MS-6564

VERSION:10B

07/22/2002 Update

SIS 645/650 CHIPSET

Willamette/Northwood 478pin mPGA-B Processor Schematics

CPU:

Willamette/Northwood mPGA-478B Processor

System Chipset:

SIS 645/650 (North Bridge)
+961A (South Bridge)

On Board Chipset:

LPC Super I/O -- W83697HF

Clock Generation -- ICS952001AF

PCI SOUND -- C-MEDIA CMI8738MX

PCI 1394 --VIA VT6306

Expansion Slots:

AGP2.0 SLOT * 1

PCI2.2 SLOT* 4

Micro-Star	Title: MS-6564	Rev: 10A
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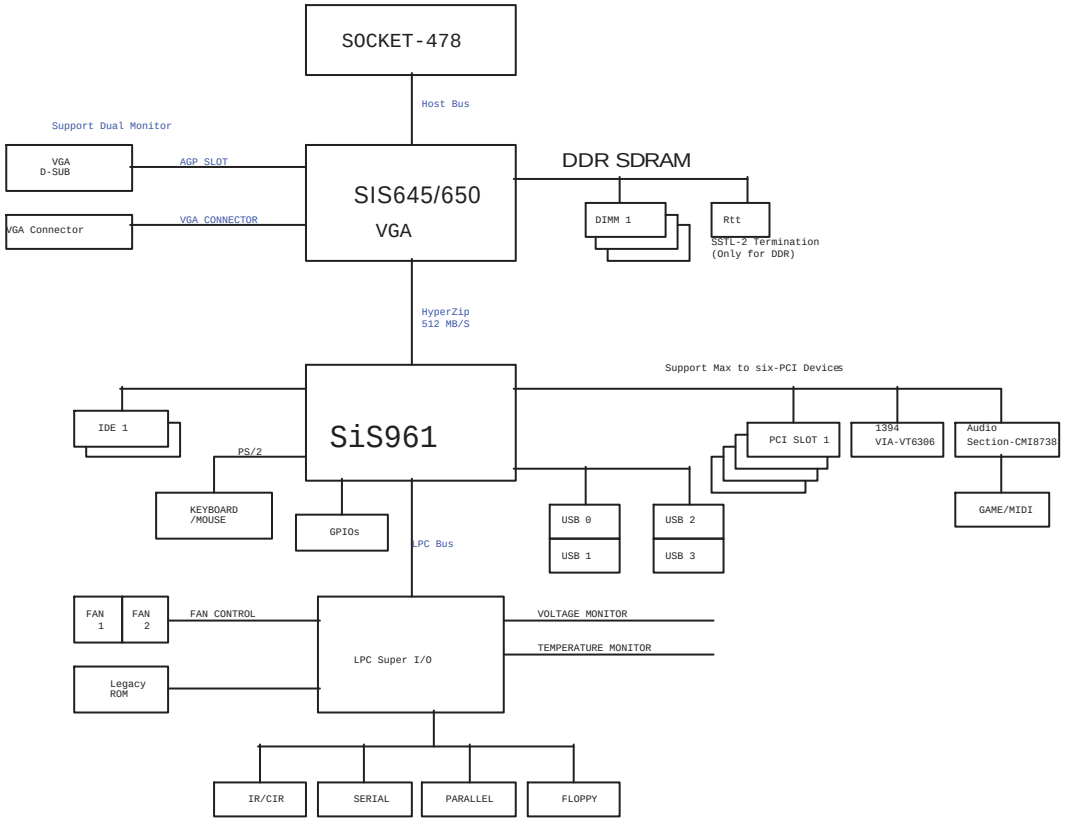
System Block Diagram



GPIO Table on SIS961

GPIO_0	I/O	MAIN	Pull-Up
GPIO_1	I/O	MAIN	Pull-Down
GPIO_2	I/O	MAIN	THERM#
GPIO_3	I/O	MAIN	EXTSMI#
GPIO_4	I/O	MAIN	Pull-Up
GPIO_5	I/O	MAIN	PREQ#5(Pull-Up)
GPIO_6	I/O	MAIN	PGNT#5(Pull-Up)
GPI_7	I/O	RESUME	Pull-Up
GPI_8	I	RESUME	RING
GPI_9	I	RESUME	RESERVED
GPI_10	I	RESUME	RESERVED
GPIO_11	I/O	RESUME	RESERVED
GPIO_12	I/O	RESUME	Pull-Up
GPIO_13	I/O	RESUME	Flash Rom protection H: Disable, L: Enable
GPIO_14	I/O	RESUME	LAN_WAKE#
GPIO_15	I/O	RESUME	KBDAT
GPIO_16	I/O	RESUME	KBCLK
GPIO_17	I/O	RESUME	MSDAT
GPIO_18	I/O	RESUME	MSCLK
GPIO_19	I/O	RESUME	SMBCLK
GPIO_20	I/O	RESUME	SMBDAT

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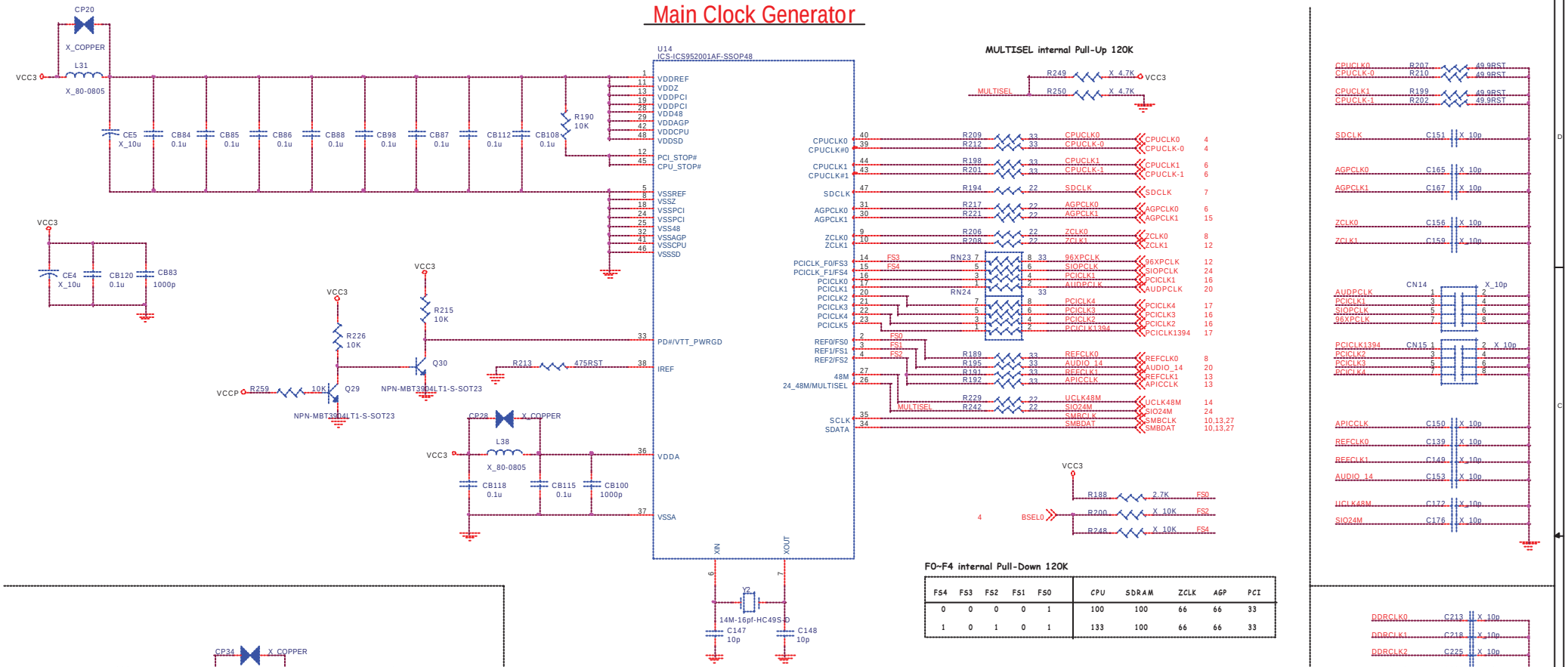
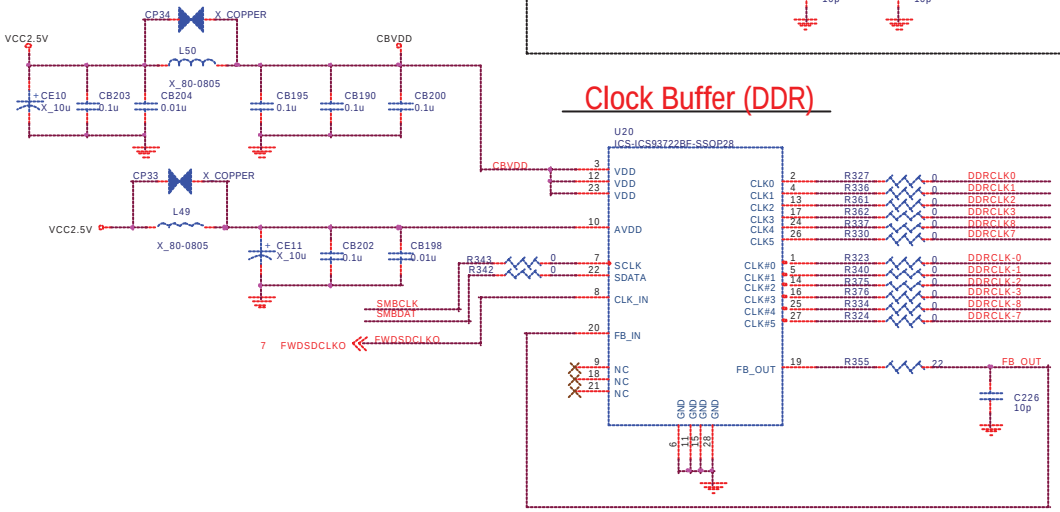
Main Clock Generator



FS4	FS3	FS2	FS1	FS0	CPU	SDRAM	ZCLK	AGP	PCI
0	0	0	0	1	100	100	66	66	33
1	0	1	0	1	133	100	66	66	33

Clock Buffer (DDR)



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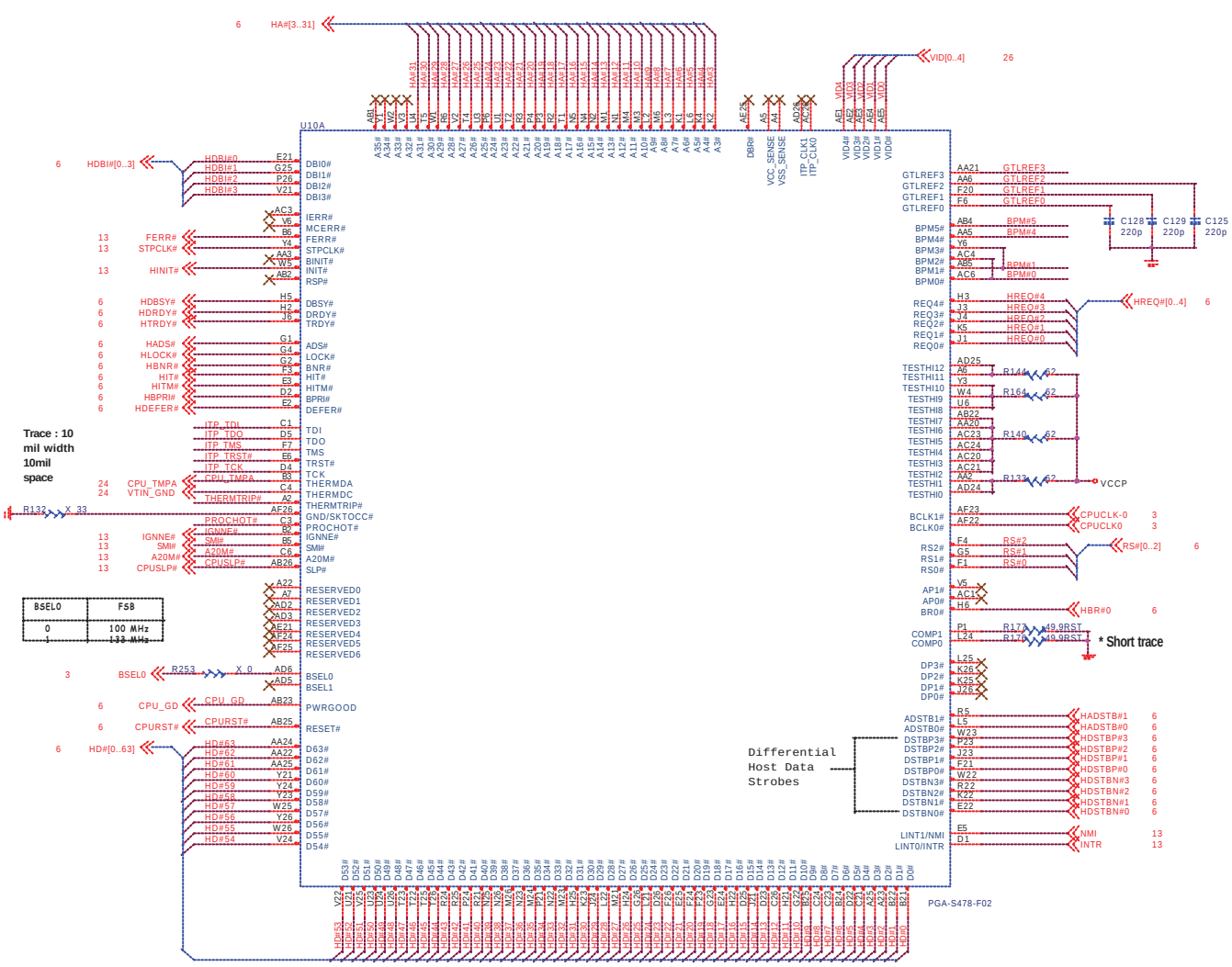
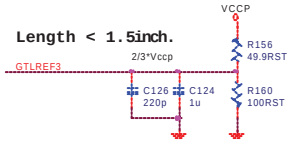
CPU SIGNAL BLOCK



CPU GTL REFERNCE VOLTAGE BLOCK

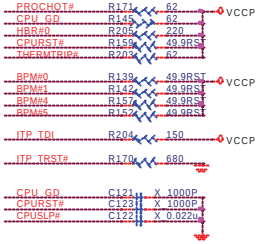


Every pin put one 220pF cap near it.
Trace Width 15mils, Space 15mils.
Keep the voltage dividers within 1.5 inches of the first GTLREF Pin

