

MODEL : 8060

Revision R01

Contexts

Title	Page
Cover Sheet	1
System Block Diagram	2
Power Block Diagram	3
Northwood-M (1/2)	4
Northwood-M (2/2)	5
BROOKDALE-MCH845M(1/2)	6
BROOKDALE-MCH845M(2/2)	7
Clock Generator,Screw holes	8
DDR SO-DIMM Socket * 2	9
VGA NV17-MAP(1/2)	10
VGA NV17-MAP(2/2)	11
LCD & CRT Interface	12
ICH3M	13
HDD, CDROM Connector & PULL-UP RESISTER	14
PCMCIA/1394 Controller(PCI4410) & Socket	15
LANPHY,MDC	16
Audio Codec & Amplifier	17
Audio DJ	18
BIOS,SUPER-IO	19
Micro Controller(H8)	20
MINI PCI & USB2.0	21
Battery Connector	22
Charger and D/D Connector	23
CPU (LTC3716)	24
System Power	25
DC Power	26
LPT & TV-OUT port & USB port	27
HISTORY	28

DRAW	DESIGN	CHECK	ISSUED

IDSEL

IDSEL	CHIP
AD11	
AD18	LAN
AD19	PCMCIA
AD17	MINIPCI
AD21	USB2.0

BUS MASTER

REQ/GNT	CHIP
-REQ0/-GNT0	
-REQ1/-GNT1	PCMCIA
-REQ2/-GNT2	LAN
-REQ3/-GNT3	USB2.0
-REQ4/-GNT4	MINIPCI

PCIINT

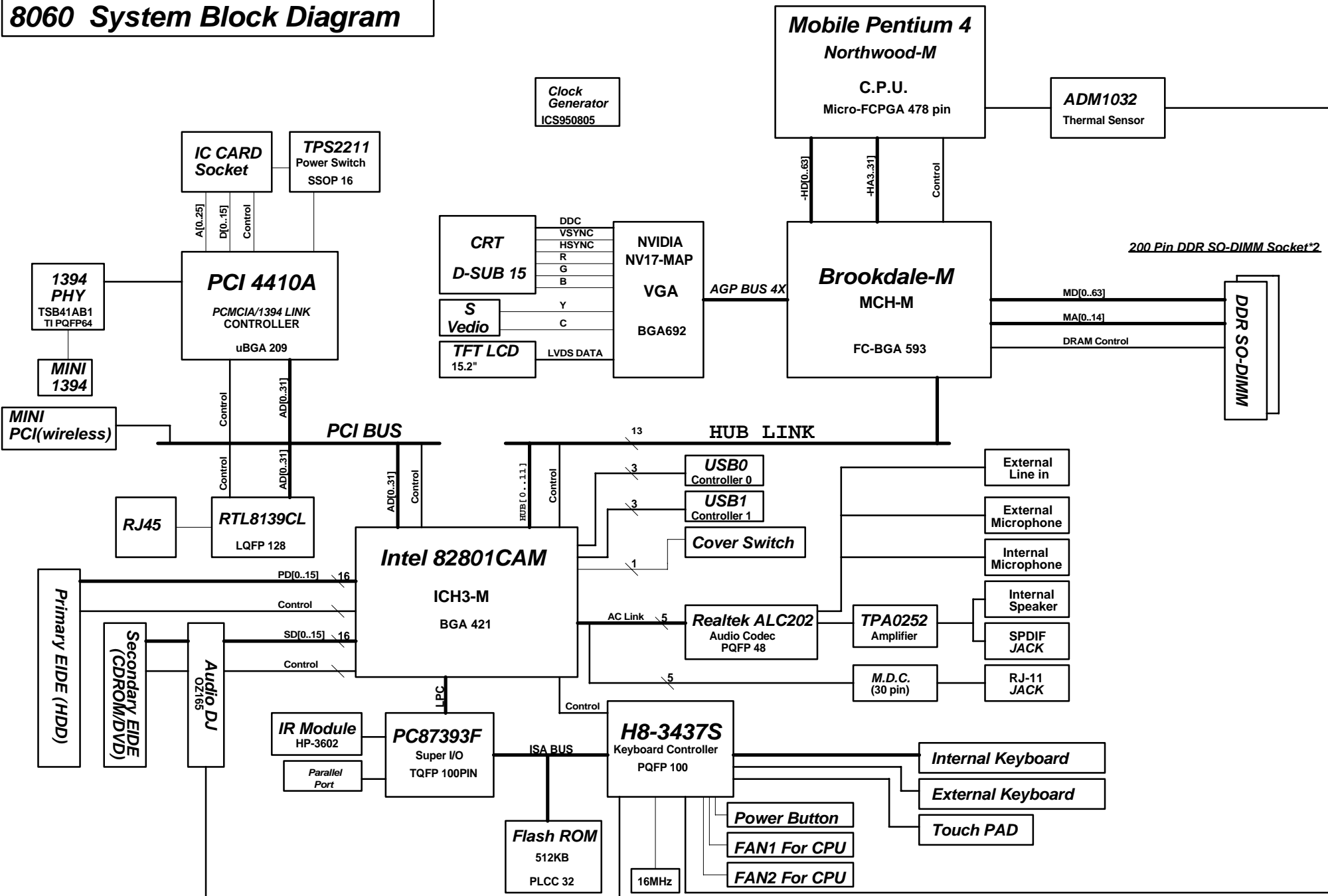
PCIINT	CHIP
INTA	PCMCIA/MAP17/USB2.0
INTB	MINIPCI/USB2.0
INTC	PCMCIA/1394/USB2.0
INTD	LAN
INTE	MINIPCI/OZ165

1		COMP
2		GRD
3		13V-1
4		13V-2
5		POWER
6		13V-2
7		GRD
8		SOLDER

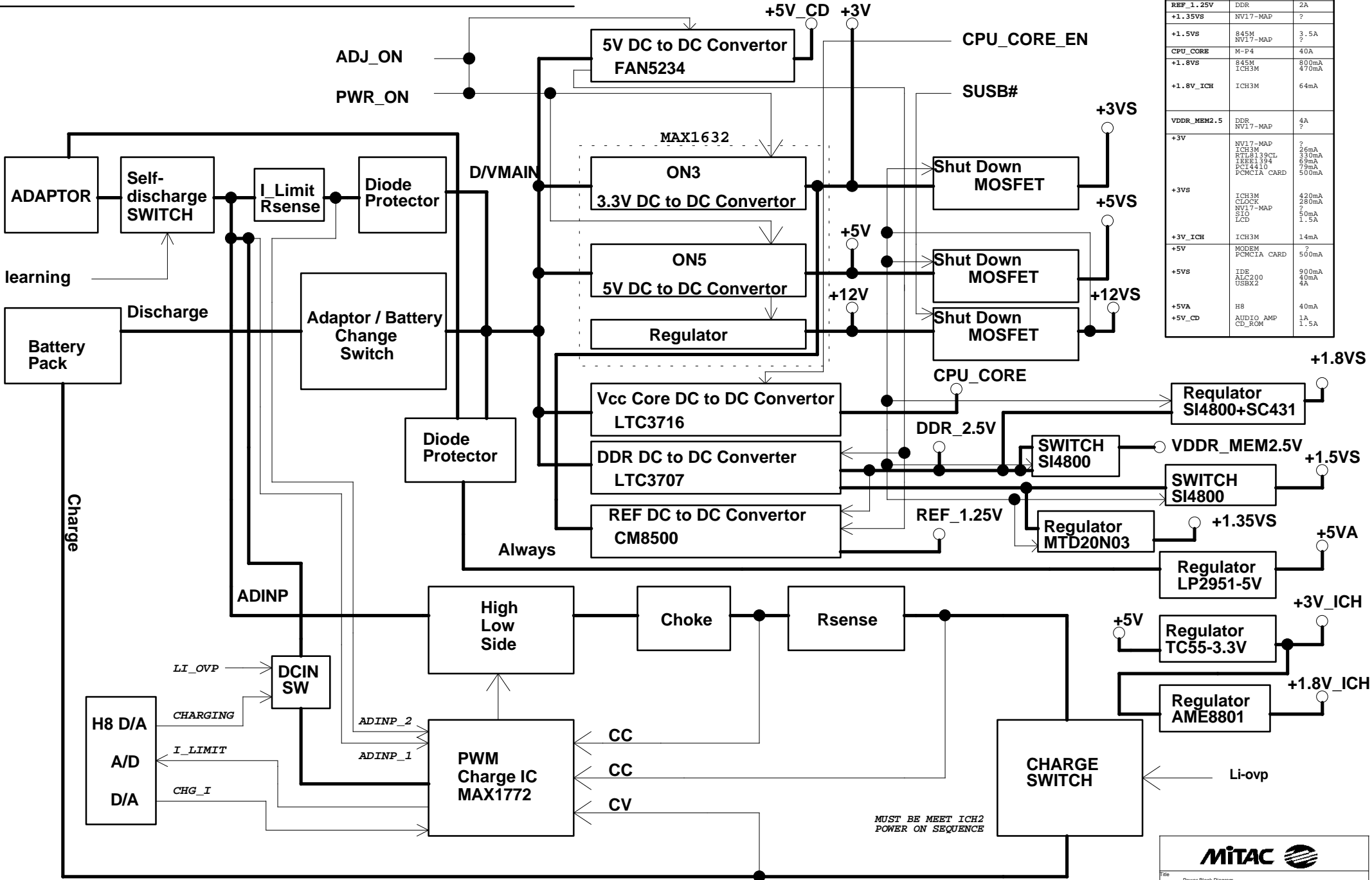
POWER STATES

STATE SIGNAL	VOTAGE	S0	S1	S3	S4	S5
-SUSA	-	HIGH	LOW	LOW	LOW	LOW
-SUBB	-	HIGH	HIGH	LOW	LOW	LOW
-SUSC	-	HIGH	HIGH	HIGH	LOW	LOW
ADP	+19V	O	O	O	O	O
BATTERY	+12V	O	O	O	O	O
RTC_VCC	+3.3V	O	O	O	O	O
CPU_CORE	+1.75V	O	O	O	X	X
+1.35VS	+1.35V	O	O	X	X	X
+1.8VS	+1.8V	O	O	X	X	X
+1.8V_ICH	+1.8V	O	O	O	O	O
VDDR_MEM2.5	+2.5V	O	O	O	X	X
+3VS	+3.3V	O	O	X	X	X
+3V	+3.3V	O	O	O	X	X
+3V_ICH	+3.3V	O	O	O	O	O
+5VS	+5V	O	O	X	X	X
+5V	+5V	O	O	O	X	X
+5VA	+5V	O	O	O	O	O
+12VS	+12V	O	O	X	X	X
+12V	+12V	O	O	O	X	X
+5V_CD	+5V	O	O	O	O	O/X byADJ_BTN

## 8060 System Block Diagram



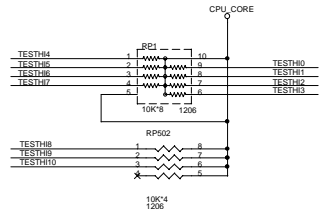
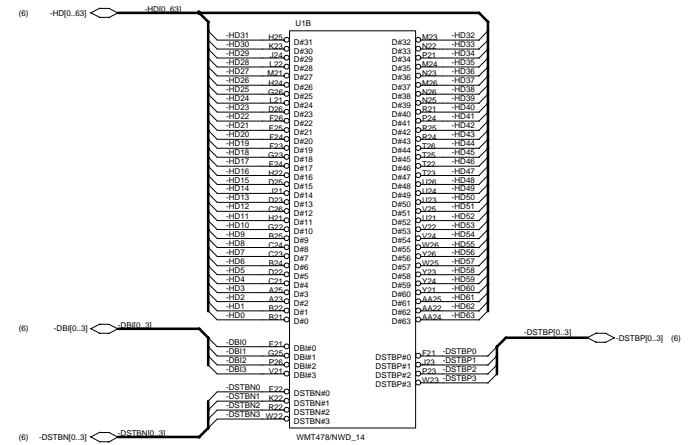
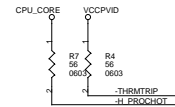
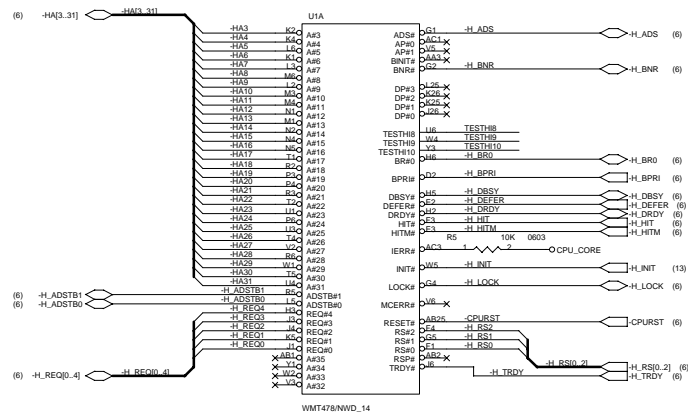
# BLOCK DIAGRAM OF THE 8060



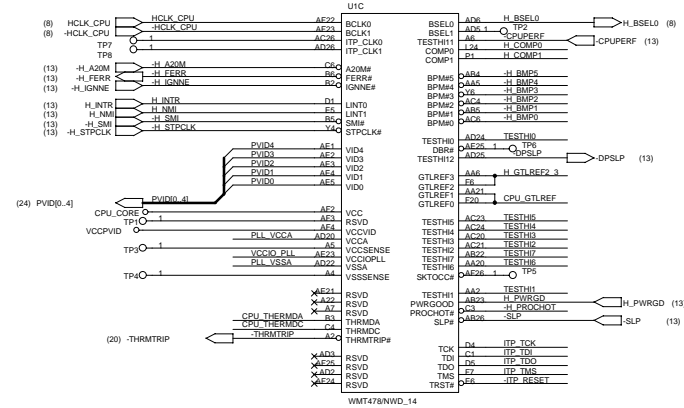
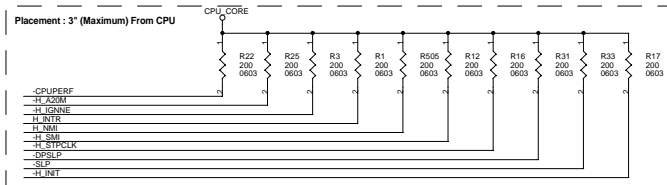
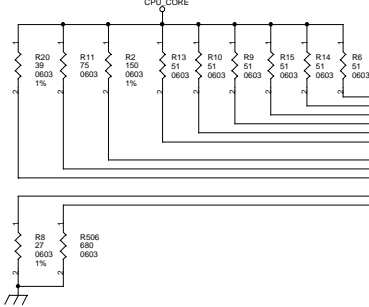
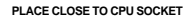
\* OPTION(NO LINK)

