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MS-6534

Version
1.0A

INTEL (R) Brookdale Chipset

Willamette/Northwood 478pin mPGA-B Processor Schematics

CPU:

Willamette/Northwood mPGA-478B Processor

System Brookdale Chipset:

**INTEL MCH (North Bridge) +
INTEL ICH2 (South Bridge)**

On Board Chipset:

BIOS -- FWH

LPC Super I/O -- W83627HF

Clock Generation -- CY28323

(OPTION) PCI SOUND -- C-MEDIA CMI8738

Expansion Slots:

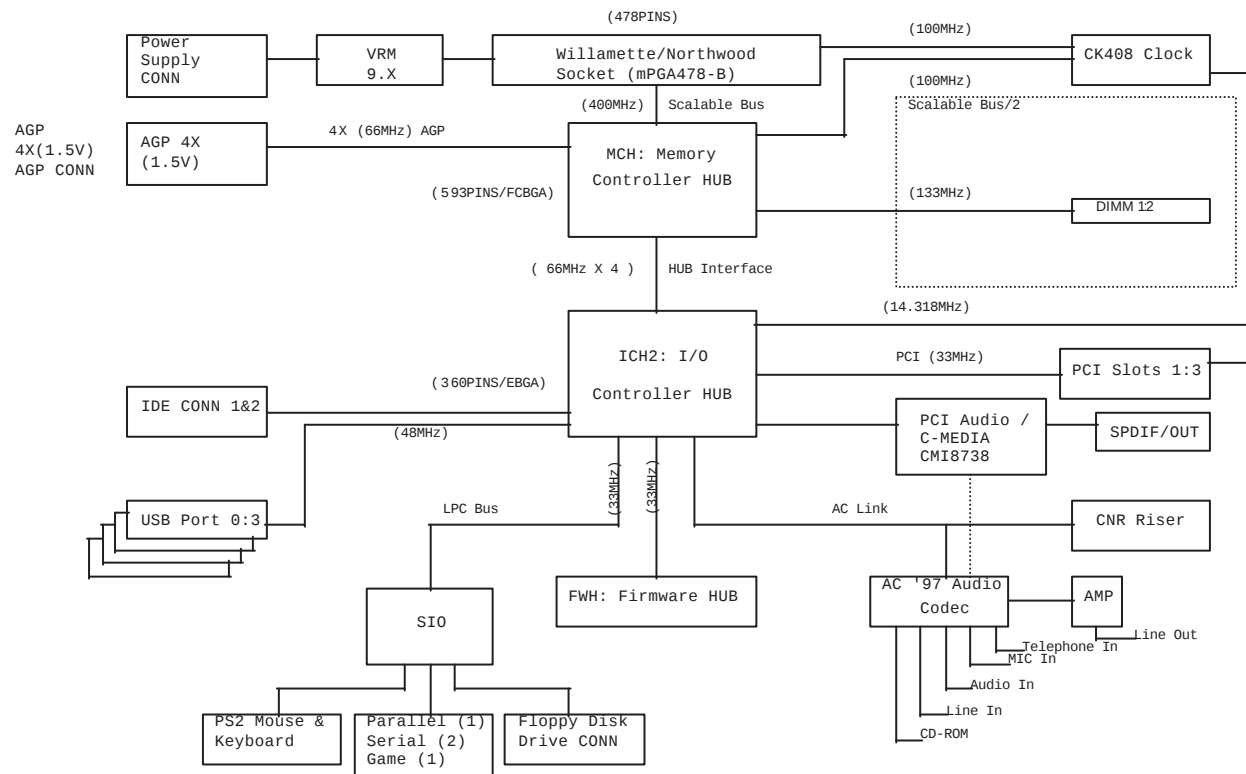
AGP2.0 SLOT * 1

PCI2.2 SLOT * 3

CNR SLOT * 1

Standard: 2 Channel S/W Audio-Realtek ALC201A
Option A: 6 Channel H/W Audio-C media 8738
Option B: 4 Channel S/W Audio-Sigmatel 9708

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Micro-Star	Title MS-6534	Rev 10A
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General Purpose I/O Spec.

ICH2

GPIO Pin	Type	Function	Power
* GPIO 0	I	Non Connect(REQA#)	Main
GPIO 1	I	Non Connect(REQ5#)	Main
GPIO 2	I	INTE#	Main
GPIO 3~5	I	Non Connect(INT[F:H]#)	Main
GPIO 6	I	Onboard AC97 Enabled#/Disabled	Main
* GPIO 7	I	H/W Monitor auto detect	Main
GPIO 8	I	LAN_WAKE#	Resume
GPIO 9		Not Implemented	
GPIO 10		Not Implemented	
* GPIO 11	I	Non Connect(SMB_ALERT)	Resume
GPIO 12	I	External SMI	Resume
GPIO 13	I	LPC PME	Resume
GPIO 14~15		Not Implemented	
GPIO 16	O	Non Connect(GNTA#)	Main
GPIO 17	O	Non Connect(GNT5#)	Main
GPIO 18	O	Non Connect	Main
GPIO 19	O	Non Connect	Main
GPIO 20	O	Non Connect	Main
GPIO 21	O	Non Connect	Main
GPIO 22	OD	Non Connect	Main
GPIO 23	O	BIOS Locked/Unlocked	Main
GPIO 24	I/O	Non Connect	Resume
GPIO 25	I/O	Non Connect	Resume
GPIO 26		Not Implemented	
GPIO 27	I/O	Non Connect	Resume
GPIO 28	I/O	Non Connect	Resume
GPIO 29~31		Not Implemented	

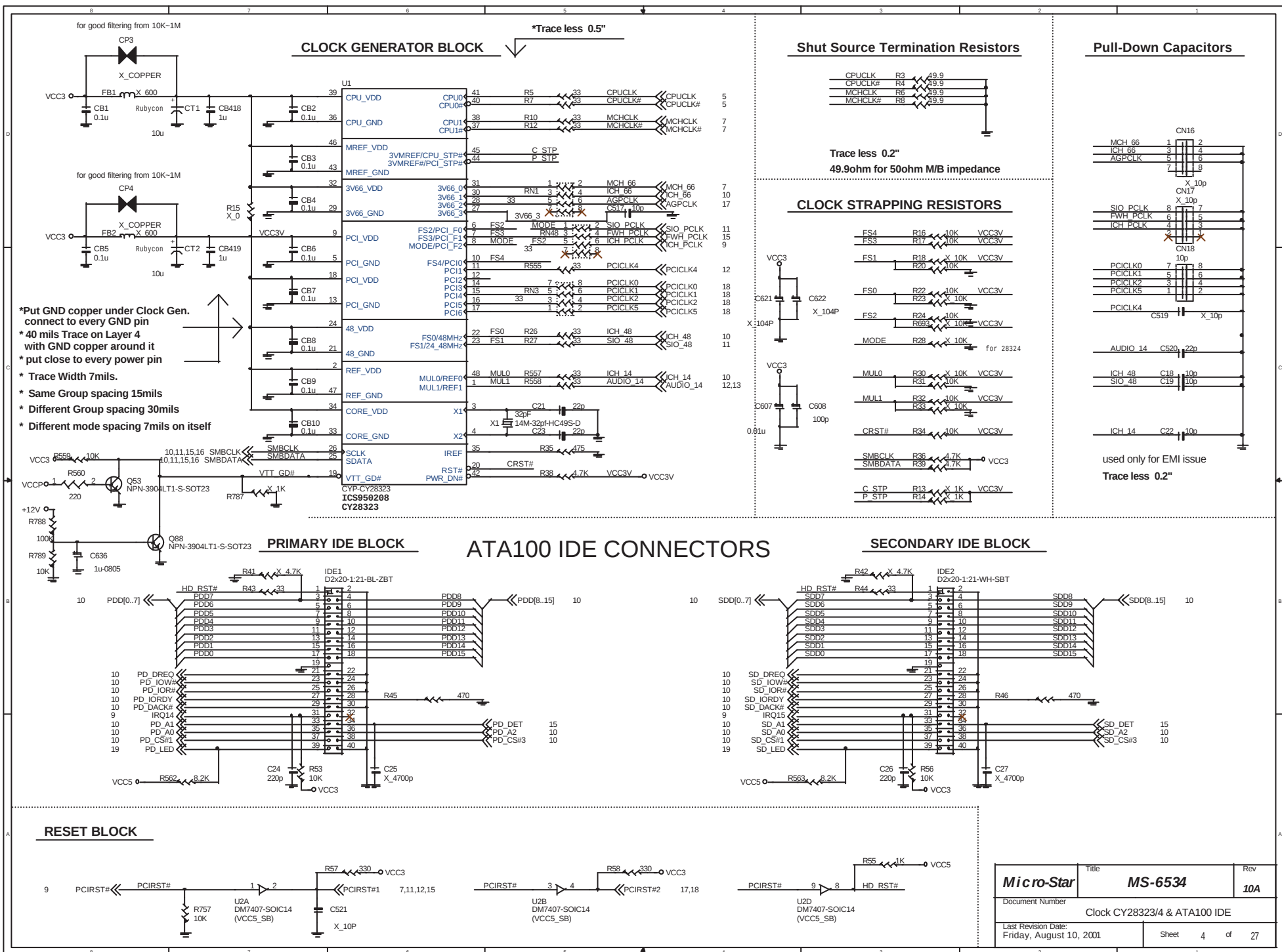
*: Reserve For Auto Detect

FWH

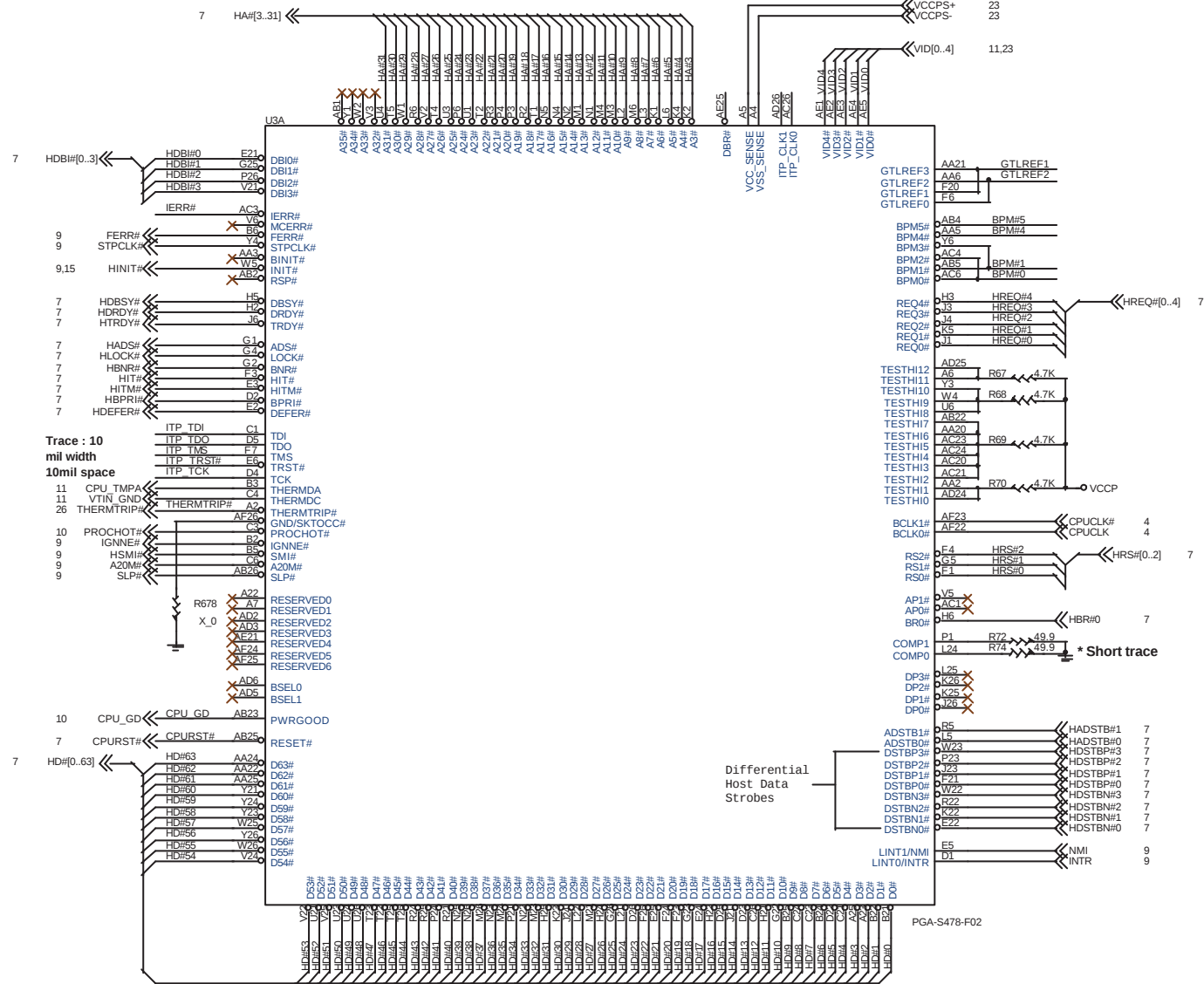
GPIO Pin	Type	Function
GPI 0	I	ATA IDE 1 Detect
GPI 1	I	ATA IDE 2 Detect
GPI 2	I	Reserved
GPI 3	I	Reserved

