

MS-6572

VERSION : 00A

SIS 645/650 CHIPSET

Willamette/Northwood 478pin mPGA-B Processor Schematics

CPU:

Willamette/Northwood mPGA-478B Processor

System Brookdale Chipset:

**SIS 645 (North Bridge)
+961A (South Bridge)**

On Board Chipset:

LPC Super I/O -- W83697HF

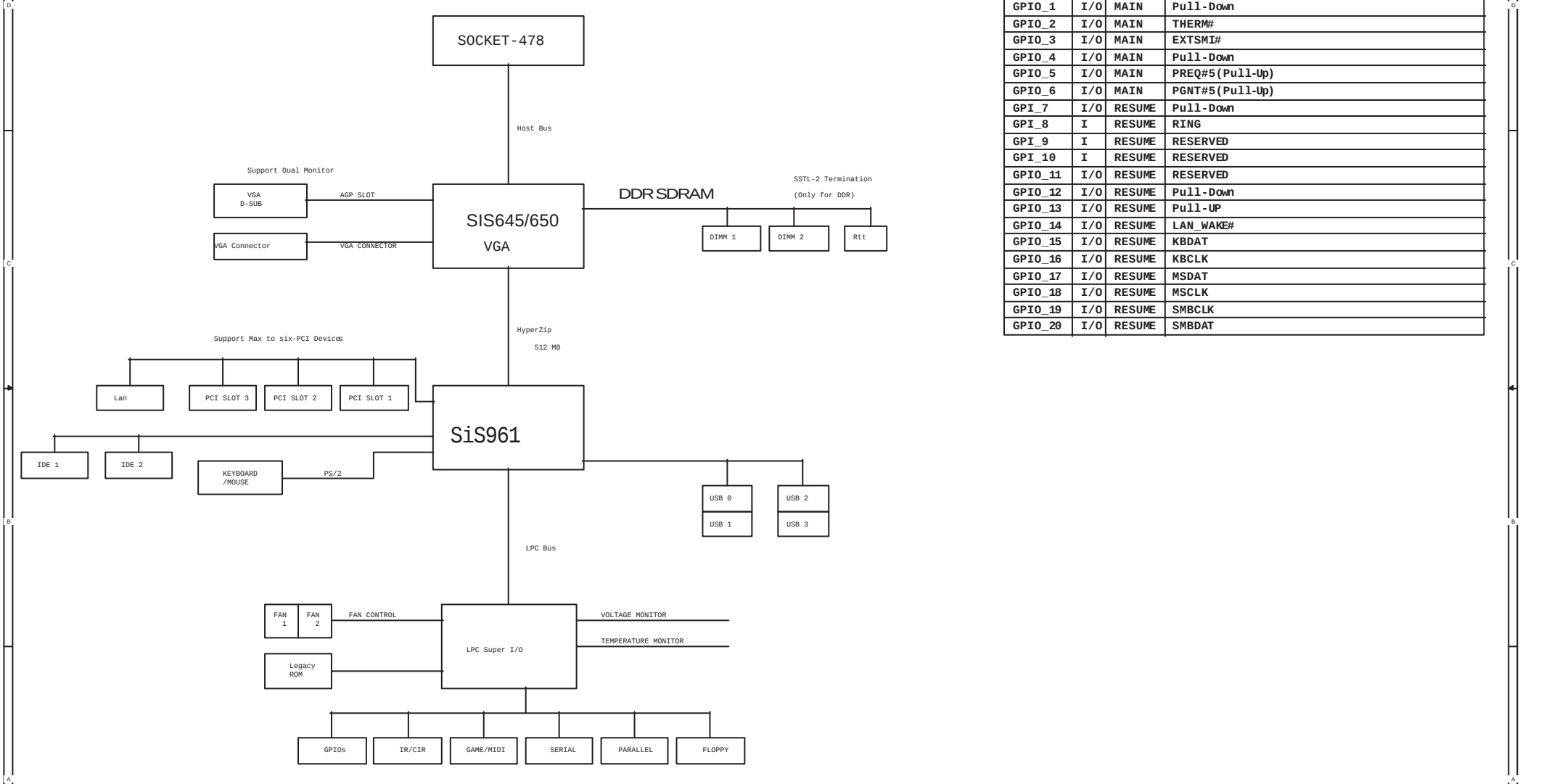
Expansion Slots:

AGP2.0 SLOT * 1

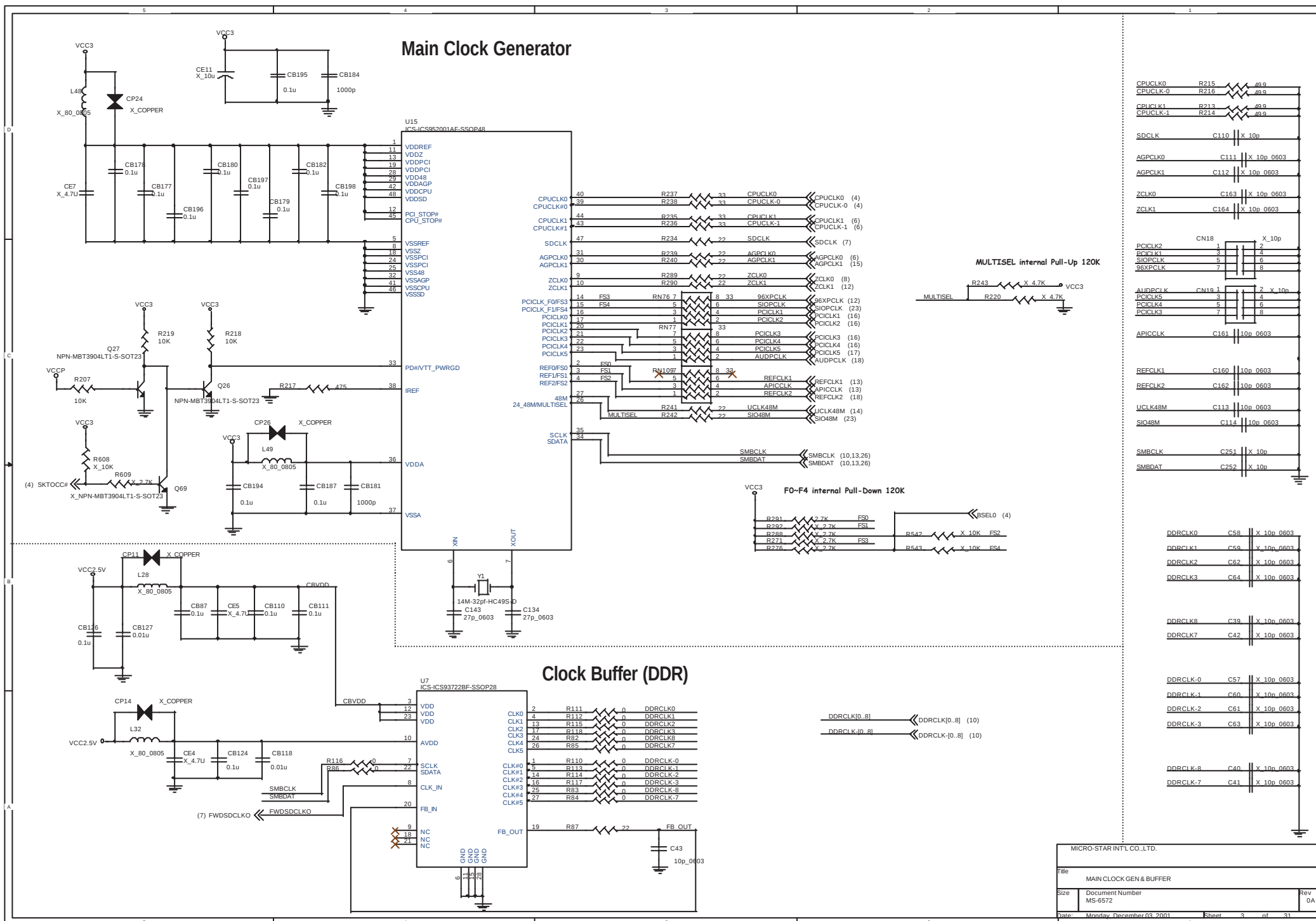
PCI2.2 SLOT* 3

Cover Sheet	1
Block Diagram	2
MAIN CLOCK GEN & DDR CLOCK BUFFER	3
mPGA478-B INTEL CPU Sockets	4 - 5
SIS 645/650 NORTH BRIDGE	6 - 9
DDR SLOT	10
DDR TERMINATOR	11
SIS 961A SOUTH BRIDGE	12 - 14
AGP SLOT	15
PCI SLOTS	16
LAN CONTROLLER	17
RJ45 CONNECTOR	18
IDE CONNECTOR	19
USB CONNECTOR	20
AUDIO CONNECTOR	21
PS/2 CON & FAN	22
LPC I/O(W83697HF)	23
PARALLEL & SERIAL PORT	24
VRM 9.X	25
ACPI CONTROLLER	26
ATX POWER CON	27
FRONT PANEL	28
Decoupling Capacitor	29
History	30

