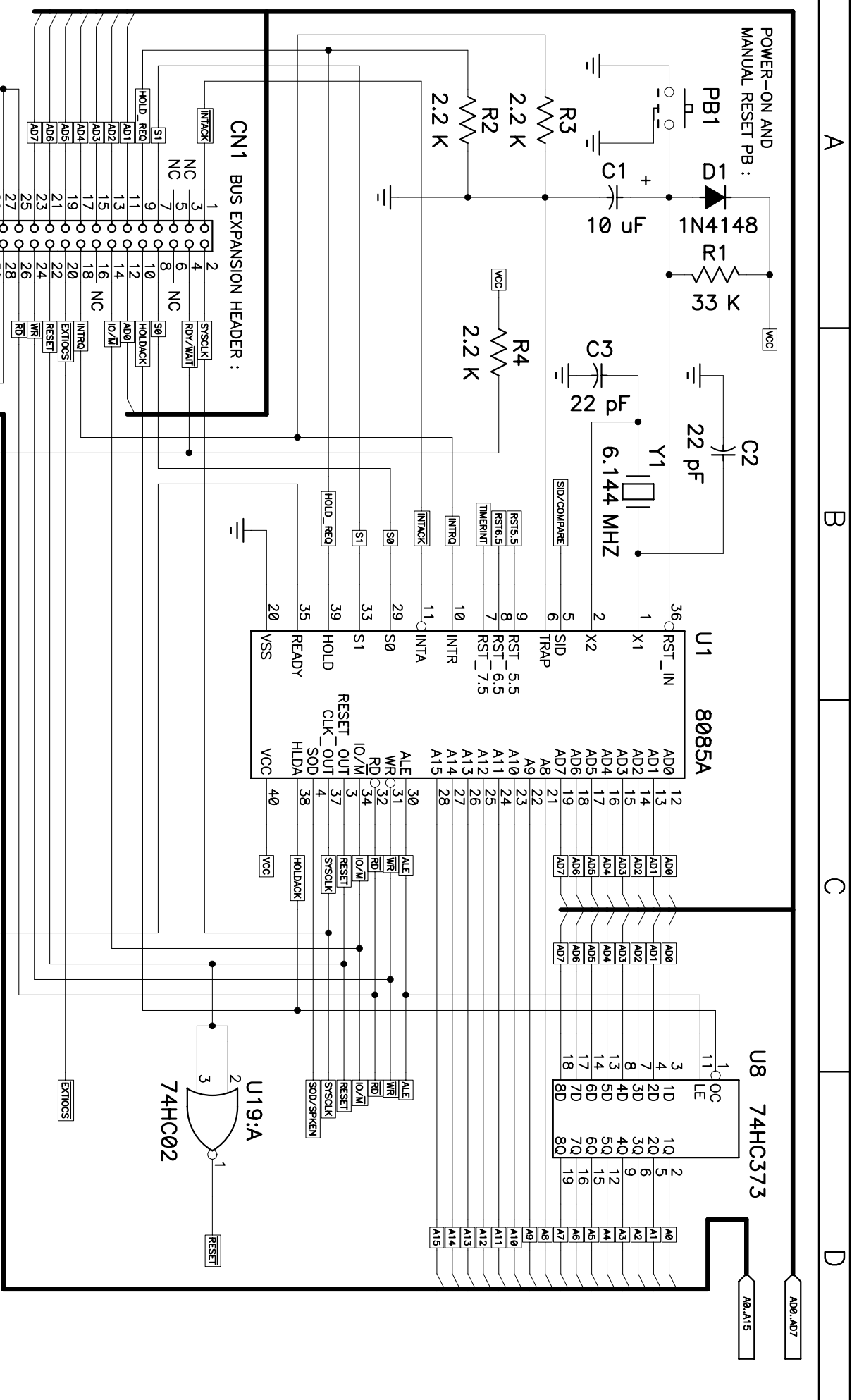
- 00. PARTS ALWAYS POPULATED.
- 01. GENERAL UPGRADE.
- 02. DISCRETE PB KEYS.
- 03. MEMBRANE KEYPAD.
- 04. RESERVED POST ASSEMBLY POPULATION.
- 05. RESERVED POST ASSEMBLY POPULATION.
- 06. RESERVED POST ASSEMBLY POPULATION.
- 99. PARTS THAT ARE NEVER POPULATED.