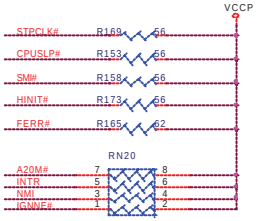
CPU ITP BLOCK

CPU STRAPPING RESISTORS

CLOSED TO SOCKET478



CLOSED TO SOCKET478



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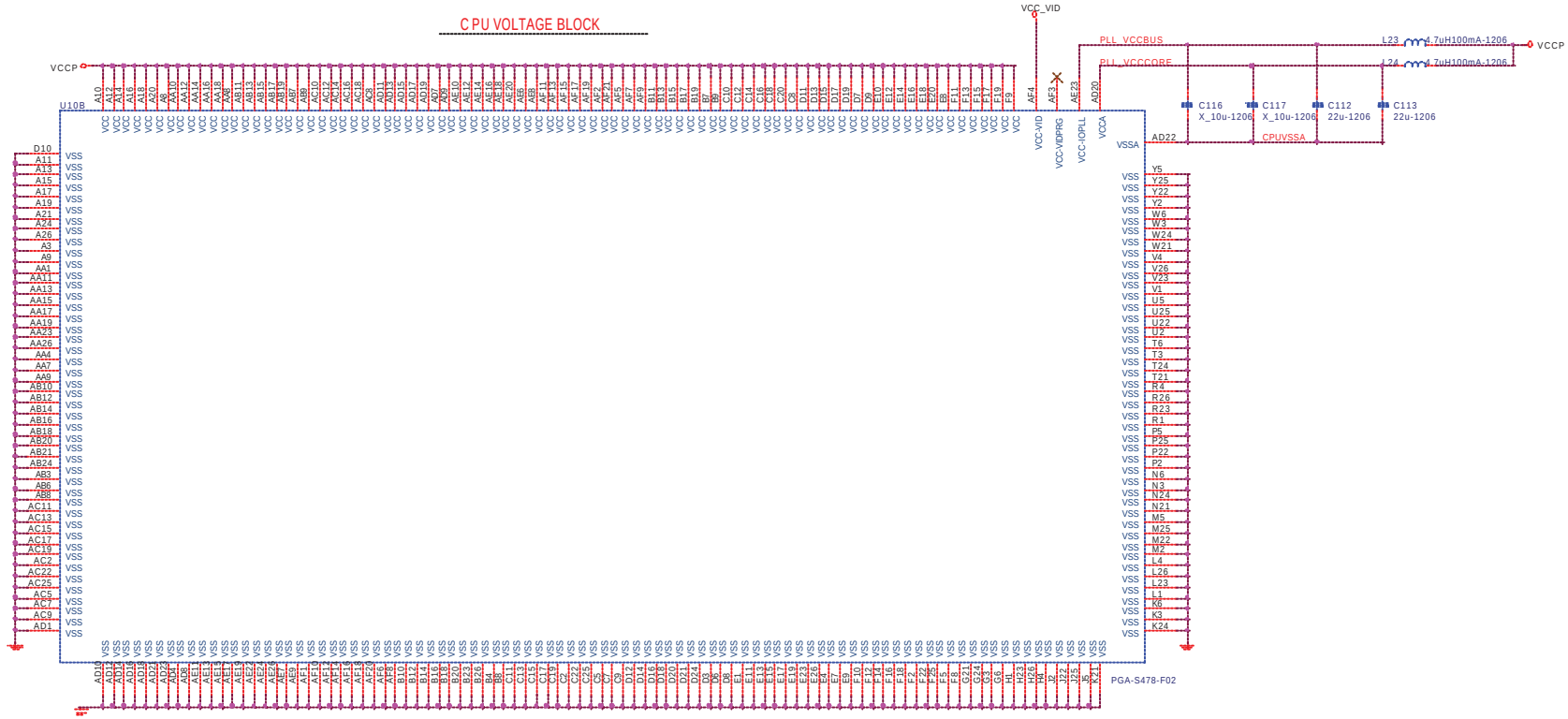
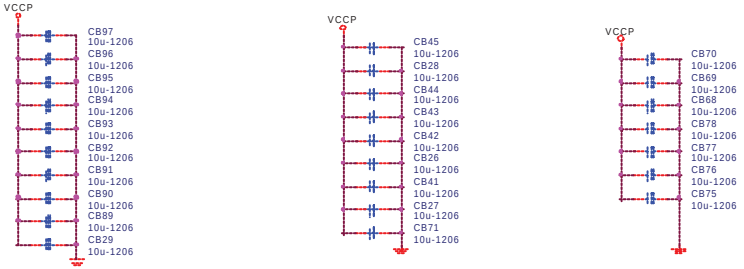
CPU VOLTAGE BLOCK



CPU DECOUPLING CAPACITORS



PLACE CAPS WITHIN CPU CAVITY

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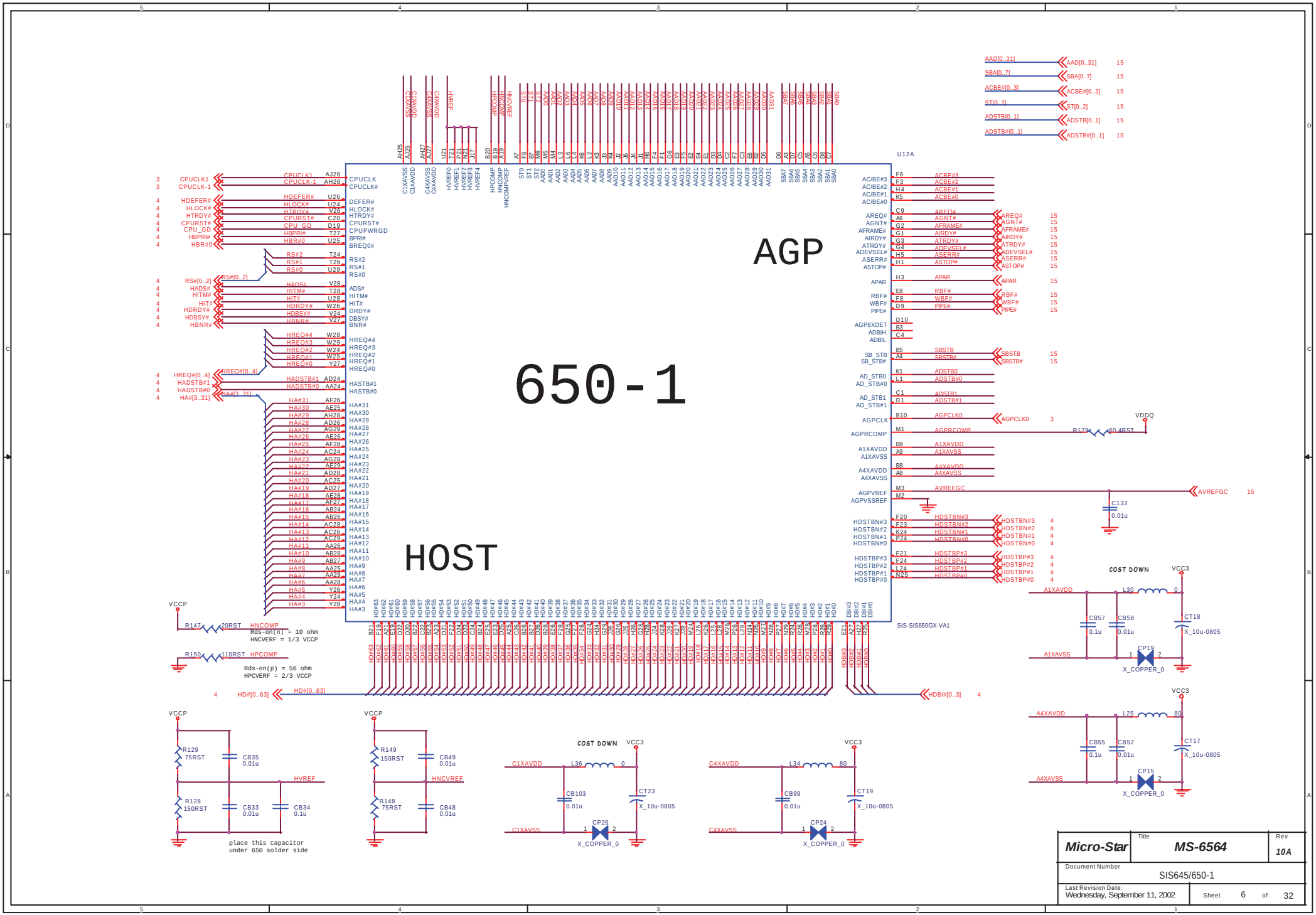

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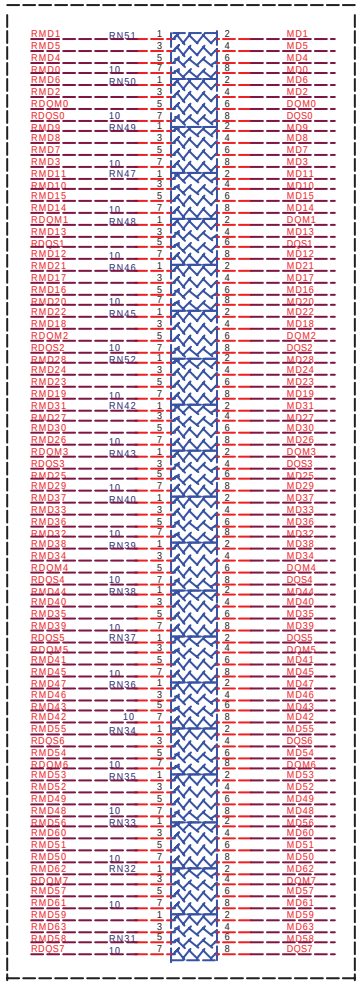
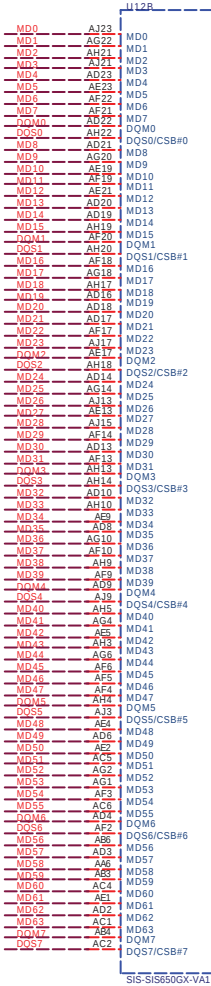
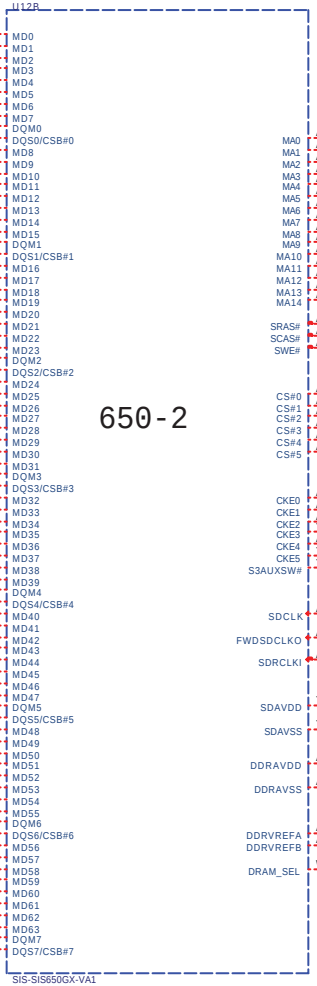
Rs place close to DIMM1



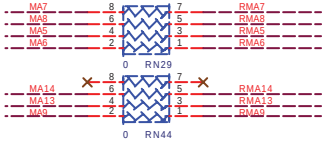


U12B

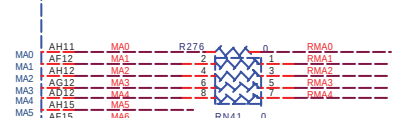


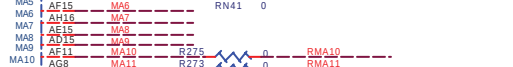
650-2

SIS-SIS650GX-VA1

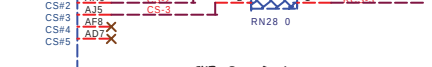


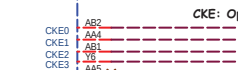
Rs place close to DIMM1

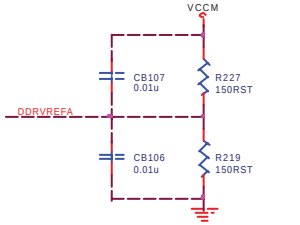


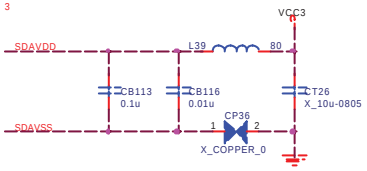


CKE: Open Drain









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NOTE: This page is for universal PCB design(suitable for both 645 or 650)

NB Hardware Trap Table

	0	1	Default
DLLEN#	enable PLL	disable PLL	0
DRAM_SEL	SDR	DDR	1(DDR)
TRAP0	normal	NB debug mode	0
TRAP1	TV selection, NTSC/PAL(0/1)		0
CSYNC	enable VB		0
RSYNC	enable VGA interface		1
LSYNC	enable panel link		0

embedded pull-low (30~50K Ohm)
yes
yes
yes

for 650 only

VCC3
RSYNC R146 4.7K
TRAP1 R154 4.7K
CSYNC R175 4.7K
LSYNC R174 4.7K

12 ZAD[0..15] ZAD[0..15]
12 ZSTB[0..1] ZSTB[0..1]
12 ZSTB-[0..1] ZSTB-[0..1]

VCC3 COST DOWN
L35 0 Z1XAVDD
C164 X_10u-0805
CP25 X_COPPER_0
C161 0.1u
Z1XAVSS

VCC3 COST DOWN
L33 0 Z4XAVDD
C160 X_10u-0805
CP23 X_COPPER_0
C157 0.1u
Z4XAVSS

VCC1_8 COST DOWN
L32 0 VDDZCMP
C154 X_10u-0805
CP21 X_COPPER_0
C152 0.1u
R196 56 ZCMP_N
R193 56 ZCMP_P
VSSZCMP

ENTEST R155 4.7K
PWRGD C178 0.1u
AUXOK C186 0.1u

VCC1_8
R220 150RST CB111 0.1u ZVREF
R222 150RST CB102 0.1u

U12C
SIS-SIS650GX-VA1

VGA

Stereo Glass

HyperZip

650-3

ZCLK0 V3 ZCLK
ZUREQ U6 ZUREQ
ZDREQ U1 ZDREQ
ZSTB0 T3 ZSTB0
ZSTB-0 T1 ZSTB#0
ZSTB1 P1 ZSTB1
ZSTB-1 P3 ZSTB#1
ZAD0 T4 ZAD0
ZAD1 R3 ZAD1
ZAD2 T5 ZAD2
ZAD3 T6 ZAD3
ZAD4 P2 ZAD4
ZAD5 R6 ZAD5
ZAD6 R1 ZAD6
ZAD7 R4 ZAD7
ZAD8 P4 ZAD8
ZAD9 N3 ZAD9
ZAD10 P5 ZAD10
ZAD11 P6 ZAD11
ZAD12 N1 ZAD12
ZAD13 N6 ZAD13
ZAD14 N2 ZAD14
ZAD15 N4 ZAD15
ZVREF U3 ZVREF
VDDZCMP V5 VDDZCMP
ZCMP_N U4 ZCMP_N
ZCMP_P U2 ZCMP_P
VSSZCMP V6 VSSZCMP
Z1XAVDD W1 Z1XAVDD
Z1XAVSS W2 Z1XAVSS
Z4XAVDD V2 Z4XAVDD
Z4XAVSS V1 Z4XAVSS

VOSCI C15 REFCLK0 REFCLK0 3
ROUT A12 R138 0
GOUT B13 R134 0
BOUT A13 R131 0
HSYNC F13 R161 33 HSYNC HSYNC 28
VSYNC E13 R162 33 VSYNC VSYNC 28
VGPIO0 D13 R166 100 DDC1CLK DDC1CLK 28
VGPIO1 D12 R135 100 DDC1DATA DDC1DATA 28
INT#A B11 INT# INTA# 12,15,16,17
CSYNC E12 CSYNC CSYNC 15
RSYNC A11 RSYNC RSYNC 15
LSYNC F12 LSYNC LSYNC 15
VCOMP E14 VCOMP
VRSET D14 VRSET
VVBWN F14 VVBWN
DACAVDD1 B12 DACAVDD1
DACAVSS1 C12 DACAVSS1
DACAVDD2 C13 DACAVDD1
DACAVSS2 C14 DACAVSS1
DCLKAVDD B15 DCLKAVDD
DCLKAVSS A15 DCLKAVSS
ECLKAVDD B14 ECLKAVDD
ECLKAVSS A14 ECLKAVSS

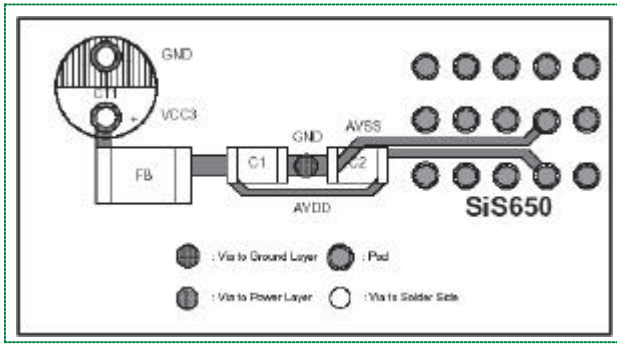
PCIRST# Y3
PWRGD W4
AUXOK W6
TRAP1 D11
TRAP0 E10
TESTMODE2 A10
TESTMODE1 F11
TESTMODE0 C11
DLLEN# E11
ENTEST F10

