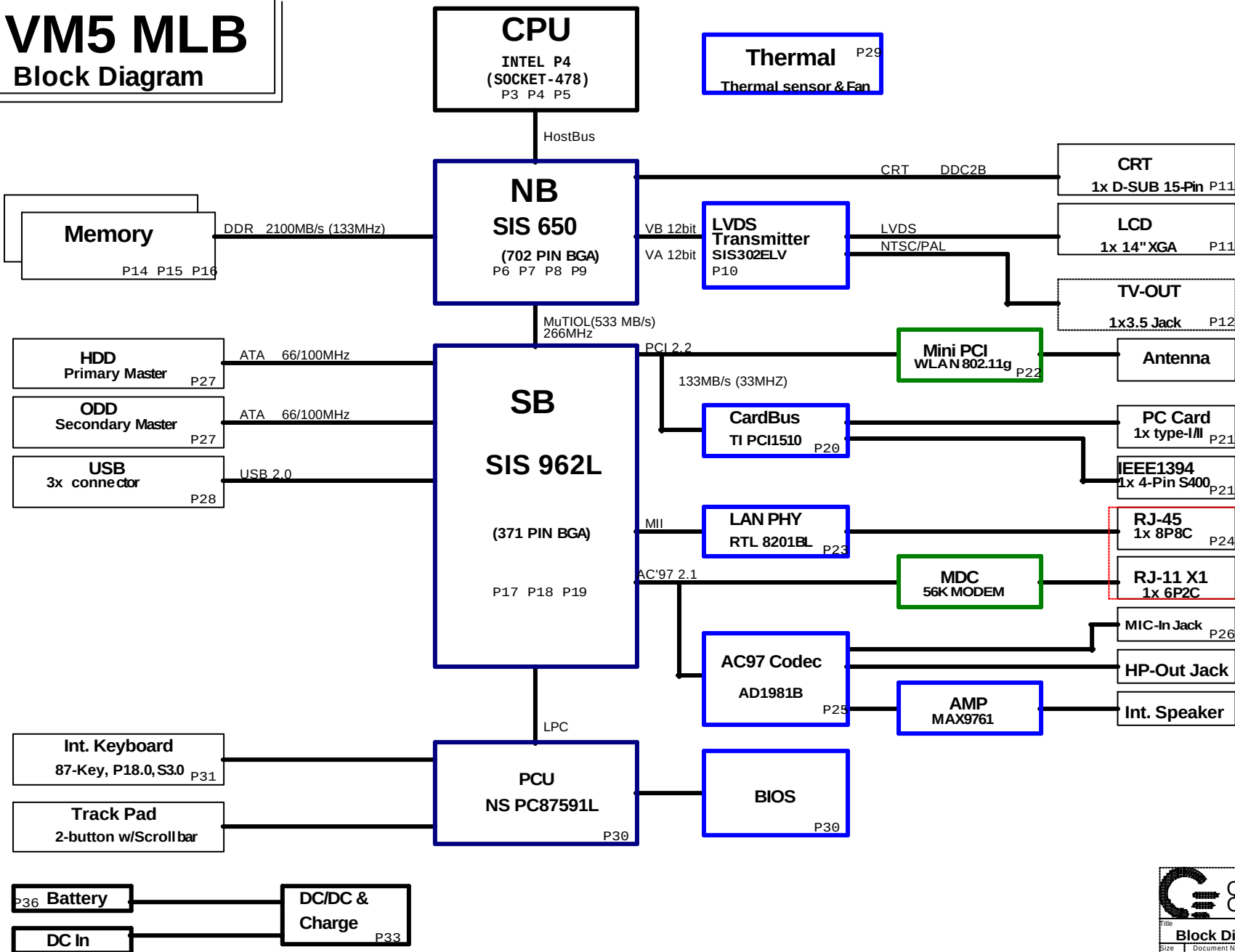


VM5 MLB

Block Diagram

01



Title			Block Diagram
Size	Document Number	Rev	1A
Custom	VM5 Main Board		
Date	Thursday, April 23, 2004	Sheet	1 of 40

Page List

01 Block Diagram
02 Page List
03-CELERON-1/3
04-CELERON-2/3
05-CELERON-3/3

06-NB-SIS650-1/4
07-NB-SIS650-2/4
08-NB-SIS650-3/4
09-NB-SIS650-4/4
10-LVDS Interface

11-CRT Port & LCD Connector
12-Hardware Trap
13-Clock generator
14-DDR Terminator
15-DDR SODIMMX2

16-DDR SDRAM(on board)
17-SB-SIS962L-1/3
18-SB-SIS962L-2/3
19-SB-SIS962L-3/3
20-PCI1510GVF

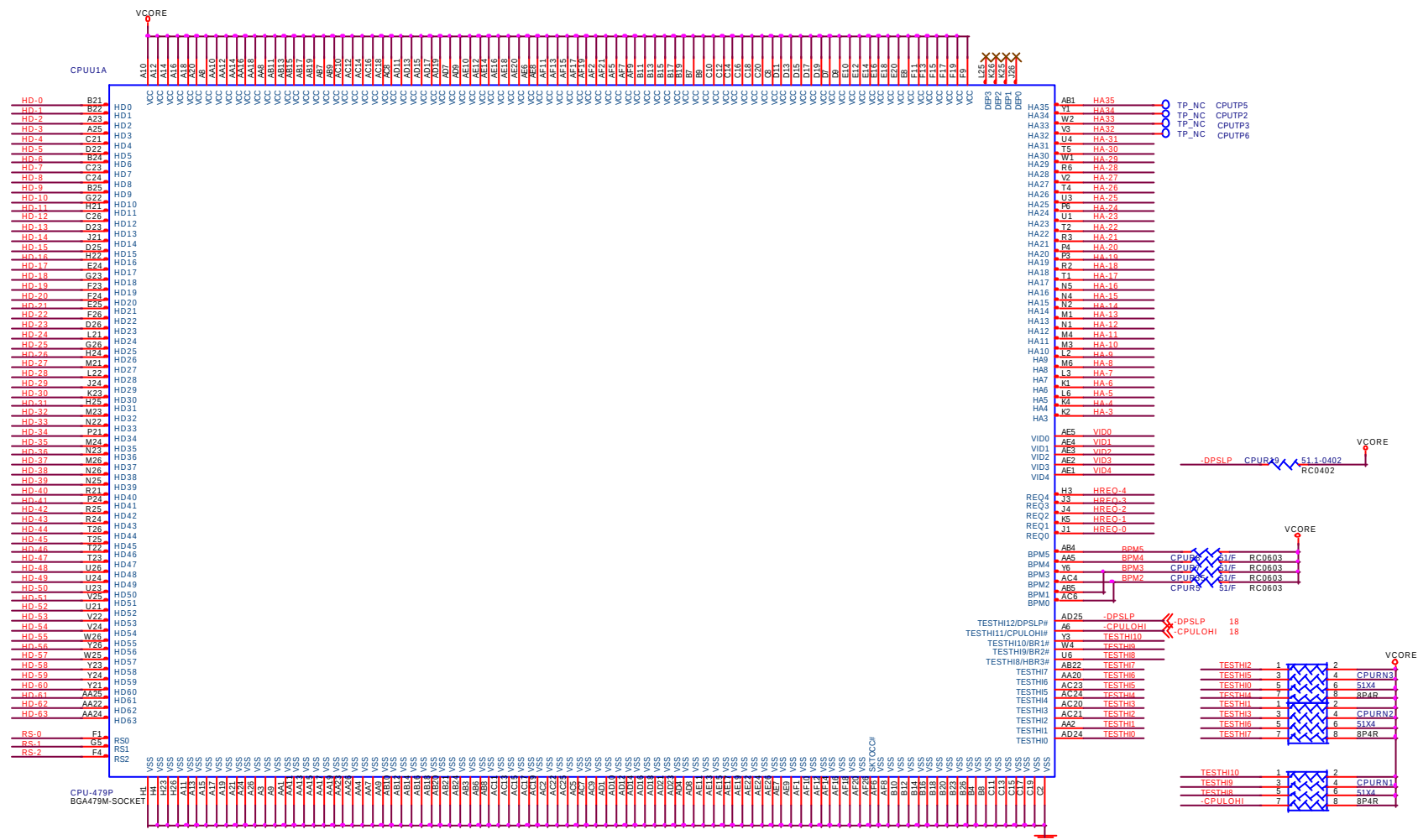
21-PCMCIA SOCKET & POWER
22-Mini PCI & MDC
23-LAN Phy. RTL8201
24-TP and Lan Connector(CK)
25-Audio CODE

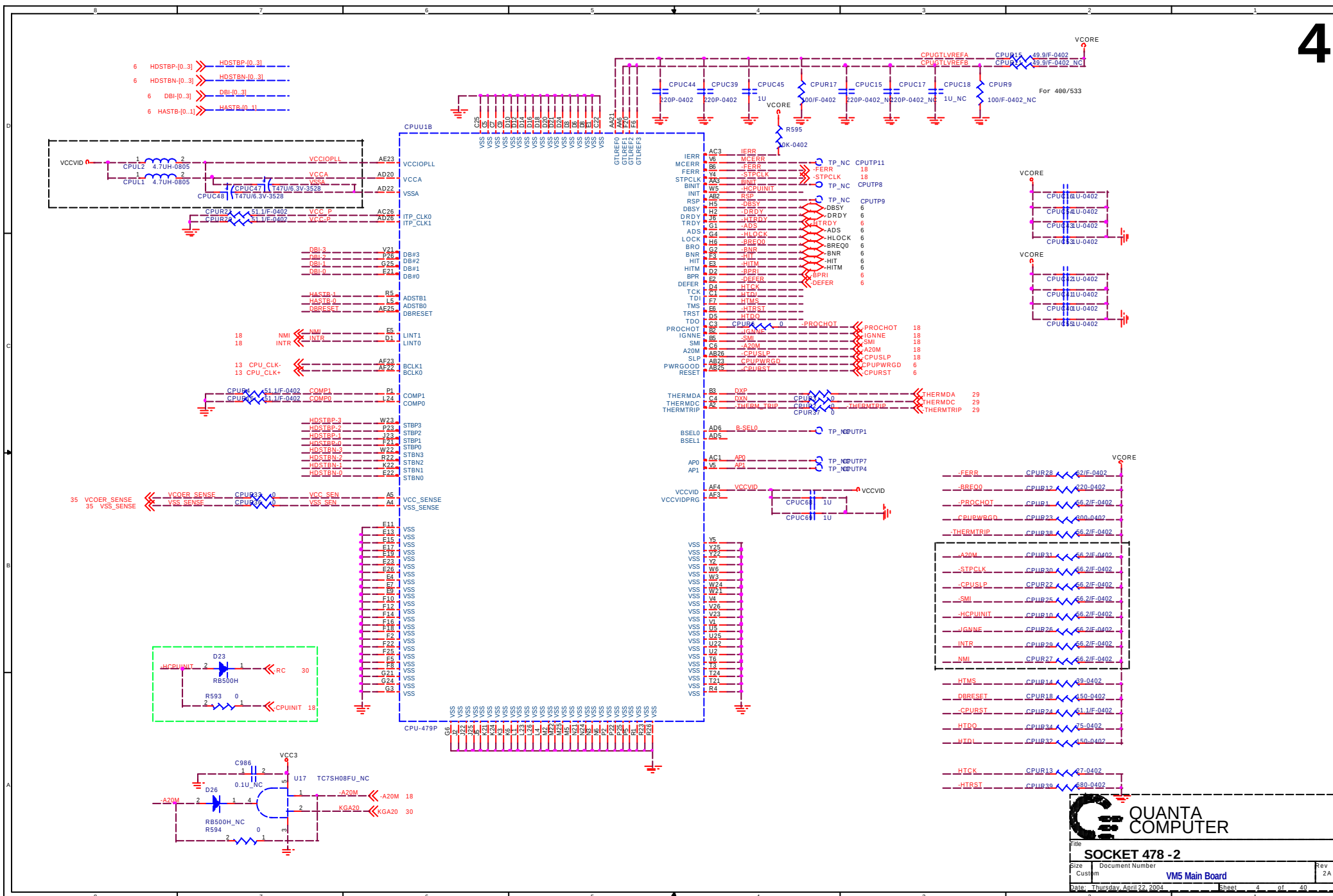
26-Audio AMP
27-HDD,ODD Connector
28-USB Connector
29-RTC & Thermal IC,FAN
30-PCU-87591 & BIOS

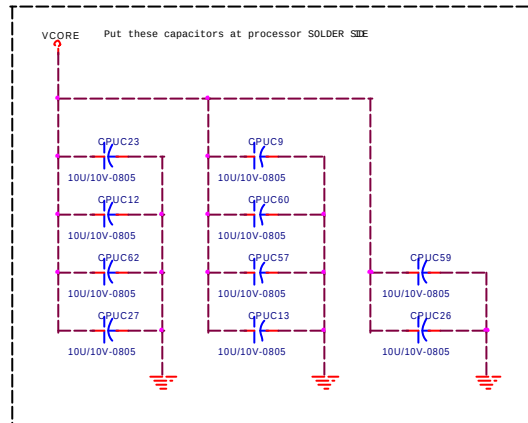
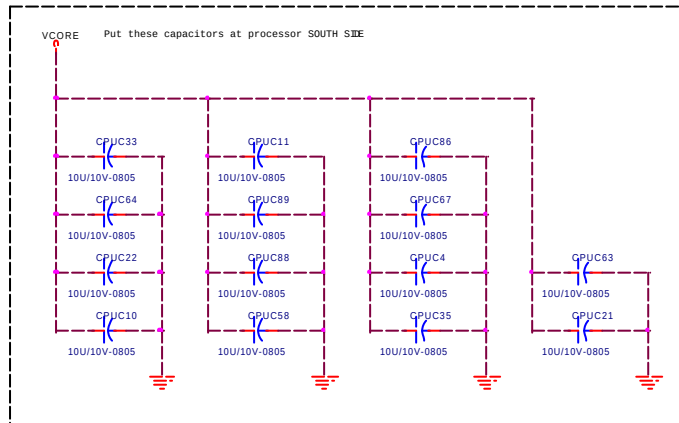
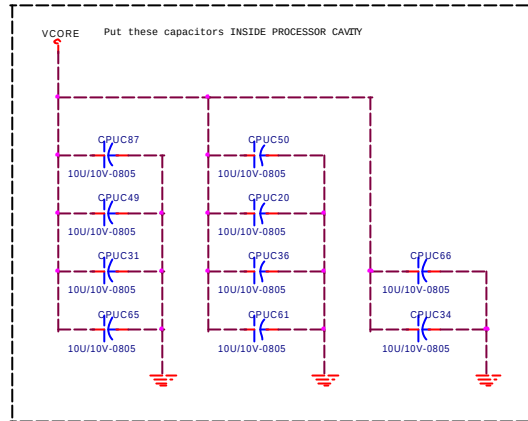
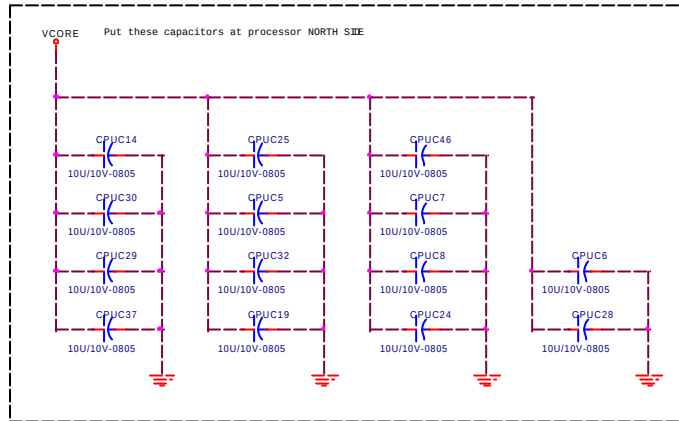
31-Internal K/B & Screw
32-PCI Bus Glue Logic
33- DC/DC 3V/5V
34- 2.5/1.8VSUS & DDRVTT
35- DC/DC VCORE

36- BATTERY CHARGER
37- BATTERY CONNECTOR

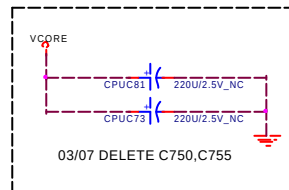
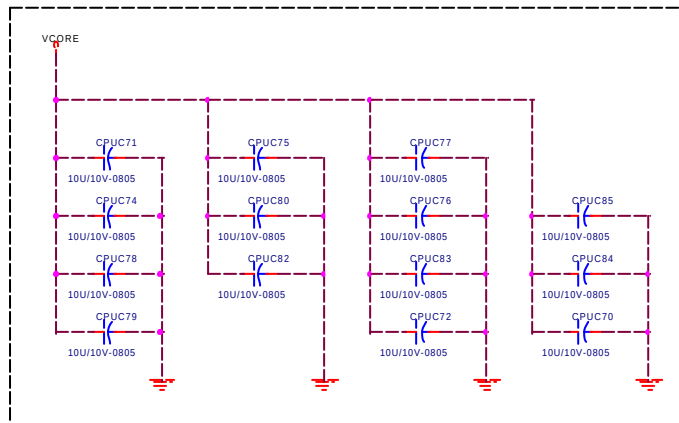
		QUANTA COMPUTER	
Title Page List			
Size Custom	Document Number VM5 Main Board		Rev 1A
Date Thursday, April 22, 2004		Sheet 2 of 40	