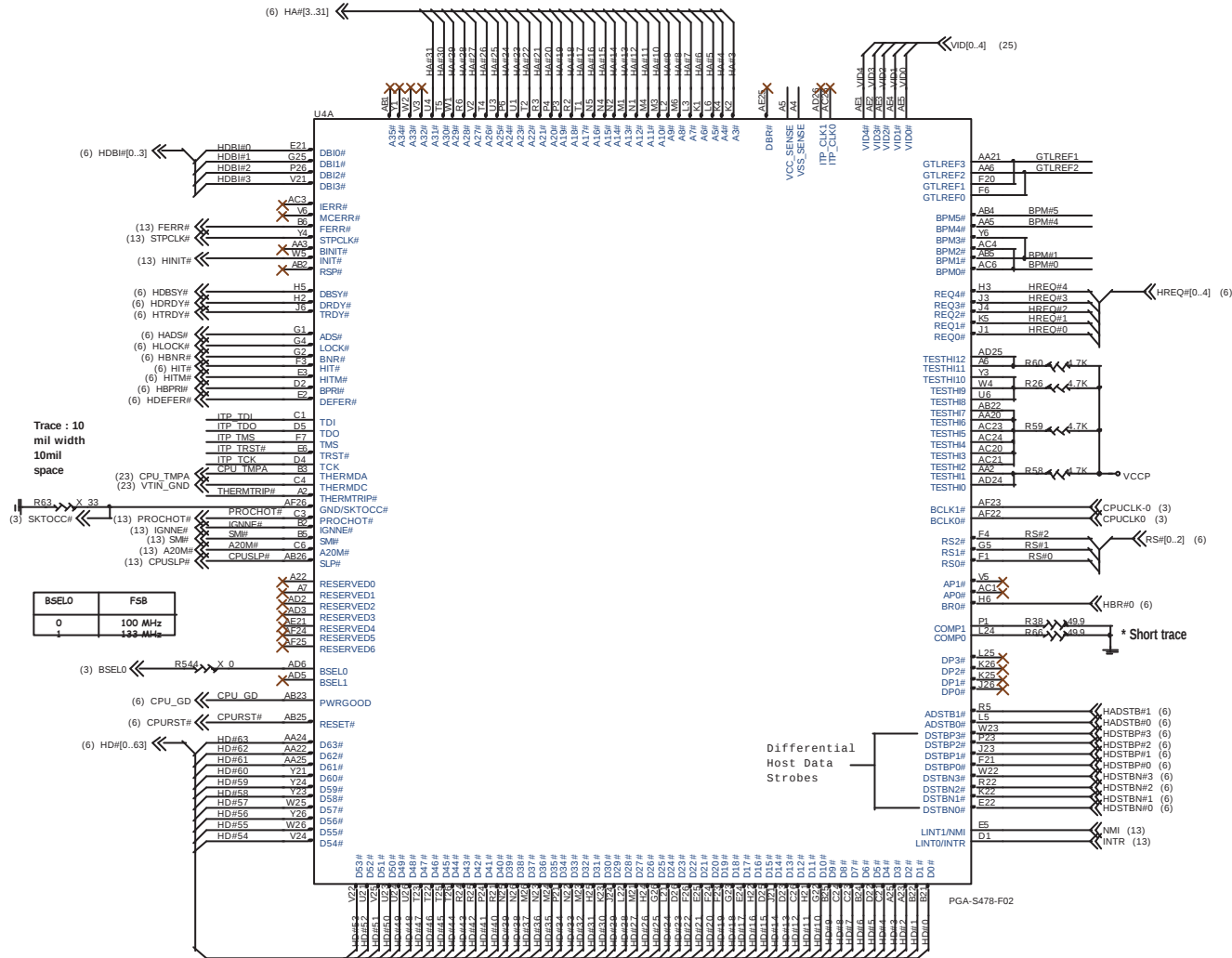
System Block Diagram



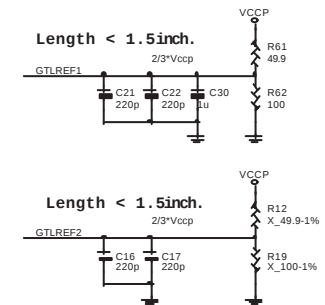
GPIO Table on SIS961			
GPIO_0	I/O	MAIN	Flash Rom protection H: Disable, L: Enable
GPIO_1	I/O	MAIN	Pull-Down
GPIO_2	I/O	MAIN	THERM#
GPIO_3	I/O	MAIN	EXTSMI#
GPIO_4	I/O	MAIN	Pull-Down
GPIO_5	I/O	MAIN	PREQ#5(Pull-Up)
GPIO_6	I/O	MAIN	PGNT#5(Pull-Up)
GPI_7	I/O	RESUME	Pull-Down
GPI_8	I	RESUME	RING
GPI_9	I	RESUME	RESERVED
GPI_10	I	RESUME	RESERVED
GPIO_11	I/O	RESUME	RESERVED
GPIO_12	I/O	RESUME	Pull-Down
GPIO_13	I/O	RESUME	Pull-UP
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



CPU SIGNAL BLOCK



CPU GTL REFERENCE VOLTAGE BLOCK



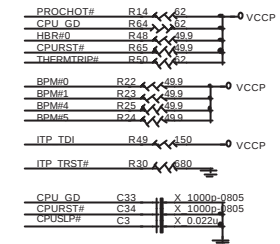
Every pin put one 220pF cap near it.
Trace Width 15mils, Space 15mils.
Keep the voltage dividers within 1.5 inches of the first GTLREF Pin

CPU ITP BLOCK

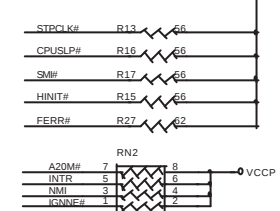


CPU STRAPPING RESISTORS

CLOSED TO SOCKET478



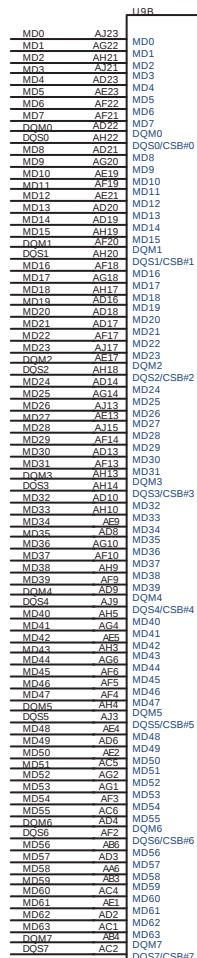
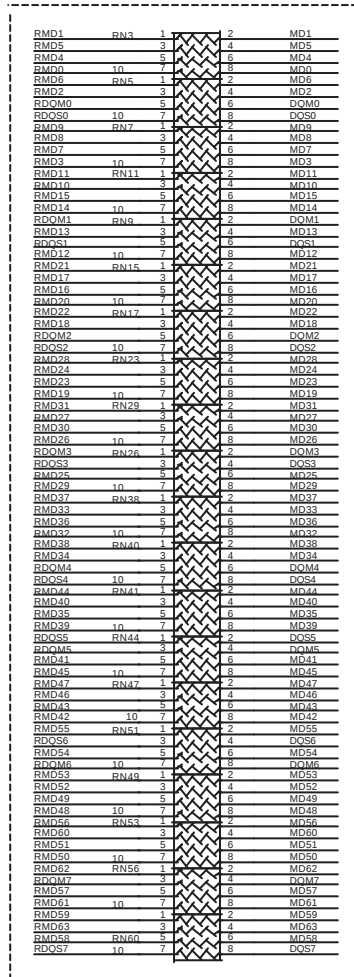
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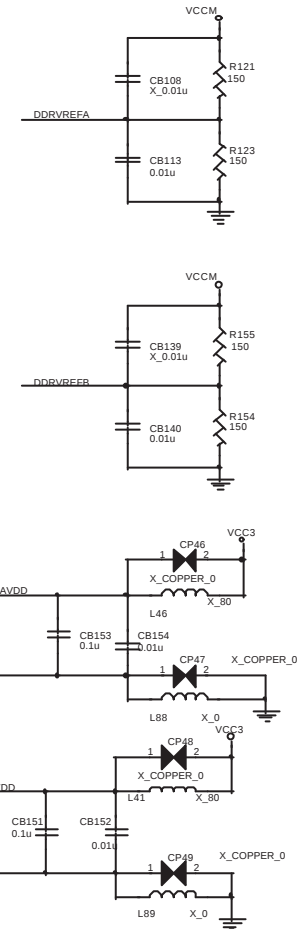
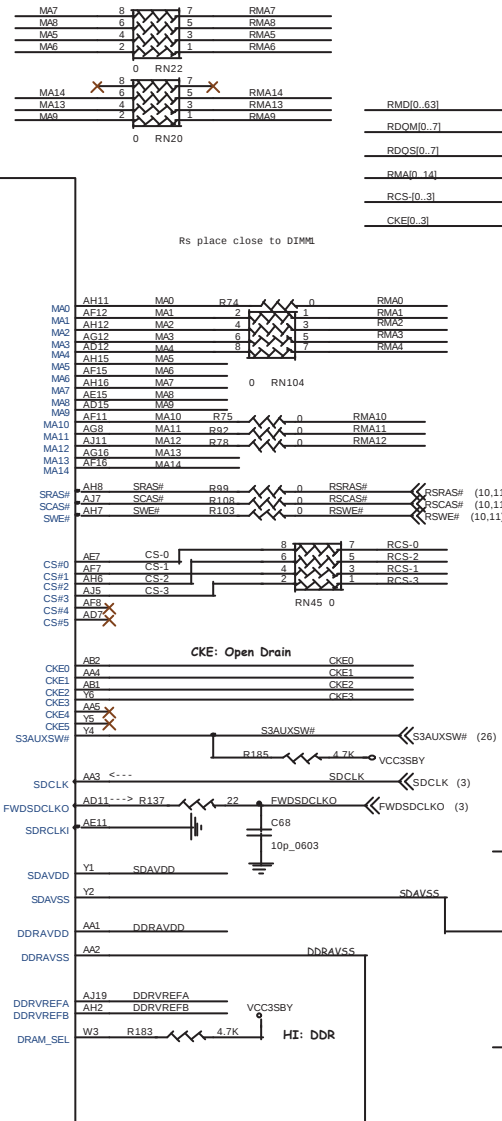
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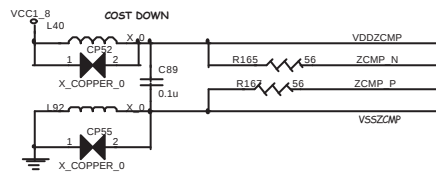
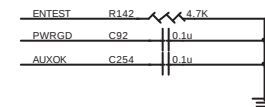
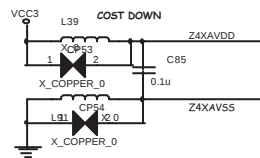
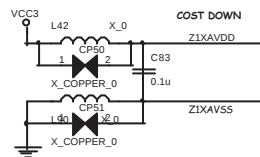
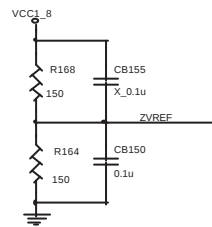
MICRO-STAR INT'L CO.,LTD.

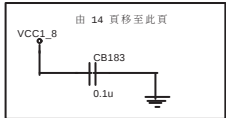
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mPGA478 CPU-1		
Size	Document Number	Rev
	MS-6572	0A
Date	Monday, December 03, 2001	
	Sheet	4 of 31

