

8 7 6 5 4 3 2 1

REVISIONS						
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD. DATE
A			RELEASE PER EDR # 71677		DD RK	7/30/03
B			RELEASE PER EC # EC18562		DD RK	8/22/03
C			RELEASE PER EC # EC18895		KK RK	10/07/03

# GEMINI COLOR INTERFACE BOARD SCHEMATIC REV C

## TABLE OF CONTENTS:

1. TITLE PAGE, REVISION NOTES
2. MTM INTERFACE
3. LCD TIMING
4. BACKLIGHT AND POWER SUPPLIES
5. GAMMA AND GATE DRIVERS
6. TFT PANEL POWER SEQUENCING
7. LCD INTERFACE

Reference BOM TABLE (DNI=Do Not Install)  
Designator Build  
===== 01  
R6 DNI  
C234 DNI

CHANGES FROM..TO:  
  
**REV A**  
 INITIAL RELEASE  
**REV B**  
 CHANGED C5 AND C180 TO 10UF 1206 FOR  
 CORRECTED NOTE FOR DISPLAY POWER SEQUENCING  
**REV C**  
 REMOVED C234

### SCHEMATIC ROOMS:

- ROOMS:
- LCD\_CONTROLLER
  - LED\_BKLT
  - LCD\_SUPPLIES
  - GAMMA\_DRIVERS
  - TFT\_PWR\_SEQ

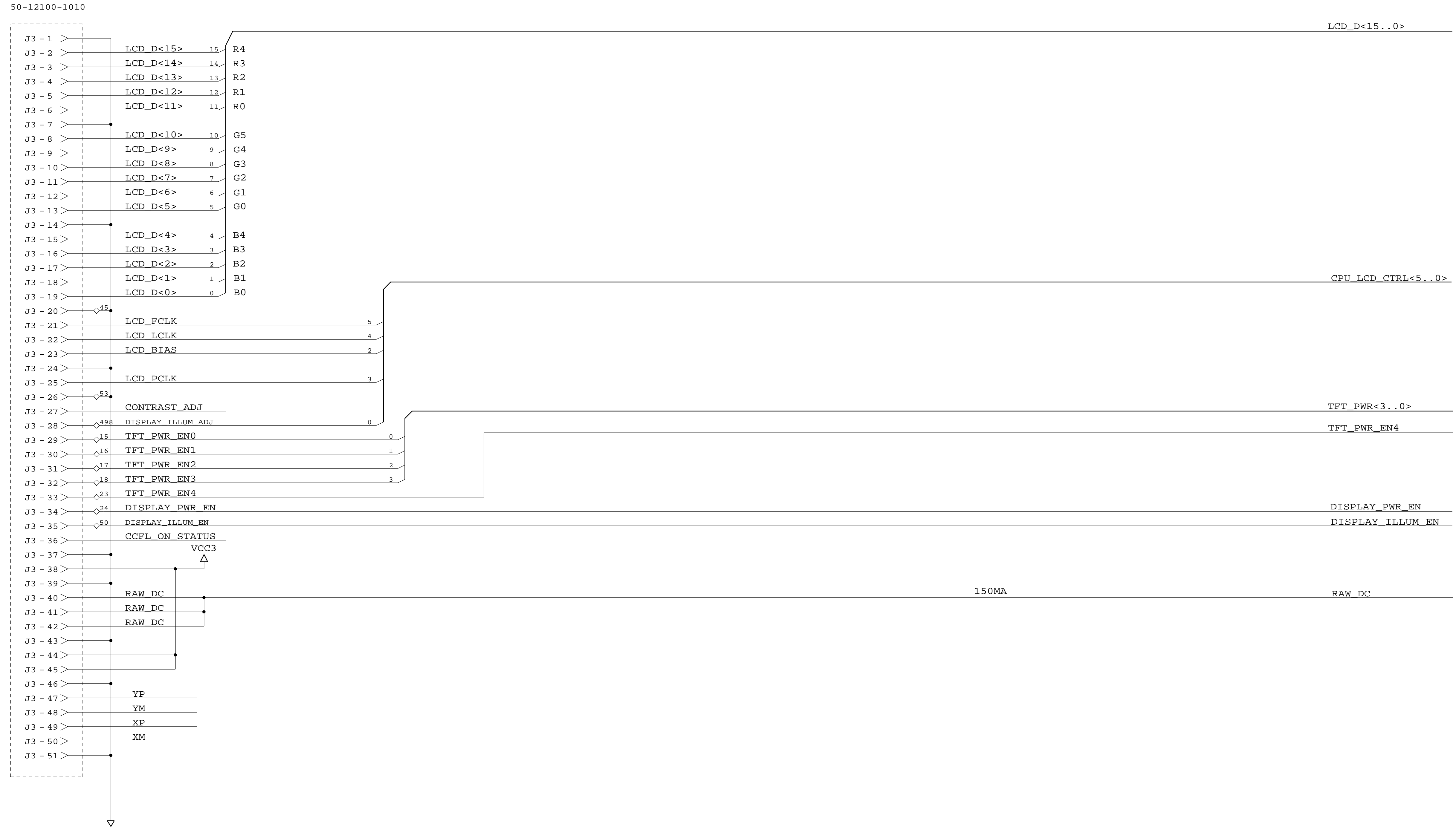
ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
UNLESS OTHERWISE SPECIFIED		APPROVALS		DATE
DRAWN G. COLELLA		10/31/02		<b>SYMBOL TECHNOLOGIES INC.</b> Bohemia, New York <b>GEMINI COLOR INTERFACE BOARD SCHEMATIC</b>
CHECKED R. KOTSAY		10/31/02		
ENGINEER G. COLELLA		10/31/02		
MFG. ENG.				
DIMENSIONS ARE IN INCHES		MATERIAL:		PRODUCT
.XX + .01		FRACTIONS ± 1/64		QUALITY
.XXX + .005				TEST ENG.
FINISH:				SIZE DWG. NO. 17-59785-01
NEXT ASSY		USED ON		DO NOT SCALE DRAWING
				REV C
				Tue Oct 7 09:07:35 2003 SHEET 1 OF 7

8 7 6 5 4 3 2 1

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

# MTM INTERFACE

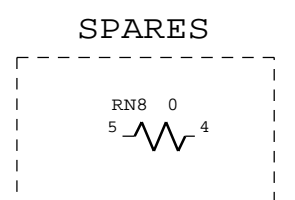
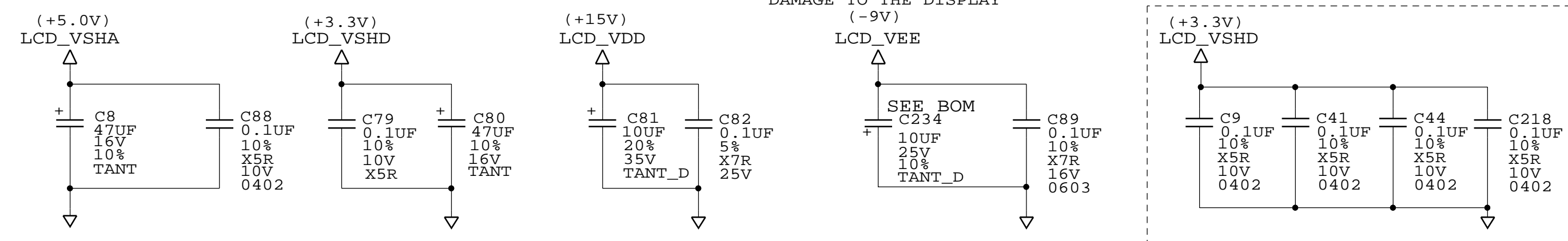
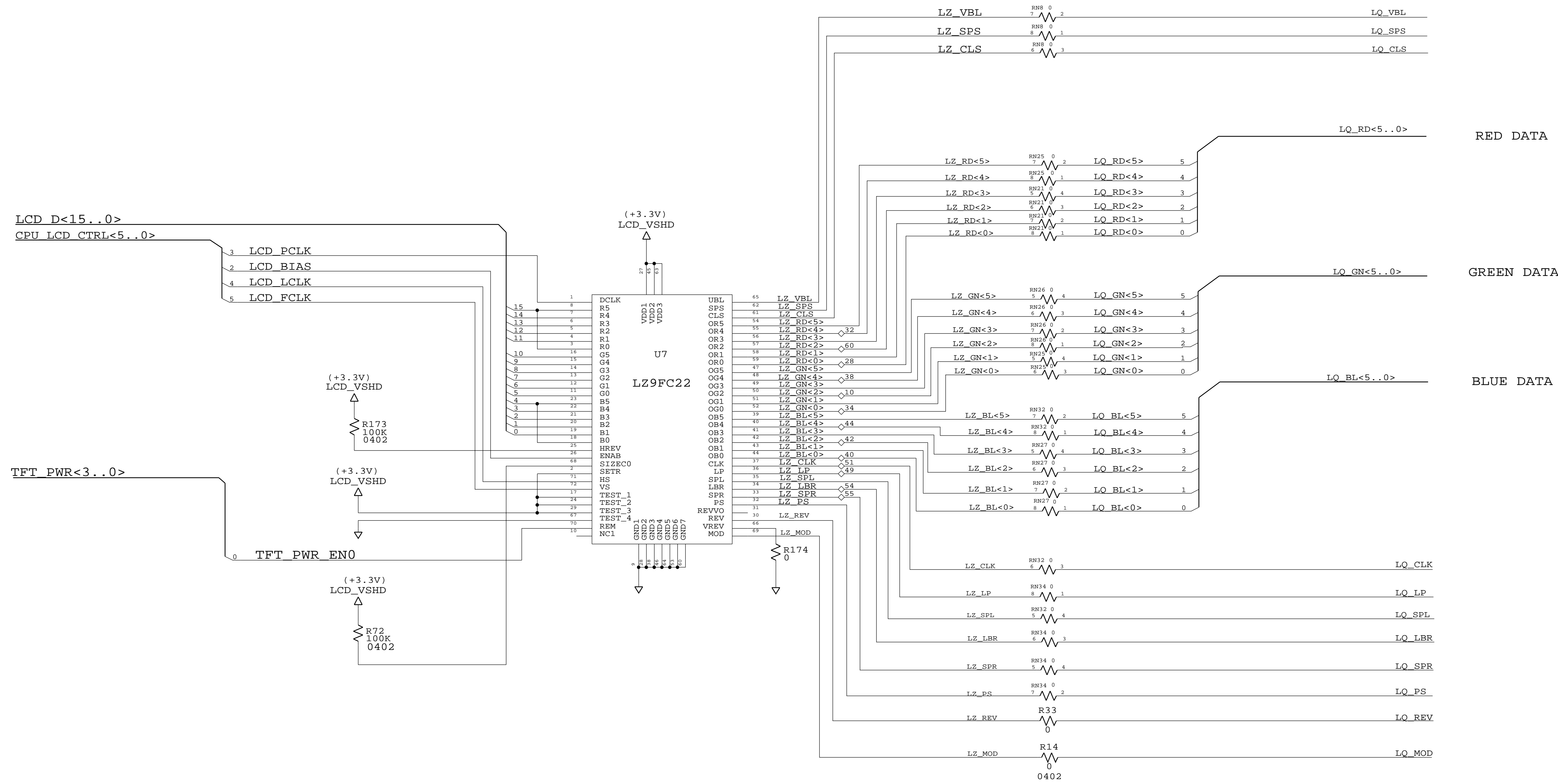
## CONNECTOR TO MTM



SYMBOL TECHNOLOGIES INC.			
Bohemia, New York			
GEMINI COLOR INTERFACE BOARD			
MTM INTERFACE			
SIZE	DWG. NO.	REV	
D	17-59785-01	C	
Tue Oct 7 09:19:43 2003		SHEET 2 OF 7	

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

# LCD TIMING CONTROLLER

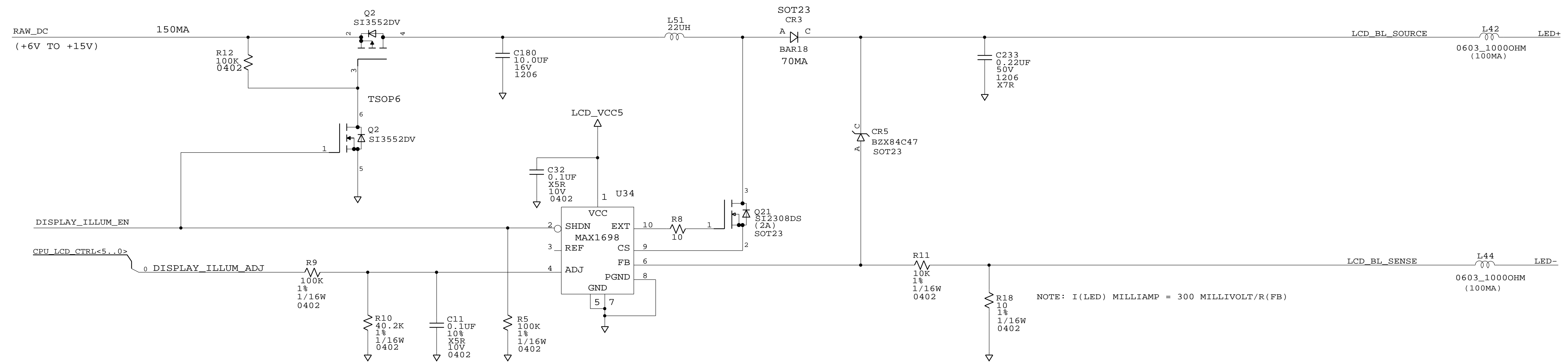


SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI COLOR INTERFACE BOARD		
LCD TIMING		
SIZE	DWG. NO.	REV
D	17-59785-01	C
Tue Oct 7 09:19:35 2003		SHEET 3 OF 7

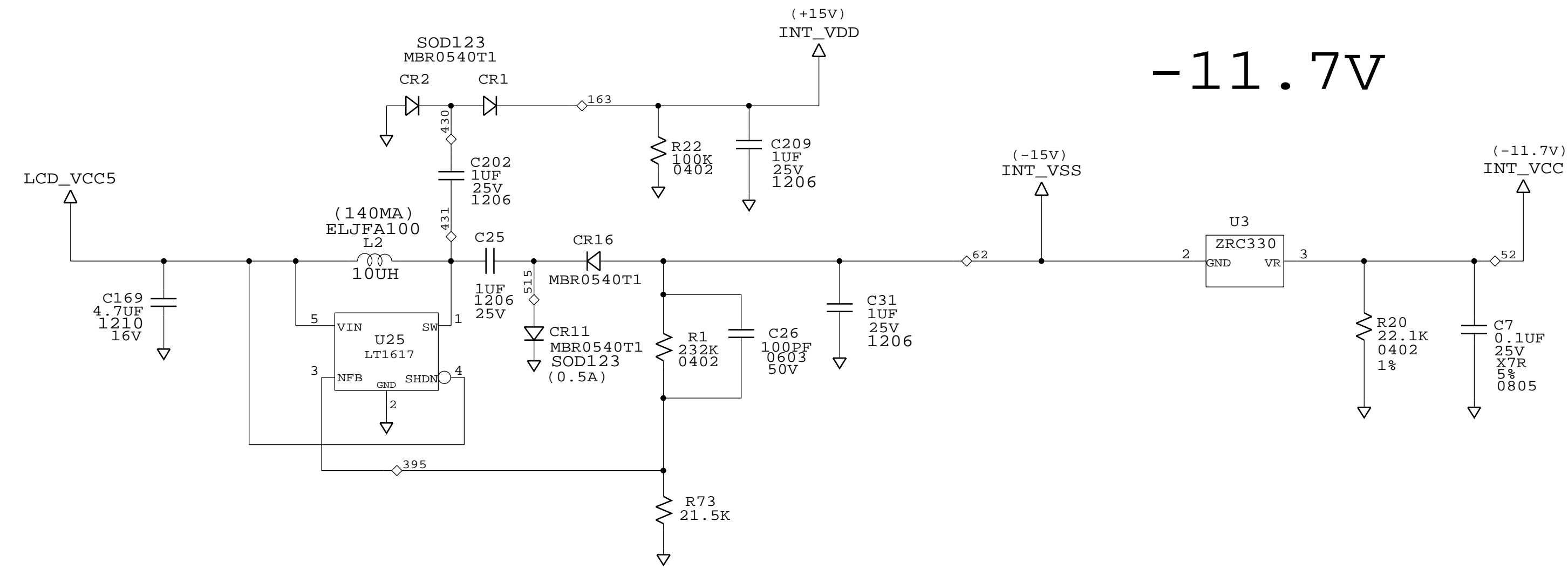
# LED BACKLIGHT & POWER SUPPLIES

## LED BACKLIGHT

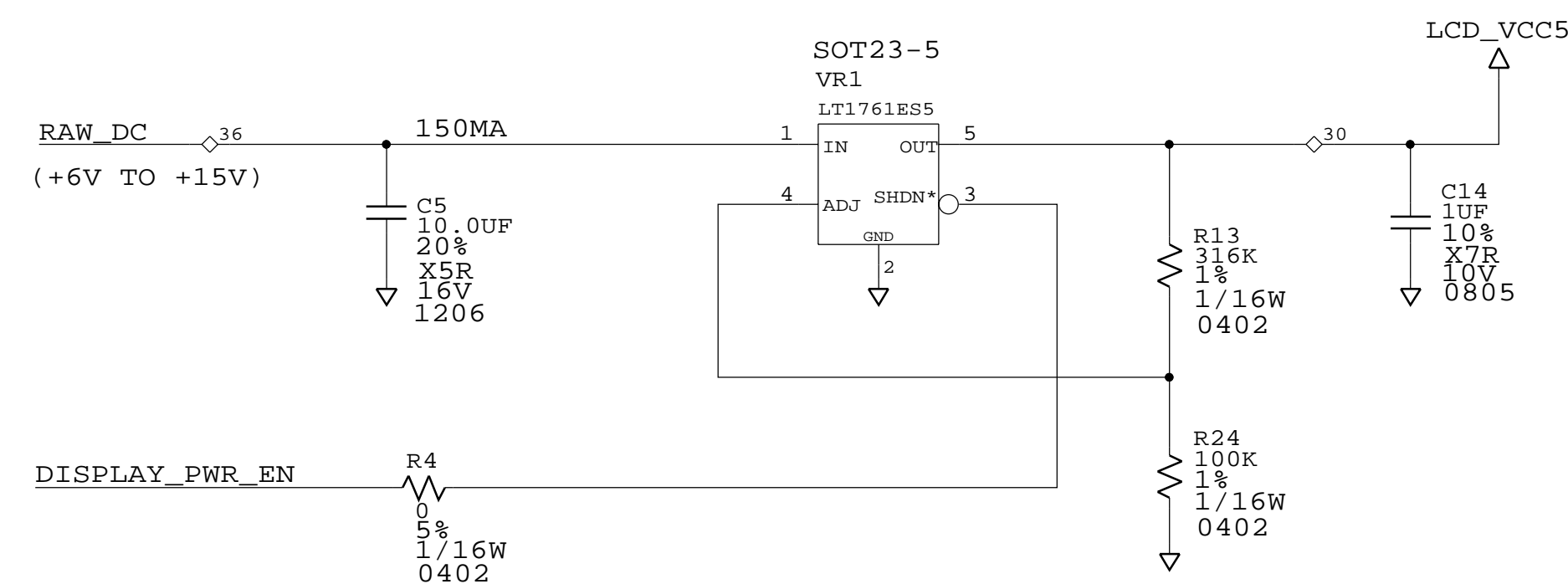
REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



## +15 & -15 VOLT SUPPLY



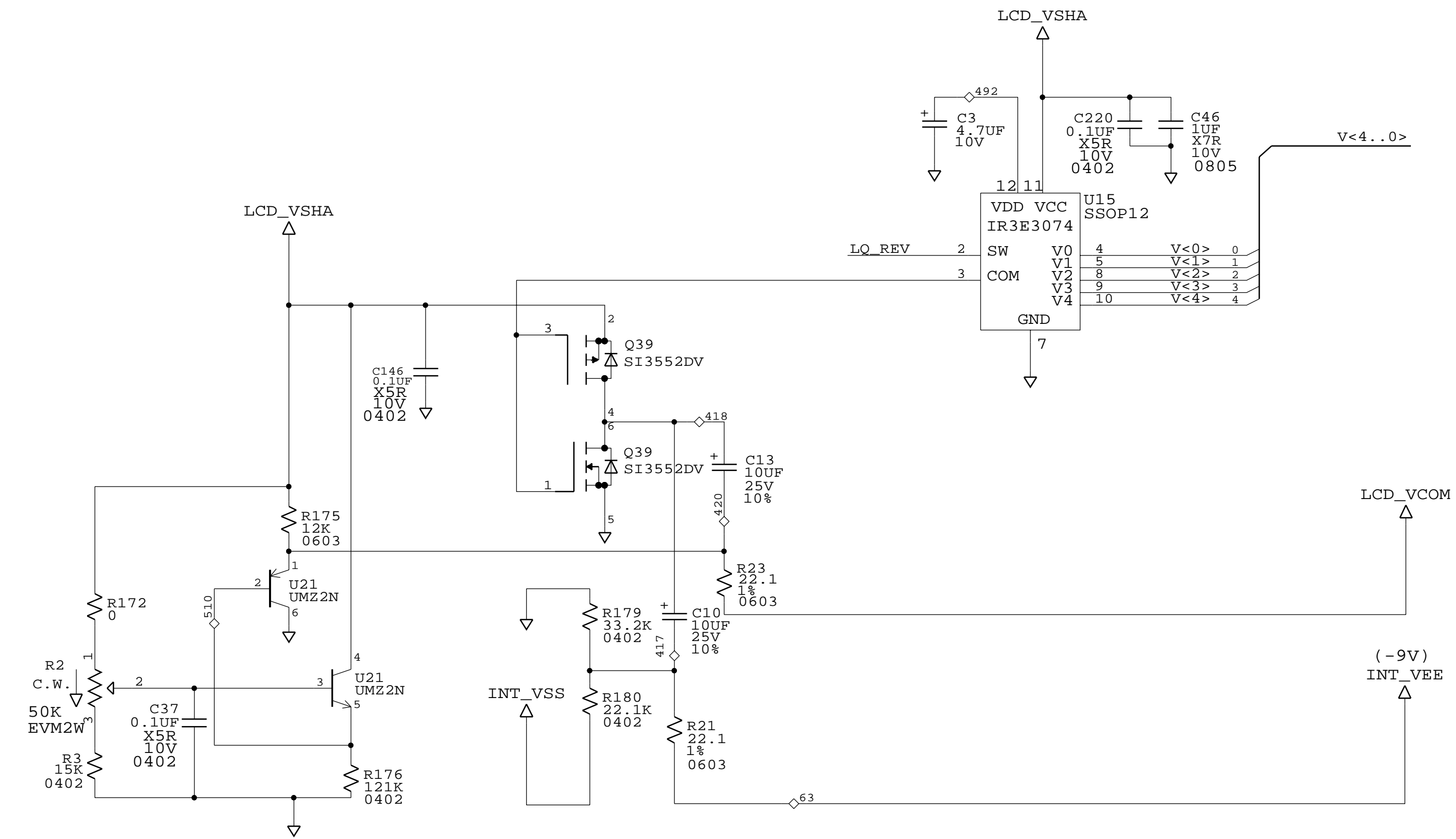
## +5.0V SUPPLY



SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI COLOR INTERFACE BOARD		
LED BACKLIGHT & POWER SUPPLIES		
SIZE	DWG. NO.	REV
D	17-59785-01	C
Tue Oct 7 09:19:37 2003		SHEET 4 OF 7

REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
			SEE SHEET 1		

# GAMMA & GATE DRIVERS

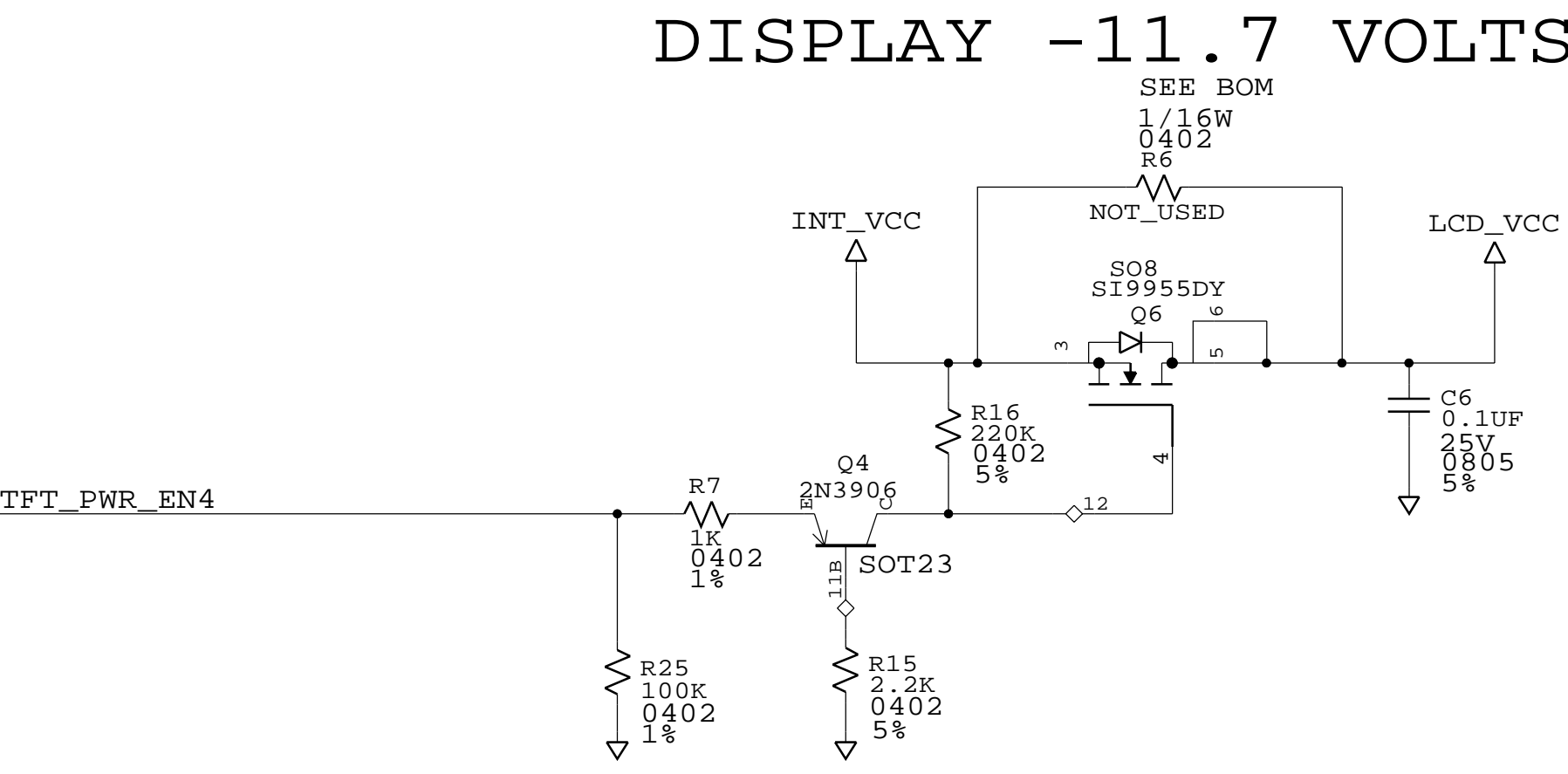
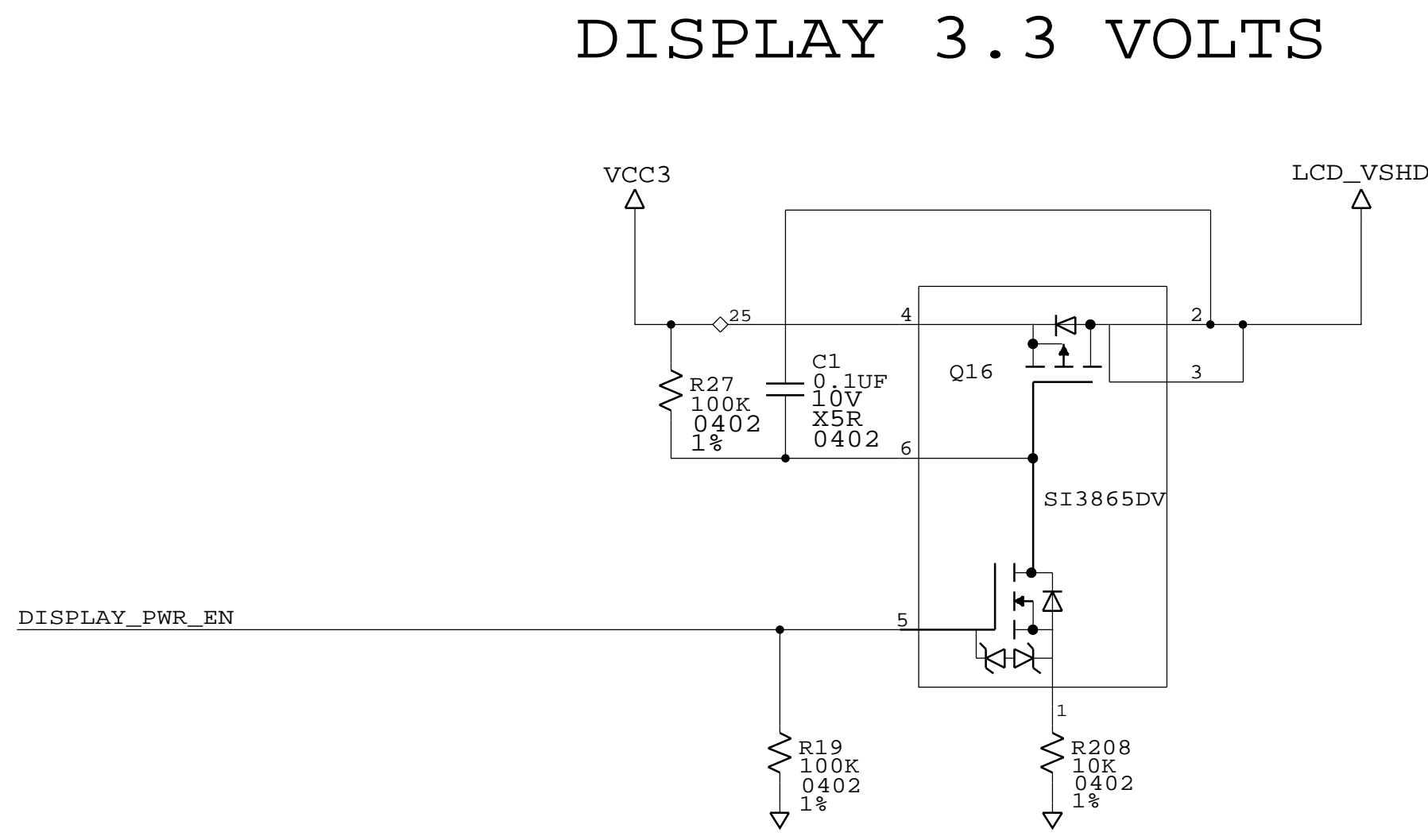
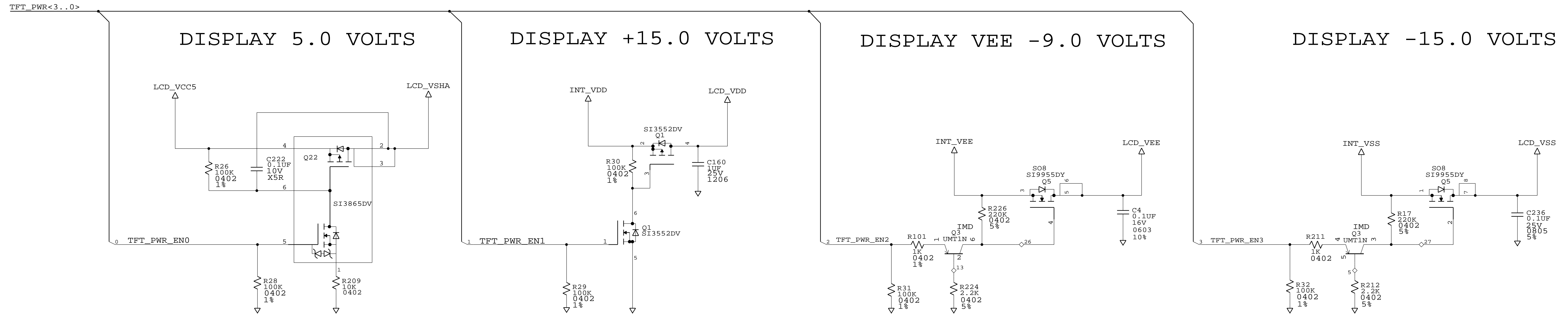


NOTE: COM MUST BE CALIBRATED ON THE MANUFACTURING FLOOR WITH THE PANEL THAT WILL BE USED FOR THAT PARTICULAR UNIT.

SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI COLOR INTERFACE BOARD		
GAMMA & GATE DRIVERS		
SIZE	DWG. NO.	REV
D	17-59785-01	C
Tue Oct 7 09:19:38 2003		SHEET 5 OF 7

# TFT PANEL POWER SEQUENCING

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



**TFT DISPLAY PWR**

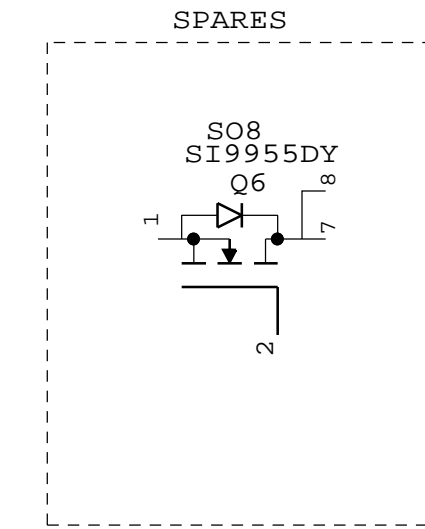
VSHD: +3.3VDC @ 1.8 MA(TYP)(3.6 MA MAX)  
 VSHA: +5.0VDC @ 5 MA(TYP)(10 MA MAX)  
 VCC: -11.7VDC @ -0.02MA(TYP)(-0.04MA MAX)  
 VSS: -15VDC @ +0.06MA(TYP)(-0.12MA MAX)  
 VEE: -9.0VDC @ -0.03MA(TYP)(-0.06MA MAX)  
 VDD: +15 VDC @ 0.05MA(TYP)( 0.10MA MAX)

VCOM: (+/-2.5)+1.1VDC

**POWER SEQUENCE**

TURN ON  
 VSHD->VSHA->VSS->VCC->VEE->VDD

TURN OFF  
 VDD->VEE->VCC->VSS->VSHA->VSHD



SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI COLOR INTERFACE BOARD		
LCD POWER SEQUENCING		
SIZE	DWG. NO.	REV
D	17-59785-01	C
Tue Oct 7 09:19:40 2003		SHEET 6 OF 7



# GEMINI MAIN TERMINAL MODULE (MTM) SCHEMATIC (WITH EMBEDDED 802.11B RADIO) REV A

REVISIONS						
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD. DATE
A			RELEASE PER EDR # 72523		MV	R. KOTSAY 12/11/03

### CONFIGURATIONS:

-01 : 64 MBYTE FLASH / 64 MBYTE SDRAM WITH EMBEDDED T3 RADIO  
 -02 : 32 MBYTE FLASH / 32 MBYTE SDRAM WITH EMBEDDED T3 RADIO  
 -03 : 64 MBYTE FLASH / 128 MBYTE SDRAM WITH EMBEDDED T3 RADIO  
 -04 : 32 MBYTE FLASH / 32 MBYTE SDRAM BATCH (NO RADIO)  
 -05 : 64 MBYTE FLASH / 64 MBYTE SDRAM BATCH (NO RADIO)  
 -06 : 64 MBYTE FLASH / 128 MBYTE SDRAM BATCH (NO RADIO)

### POPULATIONS:

△ NOT POPULATED ON ANY CONFIGURATION

### CHANGES:

CHANGES FROM 64436 REV 5 : NONE

### NOTES:

- ALL RESISTORS ARE 0402, 5% UNLESS NOTED OTHERWISE
- ALL CAPACITORS ARE 0402, 10V, X7R OR COG, 10% UNLESS NOTED OTHERWISE

POWER AND GROUND DESIGNATOR	LIST - 1 PART TYPE	
U9	VCC3	NC7S211-SC70-6-VCC=VCC3
GND	14	LCK08-TSSOP14-VCC=VCC3
U19	VCC3	NC7S211-SC70-6-VCC=VCC3
GND	5	
U22	VCC3	TC7S00FU-SOT23-5-VCC=VCC3
GND	5	
U26	VCCF	SAM256MB_WIDE-SAM256MB_WIDE-VCA
A1	A9	
E3	E7	
J1	J9	
U30	VCCF	SAM256MB_WIDE-SAM256MB_WIDE-VCA
GND	A9	
A1	E7	
E3	J9	
J1		
U33	VCC3	AHC1G32-SC70-VCC=VCC3
GND	5	
U37	VCCF	28F256K3-EBGA64-INT-VCC=VCCF
GND	A6	
B2	H3	
H4		
U38	VCC3	NC7S211-SC70-6-VCC=VCC3
GND	5	
U39	VCC3	NC7S227-SC70-6-VCC=VCC3
GND	5	
U40	VCC3	NC7S211-SC70-6-VCC=VCC3
GND	5	
U44	VCC3	LVC1G17-SC70-VCC=VCC3
GND	5	
U48	VCCF	28F256K3-EBGA64-INT-VCC=VCCF
GND	A6	
B2	H3	
H4		
U55	VCC3	LVC1G17-SC70-VCC=VCC3
GND	5	
U56	VCC3	LVC1G17-SC70-VCC=VCC3
GND	5	
U304	GND	AHC1G32-SC70-VCC=3VDA
3VDA	3	
5		

### SCHEMATIC ROOMS

#### ROOMS:

ACIN	COMMCNN
ASIC	DISPLAYCONN
AUDIO	IMAGERCONN
AUDIOSUPPLY	POWERCONN
BACKUPBATTERY	SCANNERCONN
BATTERYCHARGER	SDMMCCNN
CPLD	TRIGCONN
CURRENTMONITOR	KEYBOARD_BACKLIGHT
FAULTDETECT	IOCONN
HISPEED	TOUCHSCREENCONN
RADIOATETP	
OPTIONBUFF	
POWERMICRO	
RADIOIDIGITAL	
RADIOIF	
RADIORF	
USB	
3VSUPPLY	

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- PAGE 3: MEMORY & BUFFERS
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- PAGE 6: 802.11B RADIO - IF
- PAGE 7: 802.11B RADIO - RF
- PAGE 8: AUDIO (PIEZO)
- PAGE 9: POWER MICRO
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- PAGE 11: SCANNER & IMAGER INTERFACES
- PAGE 12: SD/MMC, COMMUNICATIONS & TRIGGER INTERFACES
- PAGE 13: USER INTERFACES
- PAGE 14: POWER, BATTERY CHARGER & POWER SUPPLIES
- PAGE 15: CORE SUPPLY, BACKUP BATTERY & ACIN
- PAGE 16: MTM TO OPTION BOARD INTERFACE

### CRITICAL SIGNALS

#### SIGNALS:

BX\_SDRAS, BX\_SDCAS, BX\_SDCS0, BX\_SDCLK1, BX\_WE, BX\_DQM3...0  
 MMCMD, MMDAT, MMCMD\_DAT3\_CS  
 YP, YM, XP, XM  
 BUF\_EN\*  
 D\_DIR  
 BX\_ADDR, BX\_DATA  
 LCD<15..0>  
 SPI\_DO, SPI\_DI  
 PIX\_DATA<7..0>  
 RD/WR\*  
 USB\_DPLUS, USB\_DMINUS

### CLOCK TABLE

CLOCK:	FREQUENCY:
SDCLK1	(100 MHZ)
LCD_PCLK	(MONO=1.66MHZ, COLOR=6.22MHZ)
SDCLK_0	(50 MHZ)
SDCLK_2	(50 MHZ)
SDCLK0	(50 MHZ)
CLK_48M	(50 MHZ)
BX_SDCLK1	(50 MHZ)
48MHZ_GPIO7	(48 MHZ)
MMCLK	(20 MHZ)
AC97_BITCLK	(12.288 MHZ)
USB	(12 MHZ)
PIX_CLK	(12 MHZ)
SPI_CLK	(5 MHZ)
TCLK	(12 MHZ)
IRDA	(4 MHZ)
CLK_3M6	(3.6 MHZ)
SCL	(400 KHZ)
CLK_32K	(32 KHZ)
CPLD_CLK_32K	(32 KHZ)
ISL_CLK	(1 MHZ)
44MHZ_CW	(44 MHZ)
44MHZ_REF	(44 MHZ)

### SCHEMATIC ATTRIBUTES

#### ATTRIBUTES:

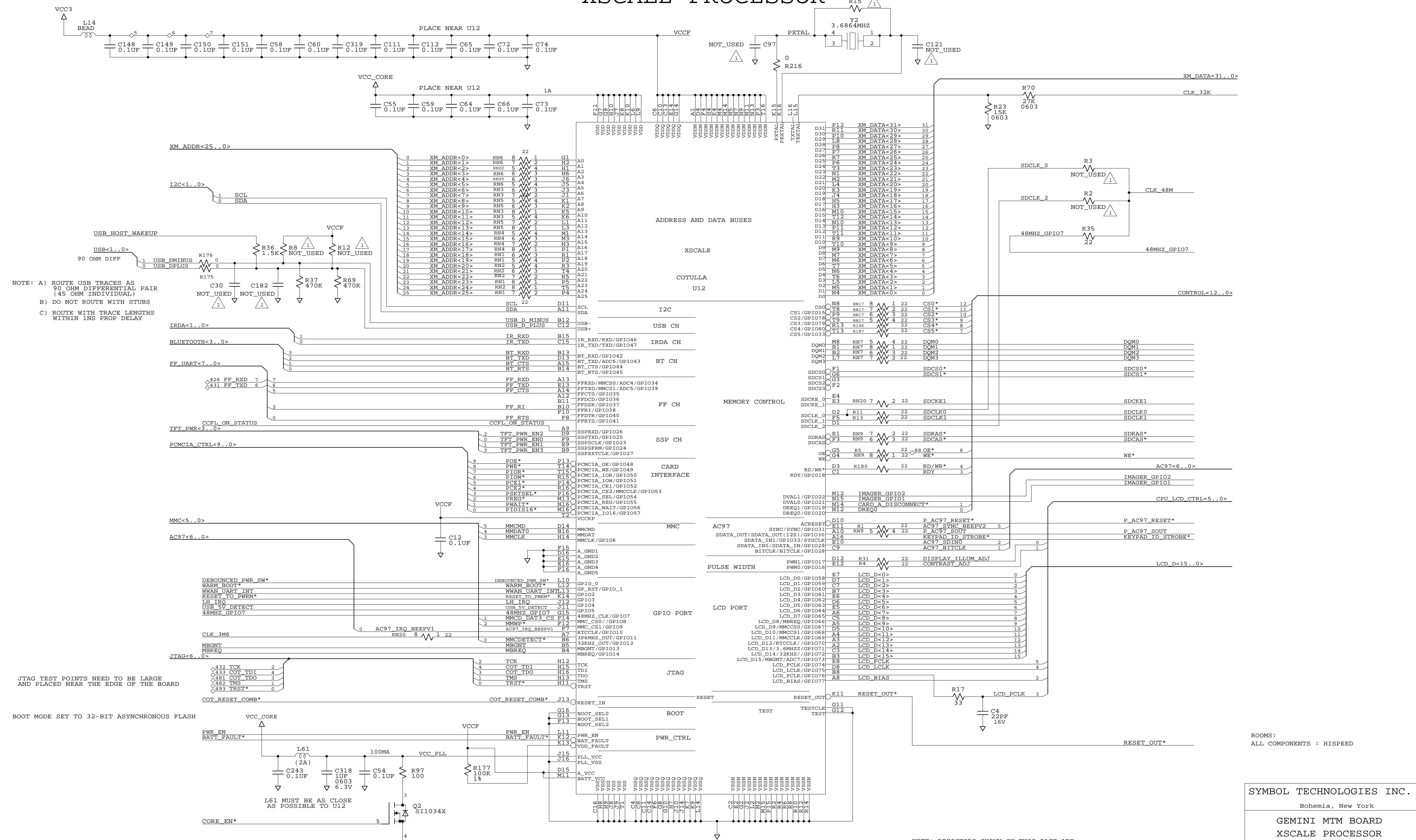
NET\_PHYSICAL\_TYPE  
 CLOCK\_NET  
 DIFFERENTIAL\_PAIR  
 IMPEDANCE\_RULE

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
			APPROVALS	DATE
			DRAWN D. DEMEO	12/11/03
			CHECKED R. KOTSAY	12/11/03
			ENGINEER D. DEMEO	12/11/03
			MFG. ENG. P. IASSO	12/11/03
			PRODUCT G. STILL	12/11/03
			QUALITY B. WATSON	12/11/03
			TEST ENG. D. REED	12/11/03
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.				
			DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED .XX     +     MM     +     .01 .XXX   +     "     +     .005 ANGLES : 1°     FRACTIONS : 1/64	
			FINISH: NEXT ASSY     USED ON     DO NOT SCALE DRAWING	
			APPROVALS     DATE DRAWN D. DEMEO     12/11/03 CHECKED R. KOTSAY     12/11/03 ENGINEER D. DEMEO     12/11/03 MFG. ENG. P. IASSO     12/11/03 PRODUCT G. STILL     12/11/03 QUALITY B. WATSON     12/11/03 TEST ENG. D. REED     12/11/03	
			SYMBOL TECHNOLOGIES INC. Bohemia, New York <b>GEMINI MTM BOARD SCHEMATIC</b> SIZE DWG. NO. <b>D 17-64436-01</b> REV <b>A</b> Thu Dec 11 15:55:51 2003     SHEET 1 OF 16	



# XSCALE PROCESSOR

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



NOTE: A) ROUTE USB TRACES AS 90 OHM DIFFERENTIAL PAIR (45 OHM INDIVIDUAL)  
 B) DO NOT ROUTE WITH STUBS  
 C) ROUTE WITH TRACE LENGTHS WITHIN 1NS PROP DELAY

NOTE: RESISTORS SHOWN ON THIS PAGE ARE TO BE PLACED AS CLOSE AS POSSIBLE TO U12

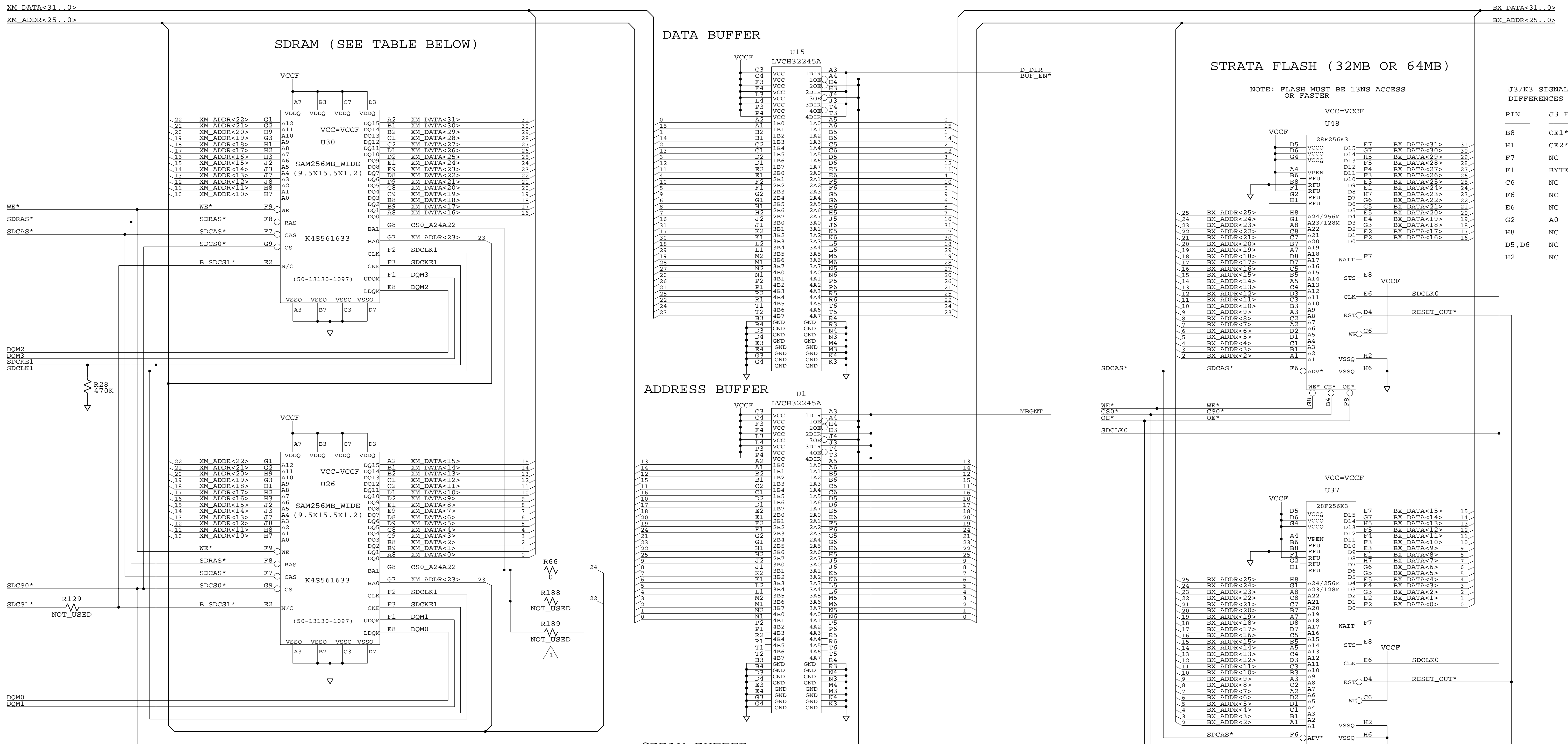
ROOMS: ALL COMPONENTS : HISPEED

SYMBOL TECHNOLOGIES INC.  
 Bohemia, New York  
**GEMINI MTM BOARD**  
**XSCALE PROCESSOR**

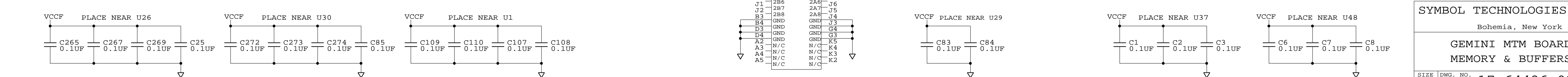
PLACE TP 15,16,19,20,48,49,50,51,52 NEXT TO EACH OTHER  
 KEEP JTAG, TX/RX AND VCC3/GND CLOSE TO EDGE OF BOARD

# MEMORY & BUFFERS

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



DENSITY	R66	R129	R188	R189
128MBYTE (2 CS)	IN	IN	OUT	OUT
64MBYTE	IN	OUT	OUT	OUT
32MBYTE	OUT	OUT	IN	OUT
16MBYTE	OUT	OUT	IN	OUT



ROOMS:  
ALL COMPONENTS : HISPEED

SYMBOL TECHNOLOGIES INC.  
Bohemia, New York

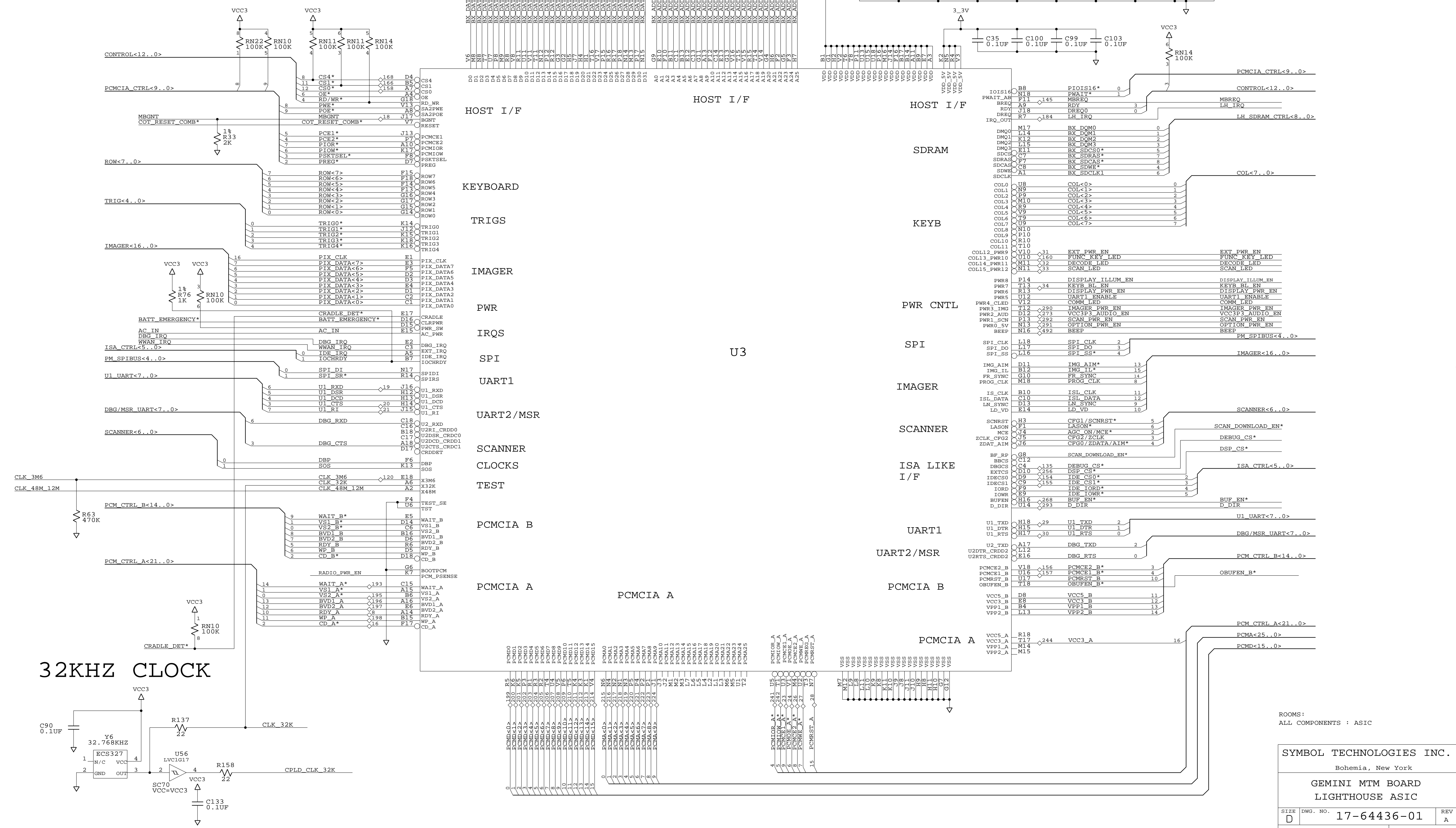
**GEMINI MTM BOARD**  
MEMORY & BUFFERS

SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:58:18 2003 SHEET 3 OF 16

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

# LIGHTHOUSE ASIC



ROOMS:  
ALL COMPONENTS : ASIC

SYMBOL TECHNOLOGIES INC.  
Bohemia, New York

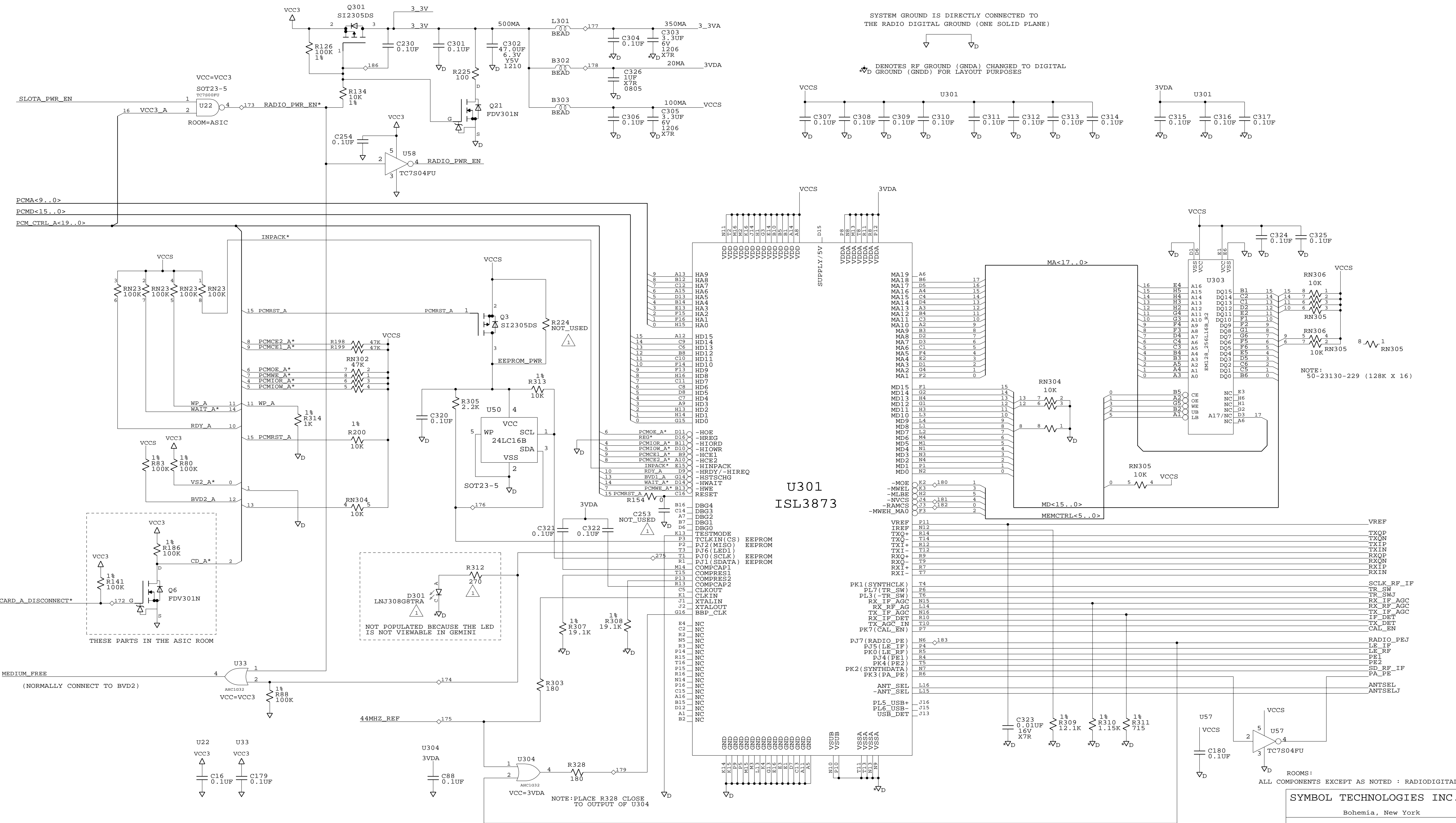
GEMINI MTM BOARD  
LIGHTHOUSE ASIC

SIZE	DWG. NO.	REV
D	17-64436-01	A

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# T3-BASED 802.11B RADIO - BASEBAND