DEVICE	ICH INT Pin	IDSEL
PCI Slot 1	INTA# INTB# INTC# INTD#	AD16
PCI Slot 2	INTB# INTC# INTD# INTA#	AD17
PCI Slot 3	INTC# INTD# INTA# INTB#	AD18
Combo	INTG#	AD19
PCI Audio	INTF#	AD25

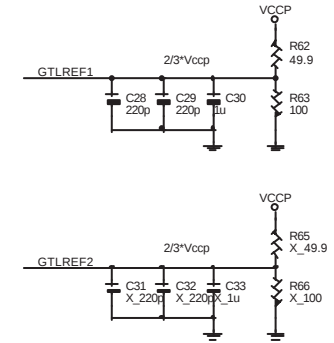
Micro-Star	Title MS-6534	Rev 10A
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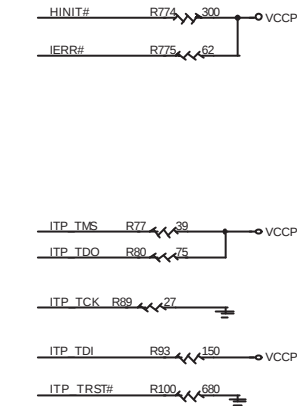
CPU SIGNAL BLOCK



CPU GTL REFERENCE VOLTAGE BLOCK

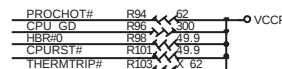
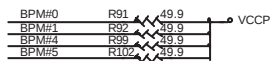


Every pin put one 220pF cap near it.
Trace Width 15mils, Space 15mils.
Keep the voltage dividers within 1.5 inches of the first GTLREF Pin

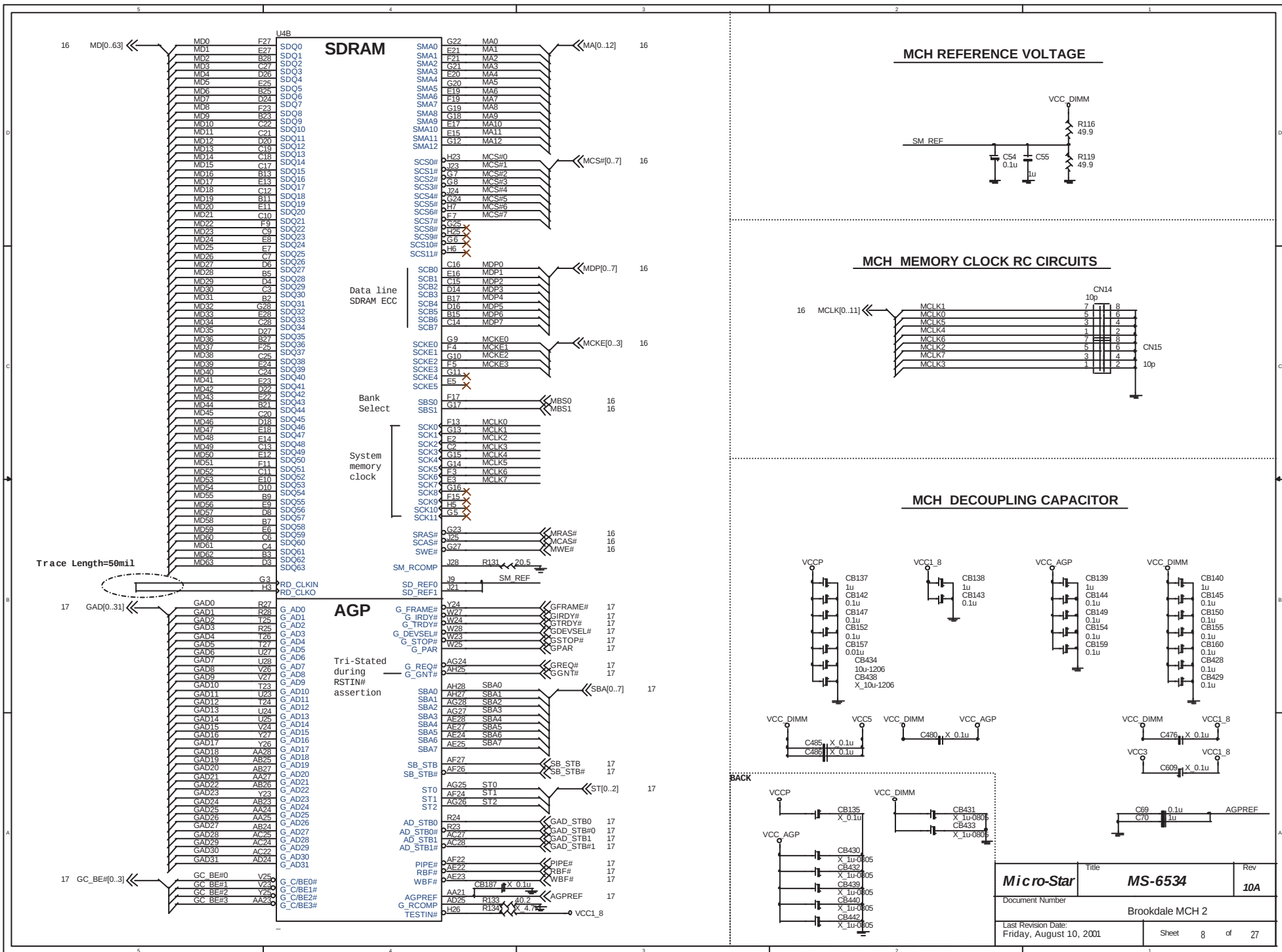


CPU STRAPPING RESISTORS

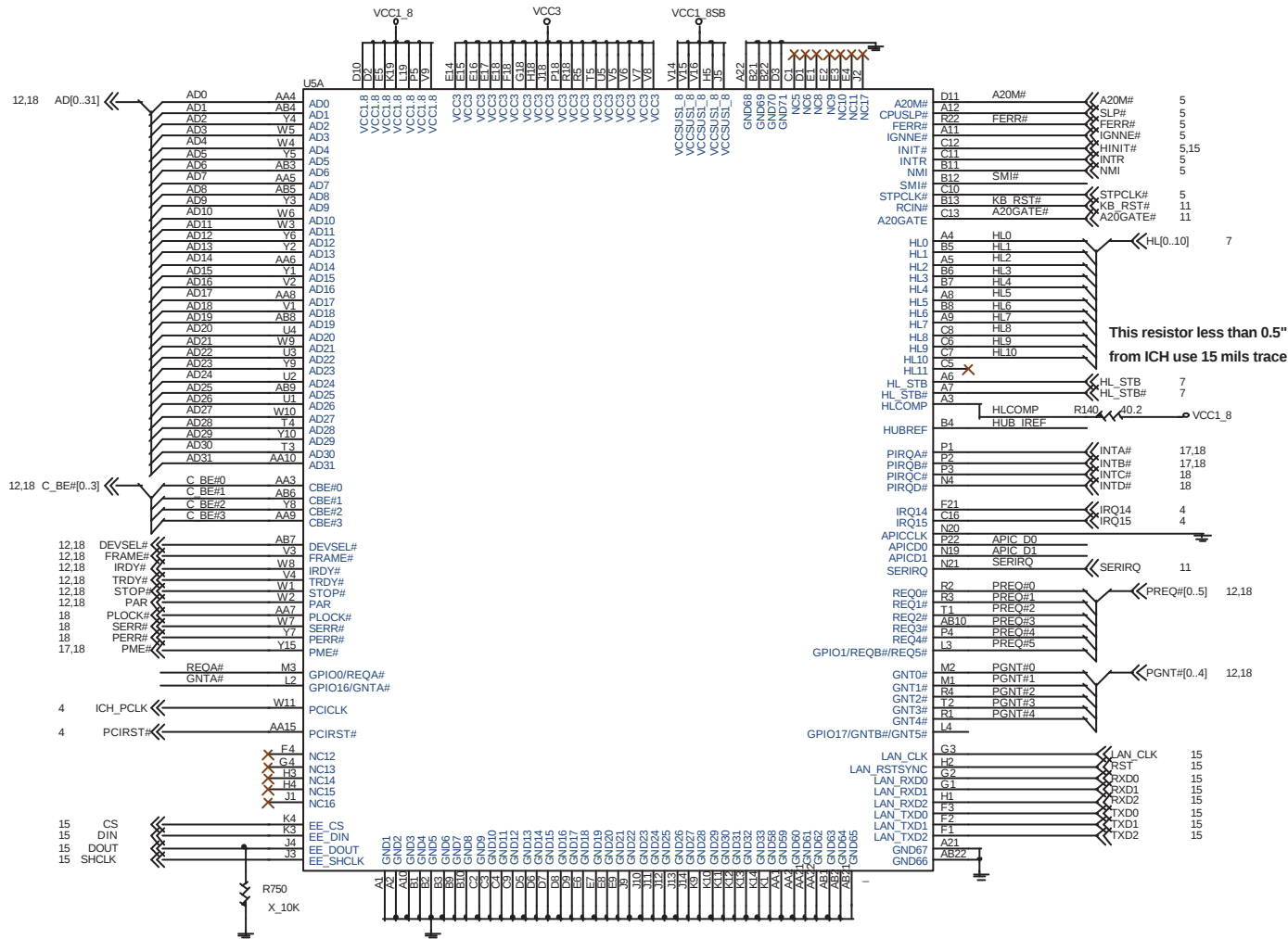
ALL COMPONENTS CLOSE TO CPU



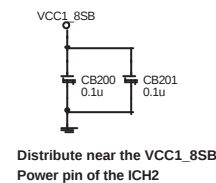
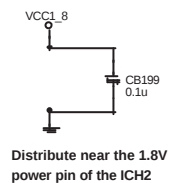
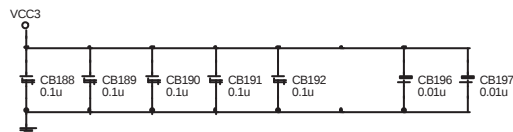
Micro-Star	Title MS-6534	Rev 10A
Document Number	INTEL mPGA478-B CPU1	
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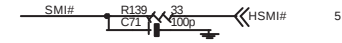
ICH2 PCI / HUB LINK / CPU / LAN / INTERRUPT SIGNALS



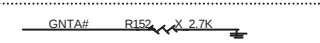
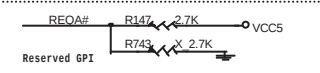
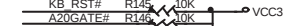
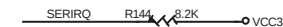
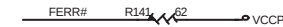
ICH2 DECOUPLING CAPACITORS



ICH2 SMI# SIGNAL



ICH2 STRAPPING RESISTORS

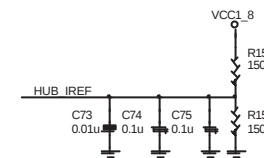


Top-Swap Override



Enhanced Hub Interface Mode

ICH2 REFERENCE VOLTAGE



Place Cap. as Close as possible to ICH2
Trace width use 15 mils and 15mils space

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	Document Number	Brookdale ICH2 PCI		
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ICH2 DECOUPLING CAPACITOR

VCC3_SB
CB204 0.1u
CB205 0.1u
VCCP
CB206 0.1u
VCC5_SB
CB207 0.1u
RTC_VCC
CB208 0.01u

VCC5
CB209 0.1u
VCC5_SB
CB210 0.1u

Distribute near the VCC3_SB power pin of the ICH

[illegible]