RTC	ICH3M	4uA
REF_1.25V	DDR	2A
+1.35VS	NV17-MAP	?
+1.5VS	845M NV17-MAP	3.5A
CPU_CORE	M-P4	40A
+1.8VS	845M ICH3M	800mA
+1.8V_ICH	ICH3M	64mA
VDDR_MEM2.5	DDR NV17-MAP	4A
+3V	NV17-MAP ICH3M	2.26mA
+3VS	RTL8139CL	330mA
+3VS	188F1394	69mA
+3VS	PCI4410	79mA
+3VS	PCMCIA_CARD	500mA
+3V_ICH	ICH3M	14mA
+5V	MODEM PCMCIA_CARD	2.500mA
+5VS	IDE ALC200	900mA
+5VA	USBX2	40mA
+5V_CD	H8 AUDIO_AMP	1A
	CD_ROM	1.5A

## MOBILE P4

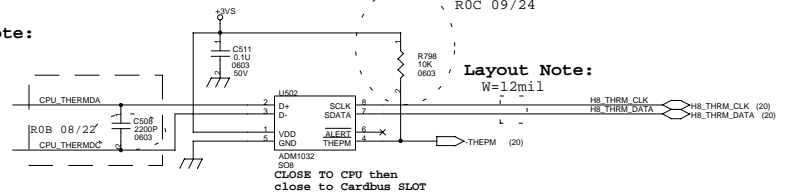


PLACE THESE INSIDE SOCKET CAVITY



Layout Note:

(平行且等長)  
as short as  
possible

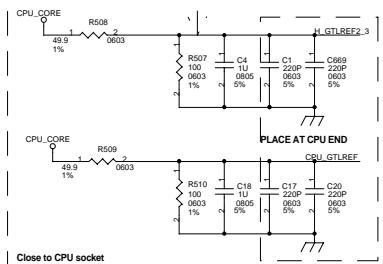


Layout Note:

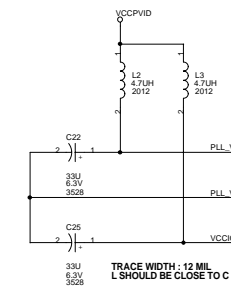
W=12mil

### GTL Reference CKT

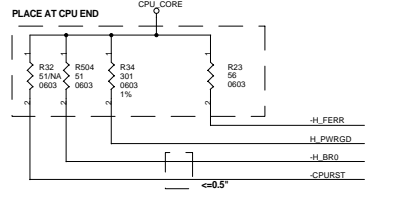
One 220PF for each GTL REF Pin



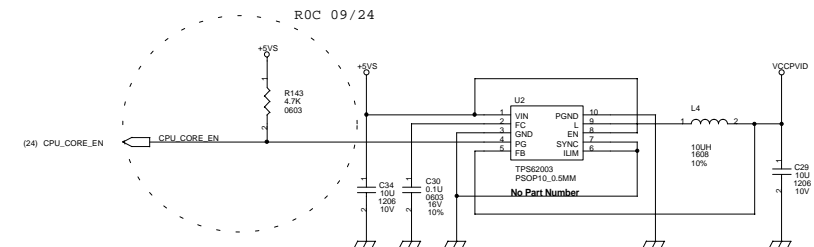
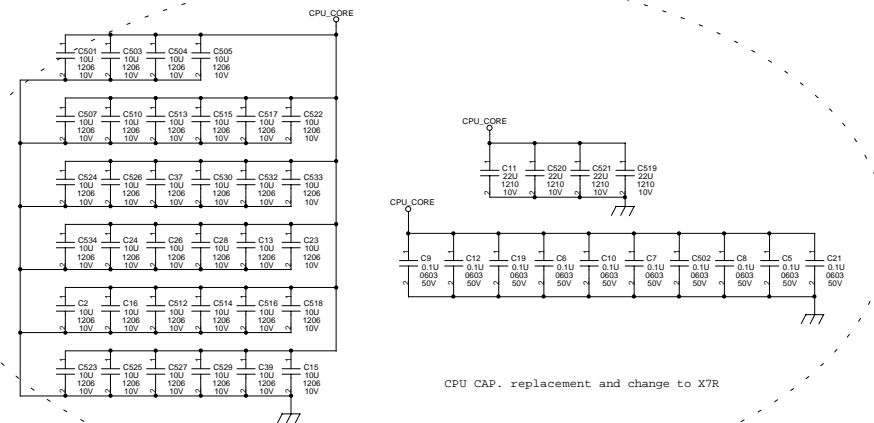
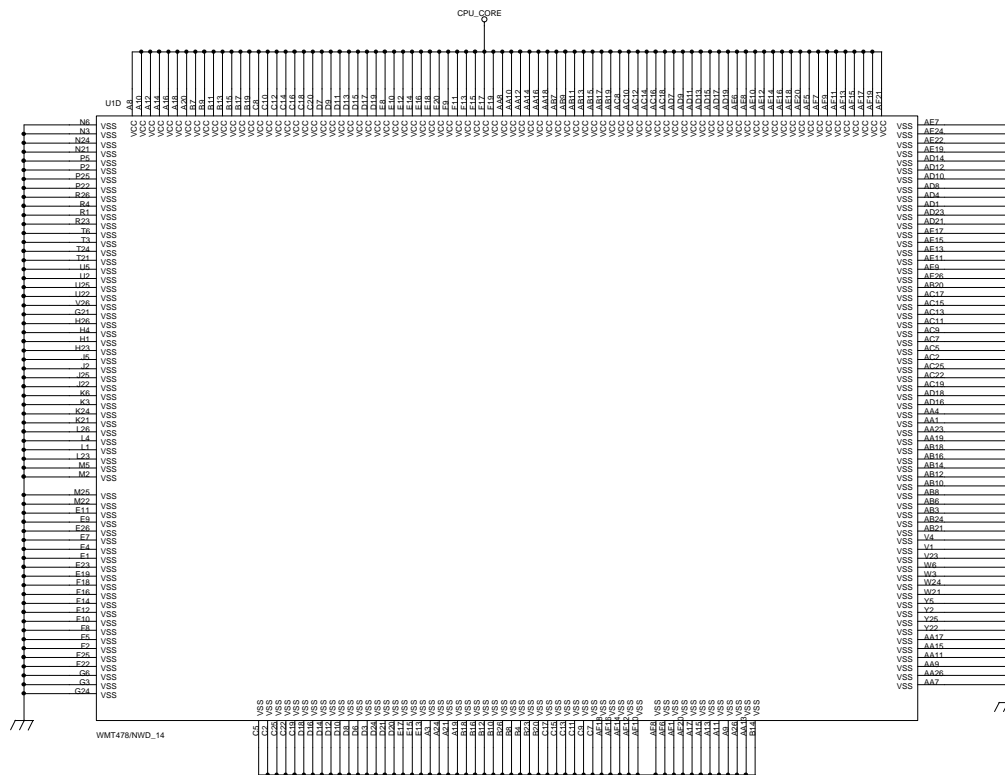
### PLL SUPPLY FILTER



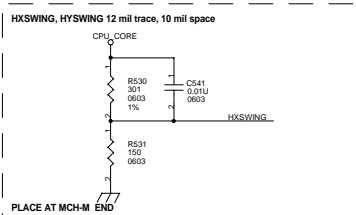
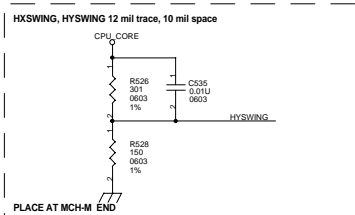
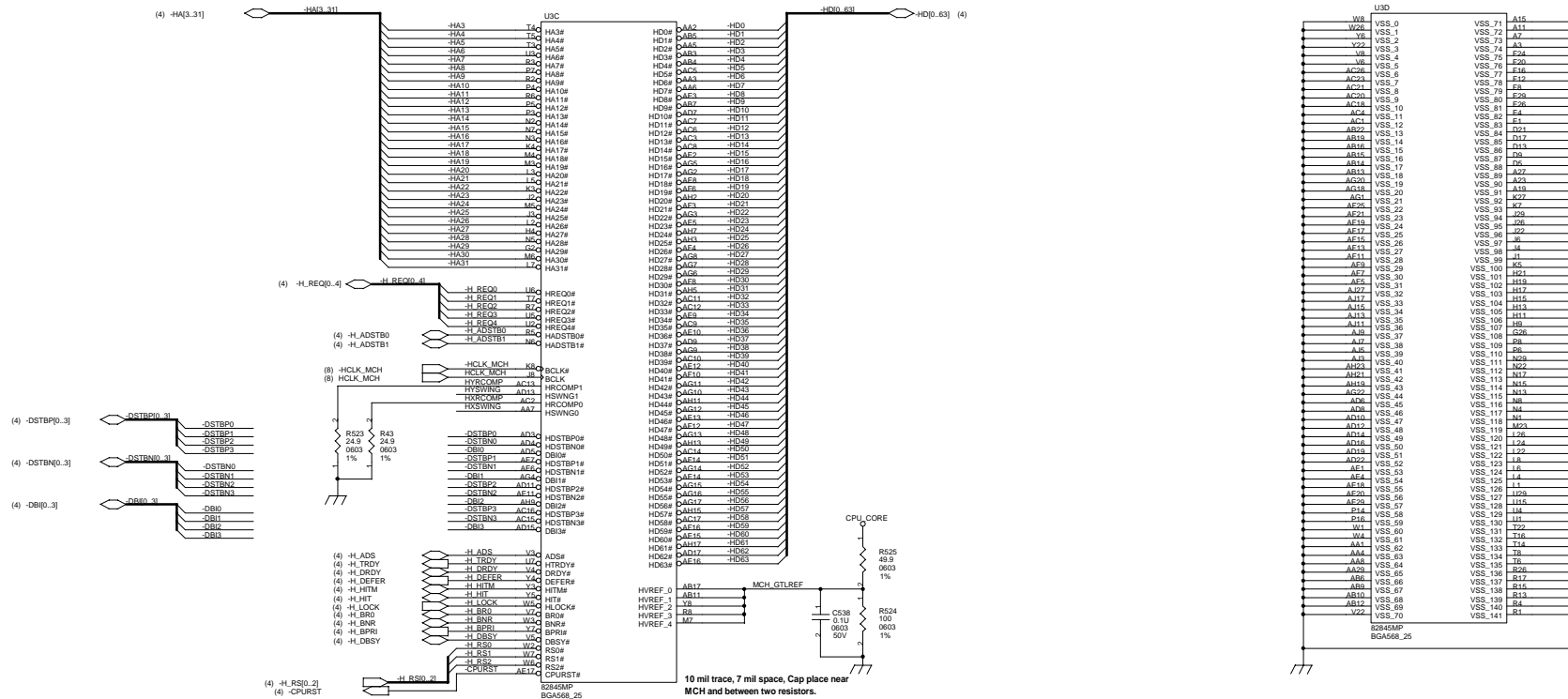
## CPU SIGNAL TERMINATION



## MOBILE P4

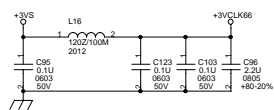
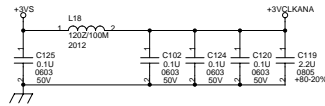
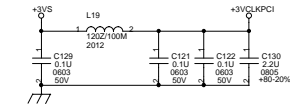
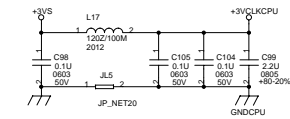


# MEMORY CONTROL HUB

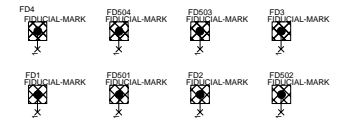
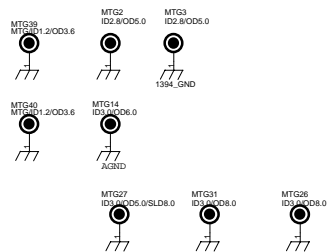
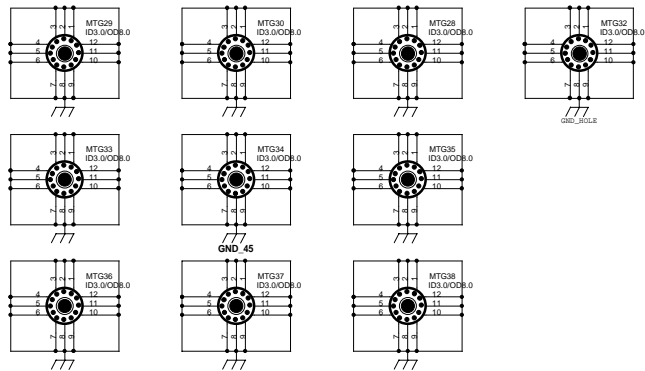
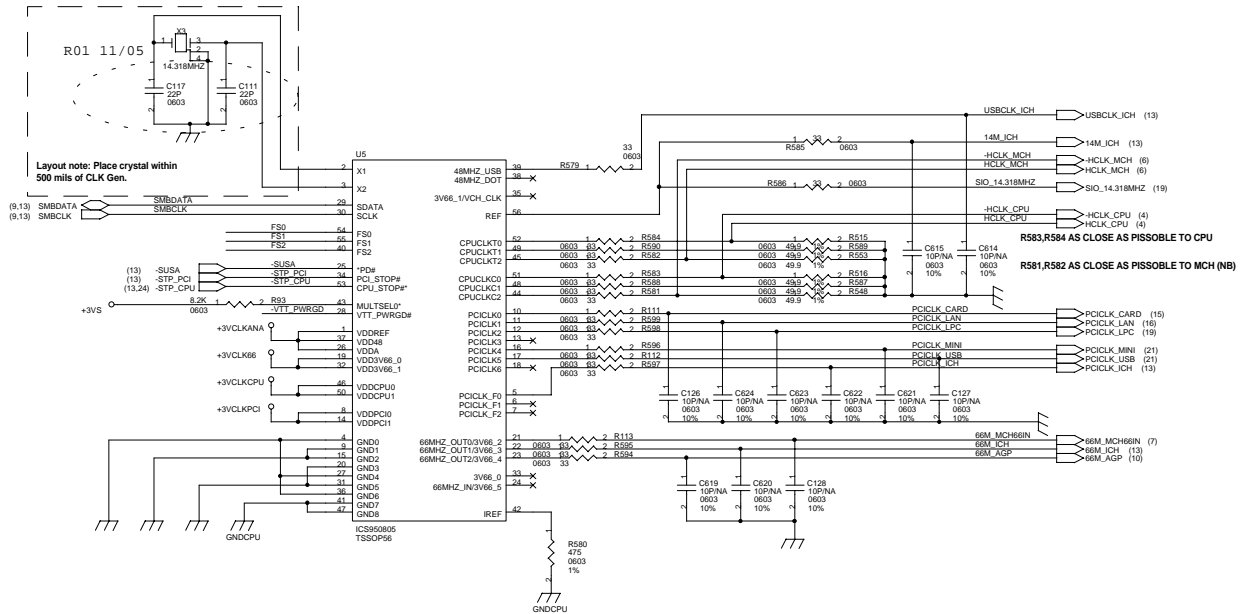
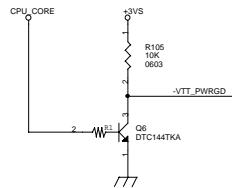
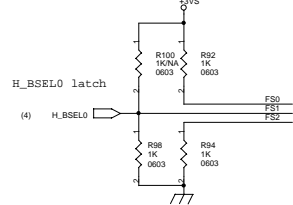