REVISIONS				
REV	ZONE	BY	DATE	DESCRIPTION
SEE SHEET 1				



SYSTEM GROUND IS DIRECTLY CONNECTED TO THE RADIO DIGITAL GROUND (ONE SOLID PLANE)

⚡ DENOTES RF GROUND (GNDA) CHANGED TO DIGITAL ⚡ GROUND (GNDD) FOR LAYOUT PURPOSES

NOTE: 50-23130-229 (128K X 16)

ROOMS: ALL COMPONENTS EXCEPT AS NOTED : RADIODIGITAL

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

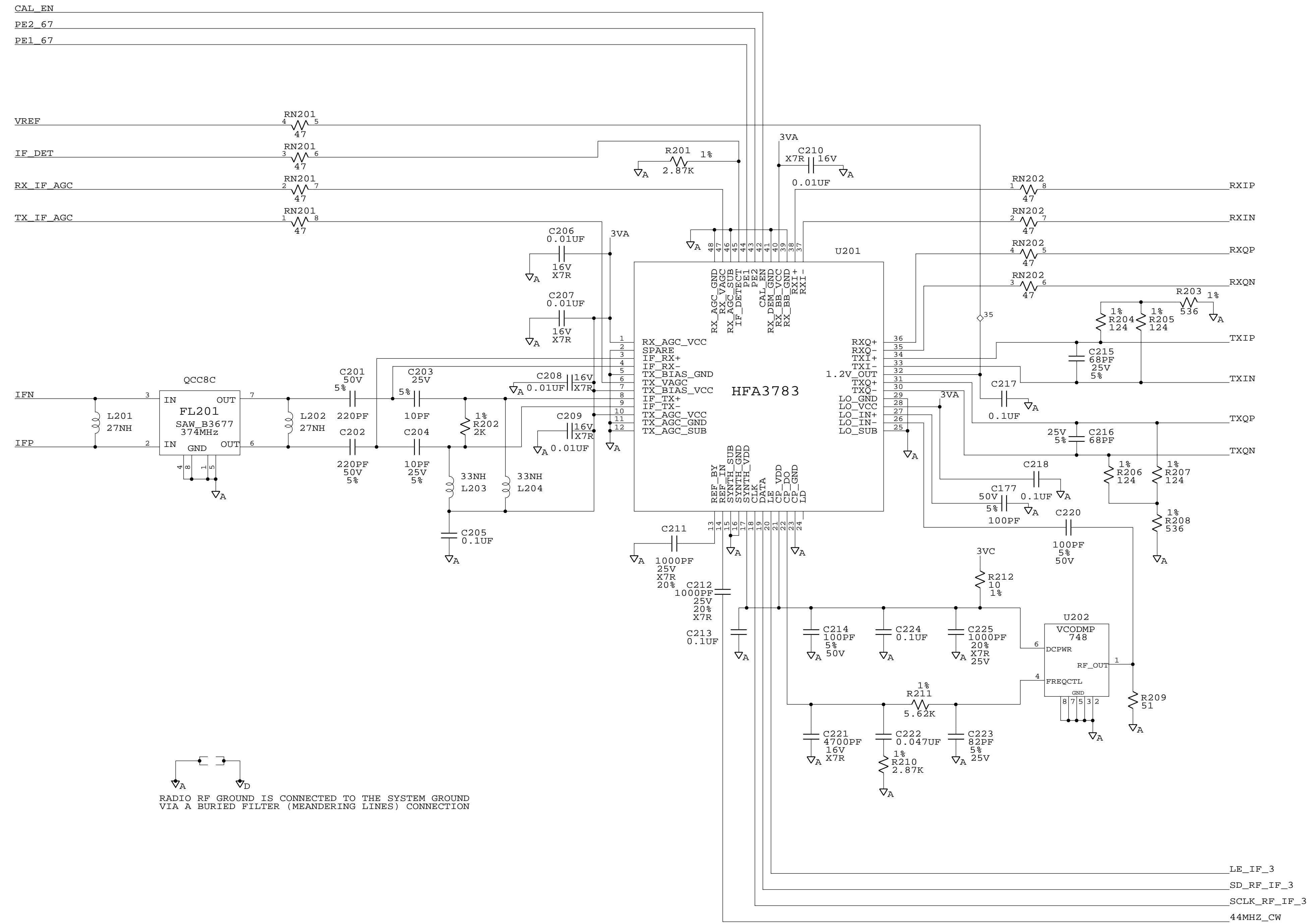
**GEMINI MTM BOARD**  
802.11B RADIO - BASEBAND

SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:58:25 2003 SHEET 5 OF 16

# T3-BASED 802.11B RADIO - IF

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



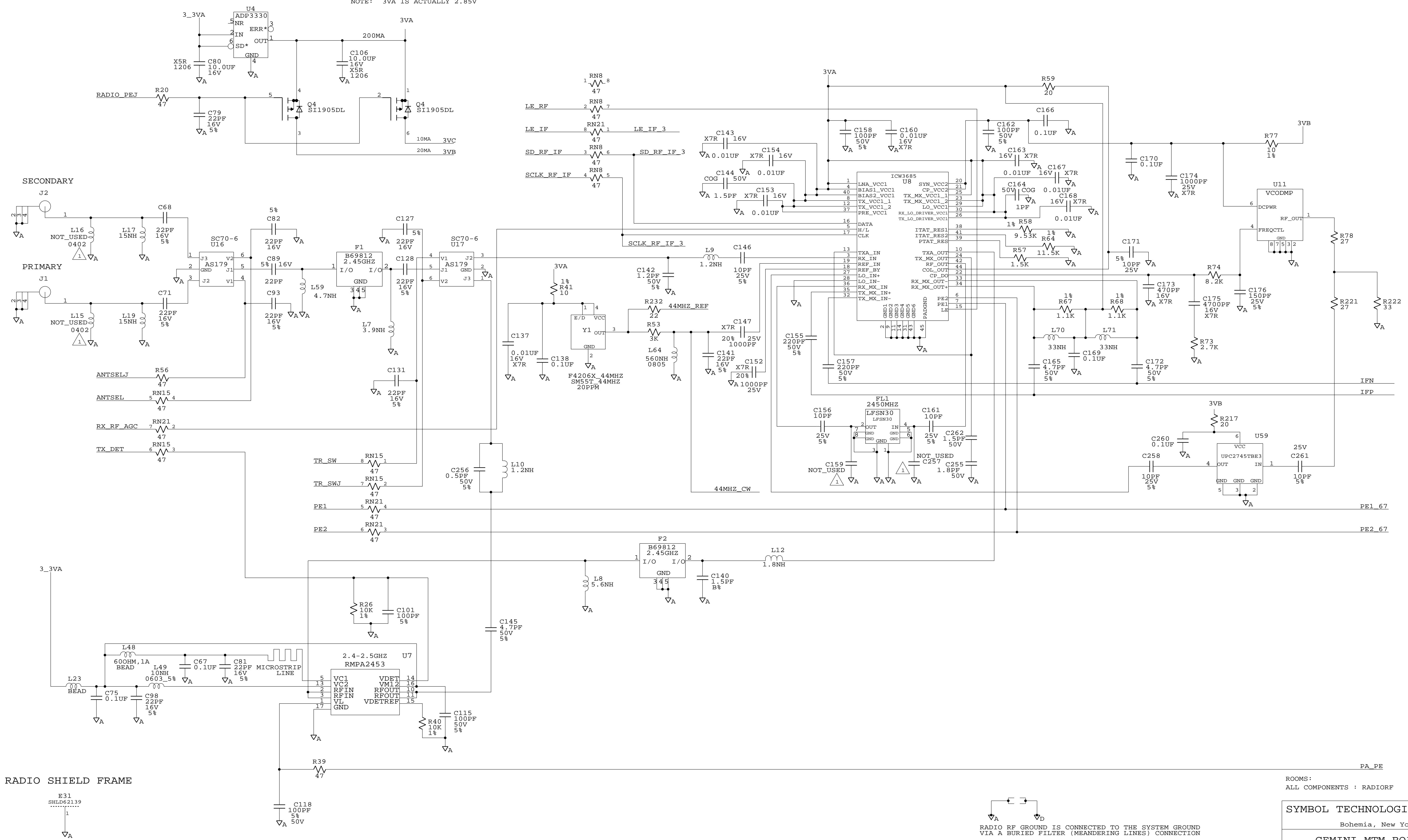
ROOMS:  
ALL COMPONENTS : RADIOIF

SYMBOL TECHNOLOGIES INC.	
Bohemia, New York	
GEMINI MTM BOARD	
802.11B RADIO - IF	
SIZE	DWG. NO. 17-64436-01
D	REV A
Thu Dec 11 15:58:37 2003	SHEET 6 OF 16

# 802.11B RADIO - RF

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

NOTE: 3VA IS ACTUALLY 2.85V



RADIO SHIELD FRAME

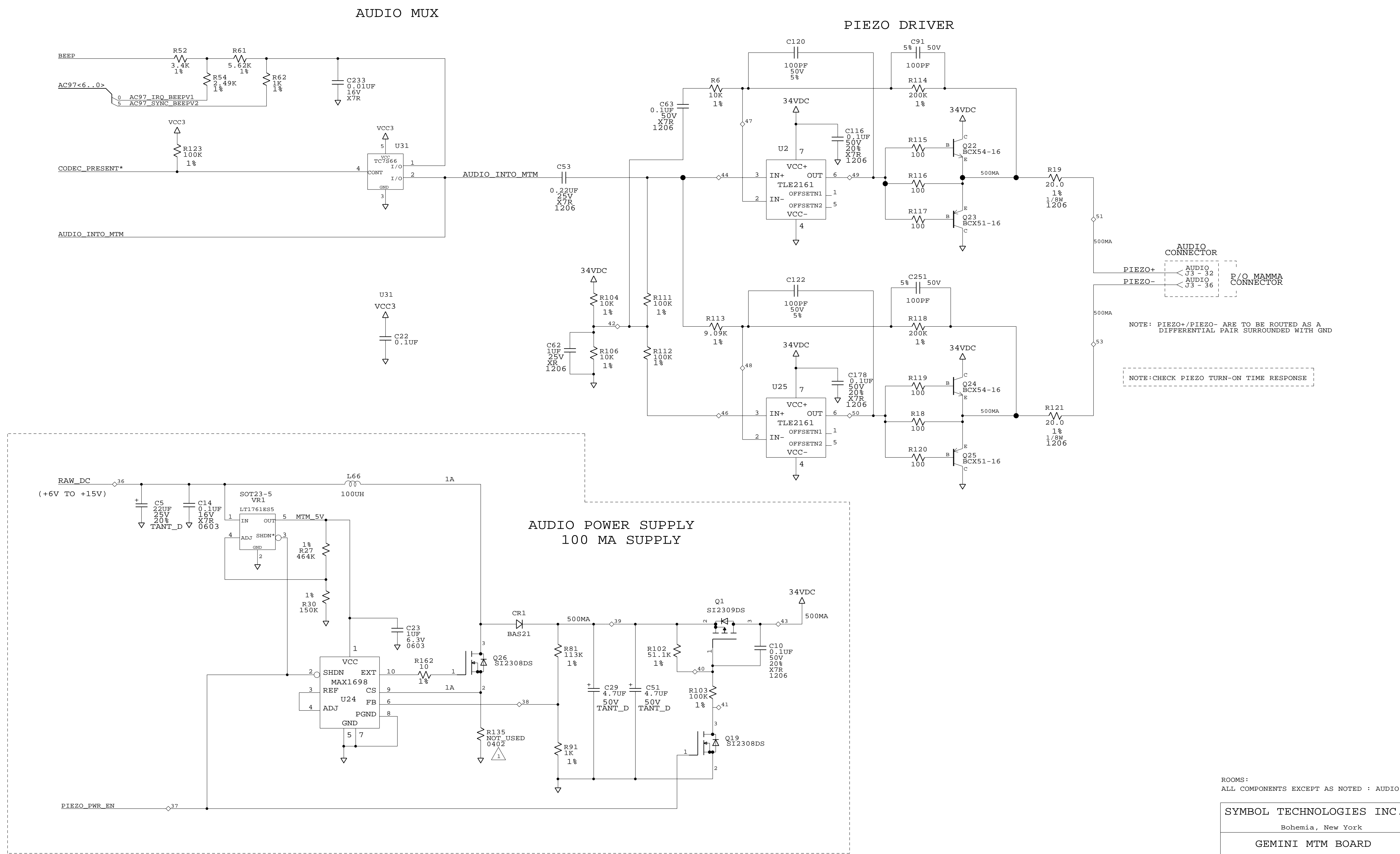
RADIO RF GROUND IS CONNECTED TO THE SYSTEM GROUND VIA A BURIED FILTER (MEANDERING LINES) CONNECTION

ROOMS:  
ALL COMPONENTS : RADIORF

SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI MTM BOARD		
802.11B RADIO - RF		
SIZE	DWG. NO.	REV
D	17-64436-01	A
Thu Dec 11 15:58:41 2003		SHEET 7 OF 16

# AUDIO

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



NOTE: PIEZO+/PIEZO- ARE TO BE ROUTED AS A DIFFERENTIAL PAIR SURROUNDED WITH GND

NOTE: CHECK PIEZO TURN-ON TIME RESPONSE

THESE COMPONENTS ARE IN THE AUDIOSUPPLY ROOM

ROOMS:  
ALL COMPONENTS EXCEPT AS NOTED : AUDIO

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

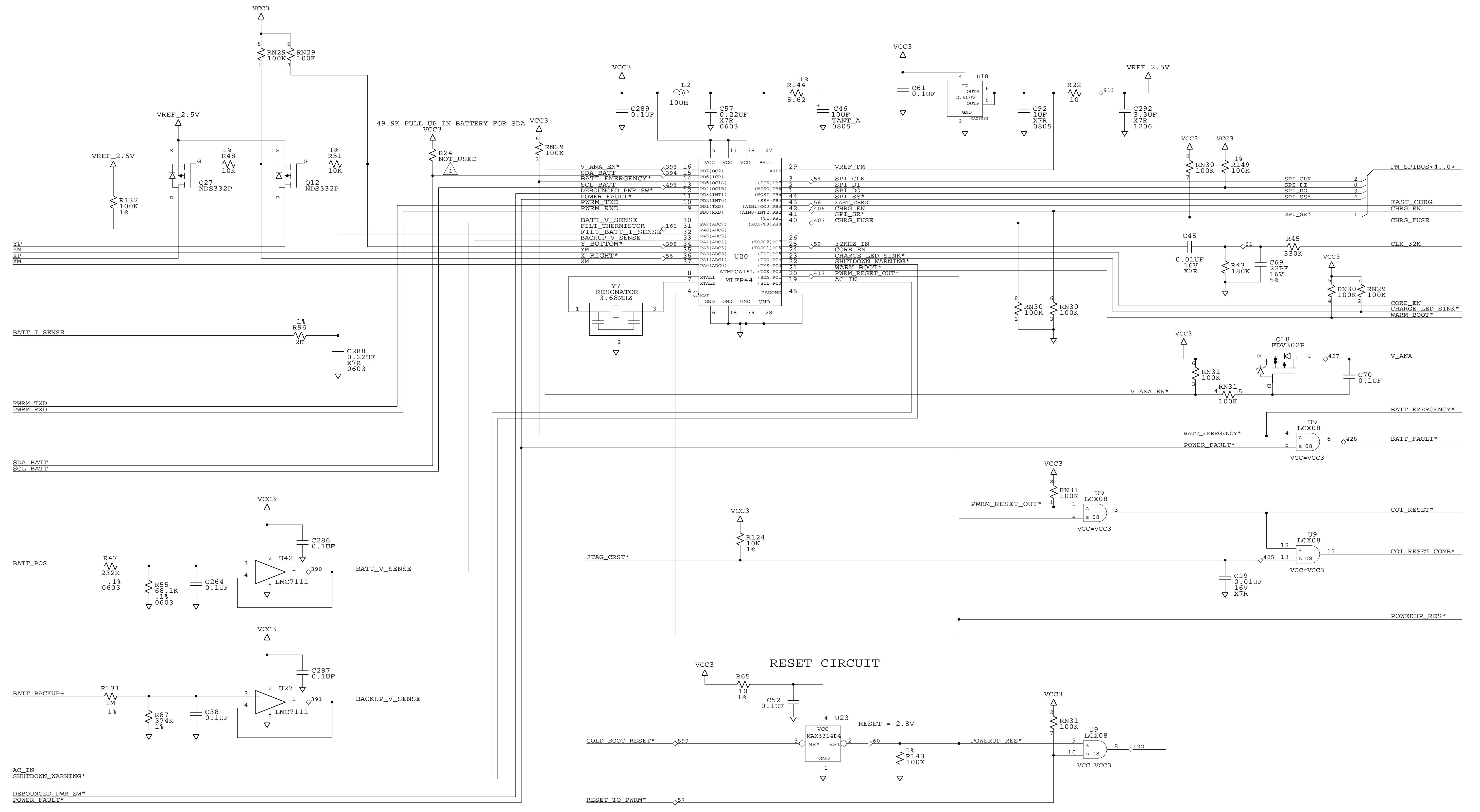
**GEMINI MTM BOARD**  
AUDIO

SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:58:46 2003 SHEET 8 OF 16

# POWER MICRO

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
SEE SHEET 1							



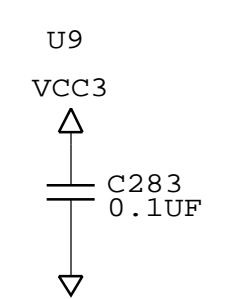
ROOMS:  
ALL COMPONENTS : POWERMICRO

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

**GEMINI MTM BOARD**  
POWER MICRO

SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:58:50 2003 SHEET 9 OF 16

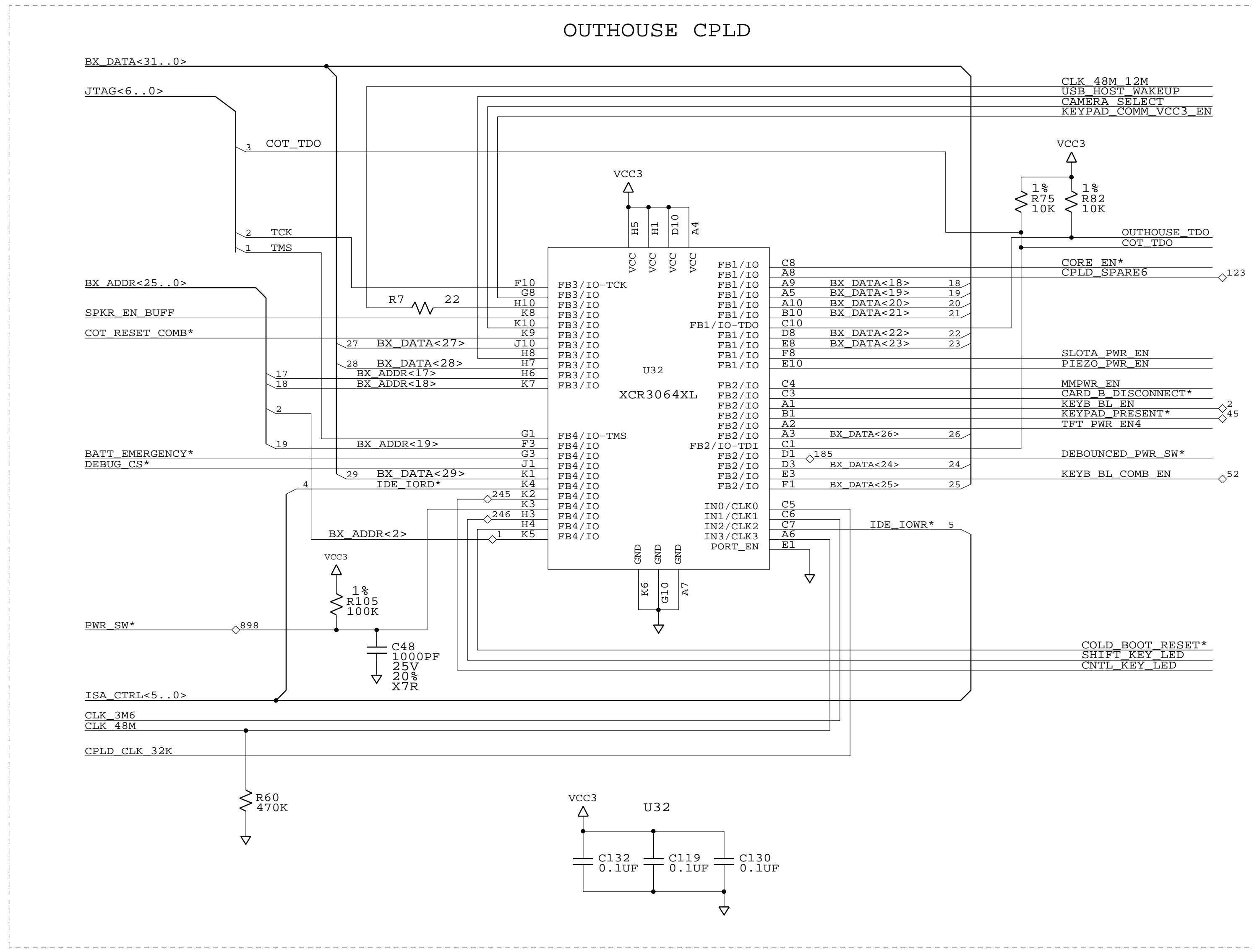




# DISPLAY INTERFACE & OUTHOUSE CPLD

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

## OUTHOUSE CPLD

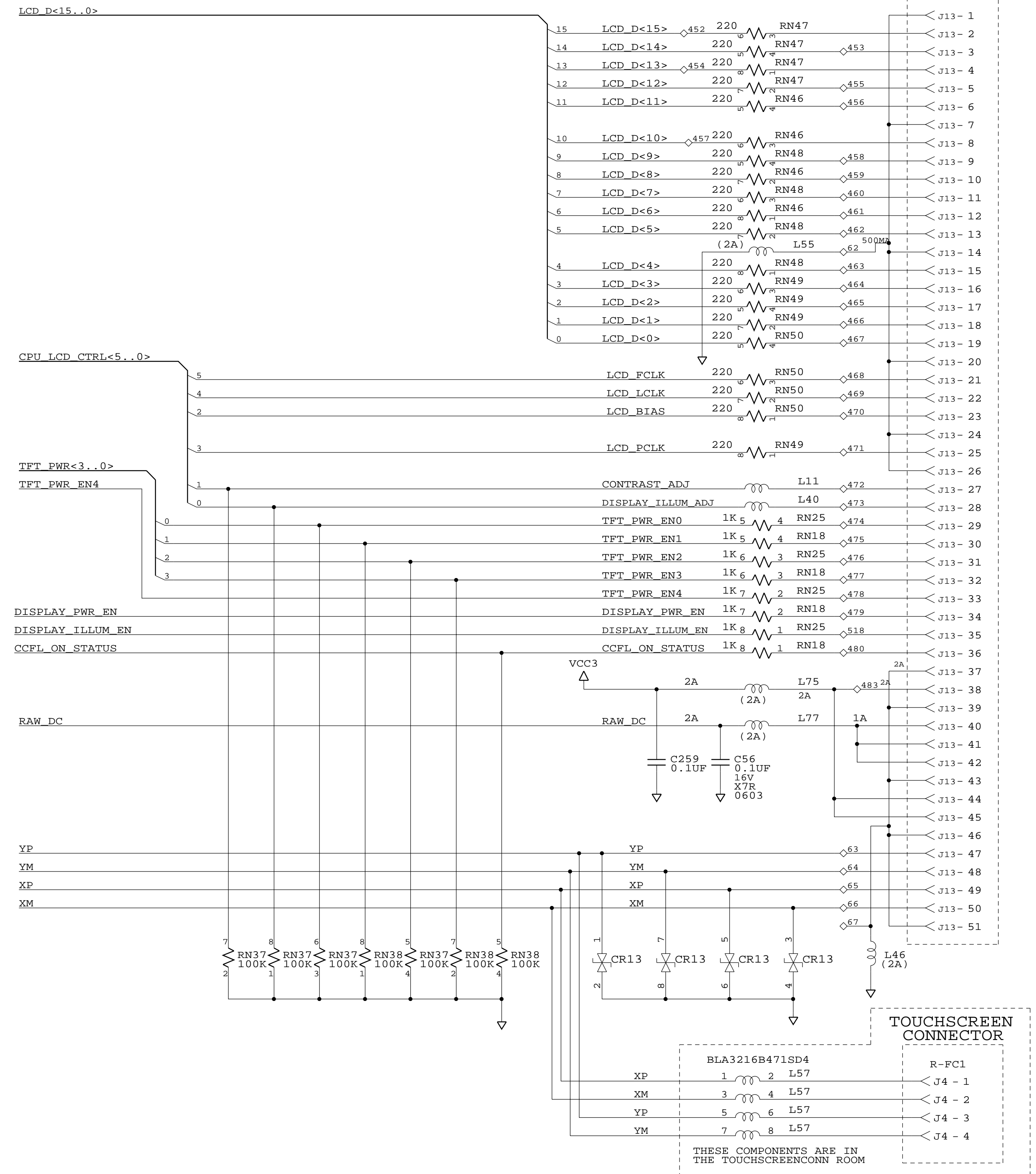


THESE COMPONENTS ARE IN THE CPLD ROOM

### CPLD SIGNAL MAPPING

BX_DATA	SIGNAL (ALL OUTPUTS OR INTERNAL)
29	USB_HOST_WAKEUP
28	SHIFT_KEY_LED
27	CNTL_KEY_LED
26	CAMERA_SELECT
25	KEYPAD_COMM_VCC3_EN
24	AUDIO_DURING_SUSPEND (INTERNAL TO CPLD)
23	SLOTA_PWR_EN
22	ASIC_CLK_SEL (INTERNAL TO CPLD)
21	MMPWR_EN*
20	PIEZO_PWR_EN
19	CARD_B_DISCONNECT*
18	TFT_PWR_EN4