REVISION KEY:

PCB REV SCHEMATIC REV MODWIRE REV
X.XX.XX

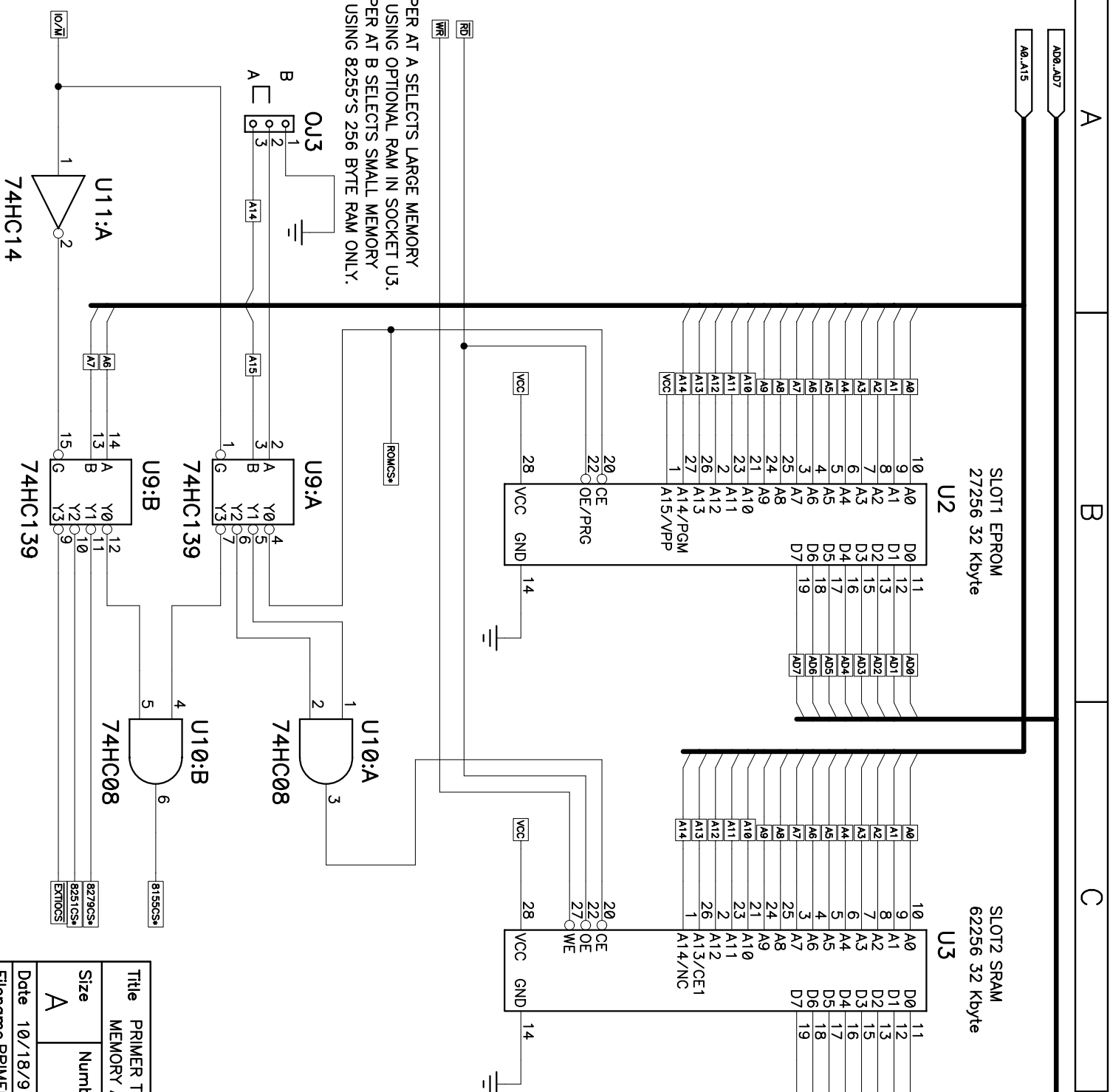
Title		PRIMER TRAINER REV3	
TITLE AND REVISION HISTORY			
Size	Number	FOR 01-7400 REV3 PCB	Rev
A			3.01.00

Date	10/18/91 -- 11/26/2004	Drawn by	SPIKE
Filename	PRIMER2005R3.01.00.SCH	Sheet	1 of 10



Title			
PRIMER TRAINER REV3			
MPU AND BUS EXPANSION CONNECTOR			
Size	Number	Rev	
A	FOR 01-7400	REV3	PCB
Date	10/18/91	--	11/26/2004
Filename	PRIMER2005R3.01.00.SCH	Drawn by	SPIKE
	Sheet	2	of 10

JUMPER AT A SELECTS LARGE MEMORY MAP USING OPTIONAL RAM IN SOCKET U3. JUMPER AT B SELECTS SMALL MEMORY MAP USING 8255'S 256 BYTE RAM ONLY.