## CLOCK GENERATOR



FS2	FS1	FS0	CPUCLK
0	0	1	100MHZ
0	1	1	133MHZ

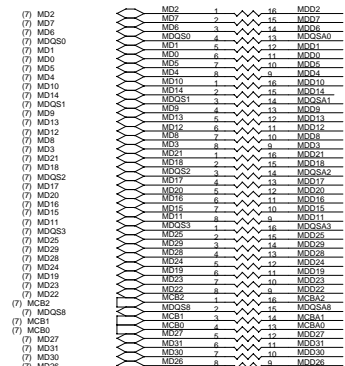


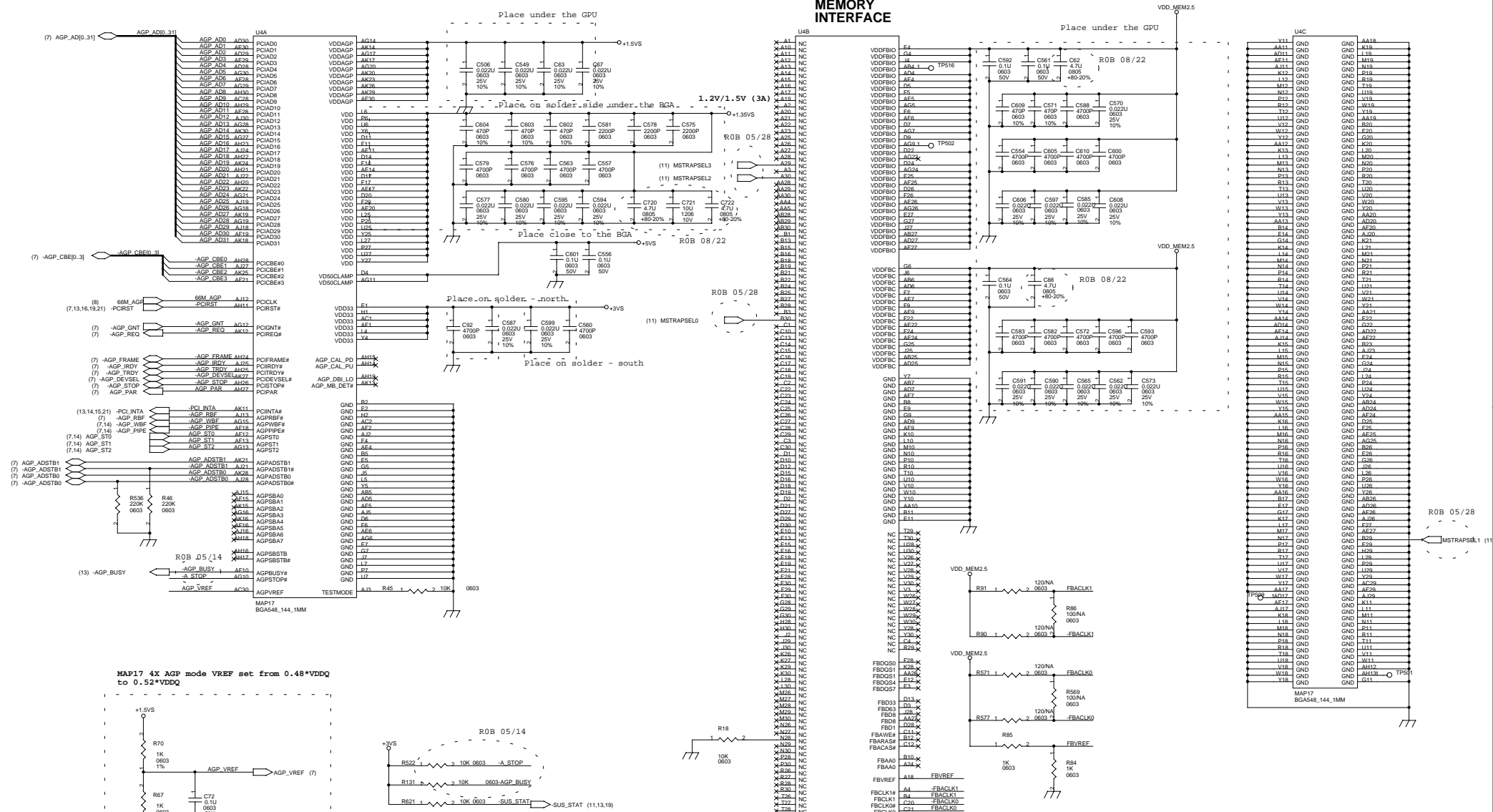


## DDR SO-DIMM

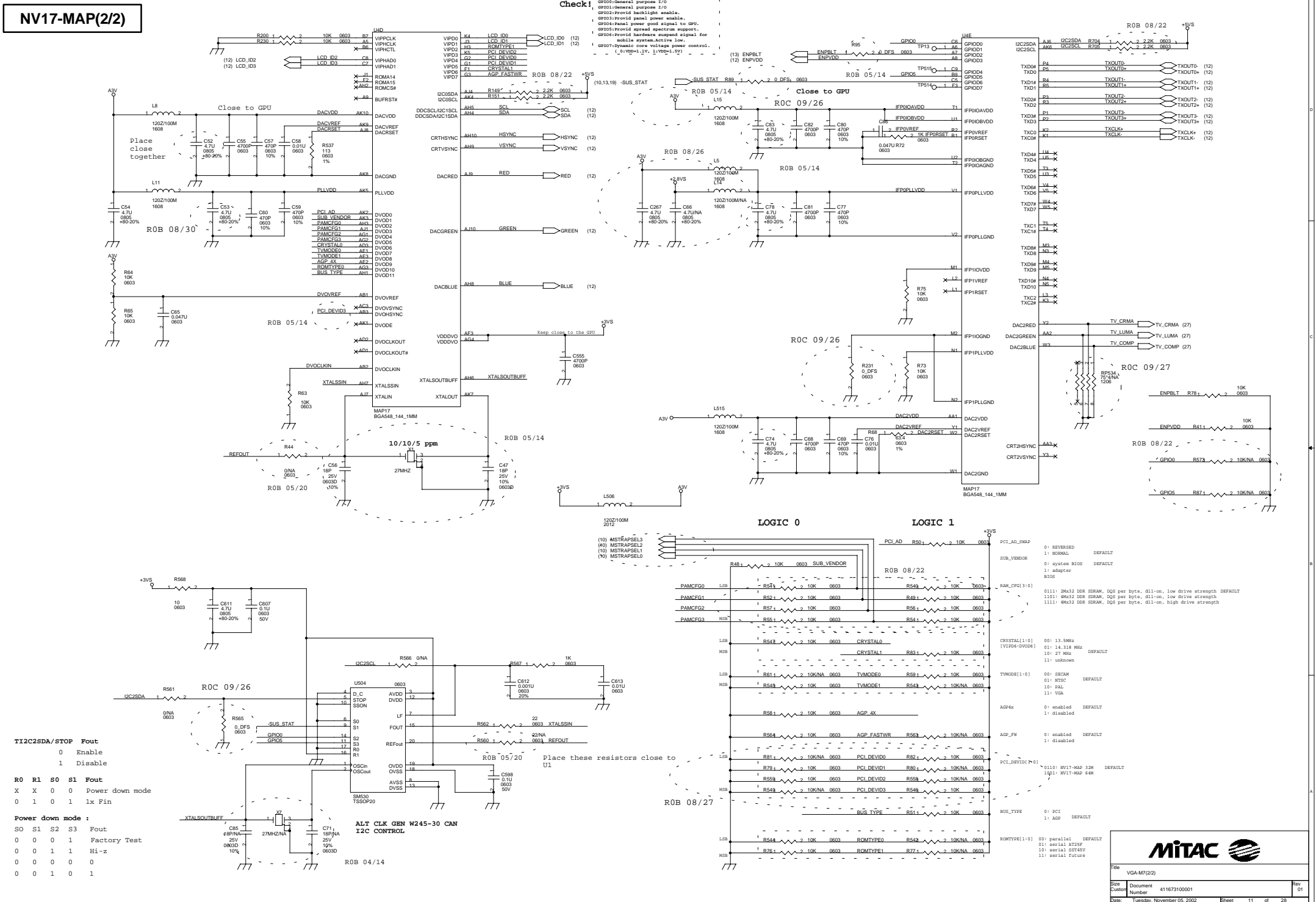
## DDR SO-DIMM Module

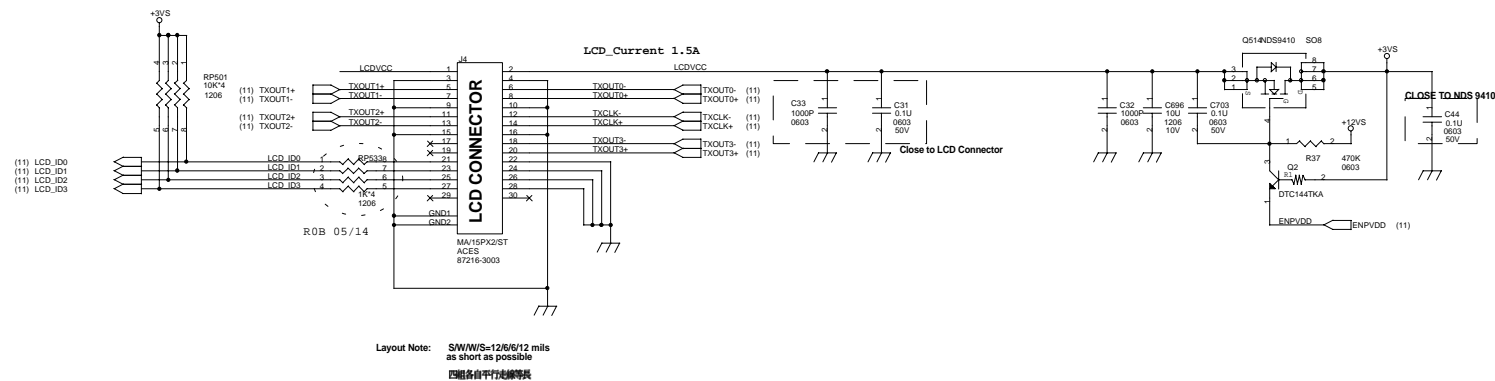
## SERIAL RESISTOR





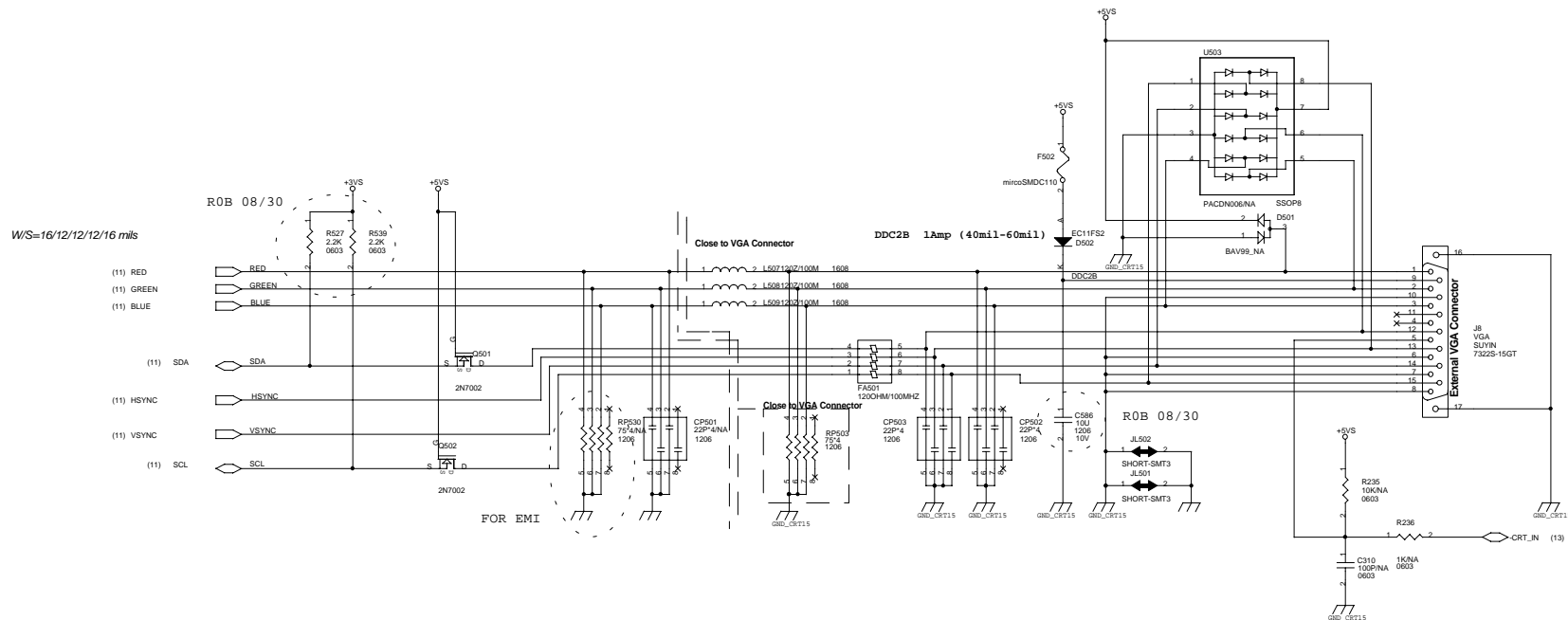
**NV17-MAP(2/2)**



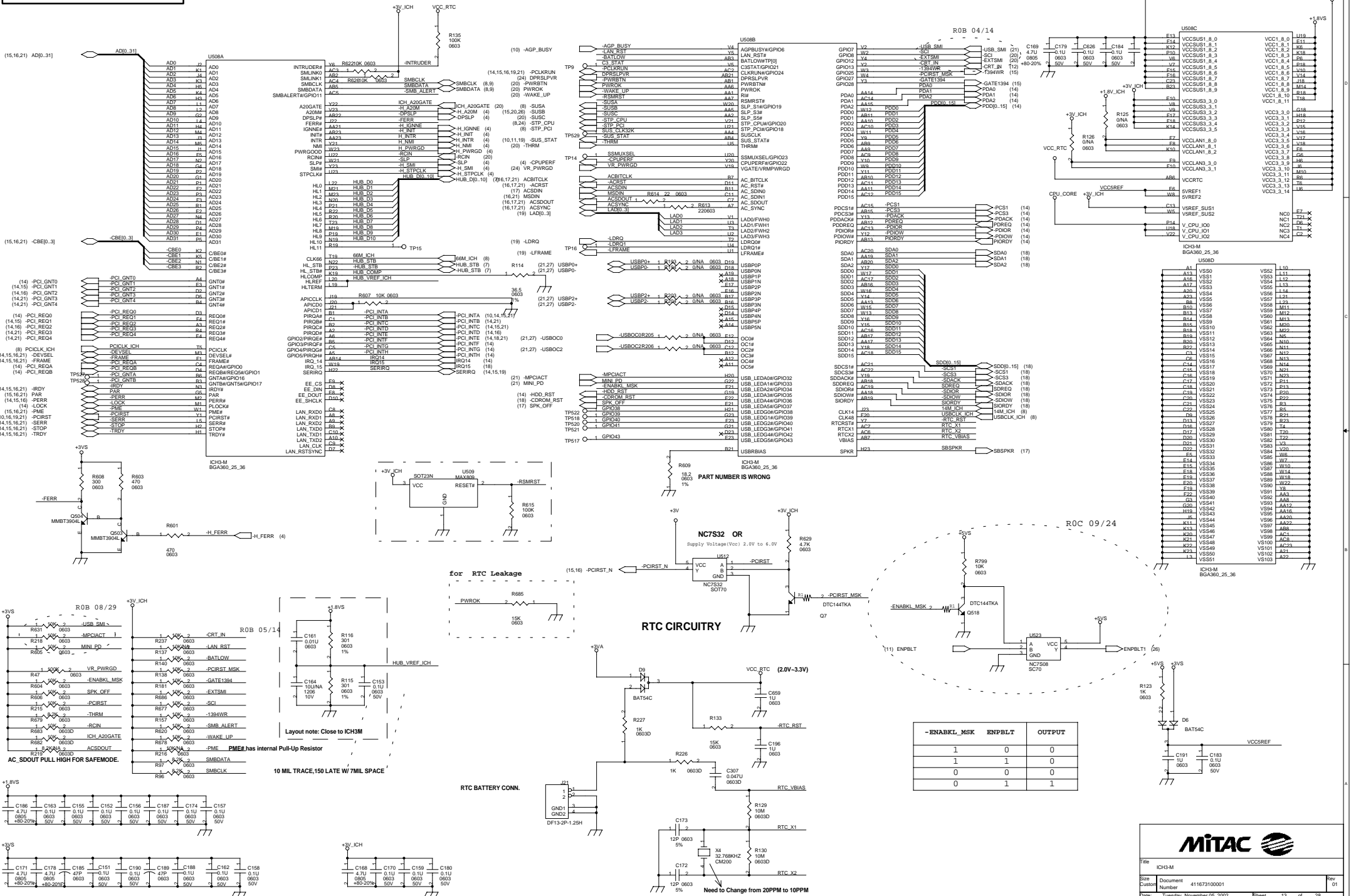


LCD ID Select Table

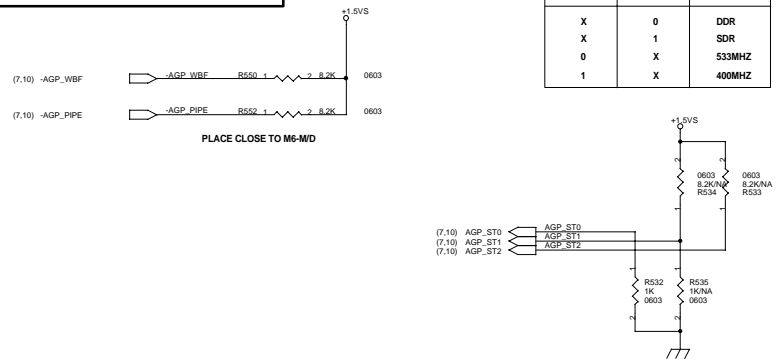
Display	LCD_ID3	LCD_ID2	LCD_ID1	LCD_ID0
LTN152W3 & B152EW01	0	0	0	1