PROCHOT BLOCK

VCCP

R163 4.7K

THRM#

Q4
NPN-3904LT1-S-SOT23

5 PROCHOT#

ICH2 STRAPPING RESISTORS

PD IORDY R164 4.7K → VCC3

SD IORDY R165 4.7K → VCC3

PD DREQ R167 5.6K

SD DREQ R168 5.6K

INTRUDER# R169 10K → RTC_VCC

RSMRST# R170 10K

PWR GD R172 8.2K

SM LNKO 1 4.7K 2

SM LNKL 3 4.7K 4

BATLOW# 5 4.7K 6

7 4.7K 8

9 4.7K 10

SLP S3# R738 10K → VCC3_SB

SMB_ALERT# R739 10K → VCC3_SB

R740 10K

Reserved GPI

ICH2 RTC Leakage Issue

THRM# R173 10K → VCC3

VRM GD R174 10K → VCC3

SIO PME# R175 4.7K → VCC3_SB

RING# R176 8.2K

RSMRST# R494 1K

EXTSM# R697 10K

GPI7 R741 10K

R742 10K

1: W/O H/W MONITOR

0: H/W MONITOR

SPKR R171 4.7K

No Reboot

<i>Micro-Star</i>	Title	<i>MS-6534</i>	Rev	<i>10A</i>
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Signal	Pin	Function	Pin	Function
ESET#	DRVDEN0	DRVDEN0	24	DRVDEN0
INDEX#	DRVDEN1	DRVDEN1	24	DRVDEN1
INDEX#	INDEX#	INDEX#	24	INDEX#
WOT_A#	WOT_A#	WOT_A#	24	WOT_A#
WOT_B#	WOT_B#	WOT_B#	24	WOT_B#
WOT_C#	WOT_C#	WOT_C#	24	WOT_C#
WOT_D#	WOT_D#	WOT_D#	24	WOT_D#
WOT_E#	WOT_E#	WOT_E#	24	WOT_E#
WOT_F#	WOT_F#	WOT_F#	24	WOT_F#
WOT_G#	WOT_G#	WOT_G#	24	WOT_G#
WOT_H#	WOT_H#	WOT_H#	24	WOT_H#
WOT_I#	WOT_I#	WOT_I#	24	WOT_I#
WOT_J#	WOT_J#	WOT_J#	24	WOT_J#
WOT_K#	WOT_K#	WOT_K#	24	WOT_K#
WOT_L#	WOT_L#	WOT_L#	24	WOT_L#
WOT_M#	WOT_M#	WOT_M#	24	WOT_M#
WOT_N#	WOT_N#	WOT_N#	24	WOT_N#
WOT_O#	WOT_O#	WOT_O#	24	WOT_O#
WOT_P#	WOT_P#	WOT_P#	24	WOT_P#
WOT_Q#	WOT_Q#	WOT_Q#	24	WOT_Q#
WOT_R#	WOT_R#	WOT_R#	24	WOT_R#
WOT_S#	WOT_S#	WOT_S#	24	WOT_S#
WOT_T#	WOT_T#	WOT_T#	24	WOT_T#
WOT_U#	WOT_U#	WOT_U#	24	WOT_U#
WOT_V#	WOT_V#	WOT_V#	24	WOT_V#
WOT_W#	WOT_W#	WOT_W#	24	WOT_W#
WOT_X#	WOT_X#	WOT_X#	24	WOT_X#
WOT_Y#	WOT_Y#	WOT_Y#	24	WOT_Y#
WOT_Z#	WOT_Z#	WOT_Z#	24	WOT_Z#
WOT_0#	WOT_0#	WOT_0#	24	WOT_0#
WOT_1#	WOT_1#	WOT_1#	24	WOT_1#
WOT_2#	WOT_2#	WOT_2#	24	WOT_2#
WOT_3#	WOT_3#	WOT_3#	24	WOT_3#
WOT_4#	WOT_4#	WOT_4#	24	WOT_4#
WOT_5#	WOT_5#	WOT_5#	24	WOT_5#
WOT_6#	WOT_6#	WOT_6#	24	WOT_6#
WOT_7#	WOT_7#	WOT_7#	24	WOT_7#
WOT_8#	WOT_8#	WOT_8#	24	WOT_8#
WOT_9#	WOT_9#	WOT_9#	24	WOT_9#
WOT_10#	WOT_10#	WOT_10#	24	WOT_10#
WOT_11#	WOT_11#	WOT_11#	24	WOT_11#
WOT_12#	WOT_12#	WOT_12#	24	WOT_12#
WOT_13#	WOT_13#	WOT_13#	24	WOT_13#
WOT_14#	WOT_14#	WOT_14#	24	WOT_14#
WOT_15#	WOT_15#	WOT_15#	24	WOT_15#
WOT_16#	WOT_16#	WOT_16#	24	WOT_16#
WOT_17#	WOT_17#	WOT_17#	24	WOT_17#
WOT_18#	WOT_18#	WOT_18#	24	WOT_18#
WOT_19#	WOT_19#	WOT_19#	24	WOT_19#
WOT_20#	WOT_20#	WOT_20#	24	WOT_20#
WOT_21#	WOT_21#	WOT_21#	24	WOT_21#
WOT_22#	WOT_22#	WOT_22#	24	WOT_22#
WOT_23#	WOT_23#	WOT_23#	24	WOT_23#
WOT_24#	WOT_24#	WOT_24#	24	WOT_24#
WOT_25#	WOT_25#	WOT_25#	24	WOT_25#
WOT_26#	WOT_26#	WOT_26#	24	WOT_26#
WOT_27#	WOT_27#	WOT_27#	24	WOT_27#
WOT_28#	WOT_28#	WOT_28#	24	WOT_28#
WOT_29#	WOT_29#	WOT_29#	24	WOT_29#
WOT_30#	WOT_30#	WOT_30#	24	WOT_30#
WOT_31#	WOT_31#	WOT_31#	24	WOT_31#
WOT_32#	WOT_32#	WOT_32#	24	WOT_32#
WOT_33#	WOT_33#	WOT_33#	24	WOT_33#
WOT_34#	WOT_34#	WOT_34#	24	WOT_34#
WOT_35#	WOT_35#	WOT_35#	24	WOT_35#
WOT_36#	WOT_36#	WOT_36#	24	WOT_36#
WOT_37#	WOT_37#	WOT_37#	24	WOT_37#
WOT_38#	WOT_38#	WOT_38#	24	WOT_38#
WOT_39#	WOT_39#	WOT_39#		

Figure 1: Pin connections for the CPU and the status panel.

The figure consists of two circuit diagrams. The top diagram shows the CPU pin connections, and the bottom diagram shows the status panel pin connections. Both diagrams include a note about the location of the components.

CPU Pin Connections:

- VTN_VCC
- FB3
- 80
- 0805
- VCC5
- CB211
- 0.1u
- VTN_GND
- FB4
- 80
- 0805

Status Panel Pin Connections:

- TMP_VREF
- R178
- X_10K
- CPU_TMP
- RT1
- X_10K
- 0805
- VTN_GND
- R179
- X_10K
- SYS_TMP
- RT2
- X_10K
- 0805
- VTN_GND

NOTE: LOCATE INSIDE SOCKET#478

NOTE: LOCATE CLOSE STATUS PANEL

19

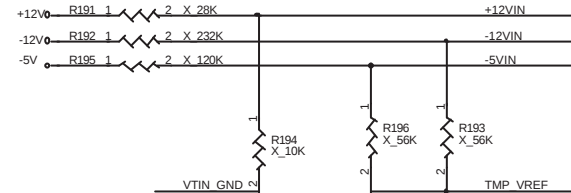
VCC3_SB ○ R182 X 10K PWRBTN#

VCC5 ○ R183 4.7K SOUTA

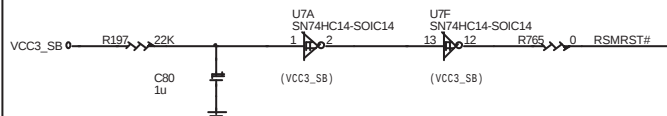
VCC5 ○ R184 X 4.7K SOUTB

VCC5 ○ R185 X 4.7K RTSA#

SOUTA	L: Disable KBC	H: Enable KBC
SOUTB	L: 24MHZ	H: 48MHZ
RTSA#	L: CFAD=2E	H: CFAD=4E
DTRA#	L: PNP Default	H: PNP no Default



Stuff all for D Version bug



19 IRRX << IRRX

19 IRTX << IRTX

IR1

1 1

3 3

4 4

5 5

D1x5-1:4-BK

AD[0..31]	⟨⟨	AD[0..31]	9,18
C_BE#[0..3]	⟨⟨	C_BE#[0..3]	9,18

10,18 INTF#

4,7,11,15 PCIRST#1

4 PCICLK4

9 PGNT#3

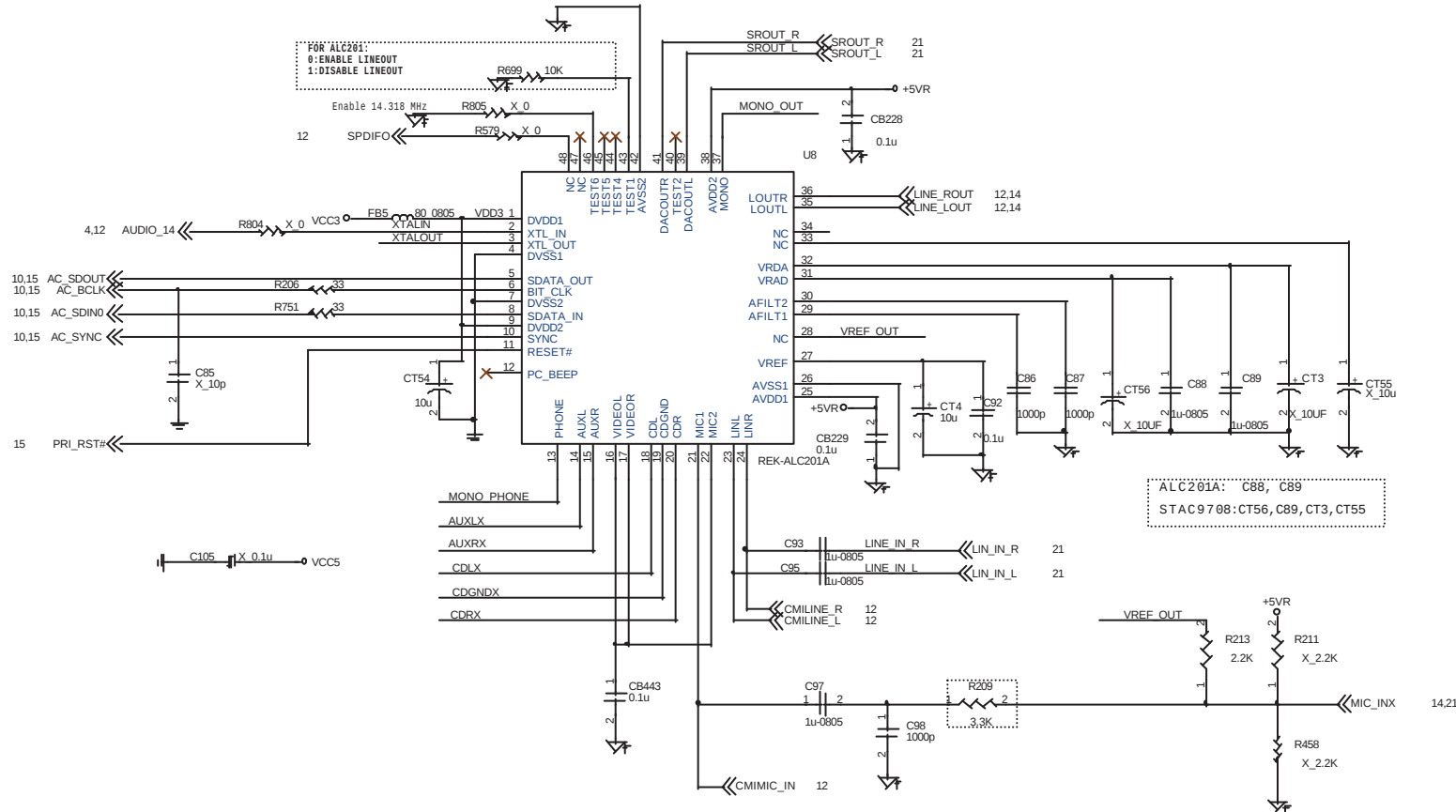
9,18 PREQ#3

C620
DVDD ——— VCC5
X 104P

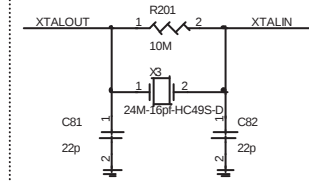
```
4 Channal Chipset use 5V
6 Channal Chipset use 3.3V
```

Micro-Star	Title MS-6534	Rev 10A
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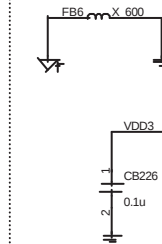
ALC201A/STAC9708 CODEC



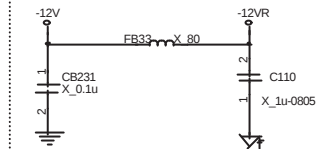
AUDIO CODE CRYSTAL CIRCUIT



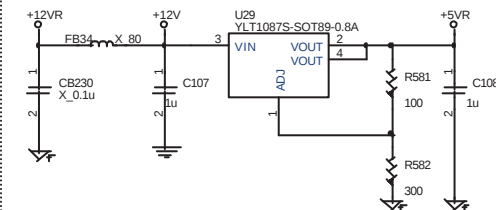
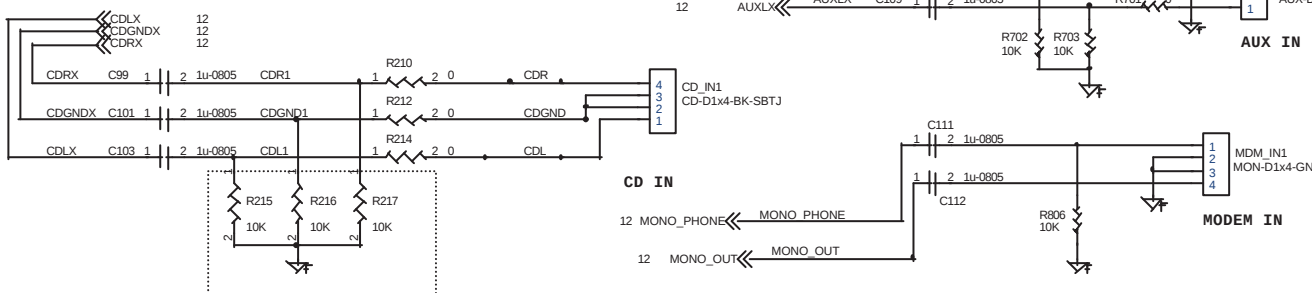
DECOUPLING CAPACITOR