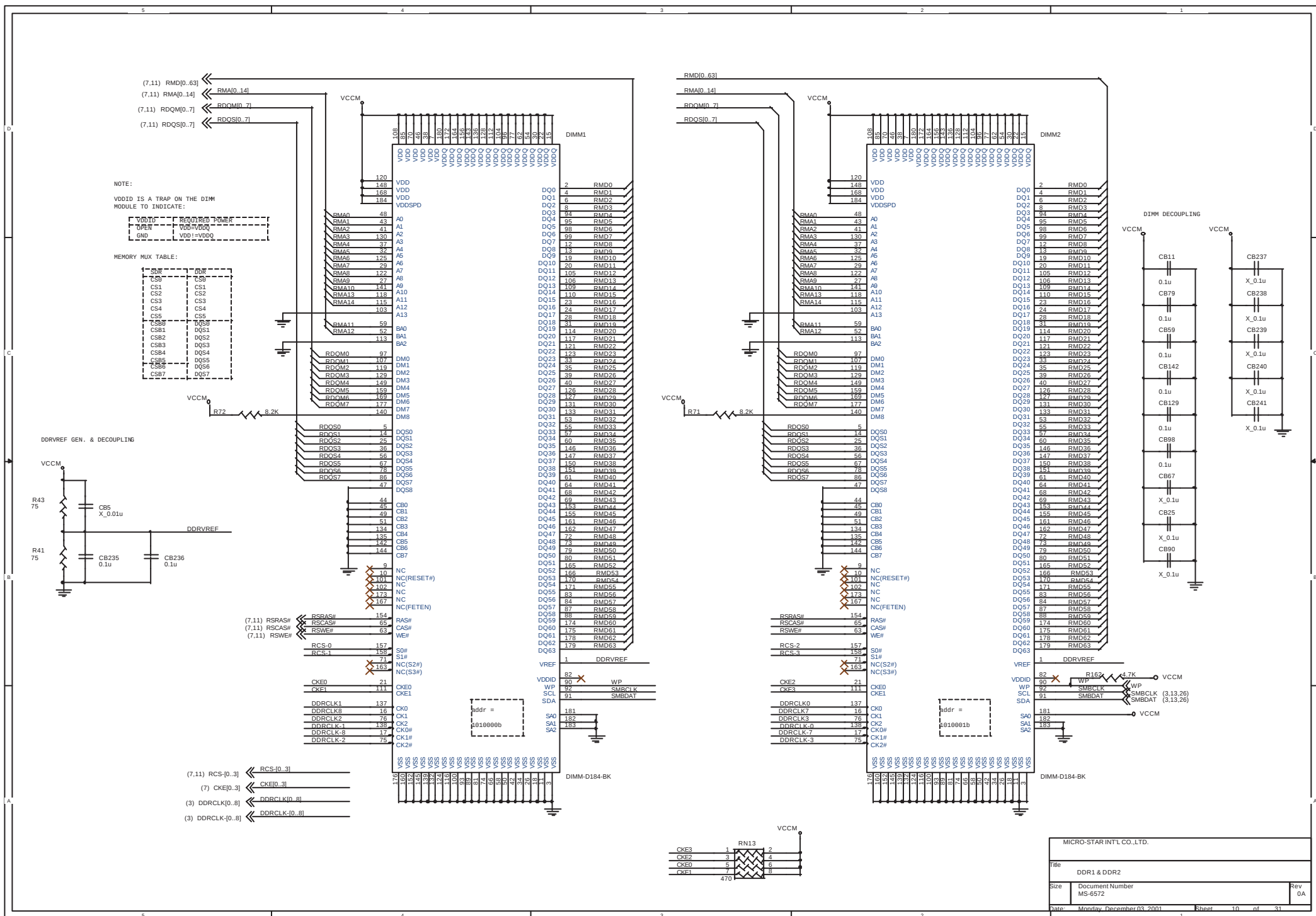


SIS-SIS645-VA1

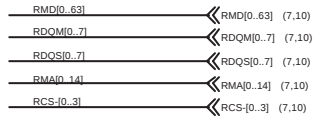




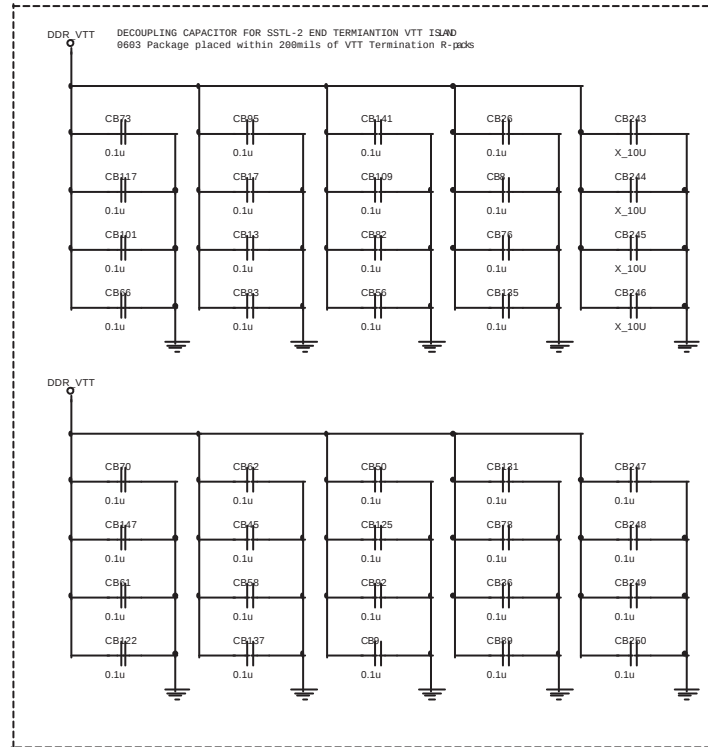
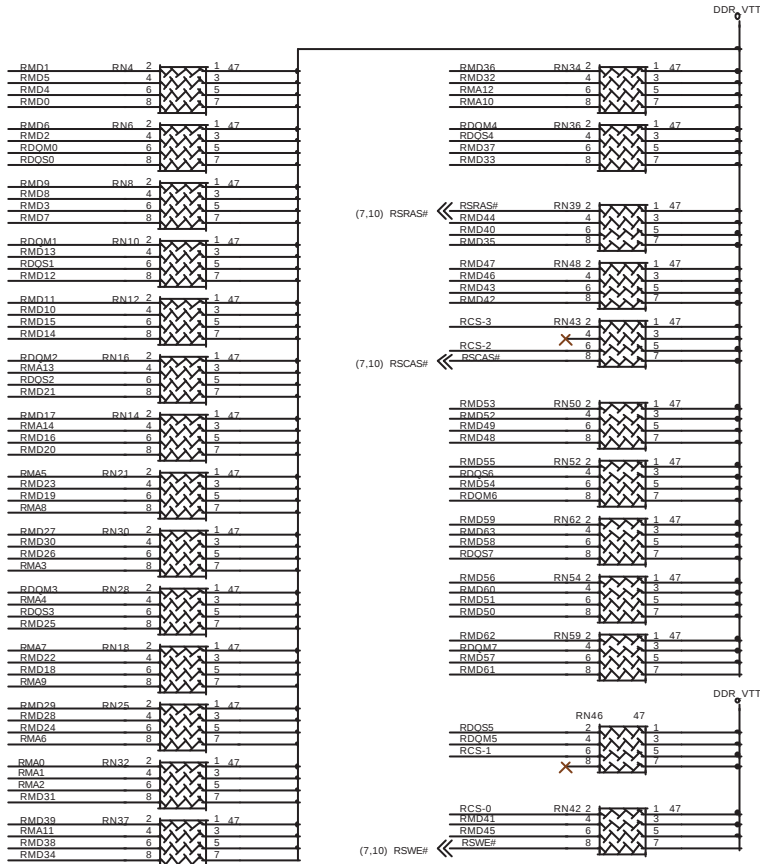