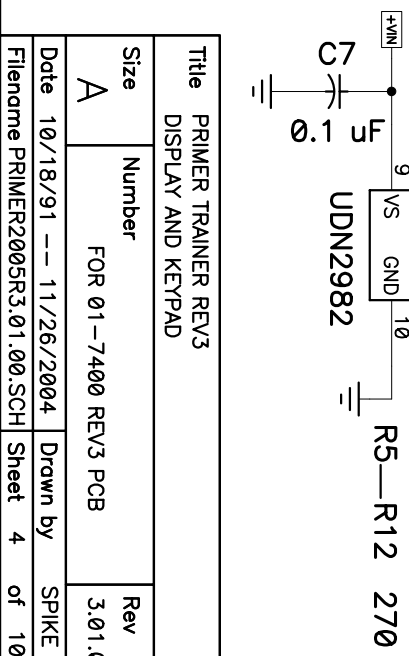
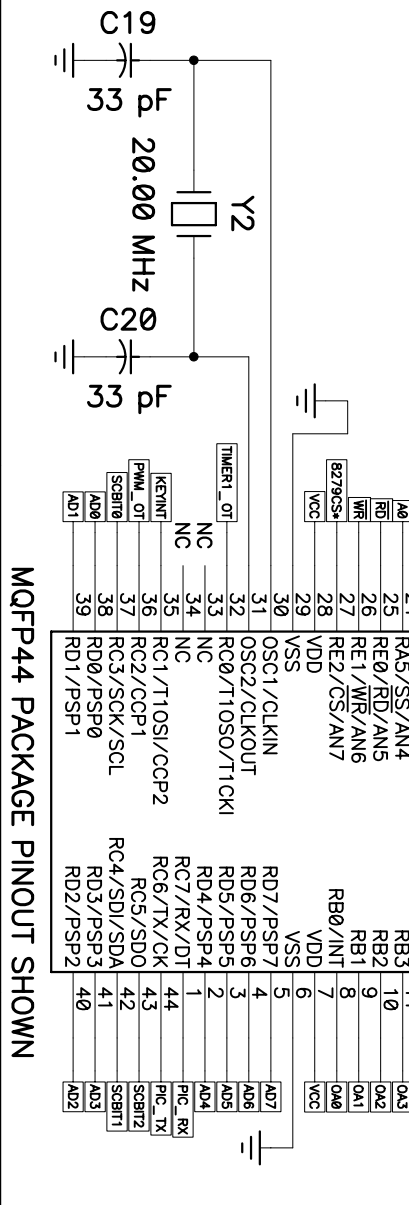
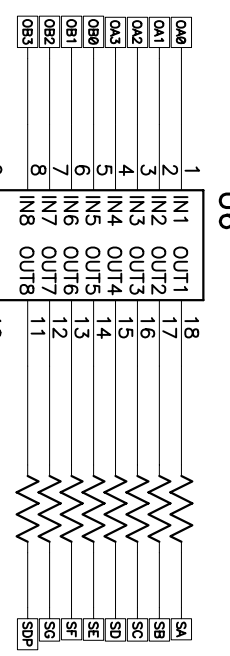
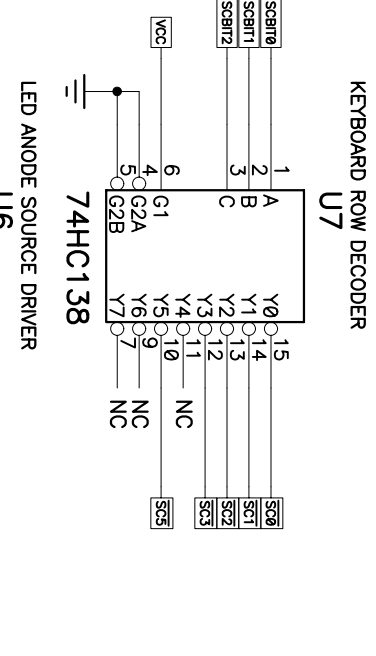