AUDIO CODE REGULATORS

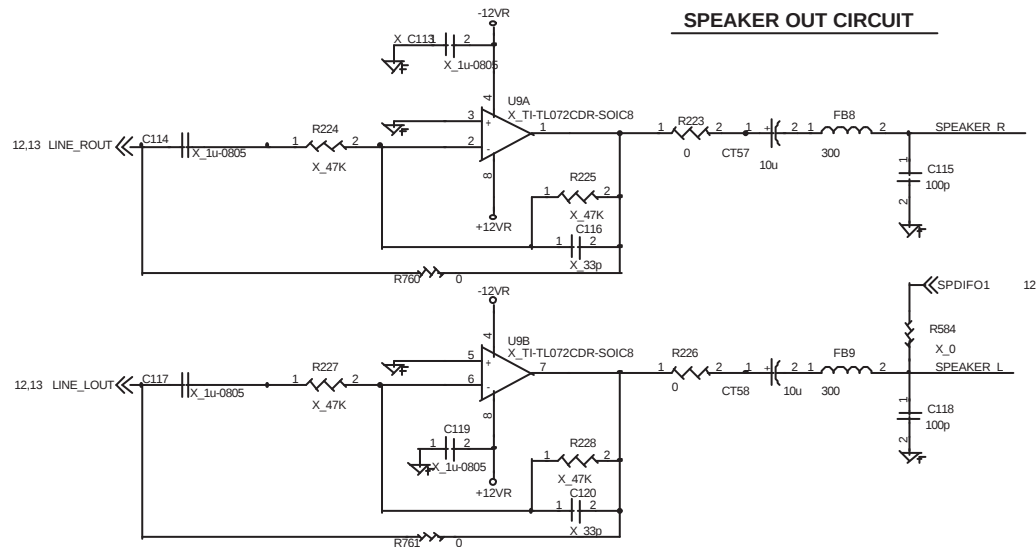


AUDIO CODE CD / AUX / MODEM IN HEADERS

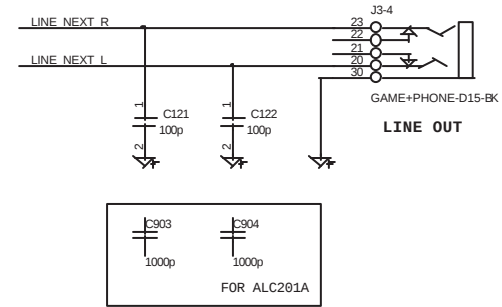


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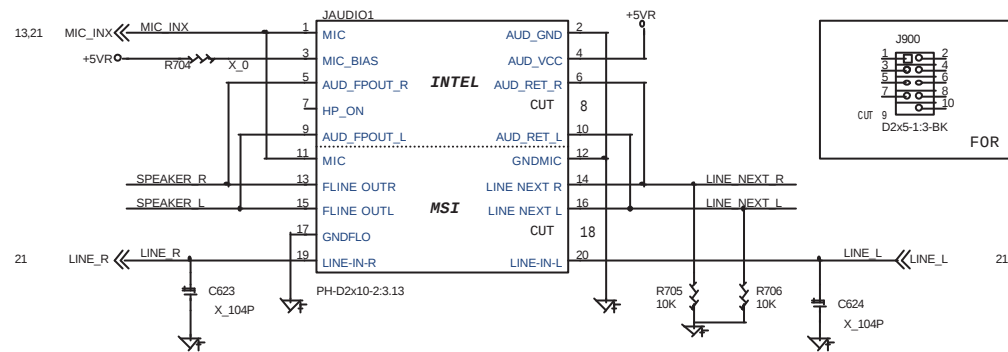
SPEAKER OUT CIRCUIT



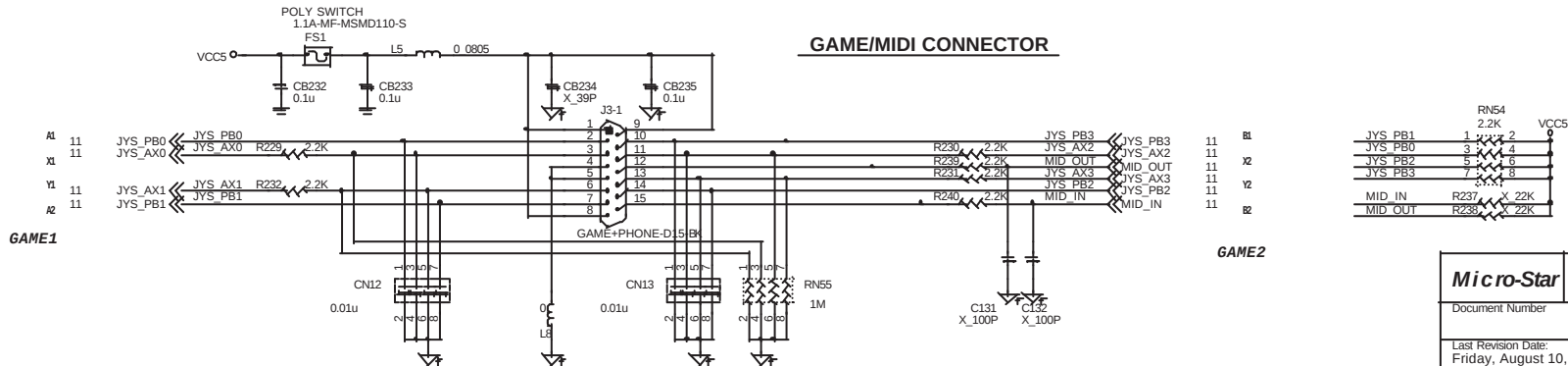
SPEAKER OUT JACK



MSI/INTEL AUDIO CONNECTOR

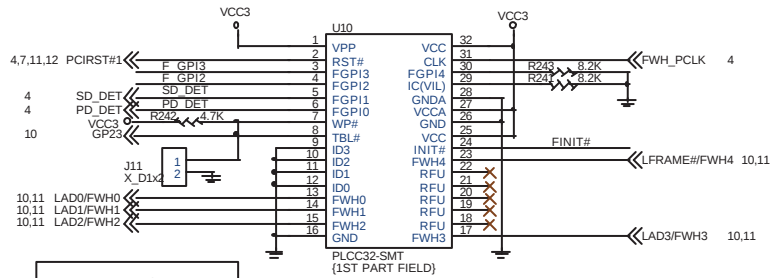


GAME/MIDI CONNECTOR



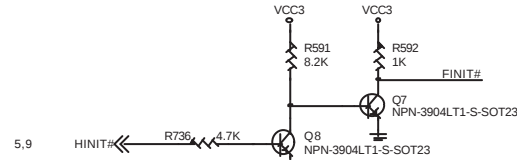
Micro-Star	Title	MS-6534	Rev	10A
Document Number	Audio Amp TL072 & GAME			
Last Revision Date:	Friday, August 10, 2001	Sheet	14	of 27

Firmware Hub (FWH)

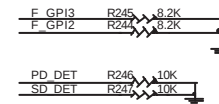


J11 BIOS Update	
SHORT	Locked
OPEN	Unlocked

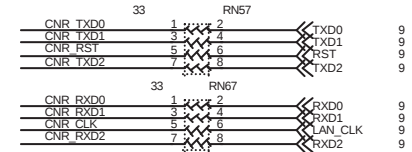
FWH INIT Signal Voltage Translation Block