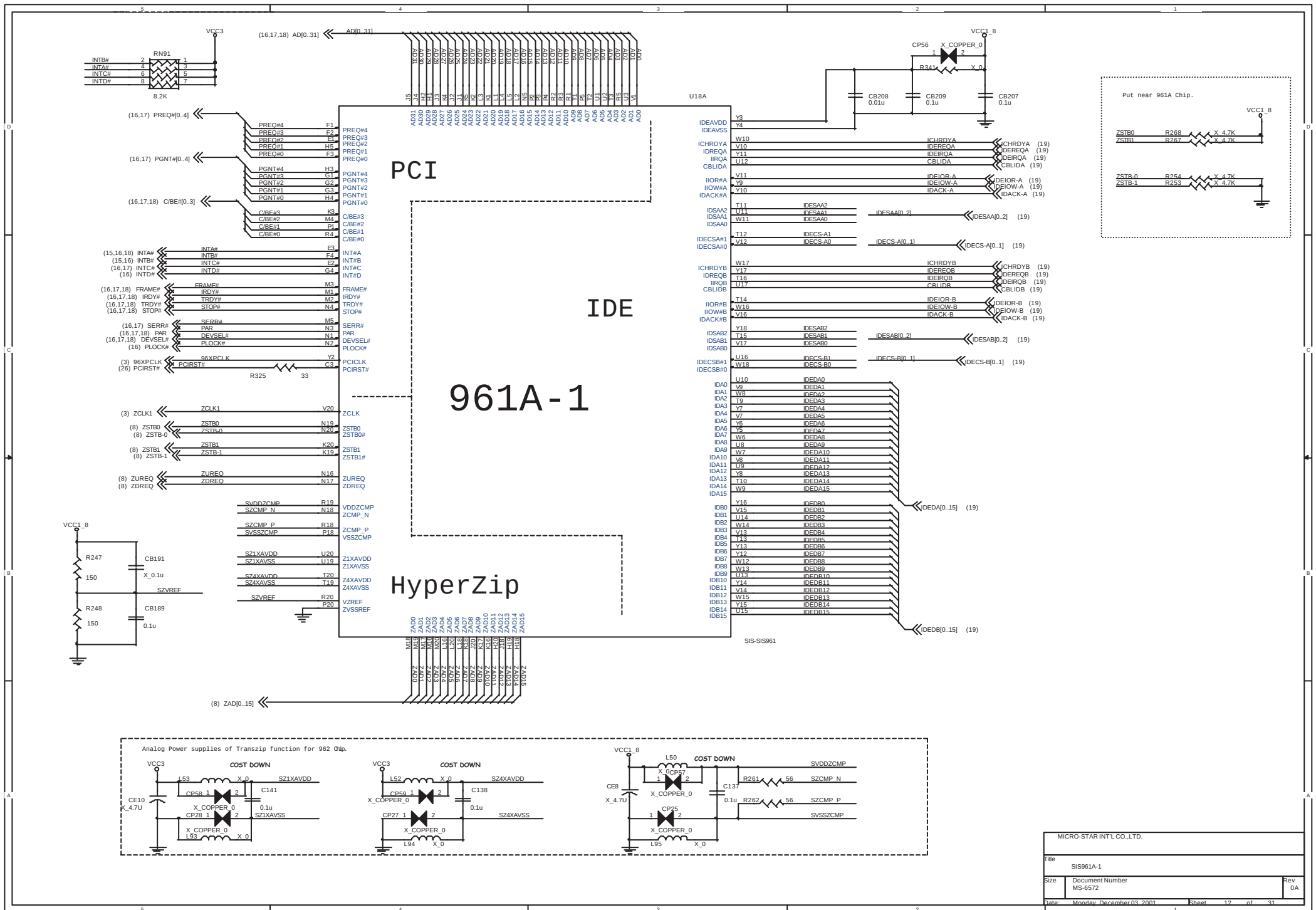


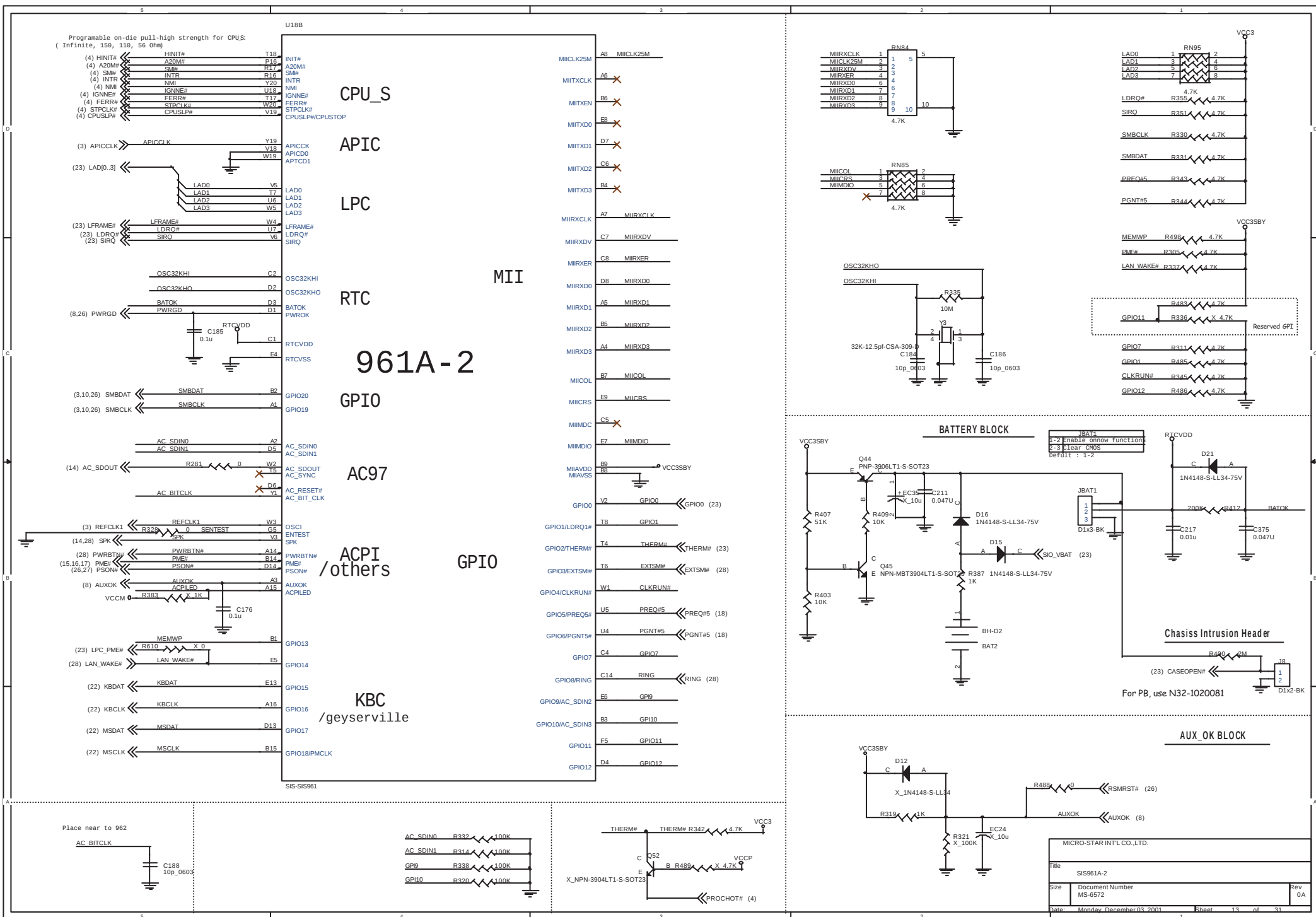
SSTL-2 Termination Resistors

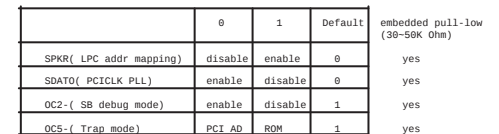
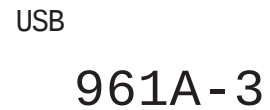
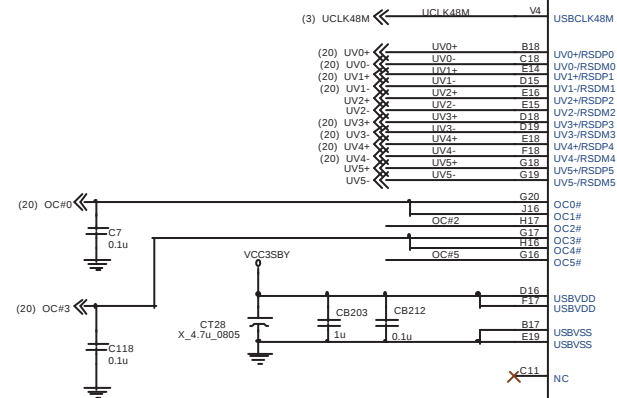


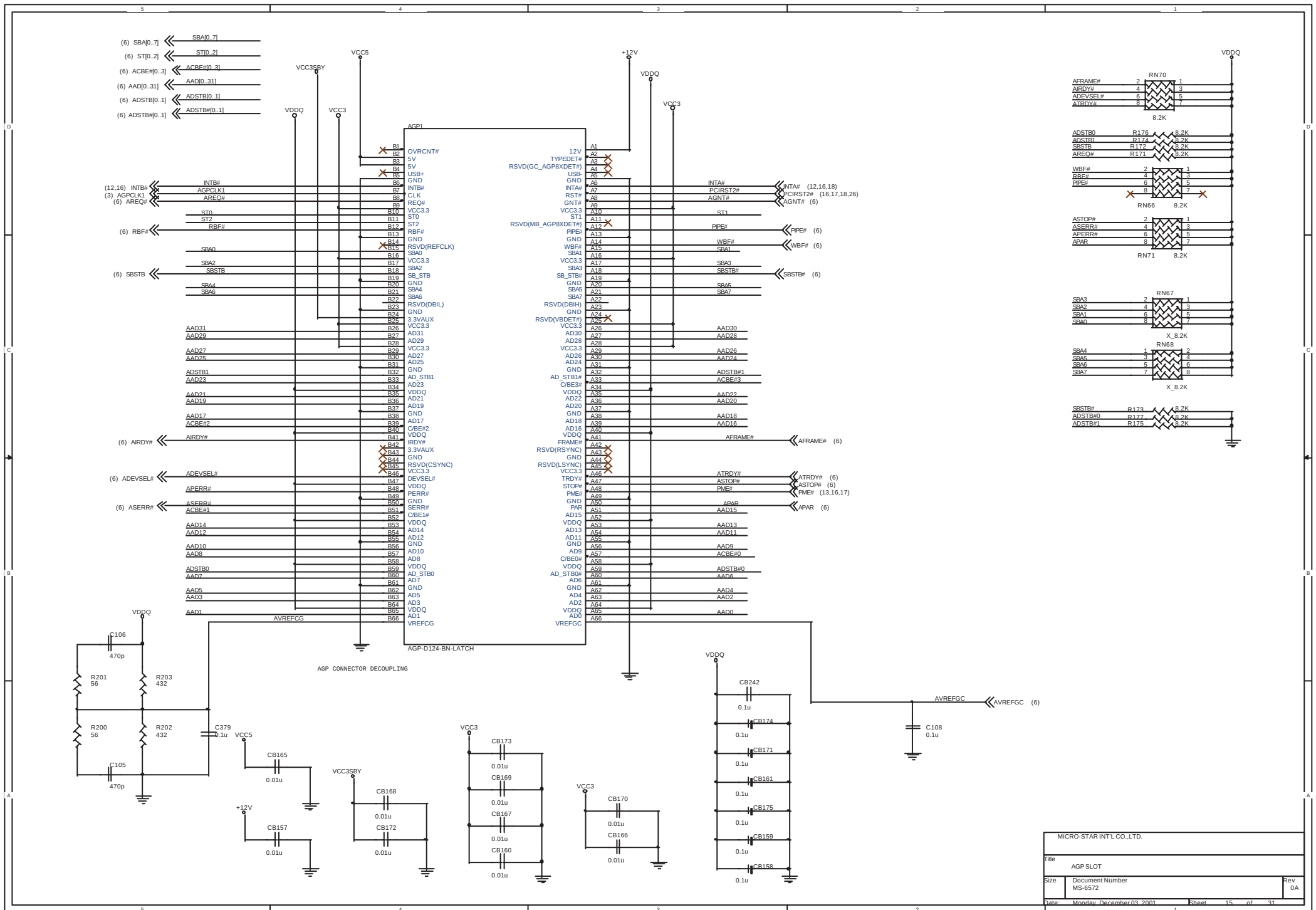
Signal	Termination	Value	Termination	Value	Termination
RMD[0..63]	1V-CMOS	9/10/-	RCS[0..3]	1V-CMOS	9/10/-
RDQM[0..7]	1V-CMOS	9/10/-	RMA[0..14]	1V-CMOS	9/10/-
RDQS[0..7]	1V-CMOS	9/10/-	RCS[0..3]	1V-CMOS	9/10/-
RMA[0..14]	1V-CMOS	9/10/-	RCS[0..3]	1V-CMOS	9/10/-
RCS[0..3]	1V-CMOS	9/10/-	RCS[0..3]	1V-CMOS	9/10/-

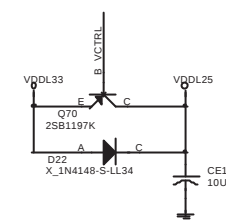
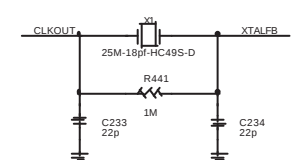
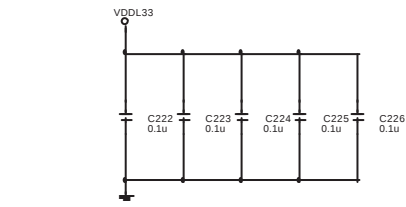
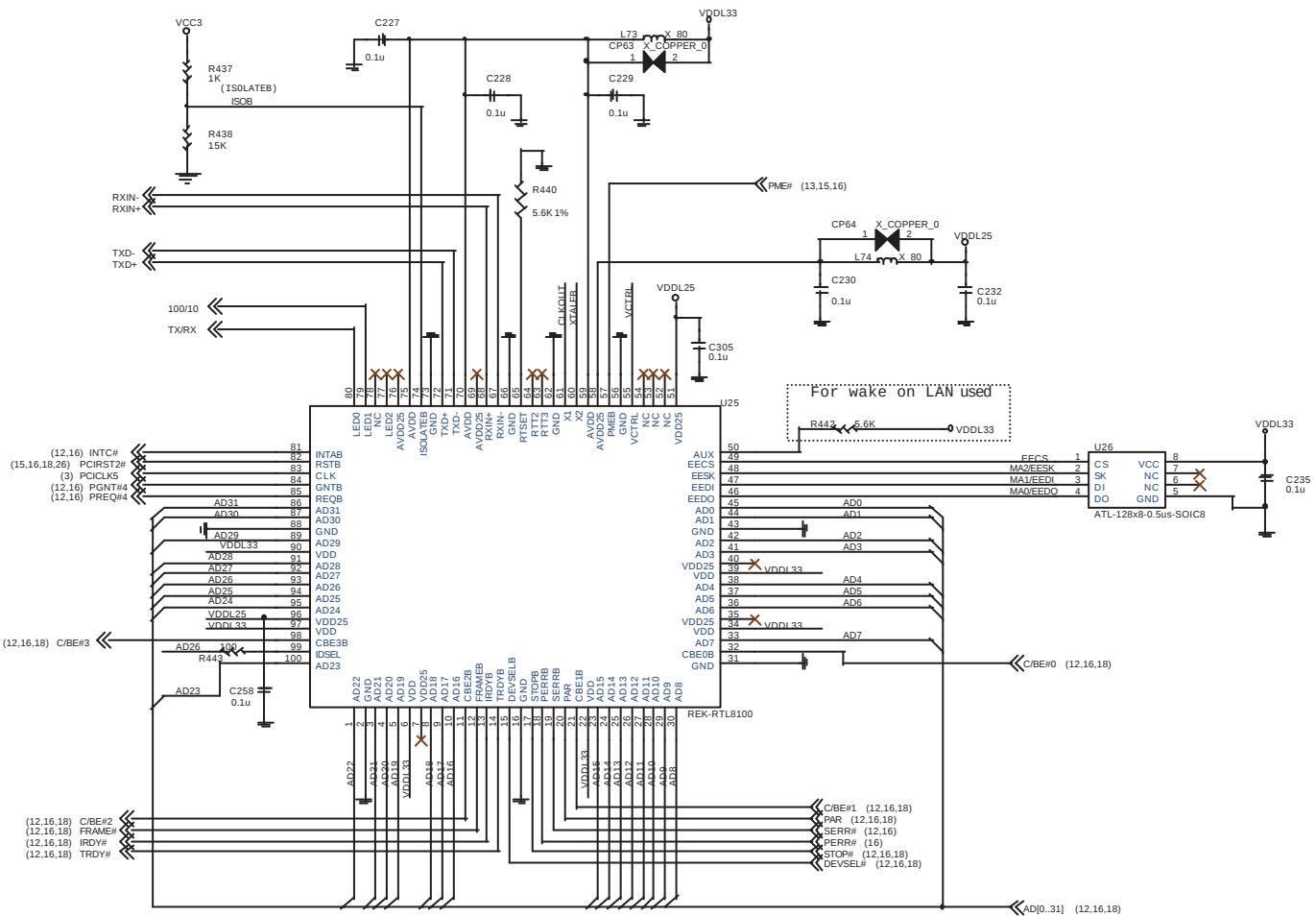




