

**MS7043 Revision 0A**  
**CHIPSET PT880+8237**

<b>TITLE</b>	<b>SHEET</b>
COVER SHEET	1
BLOCK DIAGRAM	2
PWR MAP/CLOCK MAP	3
GPIOMEMORY/PCI/HW STRPPING	4
PROCESSOR (SOCKET478)	5, 6
NORTH BRIDGE (PT880)	7, 8, 9, 10, 11
SOUTH BRIDGE (VT8237)	12, 13, 14
DDR TERMINATIONS A&B	15, 16
DIMM1 / DIMM2 / DIMM3/DIMM4	17, 18
IDE CONNECTORS	19
AGP SLOT	20
PCI SLOTS 1-5	21
AC'97 CODEC & AUDIO	22, 23
USB CONNECTORS	24
MS7 ACPI CONTROLLER	25
VRM10.0(FMB1)	26
DLED & LAN CONNECTORS	27
VIA LAN PHY VT6103L	28
GIGA LAN VT6122	29
ATX POWER CONNECTOR	30
CLOCK & BUFFER SYNTHESIZER	31
LPC SUPER IO & FLOPPY CONNECTOR	32
PARALLEL / SERIAL	33
MS8	34
EMI PORT	35

**CPU:**

**Intel Northwood/Prescott**

**System Chipset:**

**PT880 (North Bridge)**  
**VIA 8237/8235 (South Bridge)**

**On Board Chipset:**

**BIOS -- ISA EEPROM**  
**AC'97 Codec --VT1617**  
**LPC Super I/O -- W83697HF**  
**LAN -- VT6103L /VT6122**  
**CLOCK --ICS 952911A + ICS 93733**