27 PCIRST4# PCIRST#
13,26,27 PWRGD PWRGD
13 AUXOK AUXOK

UD1 BAV99-S-SOT23
UD2 BAV99-S-SOT23
UD4 BAV99-S-SOT23
VCC1_8

ROUT 28
GOUT 28
BOUT 28

C120 X_0.1u
C119 X_0.1u
C116 X_0.1u
EMI reserve



DCLKAVDD L27 80 VCC3
CB60 0.1u
DCLKAVSS
CP17 X_COPPER_0
CE1 X_10u-0805

ECLKAVDD L26 80 VCC3
CB59 0.1u
ECLKAVSS
CP16 X_COPPER_0
CE2 X_10u-0805

VVBWN CB38 0.1u
VCOMP CB39 X_0.1u
VRSET
VCC1_8
DACAVDD1
L29 3.6
R141 130RST
CB62 0.1u
CE3 X_10u-0805
DACAVSS1
CP18 X_COPPER_0

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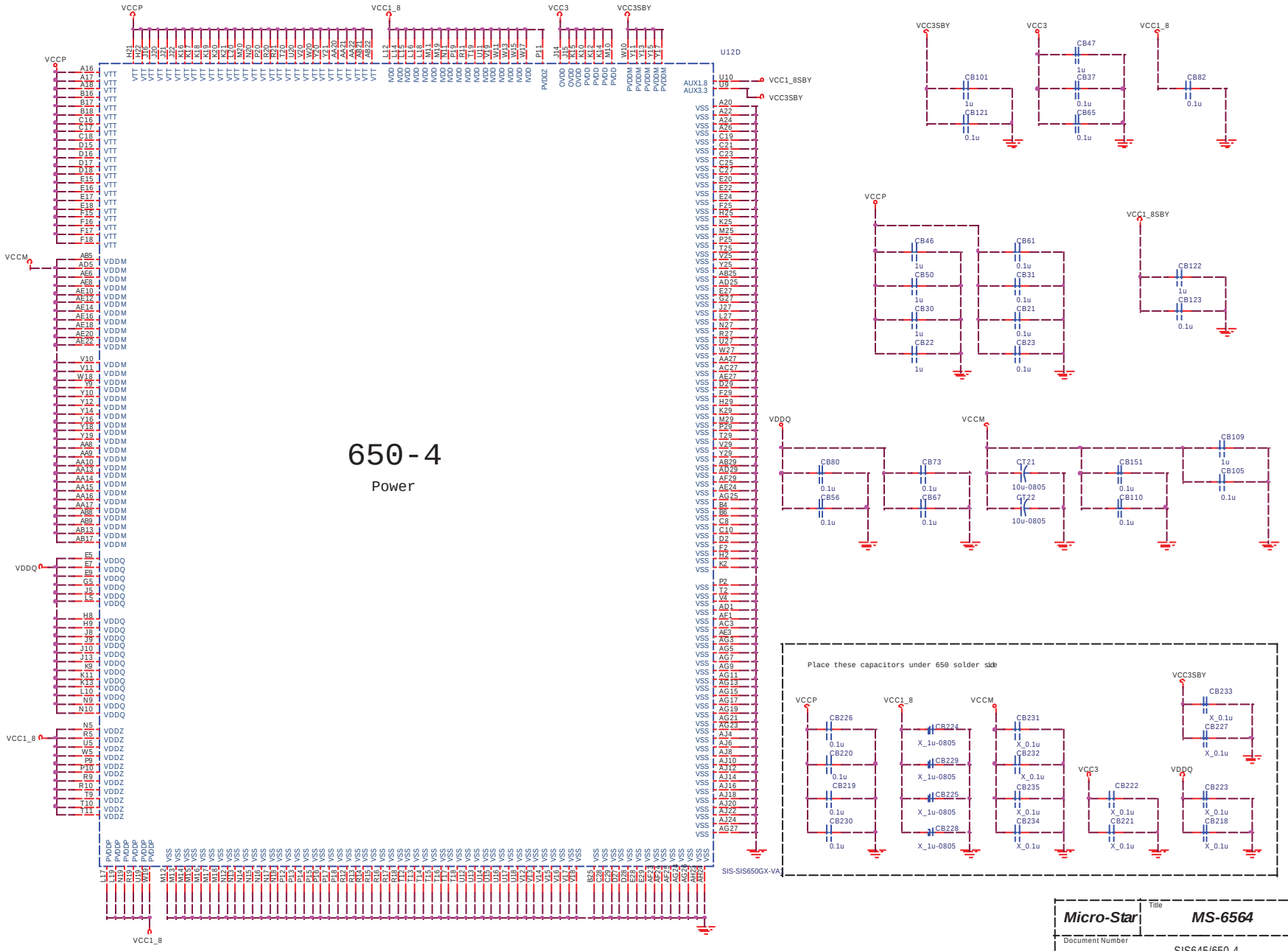

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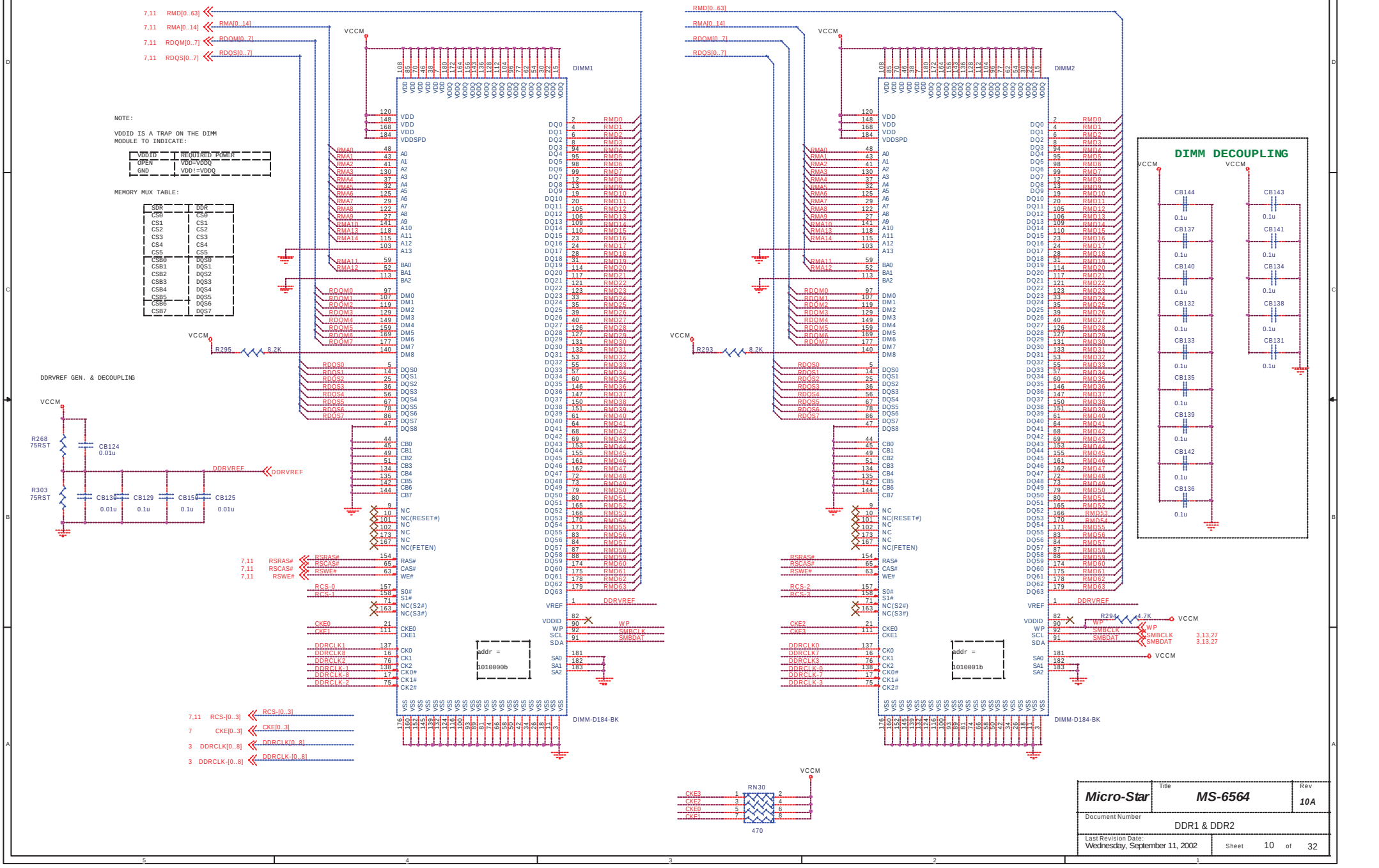
NOTE:
VDDID IS A TRAP ON THE DIMM MODULE TO INDICATE:
VDDID | REQUIRED POWER
OPEN | VDD=VDDQ
GND | VDD!=VDDQ
MEMORY MUX TABLE:
SDR | DDR
CS0 | CS0
CS1 | CS1
CS2 | CS2
CS3 | CS3
CS4 | CS4
CS5 | CS5
CSB0 | DQS0
CSB1 | DQS1
CSB2 | DQS2
CSB3 | DQS3
CSB4 | DQS4
CSB5 | DQS5
CSB6 | DQS6
CSB7 | DQS7
DDRVREF GEN. & DECOUPLING
DIMM1
DIMM2
DIMM-D184-BK
DIMM DECOUPLING
VCCM
DDRVREF
R295 8.2K
R293 8.2K
R268 75RST
R303 75RST
CB124 0.01u
CB130 0.01u
CB129 0.1u
CB150 0.1u
CB125 0.01u
addr = 1010000b
addr = 1010001b
R294 4.7K
RN30 470
CB144 0.1u
CB137 0.1u
CB140 0.1u
CB132 0.1u
CB133 0.1u
CB135 0.1u
CB139 0.1u
CB142 0.1u
CB136 0.1u
CB143 0.1u
CB141 0.1u
CB134 0.1u
CB138 0.1u
CB131 0.1u
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DDR1 & DDR2
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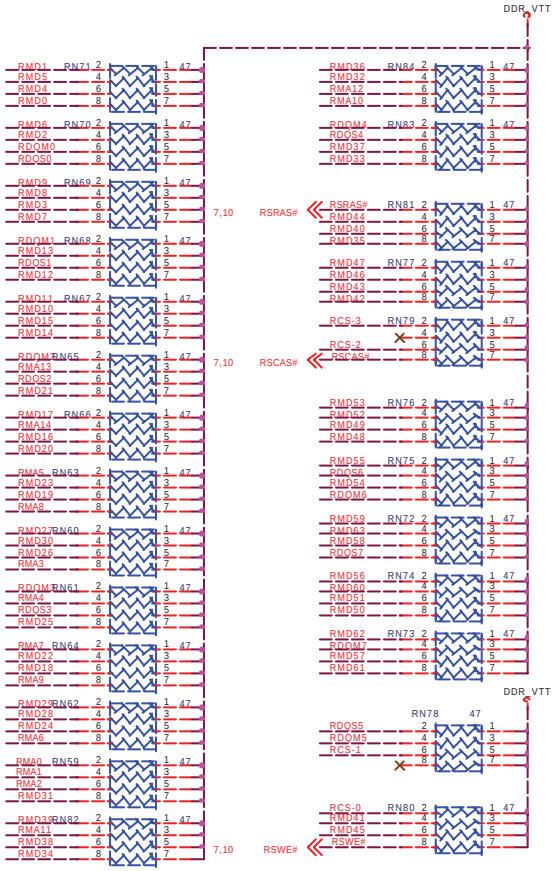
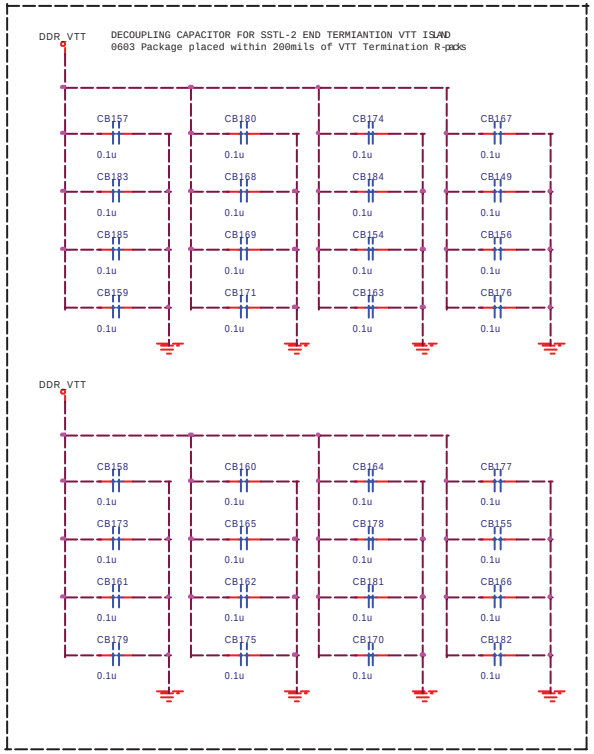
SSTL-2 Termination Resistors

	SDR		DDR		
		RS		RS	Rtt
MD/DQM(/DQS)	LV-CMOS	0/10/-	SSTL-2	10	47
MA/Control	LV-CMOS	10	SSTL-2	0	47
CS	LV-CMOS	0	SSTL-2	0	47
CKE	OD 3.3V		OD 2.5V		

7,10 RMD[0..63] RMD[0..63]
7,10 RMA[0..14] RMA[0..14]
7,10 RDQM[0..7] RDQM[0..7]
7,10 RDQS[0..7] RDQS[0..7]

7,10 RCS-[0..5] RCS-[0..5]
7,10 CKE[0..3] CKE[0..3]
3,10 DDRCLK[0..8] DDRCLK[0..8]
3,10 DDRCLK-[0..8] DDRCLK-[0..8]