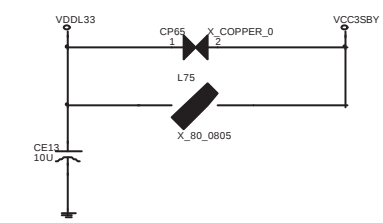




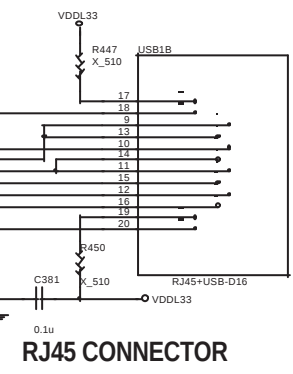




*needed by RTL8139A with 5V LAN_WAK connector

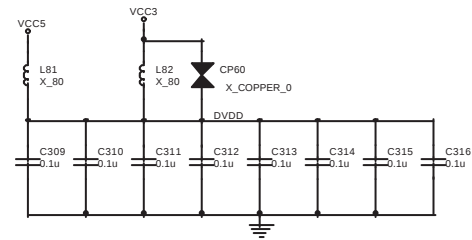
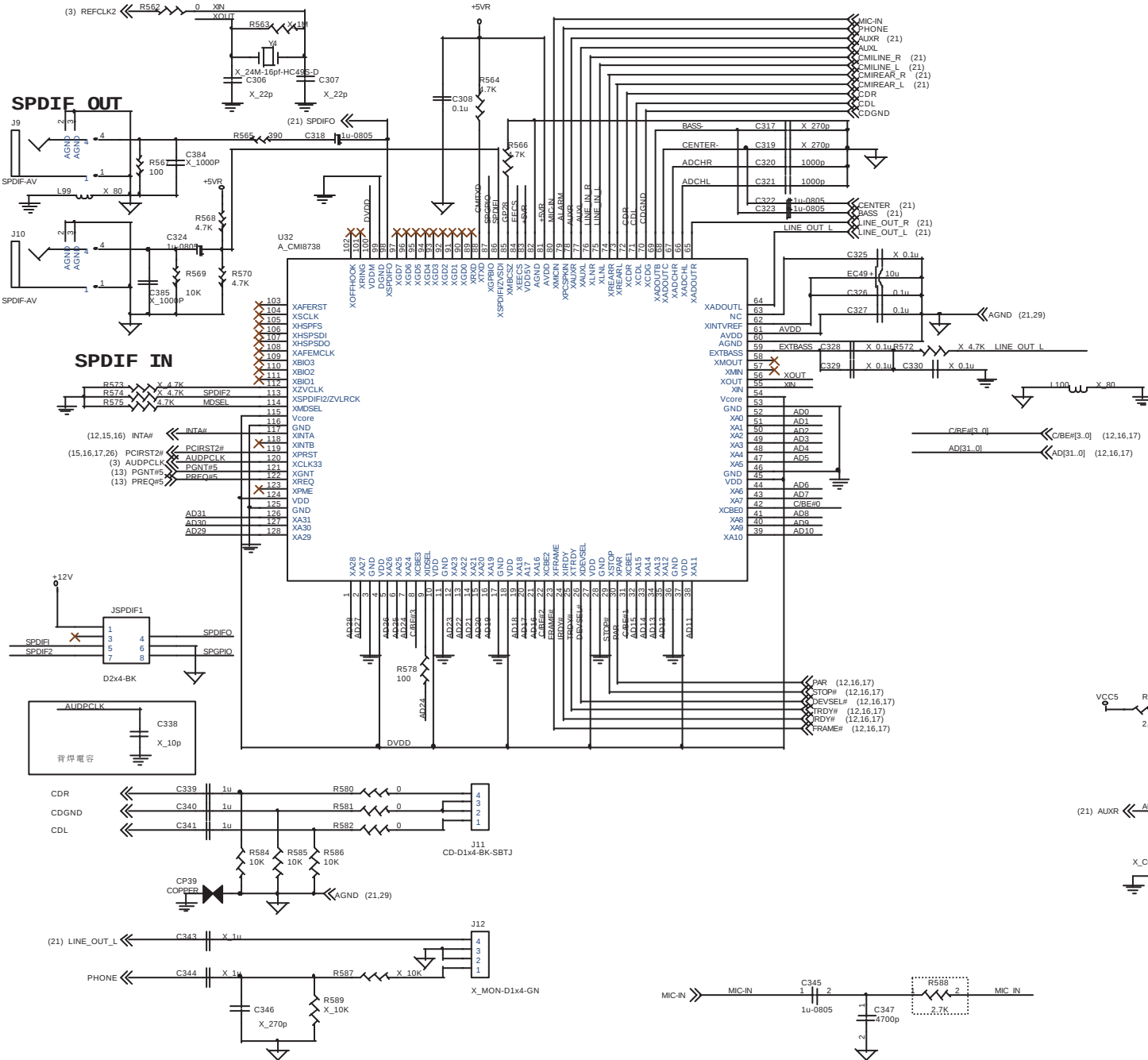


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File			
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Size			
Document Number			
MS-6572			
Rev			
0A			
Date			
Monday, December 03, 2001			
Sheet			
17 of 31			

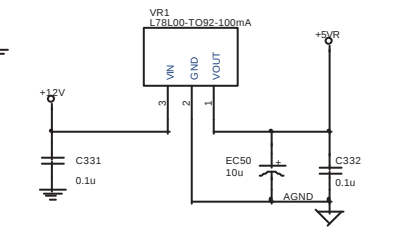
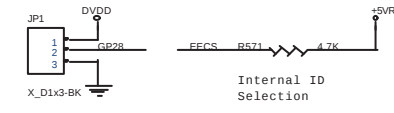


RJ45 CONNECTOR

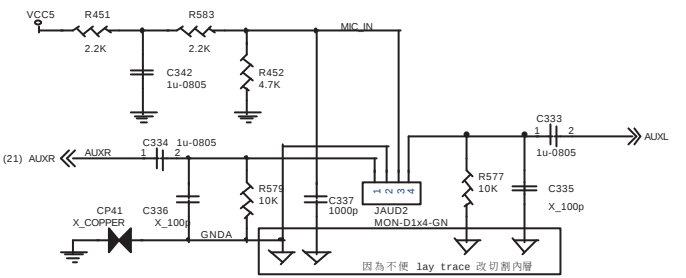
Standard: Install 24.576MHz
Option 8: Install 14.318MHz



From M/B South Bridge GPIO CONTROL
ENABLE
* MBCSZ : AUDIO CHIP SELECT
HI : DISABLE
LOW : ENABLE

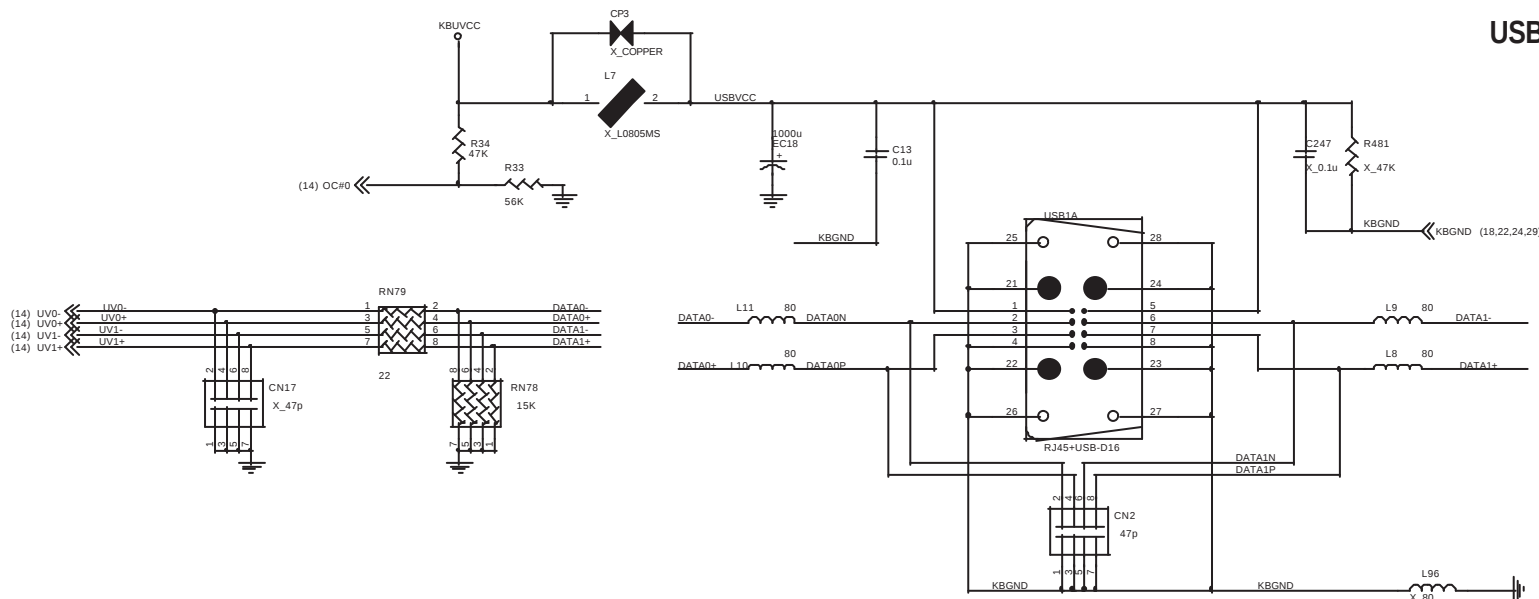


FOR MSI INTERNAL HEADER

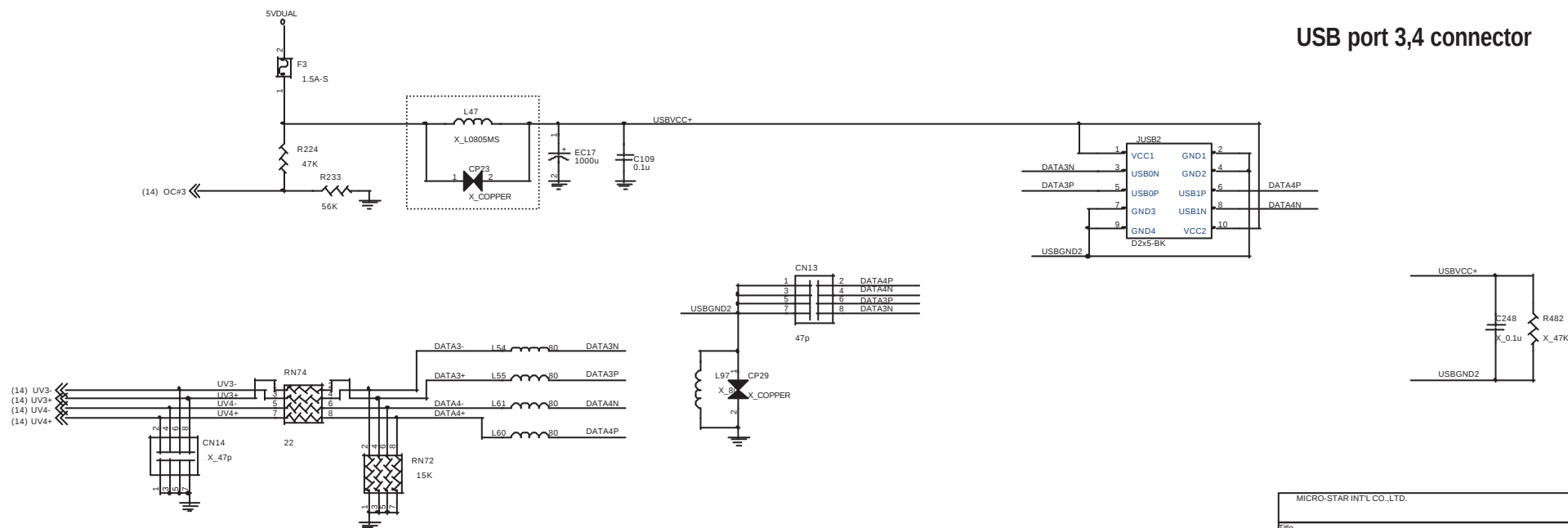


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Size	Document Number		MS-6572
	Rev		1.0
Date		Monday, December 03, 2001	Sheet 18 of 31