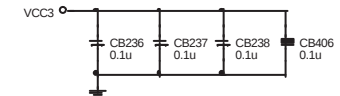
FWH RESISTORS



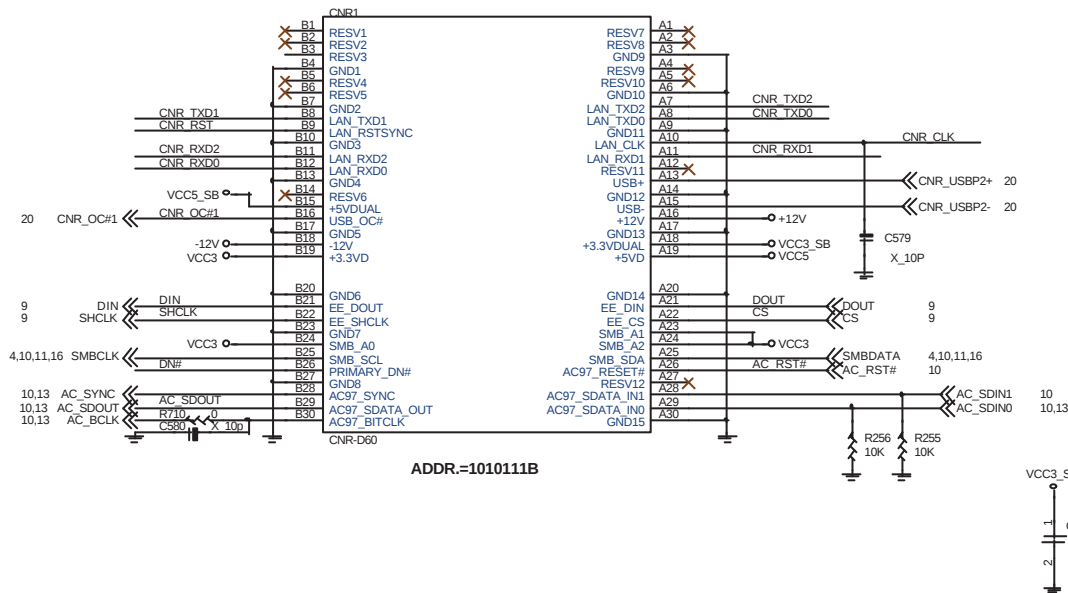
LAN DAMPING RESISTOR



FWH DECOUPLING CAPACITORS

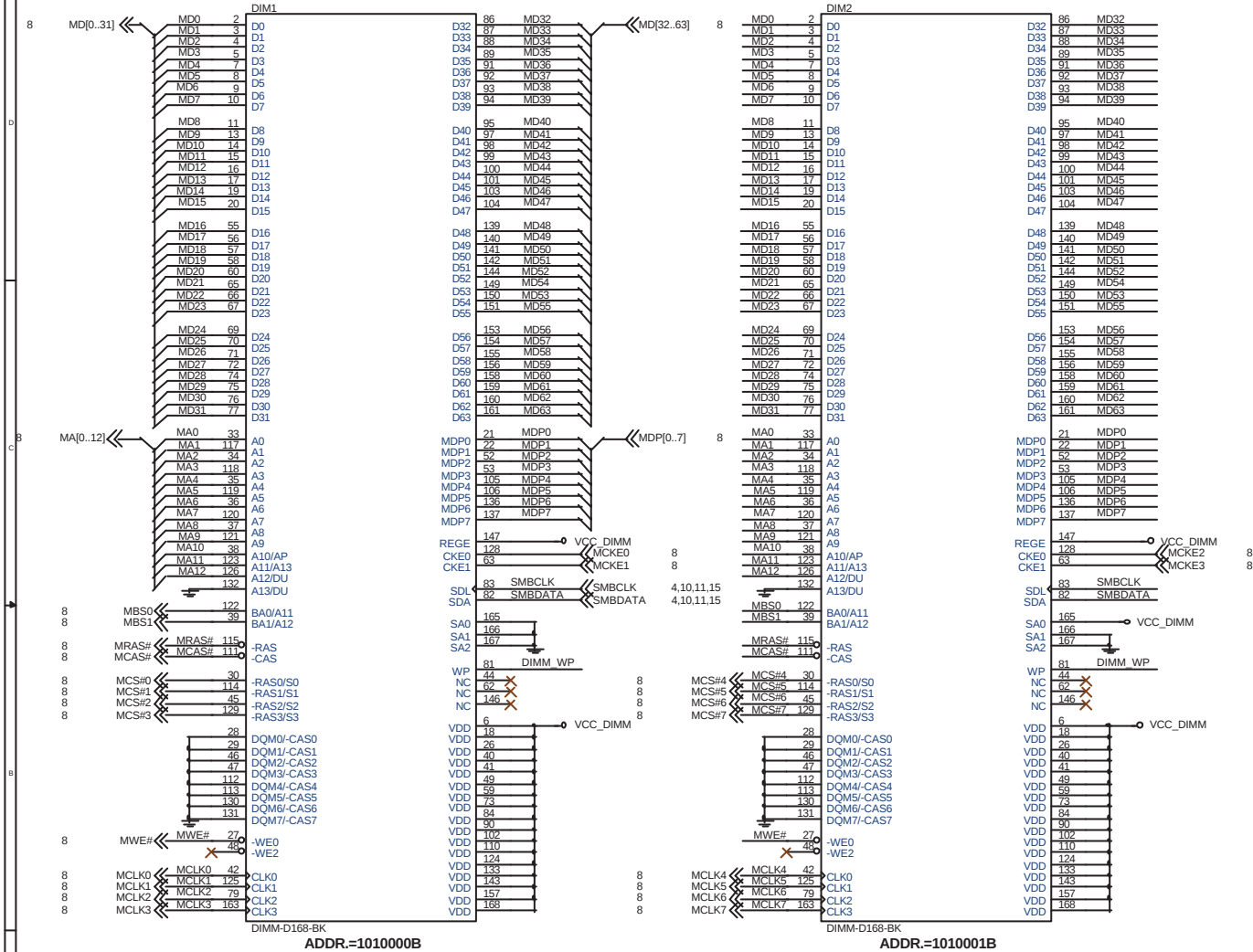


CNR RISER

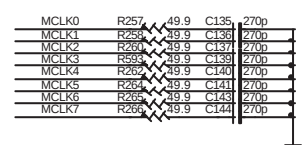


DIMM1

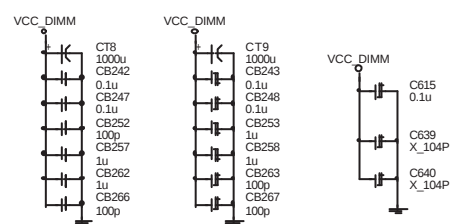
DIMM2



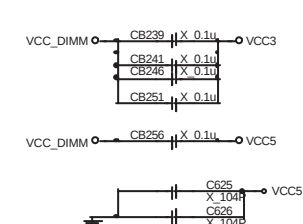
DIMM CLOCK



DECOUPLING CAPACITORS

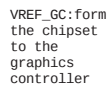


DIMM SPD WE BLOCK



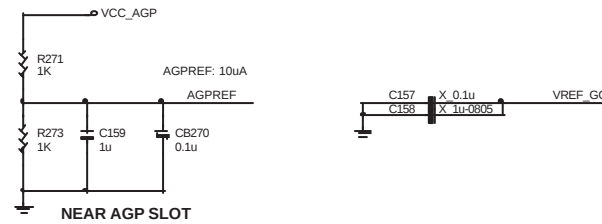
Micro-Star	Title	MS-6534	Rev	10A
Document Number	DIMM 1 & 2			
Last Revision Date:	Saturday, August 11, 2001			
Sheet	16	of	27	

VCC5 = 60mils trace / 15 mils space



AGP Slot Imax
VCC AGP 8.0A
VCC3 6.0A
VCC12 1.0A
VCC5 2.0A

```
VREF_GC:form
the graphics
controller to
the chipset
```

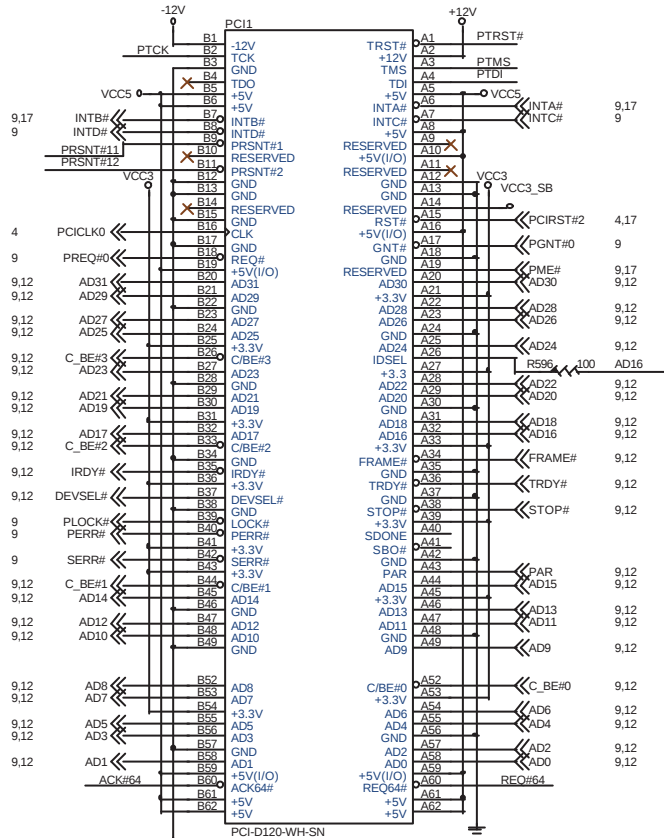


Micro-Star	Title	MS-6534	Rev	10A
Document Number		AGP Slot		
Last Revision Date: Saturday, August 11, 2001		Sheet	17	of 27

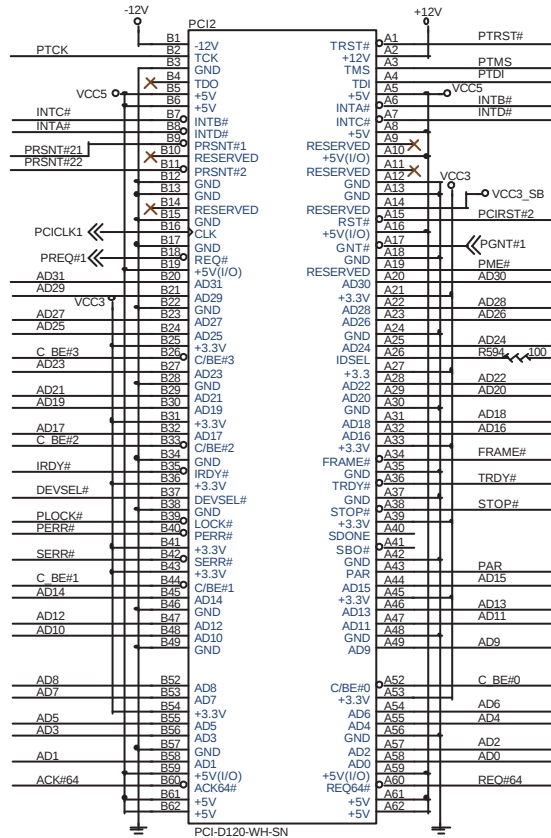
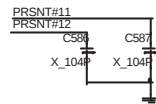
PCI SLOT 1 (PCI VER: 2.2 COMPLY)

PCI SLOT 2 (PCI VER: 2.2 COMPLY)

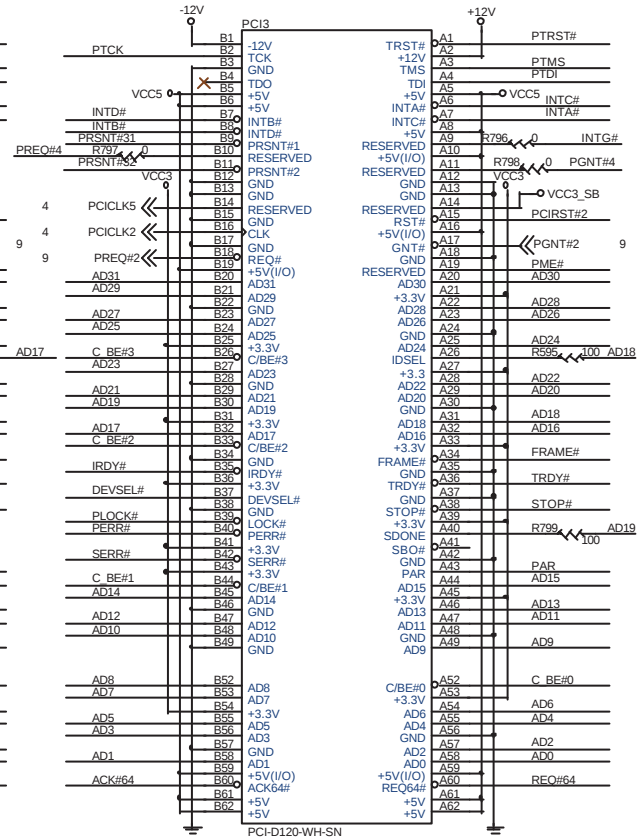
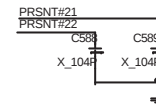
PCI SLOT 3 (PCI VER: 2.2 COMPLY)



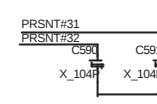
IDSEL = AD16
MASTER = PREQ0
INTA#



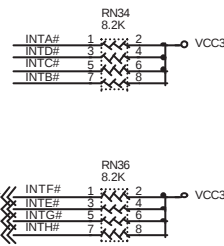
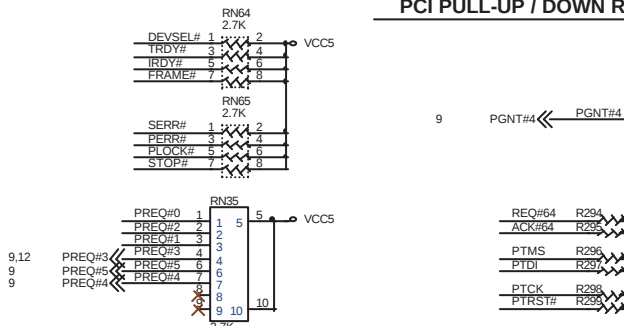
IDSEL = AD17
MASTER = PREQ1
INTB#



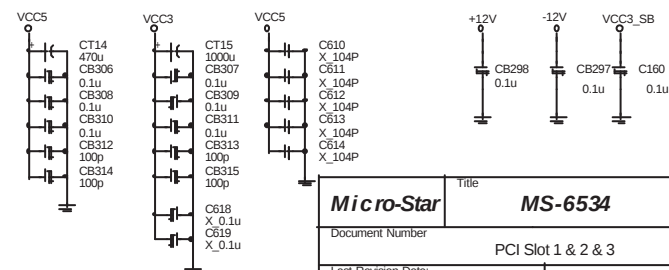
IDSEL = AD18
MASTER = PREQ2
INTC#



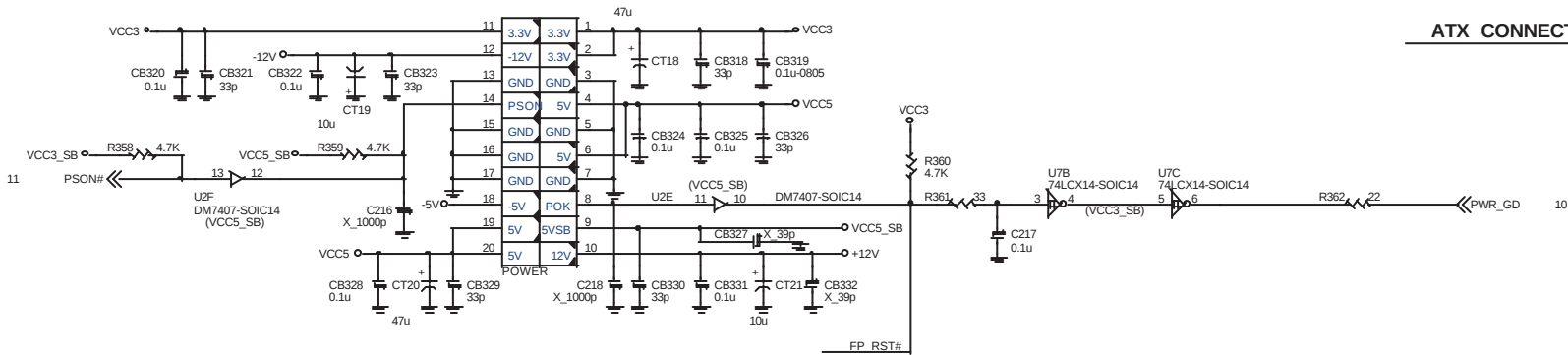
PCI PULL-UP / DOWN RESISTORS



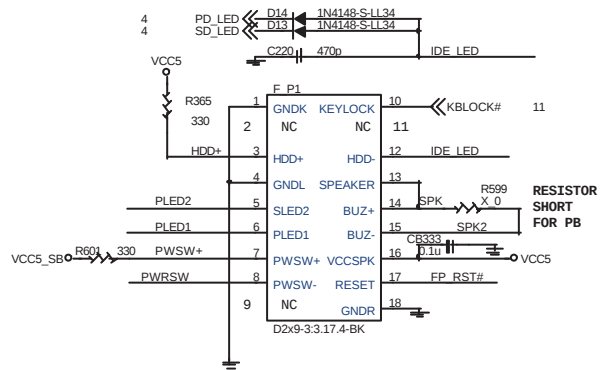
PCI SLOT DECOUPLING CAPACITORS



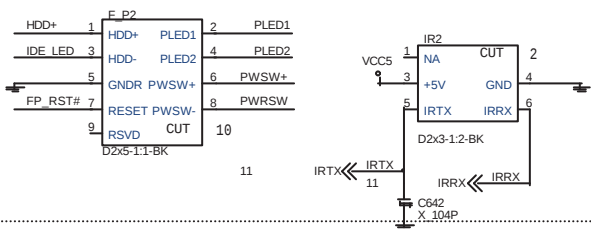
Micro-Star	Title	Rev	
	MS-6534		10A
	Document Number		
	PCI Slot 1 & 2 & 3		
	Last Revision Date: Saturday, August 11, 2001		
Sheet		18	of 27