Micro-Star	Title: MS-6564	Rev: 10A
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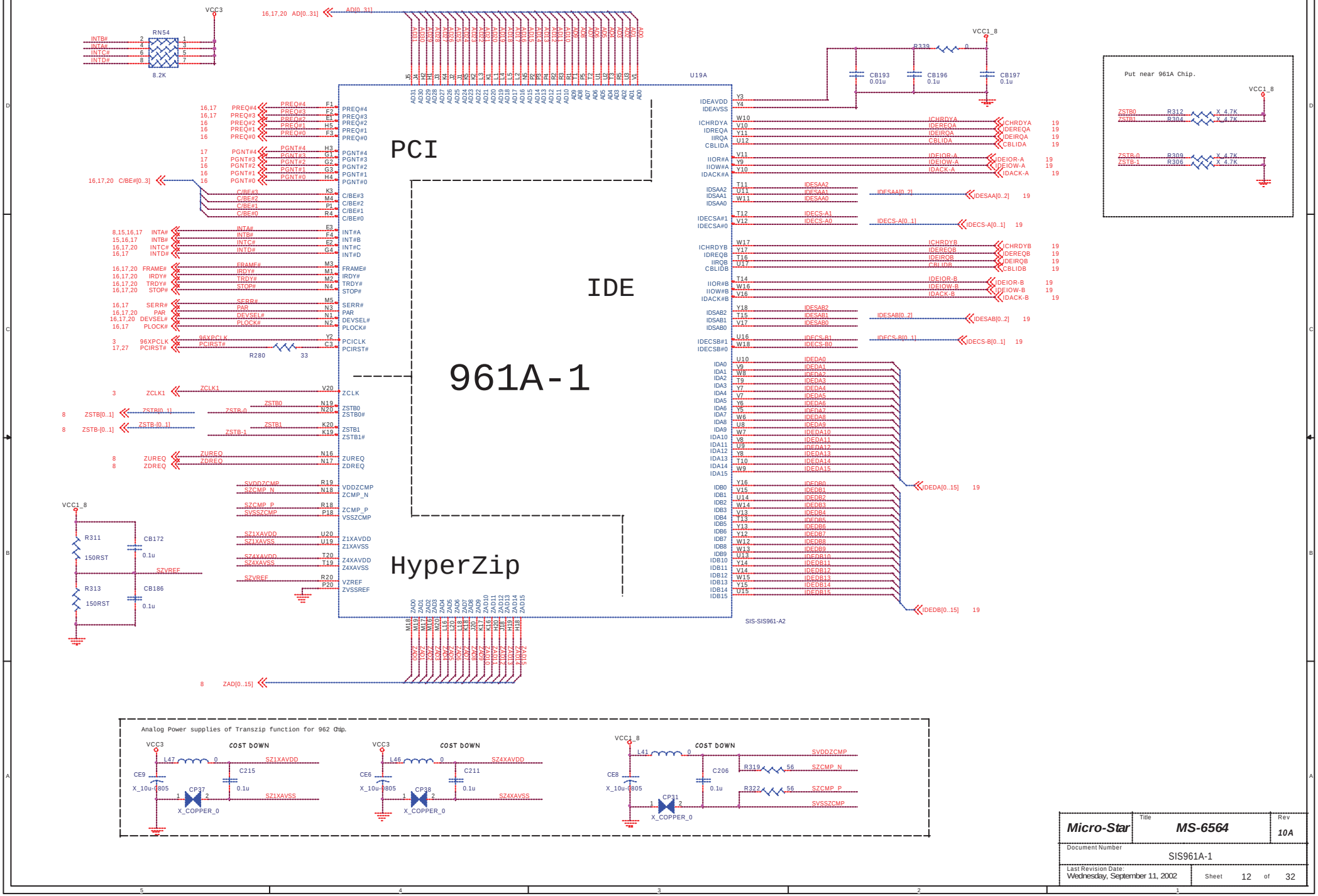
PCI
IDE
961A-1
HyperZip
SIS-SIS961-A2
U19A
RN54
8.2K
INTB#
INTC#
INTD#
VCC3
VCC1_8
16,17,20 AD[0..31]
16,17,20 C/BE#[0..3]
R280 33
R339 0
CB193 0.01u
CB196 0.1u
CB197 0.1u
Put near 961A Chip.
ZSTB0
ZSTB1
ZSTB-0
ZSTB-1
R312 X 4.7K
R304 X 4.7K
R309 X 4.7K
R306 X 4.7K
R311 150RST
R313 150RST
CB172 0.1u
CB186 0.1u
SZVREF
IDSAA[0..2]
IDECS-A[0..1]
IDSAB[0..2]
IDECS-B[0..1]
IDEDA[0..15]
IDEDB[0..15]
ZAD[0..15]
Analog Power supplies of Transzip function for 962 Chip.
COST DOWN
L47 0 SZ1XAVDD
CE9 X_10u-0805
C215 0.1u
CP37 X_COPPER_0
SZ1XAVSS
L46 0 SZ4XAVDD
CE6 X_10u-0805
C211 0.1u
CP38 X_COPPER_0
SZ4XAVSS
L41 0 SVDDZCMP
CE8 X_10u-0805
C206 0.1u
R319 56 SZCMP_N
R322 56 SZCMP_P
CP31 X_COPPER_0
SVSSZCMP
Micro-Star
Title
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10A
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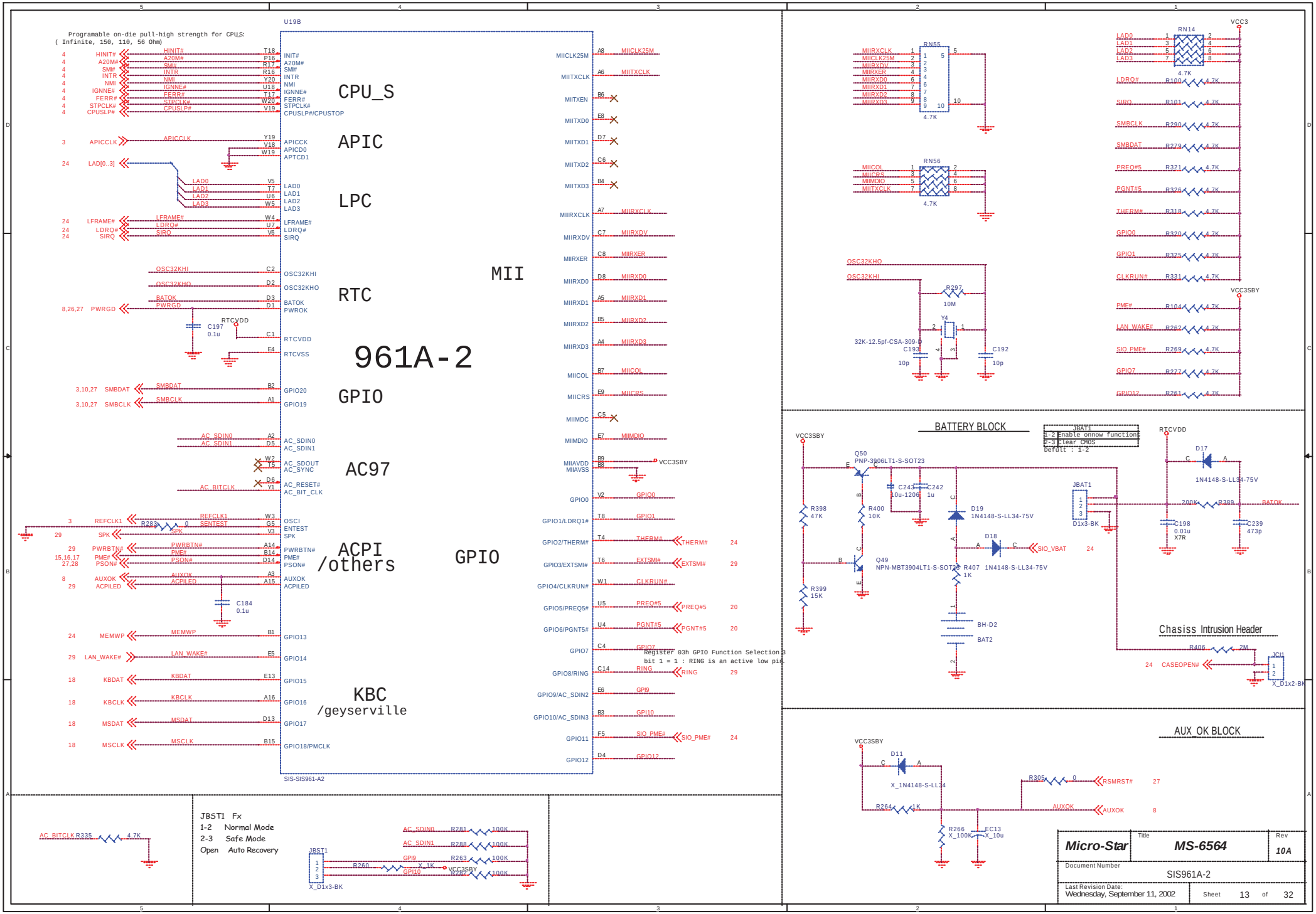
Programable on-die pull-high strength for CPU_S:
(Infinite, 150, 110, 56 Ohm)
U19B
CPU_S
APIC
LPC
RTC
961A-2
GPIO
AC97
ACPI
/others
KBC
/geyserville
MII
GPIO
SIS-SIS961-A2
BATTERY BLOCK
JBAT1
1-2 Enable onnow functions
2-3 Clear CMOS
Default : 1-2
Chasiss Intrusion Header
AUX_OK BLOCK
JBST1 Fx
1-2 Normal Mode
2-3 Safe Mode
Open Auto Recovery
Micro-Star
MS-6564
10A
SIS961A-2
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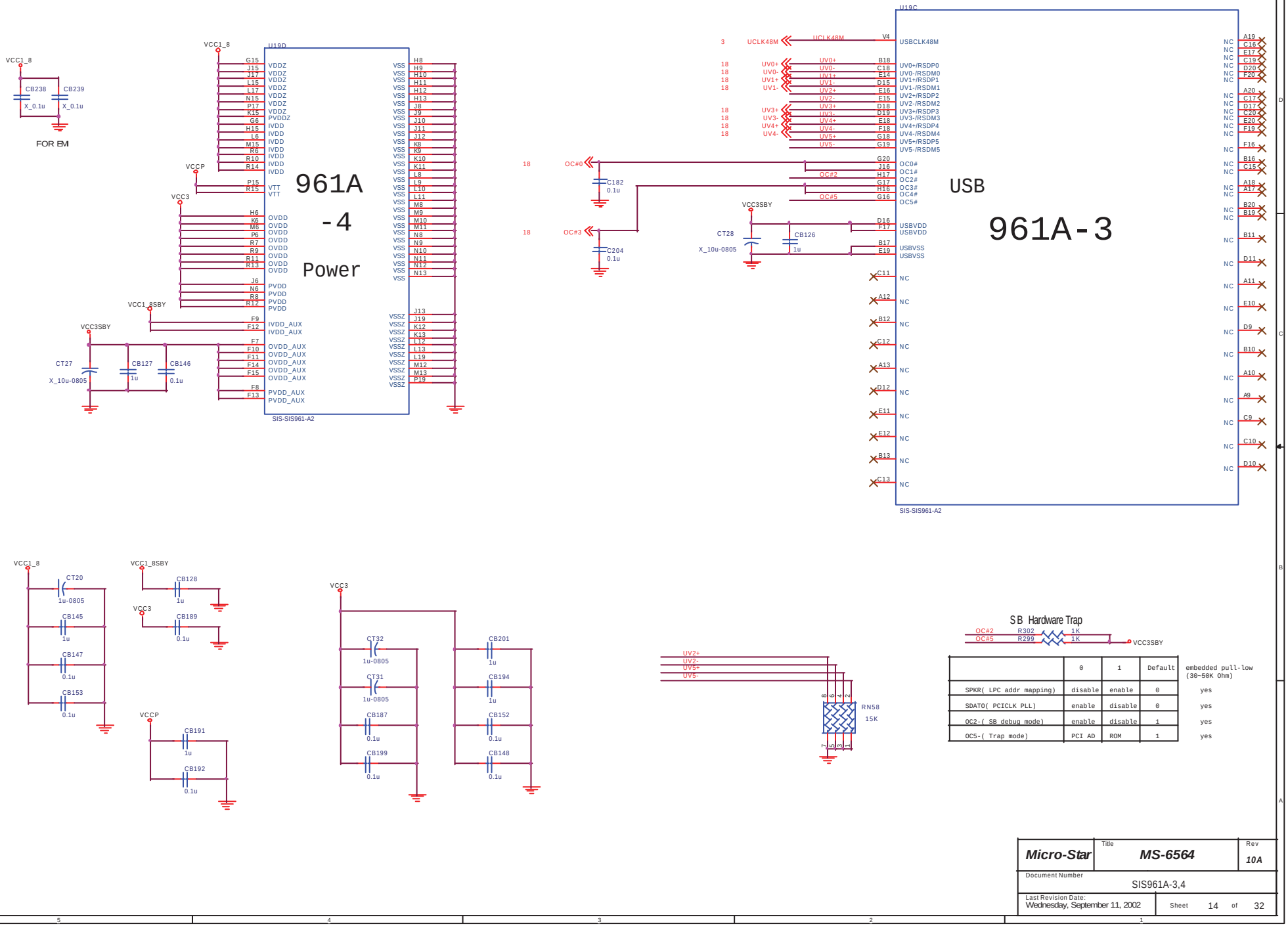
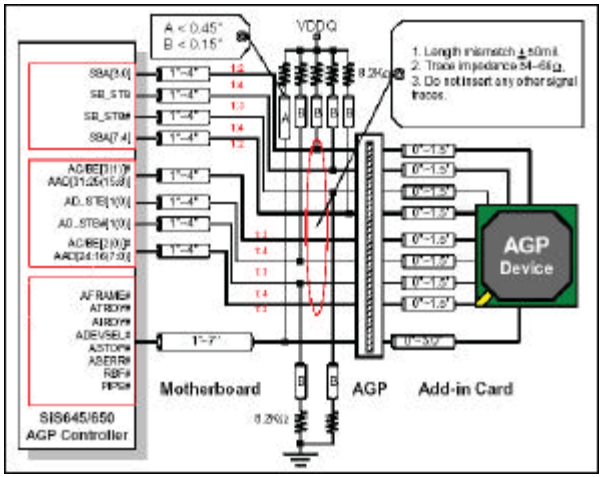


	0	1	Default	embedded pull-low (30~50K Ohm)
SPKR(LPC addr mapping)	disable	enable	0	yes
SDAT0(PCICLK PLL)	enable	disable	0	yes
OC2-(SB debug mode)	enable	disable	1	yes
OC5-(Trap mode)	PCI AD	ROM	1	yes

Micro-Star	Title: MS-6564	Rev: 10A
Document Number: SIS961A-3,4		
Last Revision Date: Wednesday, September 11, 2002	Sheet 14 of 32	



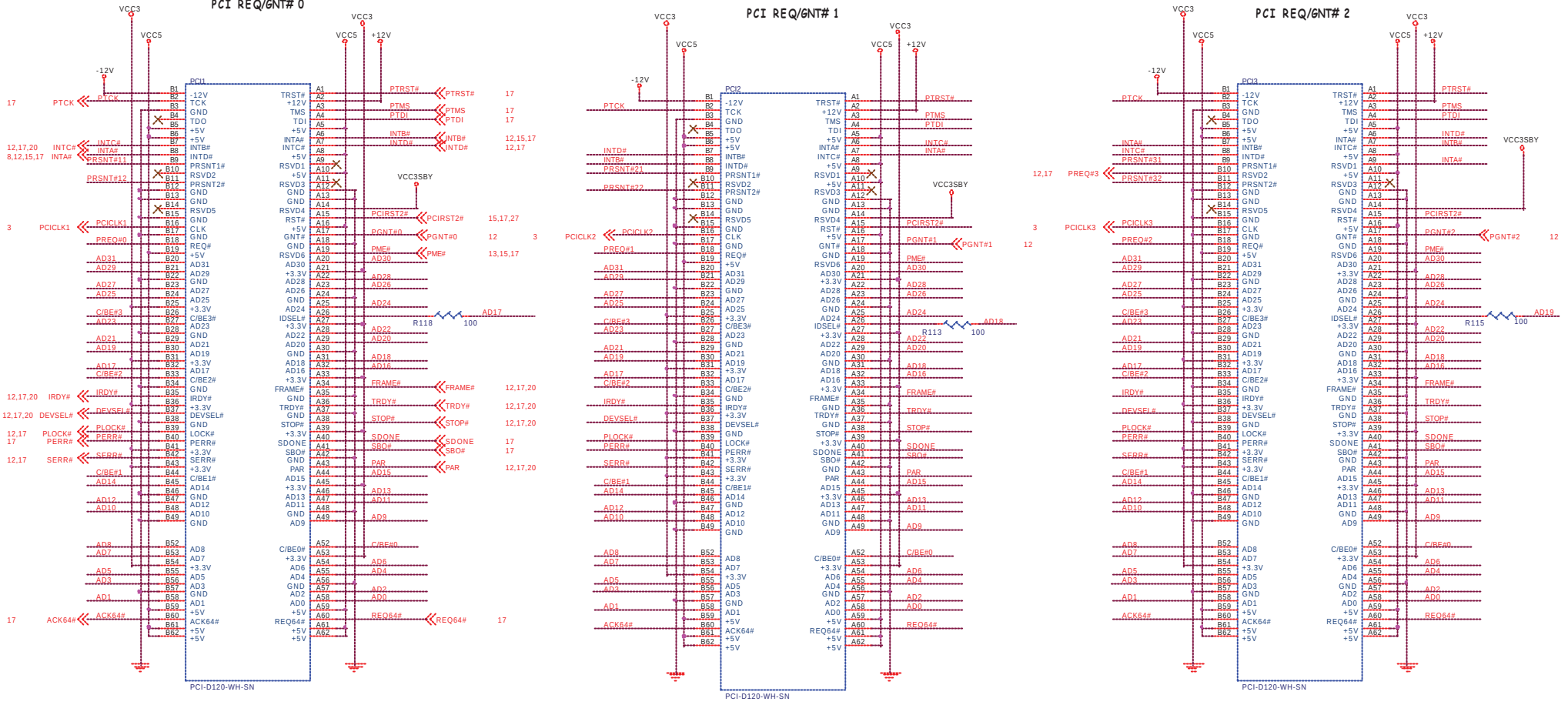
AGP CONNECTOR DECOUPLING

Micro-Star	Title: MS-6564		Rev: 10A
	Document Number: AGP SLOT		
	Last Revision Date: Wednesday, September 11, 2002	Sheet 15 of 32	