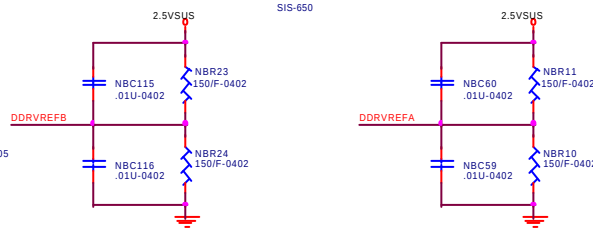
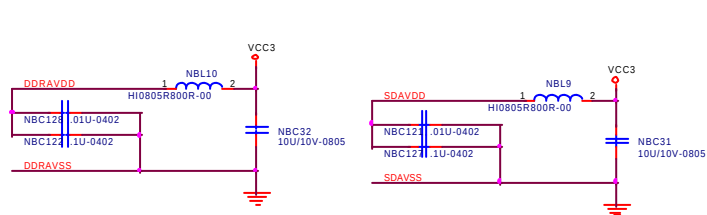
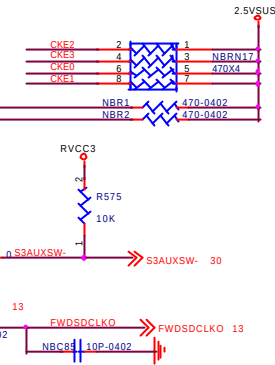
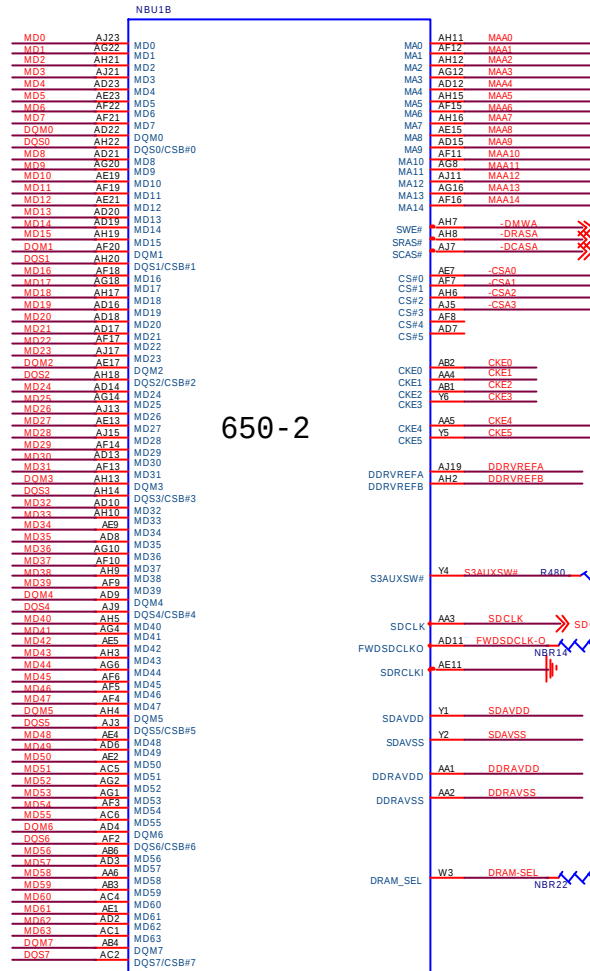
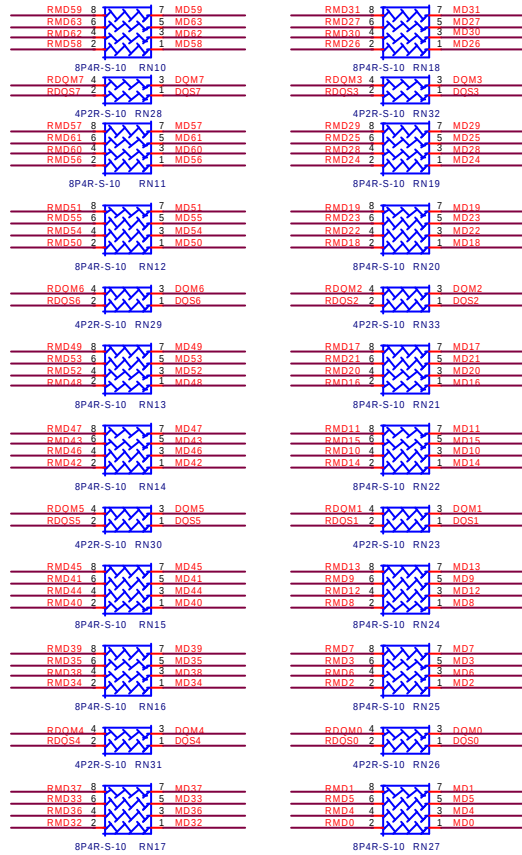
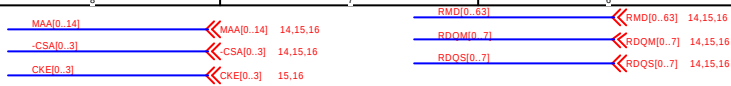




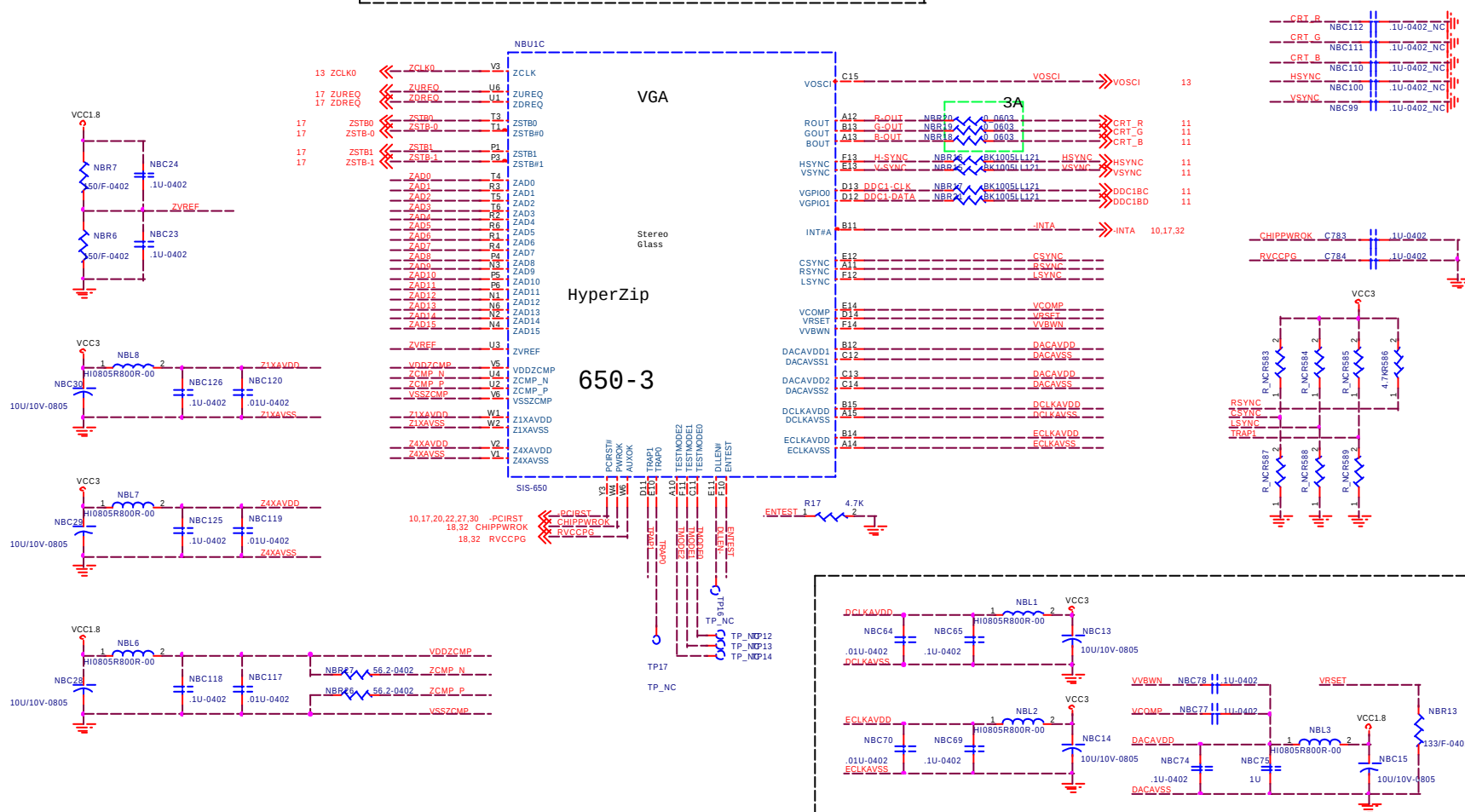
P.S. Choose X7R/X5R components instead of Y5V for all 10uF_1206 capacitors on this page.



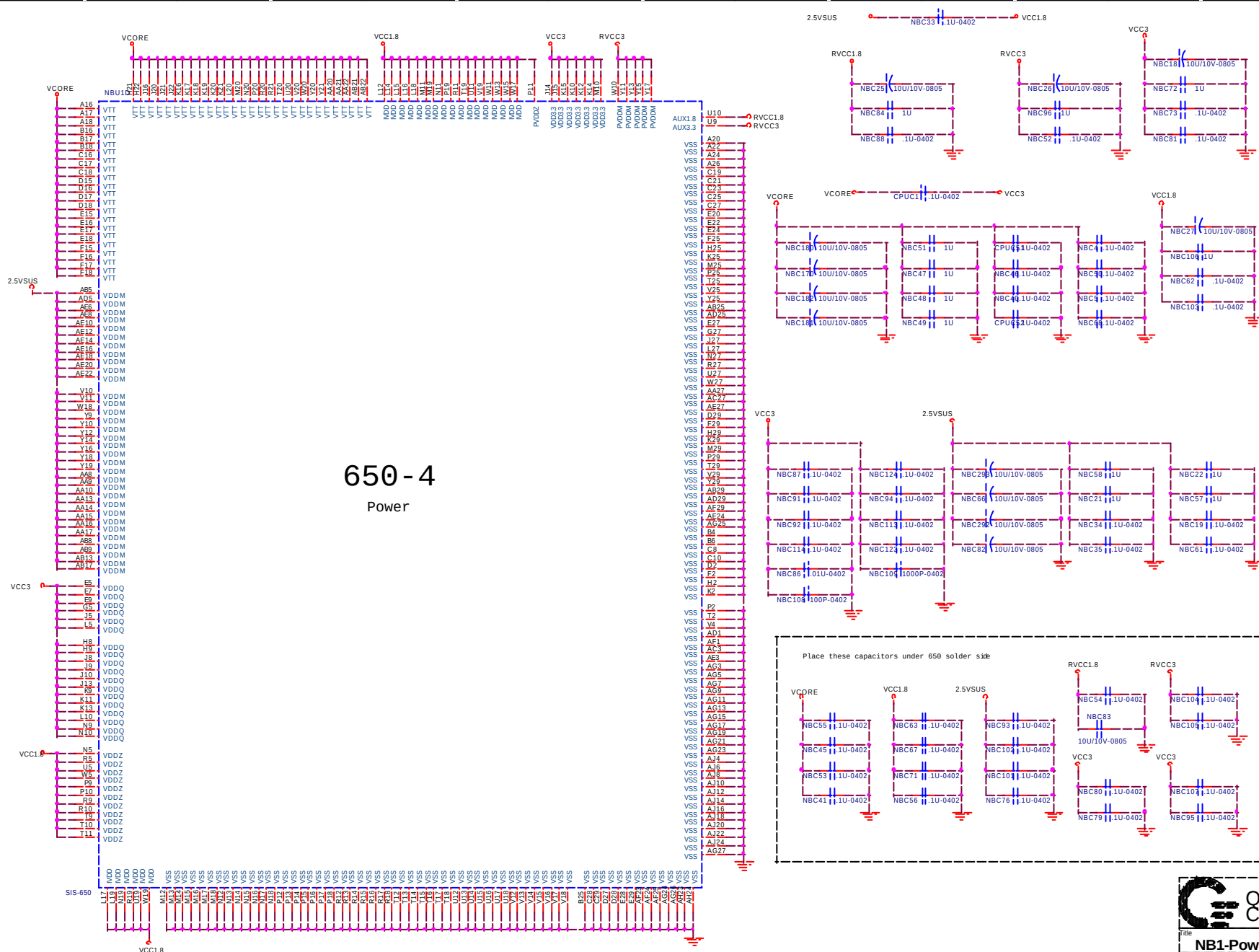
Title			Rev
SOCKET 478 -3			1A
Size	Document Number		
Custom	VM5 Main Board		
Date	Thursday, April 22, 2004	Sheet	5 of 40



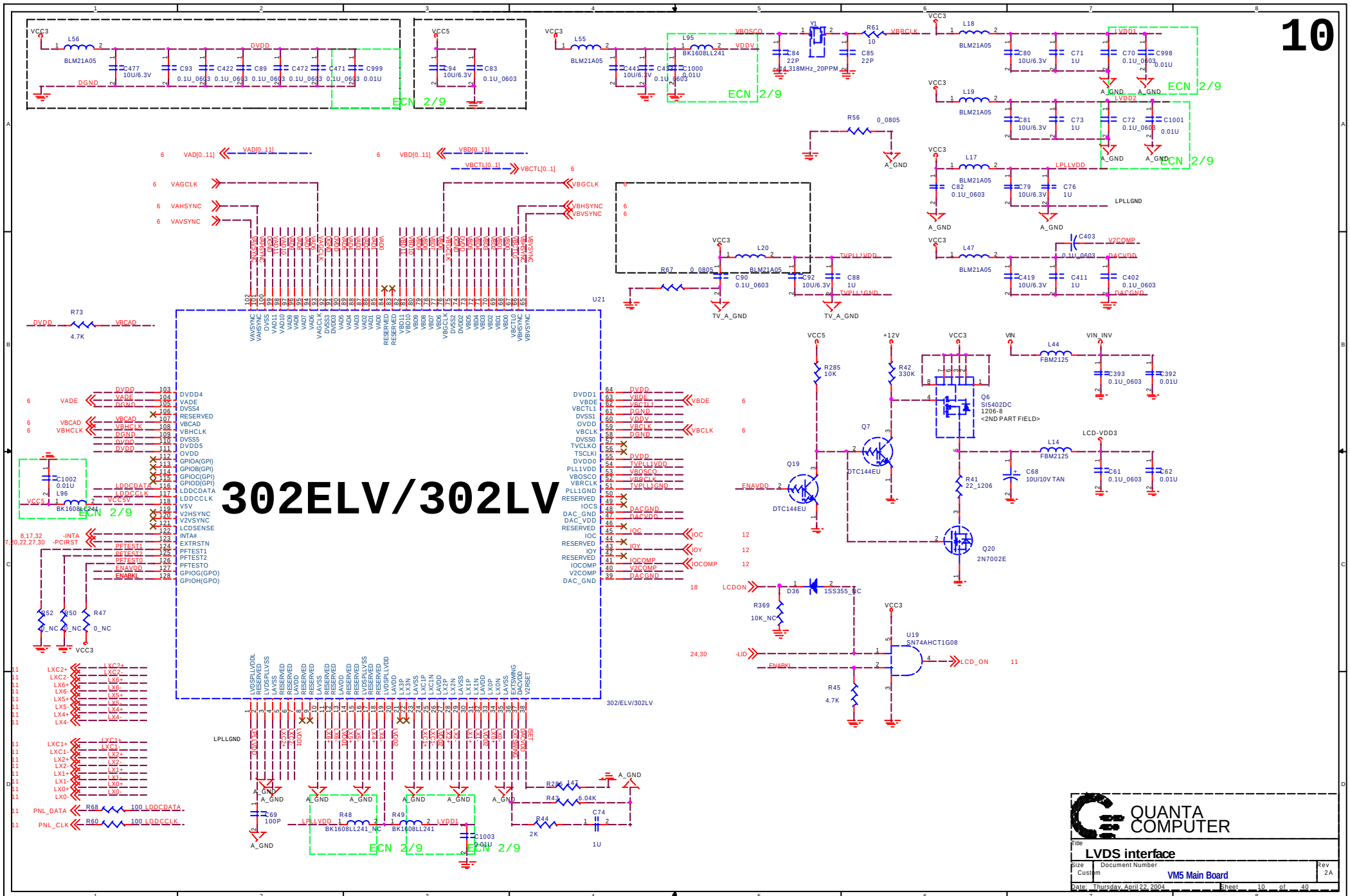
NB Hardware Trap Table				embedded pull-low (30-50K Ohm)
	0	1	Default	
DLERR#	enable PLT	disable PLT	0	yes
WDOG_SEL	0	WDR	0	yes
TRAP0	0	NB_nstnrm_nstnrm	1 (0000)	yes
TRAP1	0	0	0	
CSYNC	enable VB	0	0	
RSYNC	enable VGA interrupt	0	1	
LSYNC	enable same link	0	0	