USB port 1,2 connector

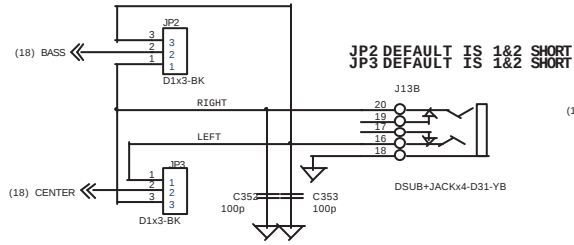


USB port 3,4 connector

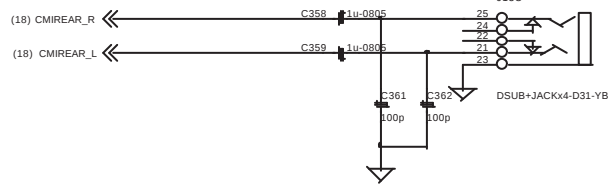


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Size:	Document Number: MS-6572		Rev: 0A
Date:	Monday, December 03, 2001	Sheet:	20 of 31

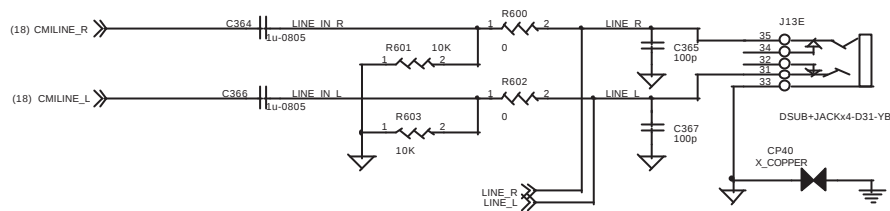
CENTER/BASS JACK



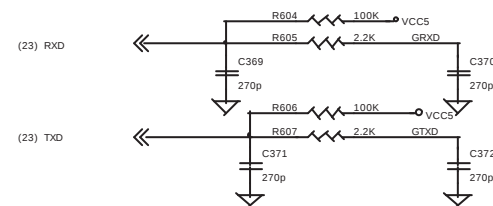
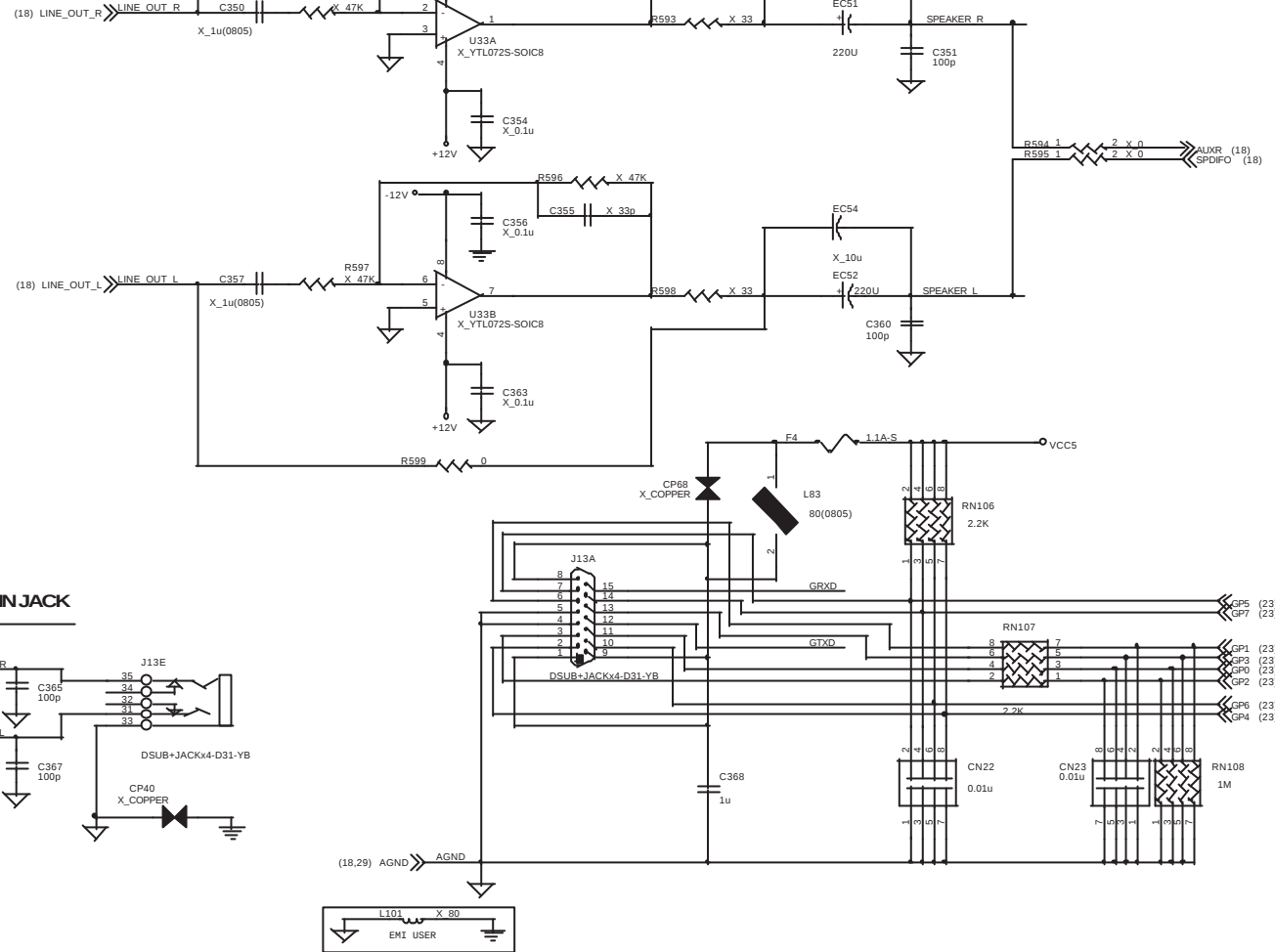
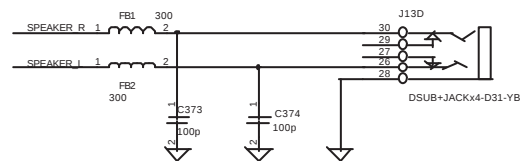
REAL JACK



LINE-IN JACK

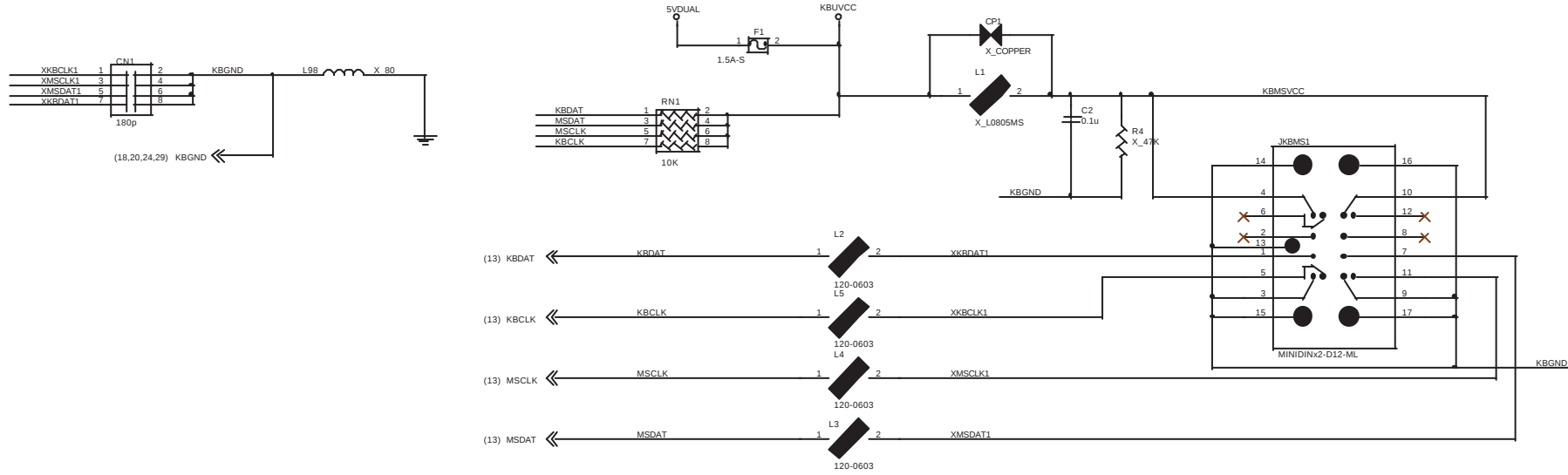


SPEAKER OUT JACK

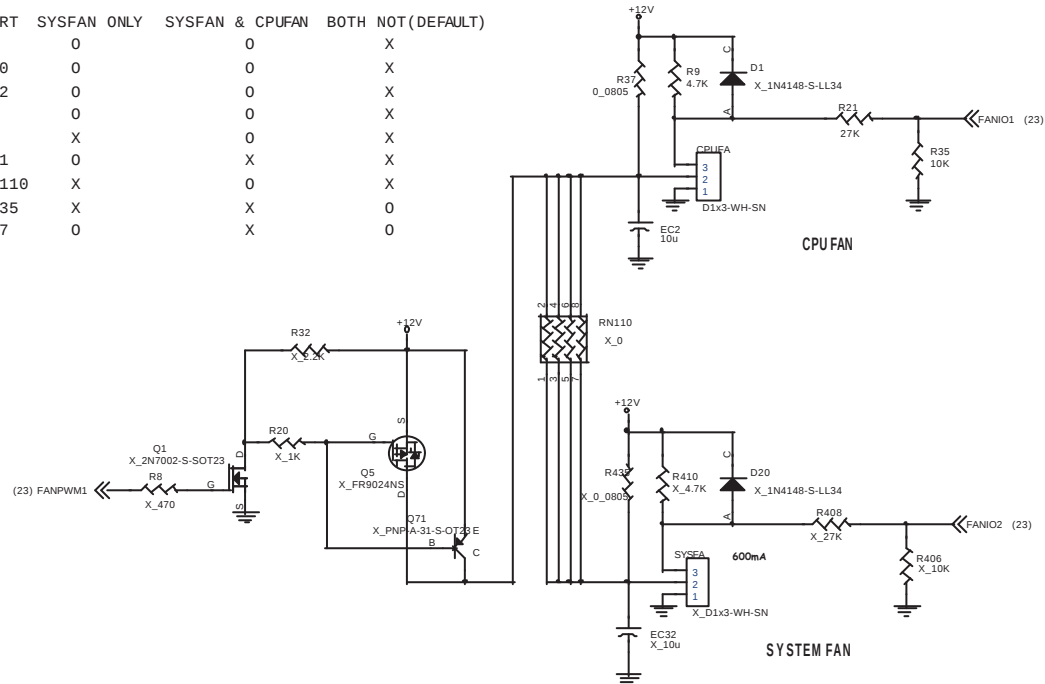


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GAME PORT/AUDIO PORT&CH SELETOR		
Size	Document Number	Rev
MS-6572		1.0
Date	Monday, December 03, 2001	Sheet 21 of 31

KEYBOARD/MOUSE PORTS

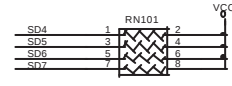
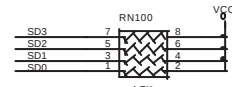
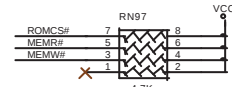