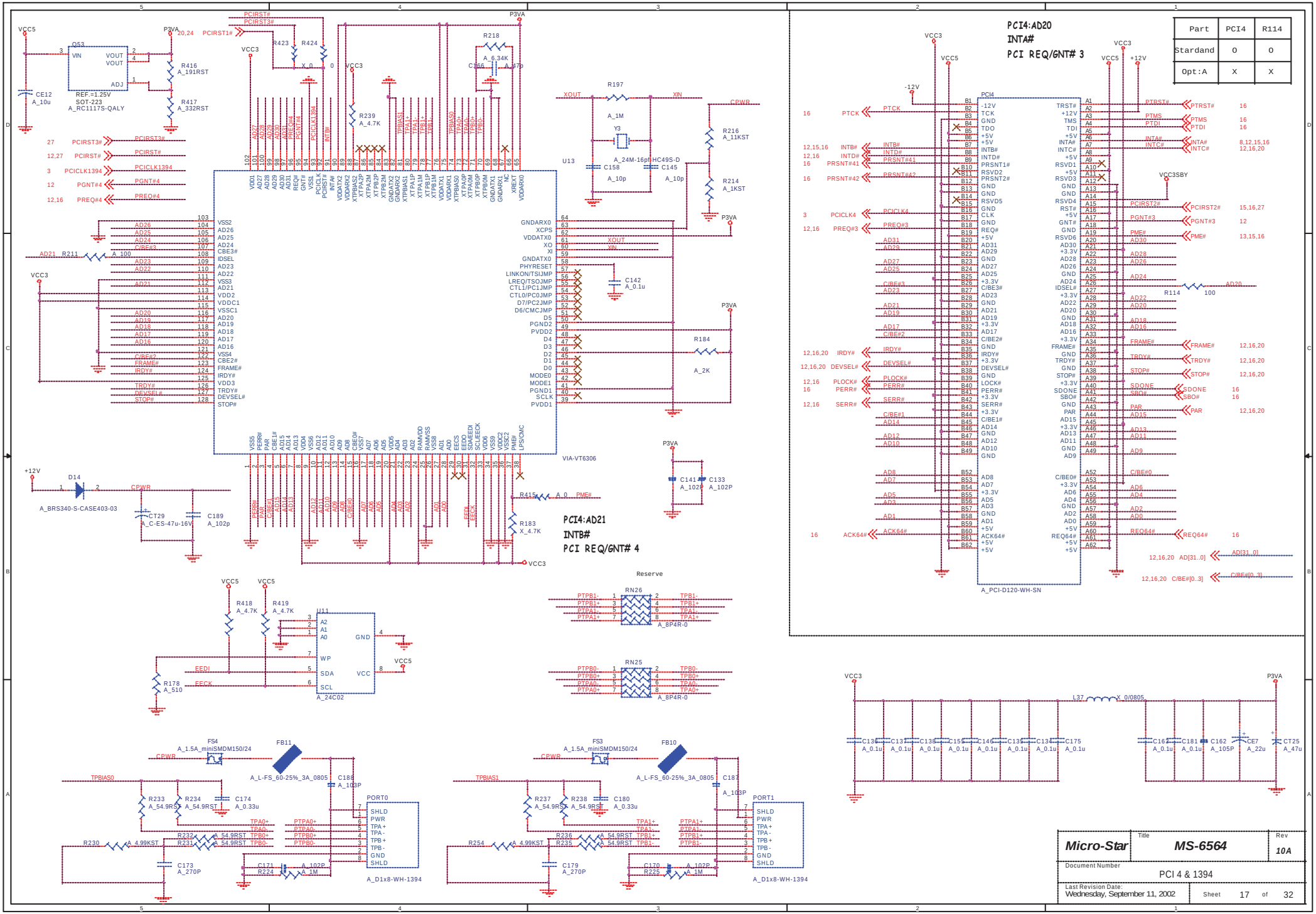
PCI1:AD17
INTB#
PCI REQ/GNT# 0

PCI2:AD18
INTC#
PCI REQ/GNT# 1

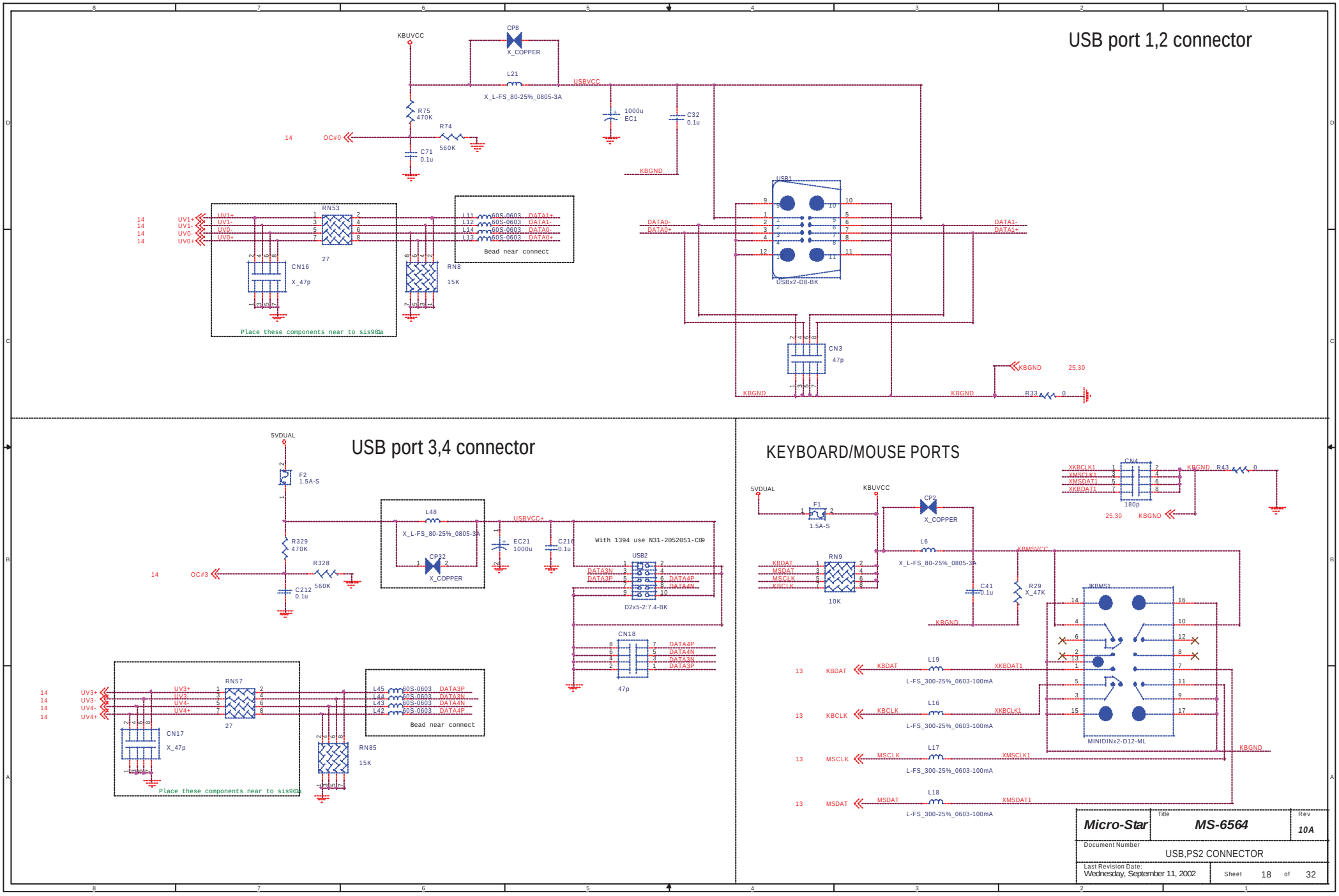
PCI3:AD19
INTD#
PCI REQ/GNT# 2

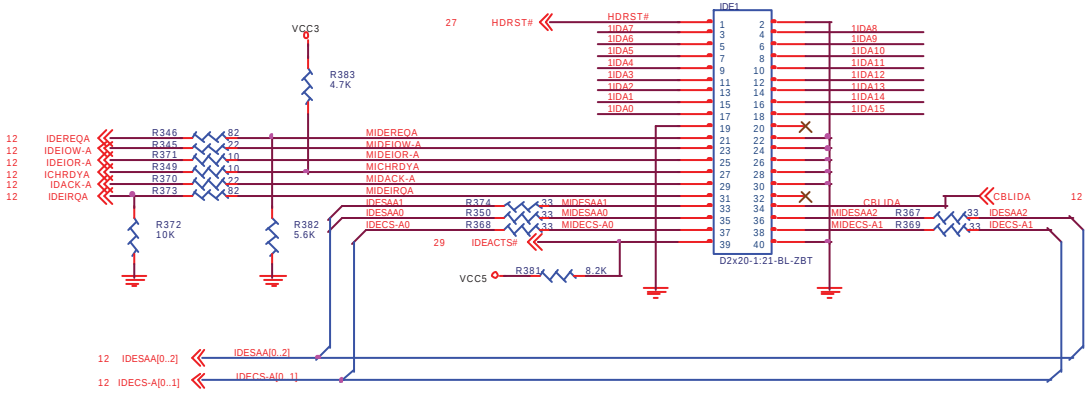


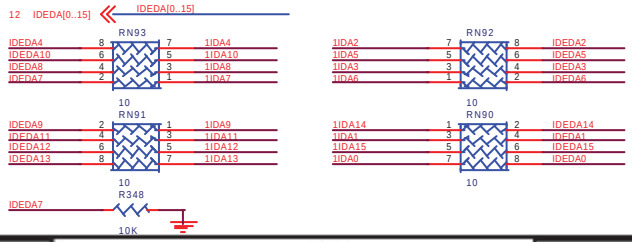
Micro-Star	Title: MS-6564	Rev: 10A
Document Number: PCI 1,2,3		
Last Revision Date: Wednesday, September 11, 2002	Sheet 16 of 32	

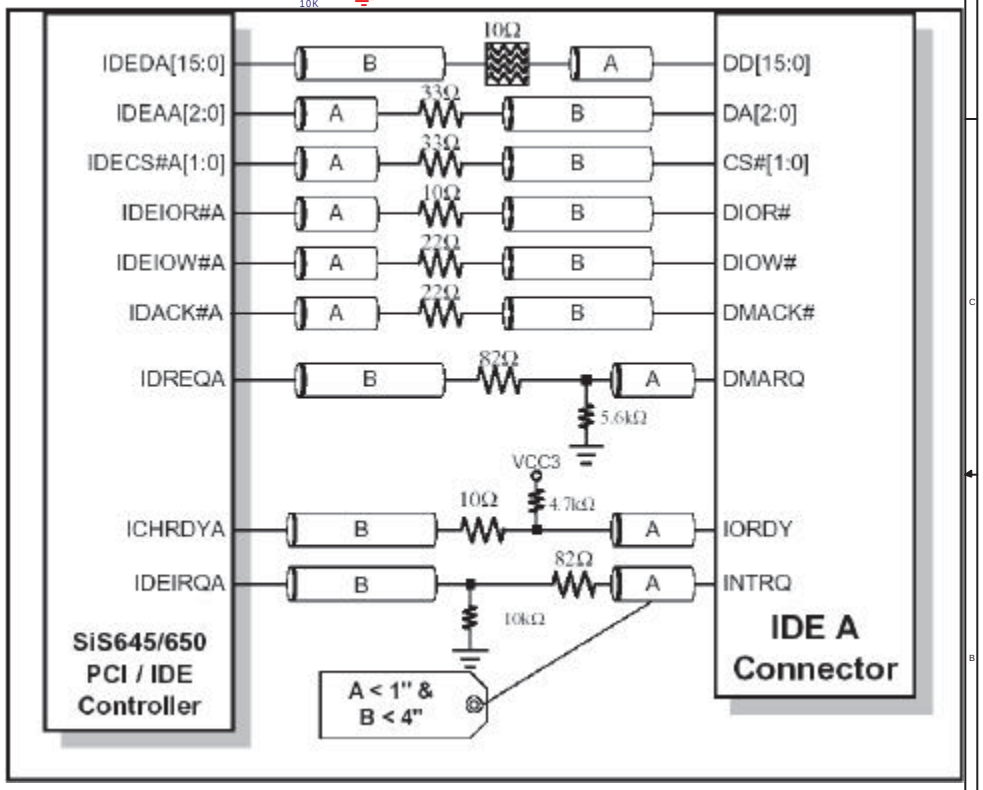


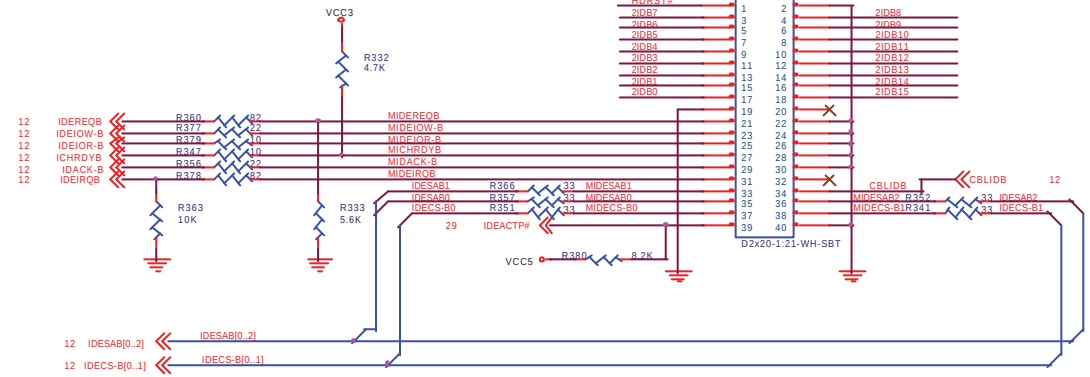
Part	PCI4	R114
Stardand	O	O
Opt:A	X	X

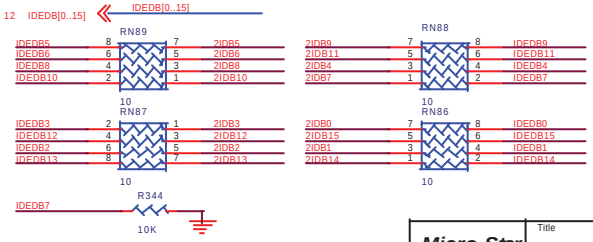

USB port 1,2 connector
KBUVCC
CP8
X_COPPER
L21
X_L-FS_80-25%_0805-3A
USBVCC
R75
470K
R74
560K
C71
0.1u
1000u
EC1
C32
0.1u
KBGND
14
OC#0
USB1
USBx2-D8-BK
RN53
27
CN16
X_47p
Place these components near to sis963
RN8
15K
Bead near connect
DATA0-
DATA0+
DATA1-
DATA1+
CN3
47p
R33
0
25,30
USB port 3,4 connector
5VDUAL
F2
1.5A-S
L48
X_L-FS_80-25%_0805-3A
USBVCC2
EC21
1000u
C216
0.1u
With 1394 use N31-2052051-C09
CP32
X_COPPER
R329
470K
R328
560K
C212
0.1u
OC#3
USB2
D2x5-2:7.4-BK
CN18
47p
RN57
27
CN17
X_47p
Place these components near to sis963
RN85
15K
Bead near connect
KEYBOARD/MOUSE PORTS
5VDUAL
KBUVCC
F1
1.5A-S
CP2
X_COPPER
L6
X_L-FS_80-25%_0805-3A
KBMSVCC
RN9
10K
C41
0.1u
R29
X_47K
CN4
180p
R43
0
25,30
KBGND
MINIDINx2-D12-ML
L19
L16
L17
L18
L-FS_300-25%_0603-100mA
KBDAT
KBCLK
MSCLK
MSDAT
XKBDAT1
XKBCLK1
XMSCLK1
XMSDAT1
Micro-Star
MS-6564
10A
USB,PS2 CONNECTOR
Wednesday, September 11, 2002
Sheet 18 of 32











Micro-Star	Title: MS-6564	Rev: 10A
Document Number: IDE CONNECTOR		
Last Revision Date: Wednesday, September 11, 2002	Sheet 19 of 32	