Title			
NB1-HyperZip/VGAMisc.			
Size	Document Number		Rev
Custom	VM5 Main Board		1
Date: Thursday, April 22, 2004		Sheet	8 of 40



302ELV/302LV



Title
LVDS interface

Size Document Number

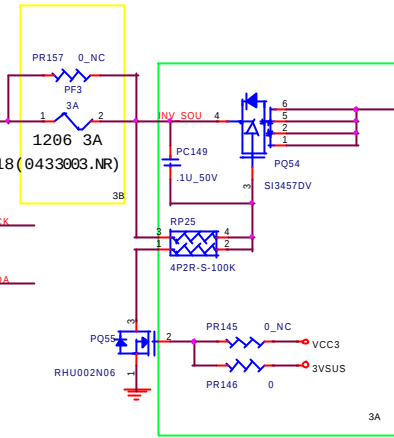
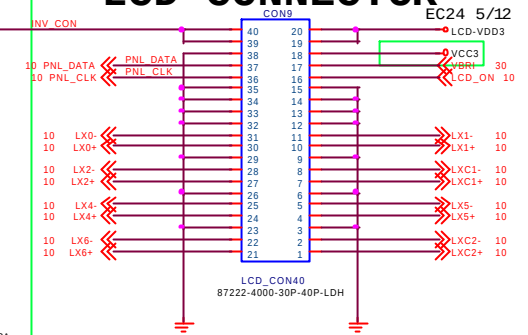
Custom VM5 Main Board

Date: Thursday, April 22, 2004

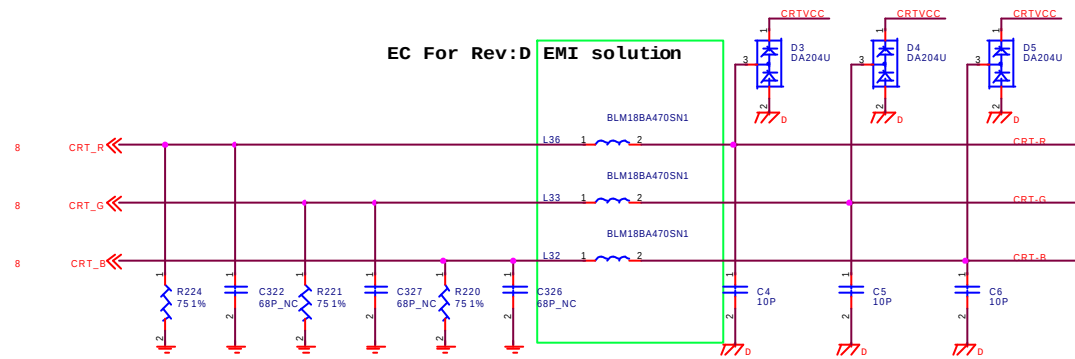
Sheet 10 of 40

Rev 2A

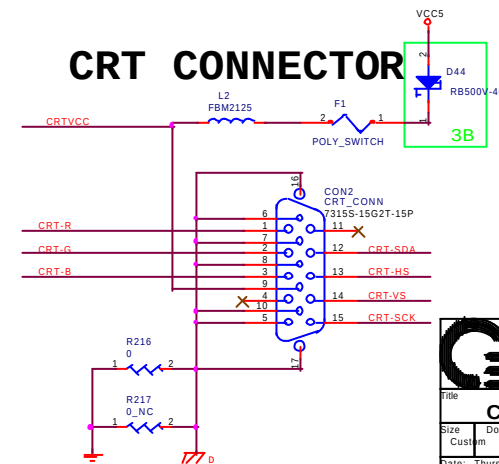
LCD CONNECTOR



EC For Rev:D EMI solution

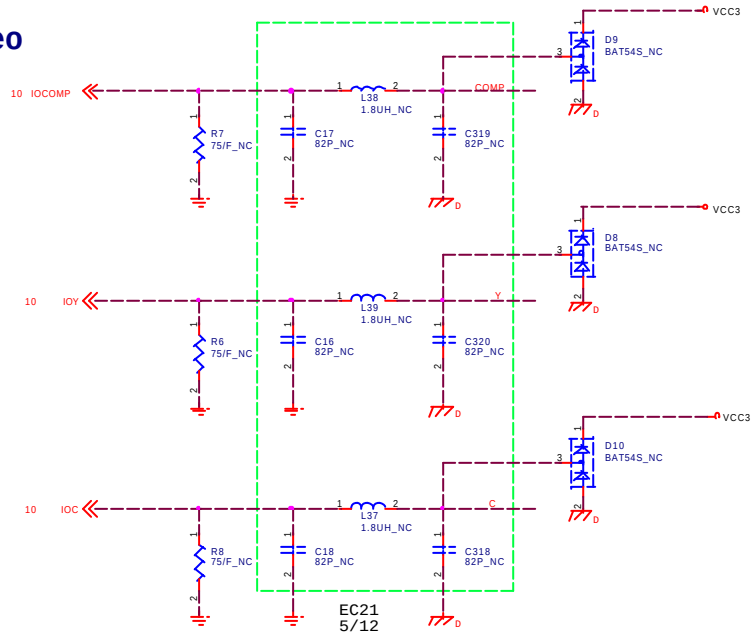


CRT CONNECTOR

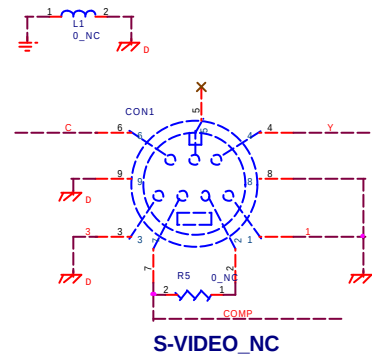


CRT PORT			Rev
Size	Document Number	VM5 Main Board	3A
Date	Thursday, April 22, 2004	Sheet	11 of 40

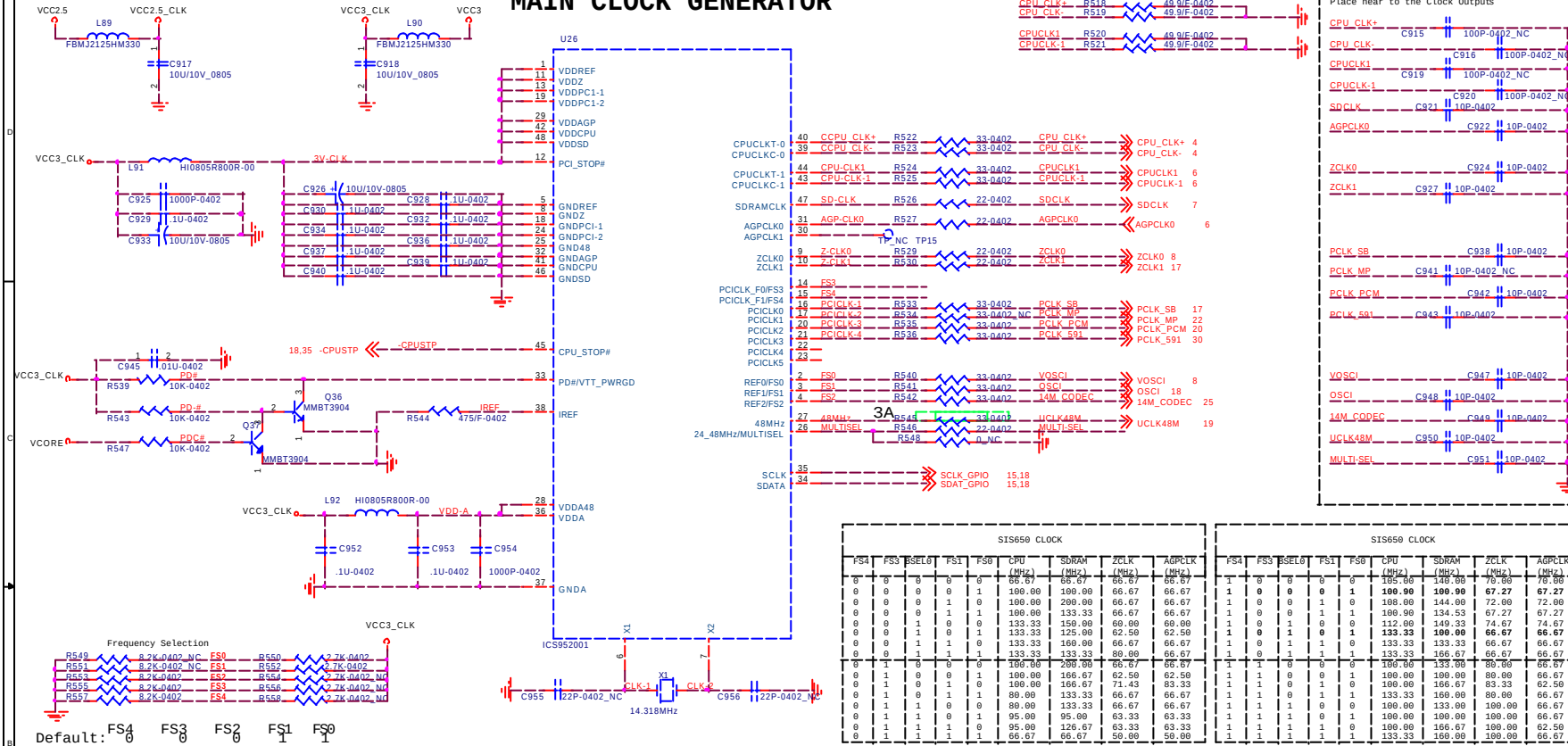
S-video



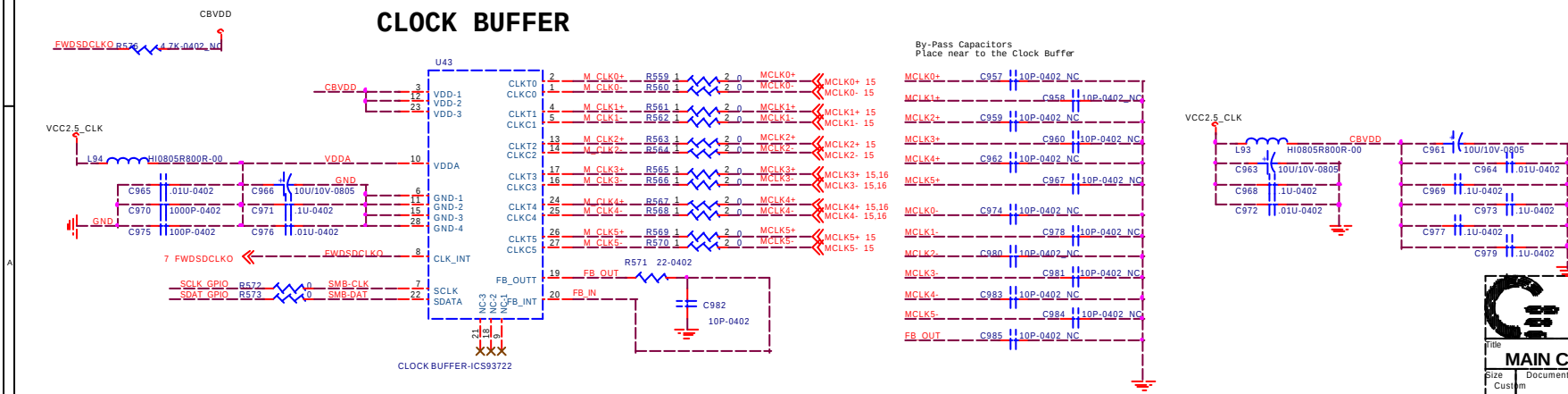
No Stuff for all S_Video Parts



MAIN CLOCK GENERATOR



CLOCK BUFFER



DDR TERMINATOR

14

RMD[0..63] 7,15,16
 RDQM[0..7] 7,15,16
 RQOS[0..7] 7,15,16

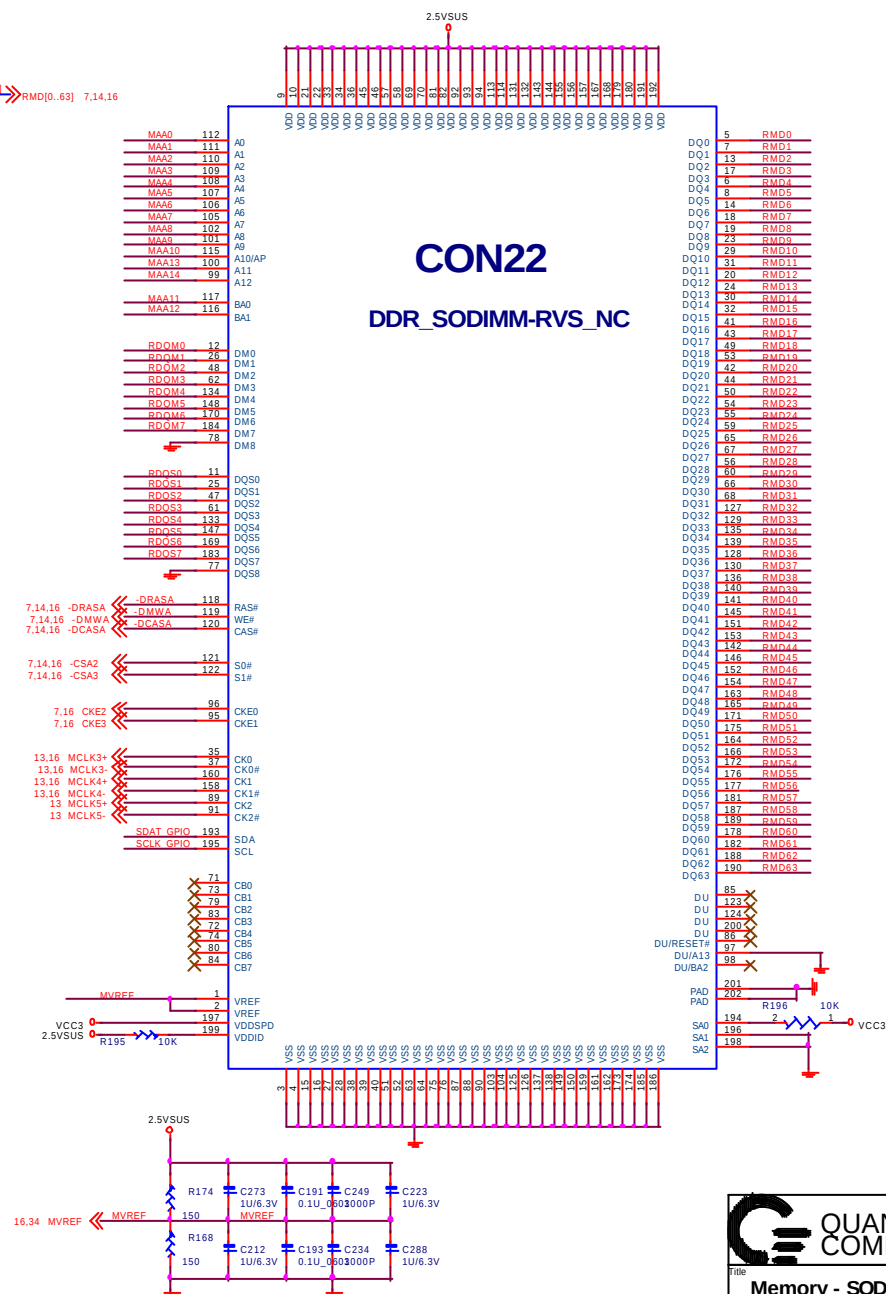
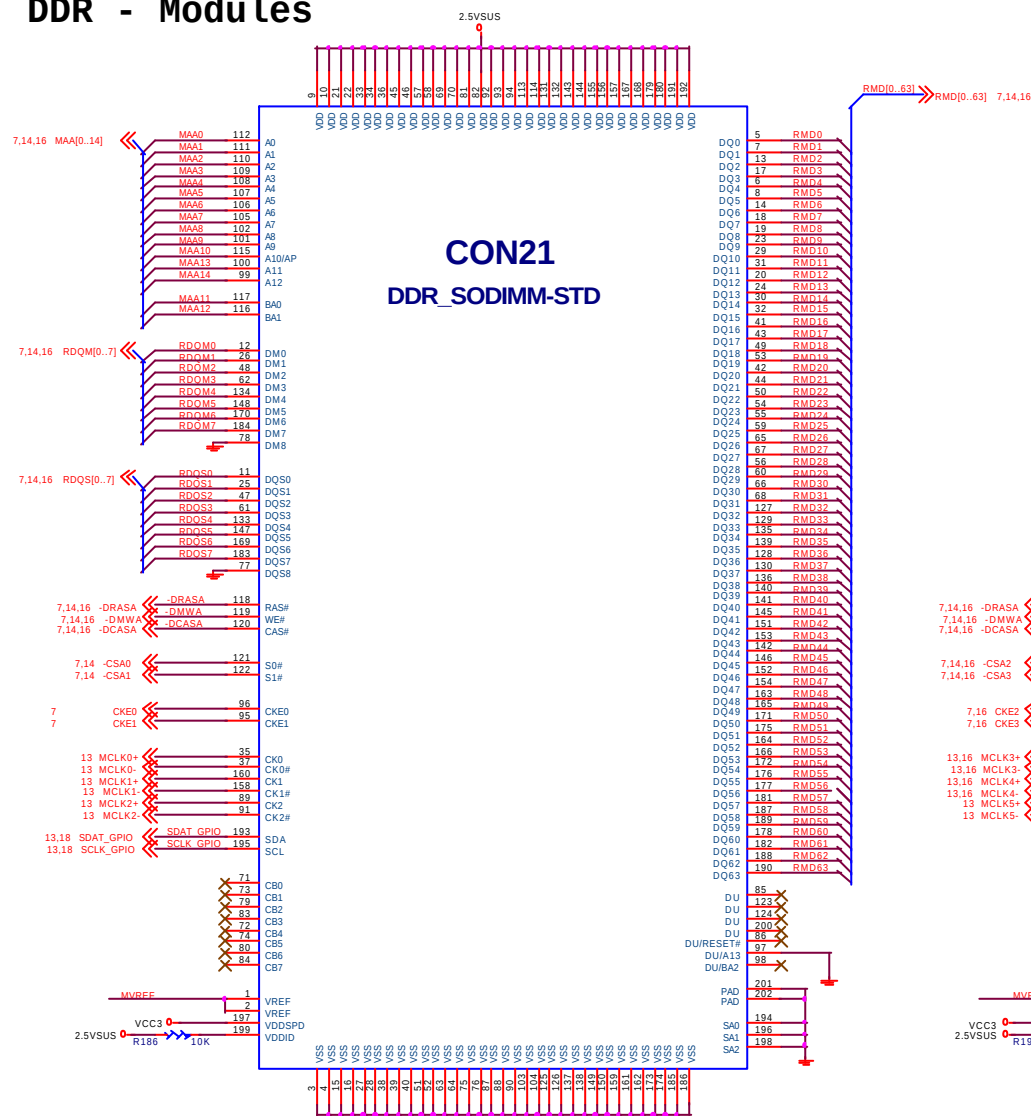
MAA[0..14] 7,15,16
 CSA[0..3] 7,15,16