# I/O CONTROLLER HUB

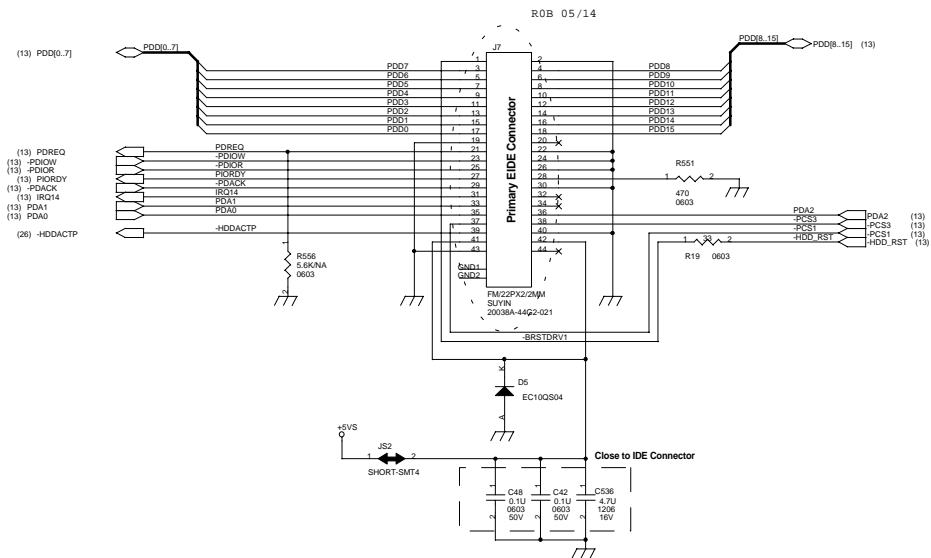


## AGP BUS PULL UP/DOWN

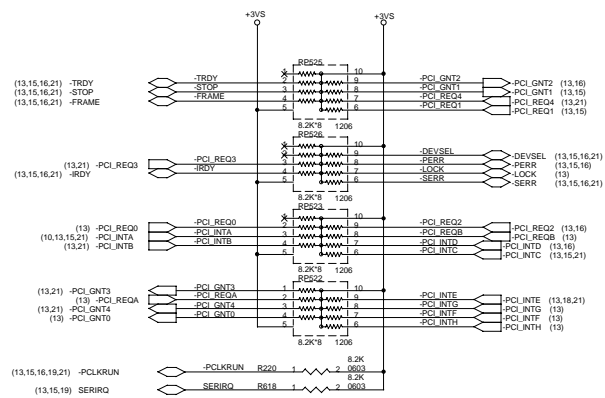


AGP_ST1	AGP_ST0	MCH STRAP
X	0	DDR
X	1	SDR
0	X	533MHZ
1	X	400MHZ

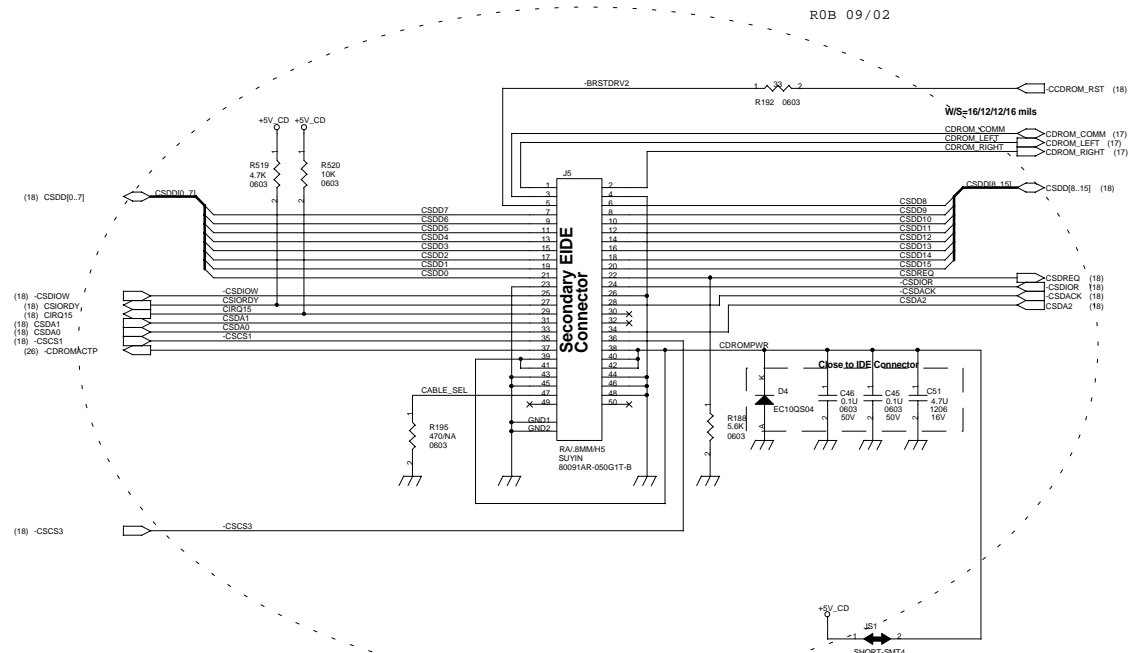
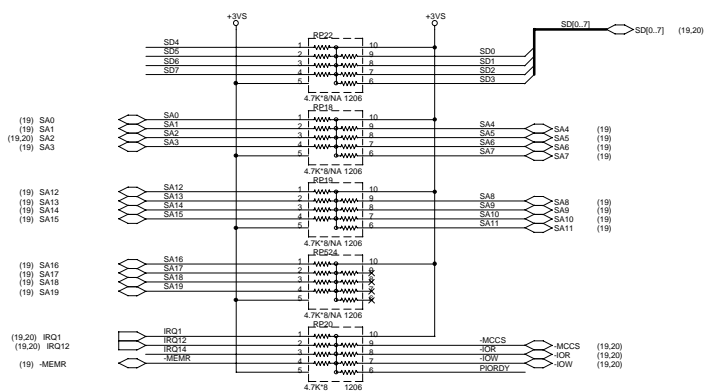
## ENHANCED IDE



## PCI BUS PULL UP/DOWN

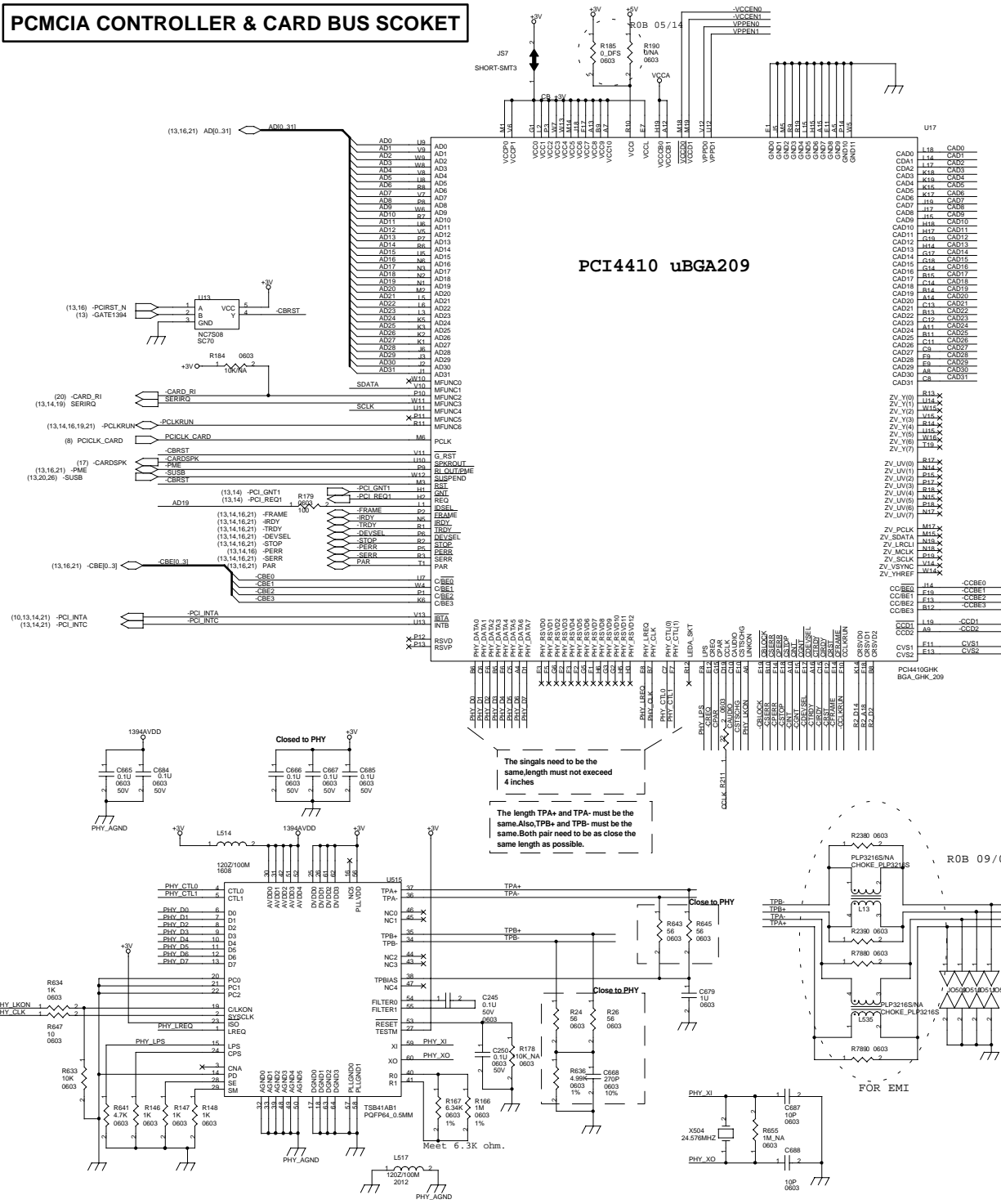


## ISA BUS PULL UP/DOWN

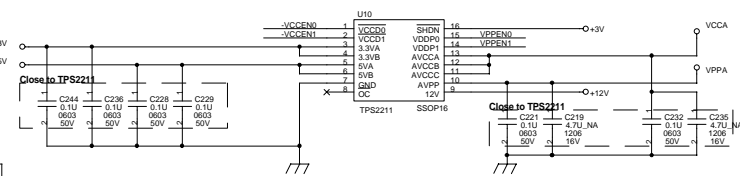
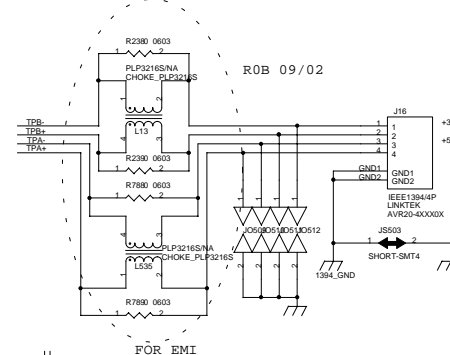
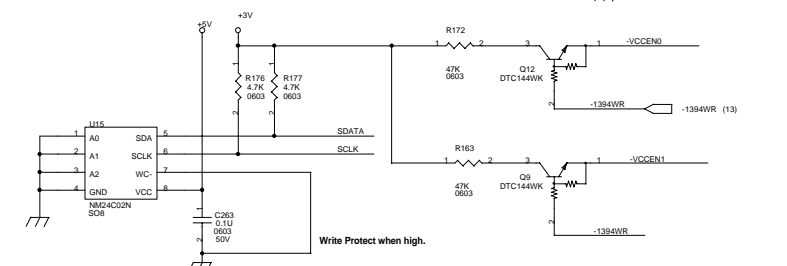
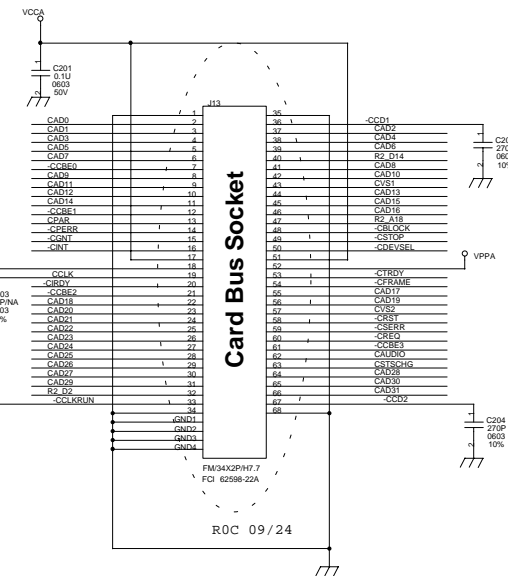
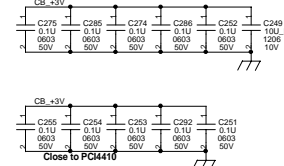