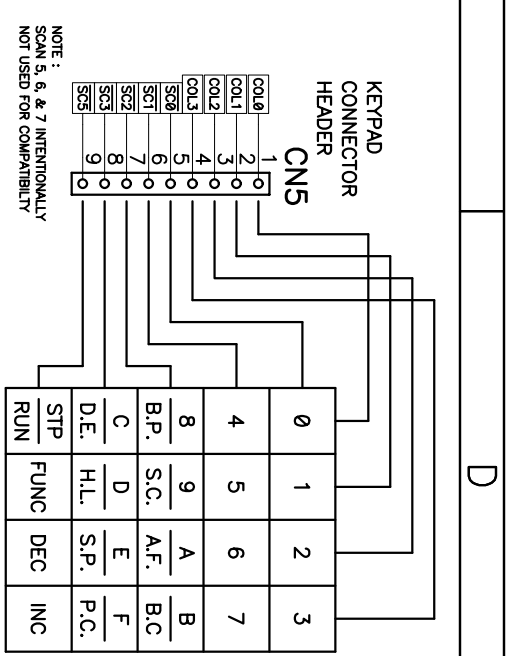
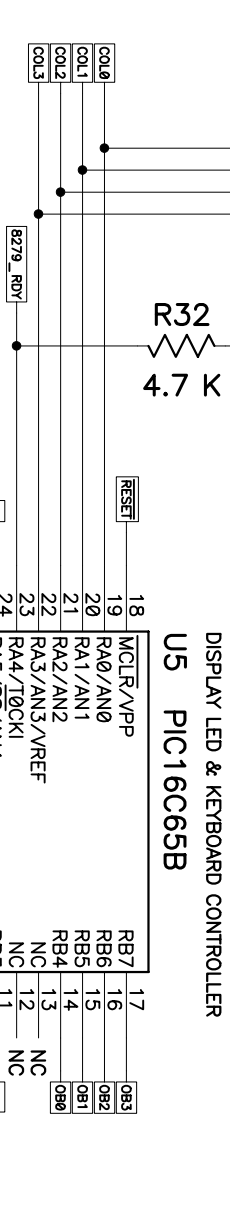
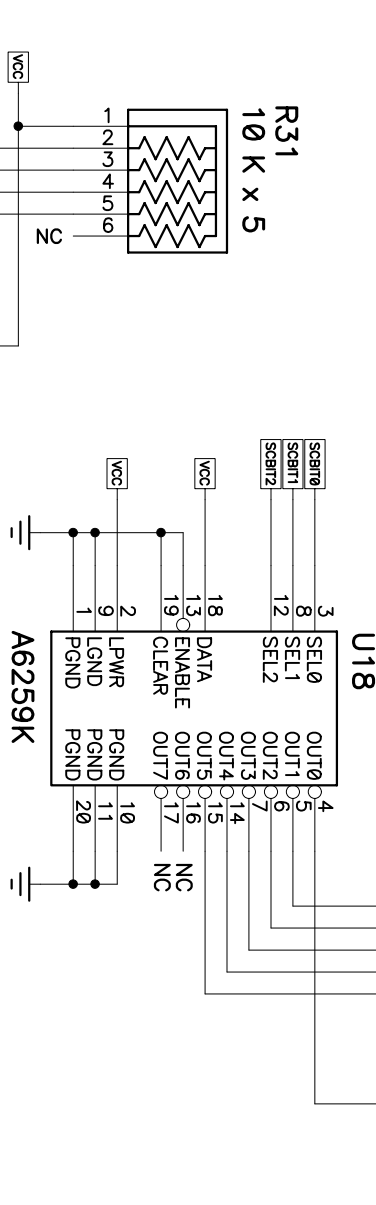
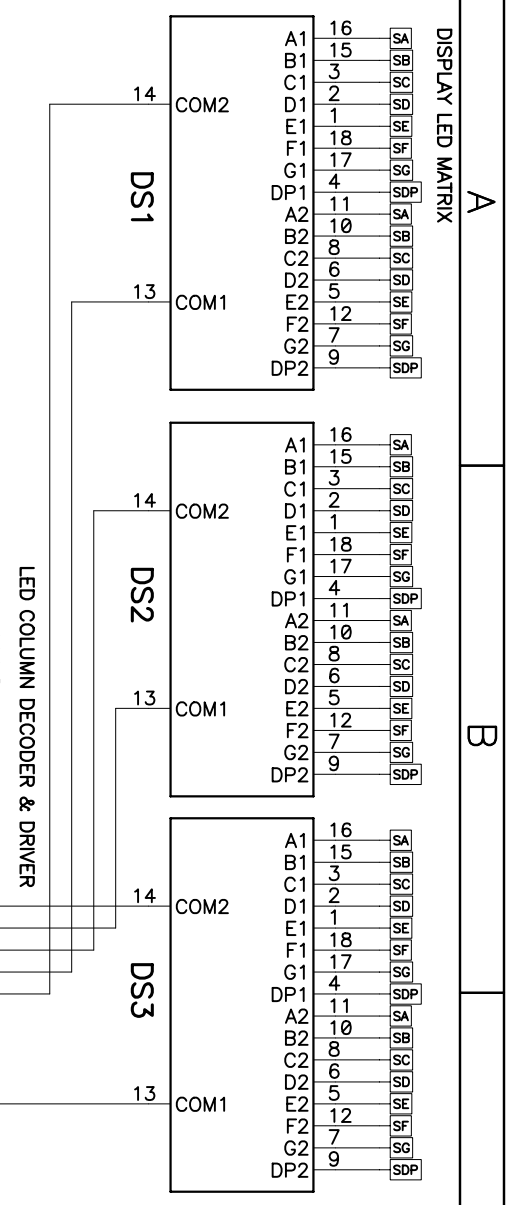