Title DDR Terminator		Rev 1A
Size Custom	Document Number VM5 Main Board	
Date Thursday, April 22, 2004	Sheet 14	of 40

DDR - Modules

15



Title			
Memory - SODIMM			
Size	Document Number	Rev	
Custom	VM5 Main Board	1/	
Date: Thursday, April 22, 2004		Sheet	15 of 40

PCI-to-PCI Bridge

20,22,32 AD[0..31]

PCI Configuration

DEVICE	IDSEL
North Bridge	AD11
PCI-to-PCI Bridge	AD12
LPC	AD13
IDE	AD13
S/W Modem	AD13
B/S Audio	AD13
USB	AD14
LAN	AD15
MINI PCI	AD20
PC4510	AD21

20,22,32 -REQ[0..4] ← REQ[0..4]

20,22,32 -GNT[0..4] ← GNT[0..4]

20,22 -CBE[0..3] ← CBE[0..3]

8,10,32 -INTA
32 -INTB
32 -INTC
32 -INTD

20,22,32 -FRAME
20,22,32 -IRDY#
20,22,32 -TRDY#
20,22,32 -STOP

20,22,32 -SERR#
20,22,32 PAR
20,22,32 -DEVSEL#
32 -PLOCK

13 PCLK_SB
C589
IC_NS_NC
13 ZCLK1

8 ZSTB0
8 ZSTB-0

8 ZSTB1
8 ZSTB-1

8 ZUREQ
8 ZDREQ

SVDZCMP
SZCND_N
N18

SZCNP_P
SVSSZCNP
P18

SZ1XAVDD
SZ1XAVSS
U20

SZ4XAVDD
SZ4XAVSS
T20

SZVREF
SZVSSREF
P20

SZVREF
SZVSSREF
P20

8 ZAD[0..15] ←

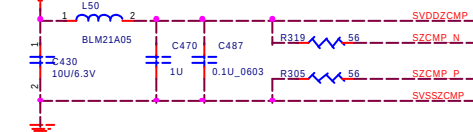
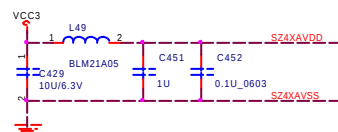
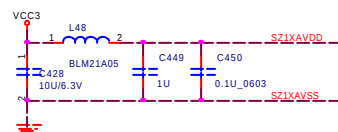
PCI

IDE

962L-1

MuTIOL

Analog Power supplies of MuTIOL function for SiS961 Chip.



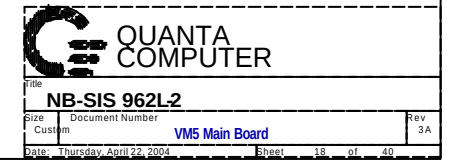
Put near SiS961 Chip.

ZSTB0 R308 R NC
ZSTB1 R309 R NC

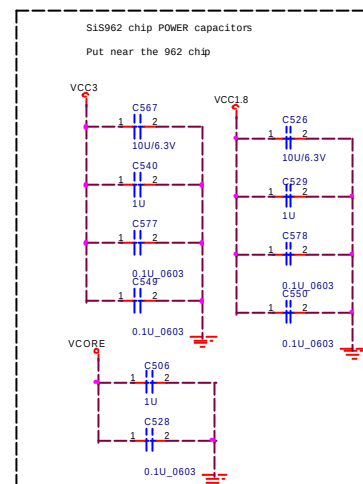
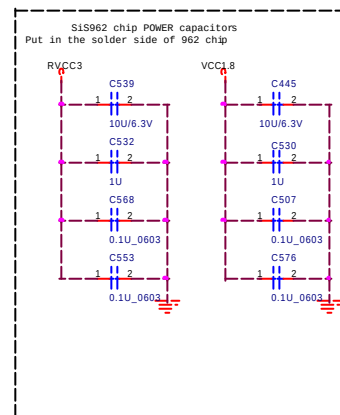
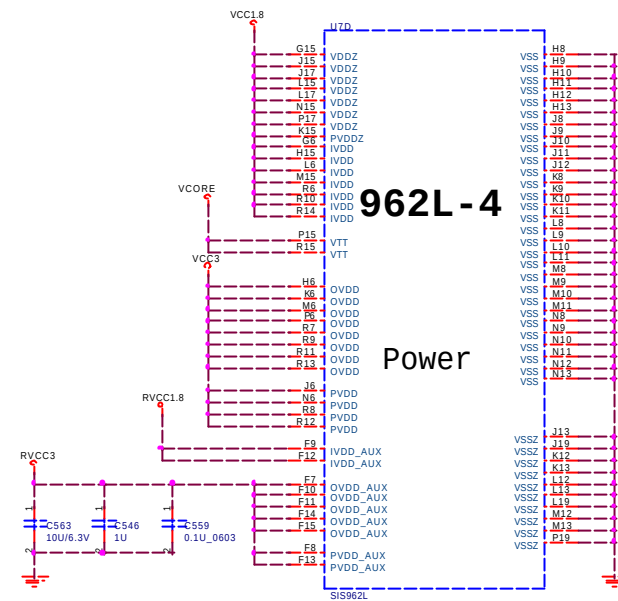
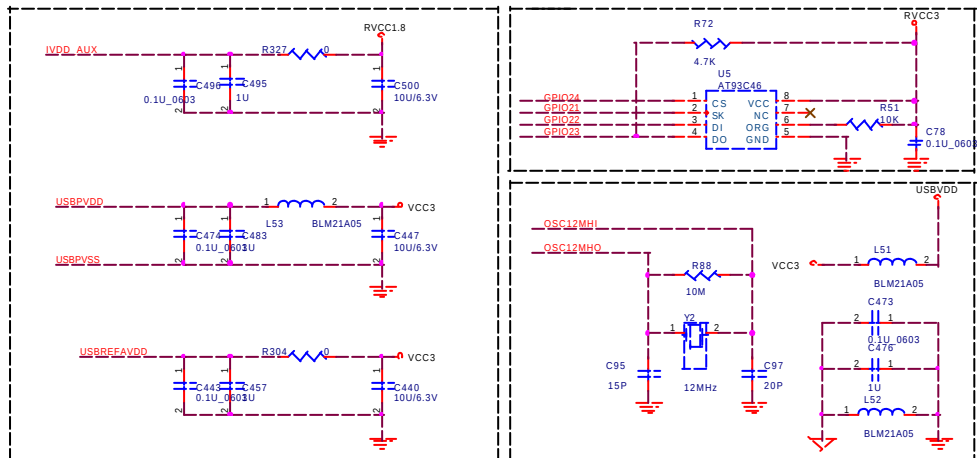
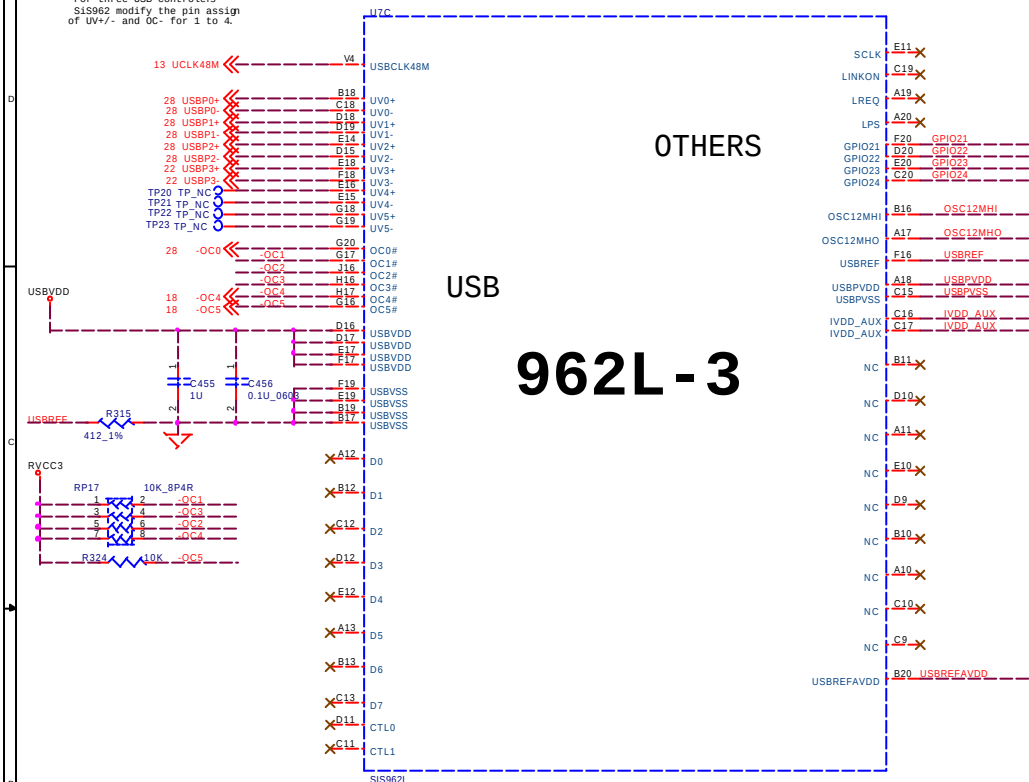
ZSTB-0 R206 R NC
ZSTB-1 R207 R NC



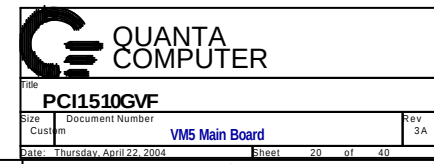
Title	NB-SIS 962L-1		
Size	Document Number	Custom	Rev 1A
Date	Thursday, April 22, 2004	Sheet 17 of 40	



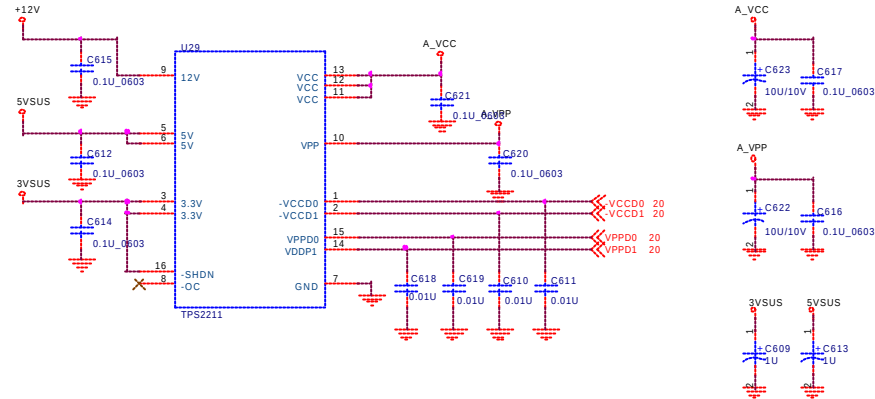
For three USB controllers
SiS962 modify the pin assign
of UV+/- and OC- for 1 to 4.



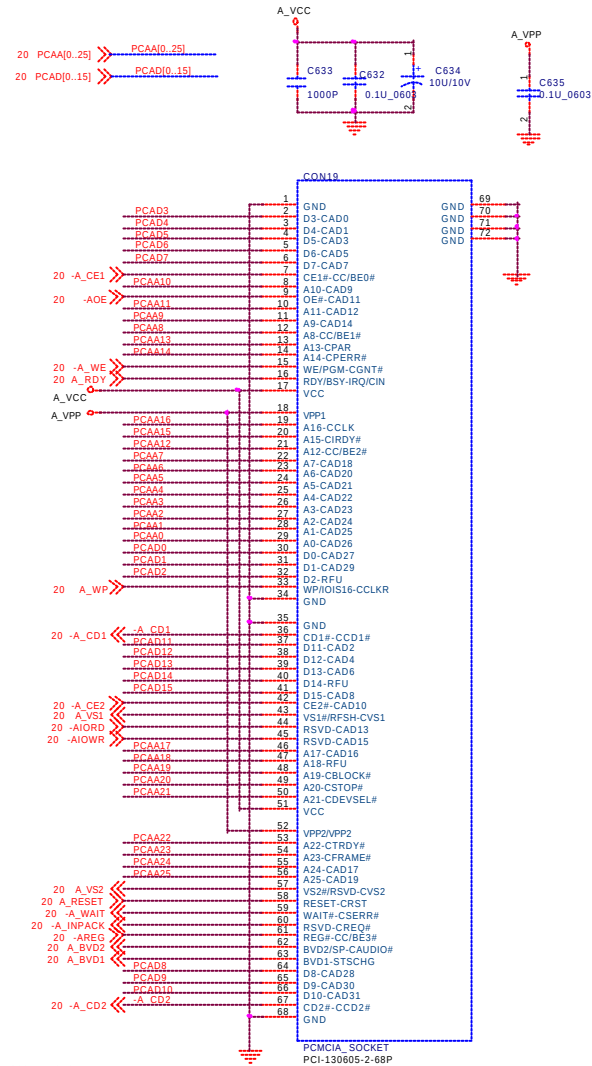
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Size	Document Number	Rev	
Custom	VM5 Main Board	1A	
Date: Thursday, April 22, 2004		Sheet	19 of 40