Title		Enhance IDE	
Size Custom	Document Number	411673100001	
Date:	Tuesday, November 05, 2002	Sheet	14 of 28

## PCMCIA CONTROLLER & CARD BUS SOCKET

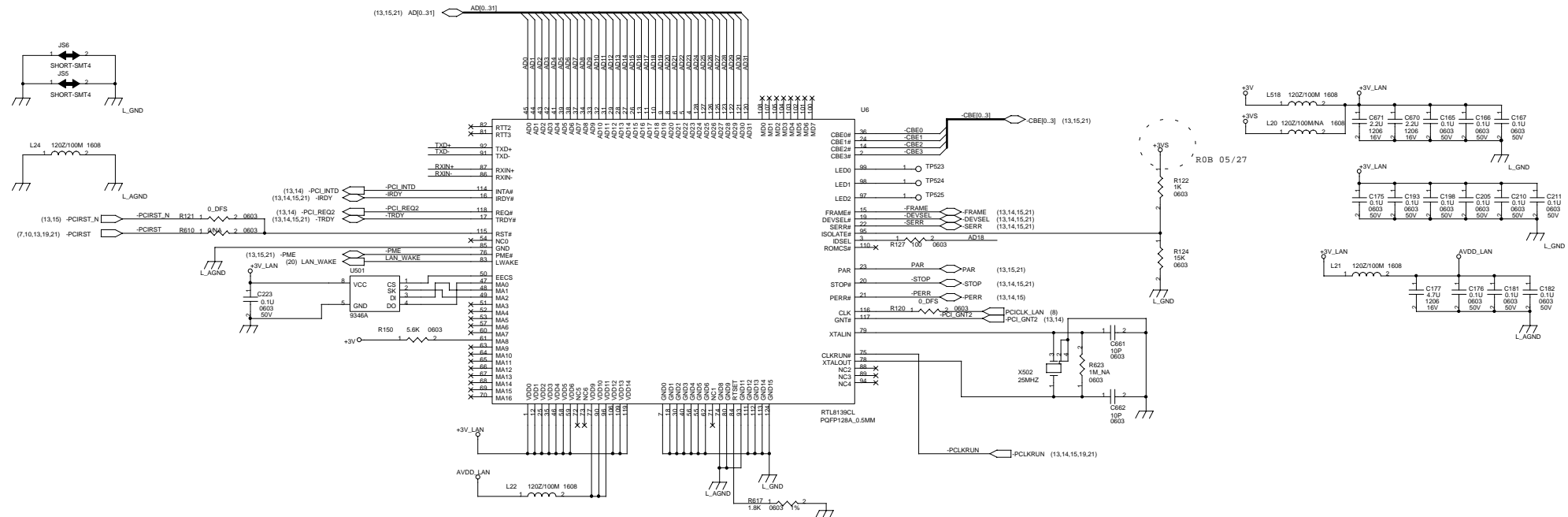


**For PCMCIA Controller Decoupling**



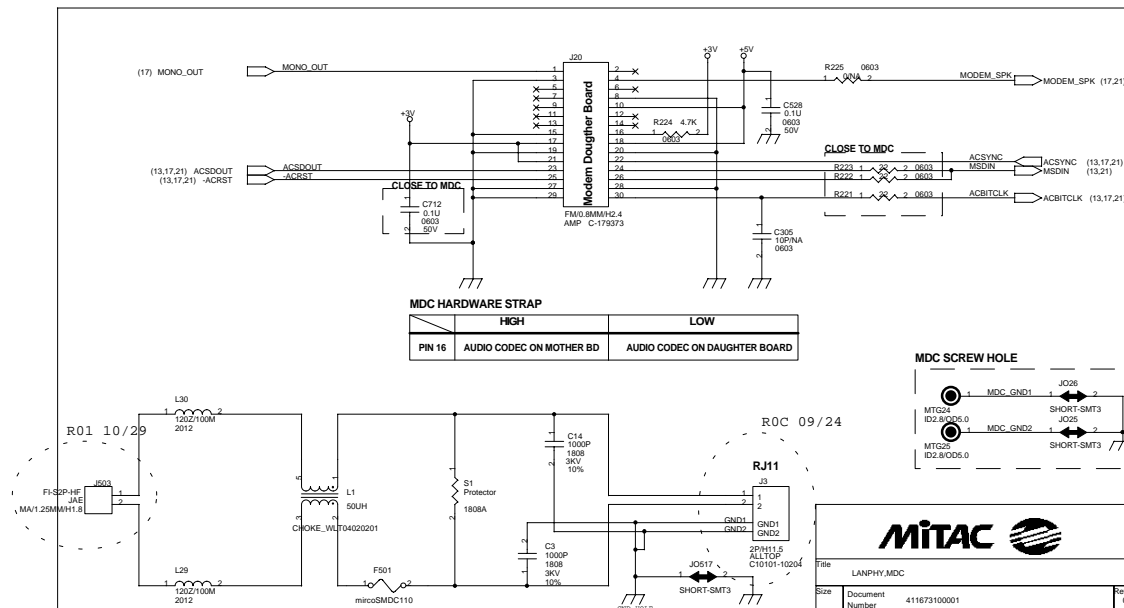
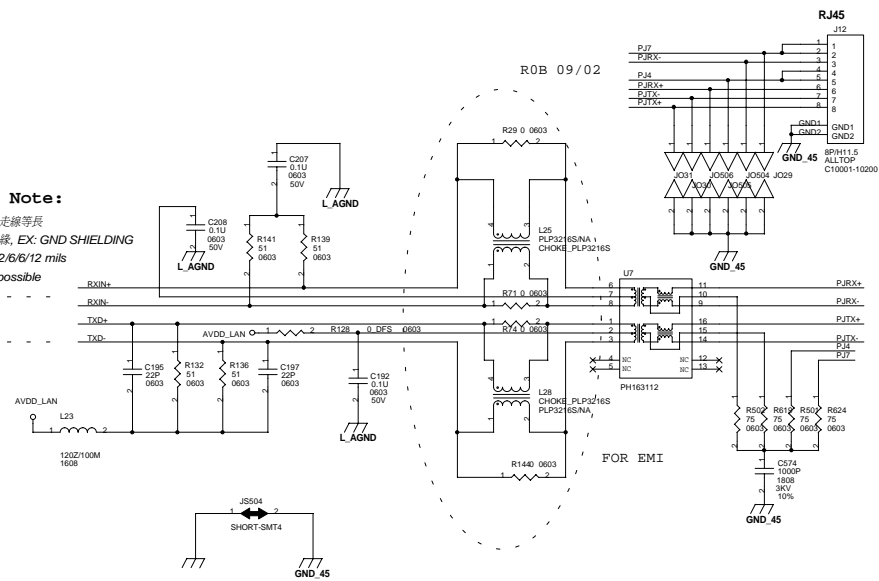
Title				
PCMCIA/1394 Controller & Socket				
Size	Document			Rev
Custom	Number	411673100001		01
Date:	Tuesday, November 06, 2002	Sheet	16	of 28

## LAN CONTROLLER



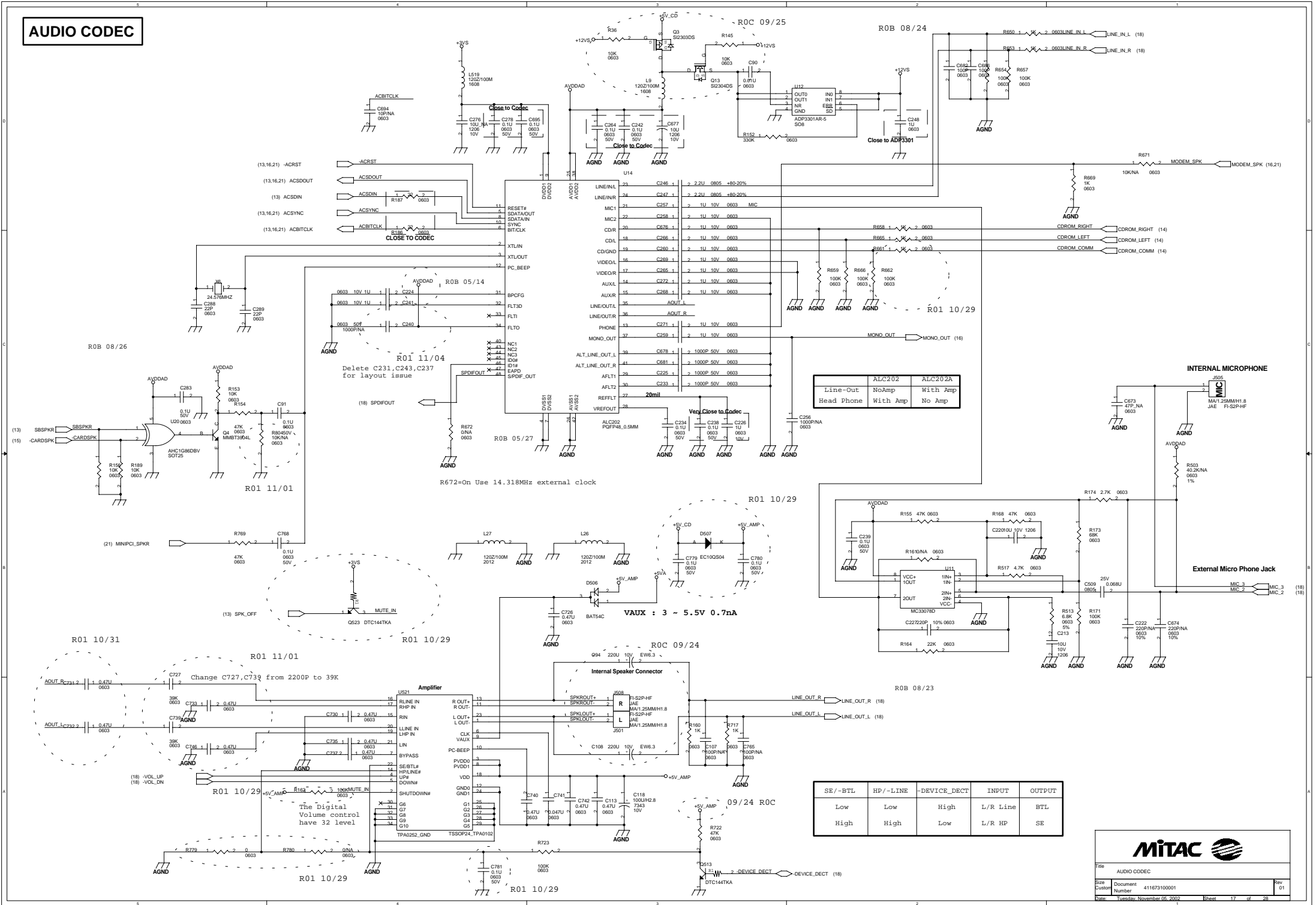
Layout Note:

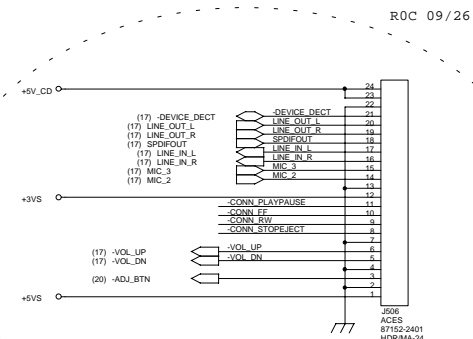
二組各自平行走線等長  
二組中間須絕緣, EX: GND SHIELDING  
S/W/W/S=12/6/6/12 mils  
as short as possible





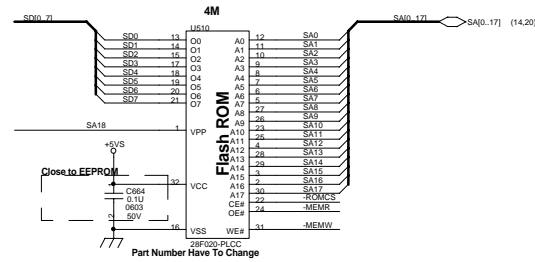
## AUDIO CODEC



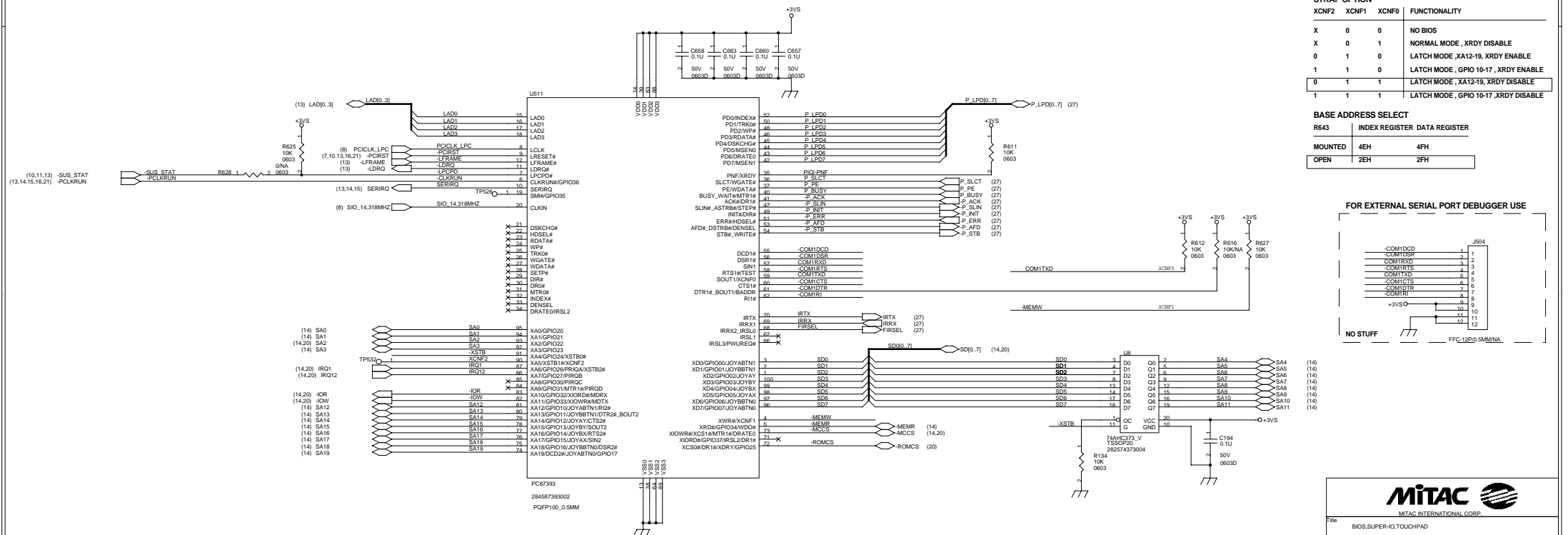
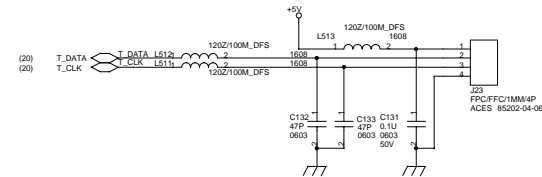