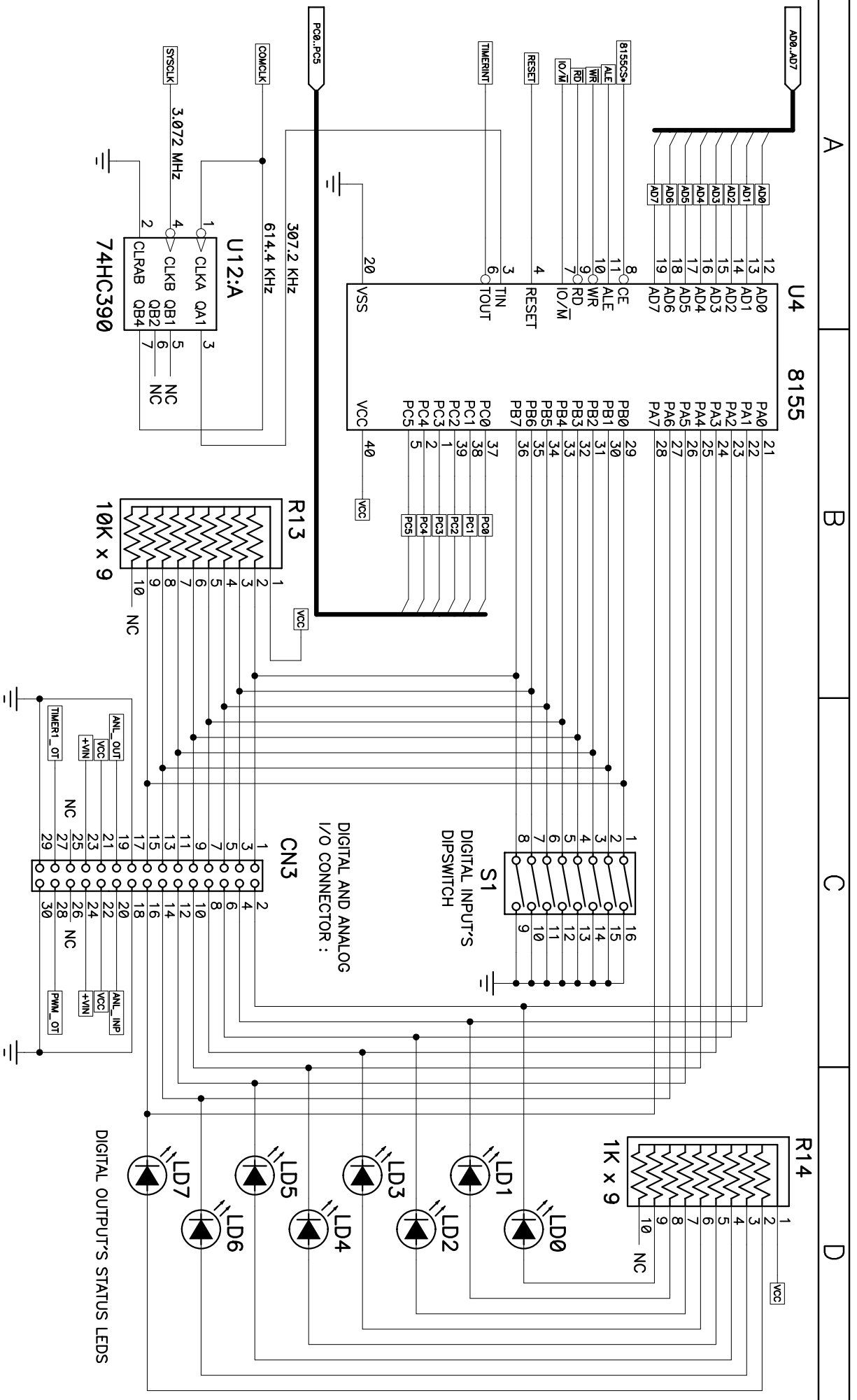
MEMORY MAP	SMALL MAP [LARGE MAP]
SLOT 0 SOCKET U2	0000H TO 3FFFH [0000H TO 7FFFH]
SLOT 1 SOCKET U3	4000H TO BFFFH [8000H TO FFFFH]
8155'S MEMORY	C000H TO FFFFH [LARGE NOT USED]