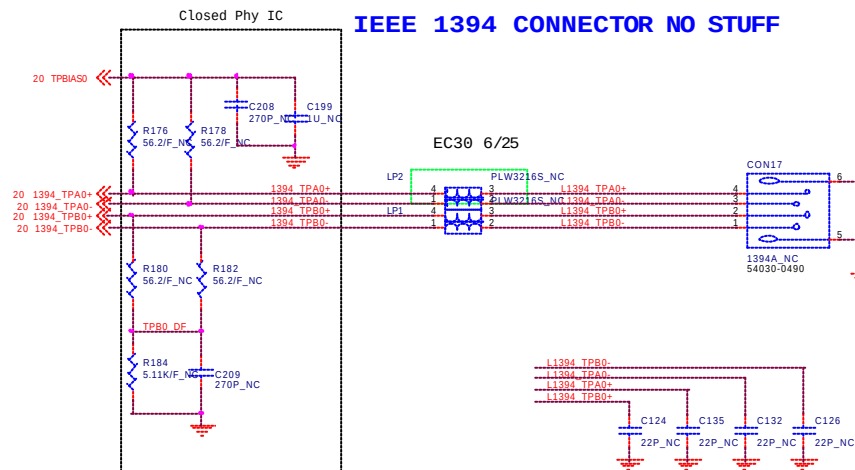
PCMCIA POWER SWITCH

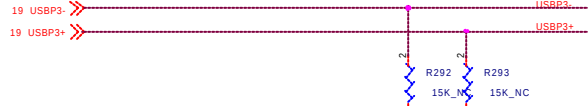
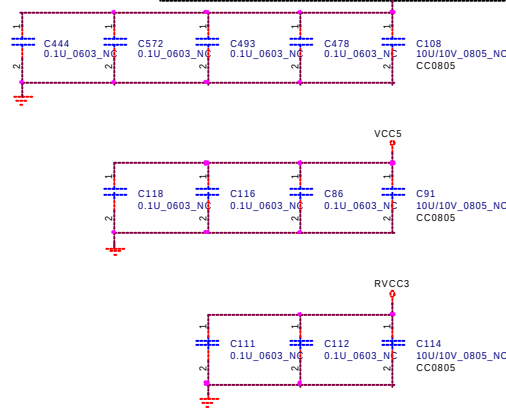
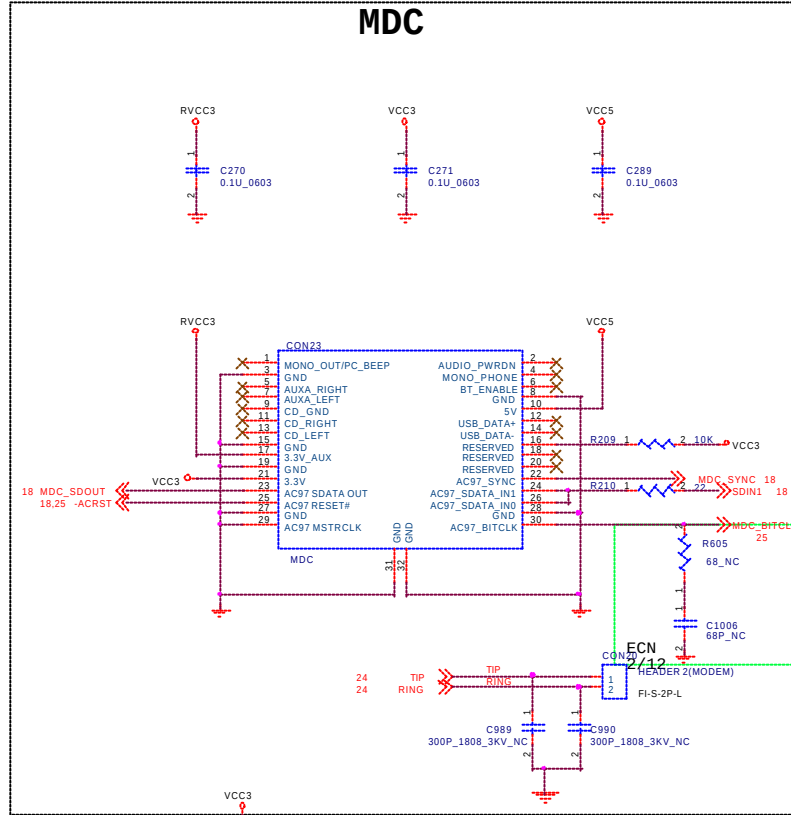
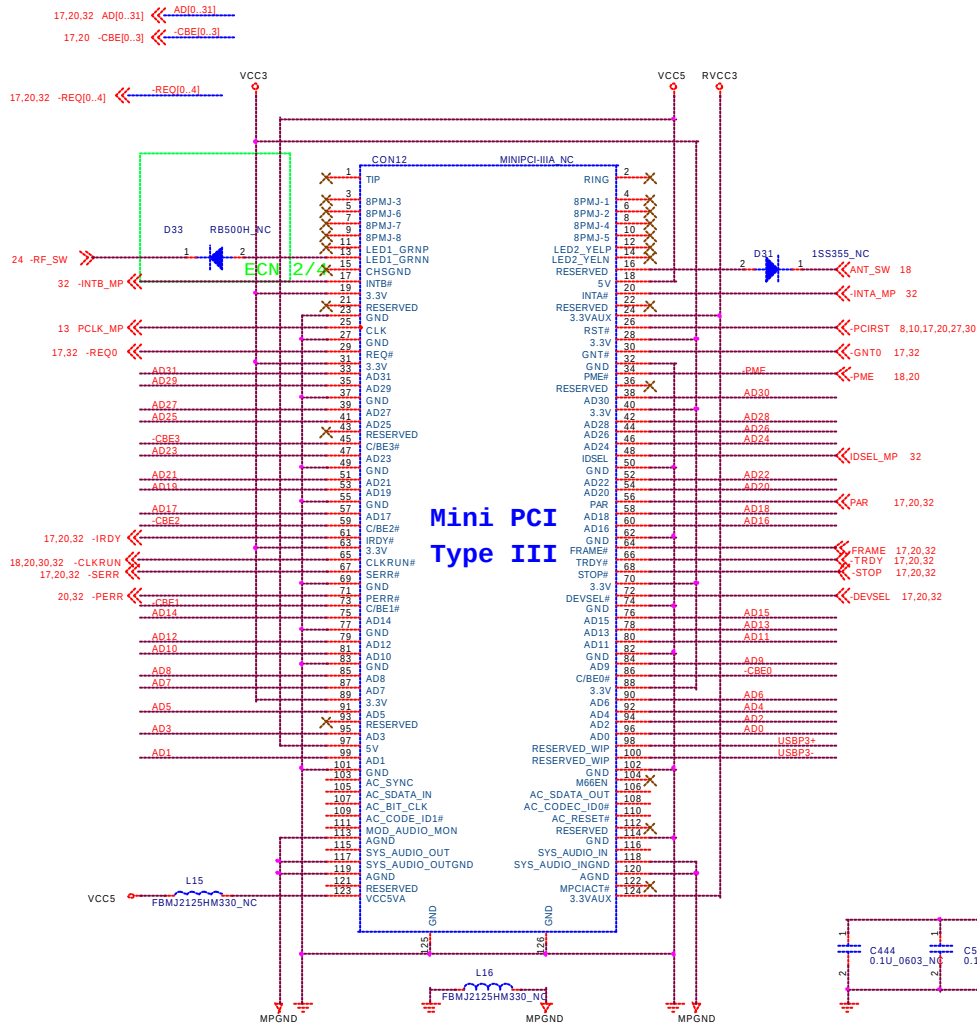


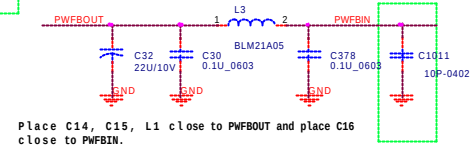
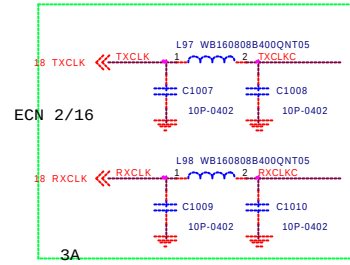
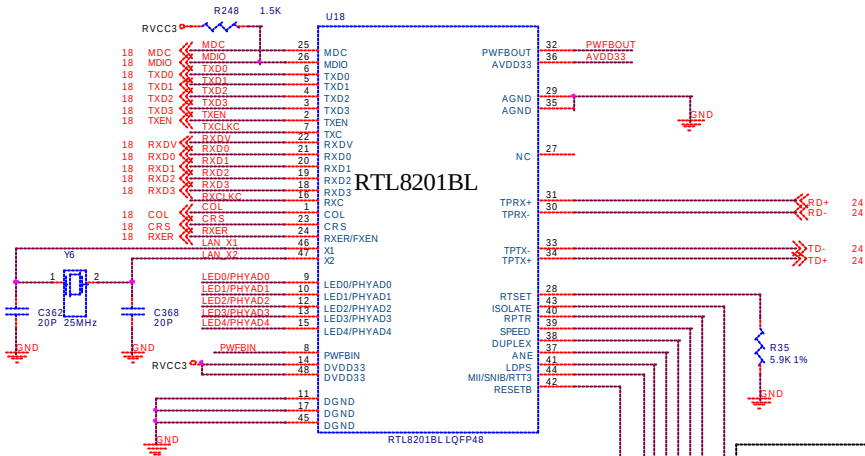
PCMCIA SOCKET



IEEE 1394 CONNECTOR NO STUFF

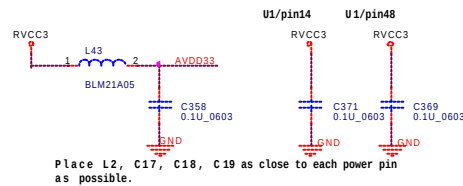
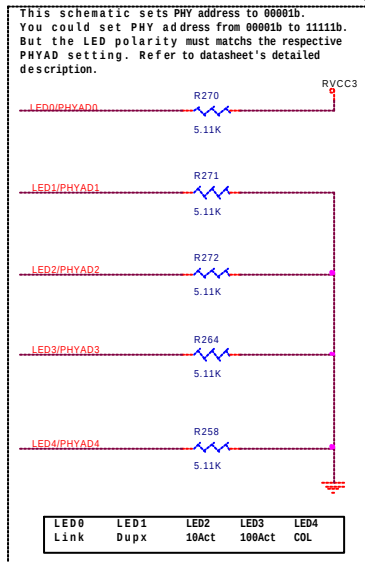


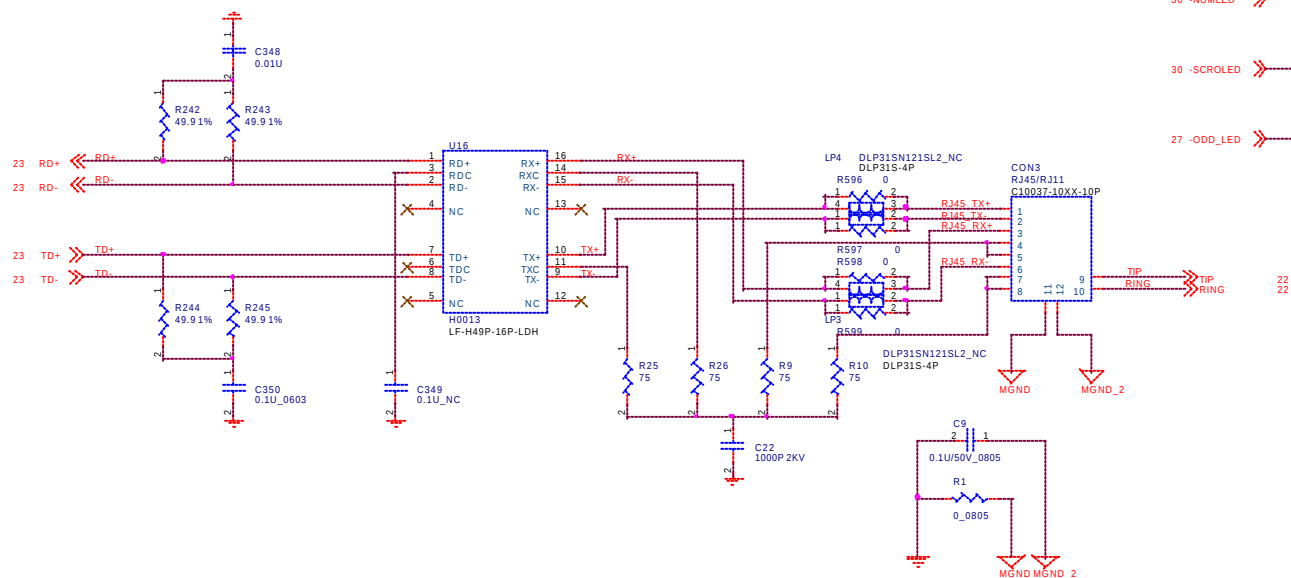
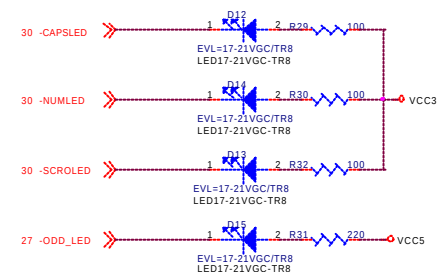
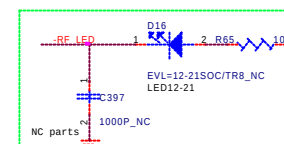
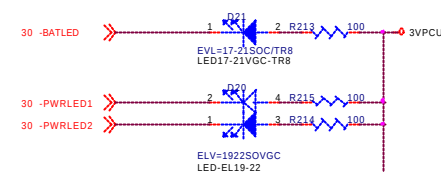
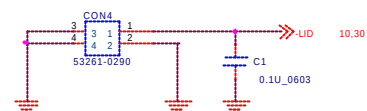
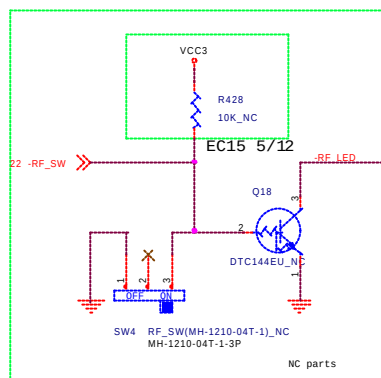
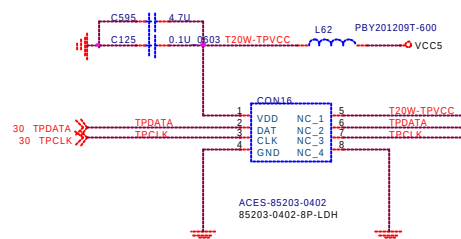




Hardwire Configuration network:

1. This configuration shows
 Enable: Auto negotiation, Full duplex, 100Mbps,
 Link Down Power Saving, MII interface
 Disable: I isolate, Repeater mode
2. These seven configuration pins could be connected to VDD or GND directly.