PART	SYSFAN ONLY	SYSFAN & CPUFAN	BOTH NOT(DEFAULT)
R8	0	0	X
R20	0	0	X
R32	0	0	X
Q1	0	0	X
Q5	X	0	X
Q71	0	X	X
RN110	X	0	X
R435	X	X	0
R37	0	X	0

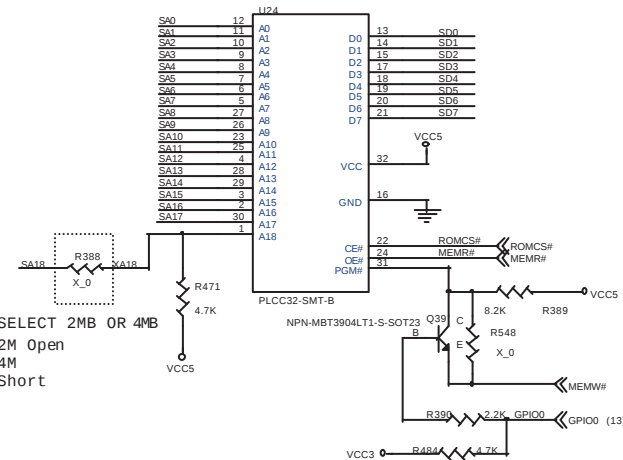


RTSA#	I: CEAD:2F	H: CEAD:4E
SOUTB	L: 24MHZ	H: 48MHZ

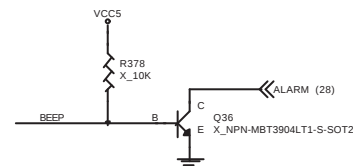
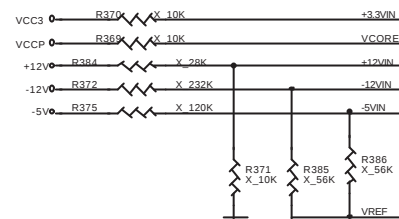
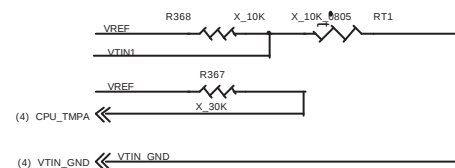
STRAPS



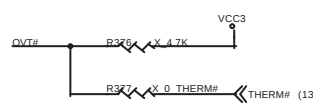
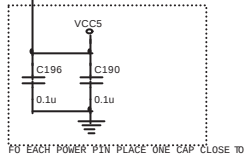
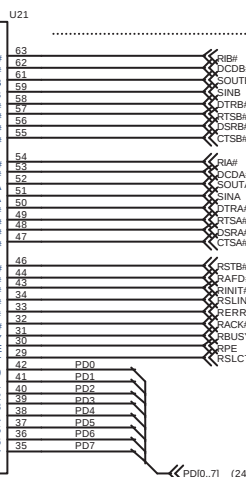
Flash Rom



Hardware Monitor

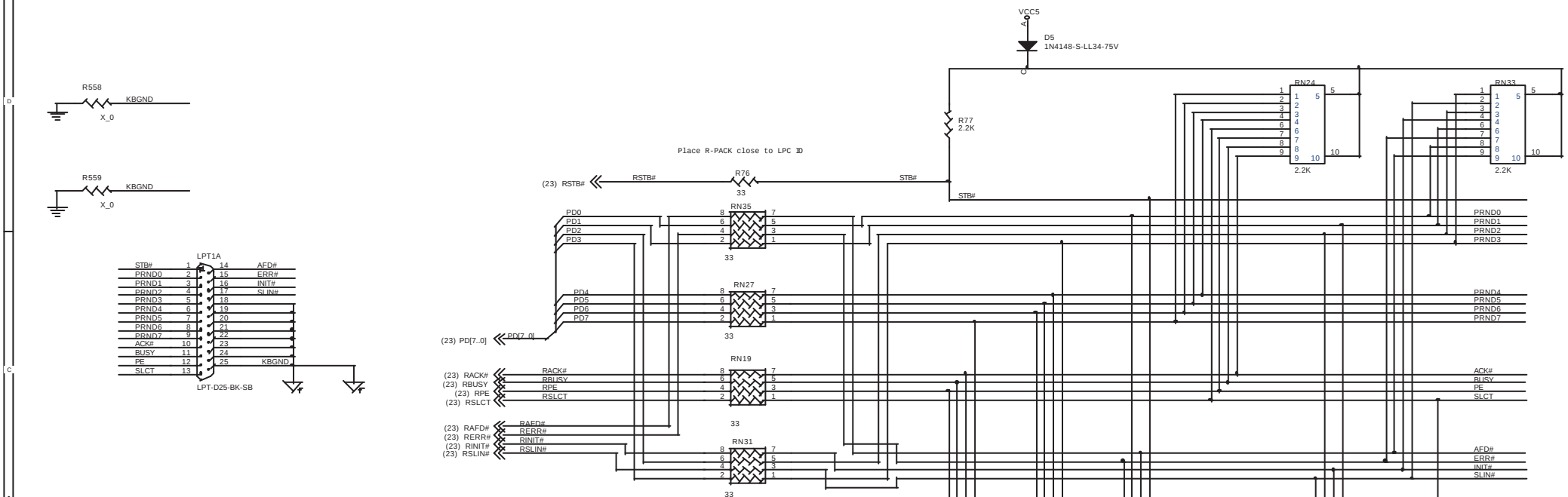


W83697HF

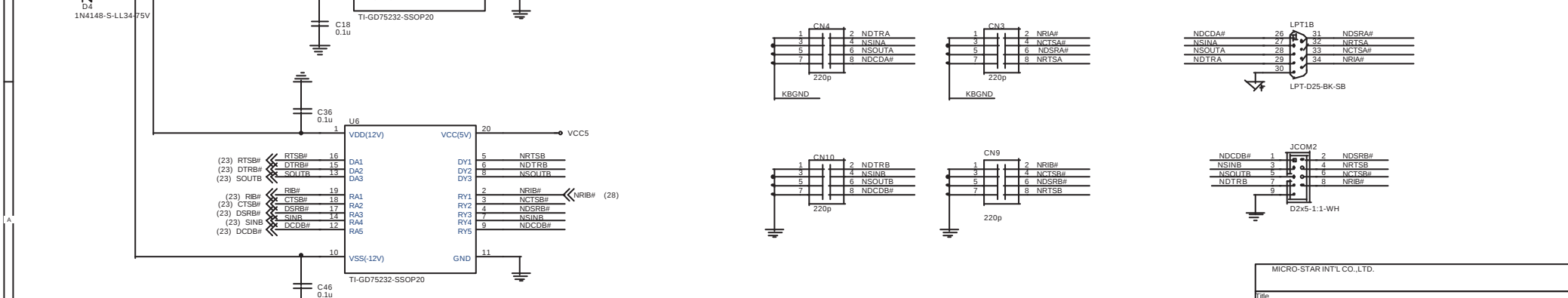


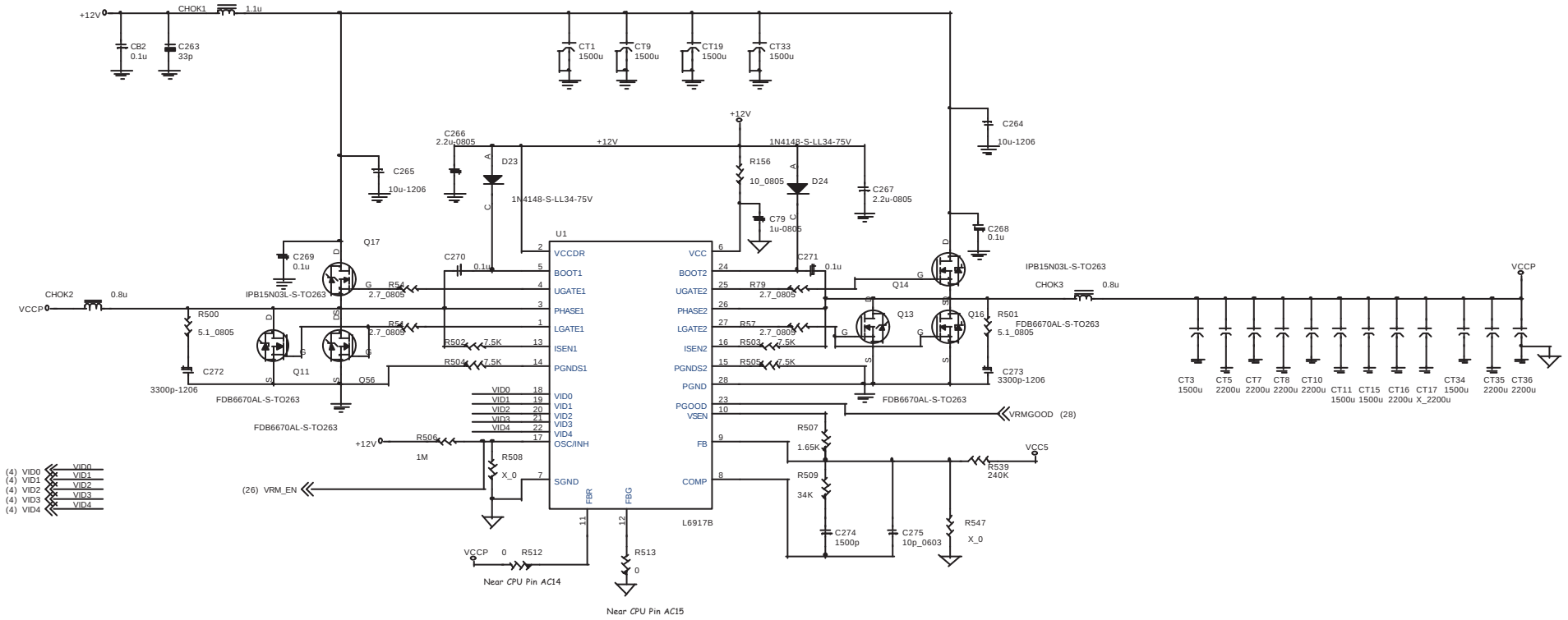
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File	LPC I/O(W83697HF)	
Size	Document Number	Rev
MS-6572		0A
Date	Monday, December 03, 2001	Sheet 23 of 31

Parallel Port

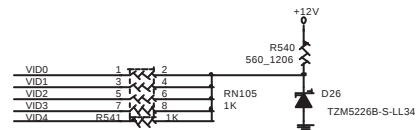


Serial Port

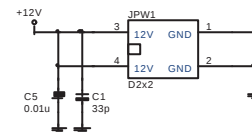




VID PULL-UP RESISTORS



ATX12V POWERCONNECTOR



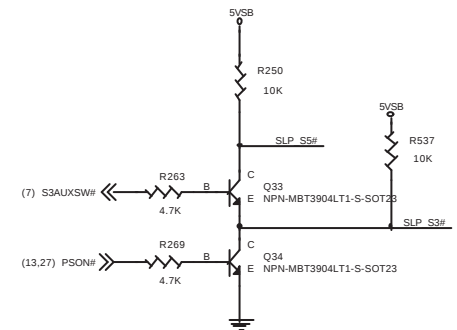
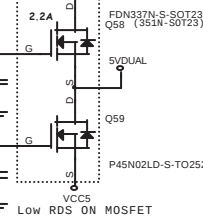
MICRO-STAR INT'L CO., LTD.			
File	VRM9.0		
Size	Document Number	Rev	
MS-6572		0A	
Date	Monday, December 03, 2001	Sheet	25 of 31