I/O MAP	
8155 BIT PORT	00H TO 3FH
8251 OPTIONAL UART	40H TO 7FH
8279 (PIC) KEY/DISPLAY	80H TO BFH
EXTERNAL BUS EXPANSION	C0H TO FFH

NOTE: THE 8155 POSSESSES BOTH MEMORY (256 BYTES) AND I/O CAPABILITIES.

Title PRIMER TRAINER REV3			
MEMORY AND I/O DECODING			
Size	Number	Rev	
A	FOR 01-7400 REV3 PCB	3.01.00	
Date	10/18/91 -- 11/26/2004	Drawn by	SPIKE
Filename	PRIMER2005R3.01.00.SCH	Sheet	3 of 10

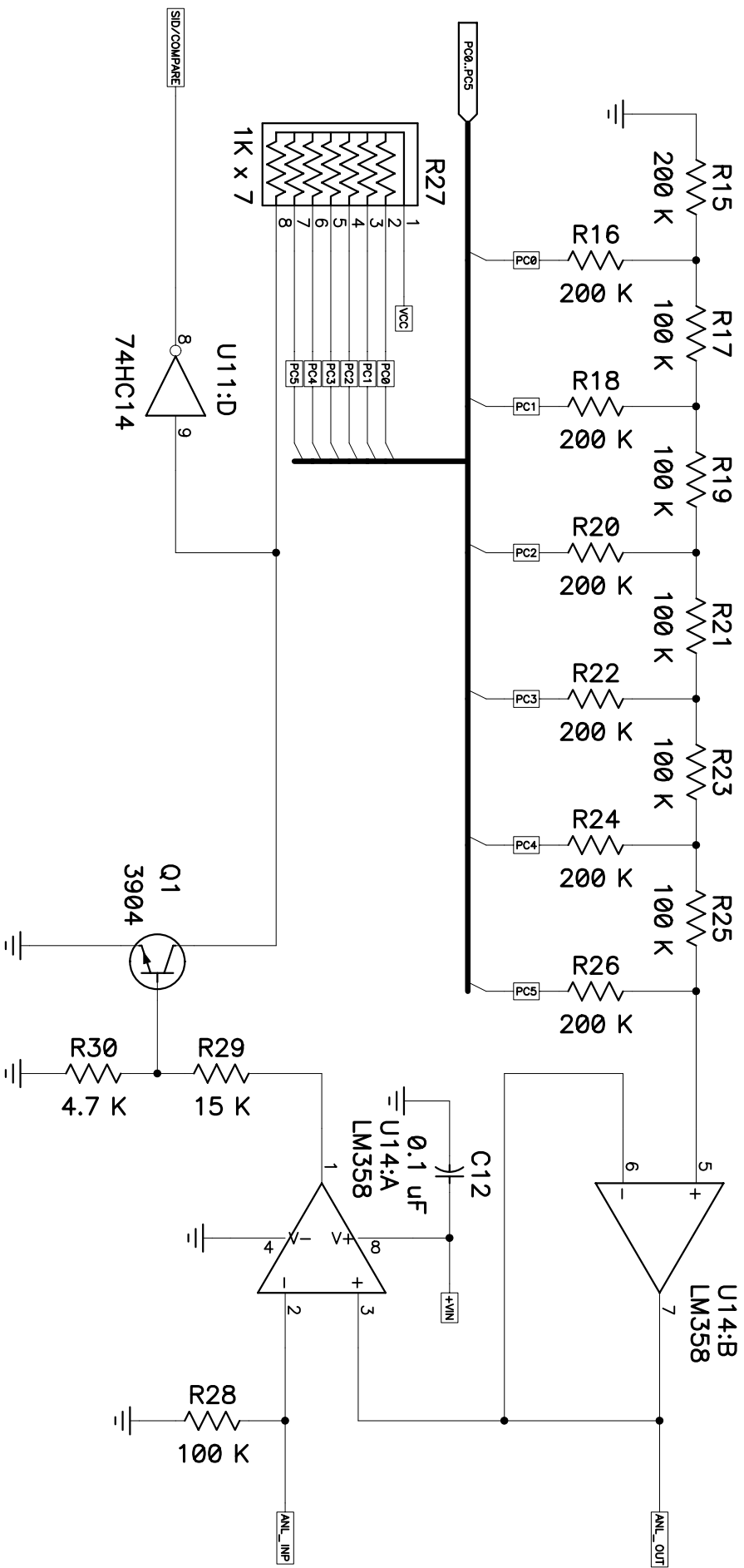




Title PRIMER TRAINER REV3
 DIGITAL I/O, TIMER, SPEAKER, I/O ACCESS

Size	Number	Rev
A	FOR 01-7400 REV3 PCB	3.01.00

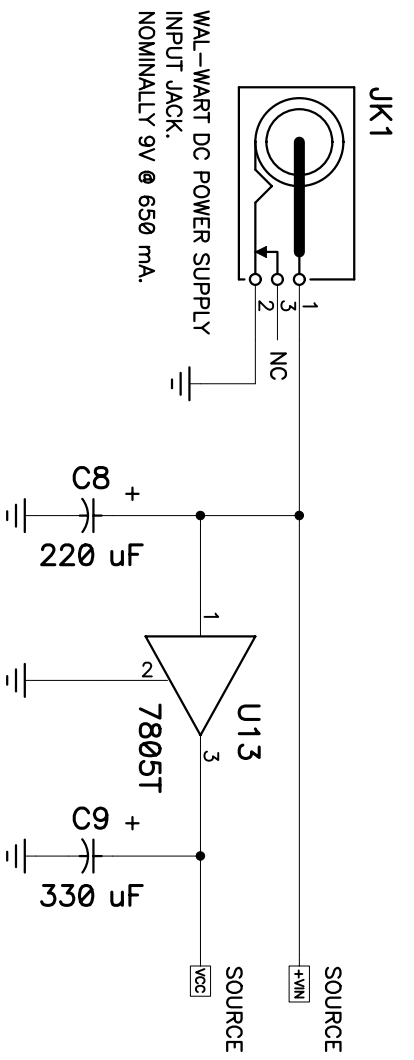
Date 10/18/91 -- 11/26/2004
 Filename PRIMER2005R3.01.00.SCH
 Drawn by SPIKE
 Sheet 5 of 10