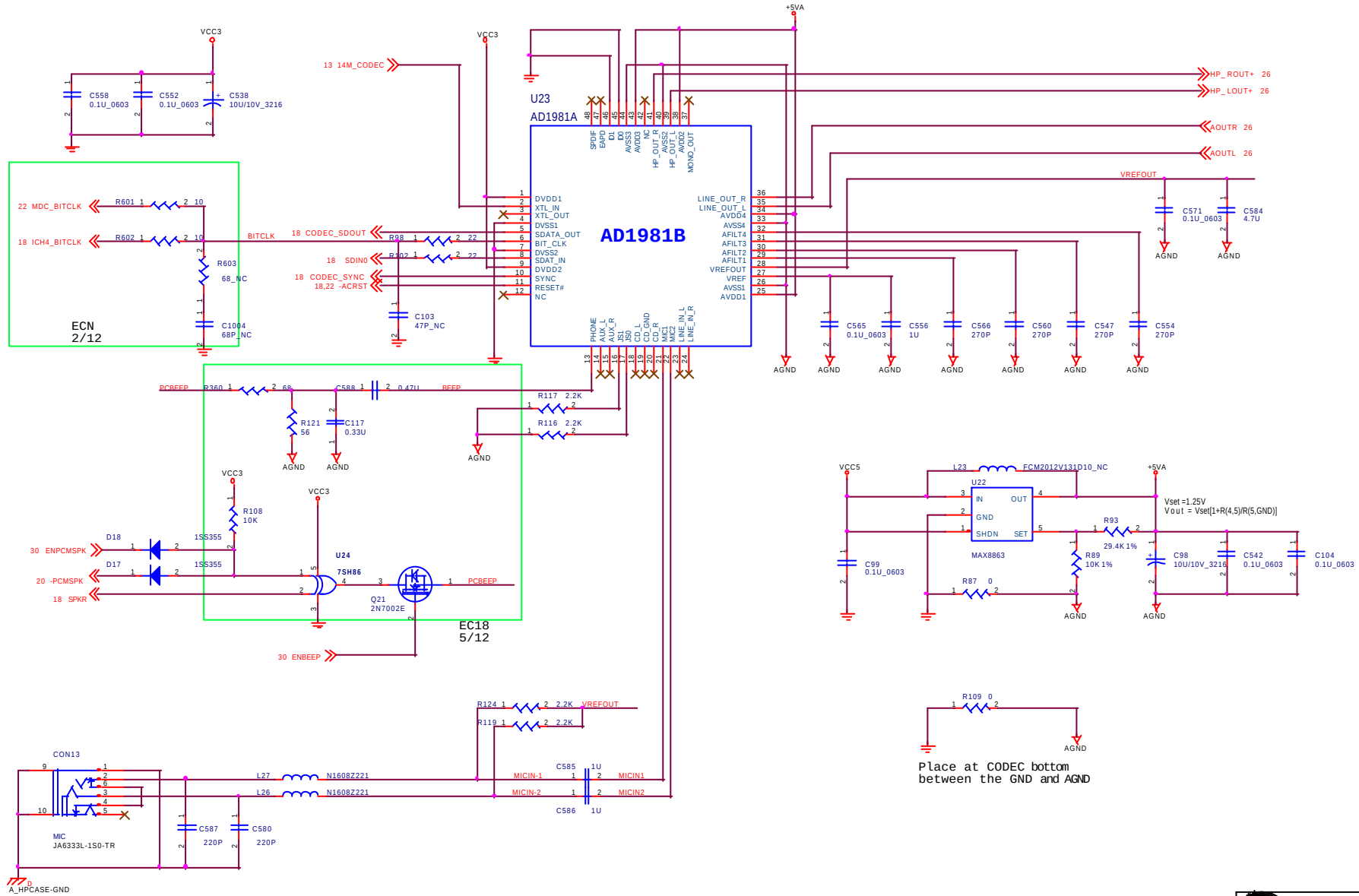


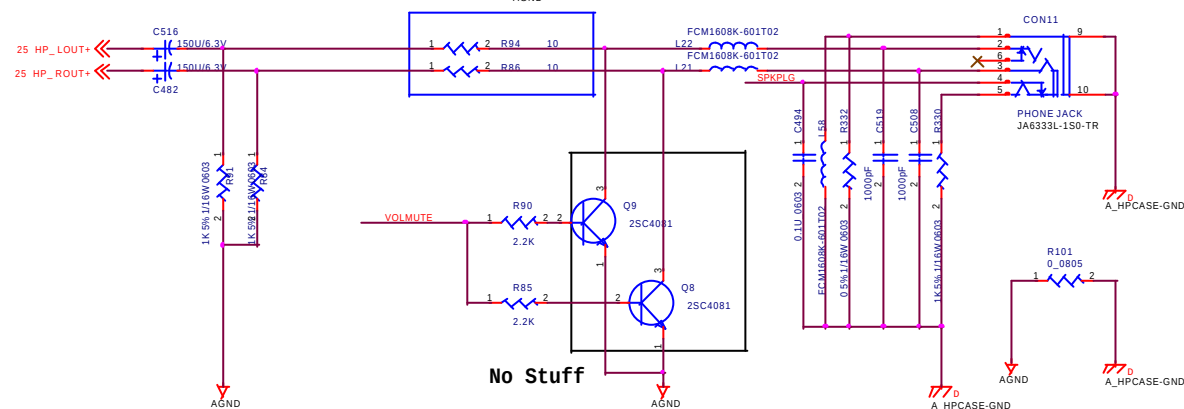
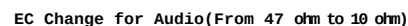


Title **87570 Expansion,LED,SWs**

Size	Document Number
Custom	VM5 Main Board

Date: Thursday, April 22, 2004 Sheet 24 of 40





17 IDEDA0 >> IDEDA0
17 IDEDA15 >> IDEDA15
17 IDEDA2 >> IDEDA2
17 IDEDA1 >> IDEDA1

17 IDEDA4 >> IDEDA4
17 IDEDA5 >> IDEDA5
17 IDEDA6 >> IDEDA6
17 IDEDA7 >> IDEDA7

17 IDEDA8 >> IDEDA8
17 IDEDA11 >> IDEDA11
17 IDEDA9 >> IDEDA9
17 IDEDA10 >> IDEDA10

17 IDEDA12 >> IDEDA12
17 IDEDA13 >> IDEDA13
17 IDEDA3 >> IDEDA3
17 IDEDA14 >> IDEDA14

17 IDECS-A0 >> 1 R_PDCS1
17 IDESA0 >> 2 R_PDA0
17 IDECS-A1 >> 3 R_PDCS3
17 IDESA1 >> 4 R_PDA1

17 IDESA2 >> R343 1 2 0 R_PDA2
17 IDEREQA >> R110 1 2 0 R_PDDREQ
17 IDEIOW-A >> R107 1 2 0 R_PDIOW
17 IDEIOR-A >> R103 1 2 0 R_PDIOB
17 ICHRDYA >> R108 1 2 0 R_PDIOW
17 IDACK-A >> R99 1 2 0 R_IRO14
17 IDEIRQA >> R99 1 2 0 R_IRO14

17 IDEDB13 >> IDEDB13
17 IDEDB12 >> IDEDB12
17 IDEDB3 >> IDEDB3
17 IDEDB2 >> IDEDB2

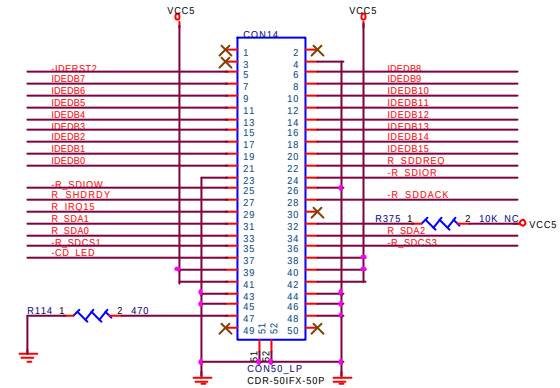
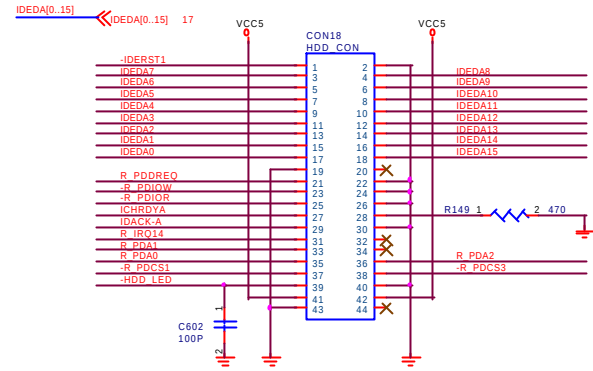
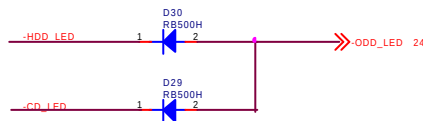
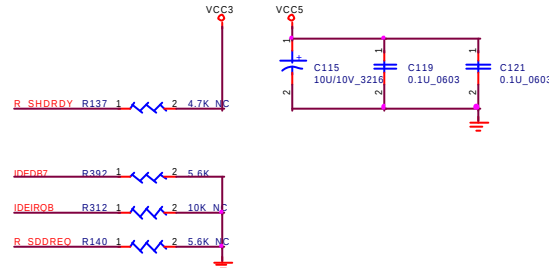
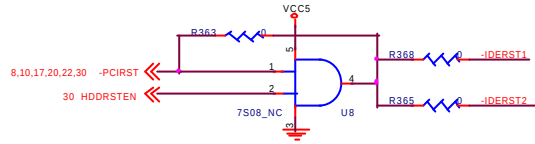
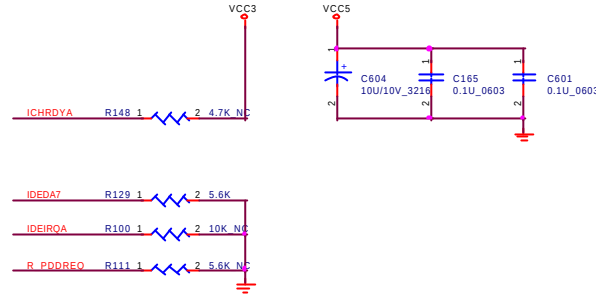
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17 IDEDB5 >> IDEDB5
17 IDEDB4 >> IDEDB4
17 IDEDB7 >> IDEDB7

17 IDEDB8 >> IDEDB8
17 IDEDB9 >> IDEDB9
17 IDEDB10 >> IDEDB10
17 IDEDB11 >> IDEDB11

17 IDEDB0 >> IDEDB0
17 IDEDB15 >> IDEDB15
17 IDEDB1 >> IDEDB1
17 IDEDB14 >> IDEDB14

17 IDECS-B0 >> 1 R_SDCS1
17 IDECS-B1 >> 2 R_SDCS3
17 IDESA0 >> 3 R_SDA0
17 IDESA1 >> 4 R_SDA1

17 IDESA2 >> R75 1 2 0 R_SDA2
17 IDEIORB >> R317 1 2 0 R_IRO15
17 IDEIOW-B >> R82 1 2 0 R_SDIOW
17 IDEIOR-B >> R322 1 2 0 R_SDIOW
17 ICHRDYB >> R77 1 2 0 R_SHDRDY
17 IDACK-B >> R78 1 2 0 R_SDDACK
17 IDEREQB >> R139 1 2 0 R_SDDREQ

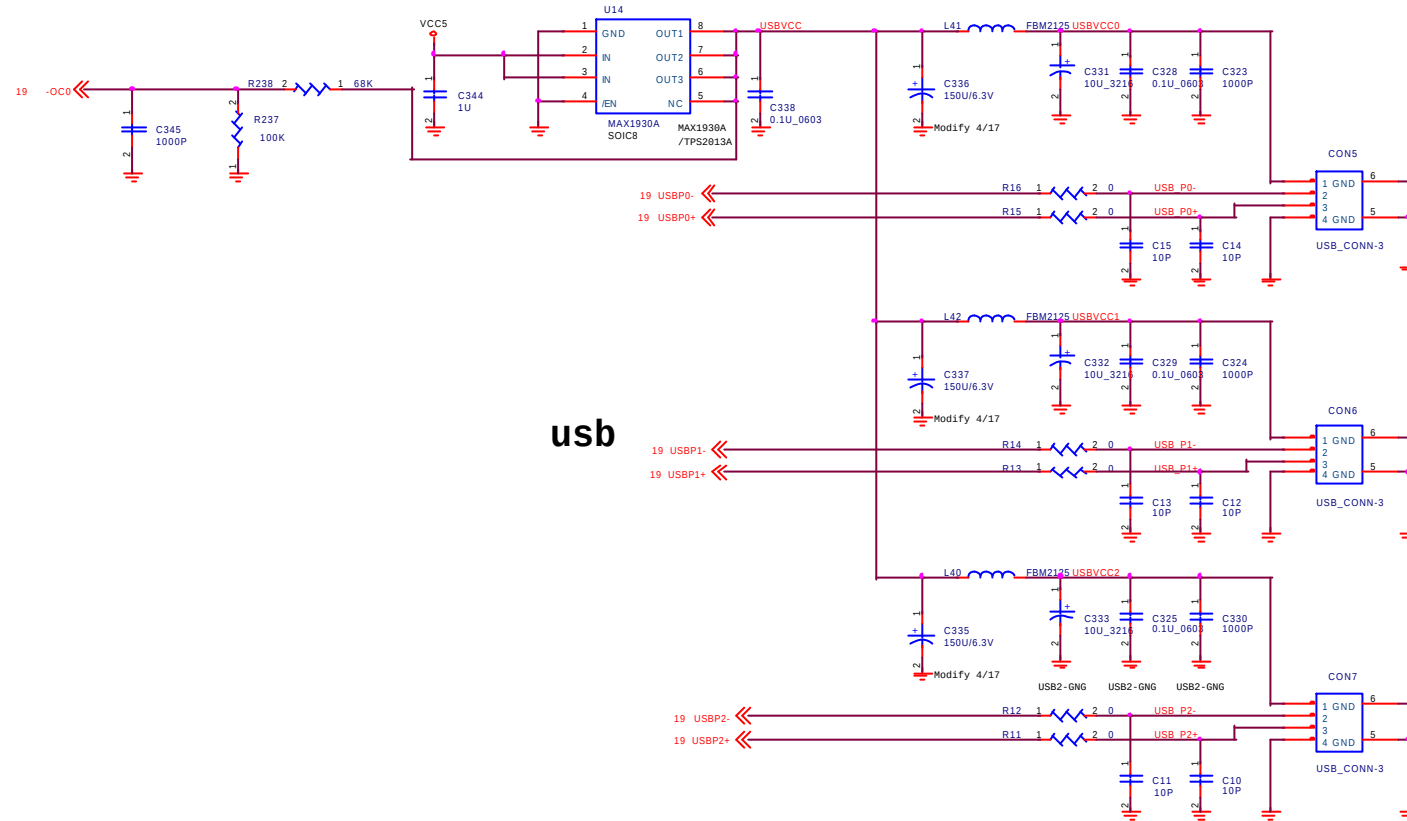


IDE HDD,ODD Connector

Document Number VM5 Main Board

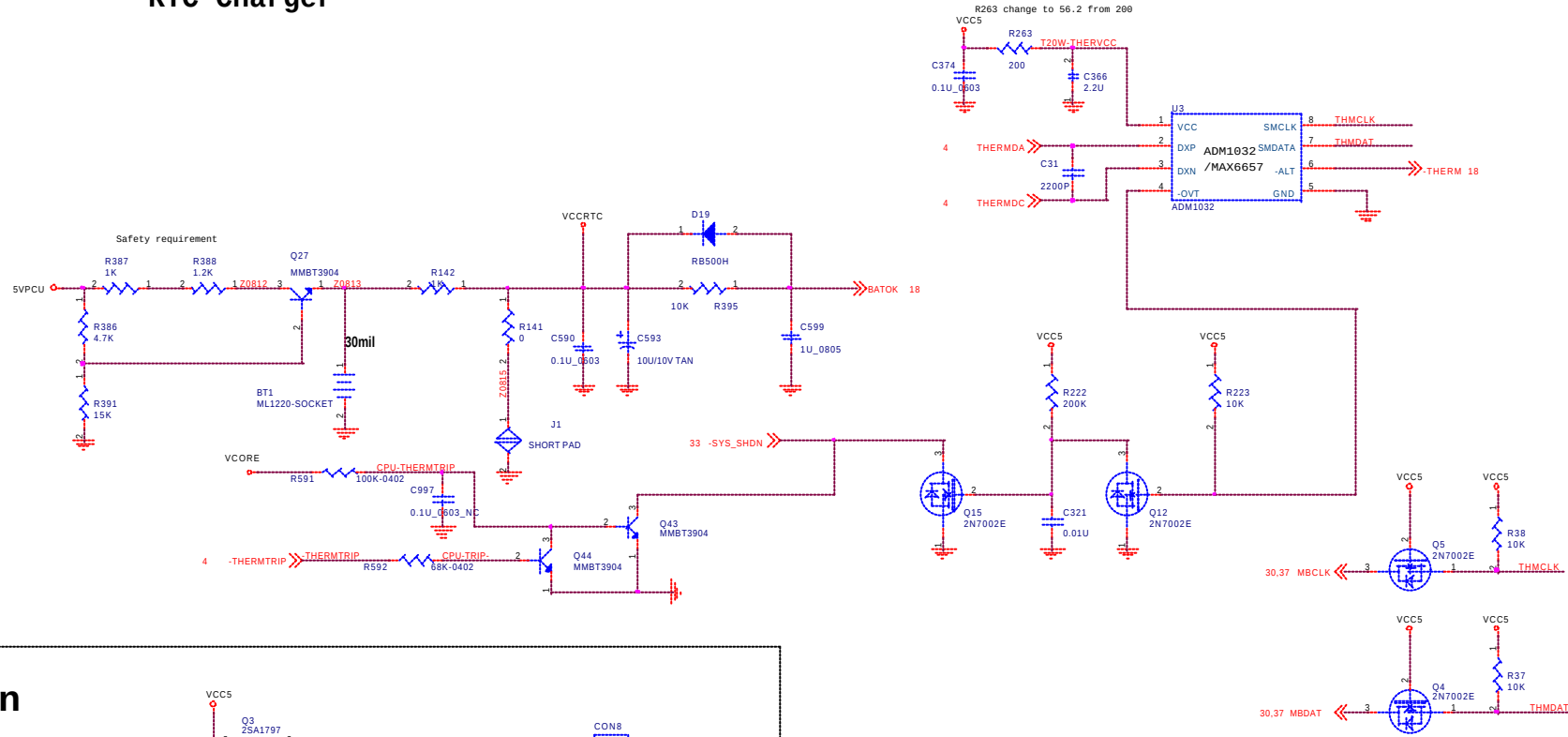
Date: Thursday, April 22, 2004 Sheet 27 of 40