C-MEDIA CMI8738MX PCI AUDIO

SOFTWARE CONTROL
HI=6CHANNEL

21 6CH_CTRL

PCI4:AD22
INTC#
PCI REQ/GNT# 5

4 Channal need 270P CAP

6 Channal NC 104P CAP

U3
<1ST PART FIELD>

C168 near U19 pin81,88

4 Channal Chipset use 5V
6 Channal Chipset use 3.3V

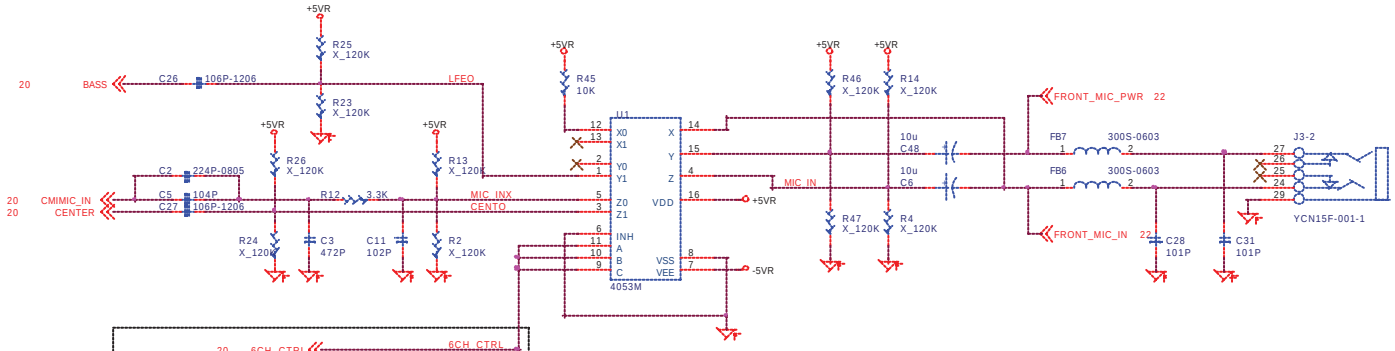
JP6 H/W AUDIO
1-2 DISABLE
2-3 ENABLE *

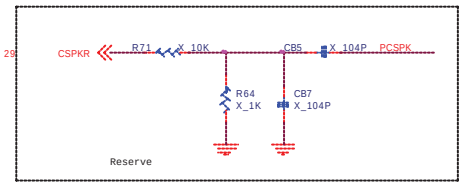
From M/B South Bridge GPIO CONTROL
ENABLE

* MBCSZ : AUDIO CHIP SELECT
HI : DISABLE
LOW : ENABLE

Internal ID
Selection

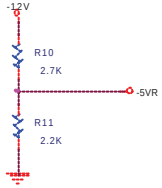
Micro-Star	Title: MS-6564	Rev: 10A
Document Number: Audio Section-CMI8738		
Last Revision Date: Wednesday, September 11, 2002	Sheet 20 of 32	



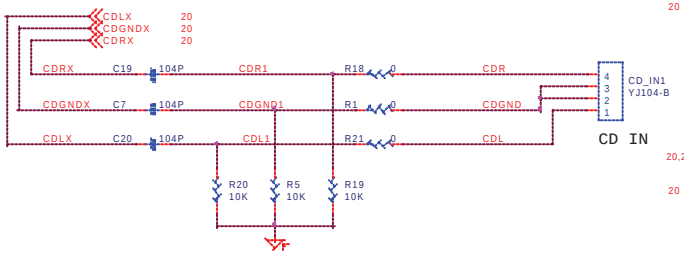


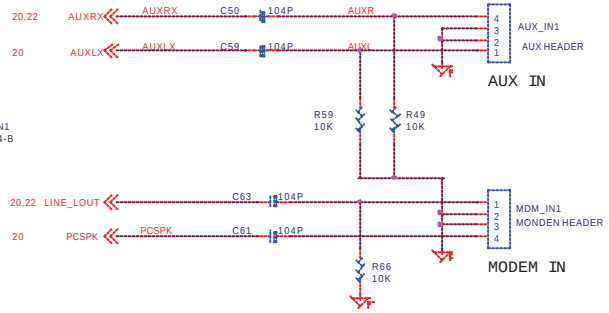
DECOUPLING CAPACITOR

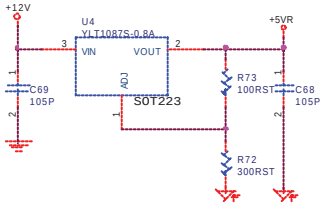
AUDIO CODE REGULATORS



AUDIO CODE CD / AUX / MODEM IN HEADERS

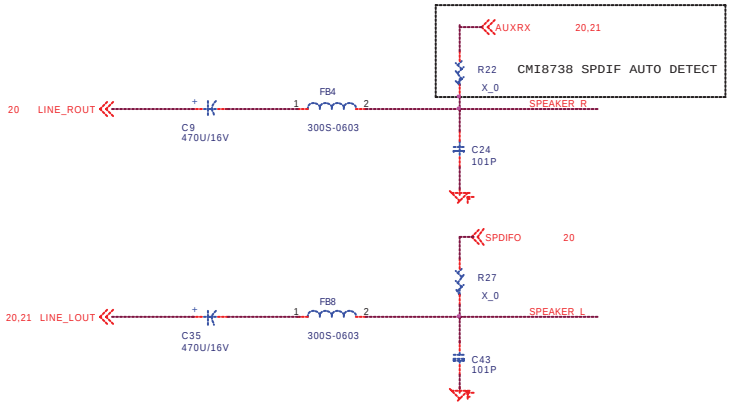




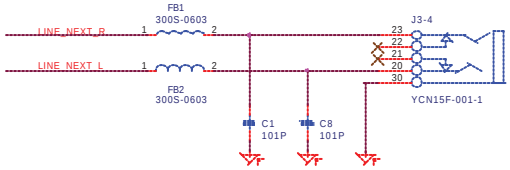


Micro-Star	Title: MS-6564	Rev: 10A
Document Number: 6 CHANNEL CONTROL		
Last Revision Date: Wednesday, September 11, 2002	Sheet 21 of 32	

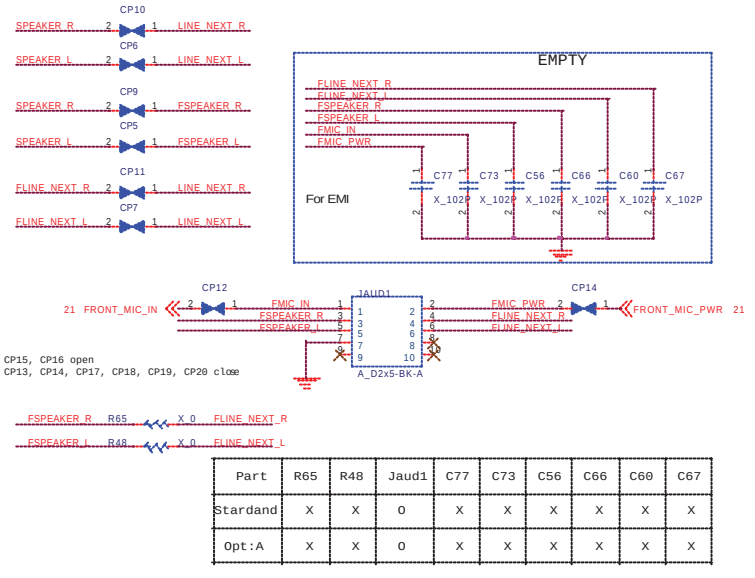
SPEAKER OUT CIRCUIT



SPEAKER OUT JACK

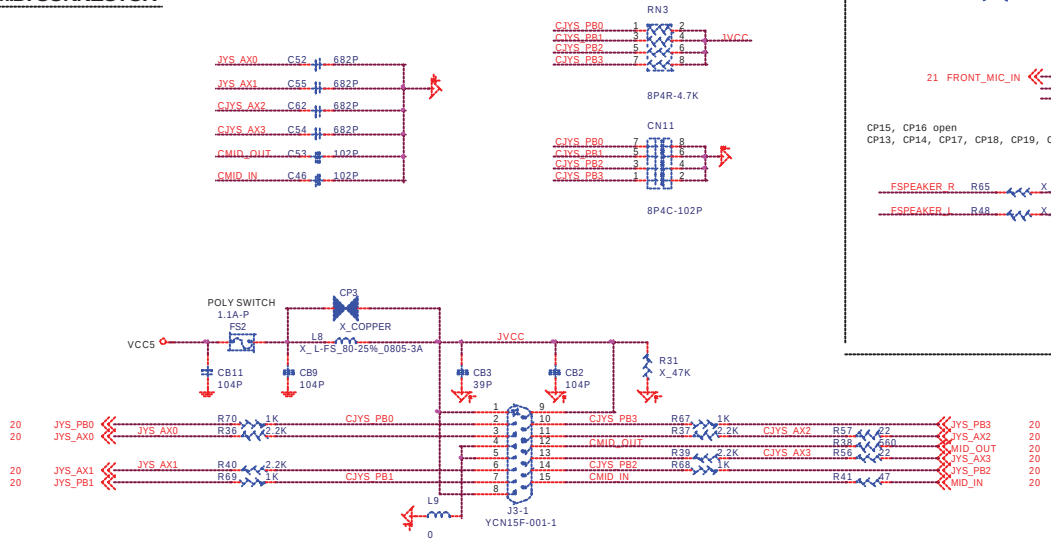


FOR MSI INTERNAL HEADER



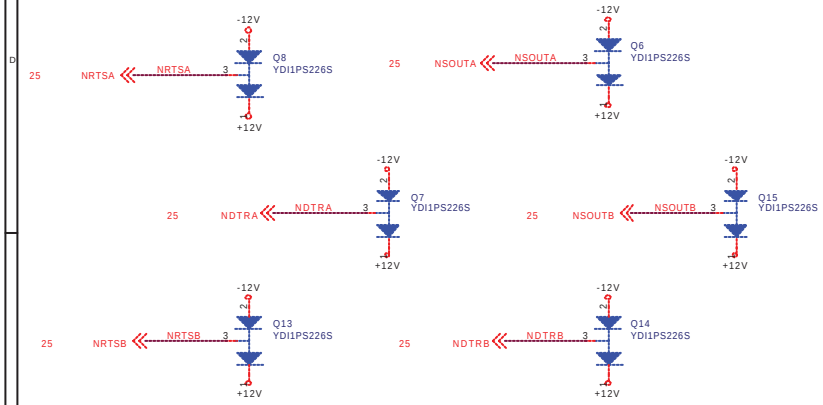
Part	R65	R48	Jaud1	C77	C73	C56	C66	C60	C67
Stardand	X	X	O	X	X	X	X	X	X
Opt:A	X	X	O	X	X	X	X	X	X

GAME/MIDI CONNECTOR

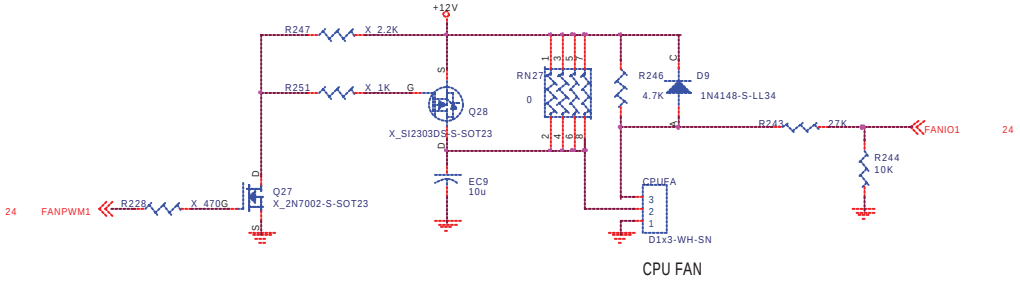


Micro-Star	Title: MS-6564		Rev: 10A	
	Document Number: AUDIO CONNECTOR & GAME PORT			
	Last Revision Date: Wednesday, September 11, 2002	Sheet 22 of 32		