			
Title Audio DJ & Audio con.			
Size	Document	411673100001	Rev
Custom	Number		01
Date:	Tuesday, November 05, 2002	Sheet	18 of 28

## BIOS ROM



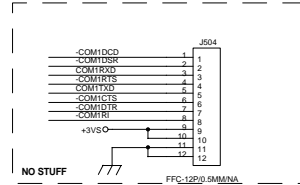
**TOUCH\_PAD**

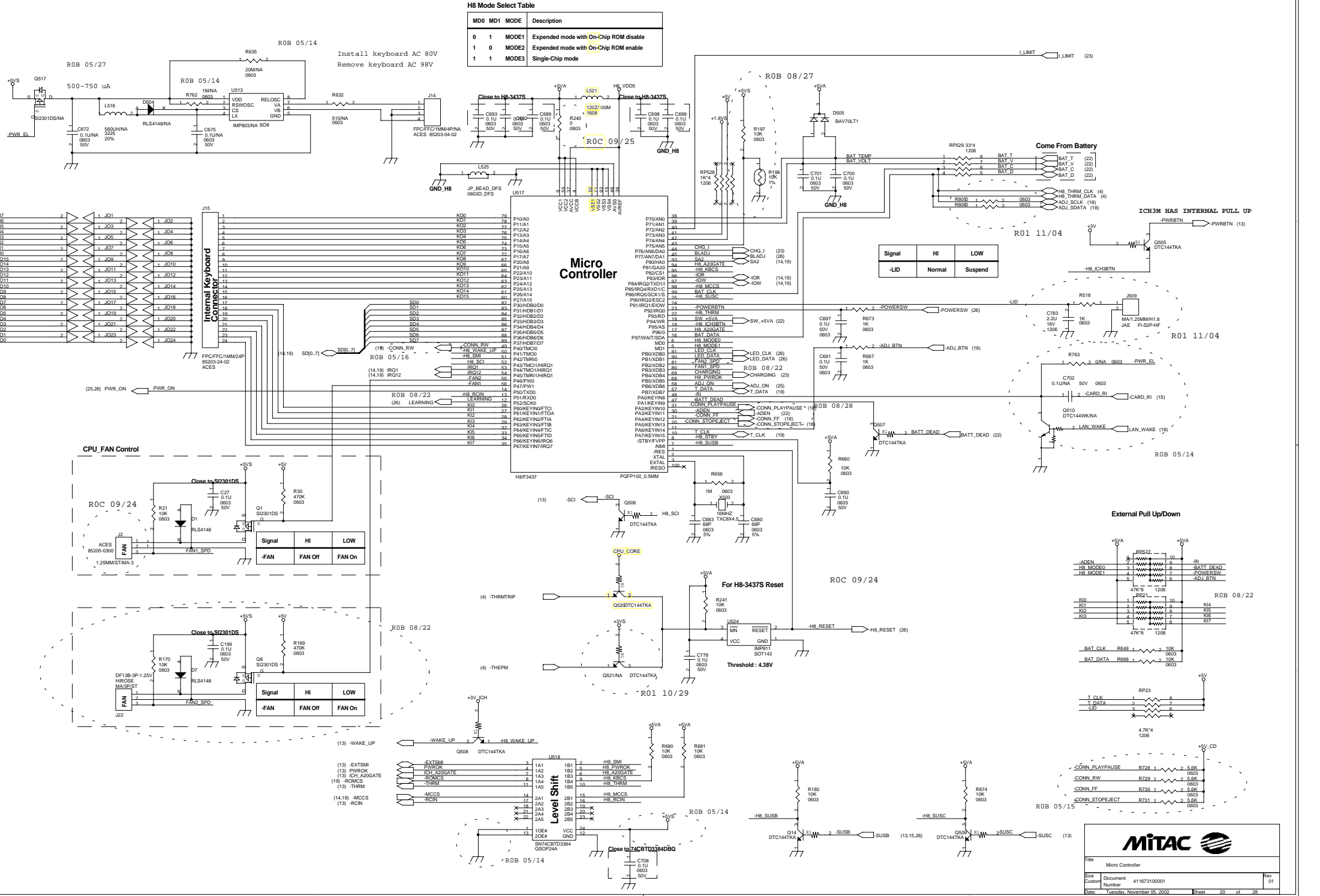


STRAP OPTION			FUNCTIONALITY
XCNF2	XCNF1	XCNF0	
X	0	0	NO BIOS
X	0	1	NORMAL MODE , XRDY DISABLE
0	1	0	LATCH MODE , XA12-19, XRDY ENABLE
1	1	0	LATCH MODE , GPIO 10-17 , XRDY ENABLE
0	1	1	LATCH MODE , XA12-19, XRDY DISABLE
1	1	1	LATCH MODE , GPIO 10-17 ,XRDY DISABLE

BASE ADDRESS SELECT		
R643	INDEX REGISTER	DATA REGISTER
MOUNTED	4EH	4FH
OPEN	2EH	2FH

FOR EXTERNAL SERIAL PORT DEBUGGER USE

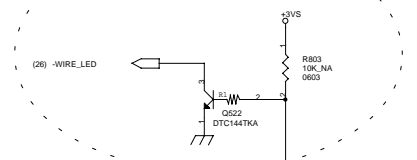




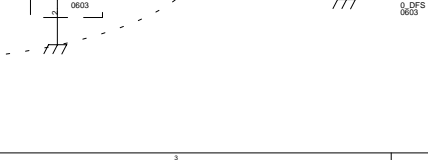
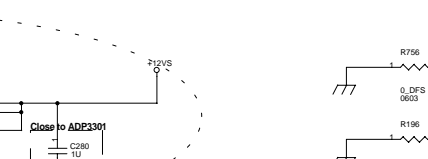
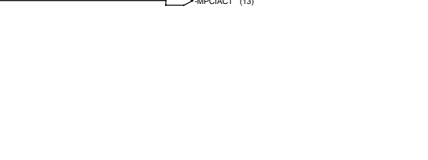
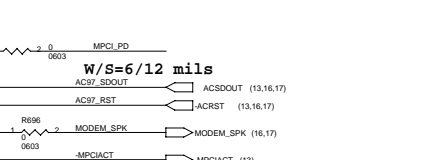
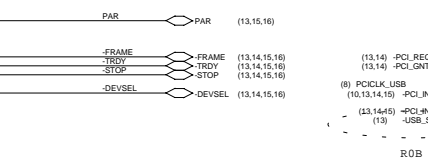
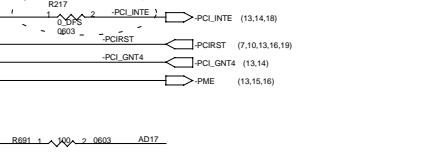
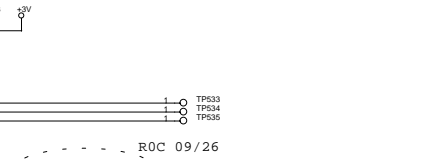
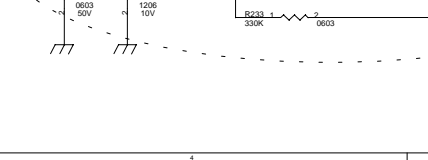
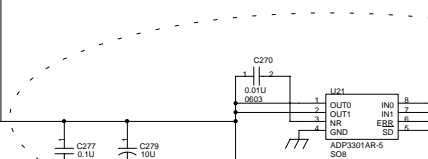
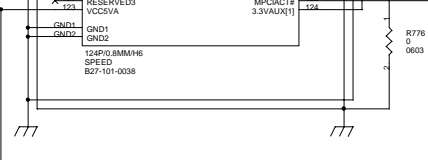
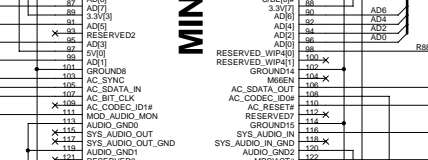
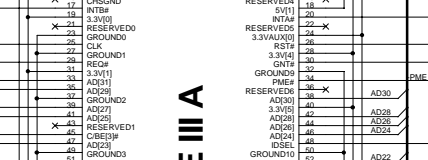
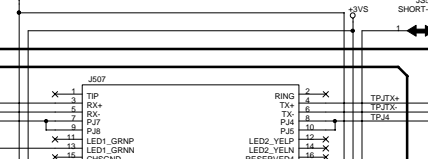
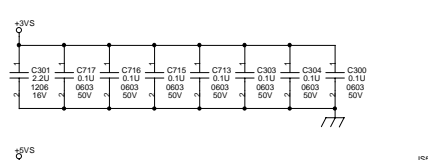
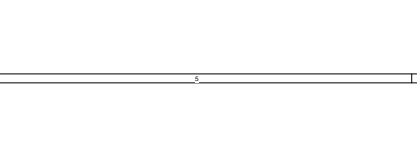
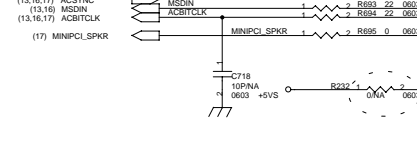
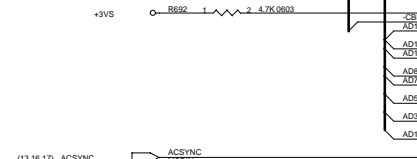
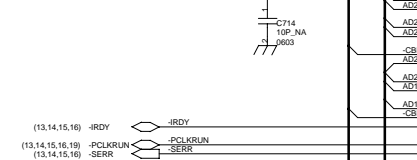
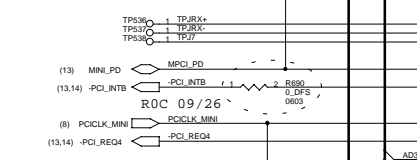
MD0	MD1	MODE	Description
0	1	MODE1	Expanded mode with On-Chip ROM disable
1	0	MODE2	Expanded mode with On-Chip ROM enable
1	1	MODE3	Single-Chip mode

Micro Controller

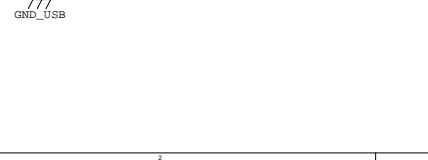
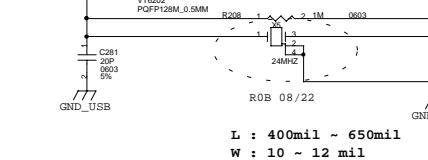
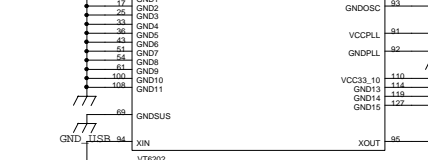
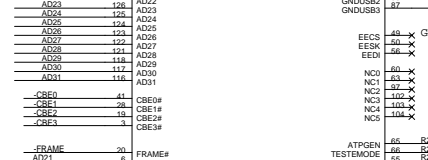
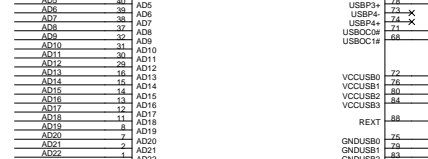
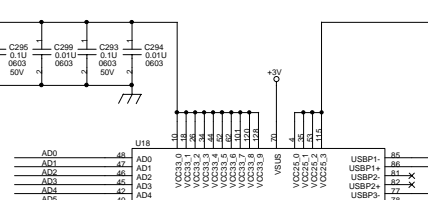
R0C 09/24



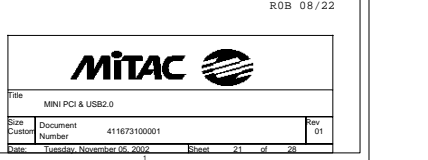
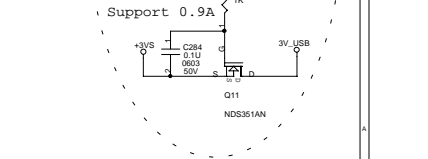
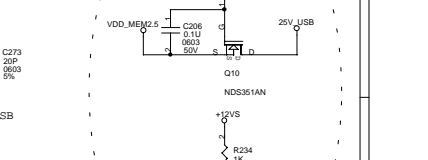
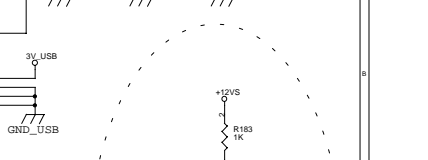
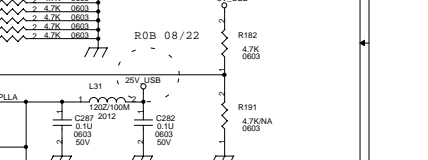
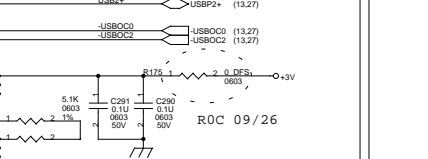
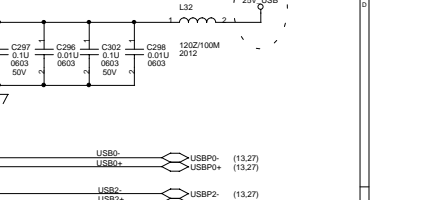
(13,15,16) -CBE[0..3]  
(13,15,16) AD[0..31]