Rev 1A

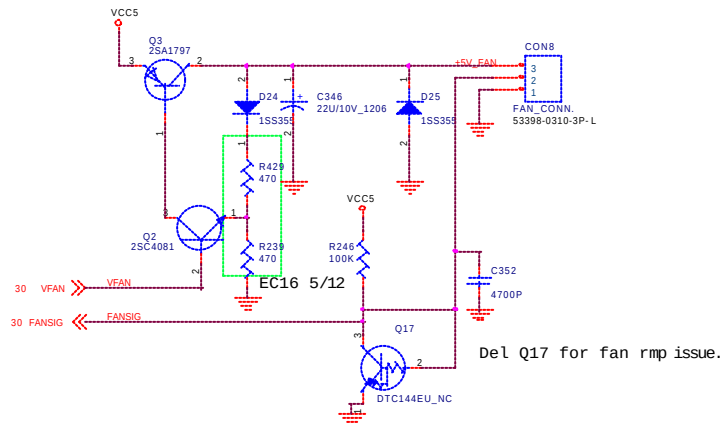


Title			USB_FDD Connector	
Size	Custom	Document Number	VM5 Main Board	
Date	Thursday, April 22, 2004	Sheet	28	of 40
Rev	1A			

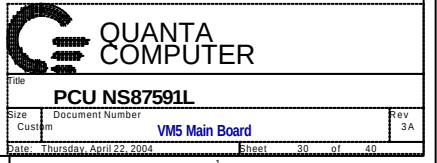
RTC Charger



Fan

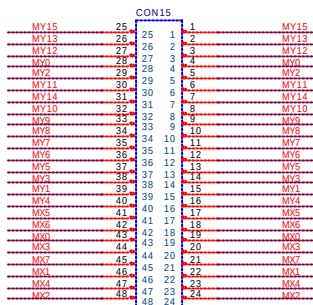


Title		RTC & Thermal IC, FAN	
Size	Custom	Document Number	Rev 2A
Date		Thursday, April 23, 2004	
Sheet		29 of 40	

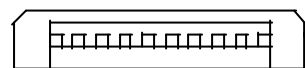


Int. keyboard

$\text{MX}[0..7] \gg \text{MX}[0..7] \quad 30$
 $\text{MY}[0..15] \gg \text{MY}[0..15] \quad 30$

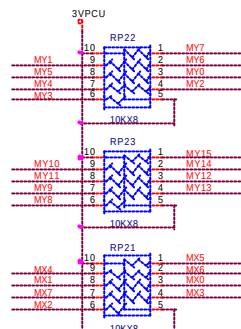
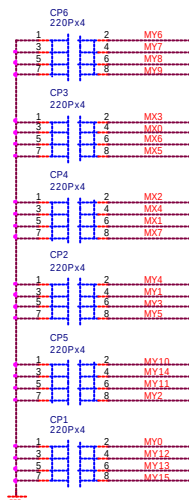


52610-24
52610-24-48P-RUH

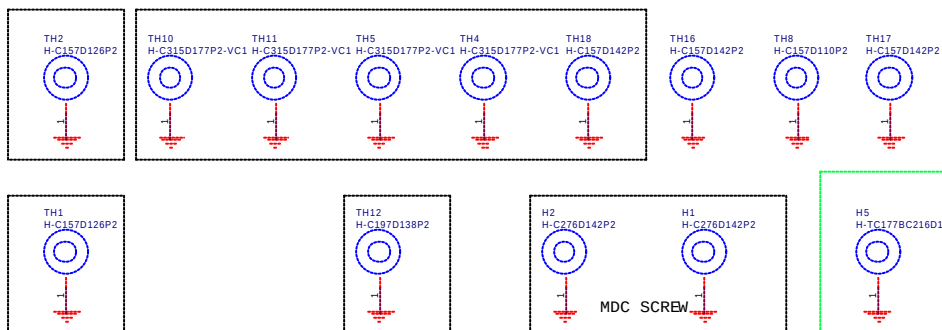


1

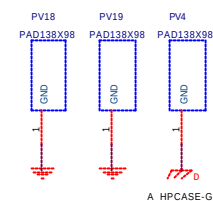
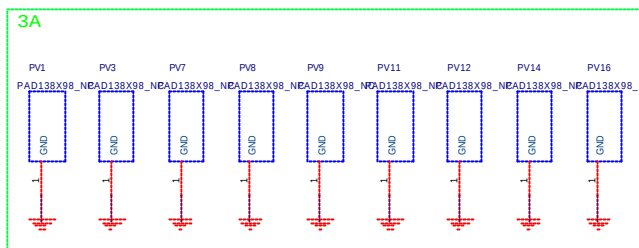
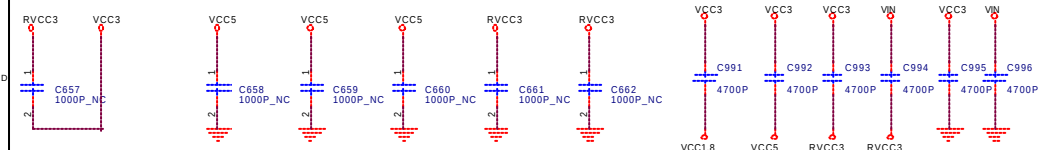
24



Screw

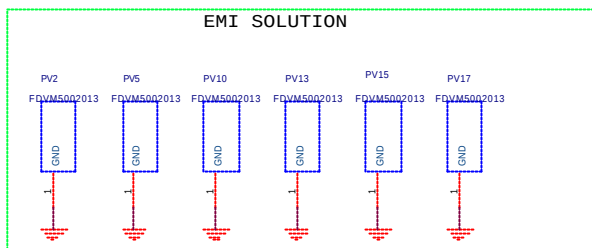


ECN 2/4

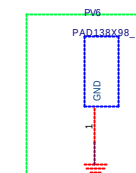


A HPCASE-GND

EMI SOLUTION

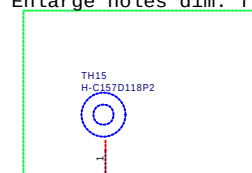


Change P/N

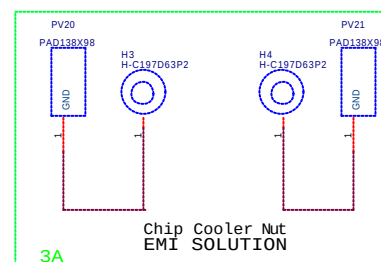
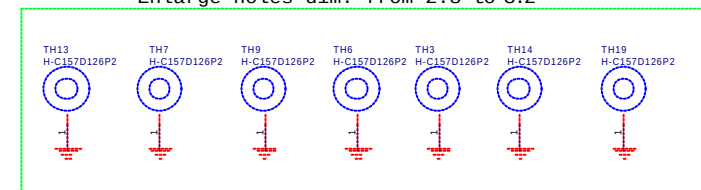


3B

Enlarge holes dim. from 2.8 to 3.0

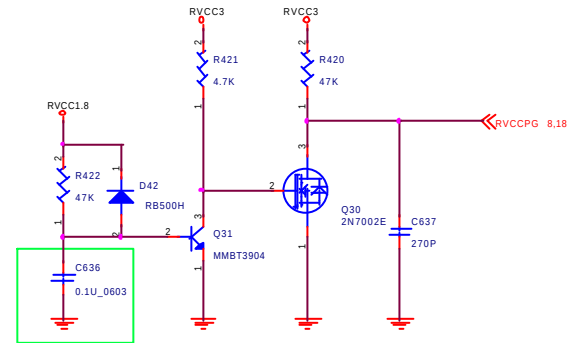
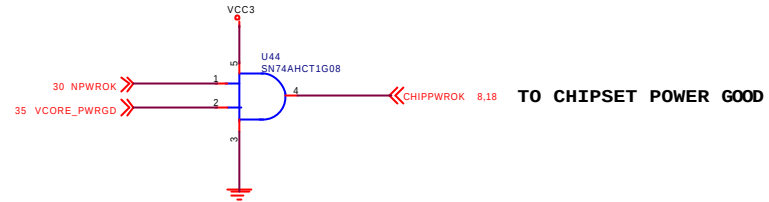
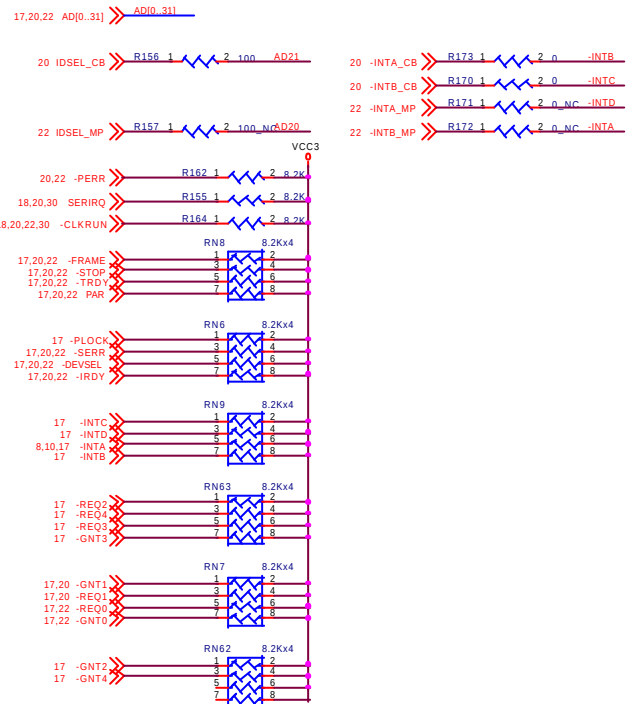


Enlarge holes dim. from 2.8 to 3.2



3A

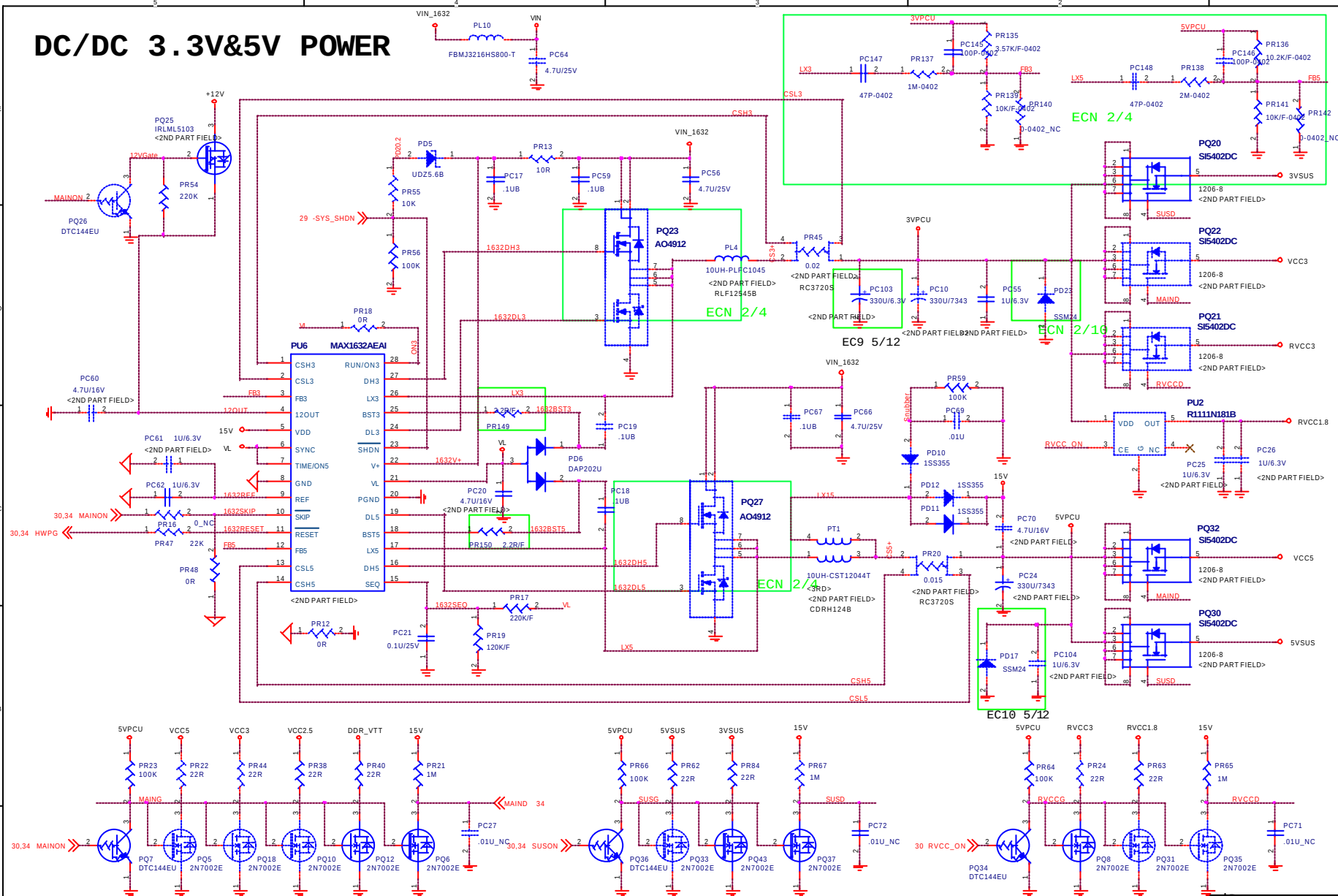




EC8 5/12

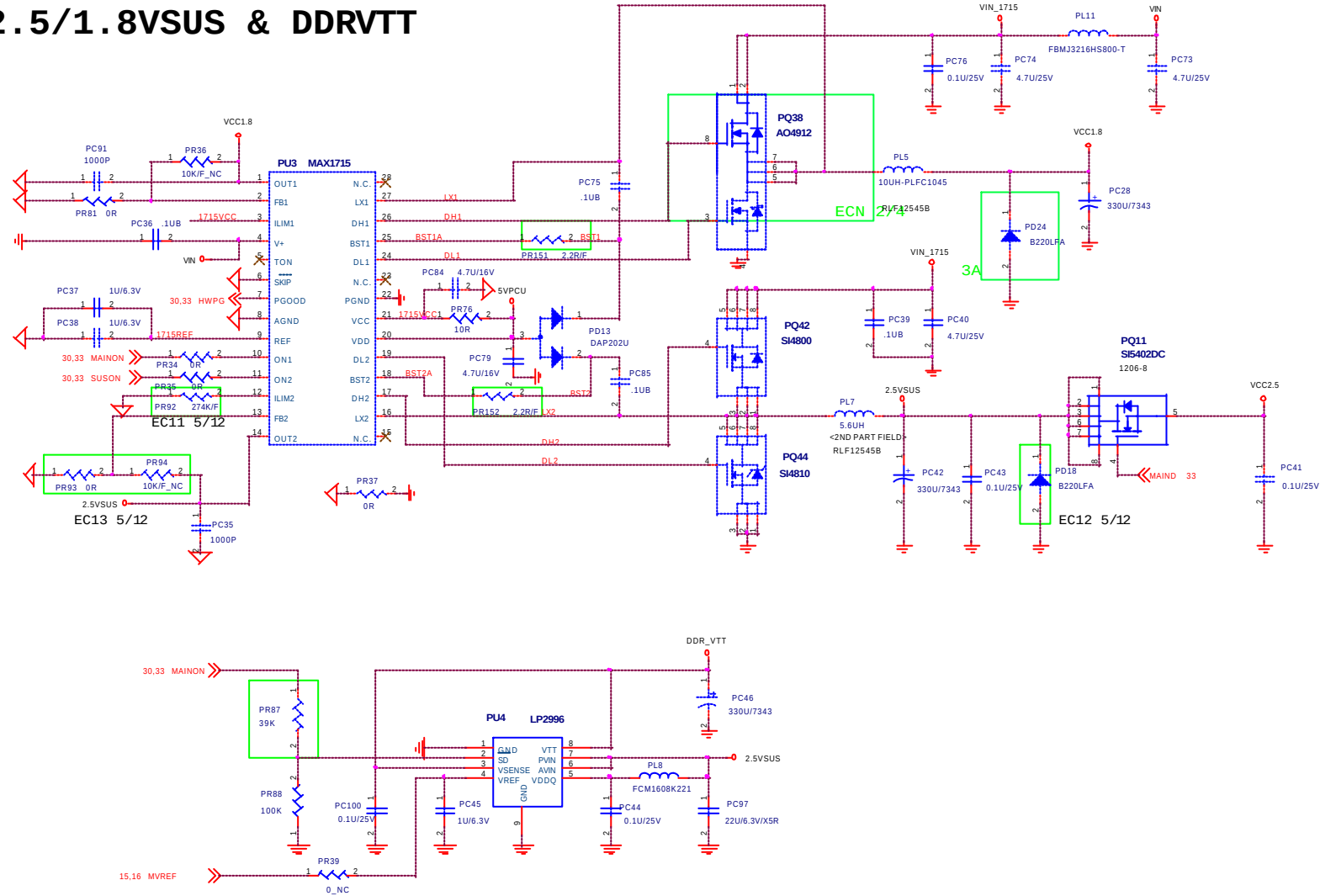
DC/DC 3.3V&5V POWER

33

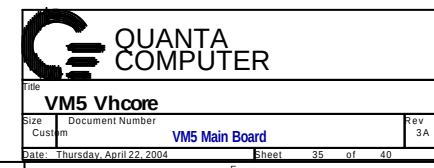


Title		DC/DC 3V&5V
Size	Document Number	VM5 Main Board
Custom		Rev 2A
Date	Thursday, April 22, 2004	Sheet 33 of 40