POWER Bulk Decuping		
	470UF	1000UF
VCCM		2
VDDQ		2
VCC5		
VCC3		2
USBVCC+	1	
DDR_VTT		2
VCC1_8		1
VCC3SBY		2
5VSB		1

SEL0	5VUSB
H	2 MOSFET
L	1 MOSFET

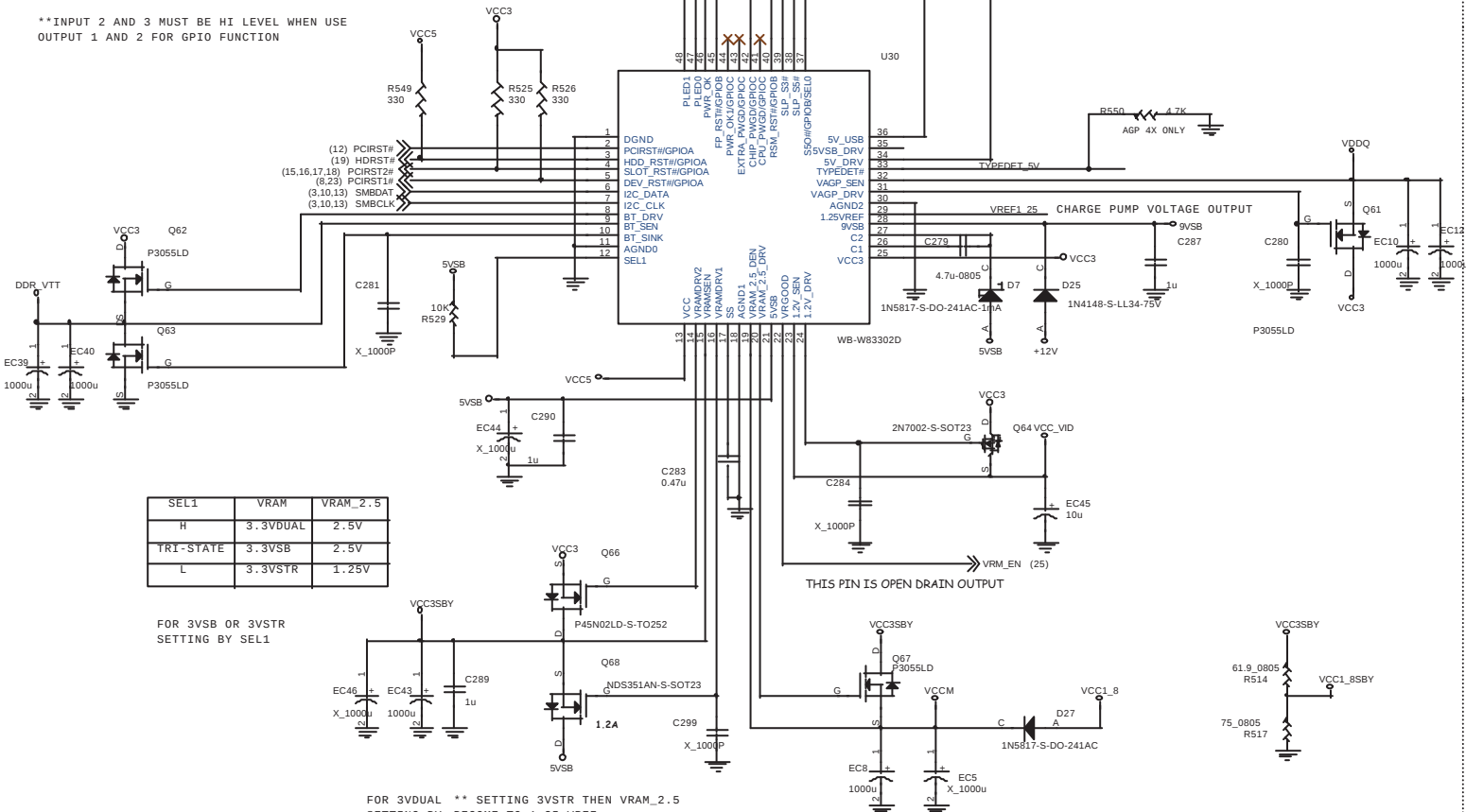
**S50# pin function(Hi level = 5V)
same as 5VUSB(Hi level = 12V)

5VUSB USE 2 MOSFET

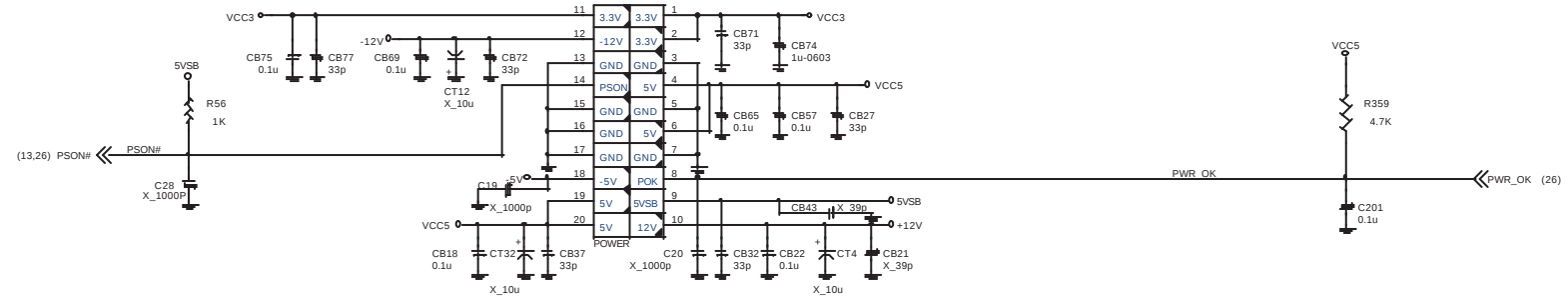


	S0	S3	S5
S3AUXSW#	1	0	1
PS0N#	0	1	1
SLP_S5#	1	1	0
SLP_S3#	1	0	0

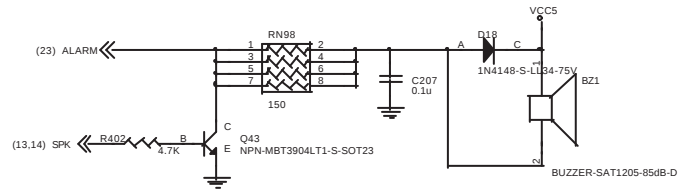
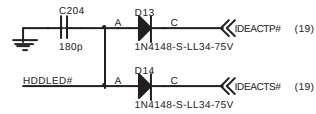
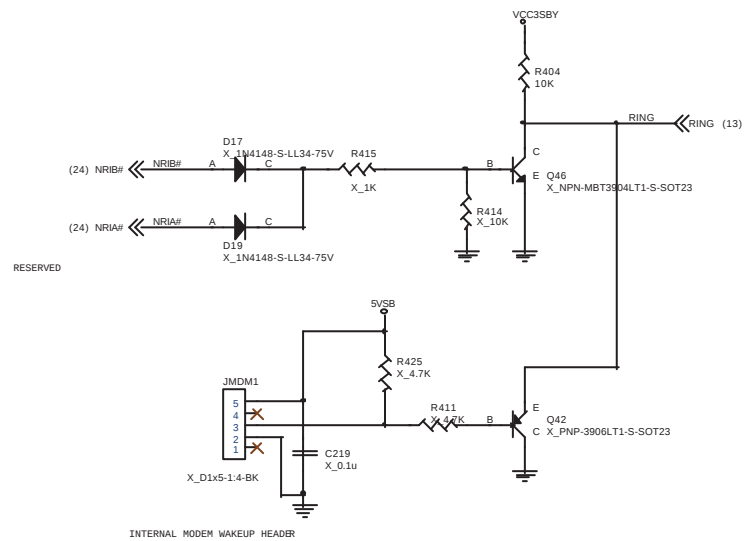
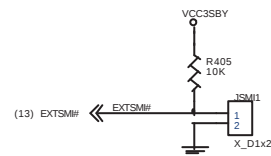
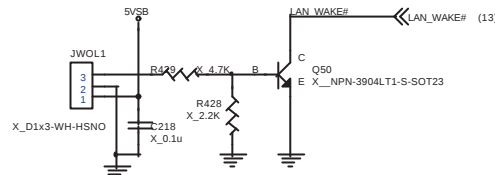
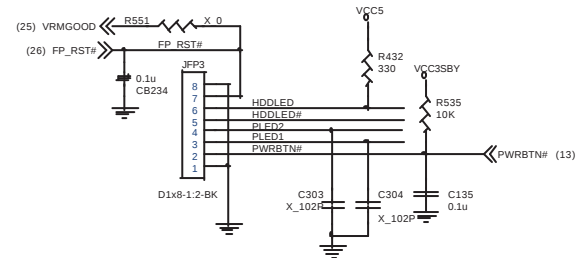
**INPUT 2 AND 3 MUST BE HI LEVEL WHEN USE
OUTPUT 1 AND 2 FOR GPIO FUNCTION



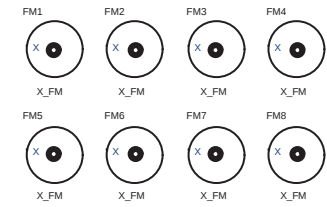
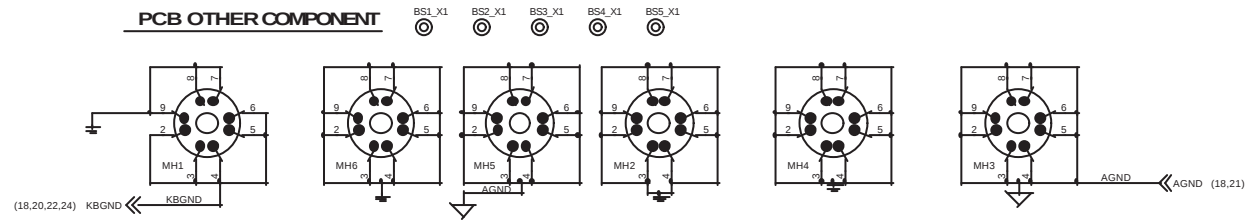
ATX CONNECTOR



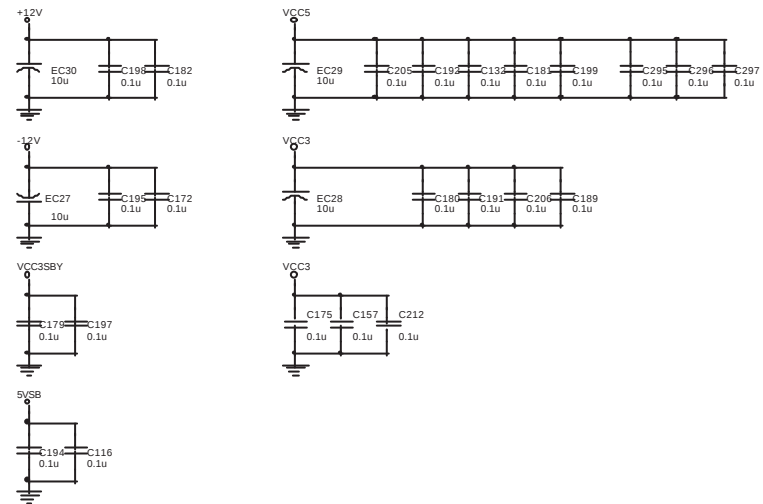
MICRO-STAR INT'L CO., LTD.			
File	ATX Power Conn.		
Size	Document Number	Rev	
MS-6572		0A	
Date	Monday, December 03, 2001	Sheet	27 of 31



PCB OTHER COMPONENT



System Decoupling Capacitors



High Freq. return current decoupling