160mA



ROB 08/22



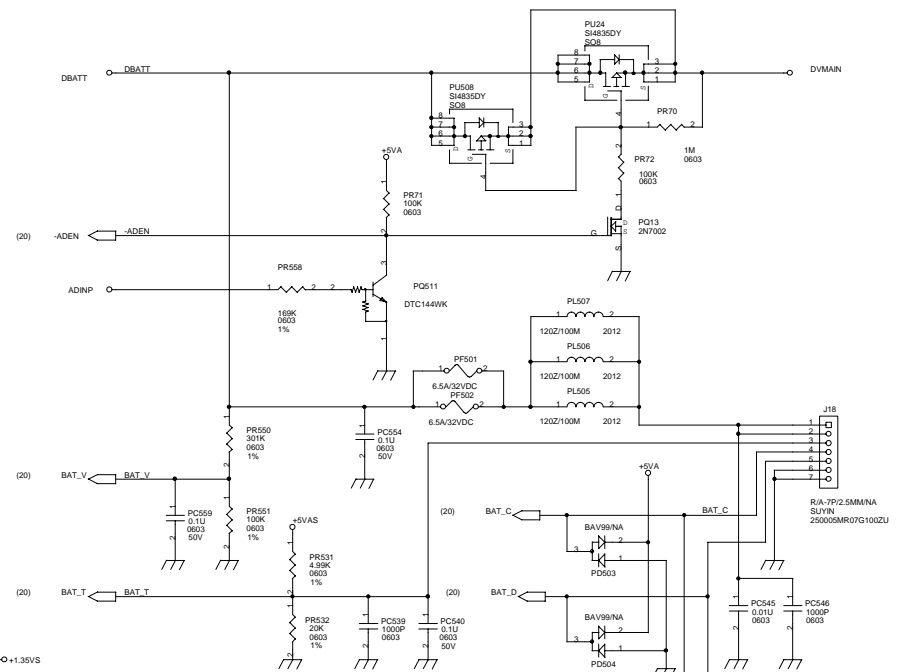
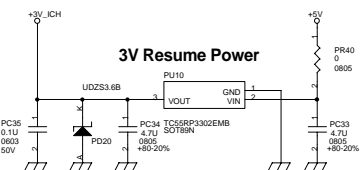
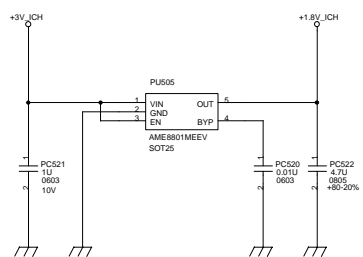
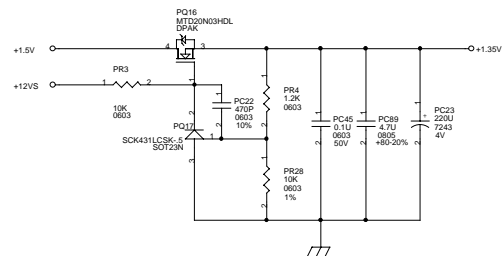
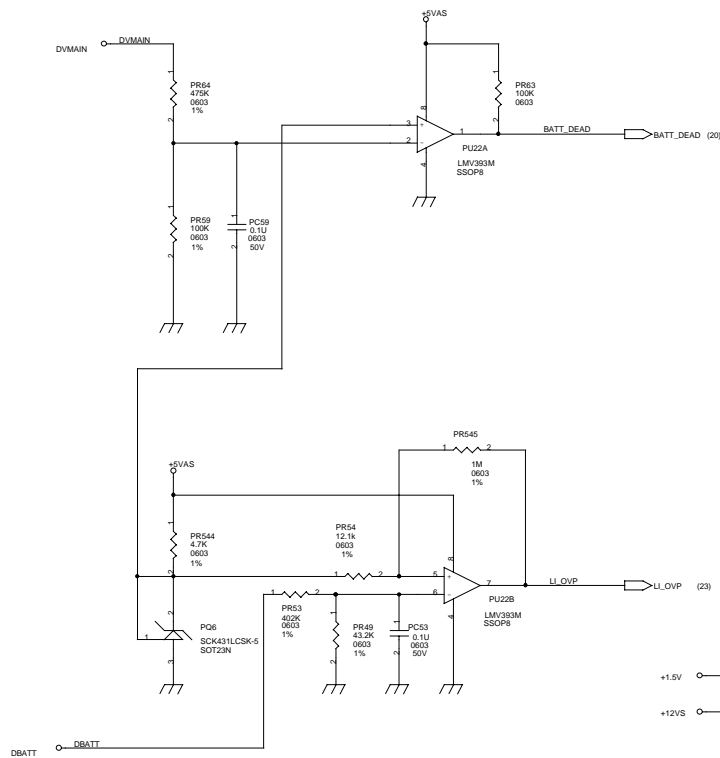
MINIPCI TYPE III A

W/S=6/12 mils

L : 400mil ~ 650mil  
W : 10 ~ 12 mil



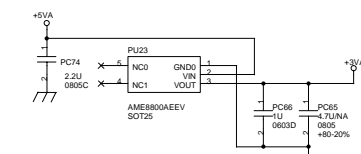
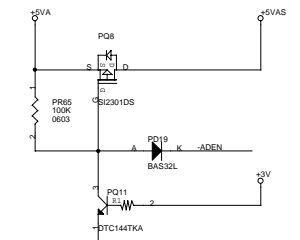
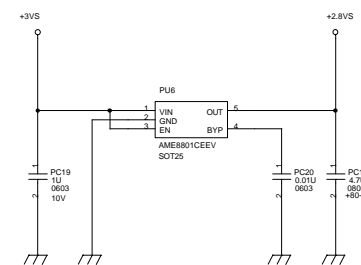
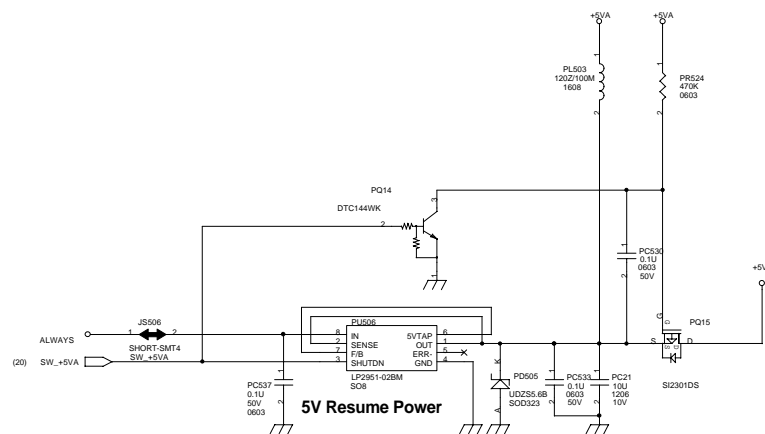
File	MINI PCI & USB2.0	Rev	01
Size	Document	411673100001	
Customer			
Date	Tuesday, November 06, 2002	Sheet	21 of 28



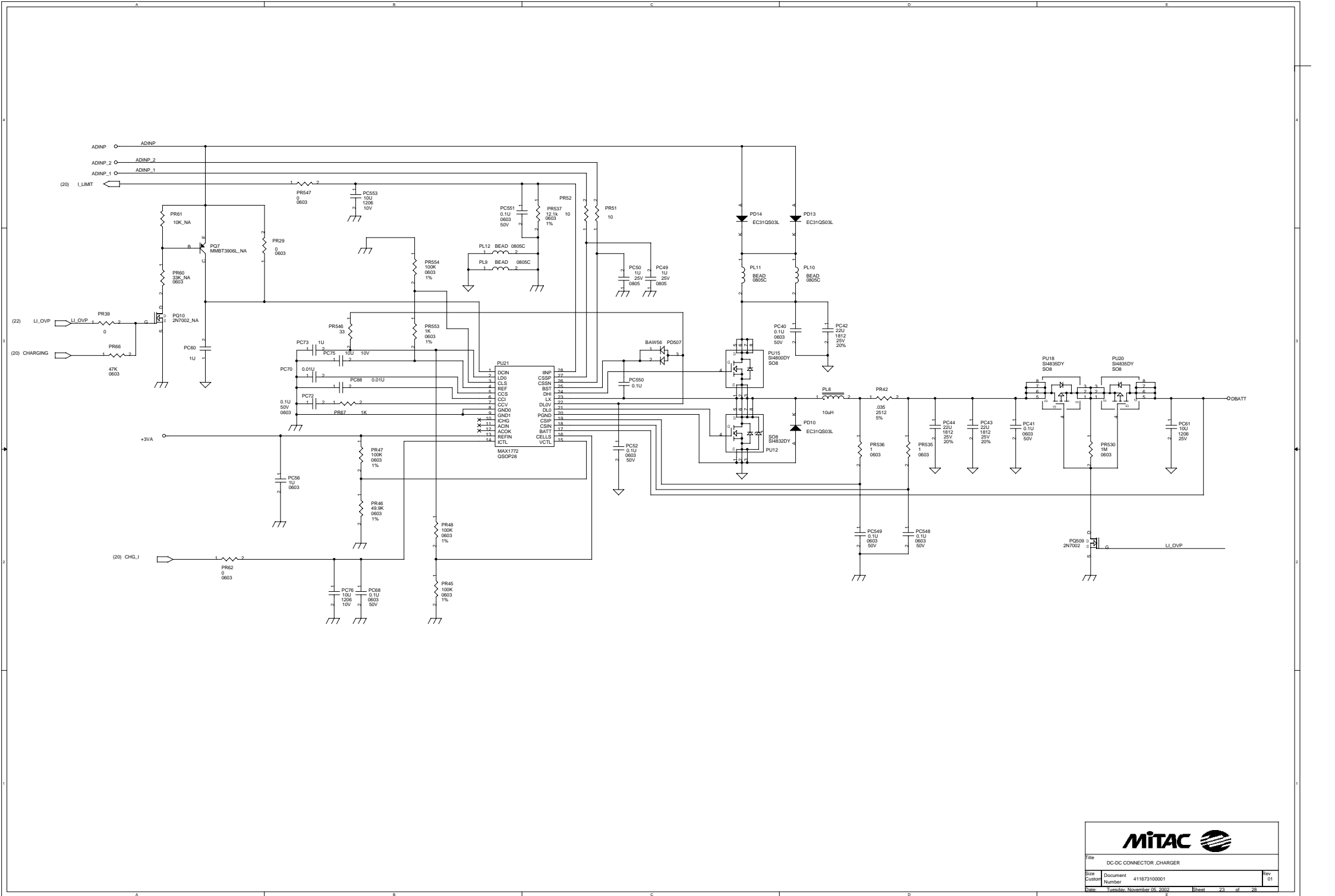
**Don't Stuff**

PC536 47P\_NA 0603

PC536 47P\_NA 0603



<b>MITAC</b>	
File	BATTERY CONNECTOR & 3V,5V-RESUME POWER
Size	Document
Custom	Number
Date	Tuesday, November 05, 2002
Sheet	22 of 28
Rev	01

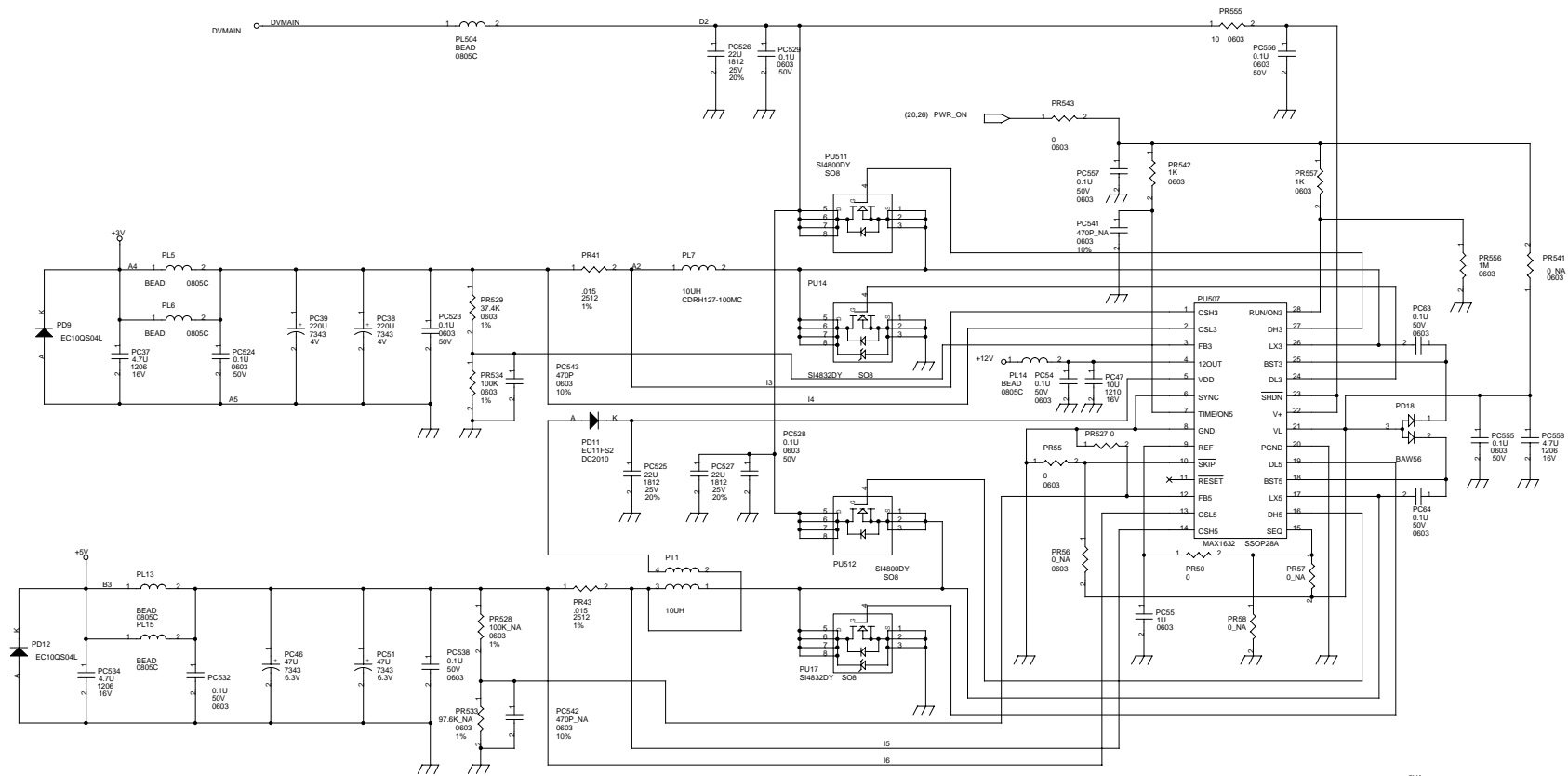


File	DC-DC CONNECTOR_CHARGER		
Size	Document	411673100001	Rev
Customer	Number		01
Date	Tuesday, November 06, 2002	Sheet	23 of 28