## DISPLAY CONNECTOR



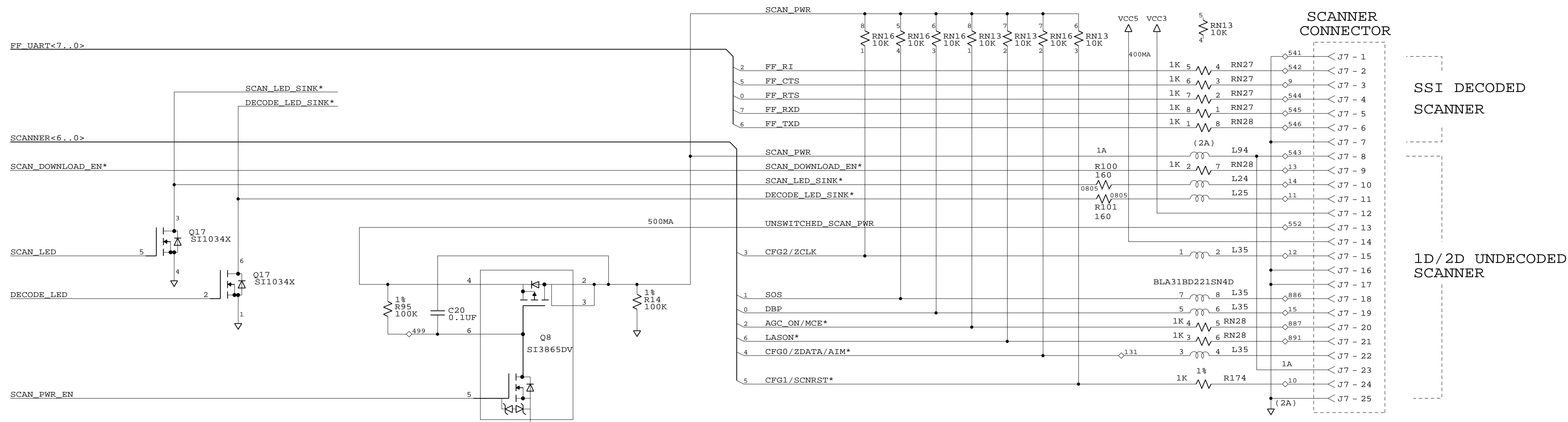
THESE COMPONENTS ARE IN THE TOUCHSCREEN ROOM

ROOMS:  
ALL COMPONENTS EXCEPT AS NOTED : DISPLAYCONN

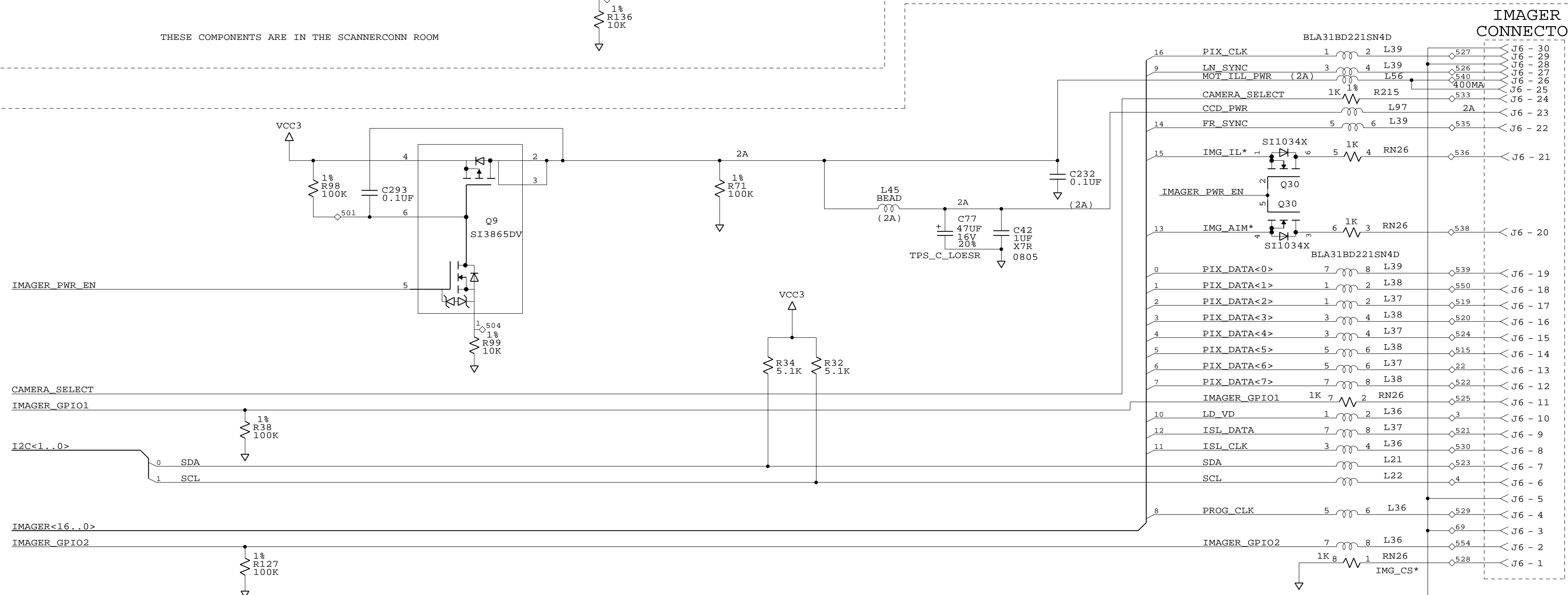
SYMBOL TECHNOLOGIES INC.			
Bohemia, New York			
GEMINI MTM BOARD			
DISPLAY & COMMUNICATIONS			
SIZE	DWG. NO.	REV	
D	17-64436-01	A	
Thu Dec 11 15:57:36 2003		SHEET 10 OF 16	

# SCANNER & IMAGER INTERFACES

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
SEE SHEET 1							



THESE COMPONENTS ARE IN THE SCANNERCONN ROOM

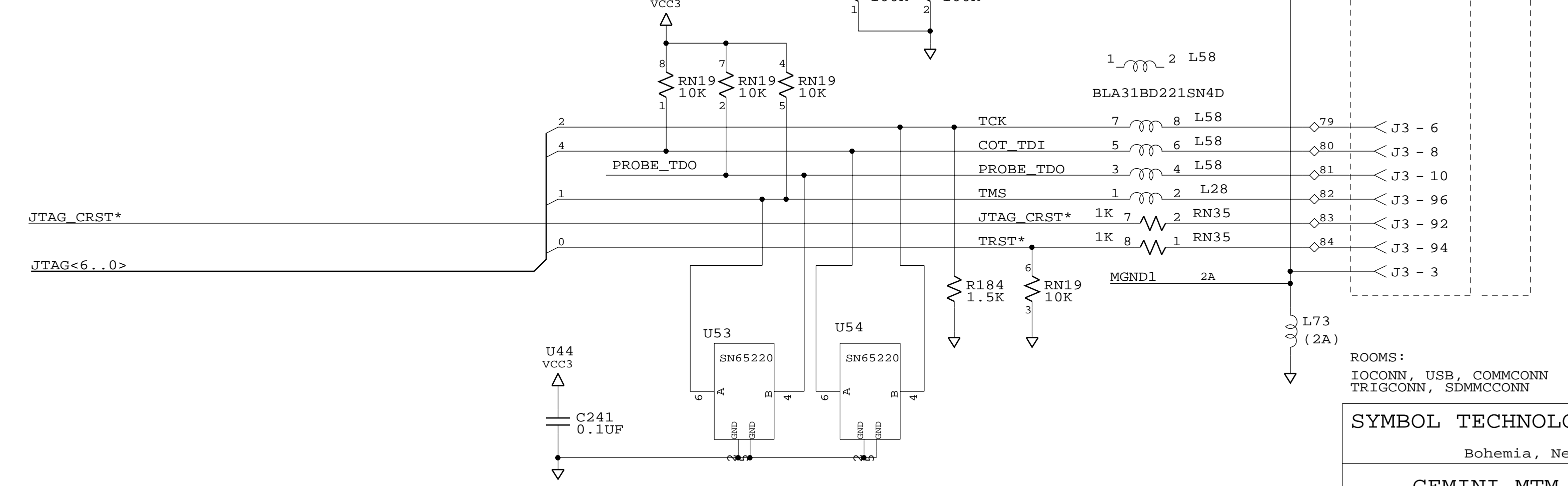
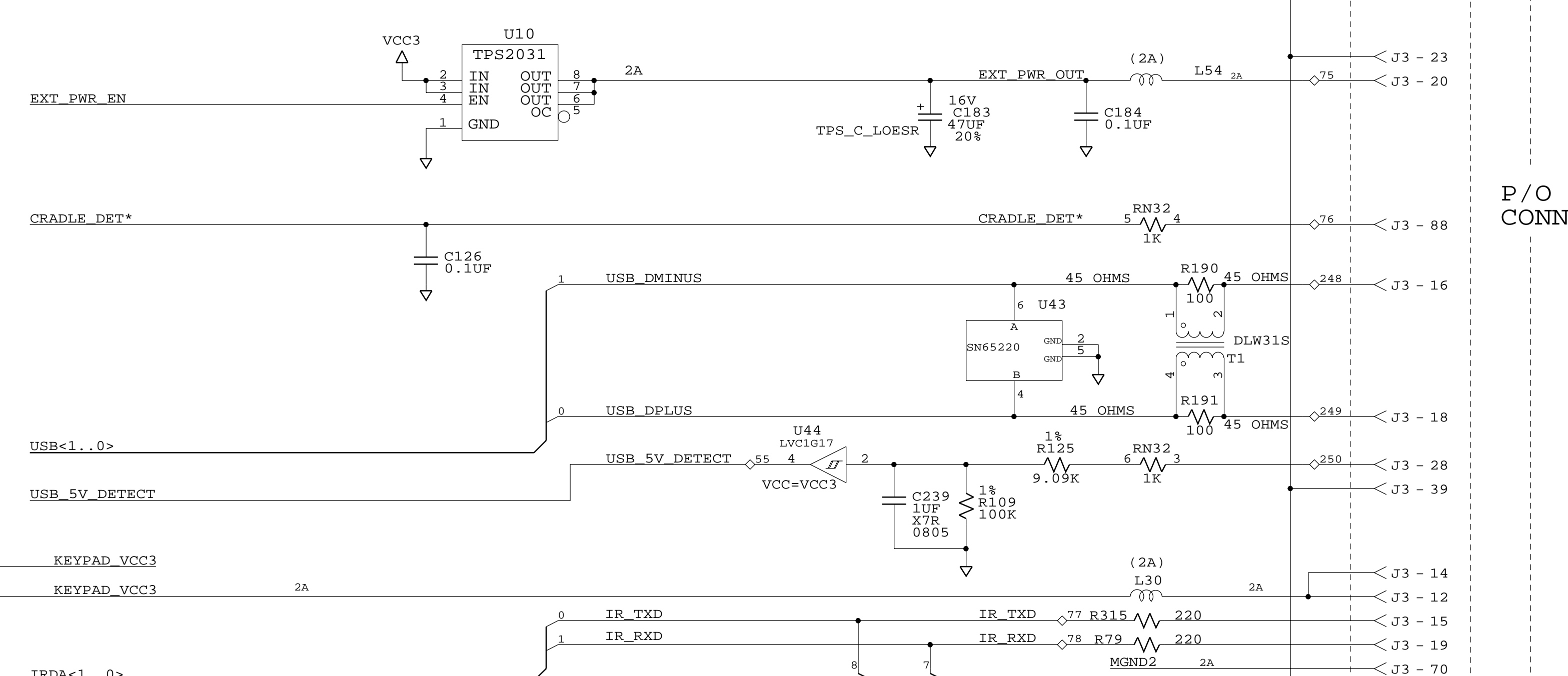
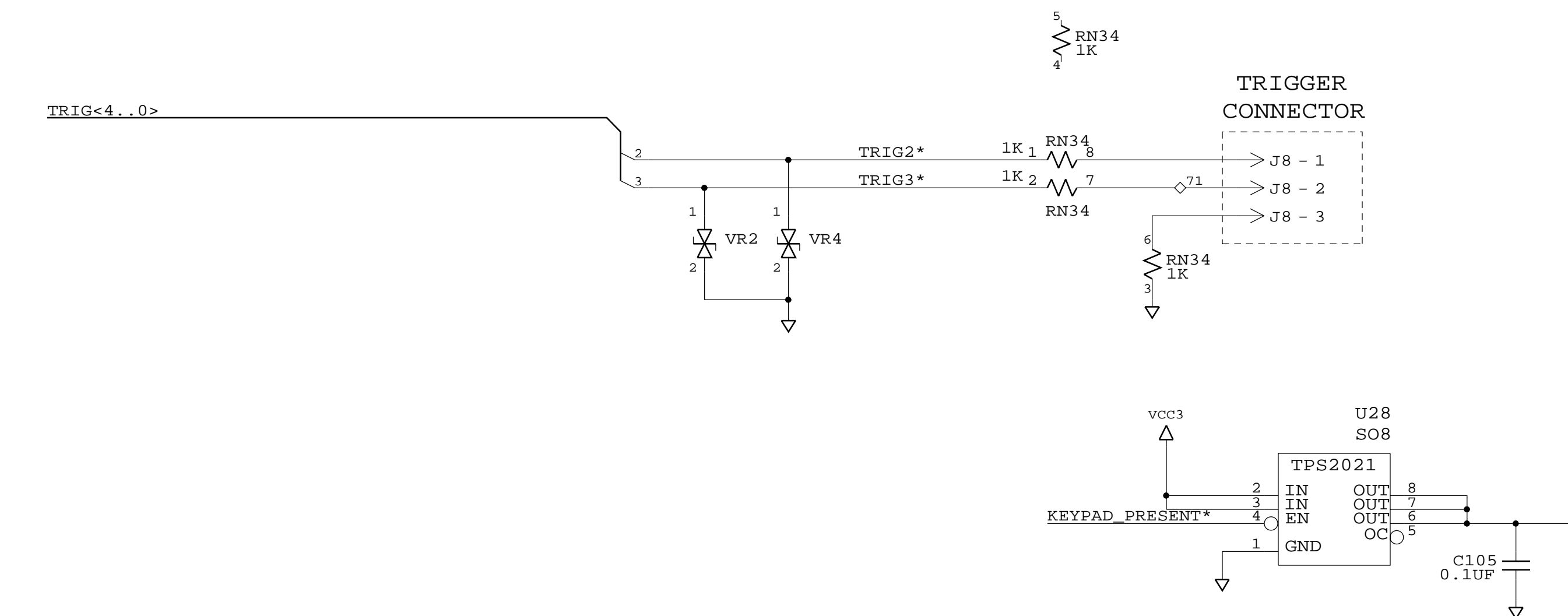
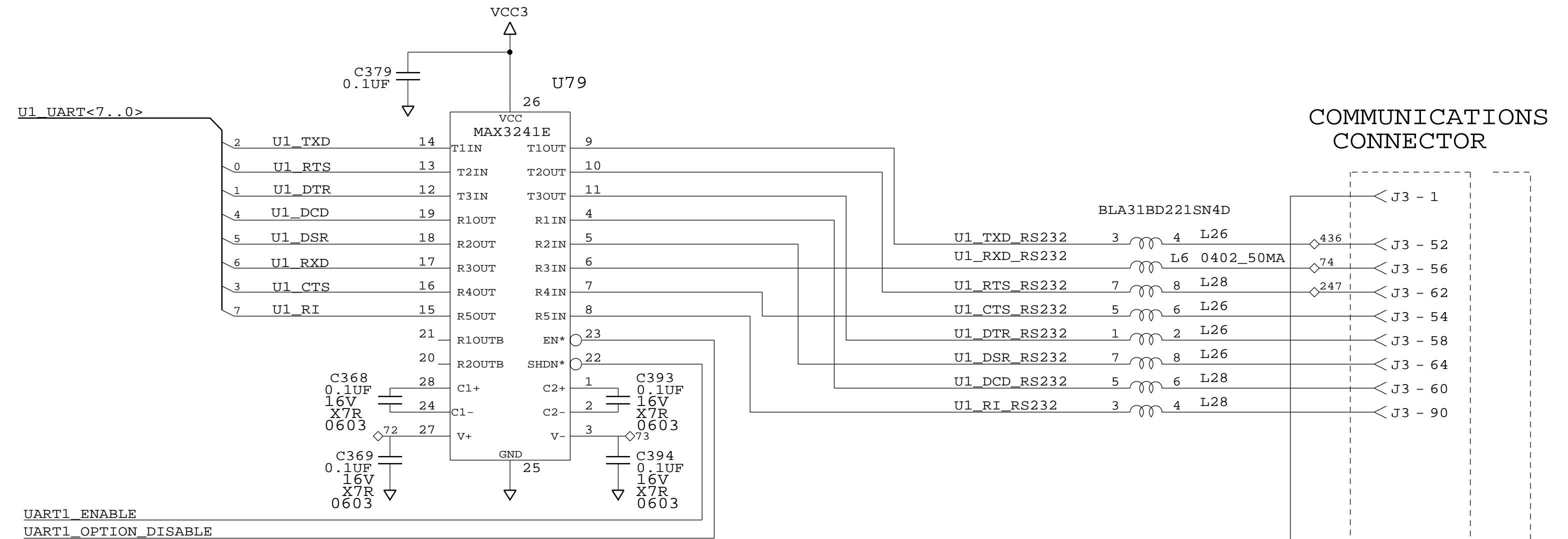
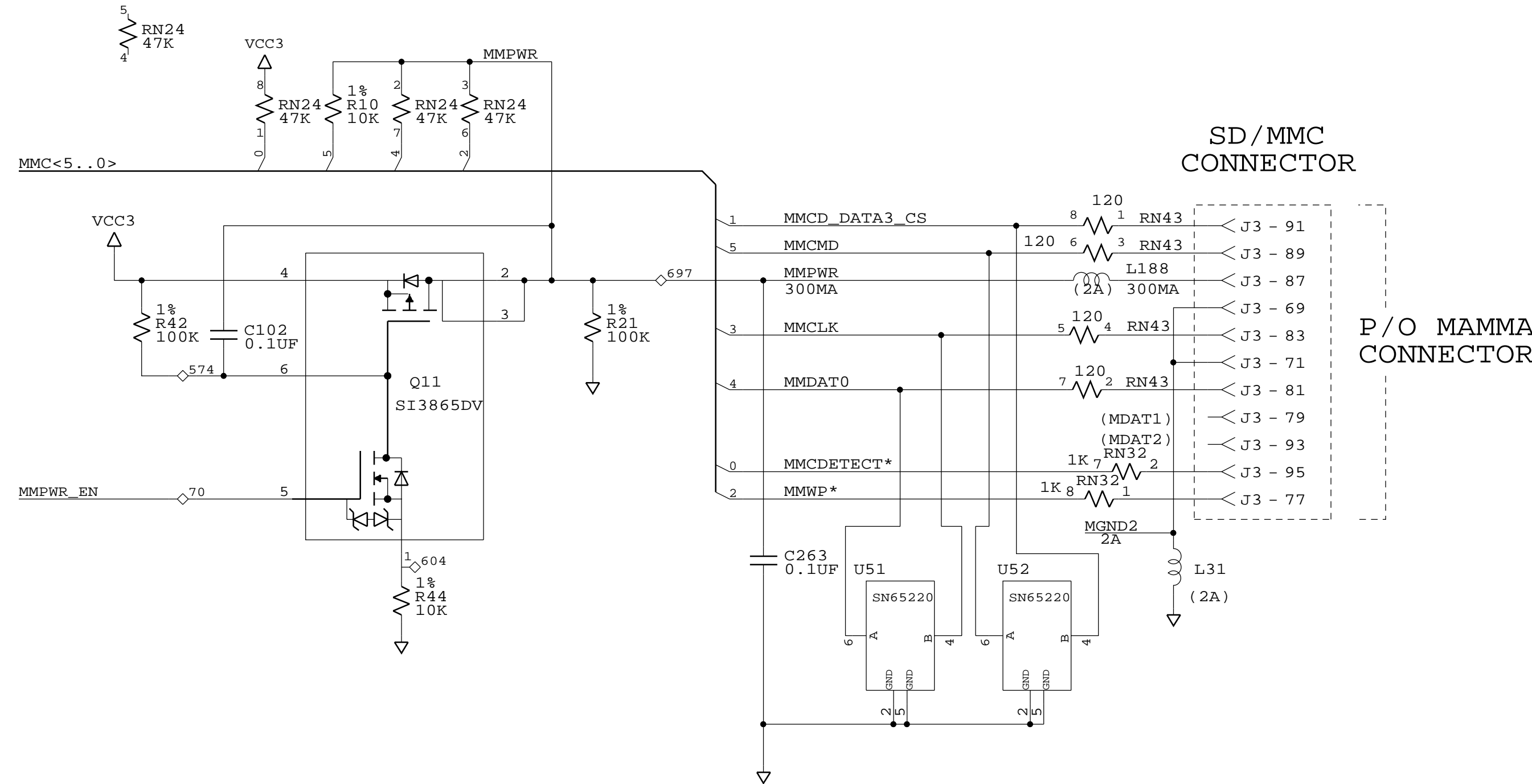


THESE COMPONENTS ARE IN THE IMAGERCONN ROOM

SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI MTM BOARD		
SCANNER & IMAGER INTERFACES		
SIZE	DWG. NO.	REV
D	17-64436-01	A
Thu Dec 11 15:57:42 2003		SHEET 11 OF 16

# SD/MMC, COMMUNICATION & TRIGGER INTERFACES

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
SEE SHEET 1							



ROOMS:  
IOCONN, USB, COMMCONN  
TRIGCONN, SDMMCONN

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

**GEMINI MTM BOARD**  
SD/MMC, COMM & TRIG INTERFACES

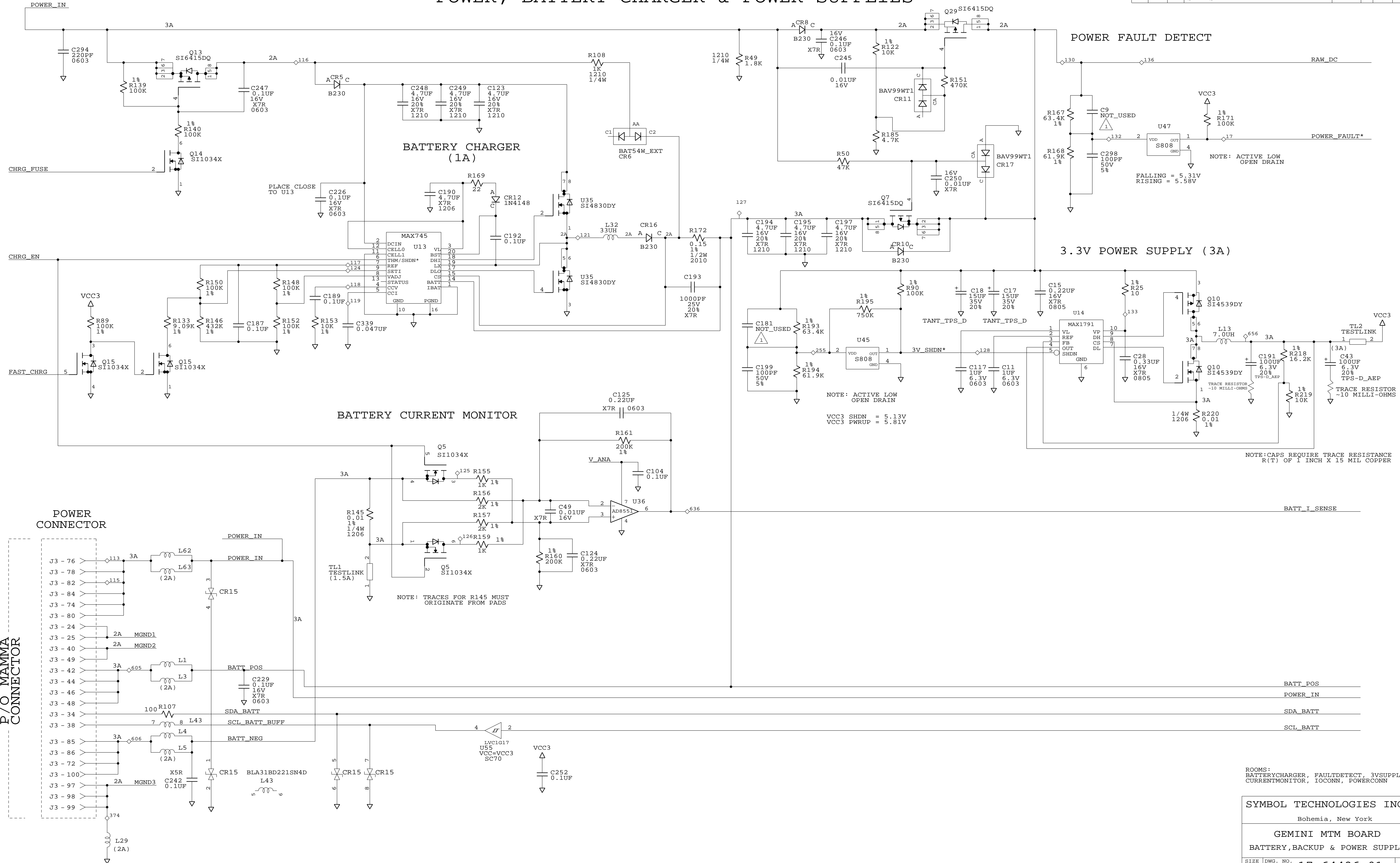
SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:57:46 2003 SHEET 12 OF 16



# POWER, BATTERY CHARGER & POWER SUPPLIES

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



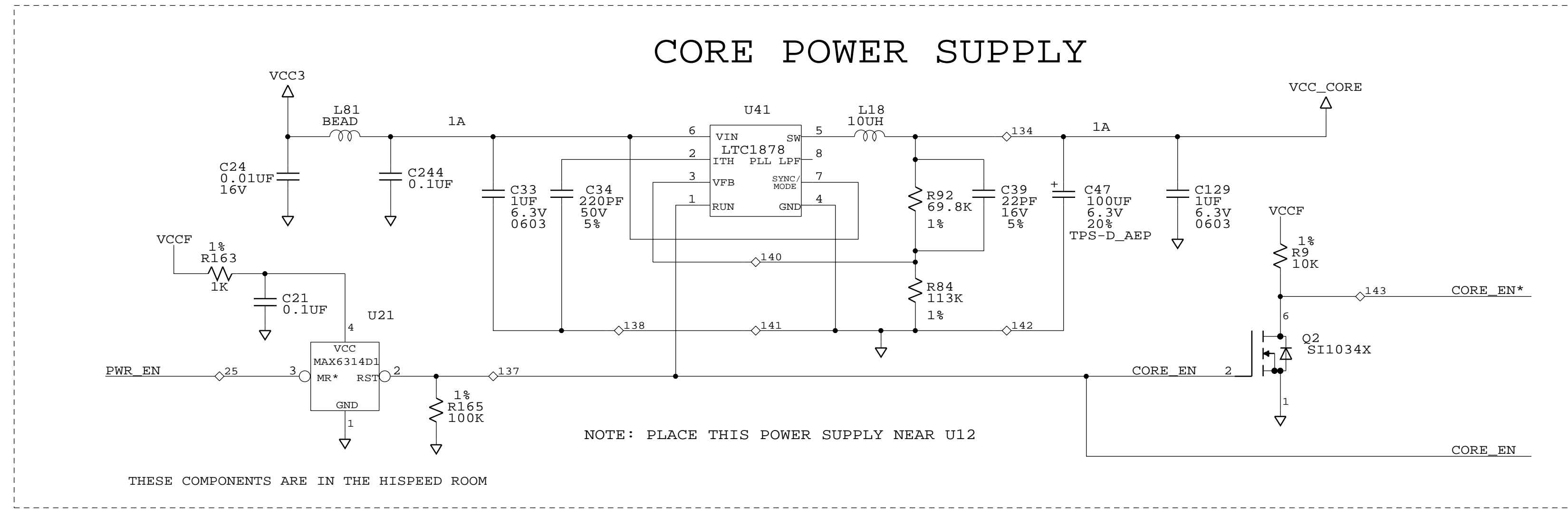
NOTE: CAPS REQUIRE TRACE RESISTANCE R(T) OF 1 INCH X 15 MIL COPPER

ROOMS:  
 BATTERYCHARGER, FAULTDETECT, 3VSUPPLY  
 CURRENTMONITOR, IOCONN, POWERCONN

SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI MTM BOARD		
BATTERY, BACKUP & POWER SUPPLY		
SIZE	DWG. NO.	REV
D	17-64436-01	A
Thu Dec 11 15:57:57 2003		SHEET 14 OF 16

REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
			SEE SHEET 1		

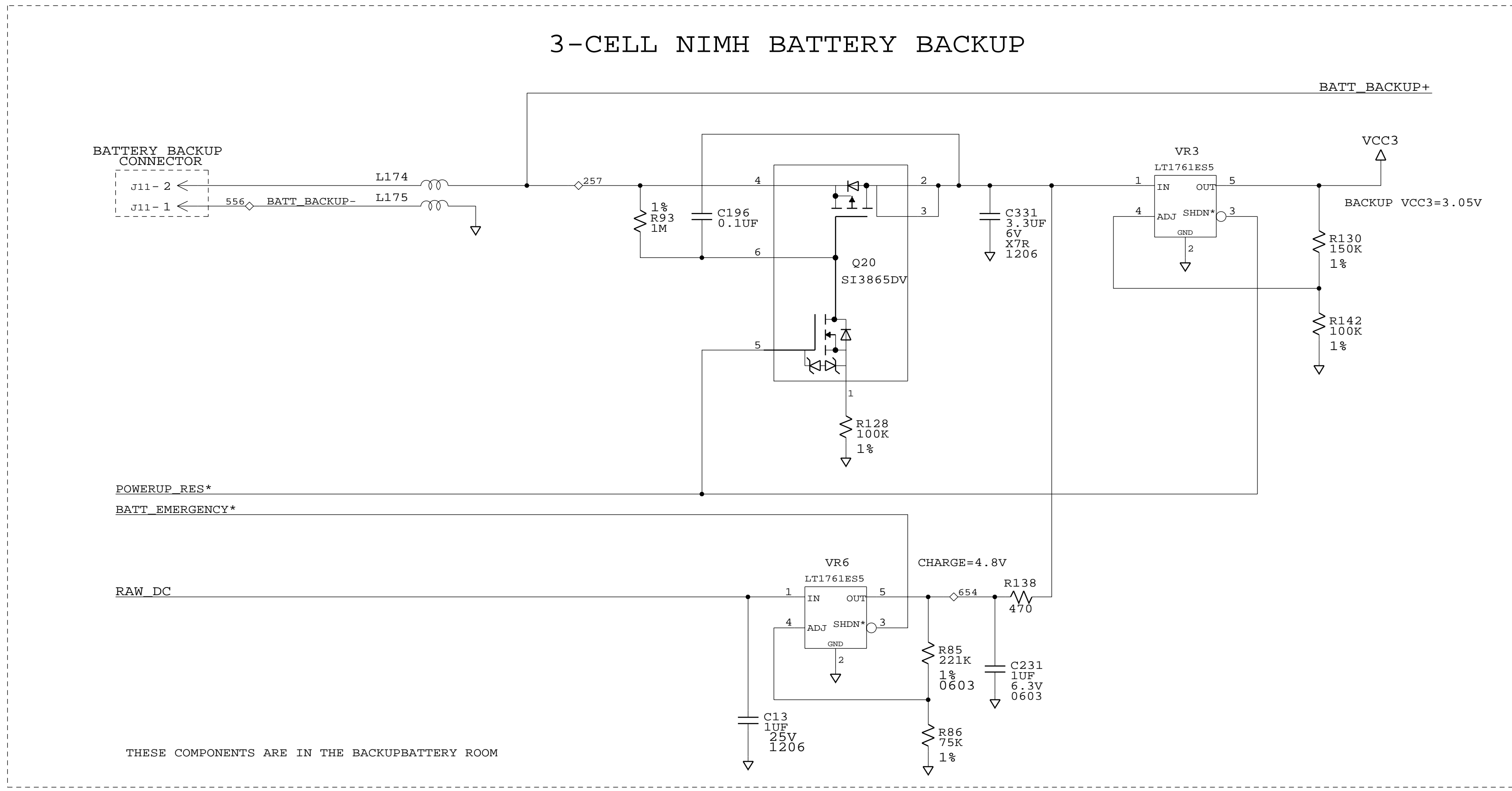
### CORE POWER SUPPLY



XSCALE  
CORE POWER SUPPLY VOLTAGE  
SELECTION MATRIX

VERSION	TEMP	FREQUENCY	VCC_CORE	R84	R92
PXA255A0	EXT'ND	400MHZ	1.3V	113K	69.8K (DEFAULT)

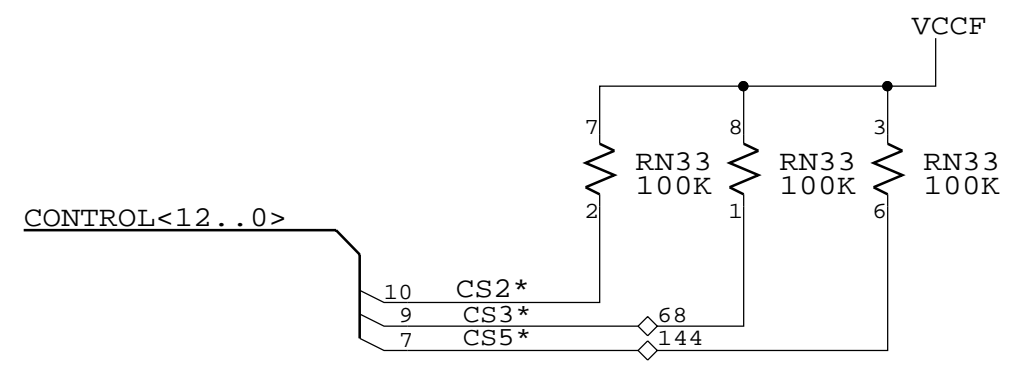
### 3-CELL NIMH BATTERY BACKUP



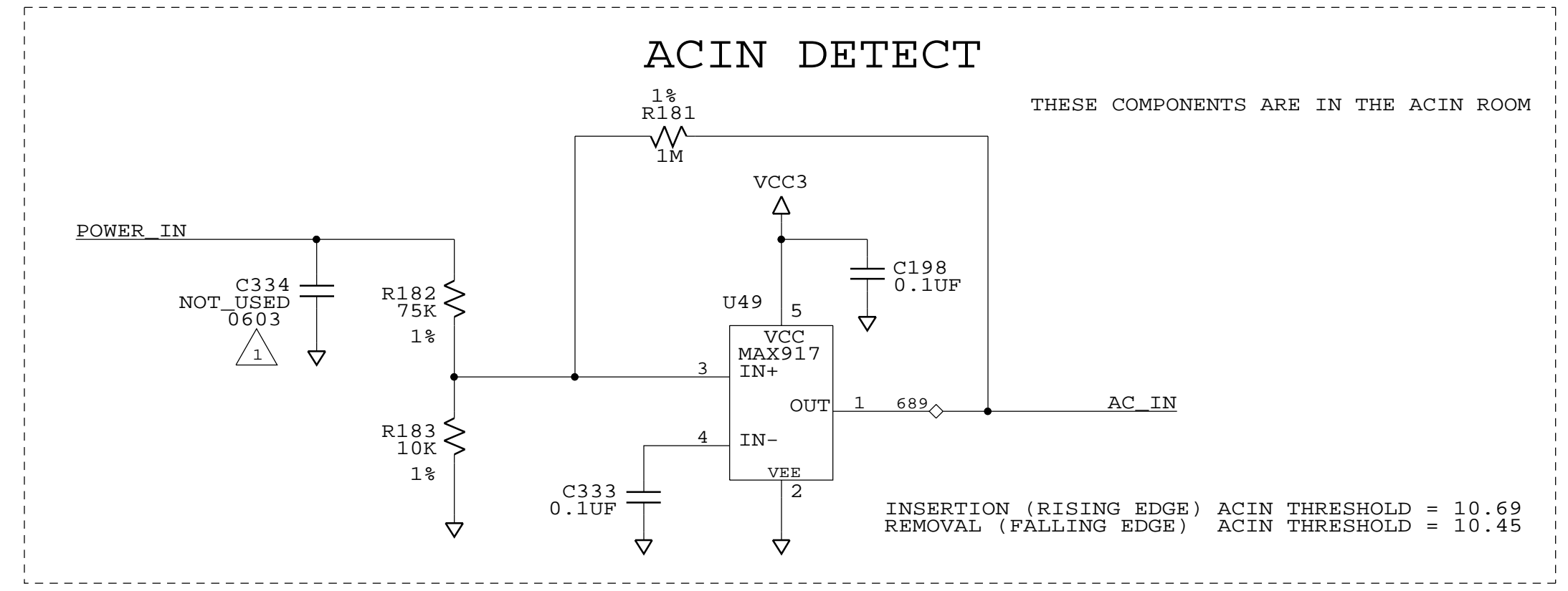
VOLTAGE AND FREQUENCY SPECIFICATIONS  
TURBO MODE FREQUENCY (MHZ) VCC (VOLTS)

MIN	MAX	MIN	TYP	MAX
99.5	118.0	0.95	1.0	1.155
99.5	199.1	0.95	1.0	1.32
99.5	298.7	1.045	1.1	1.43
99.5	398.2	1.235	1.3	1.65

### TERMINATIONS



### ACIN DETECT



SYMBOL TECHNOLOGIES INC.  
Bohemia, New York

GEMINI MTM BOARD  
CORE SUPPLY, BACKUP BATTERY & ACIN

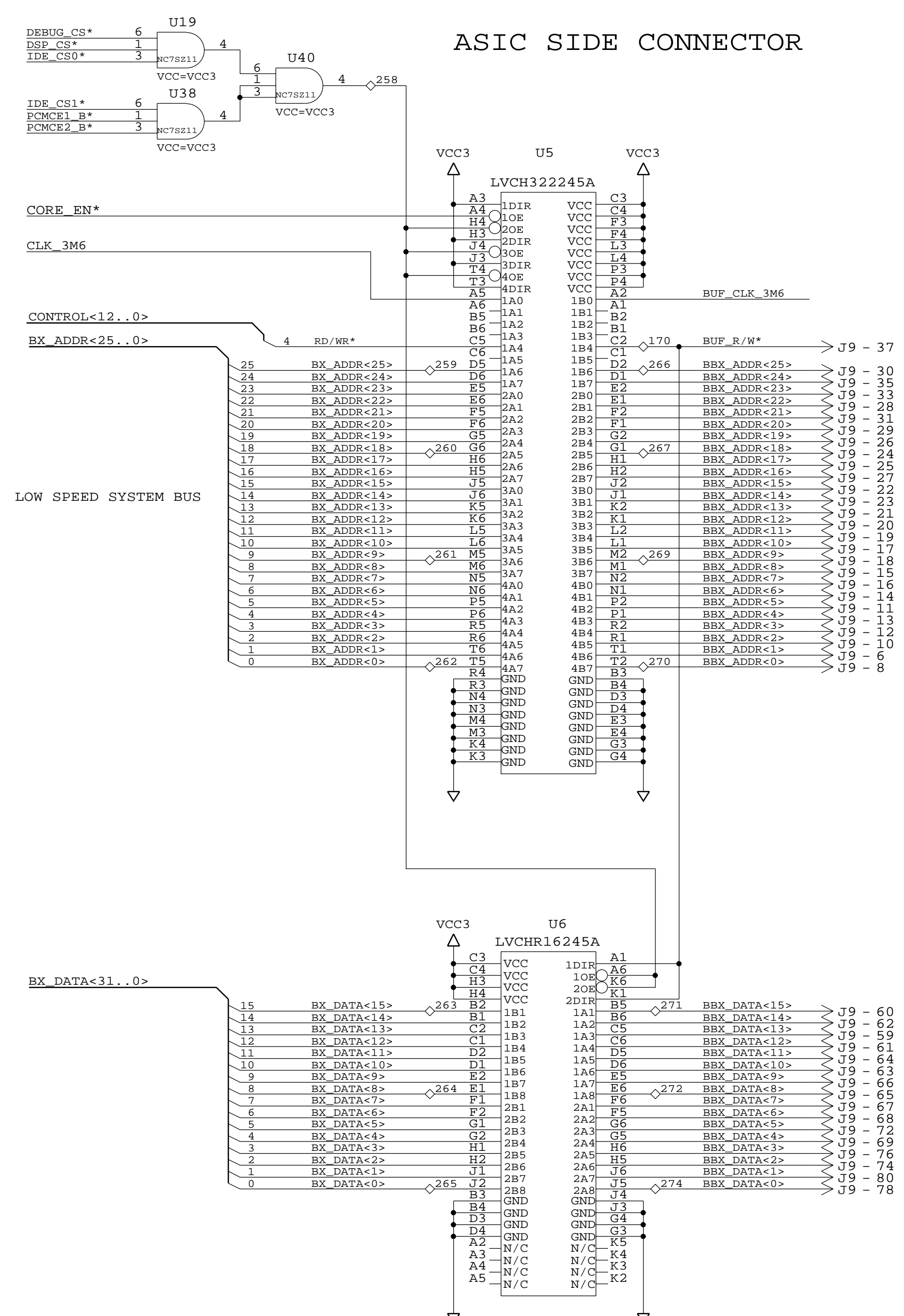
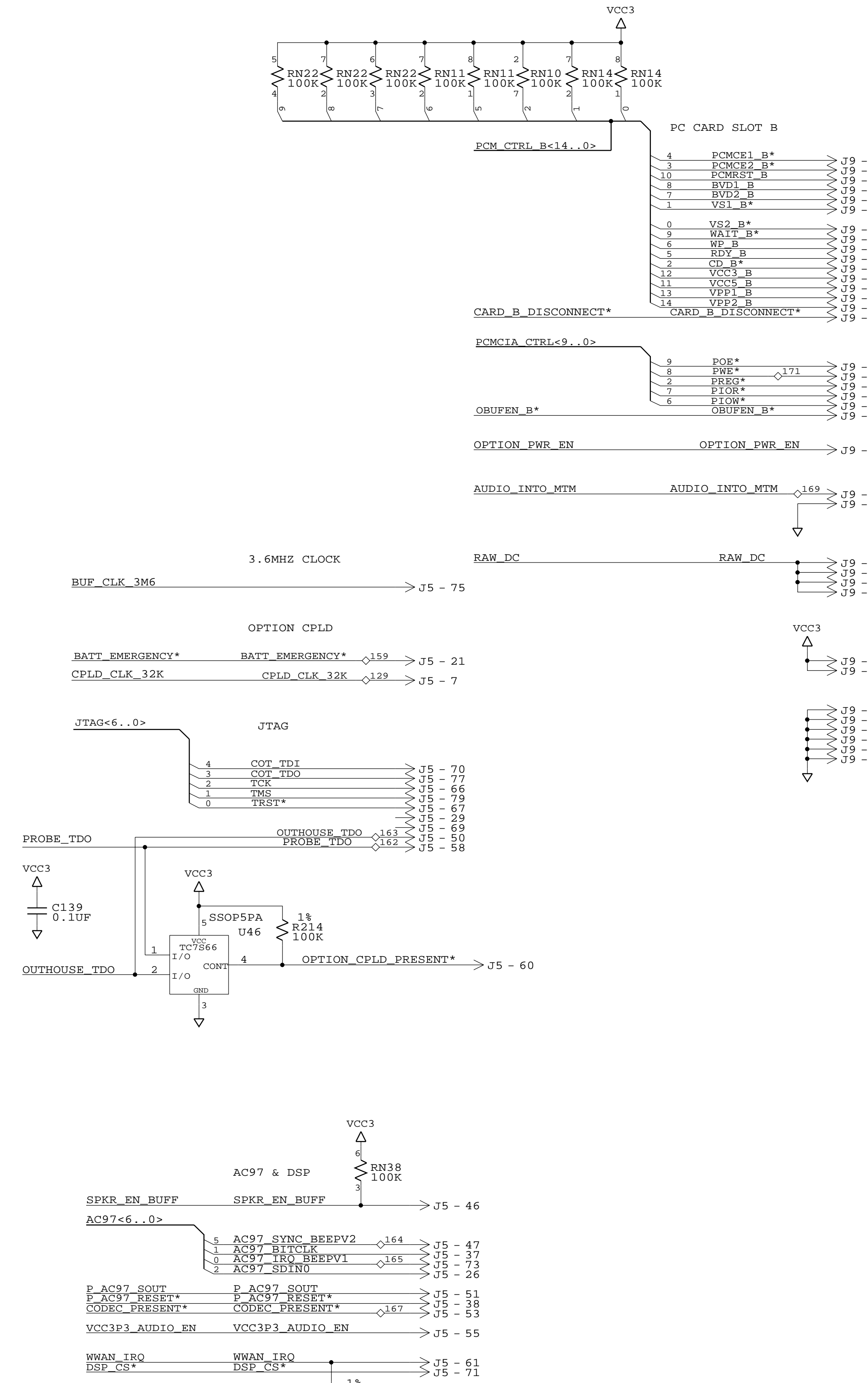
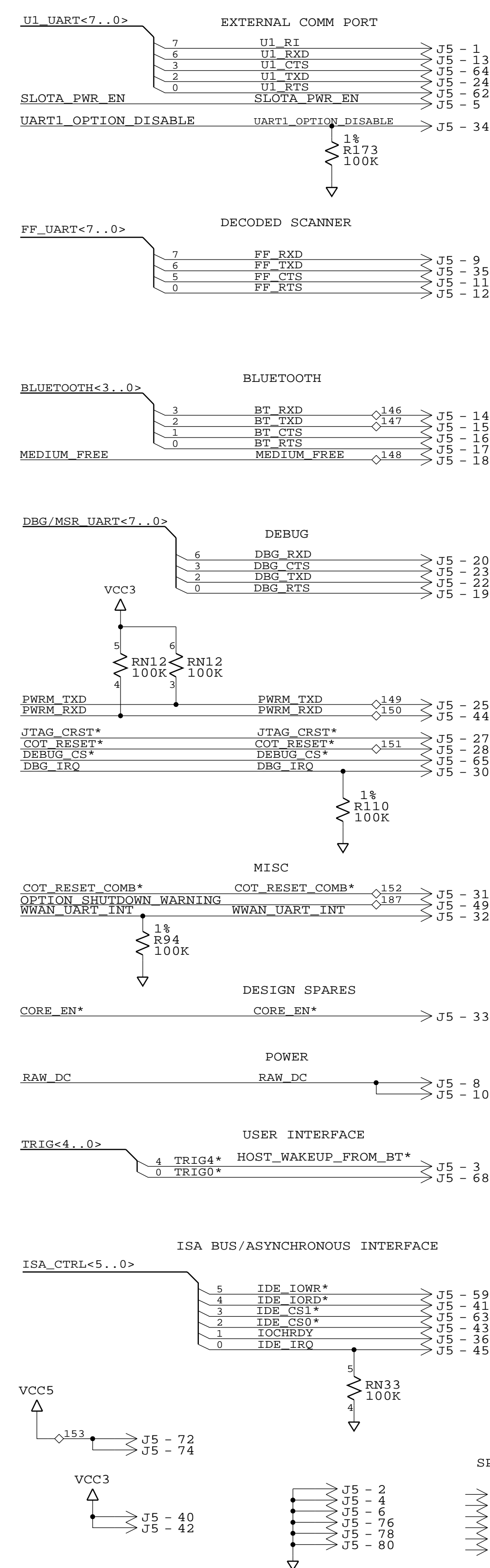
SIZE	DWG. NO.	REV
D	17-64436-01	A
Thu Dec 11 15:58:00 2003		SHEET 15 OF 16

# MTM TO OPTION BOARD INTERFACE

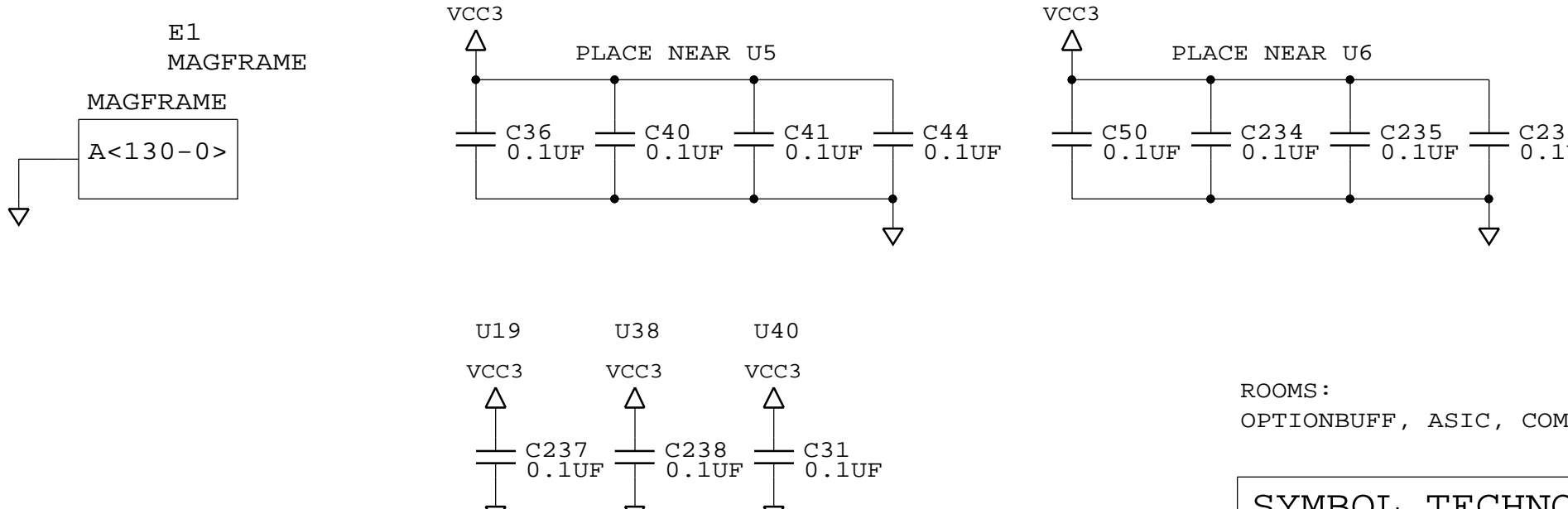
REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
SEE SHEET 1							

## COTULLA SIDE CONNECTOR

## ASIC SIDE CONNECTOR



GROUNDING HOLES FOR MAG FRAME



**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

**GEMINI MTM BOARD**  
MTM TO OPTION BD INTERFACE

SIZE	DWG. NO.	REV
D	17-64436-01	A

Thu Dec 11 15:58:06 2003 SHEET 16 OF 16

8 7 6 5 4 3 2 1

REVISIONS						
REV	ZONE	BY	DATE	E.C.	APVD.	DATE
A		KJR	12/5/2003		RK	

# GEMINI SHORT MAIN FLEX

BOM TABLE (DNI=Do Not Install)  
 Reference Build  
 Designator 01  
 =====  
 J12 DNI  
 J13 DNI  
 J5 DNI  
 R4 DNI  
 R6 DNI  
 R7 DNI

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED .XX + .01 INCH .XXX + .005 INCH ANGLES ± 1° FRACTIONS ± 1/64		APPROVALS DRAWN K. RIVALSI 12/5/03 CHECKED ENGINEER K. RIVALSI 12/5/03 MFG. ENG.
MATERIAL:		PRODUCT		SIZE DWG. NO.
FINISH:		QUALITY		D 17-63293-01
NEXT ASSY		USED ON		TEST ENG.
		DO NOT SCALE DRAWING		Wed Dec 17 09:35:11 2003 SHEET 1 OF 2

SYMBOL TECHNOLOGIES INC.  
 Bohemia, New York  
**GEMINI SHORT MAIN FLEX SCHEMATIC**  
 SIZE DWG. NO. 17-63293-01  
 REV A

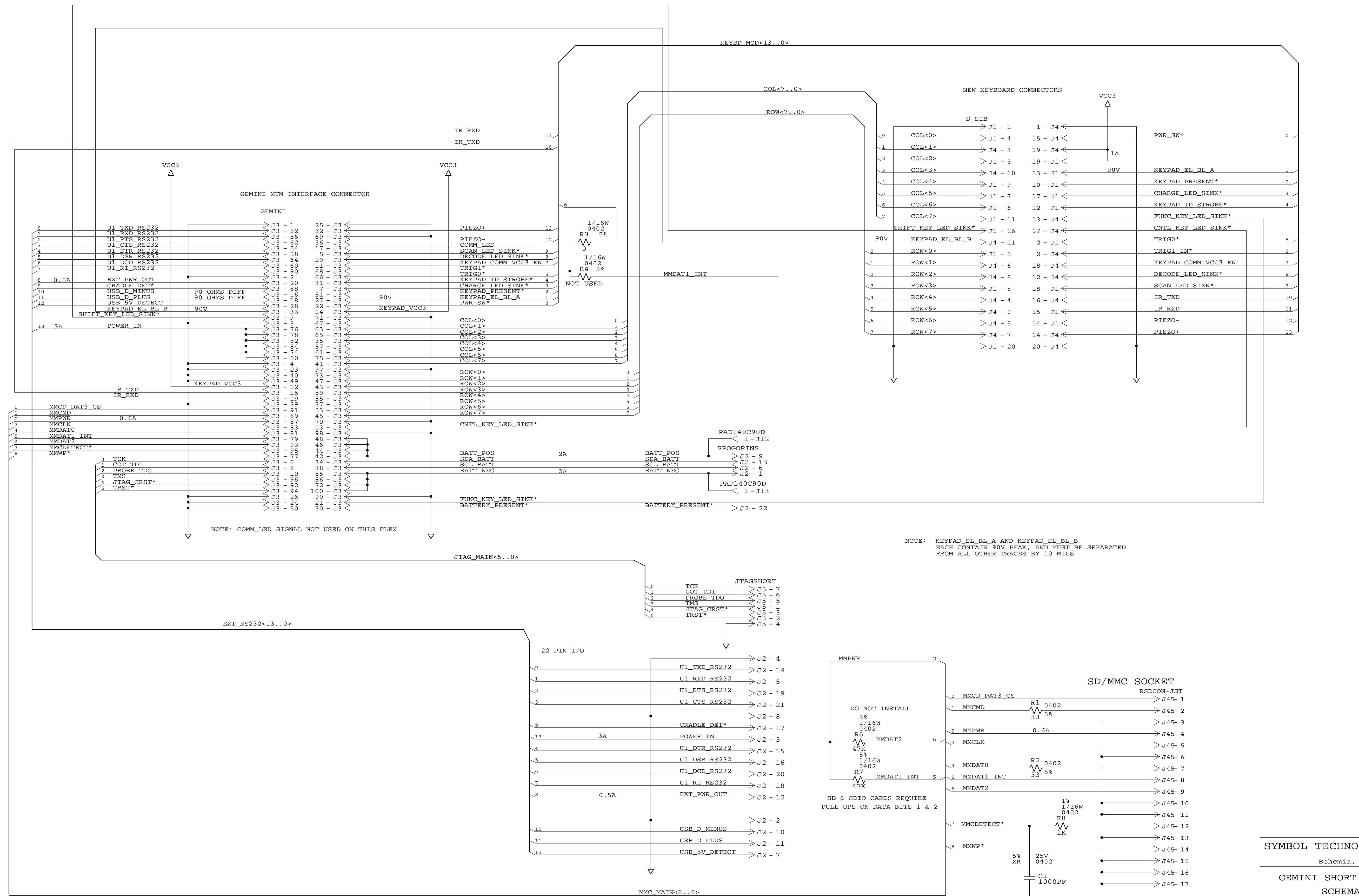
8 7 6 5 4 3 2 1

D  
C  
B  
A

D  
C  
B  
A



REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



NOTE: COMM\_LED SIGNAL NOT USED ON THIS FLEX

NOTE: KEYPAD\_EL\_BL\_A AND KEYPAD\_EL\_BL\_B EACH CONTAIN 90V PEAK. AND MUST BE SEPARATED FROM ALL OTHER TRACES BY 10 MILLS

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

**GEMINI SHORT MAIN FLEX SCHEMATIC**

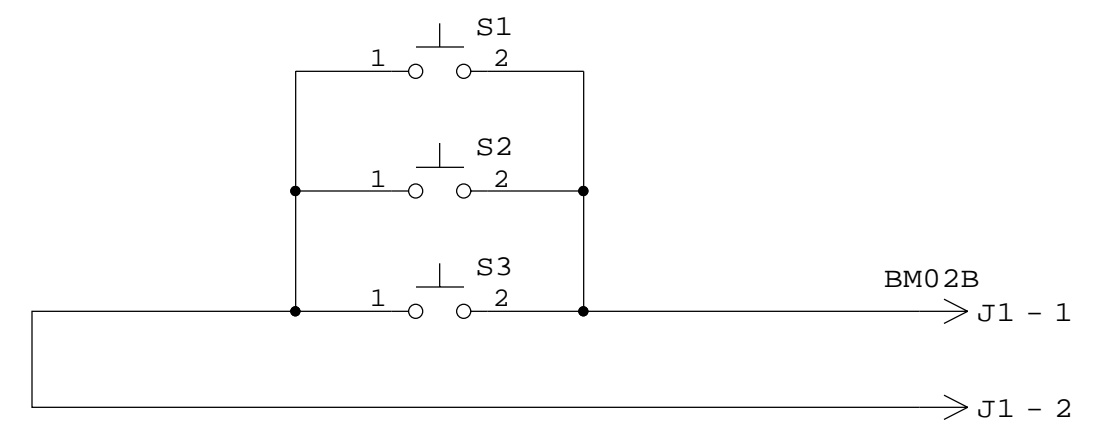
SIZE	DWG. NO.	REV
D	17-63293-01	A

Wed Dec 17 09:35:55 2003 SHEET 2 OF 2

8 7 6 5 4 3 2 1

REVISIONS						
REV	ZONE	BY	DATE	E.C.	BY	DATE
1					KEK	12/02/03
A					KEK	02/13/04

# GEMINI BRICK TRIGGER BOARD



CREATED FROM 17-63945-01 REV A  
 CHANGED FROM SINGLE MECHANICAL SWITCH TO THREE SNAP DOMES  
 TO IMPROVE FEEL ON LONG TRIGGER BUTTON  
 CHANGES FROM REV 1 TO REV A  
 RELEASED WITH NO CHANGES