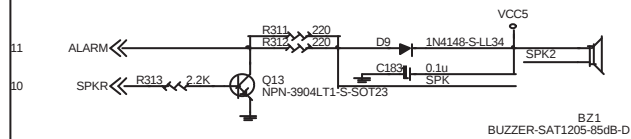
FRONT PANEL-MSI



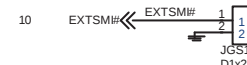
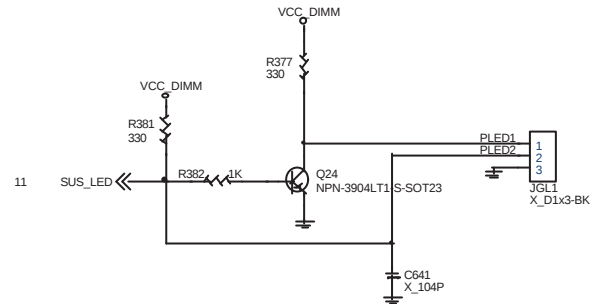
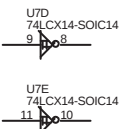
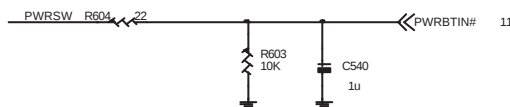
FRONT PANEL-INTEL



SPEAKER

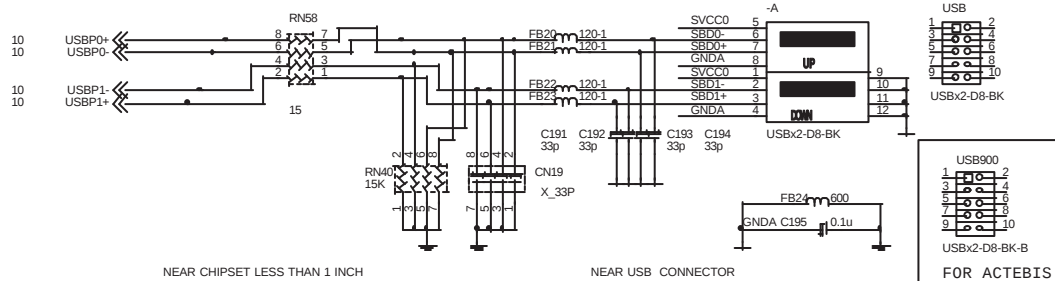


POWER BUTTON

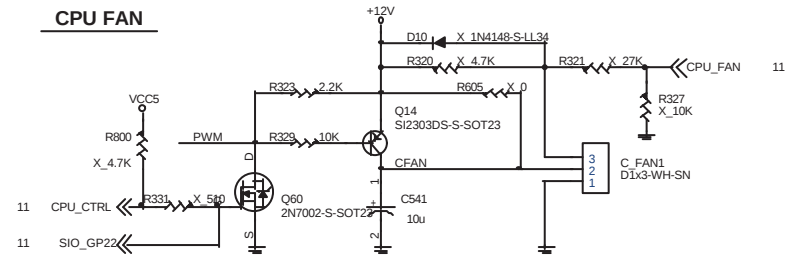


Micro-Star	Title MS-6534	Rev 10A
Document Number Front Panel & Connector		
Last Revision Date: Friday, August 10, 2001		Sheet 19 of 27

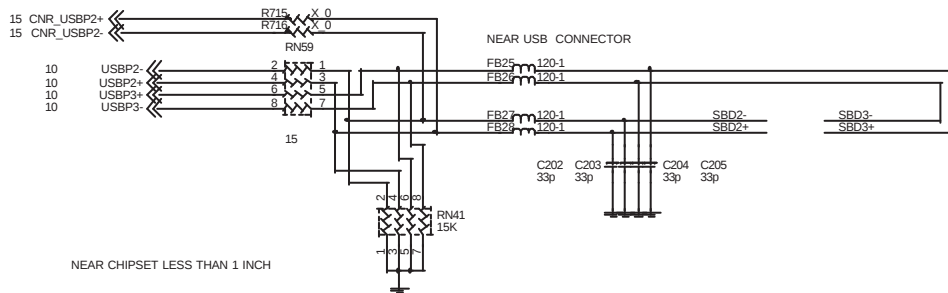
BACK PANEL USB CONNECTOR FOR USB PORT 0,1



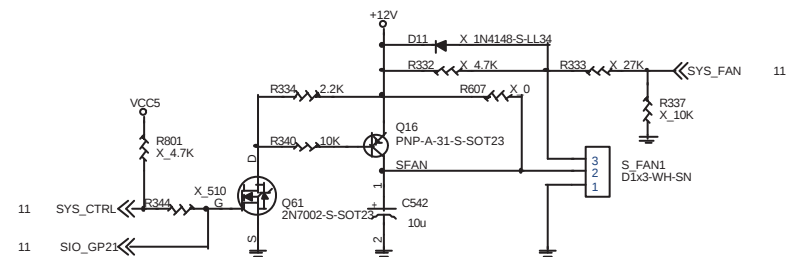
CPU FAN



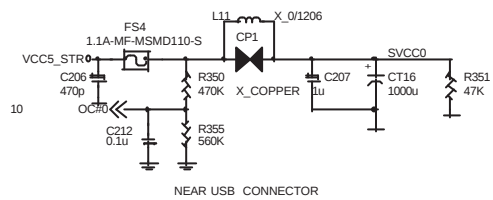
FRONT PANEL USB CONNECTOR FOR USB PORT 2,3



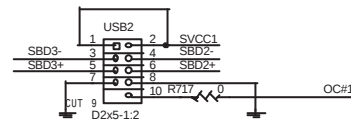
SYSTEM FAN



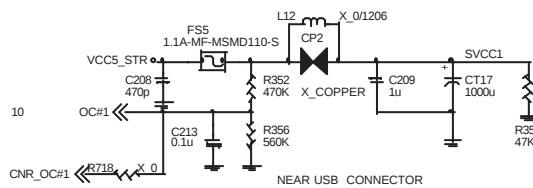
POWER CIRCUIT FOR USB PORT 0,1



INTEL

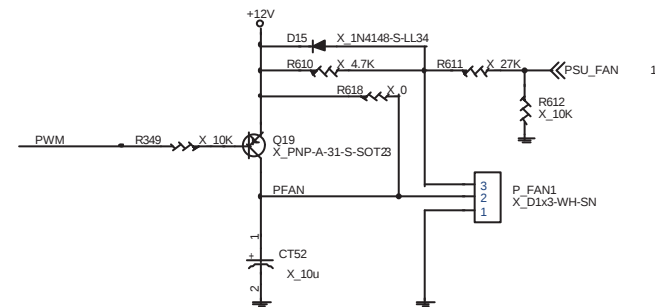


POWER CIRCUIT FOR USB PORT 2,3



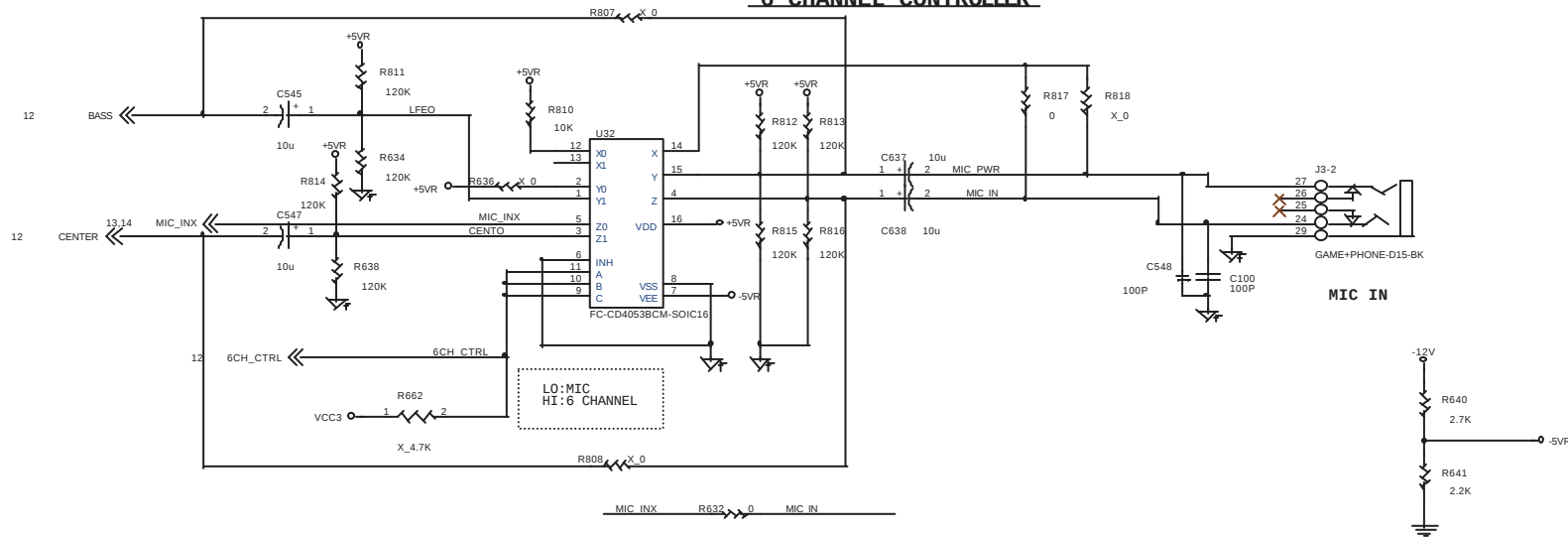
ATX PSU FAN ON/OFF CONTROL

CAN BE DELETED IF SPACE NOT ENOUGH

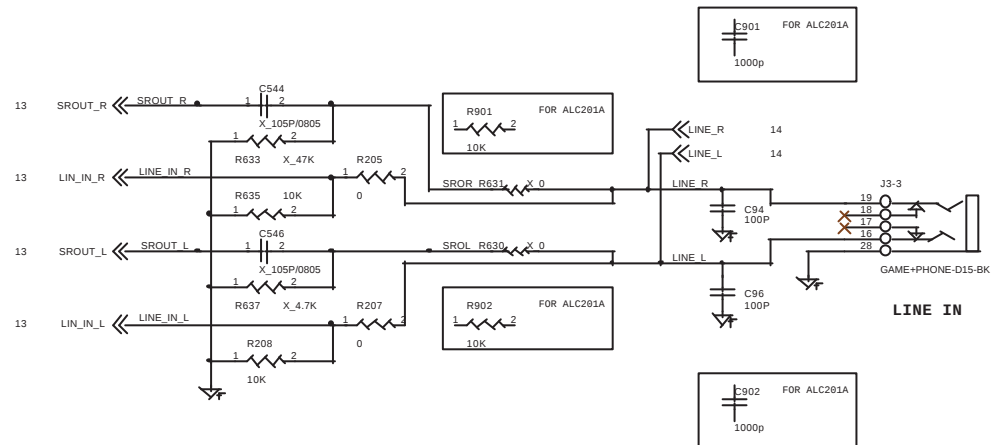


Micro-Star	Title	MS-6534	Rev	10A
Document Number	USB & FAN Connectors			
Last Revision Date:	Saturday, August 11, 2001			
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6 CHANNEL CONTROLLER

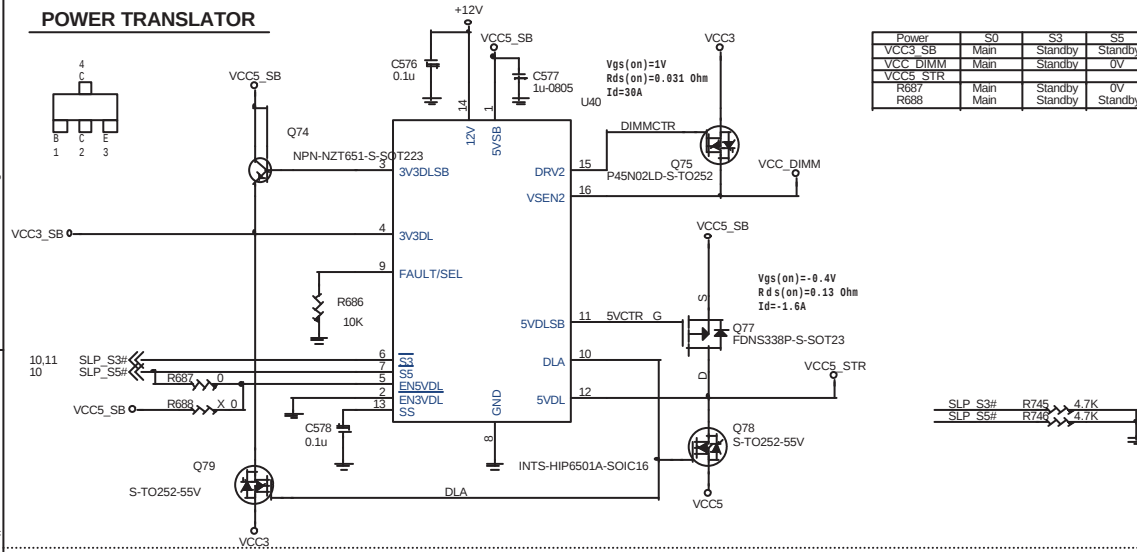


4 CHANNEL CODEC CONTROL

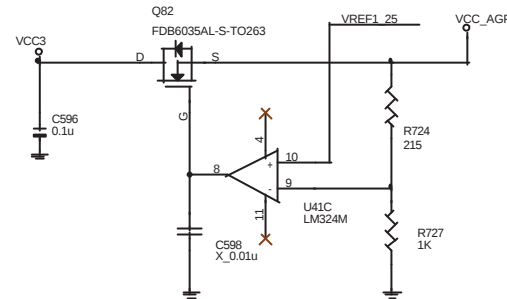


Micro-Star	Title MS-6399	Rev 10A
Document Number 4/6 CHANNEL CONTROL		
Last Revision Date: Saturday, August 11, 2001		Sheet 21 of 27