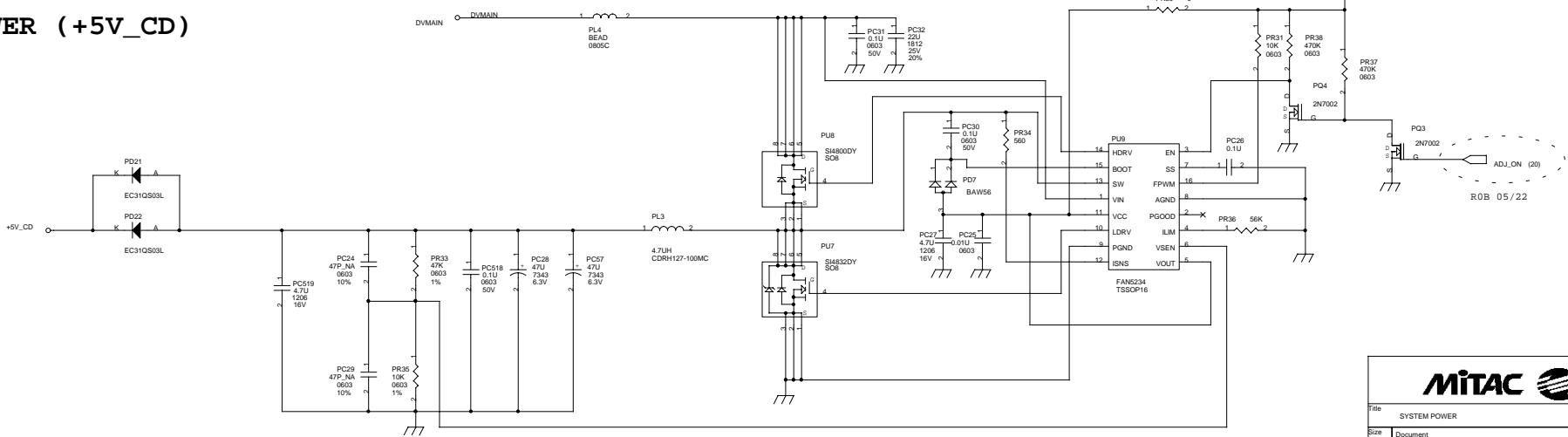




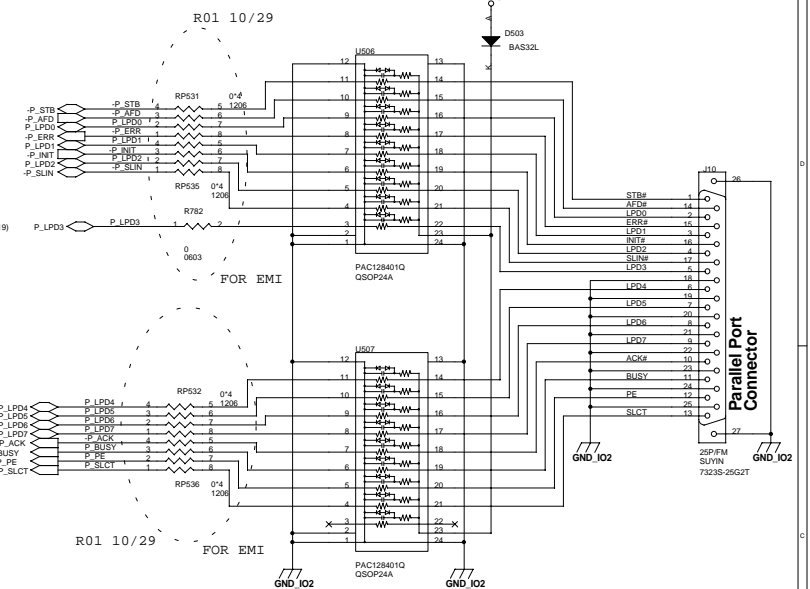
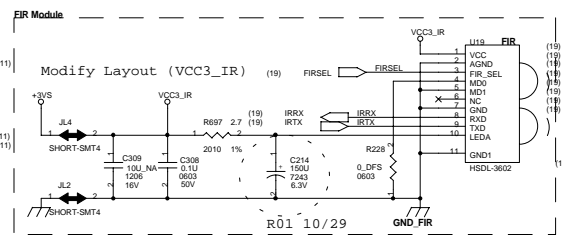
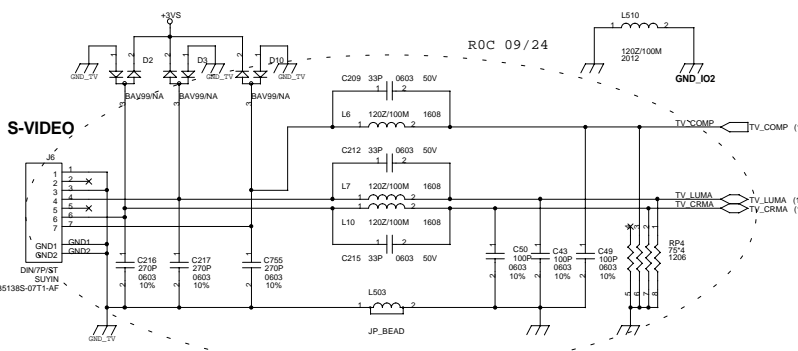
SYSTEM POWER (5V 3V 12V)



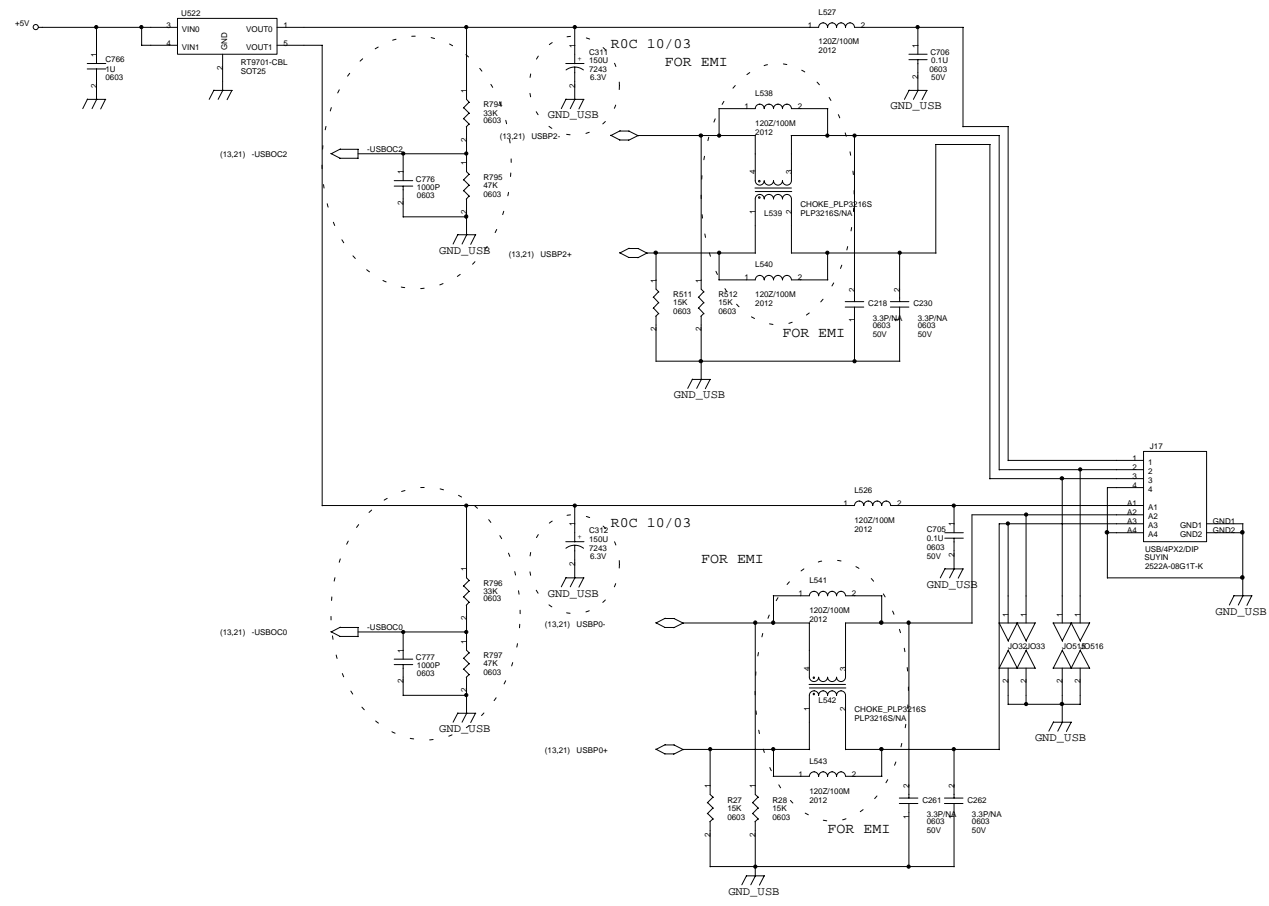
AUDIO DJ POWER (+5V\_CD)





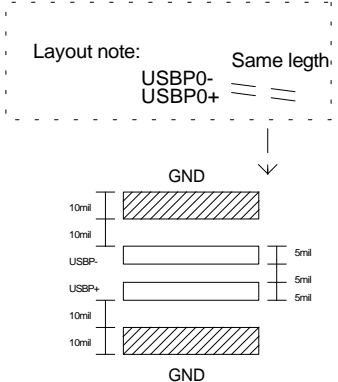


L:4" ~ 18" W:8mil Trace Space:8mil



IR Mode Select

IRMODE0	IRMODE1	FIRSEL	RX Function	TX Function
HI	LOW	X	Shutdown	Shutdown
LOW	LOW	LOW	SIR	Full Distance Power
LOW	HI	LOW	SIR	2/3 Distance Power
HI	HI	LOW	SIR	1/3 Distance Power
LOW	LOW	HI	MIR/FIR	Full Distance Power
LOW	HI	HI	MIR/FIR	2/3 Distance Power
HI	HI	HI	MIR/FIR	1/3 Distance Power



R0A->R0B

1. Page 4, Change C508 from 1000P to 2200P.
2. Page 5, Change C5-C13,C16,C19,C21,C23,C24,C26,C28,C501,C503-C507,C509,C510,C512-C534 from Y5V to X7R
3. Page 5, Add U519 for CPU\_CORR\_EN.
4. Page 7, Add R38 and Delete R39,R40 for H\_AGP\_VREF.
5. Page 7, Add R698 and Delete R554,R555 for DDR\_REF.
6. Page 9, Add R229 and Delete R117,R119 for REF\_1.25V.
7. Page 10, Add MSTRAPSEL[0:3] for Nvidia MAP17 64MB.
8. Page 10, Add C720-C722 for +1.35VS (MAP17\_VDD).
9. Page 10, Add C723 for VDD\_MEM2.5.
10. Page 10, Change signal name from -AGP\_STOP to -A\_STOP for the same as AGP BUS's -AGP\_STOP.
11. Page 11, Change PCI\_DEVID3 from AC3 to AB3.
12. Page 11, Add X1 ,C47,C56 and Delete R44 for MAP17 CLK.
13. Page 11, Delete X501,C584,C589 for CLK\_GEN OSCIN.
14. Page 11, Add L528,C74,C78,C83and Delete L14 for A3V ( MAP17\_PLLVDD).
15. Page 11, Change R95 to DFS.
16. Page 11, Add MSTRAPSEL0-3 for Nvidia MAP17 64MB.
17. Page 11, Add R82,R79,R559,R546 and Delete R81,R80,R558,R549 for PCI\_DEVID[3:0] Set up Nvidia MAP17 64MB.
18. Page 12, Change RP3 from 10K to 1K for LCD\_ID[3:0].
17. Page 12, Change R529,R539 value from 4.7K to 2.2K for pull-up SDA and SCL.
18. Page 12, Add RP530 for EMI.
19. Page 12, Add C586 for DDC2B
20. Page 13, Add -USB\_SMI,MINI\_PD,-CRT\_IN function for usb in dos boot,minipci powerdown,crt detect.
21. Page 14, Change J7,J5 from SMD Part to DIP Part.
22. Page 15, Add L534,L535 for EMI.
23. Page 15, Change R185 value from 0 ohm to DFS for costdown.
24. Page 16, Add L536,L537 for EMI.
25. Page 16, Change U6.95pin pull high from +3V to +3VS.
26. Page 17, Add U12,R708,C724,C248,Q511,R36,L530 for ALC202\_AVDVDD.
26. Page 17, Change Amplifier from LM4840 to TPA0552.
27. Page 18, Change J506 pitch from 1.0mm to 0.5 mm.
28. Page 18, Change R103 from 100K to 47K and C112 from 1U to 2.2U for -OZ\_RST.
29. Page 18, Modify X3 pin2 ,pin4 contact to GND.
30. Page 20, Add Q515,R732,R733,C748,D506,J509 for System 2nd FAN.
31. Page 20, Add Q518-Q521,R770-R774 for H8 hang reset H8.
32. Page 20, Add R763 for -PWR\_EL.
33. Page 20, Add -CONN\_PLAYPAUSE,-CONN\_RW,-CONN\_FF,-CONN\_STOP/EJECT signal's R728-R731 pull-up for Audio DJ BTN.
34. Page 20, Modify U518 pin1,pin13 connect to GND and pin24 connect to +5VS.
35. Page 20, Add R765,R764 for system Thermal Resistor Sensor.
36. Page 21, Add U523,C770-C773,R778 and Delete R775 for MiniPCI VCC5VA.
37. Page 21, Add Q516,Q522,C749,C774 for VT6202 Leakage.
38. Page 21, Change to 25V\_USB for support USB wake up.
39. Page 21, Change X5 from 24.768 MHZ to 24MHZ for VT6202 CLK.
40. Page 25, Change to ADJ\_ON for AudioDJ +5V\_CD.
41. Page 27, Add RP531,RP532 for EMI.

R0B->R0C

1. Page 4, Add R798 for -THERM pull +3VS
2. Page 5, Delete U1,R74,R144, and R145 for usually don't boot
3. Page 7, Mount R555,R54.Delete R698 for DDR\_REF voltage stable
4. Page 7, R38 0 ohm change DFS.
5. Page 9, Mount R117,R119 ,remove R229 for REF\_DIM voltage stable
6. Page 9, R229 0 ohm change DFS
7. Page 9, R231,R565 0 ohm change DFS
8. Page 13, Add R799,Q518,U523 for backlight enable
9. Page 17, Add Q519,R800 for +5V\_CD leakage.
10. Page 17 change C727,C739 value from 0.47uf to 2200pf
11. Page 17 change C733,C746 value from 0.47uf to 0.22uf
12. Page 17 change C94,C108 value from 330uf to 220uf
13. Page 17, R780 0 ohm change DFS
14. Page 18, R110 0 ohm change DFS
15. Page 20, modify -THERMTRIP and -THERMP circuit for can't boot
16. Page 20, Add R801 for debug
17. Page 21, change R217,R690,R175 value from 0 ohm to DFS
18. Page 21, Add Q522,R803 for -WIRE\_LED
19. Page 27, modify TV-out pin define for can't output TV
20. Page 21, Change GND\_USB to GND
21. Page 27, Change GND\_USB to GND
22. Page 27, Add RP535,RP536 for EMI.
23. Page 12, Add RP534 for EMI.

R0C->R01

1. Page 17, Change R661 value from 0 to 1K.
2. Page 17, R662 value from 0 to 100K
3. Page 17, Add DTC1447KA for audio Amplifier Mute
4. Page 17, Add 0.1u for HP/-LINE by pass
5. Page 17, change L531 from Bead to EC10QS04 for CD-ROM noise
6. Page 17, change C531 and C532 shape from 0805 to 0603
7. Page 16, change J1 shape
8. Page 17, delete C231,C237,C243 for layout space not enough
9. Page 8, change C117,C111 from 5P to 22P for WinXP time
10. Page 20,18 add ADJ\_SCLK and ADJ\_DATA signal for memory button push.



Title				
HISTORY				
Size	Document	411673100001		Rev
Custom	Number			01
Date:	Tuesday, November 05, 2002	Sheet	28	of 28