**Main Memory:**


**DDR \* 2+1 (Max 3GB)**

**Expansion Slots:**

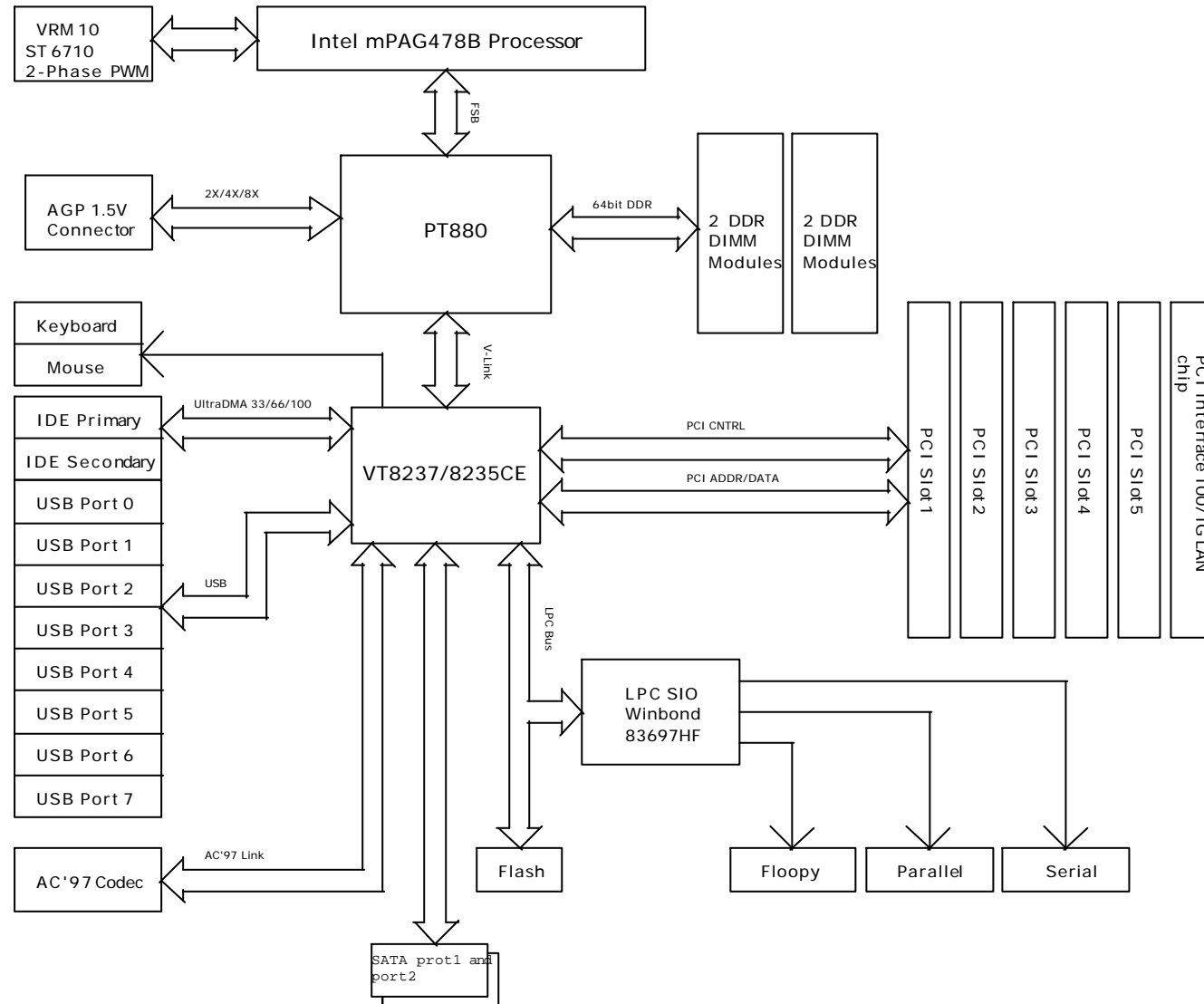
**PCI2.3 SLOT \* 5**

**PWM:**

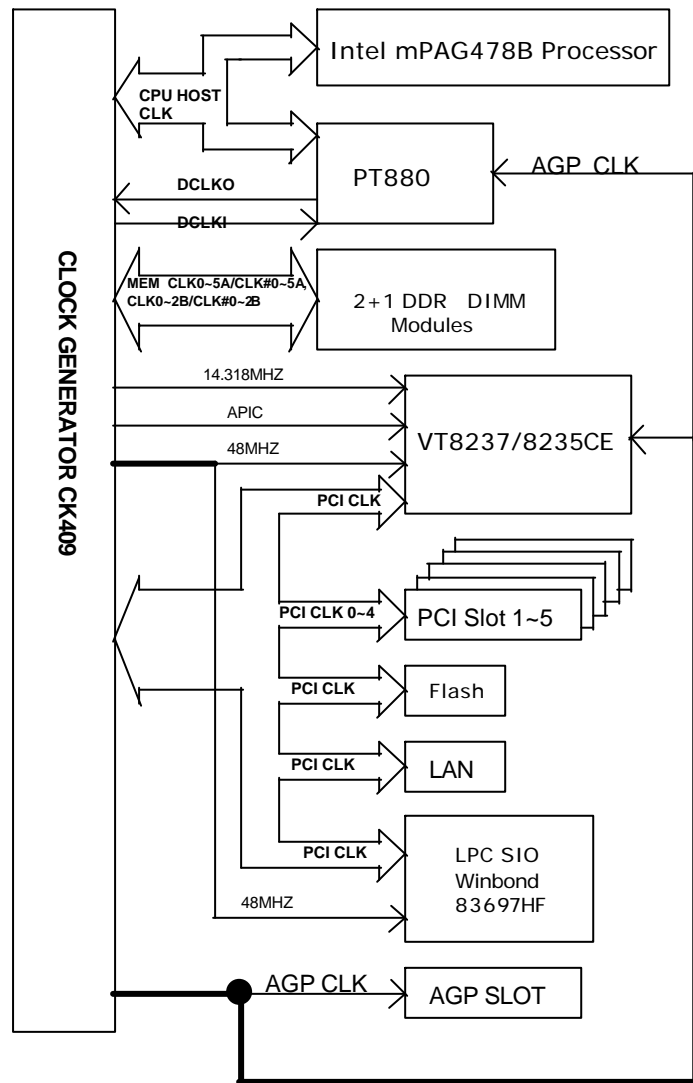
**Controller: ST 6710**

 <b>MICRO-STAR INT'L CO., LTD.</b>	
Title: COVER SHEET	
Size:	Document Number: MS-7043
Date: Thursday, January 03, 2004	Rev: 0A
Sheet: 1 of 34	