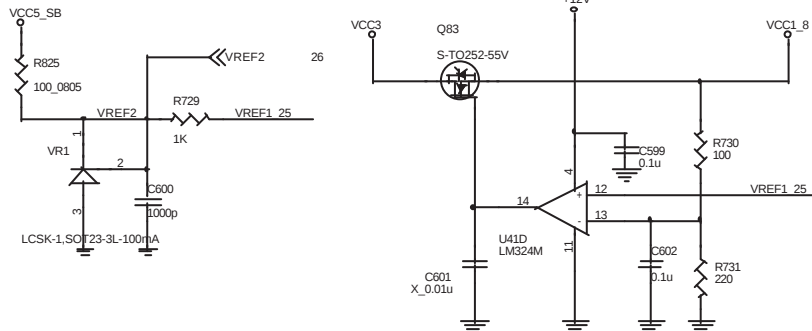
POWER TRANSLATOR



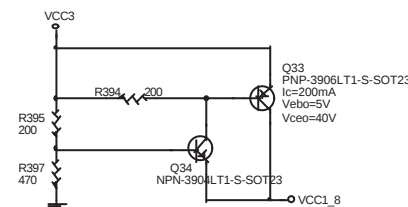
AGP 4X SLOT 1.5V POWER TRANSLATOR



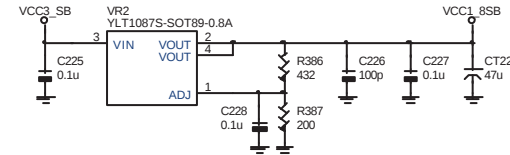
1.8V POWER TRANSLATOR (50mils trace / 15 mils space)



1.8V/3.3V SEQUENCE CIRCUIT



1.8V STANDBY POWER TRANSLATOR (40mils trace / 20 mils space)



POWER CONSUMPTION

	VCCP	VCC_AGP	VCC1_8	VCC3_DIMM	VCC3	VCC5	VCC5_SB	+12V	-12V
CPU	69.0A	0	0	0	0	0	0	NOTE4	0
PMCH	2.4A	NOTE1	0.2A	2.0A	0	0	0	0	0
ICH2	0	0	NOTE3	0	NOTE3	0	NOTE3	0	0
CY28324	0	0	0	0	0	0	0	0	0
AD1885	0	0	0	0	0	0	0	0	0
FVH-SST	0	0	0	0	0	0	0	0	0
W83627HF	0	0	0	0	0	0	0	0	0
HIP6301	0	0	0	0	0	0	0	0	0
HIP6602A	0	0	0	0	0	0	0	0	0
HIP6601A	0	0	0	0	0	0	0	0	0
HIP6501A	0	0	0	300mA	0	20mA	0	0	0
DIMM	0	0	0	NOTE2	0	NOTE2	0	0	0
AGP	0	8.0A	0	0	6.0A	2.0A	?	1.0A	0
PCI	0	0	0	0	0	0	0	0	0
USB	0	0	0	0	0	0	0	0	0
USB HUB	0	0	0	0	0	0	0	0	0
FAN	0	0	0	0	0	0	0	0	0
TTL	0	0	0	0	0	0	0	0	0
AMPLIFIER	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0

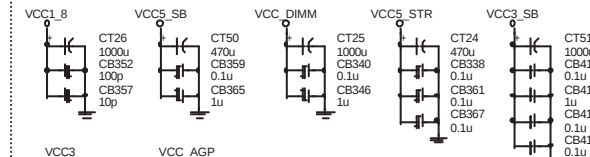
NOTE1 --- MCH
VCC_AGP = VCC1_5 (1.5A) + VCC_AGP (0.37A)

NOTE2 --- DIMM
S0 STATE --- 2.0A * 3 = 6.0A ---> VCC3
S1/S3 STATE --- 200mA * 3 = 600mA ---> VCC3_SB
VCC3_SB --> 600mA * 3.3V/5V=396mA --> VCC5_SB

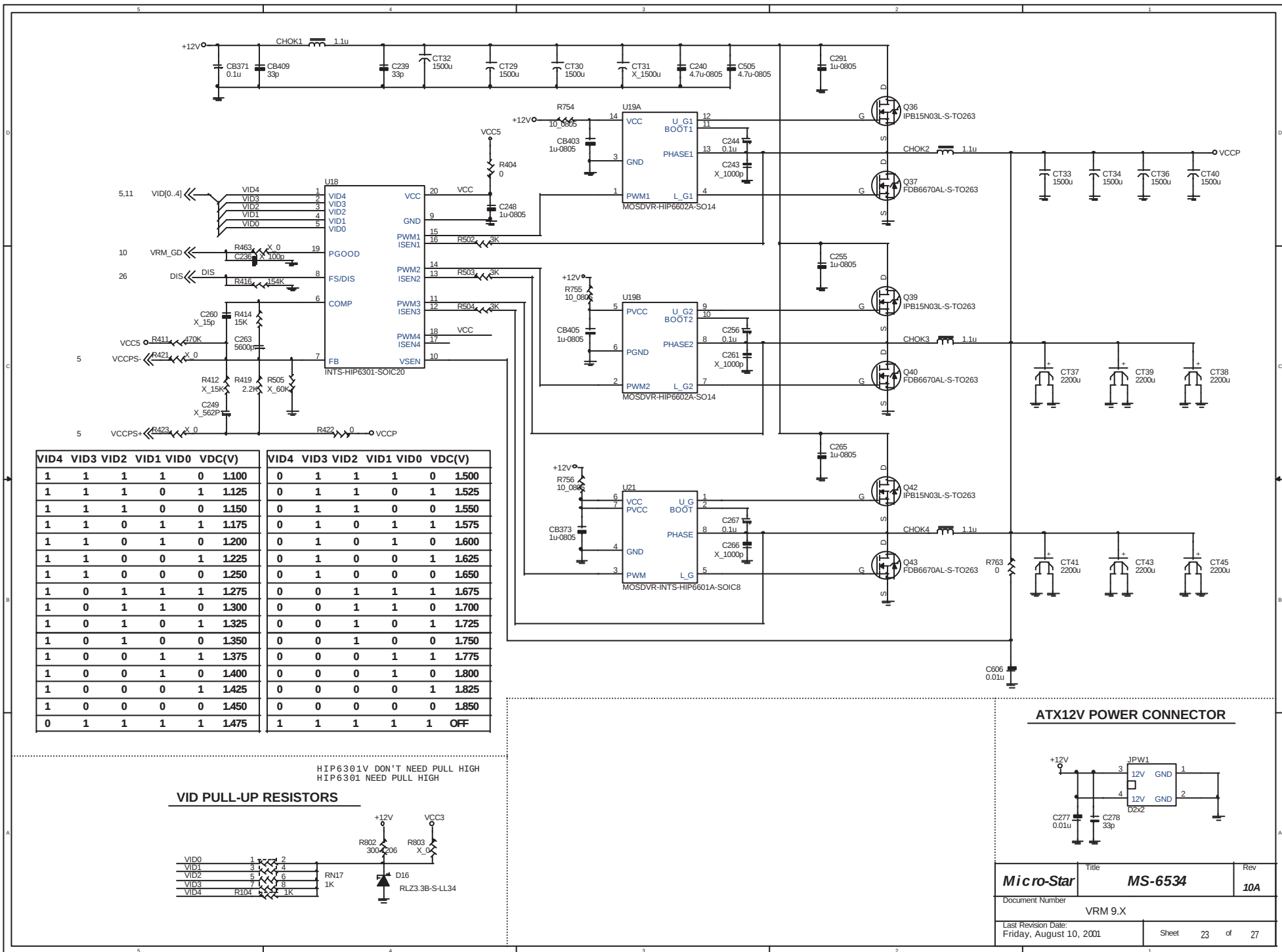
Power	S0	S1	S3/S4/S5
1.8V LAN	300mA	100mA	N/A
1.8V LAN	36mA	28mA	N/A
VCC1_8SB	45mA	30mA	7mA
VCC3	410mA	5mA	N/A
VCC3+562ET	230mA	210mA	N/A
VCC3_SB	25mA	0.6mA	N/A

VCC3_SB =
VCC1_8SB =
VCC5_SB = VCC3_SB + VCC1_8SB

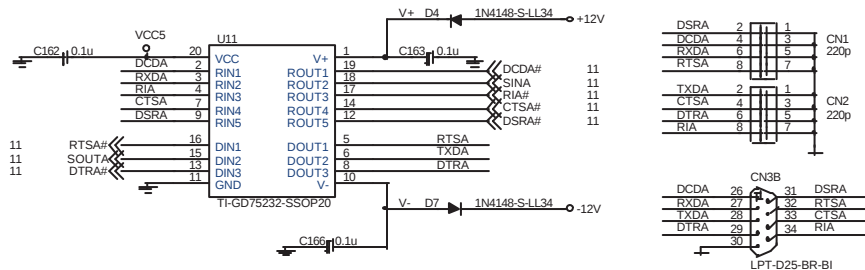
REGULATORS OUTPUT DECOUPLING CAPACITORS



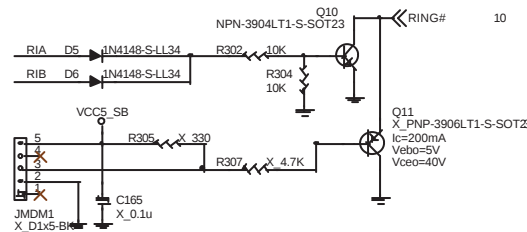
Micro-Star	Title	MS-6534	Rev	10A
Document Number	Voltage Regulator			
Last Revision Date:	Saturday, August 11, 2001			Sheet 22 of 27



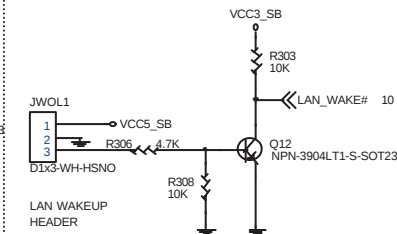
SERIAL PORT 1



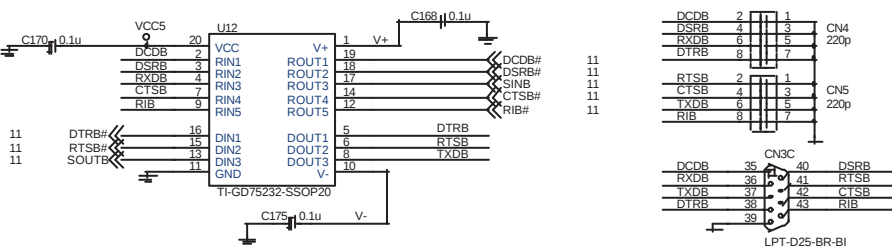
MODEM RING BLOCK



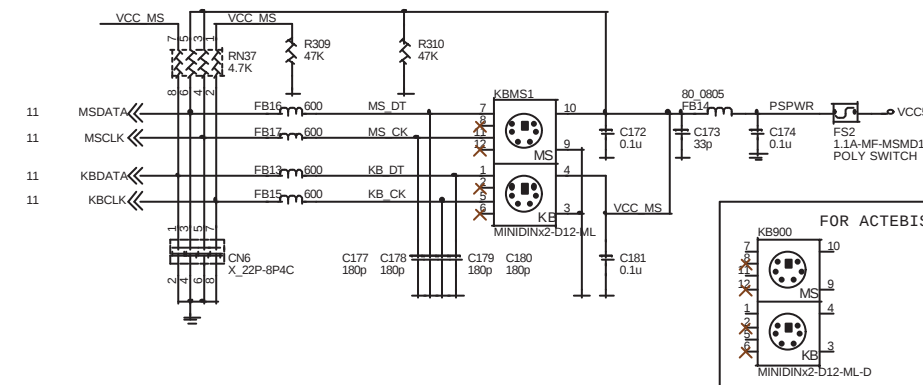
LAN WAKEUP BLOCK



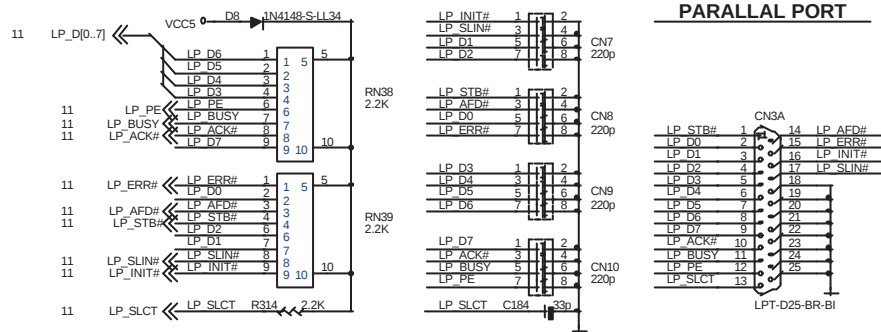
SERIAL PORT 2



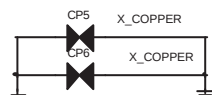
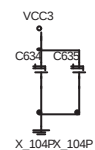
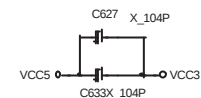
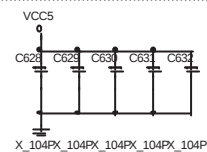
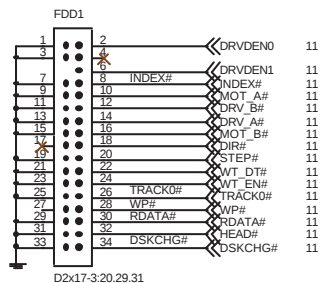
PS2 KEYBOARD & MOUSE CONNECTOR