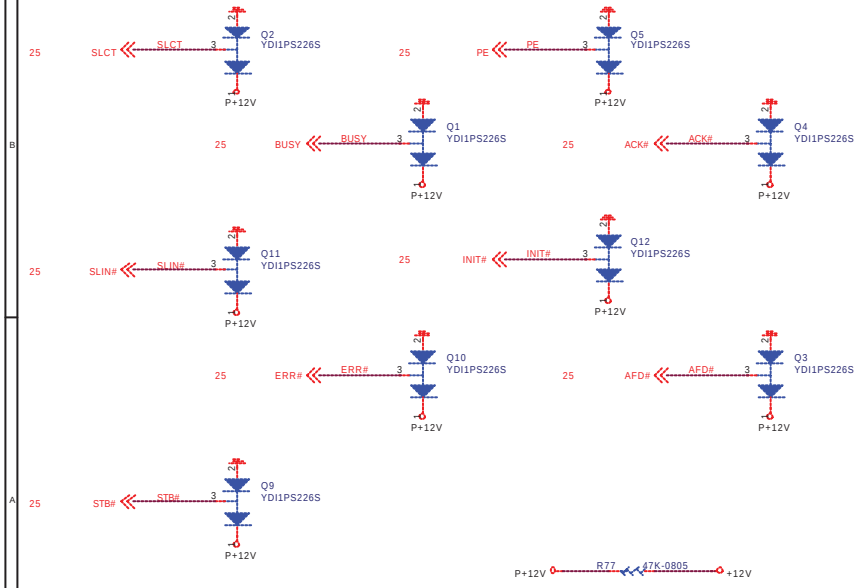
Serial port protection diode



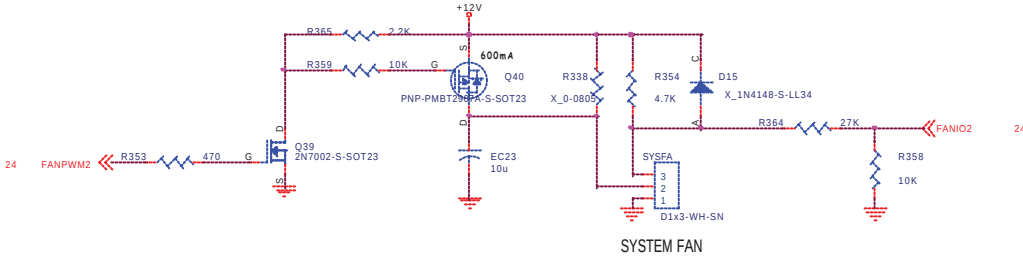
CPU FAN



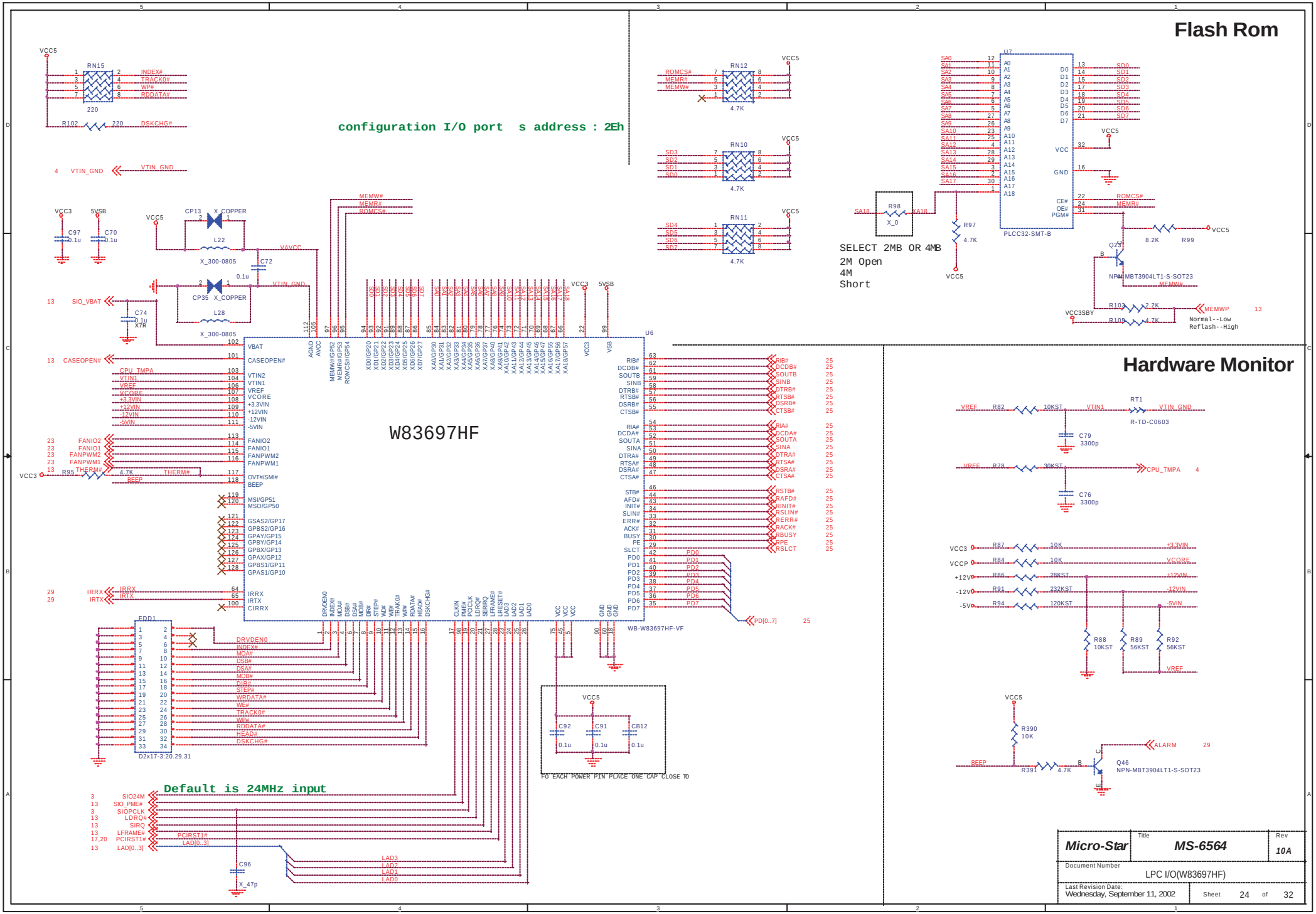
Perallal port protection diode

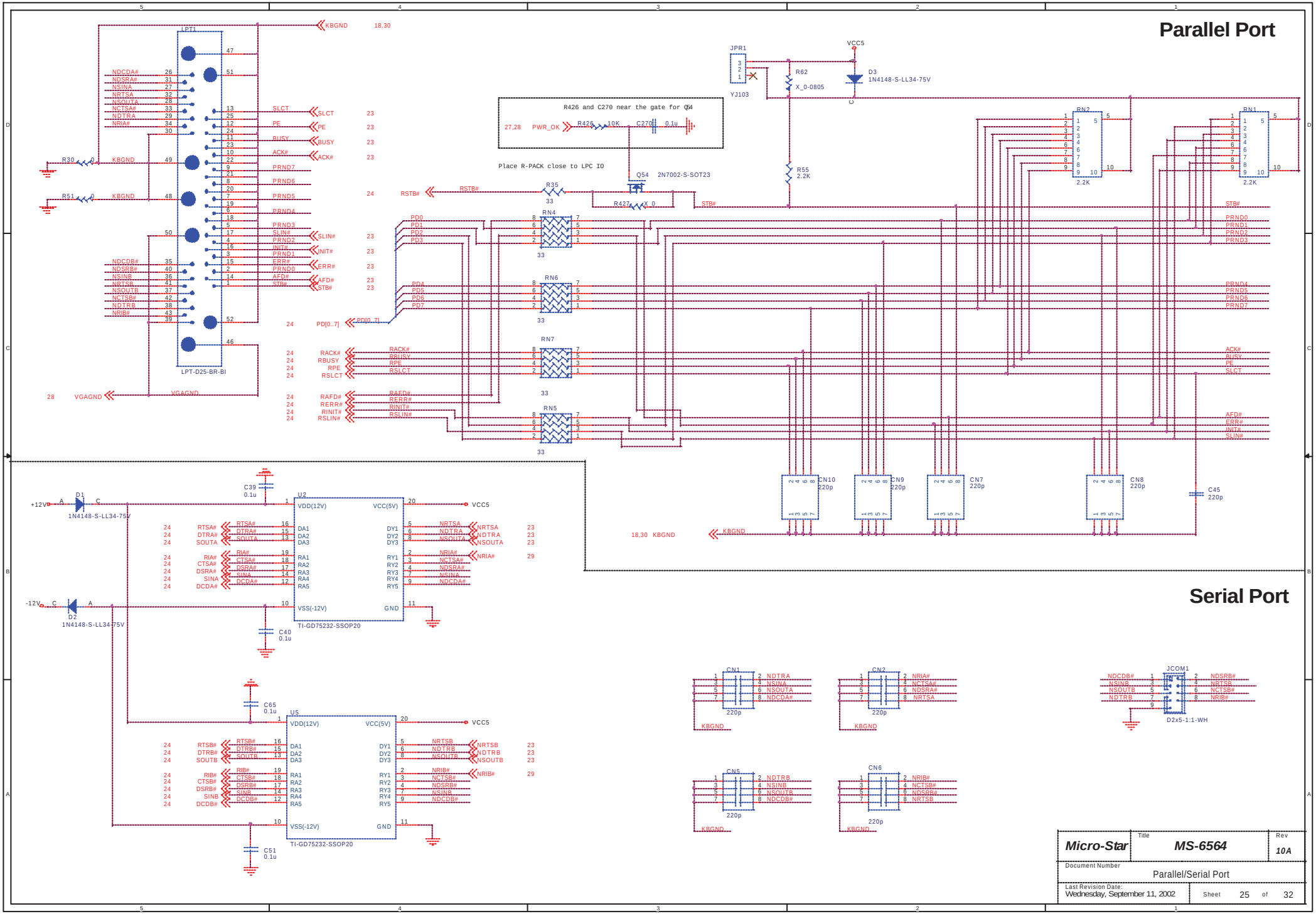


SYSTEM FAN



Micro-Star	Title: MS-6564	Rev: 10A
Document Number: FAN & PROTECTION DIODE		
Last Revision Date: Wednesday, September 11, 2002	Sheet 23 of 32	


Flash Rom
configuration I/O port s address : 2Eh
SELECT 2MB OR 4MB
2M Open
4M
Short
W83697HF
Hardware Monitor
Default is 24MHz input
Micro-Star
MS-6564
10A
LPC I/O(W83697HF)
Wednesday, September 11, 2002
Sheet 24 of 32


Parallel Port
Serial Port
LPT1
LPT-D25-BR-BI
KBGND
VGAGND
JPR1
YJ103
VCC5
R62
X_0-0805
D3
1N4148-S-LL34-75V
R426 and C270 near the gate for Q54
27,28 PWR_OK
R426 10K
C270 0.1u
Place R-PACK close to LPC IO
Q54 2N7002-S-SOT23
R55 2.2K
R35 33
R427 X_0
RSTB#
STB#
RN1
RN2
RN4
RN5
RN6
RN7
PD0
PD1
PD2
PD3
PD4
PD5
PD6
PD7
PD[0..7]
SLCT
PE
BUSY
ACK#
PRND7
PRND6
PRND5
PRND4
PRND3
SLIN#
PRND2
INIT#
PRND1
ERR#
PRND0
AFD#
STB#
RACK#
RBUSY
RPE
RSLCT
RAFD#
RERR#
RINIT#
RSLIN#
CN10 220p
CN9 220p
CN7 220p
CN8 220p
C45 220p
+12V
-12V
D1
D2
1N4148-S-LL34-75V
U2
U5
TI-GD75232-SSOP20
VDD(12V)
VCC(5V)
VSS(-12V)
GND
C39 0.1u
C40 0.1u
C65 0.1u
C51 0.1u
CN1
CN2
CN5
CN6
220p
JCOM1
D2x5-1:1-WH
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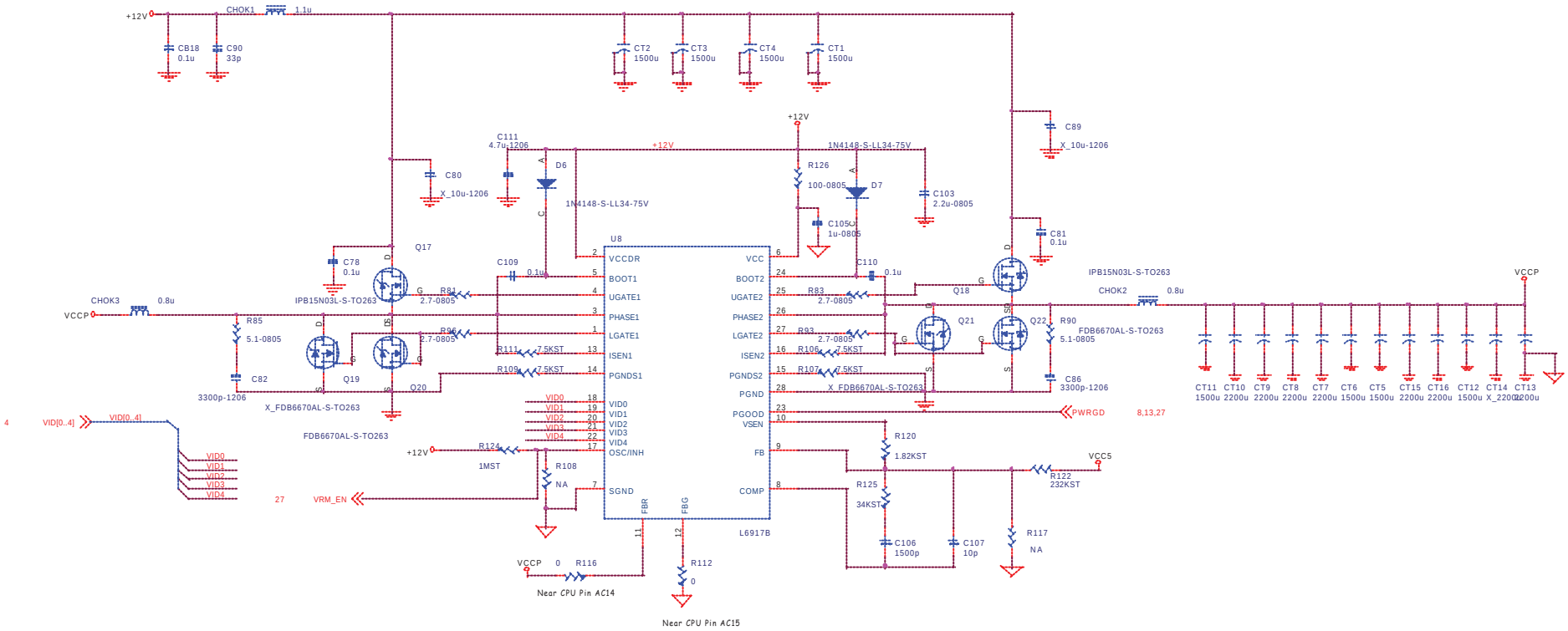
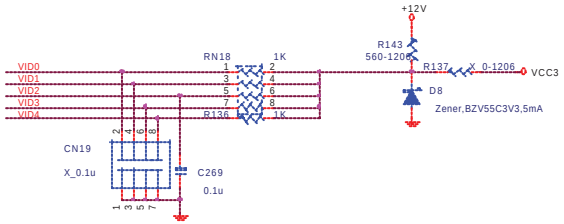
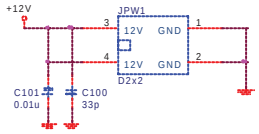
Parallel/Serial Port
Wednesday, September 11, 2002
Sheet 25 of 32



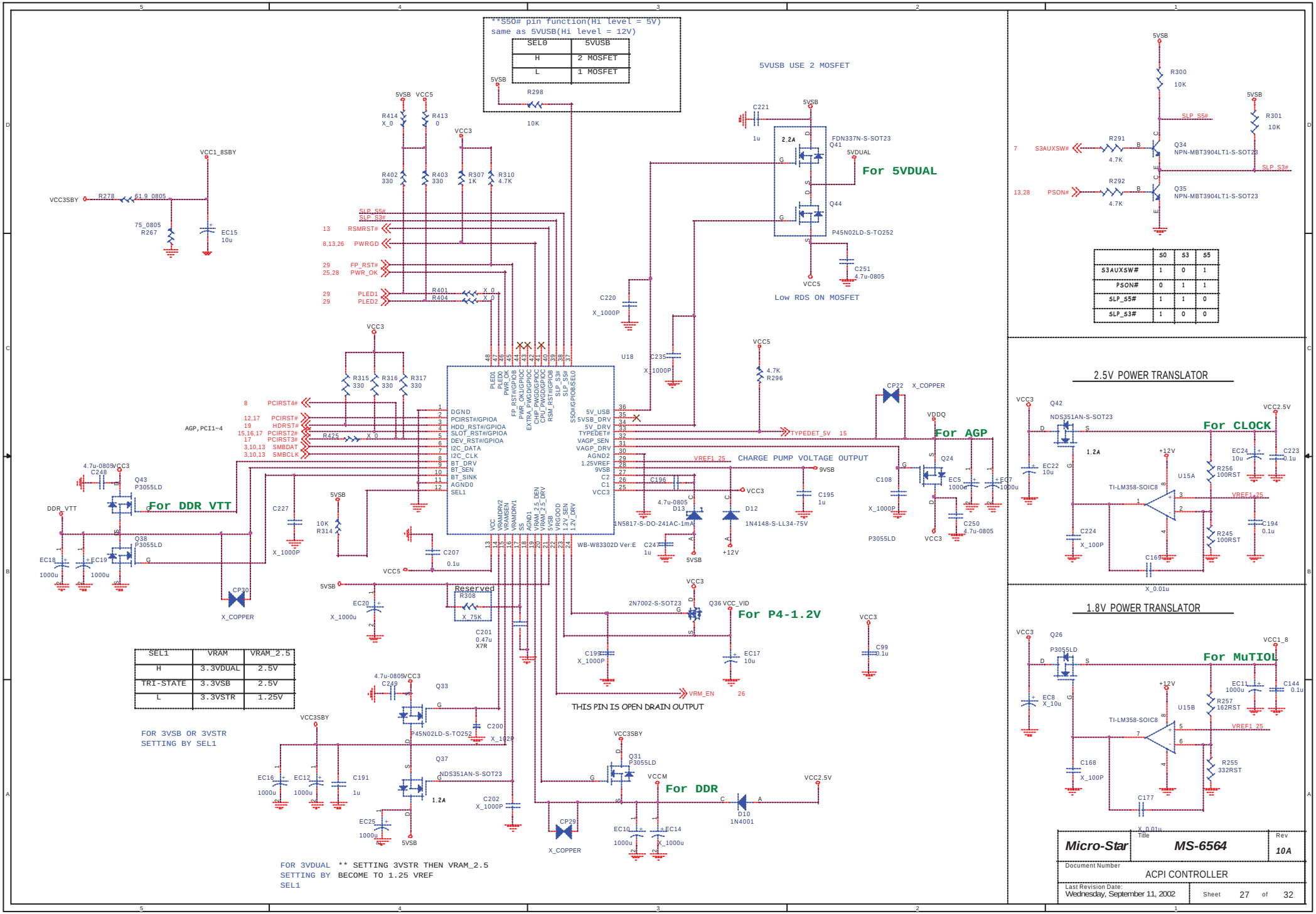
VID PULL-UP RESISTORS



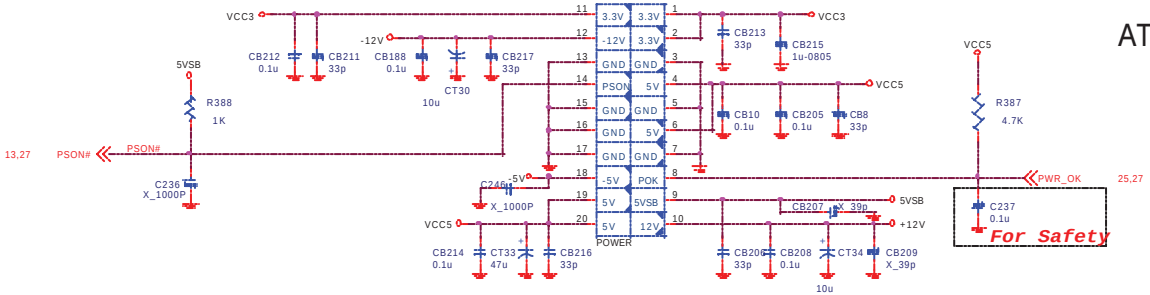
ATX12V POWER CONNECTOR

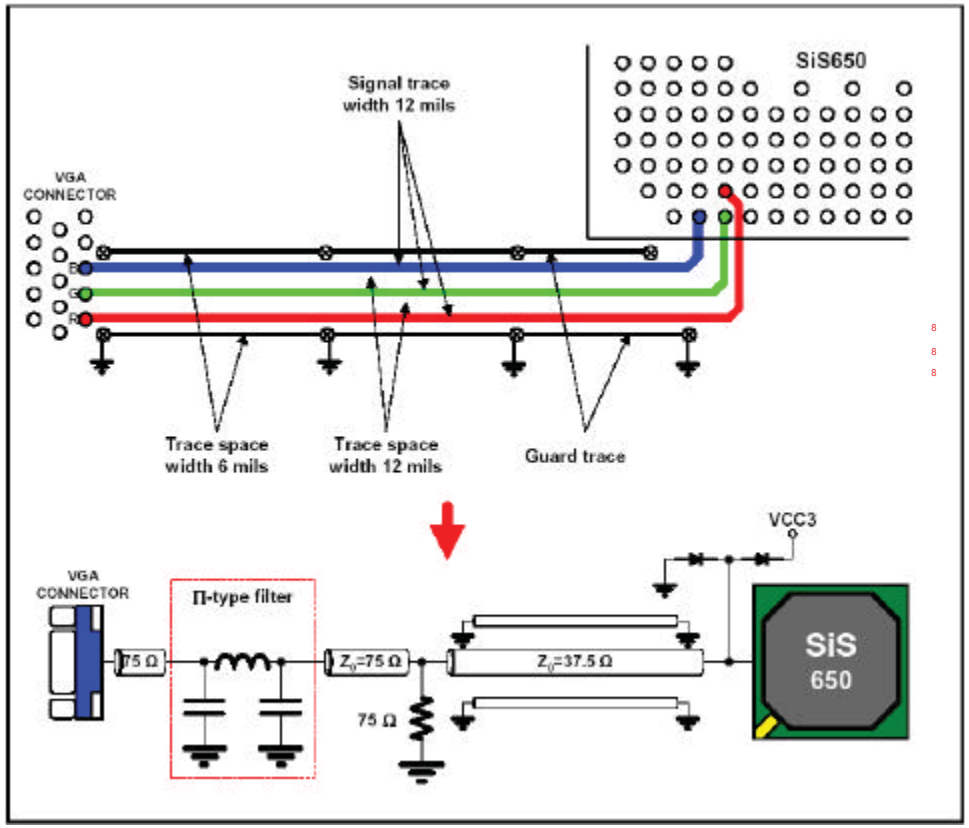


Micro-Star	Title: MS-6564	Rev: 10A
Document Number: VRM 9.0		
Last Revision Date: Wednesday, September 11, 2002	Sheet 26 of 32	