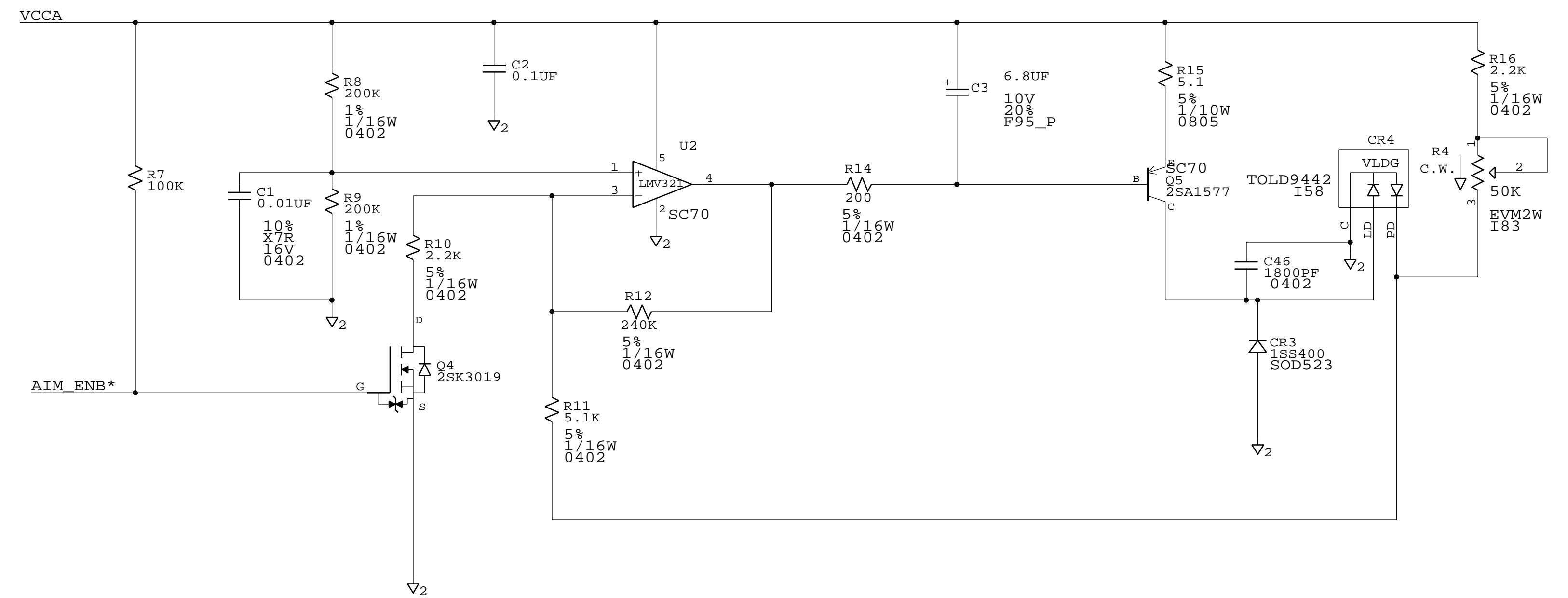
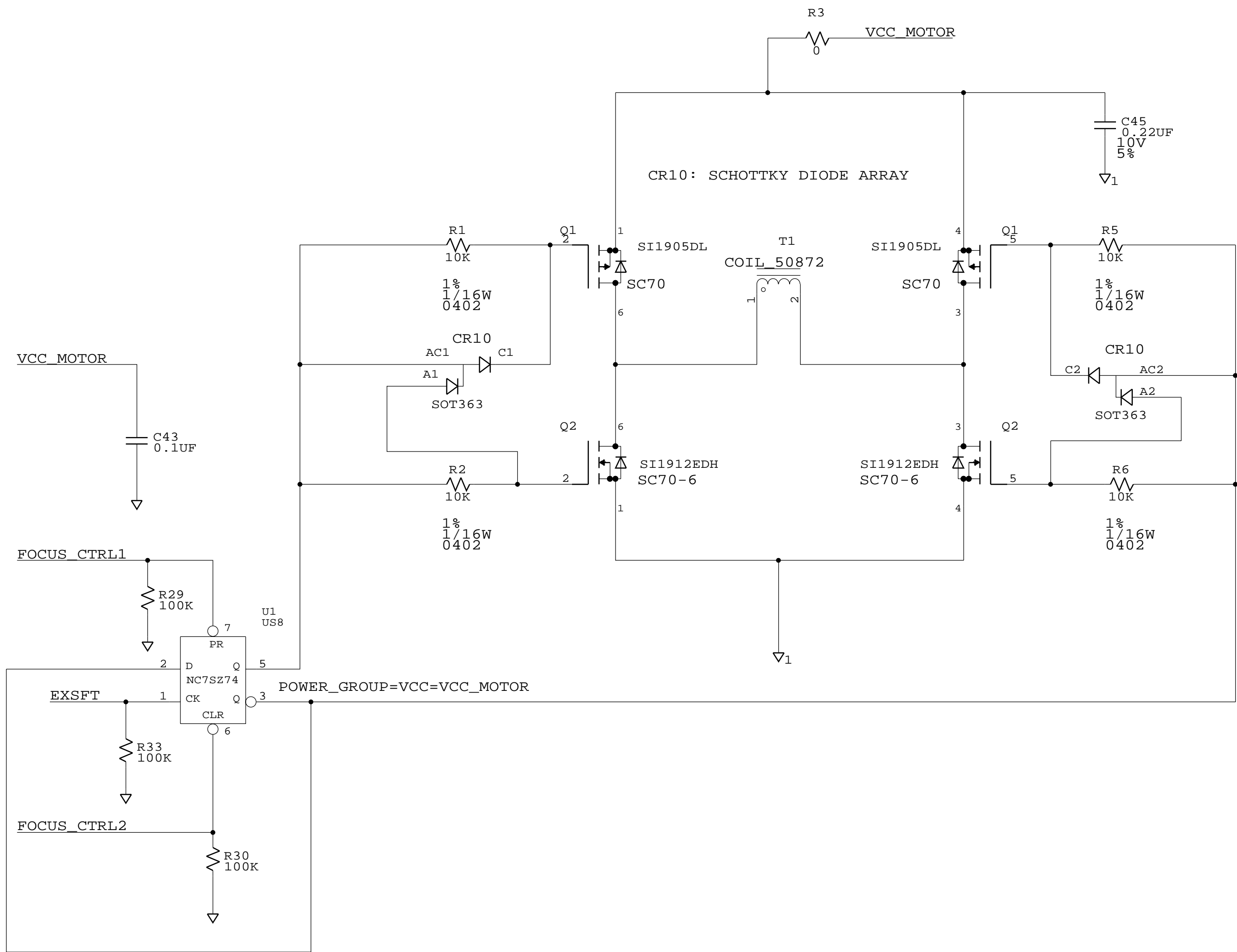
ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED .XX + .01 INCH .XXX + .005 INCH ANGLES ± 1° FRACTIONS ± 1/64		APPROVALS DRAWN: K. KEPPELER CHECKED: R. KOTSAY ENGINEER: K. KEPPELER MFG. ENG.: P. IASSO PRODUCT QUALITY: G. STILL TEST ENG.
		DATE: 11/20/03 DATE: 11/20/03 DATE: 11/20/03 DATE: 11/20/03		SYMBOL TECHNOLOGIES INC. Bohemia, New York <b>GEMINI BRICK TRIGGER BOARD</b> SIZE: D DWG. NO. 17-66336-01 REV A Fri Feb 13 17:46:02 2004 SHEET 1 OF 1
NEXT ASSY	USED ON	DO NOT SCALE DRAWING		

8 7 6 5 4 3 2 1

# MOTOR DRIVE

# LASER DRIVE

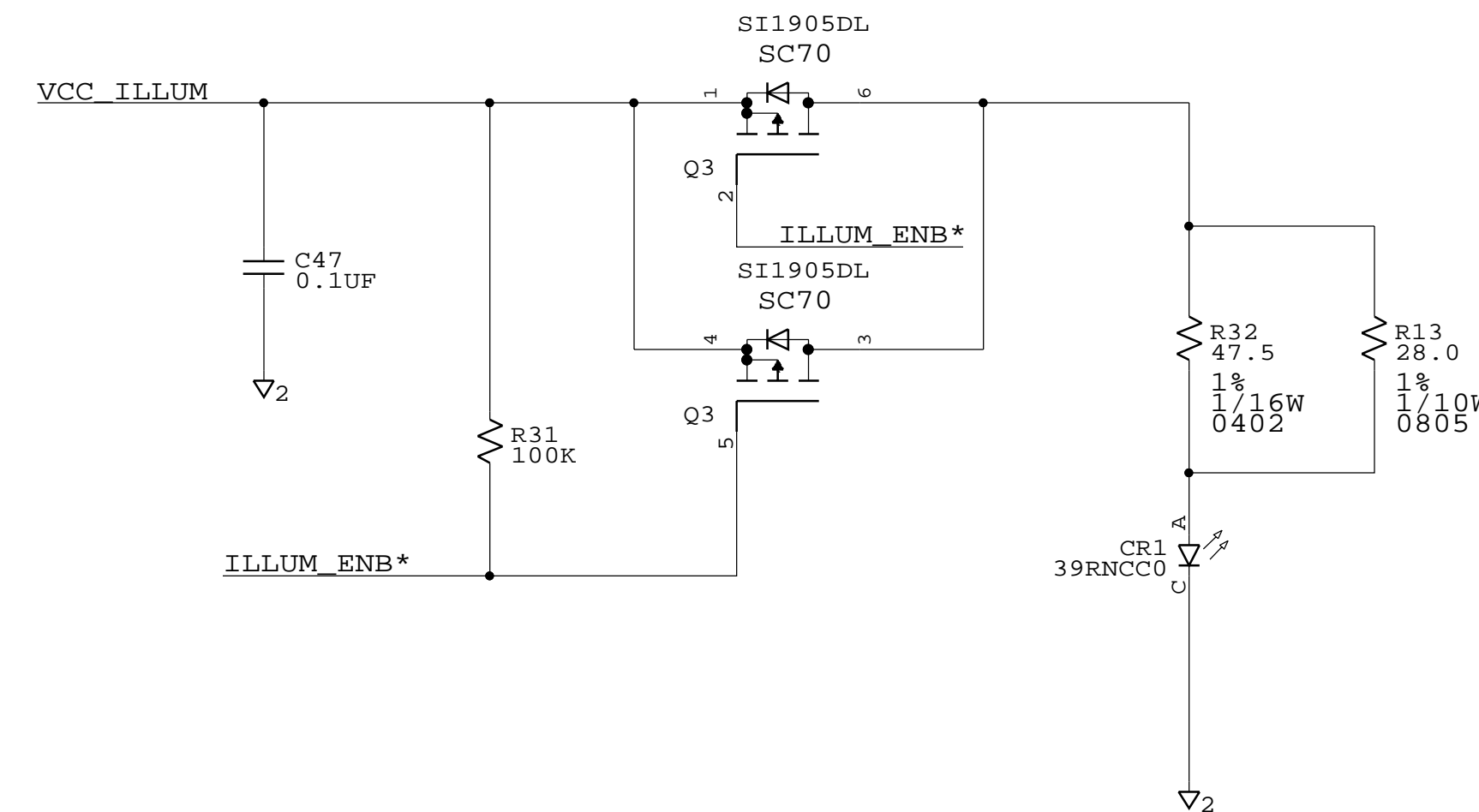
REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
2			RELEASE PER PPD #72457				
3			RELEASE PER PPD #73159				
4			RELEASE PER PPD #73343				
A			RELEASE PER EDR #70318		TB	TB	2/12/03



# ILLUMINATION DRIVE

**NOTES:**

1. ALL RESISTORS ARE 5%, 0402, 1/16W UNLESS STATED OTHERWISE.
2. ALL CAPACITORS ARE X5R OR X7R, 0402, 10% UNLESS STATED OTHERWISE.



**REVISION HISTORY:**

**REV. 2:**

- A) REMOVED DIODE FROM Q5-B TO GROUND.
- B) ADDED 1800PF ACROSS LD.
- C) ADDED CAP ACROSS H-BRIDGE.

**REV. 3:**

- A) ADJUST LED R TO 190HMS
- B) CHANGE R1, R2, R5, R6 TO 10K
- C) VLD, R16 MADE 2.2K
- D) R24 MADE 10K

**REV. 4:**

- A) CONNECTED U1 & C43 TO VCC\_MOTOR
- B) REMOVED R28
- C) CHANGED C15 TO 0.01UF

**REV. A:**

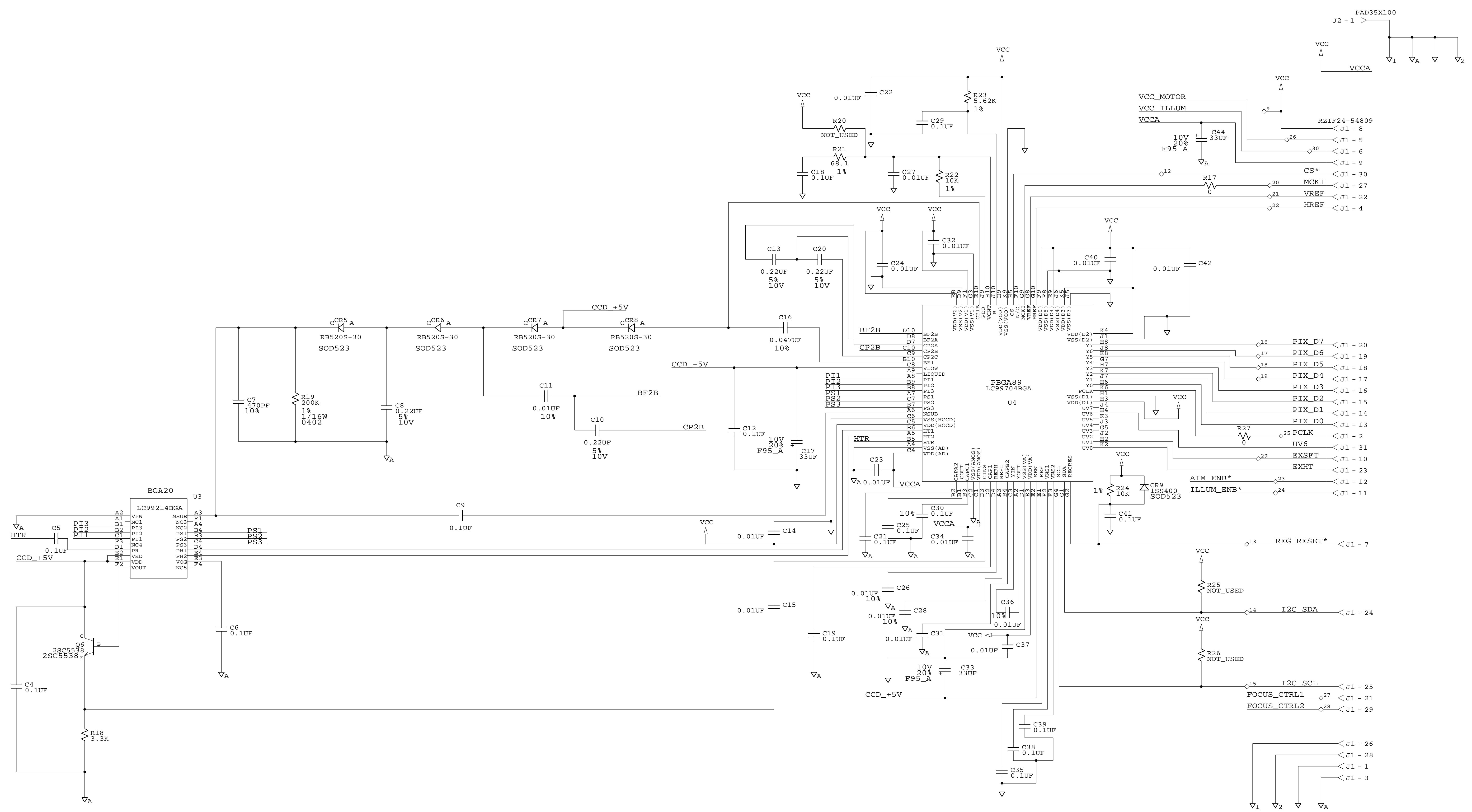
- A) CHANGED R8 & R9 TO 200KOHMS.
- B) CHANGED C1 TO 0.01UF.
- C) CHANGED R32 TO 47.5OHMS.
- D) MAKE R25 & R26 DNP.

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
		APPROVALS		DATE
		DRAWN		
		CHECKED		
		ENGINEER		
		MFG. ENG.		
		PRODUCT		
		QUALITY		
		TEST ENG.		
		FINISH:		
		NEXT ASSY		
		USED ON		
		DO NOT SCALE DRAWING		

SYMBOL TECHNOLOGIES INC.			
Bohemia, New York			
PROTON SIZED			
2D CCD IMAGER			
SIZE	DWG. NO.	REV	
D	17-59440-01	A	
Tue Feb 18 10:50:46 2003		SHEET 1 OF 2	

REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
SEE SHEET 1					



SYMBOL TECHNOLOGIES INC.  
 Bohemia, New York  
**PROTON IMAGED  
 2D CCD IMAGER**  
 SIZE DWG. NO. 17-59440-01 REV A  
 Wed Feb 12 14:03:14 2003 SHEET 2 OF 2

# GEMINI BRICK OPTION BOARD II DUAL RADIO VERSION REV: 4

STILL NEEDS AVX SUPERCAP FOOTPRINT

REVISIONS						
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	DATE
1			RELEASE PER PPD # 76793		DL RK	08/22/03
2			RELEASE PER PPD # 77136		DL RK	09/19/03
3			RELEASE PER PPD # 77859		DL RK	11/17/03
4			RELEASE PER PPD # 78799		DL RK	02/17/04

### TABLE OF CONTENTS

- PAGE 1: THIS COVER PAGE
- PAGE 2: DSP
- PAGE 3: CODEC AND AUDIO
- PAGE 4: CPLD AND POWER SUPPLIES
- PAGE 5: MICROPHONE PREAMPLIFIERS
- PAGE 6: BLUETOOTH RADIO
- PAGE 7: WAN RADIO INTERFACE
- PAGE 8: CONNECTIONS TO MAIN TERMINAL MODULE

### VARIANTS:

- 24-64188-01: SNAPPER BT RADIO, DSP
- 24-64188-02: MARLIN BT RADIO, DSP
- 24-64188-03: MARLIN BT RADIO, NO DSP
- 24-64188-04: NO BT RADIO, DSP
- 24-64188-05: NO BT RADIO, NO DSP

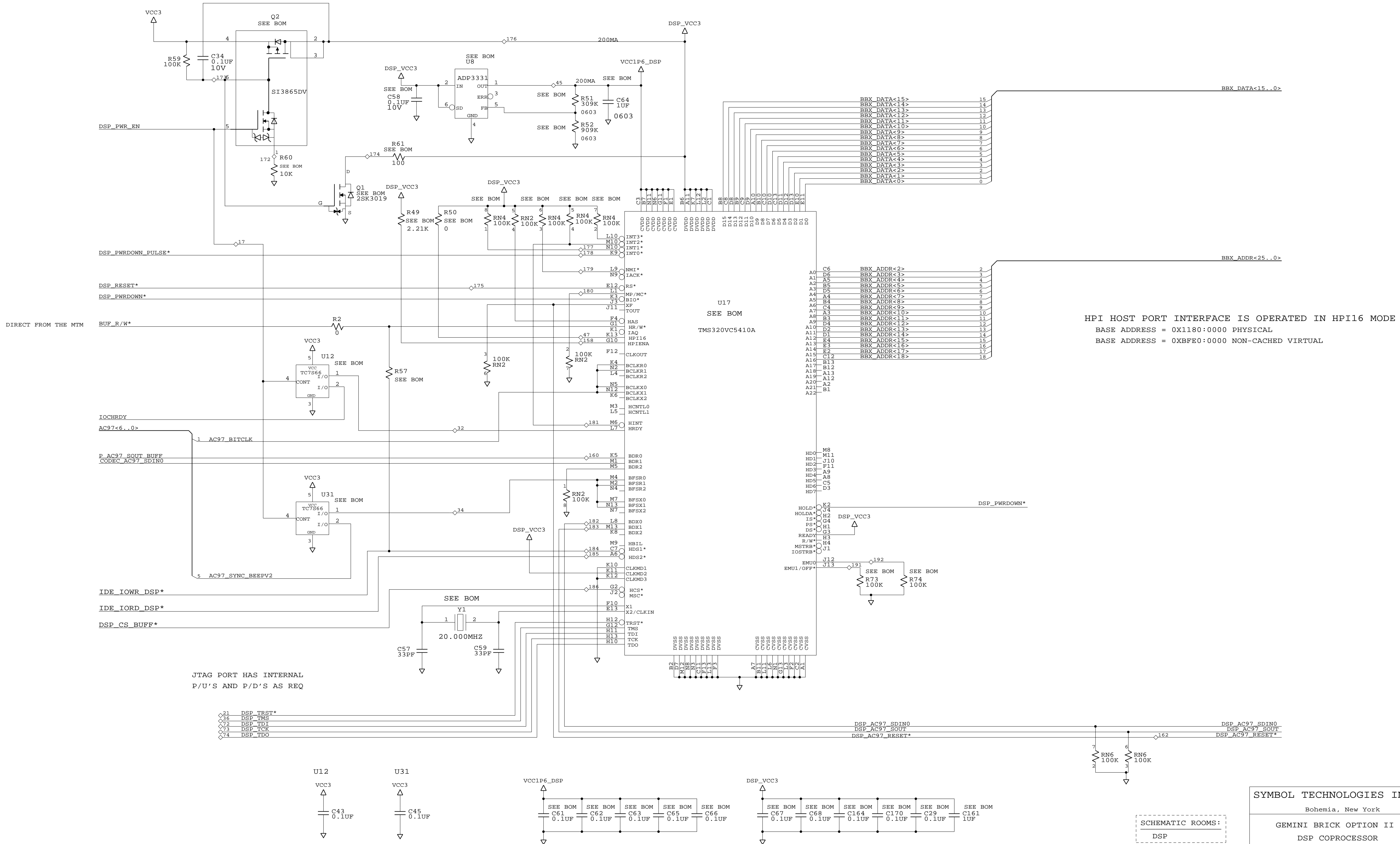
### CLOCKS:

- SHEET 2: 20MHZ DSP XTAL
- SHEET 3: 24.576MHZ CODEC XTAL
- SHEET 3: 12.288MHZ AC97 CLOCK
- SHEET 4: 3.6864MHZ FROM MTM
- SHEET 4: 32.768KHZ FROM MTM
- SHEET 4: 1.2MHZ LT1761 BUCK REGULATORS

Reference Designator	BOM TABLE Build 03	(DNI=Do Not Install) Build 05	Build 04	Build 01	Build 02
C102	DNI	DNI	DNI	DNI	DNI
C107	DNI	DNI	DNI	DNI	DNI
C111	DNI	DNI	DNI	DNI	DNI
C112	DNI	DNI	DNI	DNI	DNI
C113	DNI	DNI	DNI	DNI	DNI
C114	DNI	DNI	DNI	DNI	DNI
C115	DNI	DNI	DNI	DNI	DNI
C116	DNI	DNI	DNI	DNI	DNI
C117	DNI	DNI	DNI	DNI	DNI
C118	DNI	DNI	DNI	DNI	DNI
C119	DNI	DNI	DNI	DNI	DNI
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C366	DNI	DNI	DNI	DNI	DNI
C36					

# DSP COPROCESSOR

REVISIONS					
REV	ZONE	DESCRIPTION	E.C.	BY	DATE
SEE SHEET 1					



HPI HOST PORT INTERFACE IS OPERATED IN HPI16 MODE  
 BASE ADDRESS = 0X1180:0000 PHYSICAL  
 BASE ADDRESS = 0XBFEO:0000 NON-CACHED VIRTUAL

JTAG PORT HAS INTERNAL P/U'S AND P/D'S AS REQ

SYMBOL TECHNOLOGIES INC.  
 Bohemia, New York

GEMINI BRICK OPTION II  
 DSP COPROCESSOR

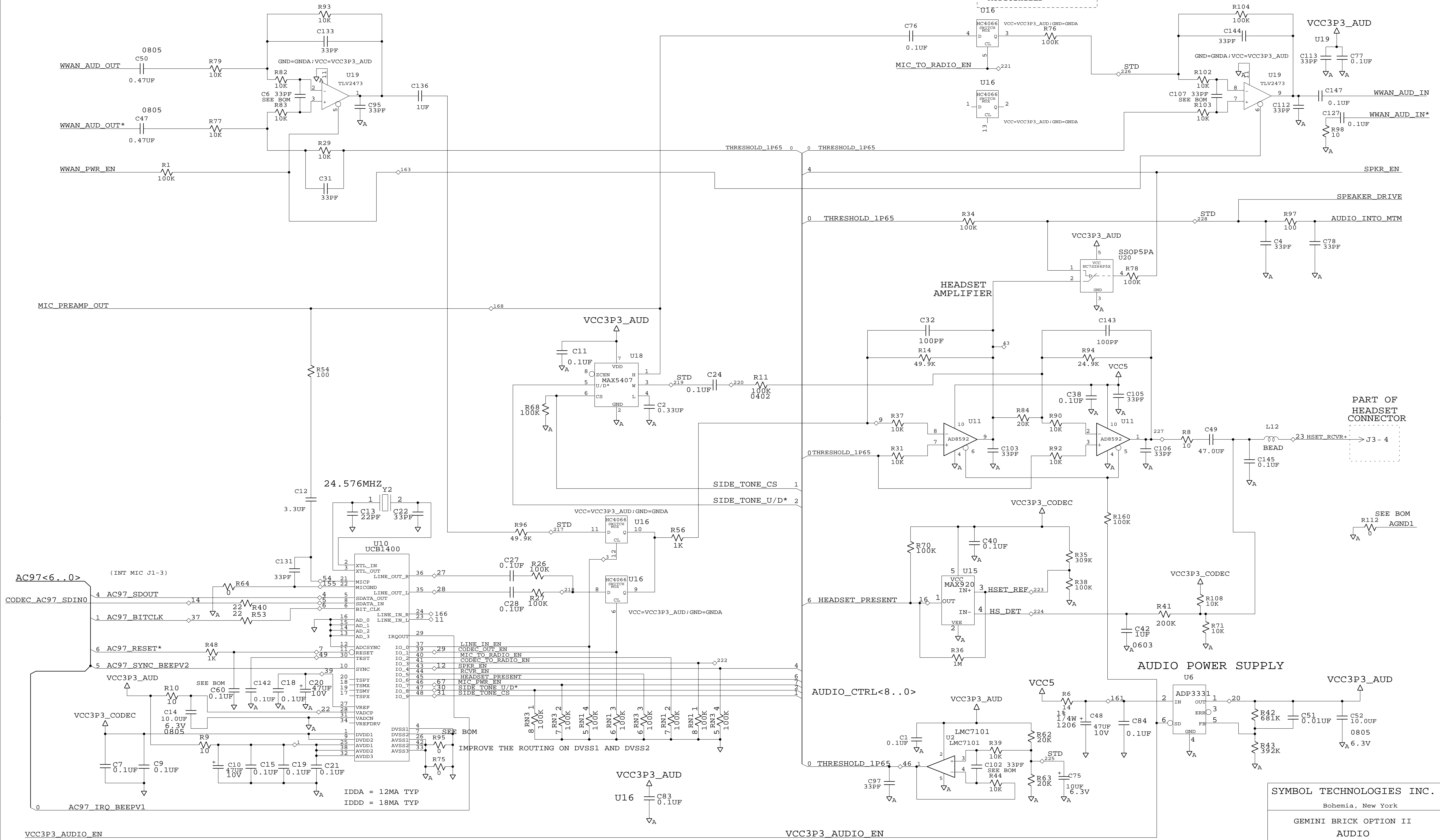
SIZE	DWG. NO.	REV
D	17-64188-01	4

Thu Mar 4 15:38:22 2004 SHEET 2 OF 8

SCHEMATIC ROOMS:  
 DSP

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
1			SEE SHEET 1				

SCHMATIC ROOMS:  
AUDIOSHIELD



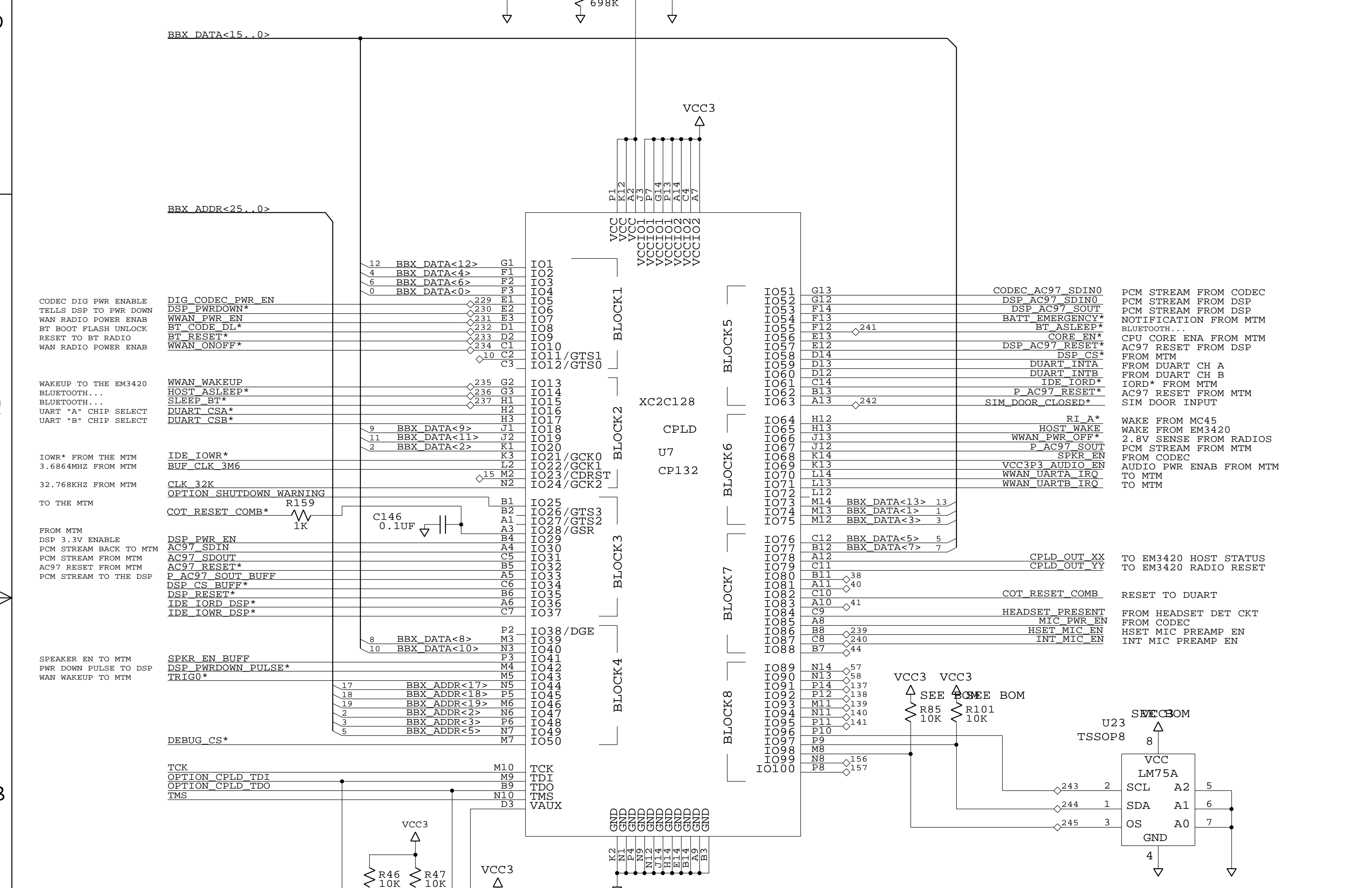
PART OF HEADSET CONNECTOR  
→ J3 - 4

SYMBOL TECHNOLOGIES INC.		
Bohemia, New York		
GEMINI BRICK OPTION II AUDIO		
SIZE	DWG. NO.	REV
D	17-64188-01	4
Thu Mar 4 15:38:28 2004		SHEET 3 OF 8