2.5/1.8VSUS & DDRVTT

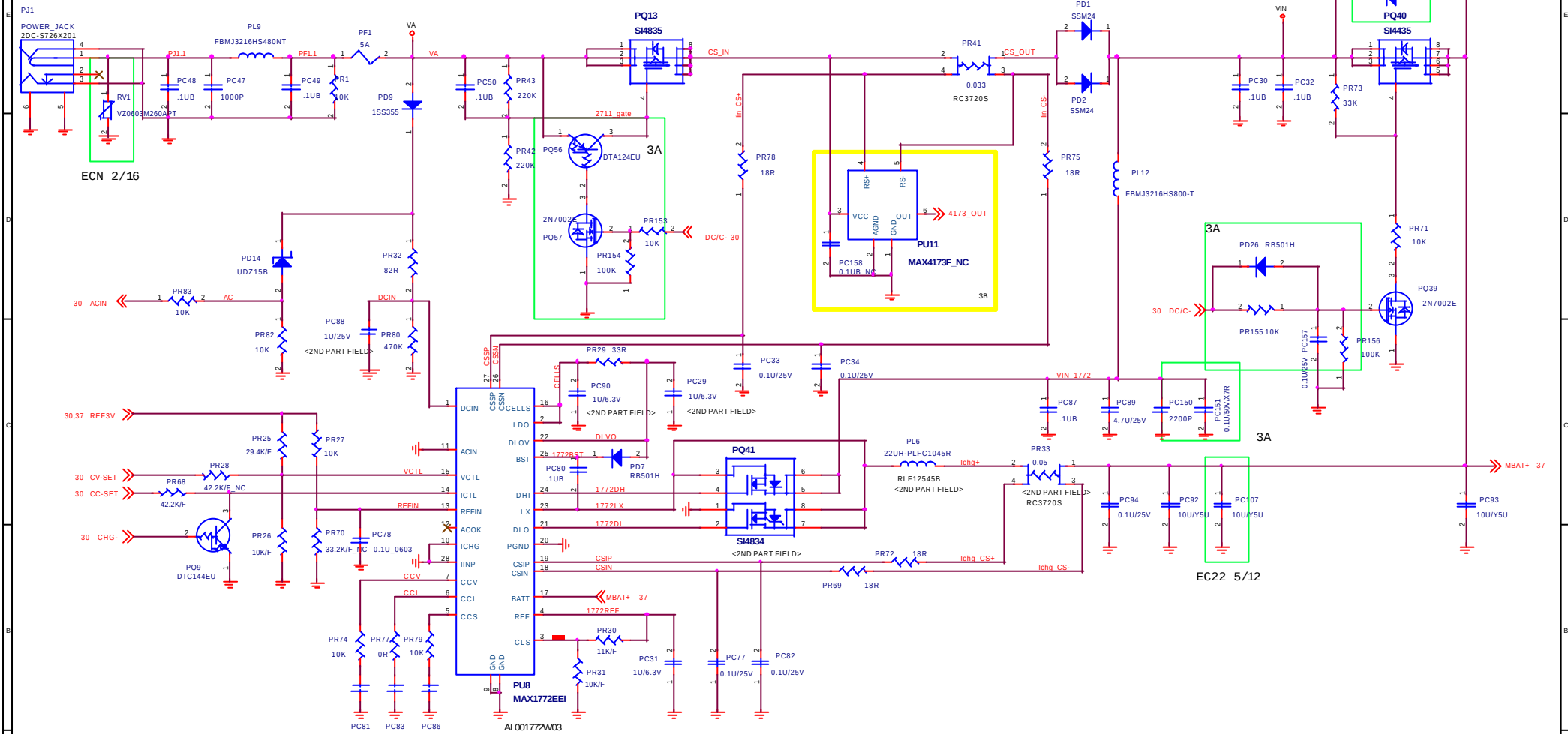


DC/DC 2.5/1.8/1.5VSUS		
Size	Document Number	Rev
Custom	VM5 Main Board	3A
Date	Thursday, April 22, 2004	Sheet 34 of 40



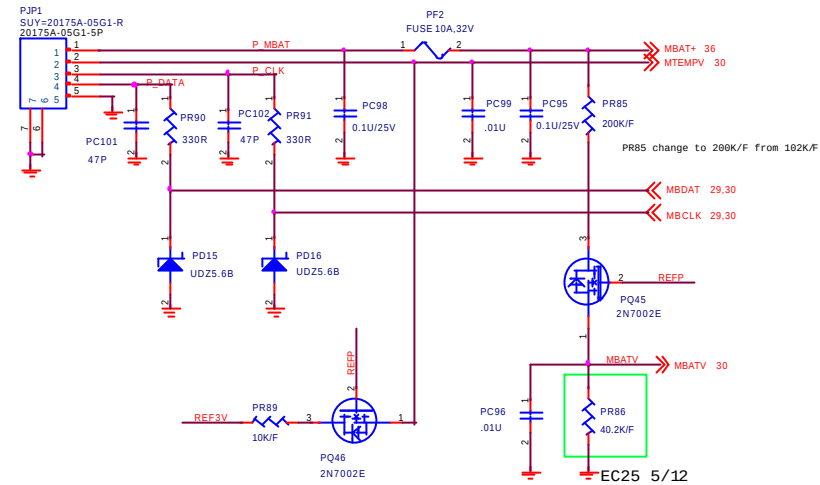
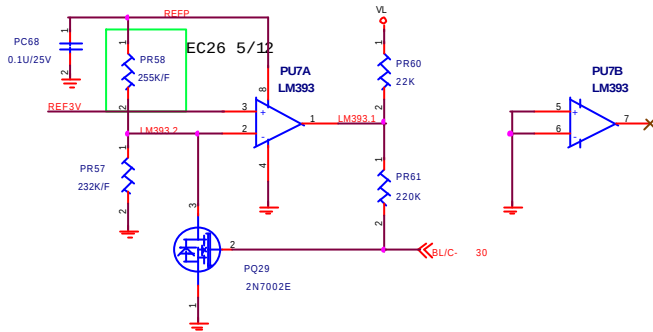
Battery Charger

36

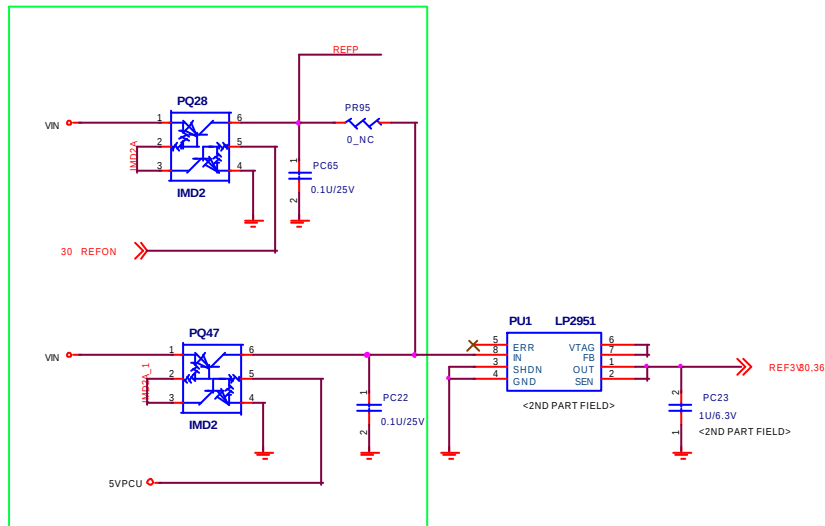


Battery Connector

Voltage low 7.2V detect
for Ni-MH battery



PR85 change to 40.2K/F from 200K/F



EC19 5/12

MODEL	REV	CHANGE LIST	Model	VM5MB	
VM5 MB	1A	First Release	Page	FM	TO
	2A	as below change is from Intel CRB schematic. P3 CPUR5,CPUR7,CPUR8,CPUR35 Change to 51/F P4 CPUR12 change to 220-0402 P4 CPUR1 change to 56/F-0402 P4 CPUR23 change to 300-0402 P4 CPUR38 change to 56/F-0402 P3 CPURN1 change to 200X4 P4 add R595 10K-0402 P.7 Rename net name 2.5SUS to 2.5VSUS P.10 correction VBGCLK to VAGCLK P.10 U21 change value to 302/ELV/302LV P.29 R591 change pull high to VCORE for Thermtrip timing Update Some net name. P.24 add 4 0R resist R596,R597,R598,R599 for Lan Net P.35 RP24 change Value from 1KX4 to 1KX4_0402 P.3 CPURN1 change Value from 200*4 to 51*4 P.20 L63,L65 Change Value from 0 to 0_0805 P.10 R41 change Value from 22 to 22_1206 P.10,P.26 R56,R67,R101 change Value from 0 to 0_0805 P.29 Del Q17 for FAN Issue. System Changed P.30 Remove Email,Internet button function NC parts SW1,SW2,R27,R28,Q24,Q25 P.22,P24 Remove wireless LED function NC parts D33(P.22) R428,Q18,SW4,C397,D16,R65 P.30 Add Mode ID add parts R424,R425,R426,JP2 P.30 Change 51 debug connector JDEBUG1 net name. P.31 Add H3,H4 for NB cooler ,Add H5 for MDC EMI request hole. P.3 Change CPU socket layout library to TM8 used. Power Change: P.35 PQ51,PQ53 change parts to SUD70N03-06P P.33 PQ23,PQ27 change parts to A04912 P.34 PQ38 change parts to A04912 P.33 Power add schematic add parts PC145,PC146,PC147,PC148,PR135,PR136,PR137,PR138,PR139,PR140,PR141,PR142 Remove mini-PCI function to unpopulated P.22 C108,C111,C112,C114,C116,C118,C444,C478,C493,C572,C86,C91,CON12,D31,L15,L16 and P.32 R172,R171,P.13 R534,C941,P.32 R157 P.33 Power placement changed footprint from 0603 to 0402 PC145,PC146,PC147,PC148,PR135,PR136,PR137,PR138,PR139,PR140,PR141,PR142 P.20 Remove 1394 function change U30 chip from PCI4510 to PCI1510GVF, and remove 10 compnents C210,C211,C630,C631,R169,R177,R179,R181,R183,Y8	1	1A	
			2	1A	
			3	2A	
			4	2A	
			5	1A	
			6	1A	
			7	2A	
			8	1A	
			9	1A	
			10	2A	
			11	1A	3A
			12	1A	
			13	1A	3A
			14	1A	
			15	1A	
			16	1A	
			17	1A	
			18	2A	3A
			19	1A	
			20	2A	3A
			21	1A	3A
			22	2A	
			23	2A	3A
			24	2A	
			25	2A	
			26	1A	
 QUANTA COMPUTER		PROJECT: VM5	PART NUMBER: 41VM5MB0004	REV: 3A	DOC NO. 204
		APPROVED BY: VIC Lin	CHECKED BY: Lit Wu	DRAWN BY: Wagner Hong	DATE: 4/6 2004
					SHEET 1 OF 3

MODEL	REV	CHANGE LIST			
VM5 MB		P.10 FOR EMI SOLUTION U21.118 pin add L96 and C1002 DVDD net add C999 VDDV net add L95 and C1000 LVDD1 net R49 change to BK1608LL241,add C1003 C998 LVDD2 net add C1001 P.33 for 3vpcu turn off inrush current solution add diode PD23 P.18 P.30 For Software Boot-Block function use SouthBridge GPI09 control and add 1 jumper for it, JP2 from 6PIN change to 8PINS,and R600 100K pull-high P.35 PQ49 change Library pin define P.18,P.22,P.25 For prevent Bit-clock failed, put some solution into schematic,Add R601,R602 and NC parts R603,C1004,R605,R604,C1005,C1006 P.36 Add a EMI solution Varistor RV1 on DC-IN jack P.23 Add EMI solution On net PWFBIN add a 10P cap C1011 On TXCLK and RXCLK net add a pi type filter as below components C1007,C1008,C1009,C1010,L97,L98 P.18 Fixed AC97 signal failed add R606,R607,R608,R609 P.30 RVS for NS97591V add L99 P.35 power add rvs item PR143,PR144	Page	Model	VM5MB
			27	FM	TO
			27	1A	
			28	1A	
			29	2A	
			30	2A	3A
			31	2A	3A
			32	2A	
			33	2A	
			34	2A	3A
			35	2A	3A
			36	2A	3A
	37	1A			
	3A	0317 P.18 Change R578 to 10K and Pull Down. P.20 Change page title. P.23 L97,L98 change footprint to 0603 P.35 Change PR111 to 2.49K/F. P.35 Change RP24 Value from 1KX4_0402 to 2.2KX4_0402 0318 Power changed P.35 PR100 from 1K change to 2.2K. P.35 PR105,PR119 change footprint and P/N to RC2512-DM1,CS+0018J104 for Rsens non-accurate. P.34 ADD A DIODE PD24 VCC1.8 NET. P.11 ADD INVERT POWER source start circuit ADD PARTS PC149,PQ54,PQ55,PR145,PR146,RP25. System. P.13 change C985 net to FB_IN close to U43 pin20. P.18 Remove net BitCLK and C591 of single net P.18 Add 6 resists R610,R611,R612,R613,R614,R615 use SB GPI06,9,10 for VM5 board id circuit. For proto3 VM5 board mount R611,R613,R615 10K others NC. P.30 Remove B_Block function de-populated R600. 0319 P.31 Change H3,H4 library. 0323 P.13 Change C985 net from FB_IN to FB_OUT. 0324 Hole TH13,TH14,TH15,TH19,TH3,TH6,TH7,TH9 Change layout library and hole dim. P.36 EMI add PC150 and PC151 cap. 0325 P.21 Change CON19 layout library.			
		PROJECT: VM5	PART NUMBER: 41VM5MB0004	REV: 3A	DOC NO. 204
APPROVED BY: VIC Lin		CHECKED BY: Lit Wu	DRAWN BY: Wagner Hong	DATE: 4/6 2004	SHEET 2 OF 3

MODEL		REV	CHANGE LIST				Model		VM5MB	
							Page	FM	TO	
VM5 MB			0326 P.35 Power add 5 cap PC152,PC153,PC154,PC155,PC156 and REMOVE Parts PC115,PC116,PC117,PC118,PC119,PC130,PC131,PC132. for cap noise P.35 PR147,PR148 P.33 add PR149,PR150 p.34 ADD PR151,PR152 (for anti-EMI) p.34 PR87 CHANGE VALUE TO 39K for PU4 can't supply power P.30 Change KBC to 551 so Change U27 value from PC87591L to PC97551,MOUNT L99 ,UNPOPULATED L64,C179,C180. P.11 To fixed CRT issue fine tune. Change L32,L33,L36 Value from BK1608LL241 to BLM18BA470SN1.,NBR18,NBR19,NBR20 change value from BK1608LL680 to 0/r P.13 To fixed USB Clock 48MHz Issue fine tune R545 to 33_0402. P.31 EMI spring PV10,PV13,PV15,PV17,PV2,PV5 need change P/N FDVM5002013 high 3mm. P.36 Power add PQ56,PQ57,PR153,PR154,PC157,PD25(BC00ES3BZ03),PD26,PR155,PR156 remove PQ14 for PQ13 burn issue. 0329 Add to Spring PV20,PV21 around H3,H4 for EMI requirment. P.34 PD24 Change Value to B220LFA. P.36 PD25 Change Value to ES3B. P.31 Modify PV1,PV11,PV12,PV14,PV16,PV3,PV7,PV8,PV9 to NC parts. 0330 P.36 Change PD25 Value (ES3DB)and library(DIODE-SMB) P.18 R578 change to 4.7K							
 QUANTA COMPUTER		PROJECT: VM5	PART NUMBER: 41VM5MB0004	REV: 3A	DOC NO. 204					
		APPROVED BY: VIC Lin	CHECKED BY: Lit Wu	DRAWN BY: Wagner Hong	DATE: 4/6 2004	SHEET 3 OF 3				