PARALLAL PORT



FLOPPY CONNECTOR



Micro-Star	Title MS-6534	Rev 10A
Document Number		IO Connector
Last Revision Date: Saturday, August 11, 2001		Sheet 24 of 27

6534 0A->0B HISTORY

Item	Page	Description	Component Change
1	4	Only for 28324	R28 NA
2	4	MUL1:MUL0=1:0 ,set Ioh is 6 x IREF Voh=0.7V	R30 NA,R31=10K
3	4	EMI	C607=103P,C608=100P,C520=22P
4	4	PCI clock skew must smaller than 2.0ns	CN18=10P
5	4	ICH2 internal pull down	R41,R42 NA
6	6		CT46,CT47 100=>150UF
7	11	Fix CPU temperature too low	R181 30K=>68K
8	11	Super IO clock=24MHz	R184 NA
9	12	Add C-Media modem-in/out circuit	
10	12	Cut PME# of C-Media to prevent restart after shutdown	
11	15	Remove damping resistor of AC_BCLK to CNR	R710 33=>0 Ohm
12	15	Prevent CPU go into SAFEMODE	R252 NA
13	19	Improve the lightness of POWER LED	R382 4.7K=>1K
14	20	EMI	FB20,21,22,23,25,26,27,28 0=>10 Ohm C191,192,193,194,202,203,204,205 33P=>47P
15	20	Change Q14 to P-Channel mosfet Id=1.7A	
16	21	Solve MIC noise	R636 NA
17	22	VCC12 net error	
18	23	Fix VCCVID power sequence error	R748 10K=>0,R764 1K=>10K
19	26	Add THERMTRIP# circuit	

6534 0B->1.0 HISTORY

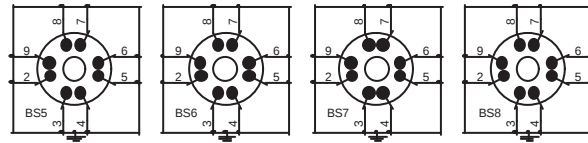
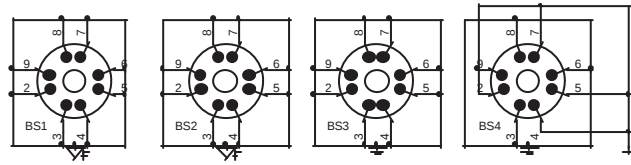
Item	Page	Description	Component Change
1	4	Modify VTT_GD# circuit	Solve without VCCP can't shutdown
2	4	Add PCICLK 5	For MEDION combo card
3	10	GPI 7 pull-up to VCC3	Follow ICH2 power plane
4	11	Add SIO_GP21,22 to control fan	For W83627F
5	13	Add 14.318MHz to CODEC	For ALC202A
6	13	Mono phone input pull-down 10K	Erase noise
7	18	PCI slot circuit modify	For MEDION combo card
8	21	6 channel circuit modify	C-Media's comment
9	22	Modify VCC_AGP LDO	Cost down
10	23	VCCVID pull-up circuit modify	Meet power down sequence spec of Intel
11	26	Modify VCCVID circuit	

6534 1.0->1.0A HISTORY

Item	Page	Description	Component Change
1	26	Modify power sequence circuit	Add TL431S(Vref=2.5V)
2		Add VCC3_SB trace width to 30-50 mils	For XP 2001 LOGO

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Document Number HISTORY		
Last Revision Date: Friday, August 10, 2001		Sheet 25 of 27

PCB OTHER COMPONENT



BS1_X1 BS2_X1 BS3_X1 BS4_X1 BS6_X1 BS7_X1 BS8_X1 BS9_X1



BS1_X1

BS2_X1

BS3_X1

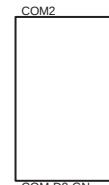
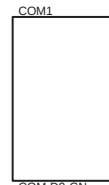
BS4_X1

BS6_X1

BS7_X1

BS8_X1

BS9_X1



COM-D9-GN

COM-D9-GN

-



X U4-A
D1x3-T2-BK

X U4-B
D1x3-T2-BK

X U4
-

X U4-C
D1x3-T2-BK

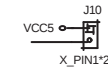
X U4-D
D1x3-T2-BK

SIMULATION TRACE



X_PIN1*2

SDR



VCC5 X_PIN1*2

AGP



JBAT1(1-2)
JC-D2-GN



JAU(13-14)
JC-D2-GN



JAU(15-16)
JC-D2-GN



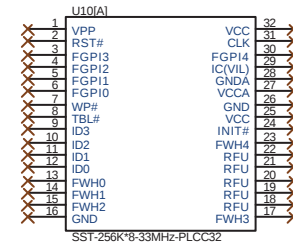
JFP(13-14)
JC-D2-GN



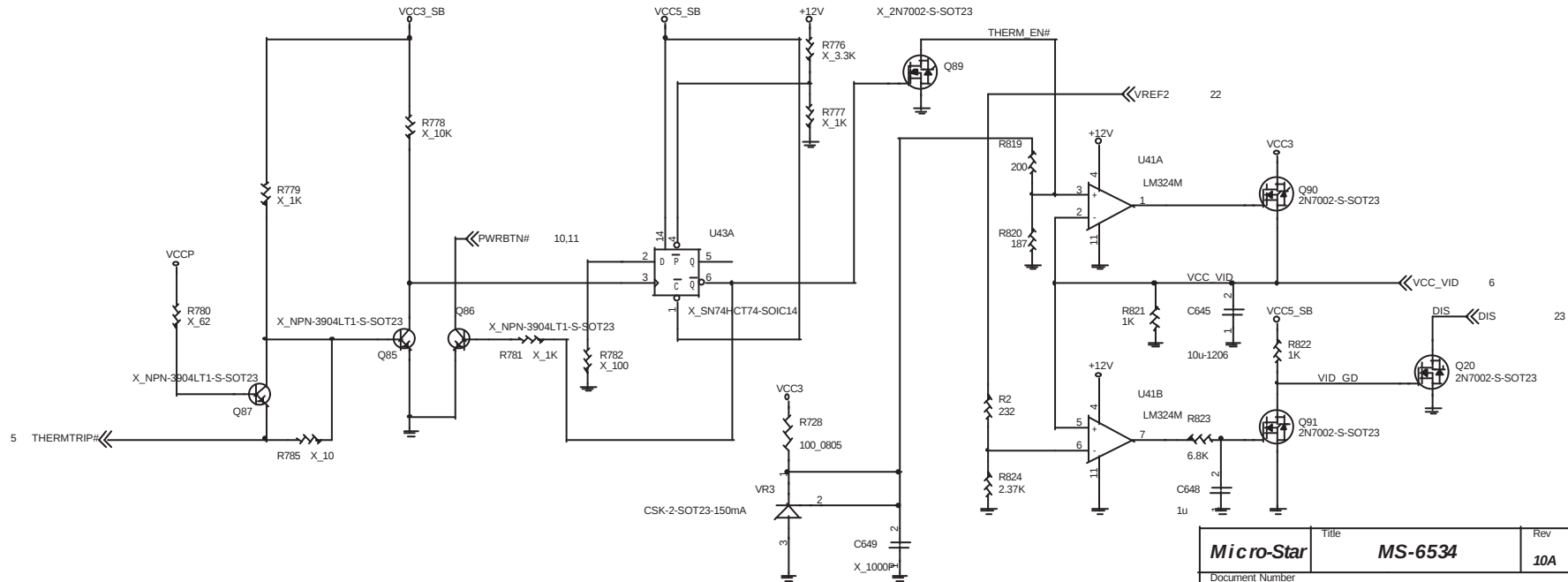
BAT1[A]



BAT-CR2032-1V-210mAh

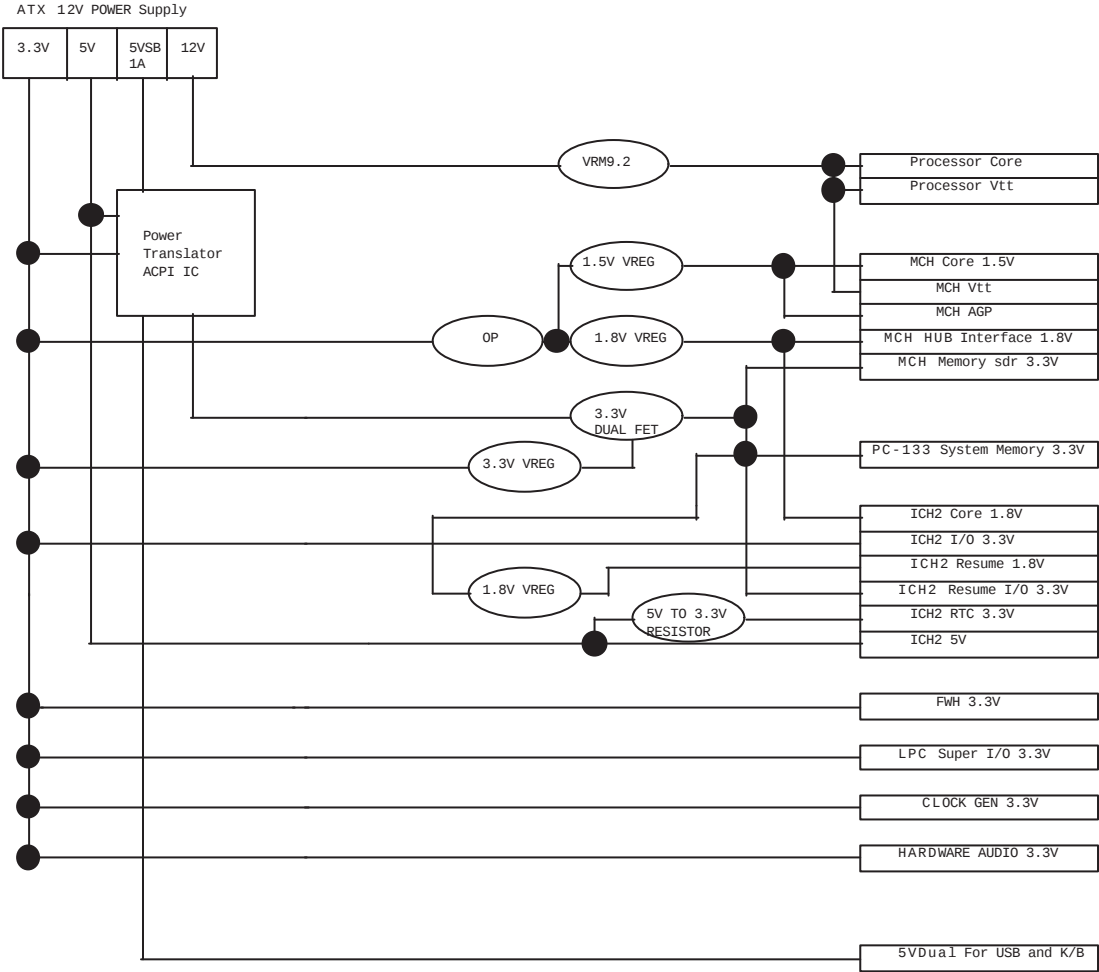


PWM GOOD



Micro-Star	Title	MS-6534	Rev	10A
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Power Delivery Map



Micro-Star	Title	MS-6534	Rev	10A
	Document Number	Power Delivery Map		
	Last Revision Date:	Friday, August 10, 2001	Sheet	27 of 27