REVISIONS					
REV	ZONE	BY	DATE	E.C.	APVD.
SEE SHEET 1					

# BRICKHOUSE CPLD & 5V SUPPLY

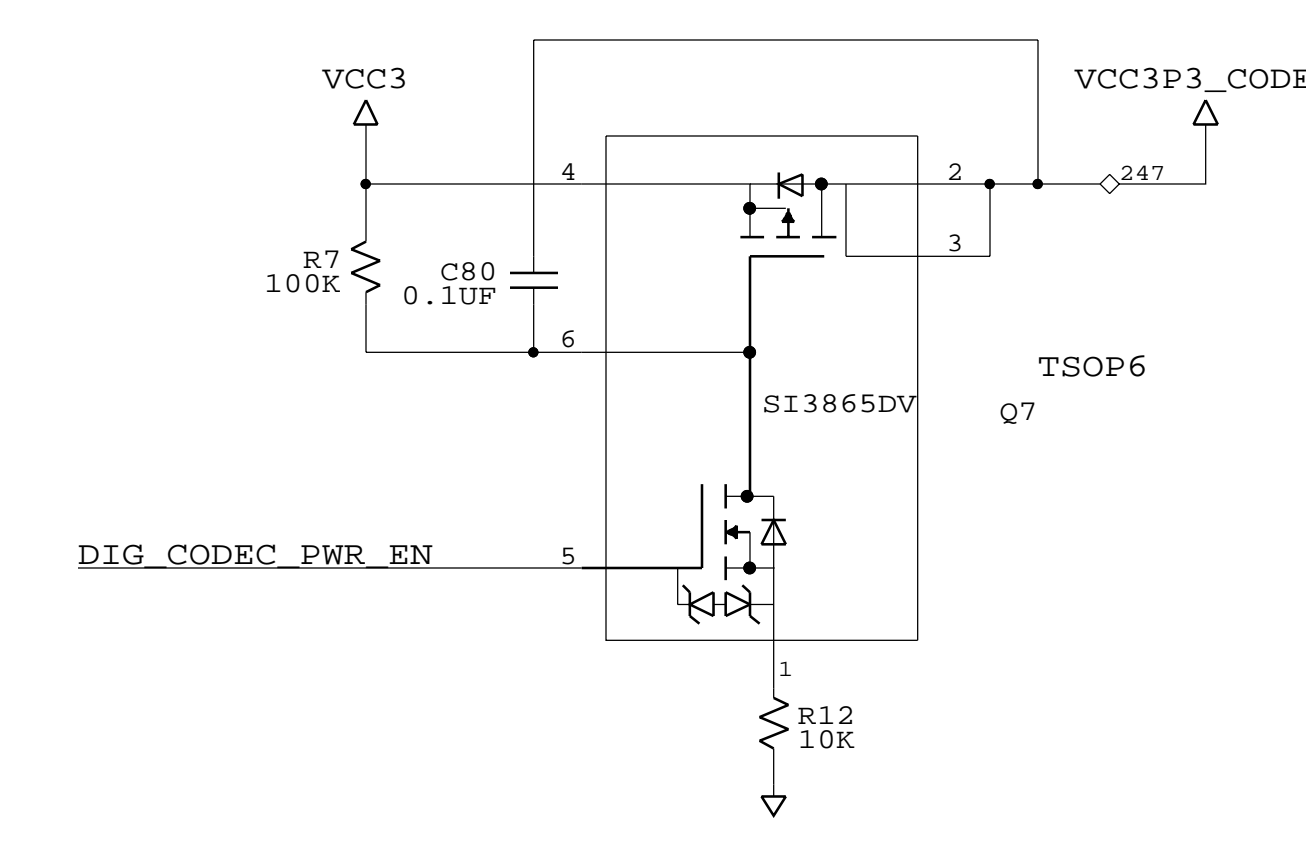
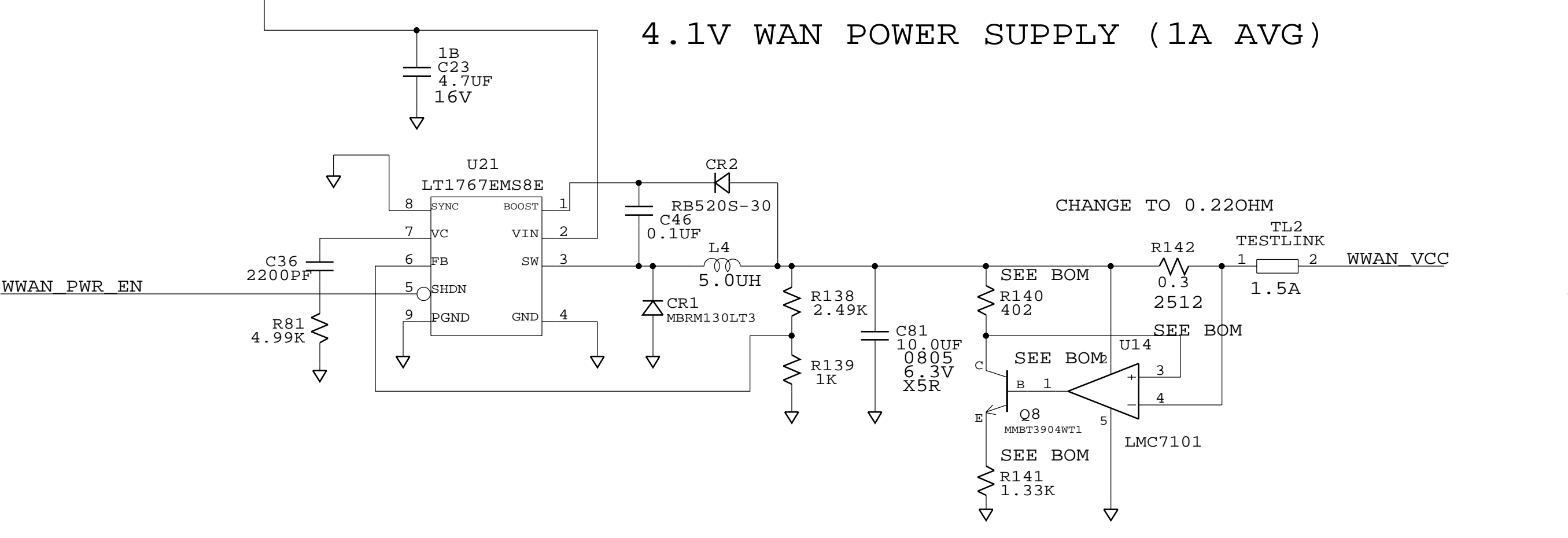
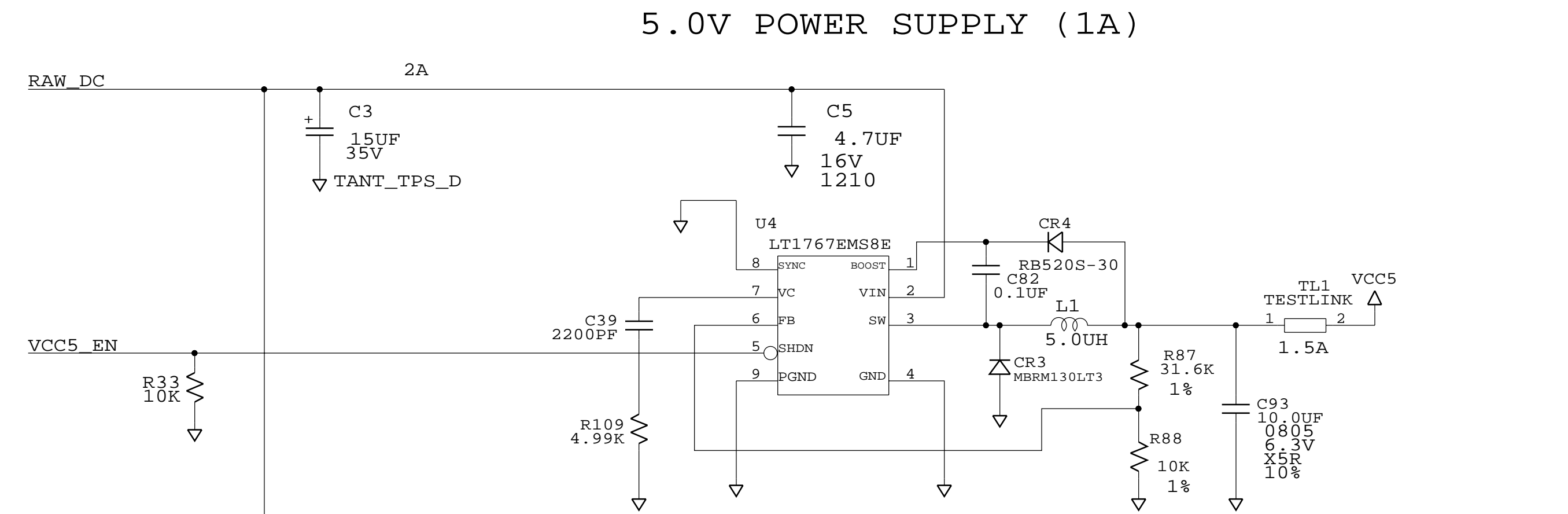
ADD RC FEED ON COT\_RESET\_COMB\* FROM THE HOST



## CPLD SIGNAL MAPPING

ADDR = 0X114E0000 (OUTPUTS UNLESS NOTED)		ADDR = 0X114E0004 (ALL INPUTS)		ADDR = 0X114E0008 (OUTPUTS UNLESS NOTED)	
BX_DATA	SIGNAL	BX_DATA	SIGNAL	BX_DATA	SIGNAL
0	BT_RESET*	0	MINOR_REV_0	0	WAN_SELECT
1	BT_CODE_DL*	1	MINOR_REV_1	1	CPLD_OUT_XX
2	WWAN_PWR_EN	2	-- NOT USED --	2	CPLD_OUT_YY
3	SLEEP_BT*	3	MINOR_REV_2	3	-- NOT USED --
4	DSP_PWR_OVERRIDE	4	MAJOR_REV_0	4	-- NOT USED --
5	AC97_CNTL_SEL	5	MAJOR_REV_1	5	-- NOT USED --
6	DSP_PWRDOWN*	6	MAJOR_REV_2	6	-- NOT USED --
7	WWAN_ONOFF*	7	-- NOT USED --	7	-- NOT USED --
8	WWAN_WAKEUP*	8	-- NOT USED --	8	-- NOT USED --
9	BT_ASLEEP* (IN)	9	PART_ID_0	9	-- NOT USED --
10	HOST_ASLEEP*	10	PART_ID_1	10	-- NOT USED --
11	WWAN_PWR_OFF* (IN)	11	-- NOT USED --	11	-- NOT USED --
12	DSP_RESET*	12	PART_ID_2	12	-- NOT USED --
13	DIG_CODEDC_PWR_EN	13	PART_ID_3	13	-- NOT USED --

PART ID = 2 FOR THIS BOARD



DUART CHANNEL A BASE = 0X114C0000  
DUART CHANNEL B BASE = 0X114C0020

LM75A TEMP SENSE MAPPING TBD

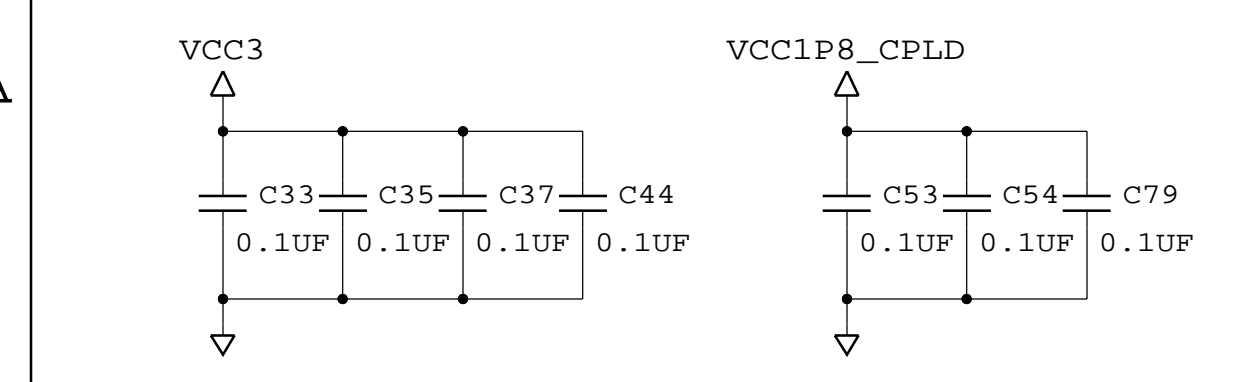
SCHEMATIC ROOMS:  
CPLD  
5VSUPPLY

**SYMBOL TECHNOLOGIES INC.**  
Bohemia, New York

**GEMINI BRICK OPTION II**  
BRICKHOUSE CPLD & 5V SUPPLY

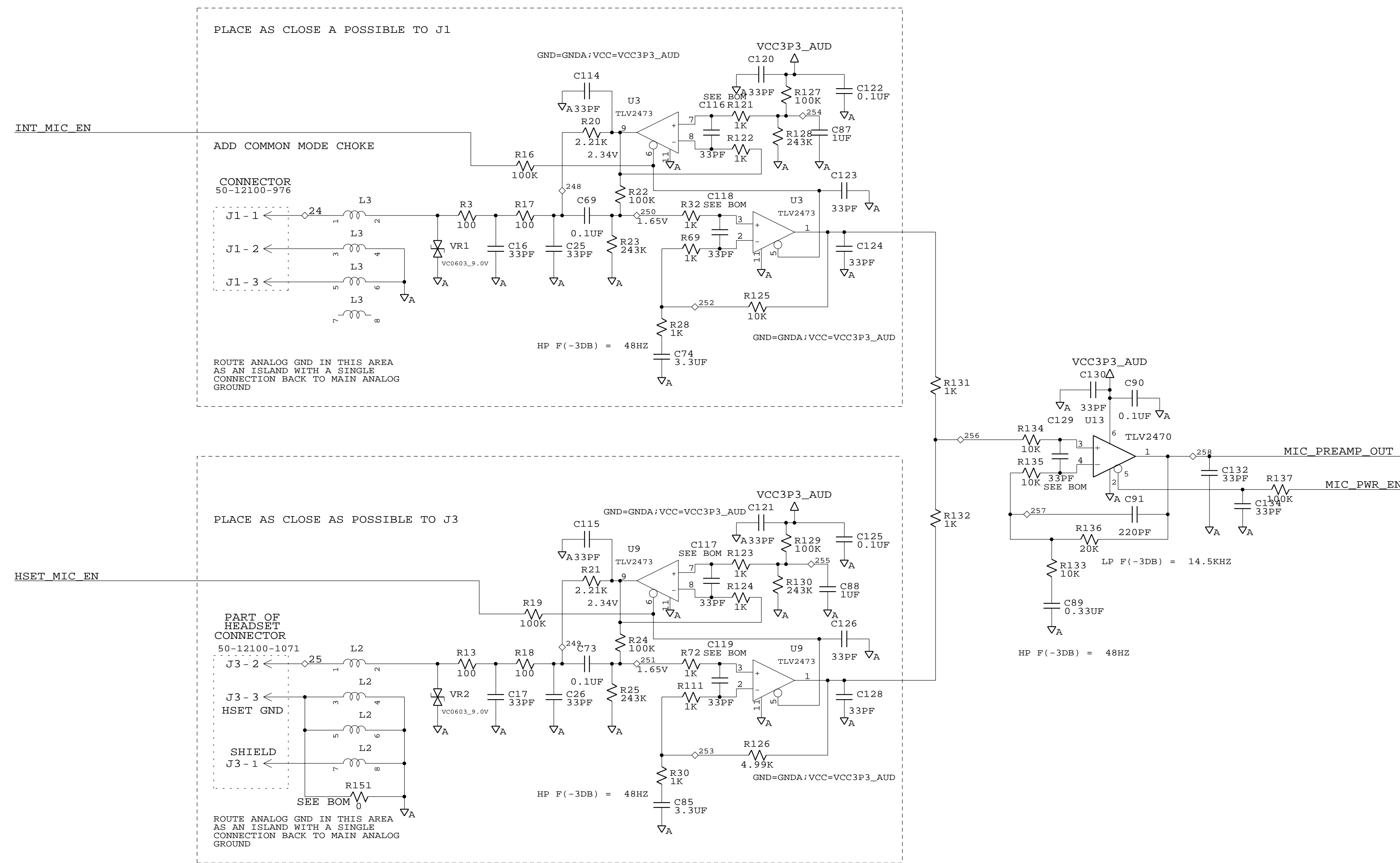
SIZE	DWG. NO.	REV
D	17-64188-01	4

Thu Mar 4 15:38:34 2004 SHEET 4 OF 8





REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
			SEE SHEET 1		

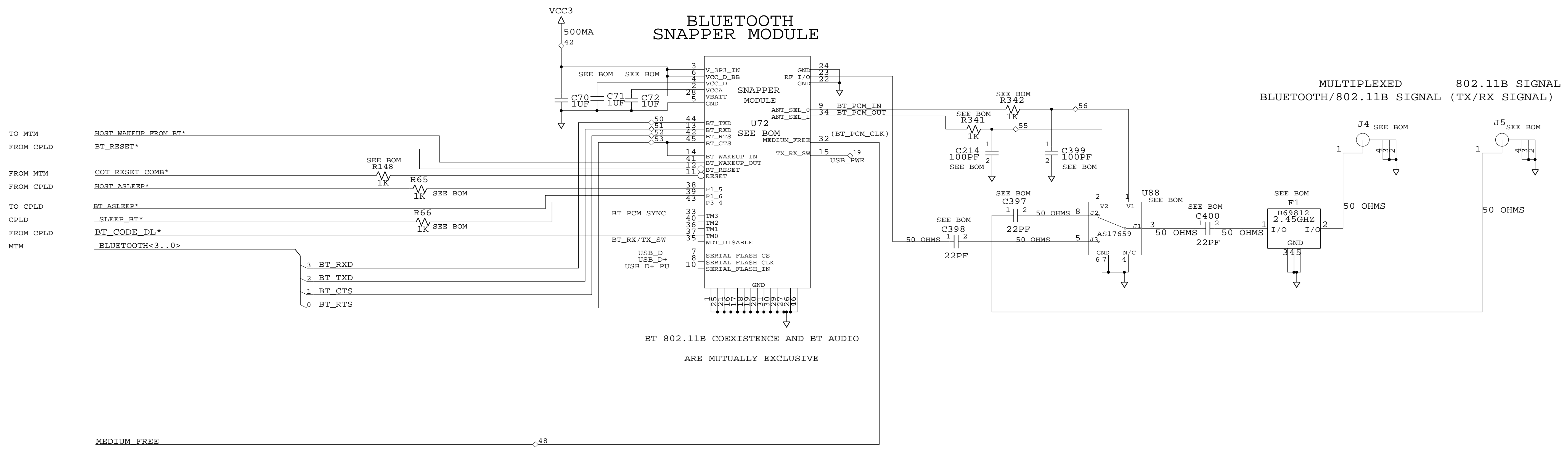


SYMBOL TECHNOLOGIES INC.			
Bohemia, New York			
GEMINI BRICK OPTION II			
MICROPHONE PREAMPS			
SIZE	DWG. NO.	REV	
D	17-64188-01	4	
Thu Mar 4 15:38:39 2004		SHEET 5 OF 8	

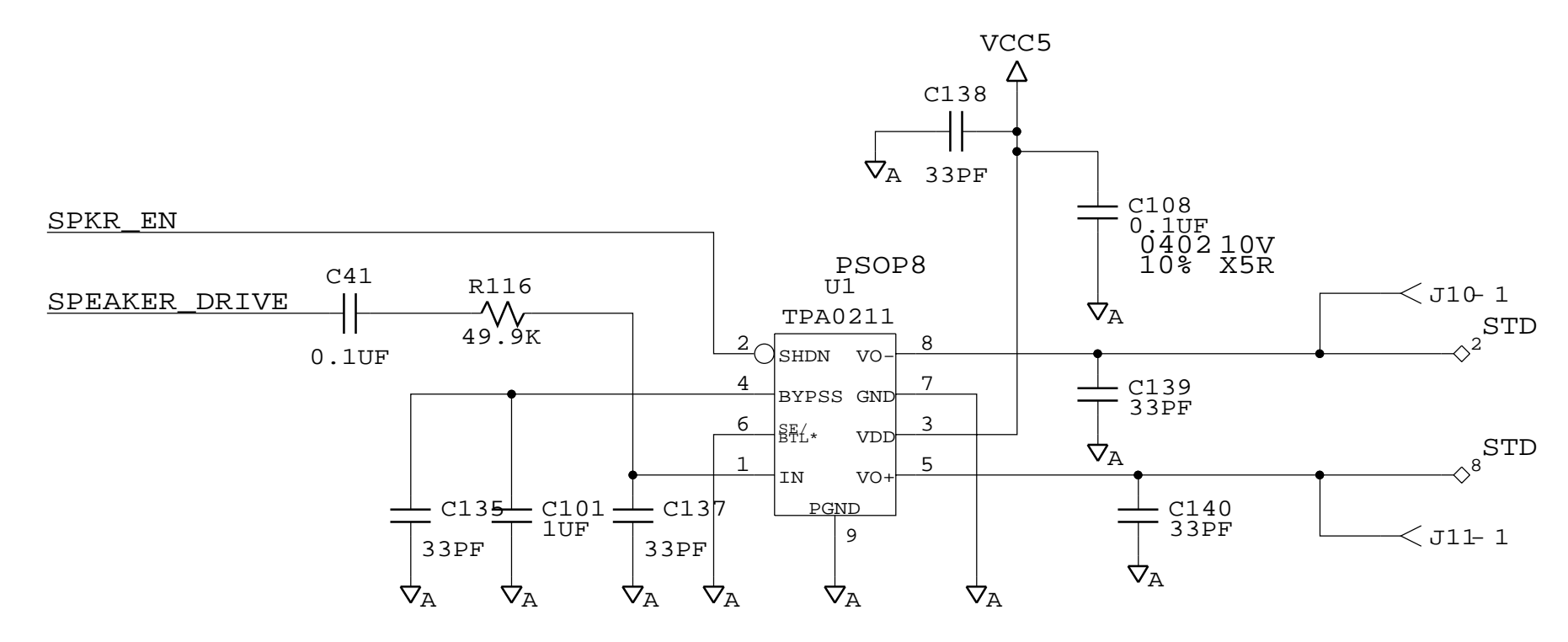
REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				

# BLUETOOTH

**BLUETOOTH VARIANTS**  
 24-64188-01: SNAPPER  
 24-64188-02: MARLIN  
 24-64188-03: MARLIN  
 24-64188-04: NO BT RADIO  
 24-64188-05: NO BT RADIO



## SPEAKER POWER AMP



MEDIUM_FREE	ANT_SEL_0 (V2)	ANT_SEL_1 (V1)	J1-J2	J1-J3	ACTIVE RADIO
H	L	H	C	NC	BLUETOOTH
L	H	L	NC	C	802.11
X	L	L	INVALID	INVALID	INVALID
X	H	H	INVALID	INVALID	INVALID