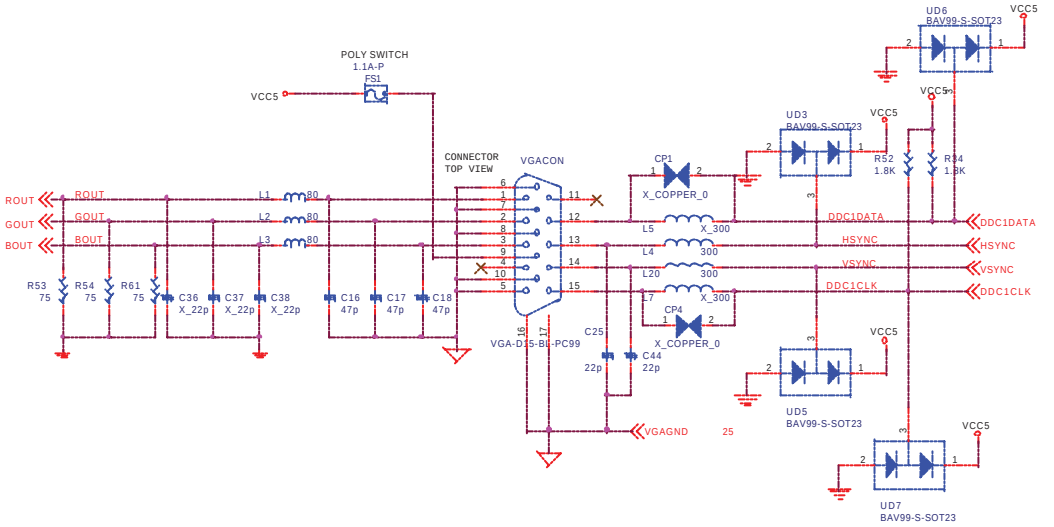

**S5O# pin function(Hi level = 5V)
same as 5VUSB(Hi level = 12V)
SEL0 | 5VUSB
H | 2 MOSFET
L | 1 MOSFET
5VUSB USE 2 MOSFET
For 5VDUAL
Low RDS ON MOSFET
For AGP
For DDR VTT
For P4-1.2V
For DDR
For MuTIOL
For CLOCK
2.5V POWER TRANSLATOR
1.8V POWER TRANSLATOR
CHARGE PUMP VOLTAGE OUTPUT
Reserved
THIS PIN IS OPEN DRAIN OUTPUT
SEL1 | VRAM | VRAM_2.5
H | 3.3VDUAL | 2.5V
TRI-STATE | 3.3VSB | 2.5V
L | 3.3VSTR | 1.25V
FOR 3VSB OR 3VSTR SETTING BY SEL1
FOR 3VDUAL ** SETTING 3VSTR THEN VRAM_2.5 SETTING BY BECOME TO 1.25 VREF SEL1
S3AUXSW#
PSON#
SLP_S5#
SLP_S3#
S0 S3 S5
S3AUXSW# 1 0 1
PSON# 0 1 1
SLP_S5# 1 1 0
SLP_S3# 1 0 0
Micro-Star
MS-6564
10A
ACPI CONTROLLER
Wednesday, September 11, 2002
Sheet 27 of 32

ATX CONNECTOR

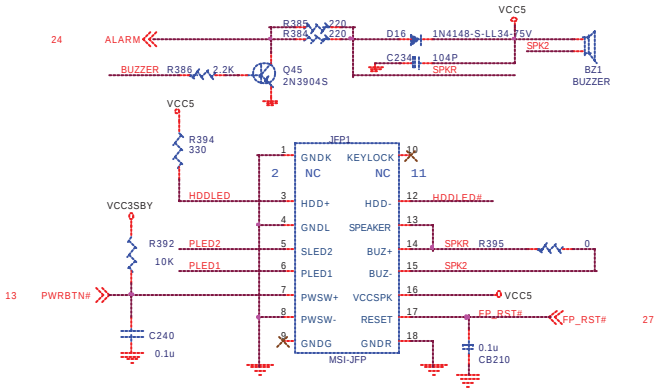


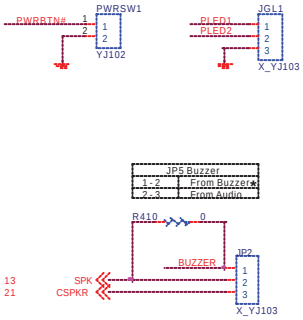


VGA CONNECTOR

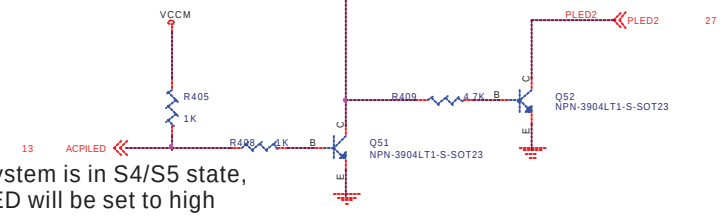


Micro-Star	Title: MS-6564	Rev: 10A
Document Number: ATX Power Conn. & VGA Conn.		
Last Revision Date: Wednesday, September 11, 2002	Sheet 28 of 32	



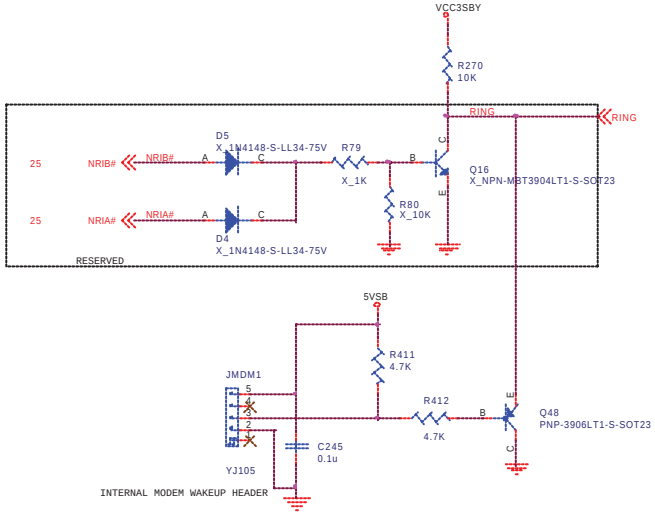


Dual Color LED Block

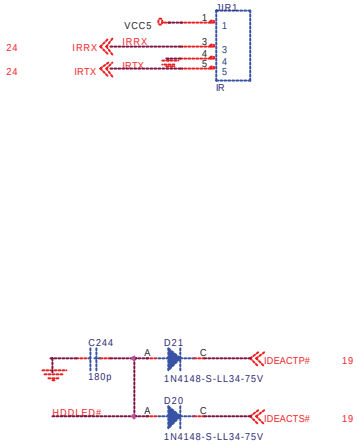


If the system is in S4/S5 state, ACPILED will be set to high impedance.

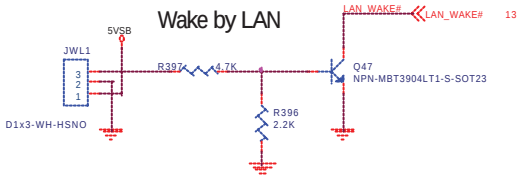
Wake by Modem



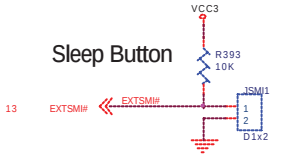
IR



Wake by LAN



Sleep Button



Micro-Star	Title: MS-6564	Rev: 10A
Document Number: FRONT PANEL		
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PCB OTHER COMPONENT

BS1_X1 BS2_X1 BS3_X1 BS4_X1 BS5_X1

MH3 MH1 MH4 MH6 MH5 MH2 MH7 MH8

18,25 KBGND KBGND

J1 VCC5 X_PIN1*2 CPU

J2 X_PIN1*2 AGP

FM3 FM4 FM2 FM1 FM8 FM7 FM6 FM5 X_FM

System Decoupling Capacitors

+12V: EC3 10u, C83 0.1u, C84 0.1u

-12V: EC2 10u, C75 0.1u, C85 0.1u

VCC5: EC4 10u, C88 0.1u, C95 0.1u, C127 0.1u, C238 0.1u, C87 0.1u, C241 0.1u, C64 0.1u, C252 X_0.1u, C253 X_0.1u, C254 X_0.1u, C255 X_0.1u

VCC3: EC6 10u, C114 0.1u, C118 0.1u, C104 0.1u, C140 0.1u, C185 0.1u, C233 0.1u, C232 0.1u

VCC3: C183 0.1u, C209 0.1u, C231 0.1u

VCC3: C256 0.1u, C257 0.1u, C258 0.1u, C259 0.1u — VCCM

VCC1_8: C260 1000p, C261 X_0.1u — VCCM

5VSB: C205 0.1u, C203 0.1u

VCCM: C262 1000p, C263 0.1u, C264 0.1u, C265 1000p

CBVDD: C266 1000p, C267 1000p

High Freq. return current decoupling

VCC5 C98 1000p VCC3

C102 1000p

FM14 FM16 FM9 FM12 FM10 FM11 FM15 FM13 FM20 FM18 FM19 FM17 X_FM

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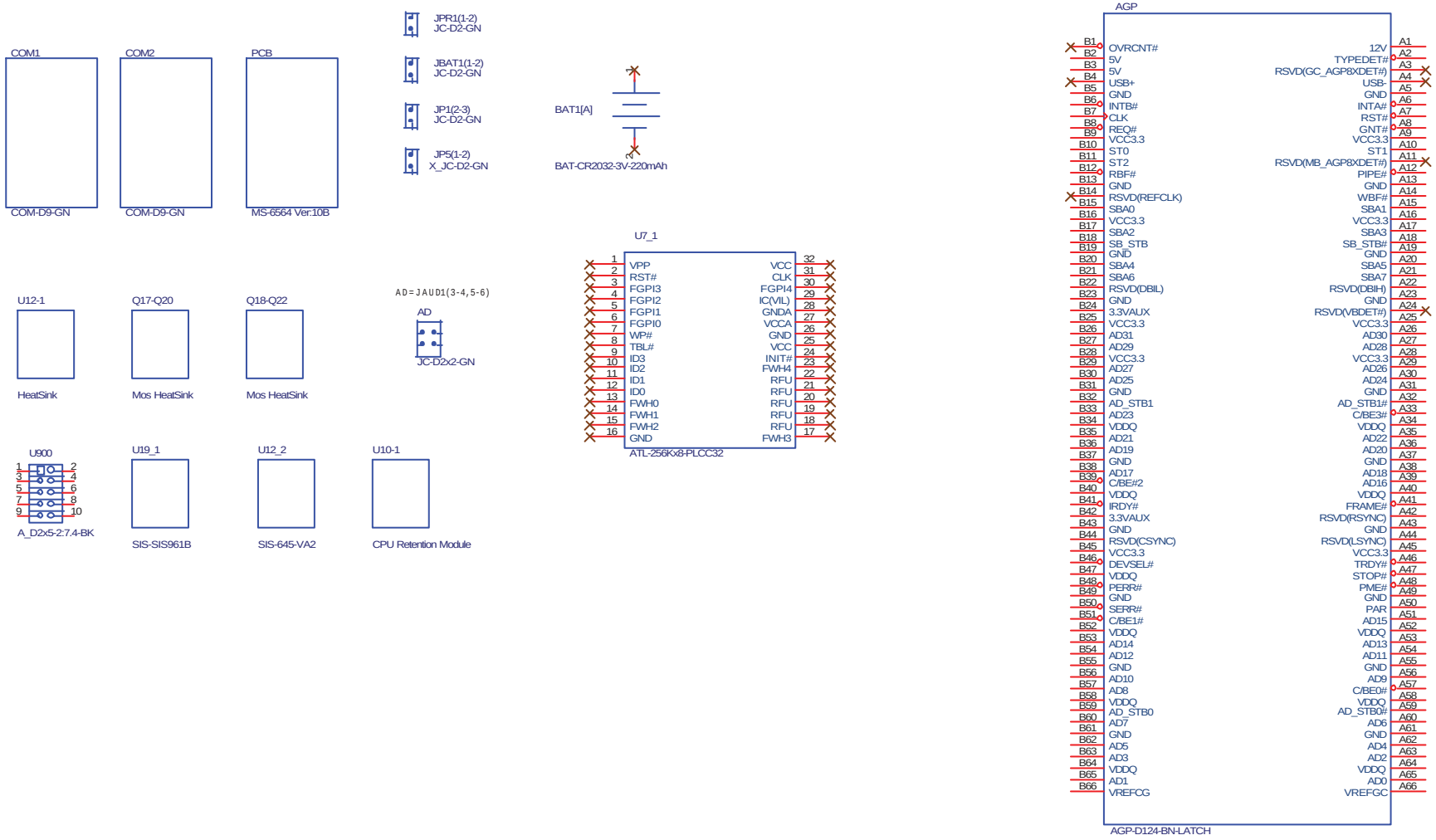

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Revision History

Revision History (Changes from Rev 0A)

Sheet	Desciption
13	Connect U19.A6 through RN56 4.7K to GND for SiS recommecnd.
17	Change U11 pin 5 & pin6 for circuit error.
	Change U13 pin 49,39 and R184 from VCC3SB to P3VA for 1394 S3 resume issue.
	Remove U16,U17 for 1394 trace meet VIA recommend.
20	Change U3 pin 124,4,10,18,27,37,45 from VCC3 to VCC5 for C-MEDIA recommend.
22	Change JAUD1 pim7 & C77,C73,C56,C66,C60,C67 for GNDF to GND for EMI request.
25	Add JPR1 1x3 pin for LG request.
27	Add C248,C249,C247,C250,C251 for ACPI controller decouping use.
	Add R413,R414 for PLED1/PLED2 pull up VCC5/5VSB choose.
28	Add UD6,UD7 diode for LG request.
	Change VCC and GND layer for ESD issue.
	Move CD_IN for mechanic issue.
	Change CD_IN and MDM_IN for LG request.
	Slove PCI1 B54 VCC3 for layout error.
	Change Audio CMI8738 and 4053 layout for C-MEDIA recommend.
	Separate VGA and Audio GND for Audio noise.
	Move L34,L36,CT19,CT23,CB99,CB103 for LG request.
	Move power connect for LG request.
	Change M/B size the same 6527 for LG request.

Revision History (Changes from Rev 10A)

Sheet	Desciption
30	Change screw hole VCC layer gap

Revision History (Changes from Rev 100)

Sheet	Desciption
25	Add R426,427, C270, Q54 for HP print issue by LG request.