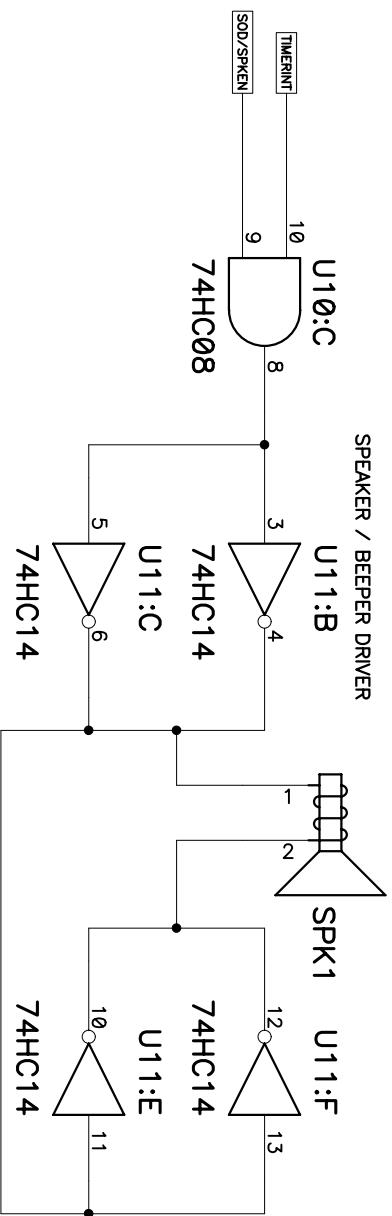
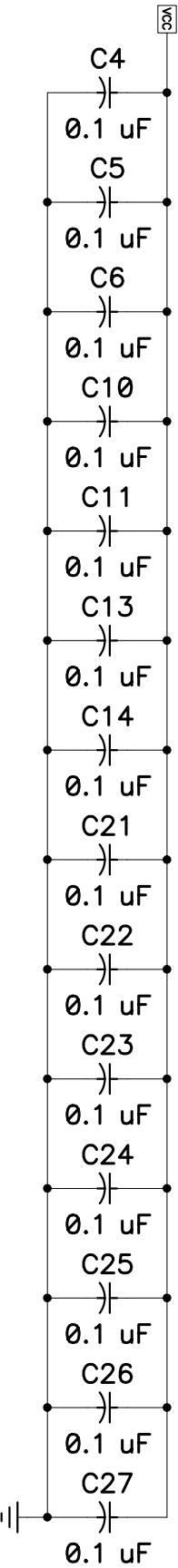
Title PRIMER TRAINER REV3
ANALOG AND POWER SUPPLY

Size	Number	Rev
A	FOR 01-7400 REV3 PCB	3.01.00

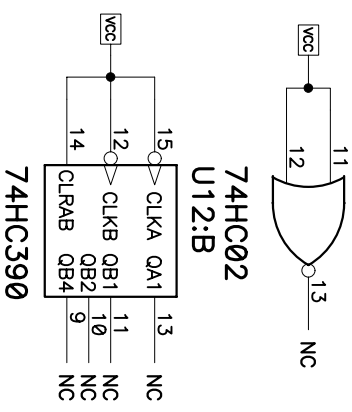
Date 10/18/91 -- 11/26/2004
Filename PRIMER2005R3.01.00.SCH Sheet 7 of 10
Drawn by SPIKE



VCC AND GND SPRINKLE BYPASS AT FOURTEEN LOCATIONS:



SPARES :
U19:D

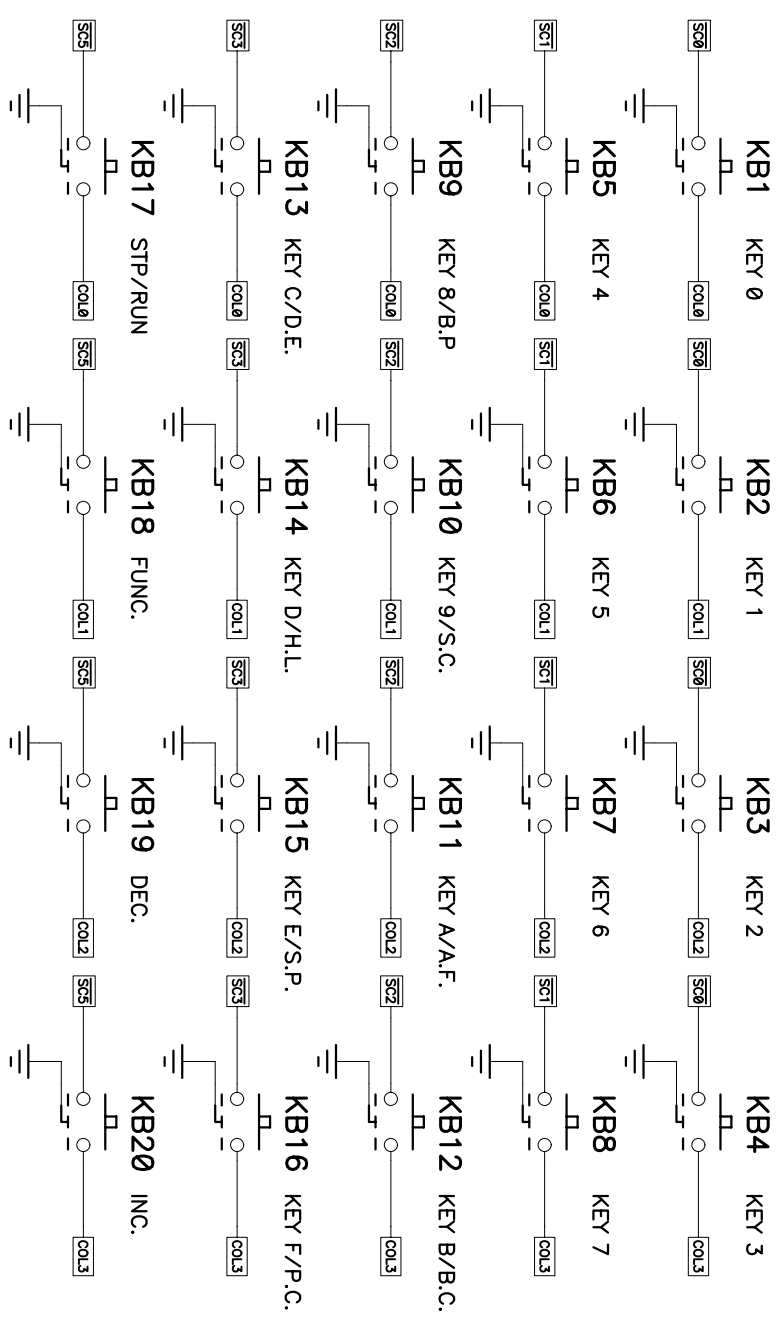


Title PRIMER TRAINER REV3
POWER SUPPLY and MISCELLANEOUS

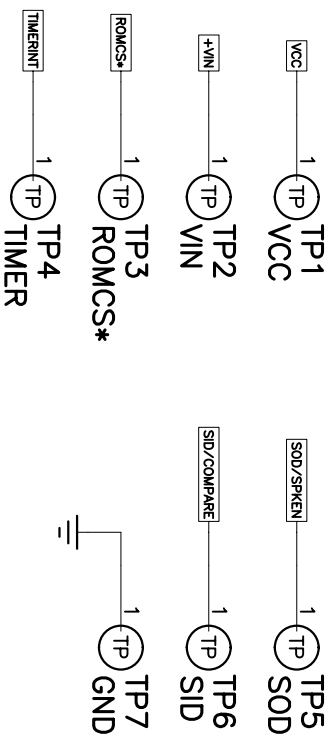
Size	Number	Rev
A	FOR 01-7400 REV3 PCB	3.01.00

Date 10/18/91 -- 11/26/2004
Filename PRIMER2005R3.01.00.SCH
Drawn by SPIKE
Sheet 8 of 10

DISCRETE PUSHBUTTONS WHICH CAN BE POPULATED INSTEAD OF TACTILE KEYPAD FOR CUSTOM APPLICATIONS :



HANDY TEST POINT PADS PROVIDED FOR LABS :



Title		PRIMER TRAINER REV3	
Size		MISCELLANEOUS ITEMS	
Number	FOR 01-7400	REV3	PCB
Date	10/18/91	---	11/26/2004
Filename	PRIMER2005R3.01.00.SCH	Sheet	9 of 10

A

B

C

D

RBF1

MISC. PART

Rubber Foot 0.5in. Sq. Self sticking

RBF2

MISC. PART

Rubber Foot 0.5in. Sq. Self sticking

RBF3

MISC. PART

Rubber Foot 0.5in. Sq. Self sticking

RBF4

MISC. PART

Rubber Foot 0.5in. Sq. Self sticking

RBF5

MISC. PART

Rubber Foot 0.5in. Sq. Self sticking

HS1

MISC. PART

03-0201
Small Heatsink
Wakefield
273-AB

JU1

MISC. PART

0.1 in. HEADER JUMPER
Place at desired BAUD RATE position.

JU1A

MISC. PART

0.1 in. HEADER JUMPER
Place at desired OU1 INTERRUPT position(s).

JU1B

MISC. PART

0.1 in. HEADER JUMPER
Place at desired OU1 INTERRUPT position(s).

SOK1

MISC. PART

40 Pin soldertail socket for MPU @ U1

SOK4

MISC. PART

40 Pin soldertail socket for 8155 PIO @ U4

SOK17

MISC. PART

28 Pin soldertail socket for 8251A UART @ U17

KP1

MISC. PART

MEMBRANE KEYPAD 4C X 5R CUSTOM FOR EMAC

PCB1

MISC. PART

Blank PCB ASSY
01-7400-R3

1

2

3

4

Title PRIMER TRAINER REV3
OPTIONAL PART PLACEHOLDERS FOR B.O.M.

Size	Number	Rev
A	FOR 01-7400 REV3 PCB	3.01.00

Date	10/18/91 -- 11/26/2004	Drawn by	SPIKE
Filename	PRIMER2005R3.01.00.SCH	Sheet	10 of 10

A

B

C

D

4