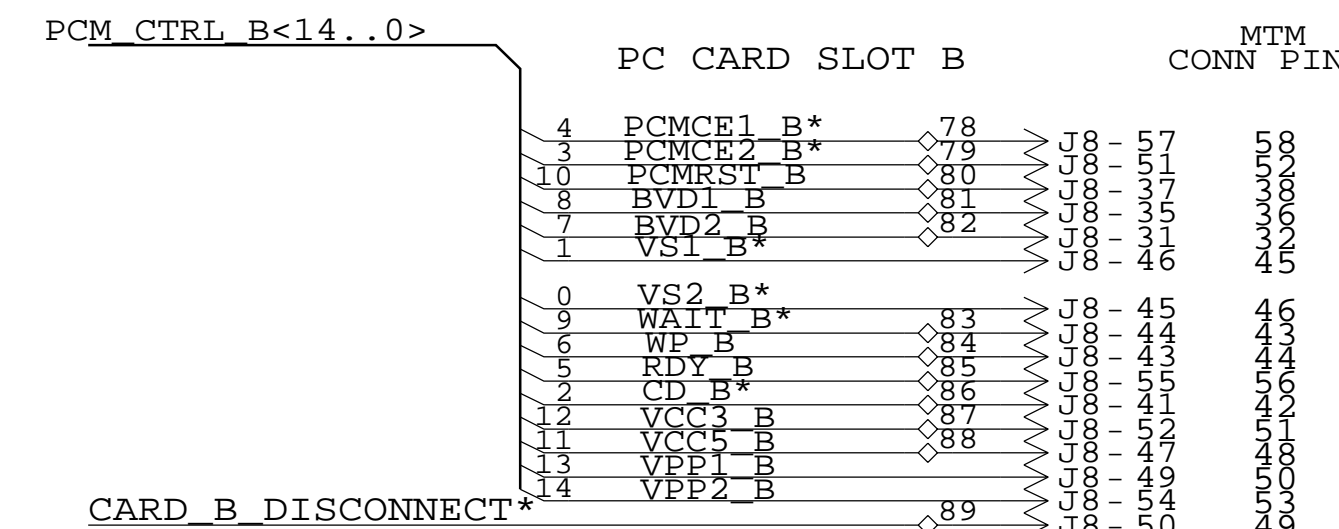
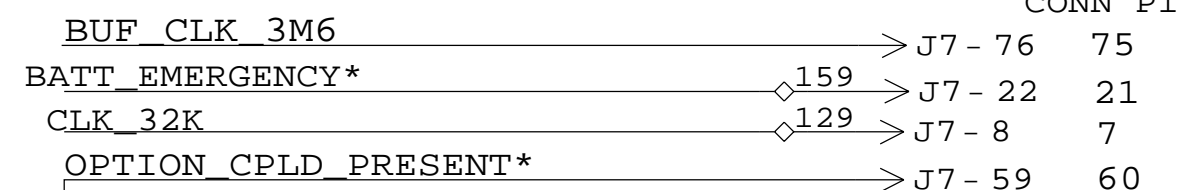
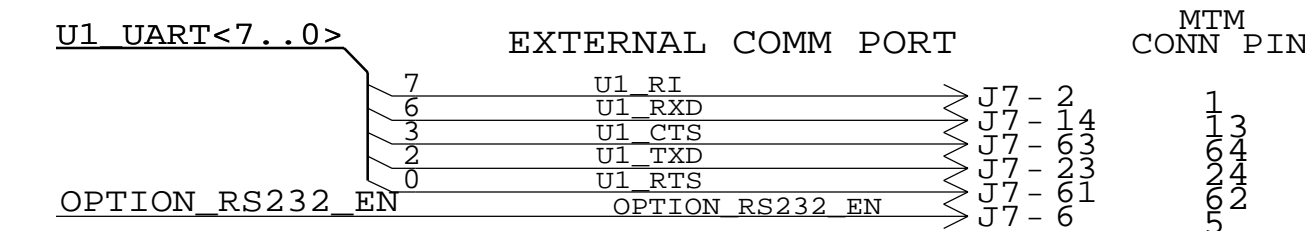
# MTM TO OPTION BOARD INTERFACE

REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
			SEE SHEET 1		

COTULLA SIDE CONNECTOR ON MTM

OPTION CPLD

ASIC CONNECTOR SIDE ON MTM







REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
A			RELEASE PER EDR # 71714		DD	RK	8/31/2003

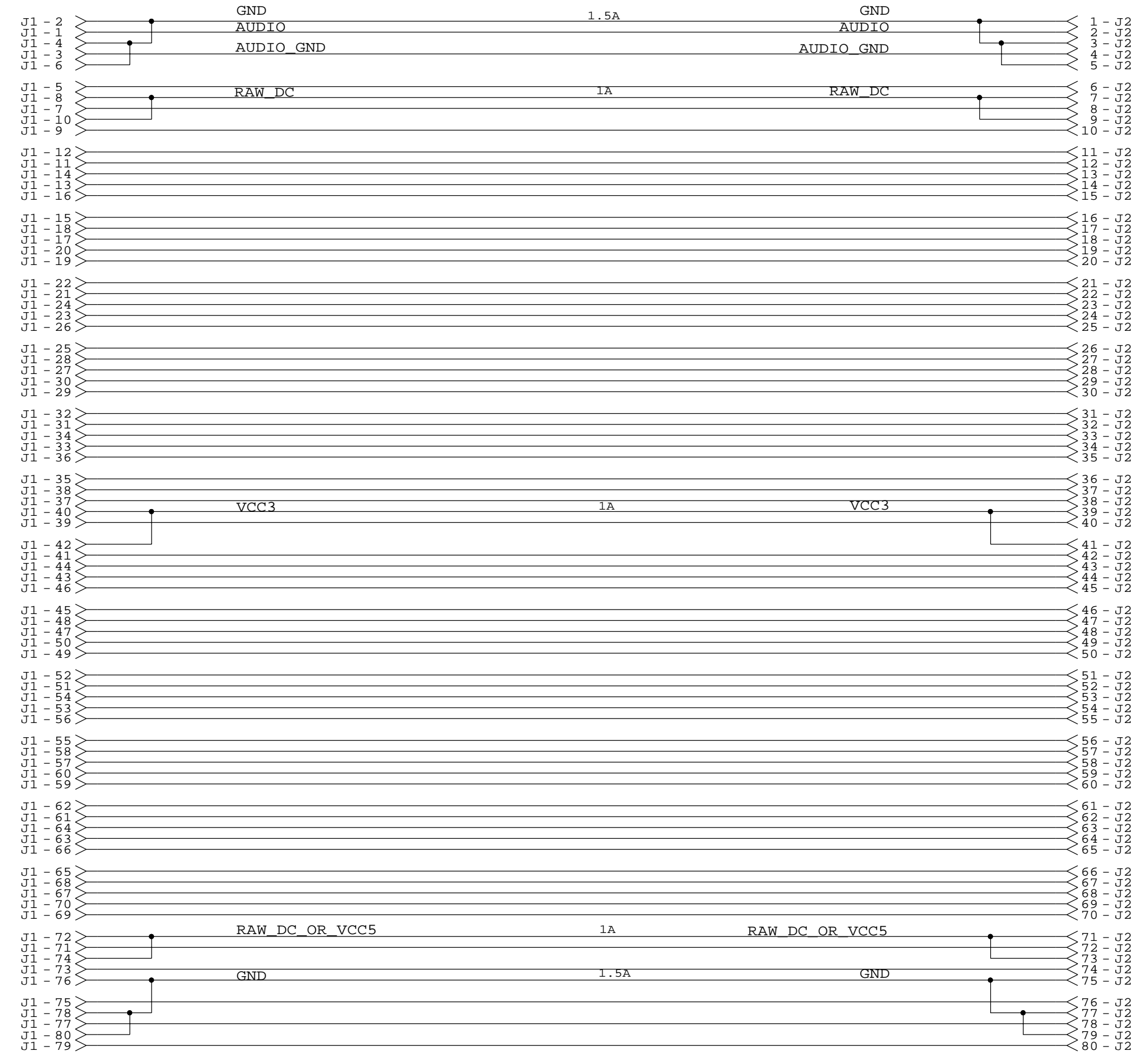
# GEMINI CPU BOARD TO OPTION BOARD FLEX

THIS SIDE CONNECTS TO J5 (COTULLA SIDE)  
ON THE CPU PCB

THIS SIDE CONNECTS TO J8 (ASIC SIDE)  
ON THE OPTION PCB

THIS SIDE CONNECTS TO J7 (COTULLA SIDE)  
ON THE OPTION PCB

THIS SIDE CONNECTS TO J9 (ASIC SIDE)  
ON THE CPU PCB



THIS FLEX WAS DESIGNED SYMMETRICALLY TO ALLOW  
USE FOR BOTH 80-PIN OPTION CONNECTORS.  
AN S-SHAPE IN THE FLEX FORCES IT TO BE INSTALLED  
IN THE PROPER DIRECTION FOR EACH CONNECTOR

J1 ON THIS FLEX ATTACHES TO J5 ON THE CPU PCB  
J2 ON THIS FLEX ATTACHES TO J9 ON THE CPU PCB

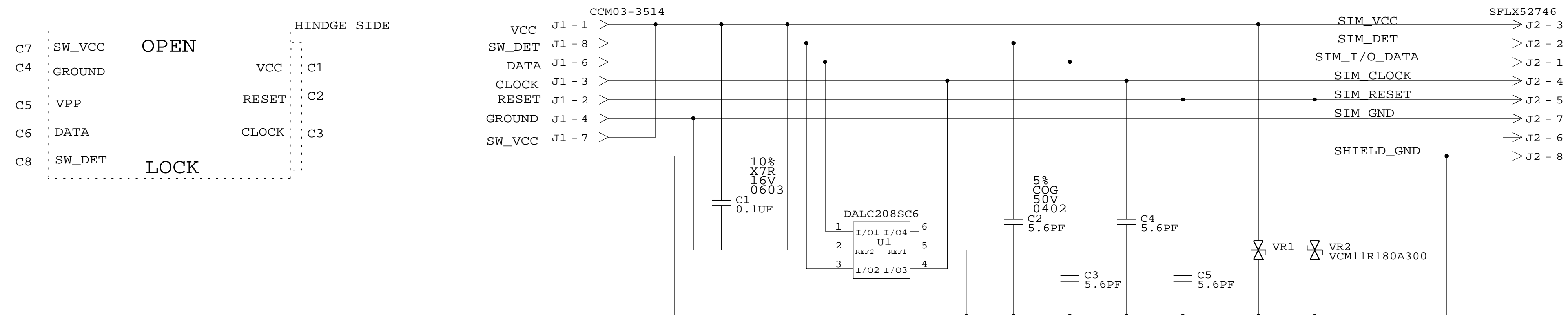
ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED .XX + .01 .XXX + .005 ANGLES ± 1° FRACTIONS ± 1/64		APPROVALS DRAWN D DEMEO 03/03 CHECKED ENGINEER D DEMEO 03/03 MFG. ENG.
		MATERIAL: FINISH:		PRODUCT QUALITY TEST ENG.
NEXT ASSY USED ON		DO NOT SCALE DRAWING		SYMBOL TECHNOLOGIES INC. Bohemia, New York <b>GEMINI CPU BOARD TO TO OPTION BOARD FLEX</b> SIZE DWG. NO. <b>D 17-59980-01</b> REV <b>A</b> SCALE: NONE SHEET 1 OF 1

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
1			RELEASE PER PPD 76262		CH	RK	07/28/03
2			RELEASE PER PPD 77479		CH	RK	10/15/03

REV2:  
 1) REMOVED SPLIT PCB ARTWORK THAT FUNCTIONED AS A SWITCH FOR SIM DETECT  
 2) REMOVED ZERO OHM RESISTOR THAT BYPASSED SPLIT PCB ARTWORK

## SIM SOCKET

50-12100-1160



2. BOTTOM SIDE IS GROUNDED COPPER.
3. SIM\_CR\_CLOCK IS ISOLATED FROM OTHER SIGNALS AND GROUND.

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
		APPROVALS		DATE
		DRAWN		07/28/03
		CHECKED		07/28/03
		ENGINEER		07/28/03
		MFG. ENG.		
		PRODUCT		
		QUALITY		
		TEST ENG.		
		MATERIAL:		
		FINISH:		
		NEXT ASSY		USED ON
		DO NOT SCALE DRAWING		

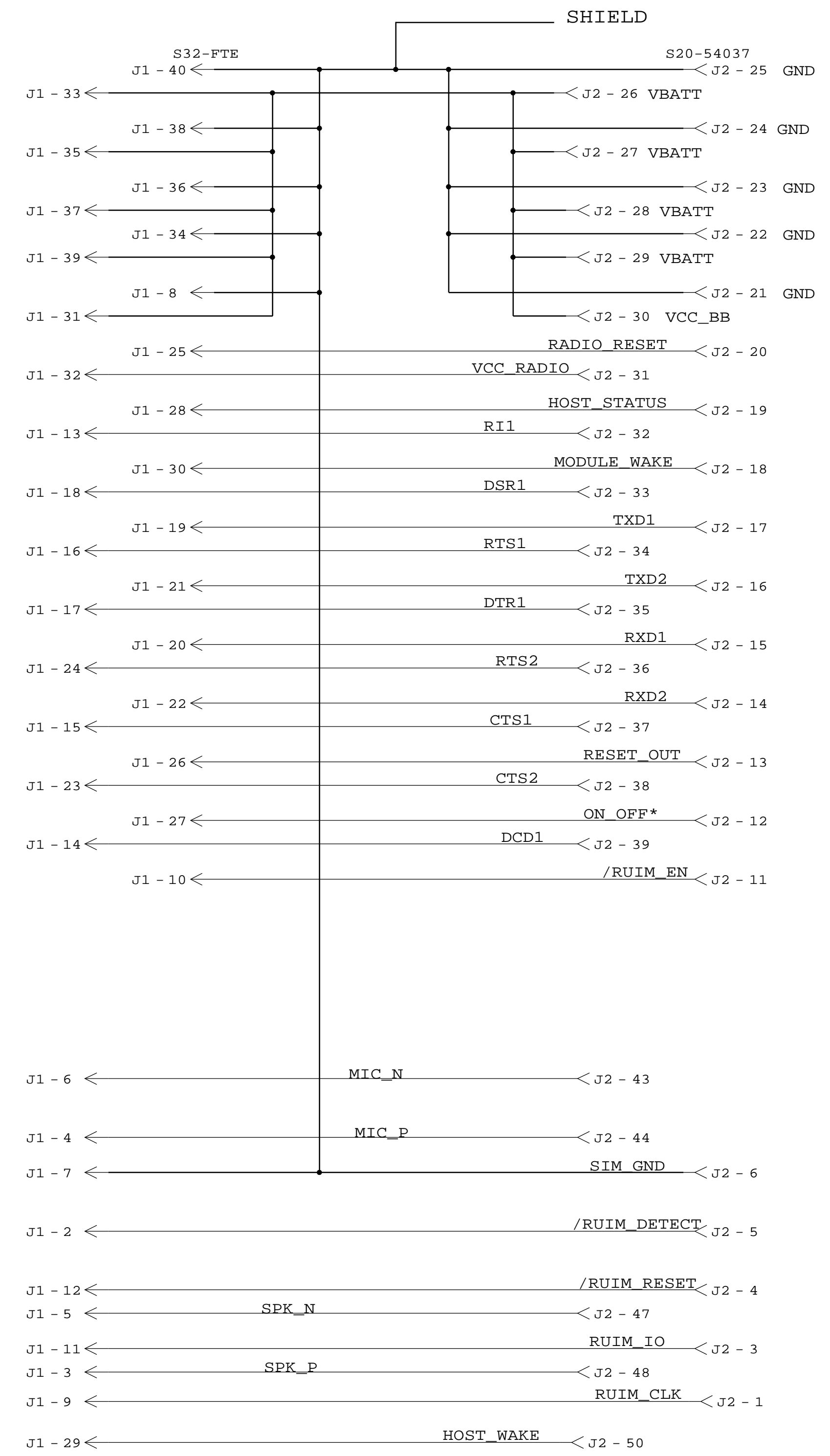
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		DRAWN: C. HEADLEY		DATE: 07/28/03		SYMBOL TECHNOLOGIES INC.	
				CHECKED: R. KOTSAY		DATE: 07/28/03		Bohemia, New York	
				ENGINEER: C. HEADLEY		DATE: 07/28/03		WWAN SIM CARD FLEX BOARD	
				MFG. ENG.				FLEX DESIGN	
				ANGLES: ± 1° FRACTIONS: ± 1/64				SIZE DWG. NO. 17-62643-01	
				MATERIAL:				REV 2	
				FINISH:				D	
				NEXT ASSY		USED ON		Thu Oct 16 09:07:15 2003 SHEET 1 OF 1	



REVISIONS						
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	DATE
1			RELEASE PER PPD # 76713		CH	08/18/03

EM3420 RADIO  
HEADER  
50-12100-1153  
SAMTEC FTE-120-01-G-DV-ES-PTR

OPTION BOARD  
HEADER  
50-12100-1149  
MOLEX 54037-0507



NOTES:

- 1) SILVER EPOXY SHIELD ON BOTH SIDES
- 2) INCLUDE STENCIL ON EACH END TO IDENTIFY EITHER RADIO OR OPTION BOARD
- 3) INCLUDE PIN 1, 25, 26, 50 STENCIL ON J2 AND PIN 1, 2, 39, 40 STENCIL ON J1
- 4) PROVIDE WIDE GND AND VBATT TRACE - 1.5 AMP
- 5) KEEP MIC\_N AND MIC\_P CLOSE TO EACH OTHER
- 6) PROVIDE GND ISOLATION AROUND RUIIM\_CLK

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL																																
PARTS LIST																																				
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		<table border="1"> <tr> <td colspan="2">DIMENSIONS ARE IN INCHES</td> <td colspan="2">APPROVALS</td> </tr> <tr> <td>UNLESS OTHERWISE SPECIFIED</td> <td></td> <td>DRAWN</td> <td>DATE</td> </tr> <tr> <td>.XX</td> <td>MM</td> <td>C. HEADLEY</td> <td>08/18/03</td> </tr> <tr> <td>.XX</td> <td>INCH</td> <td>CHECKED</td> <td></td> </tr> <tr> <td>.XXX</td> <td></td> <td>R. KOTSAY</td> <td>08/18/03</td> </tr> <tr> <td></td> <td></td> <td>ENGINEER</td> <td></td> </tr> <tr> <td></td> <td></td> <td>C. HEADLEY</td> <td>08/18/03</td> </tr> <tr> <td></td> <td></td> <td>MFG. ENG.</td> <td></td> </tr> </table>		DIMENSIONS ARE IN INCHES		APPROVALS		UNLESS OTHERWISE SPECIFIED		DRAWN	DATE	.XX	MM	C. HEADLEY	08/18/03	.XX	INCH	CHECKED		.XXX		R. KOTSAY	08/18/03			ENGINEER				C. HEADLEY	08/18/03			MFG. ENG.		SYMBOL TECHNOLOGIES INC. Bohemia, New York AIRPRIME WAN INTERFACE FLEX
DIMENSIONS ARE IN INCHES		APPROVALS																																		
UNLESS OTHERWISE SPECIFIED		DRAWN	DATE																																	
.XX	MM	C. HEADLEY	08/18/03																																	
.XX	INCH	CHECKED																																		
.XXX		R. KOTSAY	08/18/03																																	
		ENGINEER																																		
		C. HEADLEY	08/18/03																																	
		MFG. ENG.																																		
MATERIAL:		PRODUCT	SIZE	DWG. NO.																																
FINISH:		QUALITY	D	17-64187-01																																
NEXT ASSY		TEST ENG.	REV	1																																
USED ON		DATE		1																																
DO NOT SCALE DRAWING		Tue Aug 19 14:14:33 2003		SHEET 1 OF 1																																

REVISIONS						
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD. DATE
A			RELEASE PER EDR72498		KJR	12/05/03

# GEMINI SHORT KEYFLEX 28-KEY

REFER TO DOCUMENT NUMBER 70-63878-01 FOR KEYBOARD CONFIGURATIONS AND ID'S. FOR EACH NEW KEYBOARD VARIATION, BE SURE TO UPDATE THIS DOCUMENTATION SO THERE ARE NO DUPLICATE KEYBOARD ID'S.

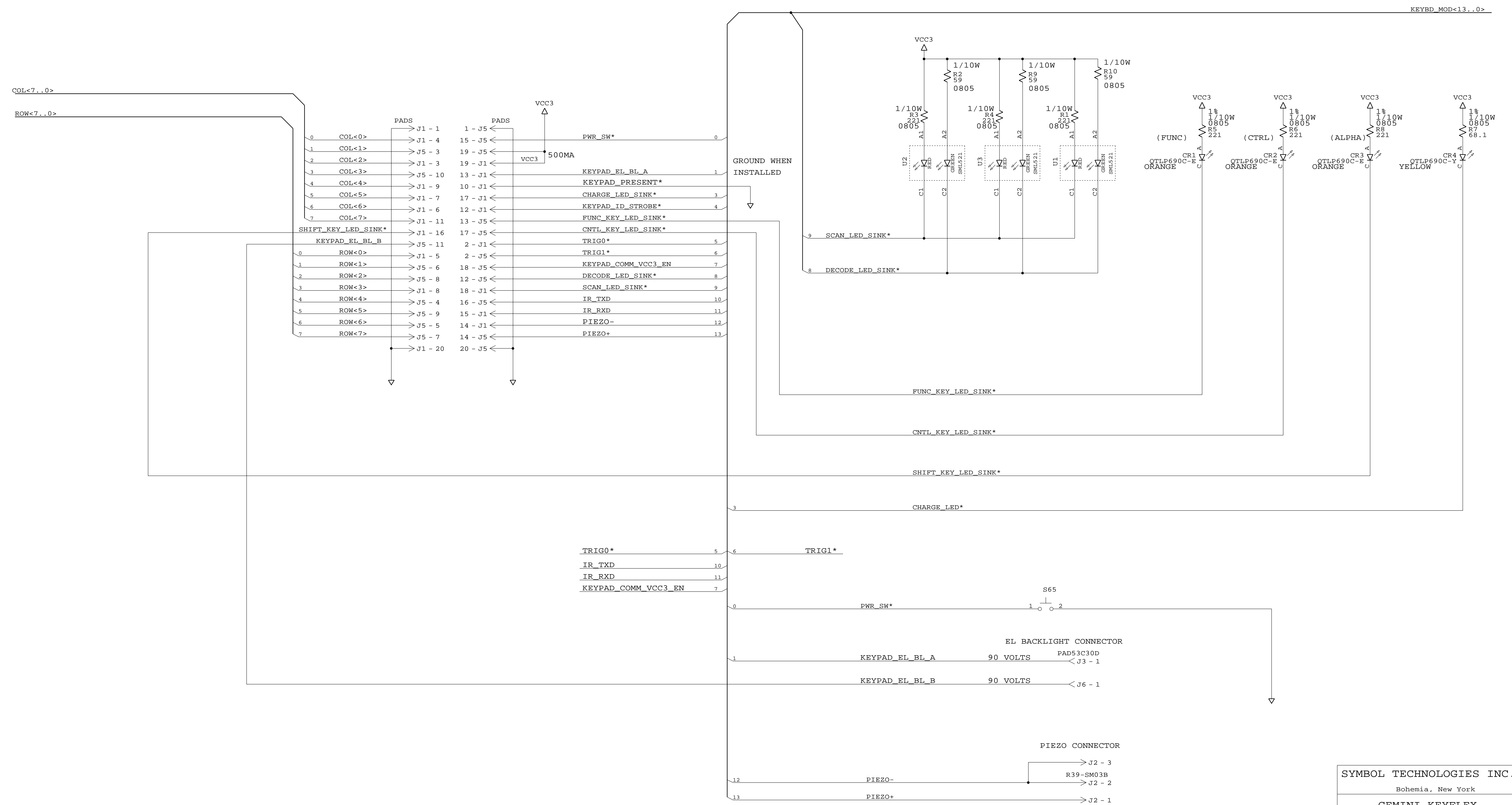
BOM TABLE (DNI=Do Not Install)

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89	DNI
90	DNI
91	DNI
92	DNI
93	DNI
94	DNI
95	DNI
96	DNI
97	DNI
98	DNI
99	DNI
100	DNI

ITEM	QTY.	PART NO.	DESCRIPTION	REMARKS/REF. SYMBOL
PARTS LIST				
THE DWG. AND SPECIFICATION CONTAINED HEREON ARE PROPRIETARY AND MUST NOT BE USED, COPIED, REPRODUCED OR OTHERWISE DEALT WITH NOR ITS CONTENTS COMMUNICATED TO OTHERS EXCEPT IN ACCORDANCE WITH WRITTEN INSTRUCTIONS RECEIVED FROM SYMBOL TECHNOLOGIES INC.		DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED .XX + .01 INCH .XXX + .005 INCH ANGLES ± 1° FRACTIONS ± 1/64		APPROVALS DRAWN: K. RIVALSI 12/5/03 CHECKED: K. RIVALSI 12/5/03 ENGINEER: P. IASSO 12/5/03 MFG. ENG.: G. STILL 12/5/03 PRODUCT QUALITY: B. WATSON 12/5/03 TEST ENG.: D. REED 12/5/03
NEXT ASSY		USED ON	DO NOT SCALE DRAWING	SYMBOL TECHNOLOGIES INC. Bohemia, New York <b>GEMINI SHORT KEYFLEX 28-KEY</b> SIZE DWG. NO. 17-65573-01 D Wed Jan 7 14:11:10 2004 SHEET 1 OF 3

# KEYFLEX TO MTM INTERFACE

REVISIONS							
REV	ZONE	NO.	DESCRIPTION	E.C.	BY	APVD.	DATE
			SEE SHEET 1				



SYMBOL TECHNOLOGIES INC.  
Bohemia, New York

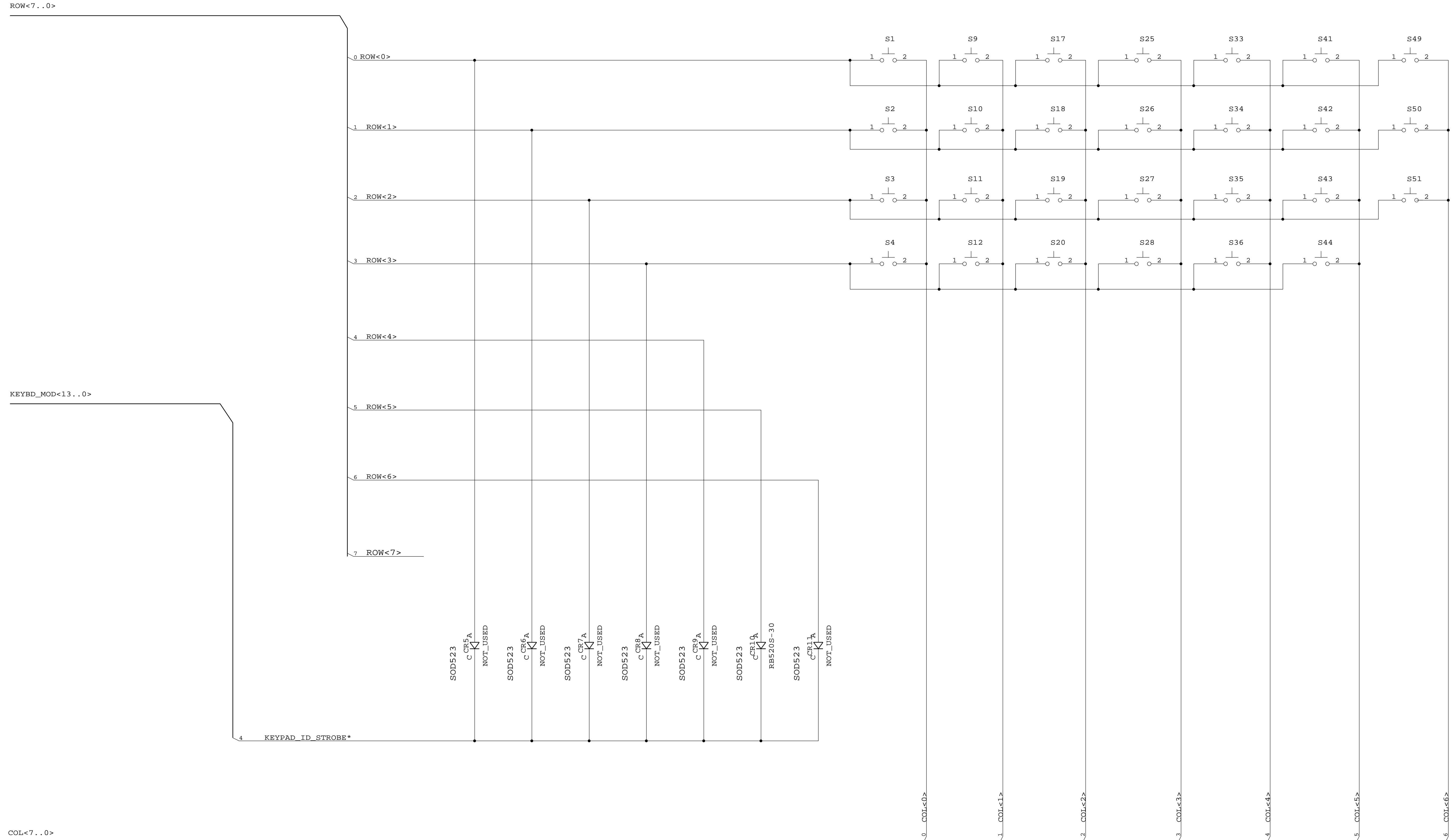
**GEMINI KEYFLEX  
28-KEY**

SIZE	DWG. NO.	REV
D	17-65573-01	A

Wed Jan 7 14:11:28 2004 SHEET 2 OF 3

# KEYFLEX 7X4 MATRIX (27 KEYS)

REVISIONS					
REV	ZONE	NO.	DESCRIPTION	E.C.	DATE
			SEE SHEET 1		



SYMBOL TECHNOLOGIES INC. Bohemia, New York		
<b>GEMINI KEYFLEX 28-KEY</b>		
SIZE	DWG. NO.	REV
D	17-65573-01	A
Wed Jan 7 14:11:30 2004		SHEET 3 OF 3