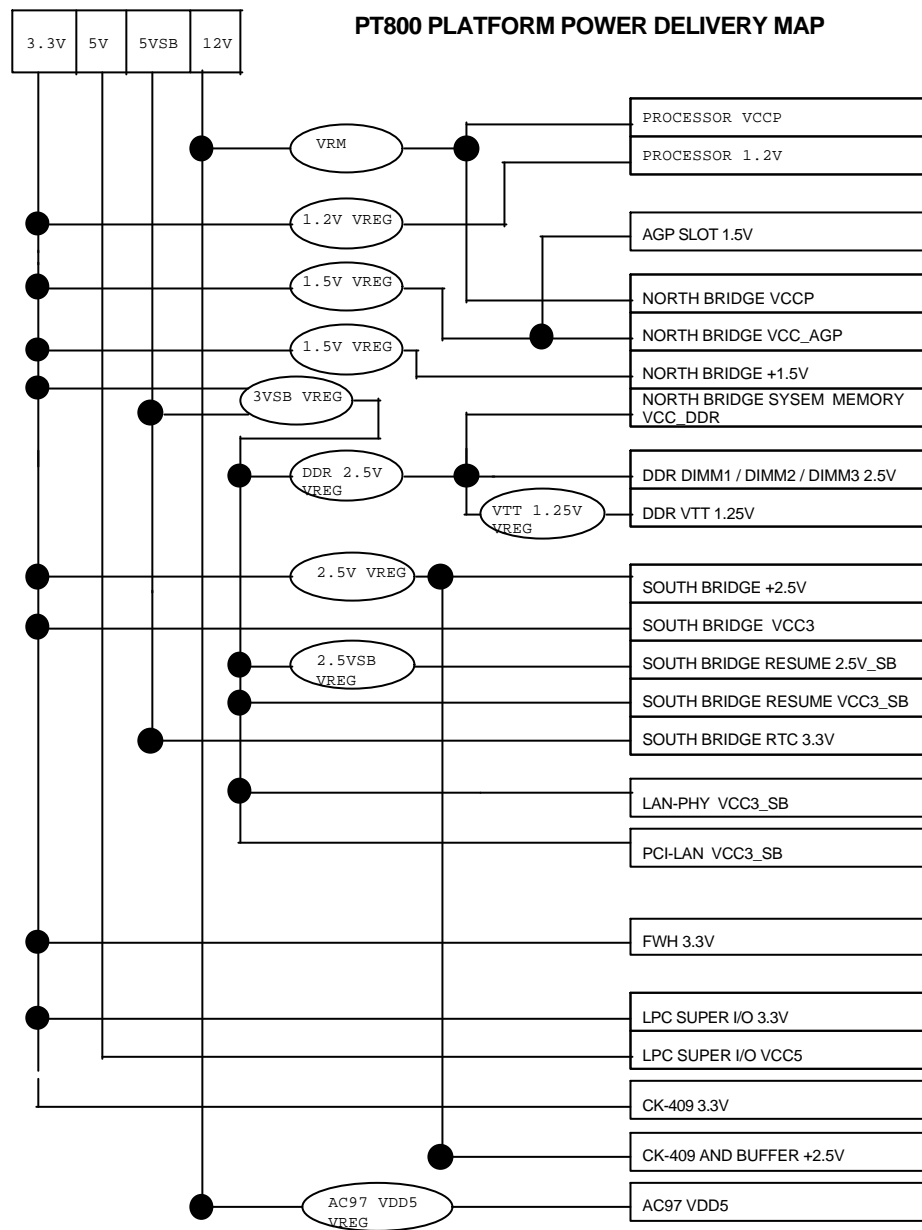
# Block Diagram



PT800 PLATFORM CLOCK GENERATOR MAP



PT800 PLATFORM POWER DELIVERY MAP



## NB

GPI O Pin	Type	Function	Power well
GPI 0	I	GPI 0	RESUME
GPI 1	I	IDE2 CBD	RESUME
GPO 0	I	GPO 0	RESUME
GPO 1	I	GPO 0	RESUME
GPIOA	I	NB STR S	MAIN
GPIOB	I	IOQDEPH	MAIN
GPIOC	I	NB STR S	MAIN
GPIOD	I	GTL PULL	MAIN

## I/O

GPI O 10	I/O	HI	MAIN
GPI O 11	I/O	HI	MAIN
GPI O 12	I/O	HI	MAIN
GPI O 13	I/O	NA	MAIN
GPI O 14	I/O	NA	MAIN
GPI O 15	I/O	NA	MAIN
GPI O 16	I/O	NA	MAIN
GPI O 17	I/O	NA	MAIN
GPI O 18	I/O	NA	MAIN
GPI O 19	I/O	NA	MAIN
GPI O 20	I/O	NA	MAIN
GPI O 21	I/O	NA	MAIN
GPI O 22	I/O	NA	MAIN

default output  
default output  
default output

## PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK	CLK GEN PIN OUT
PCI Slot 1	INTA# INTB# INTC# INTD#	PCI_REQ#0 PCI_GNT#0	AD19	PCICLK0	18 (PCI_CLK0)
PCI Slot 2	INTB# INTC# INTD# INTA#	PCI_REQ#1 PCI_GNT#1	AD20	PCICLK1	19 (PCI_CLK1)
PCI Slot 3	INTC# INTD# INTA# INTB#	PCI_REQ#2 PCI_GNT#2	AD21	PCICLK2	21 (PCI_CLK2)
PCI Slot 4	INTD# INTA# INTB# INTC#	PCI_REQ#3 PCI_GNT#3	AD22	PCICLK3	14 (PCI_CLK3)
PCI Slot 5	INTA# INTB# INTC# INTD#	PCI_REQ#4 PCI_GNT#4	AD23	PCICLK4	17 (PCI_CLK4)

## DDR DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	1010000B	MDCLKA0/MDCLKA#0 MDCLKA1/MDCLKA#1 MDCLKA2/MDCLKA#2
DIMM 2	1010001B	MDCLKA3/MDCLKA#3 MDCLKA4/MDCLKA#4 MDCLKA5/MDCLKA#5
DIMM 3	1010010B	MDCLKB0/MDCLKB#0 MDCLKB1/MDCLKB#1 MDCLKB2/MDCLKB#2

## FWH

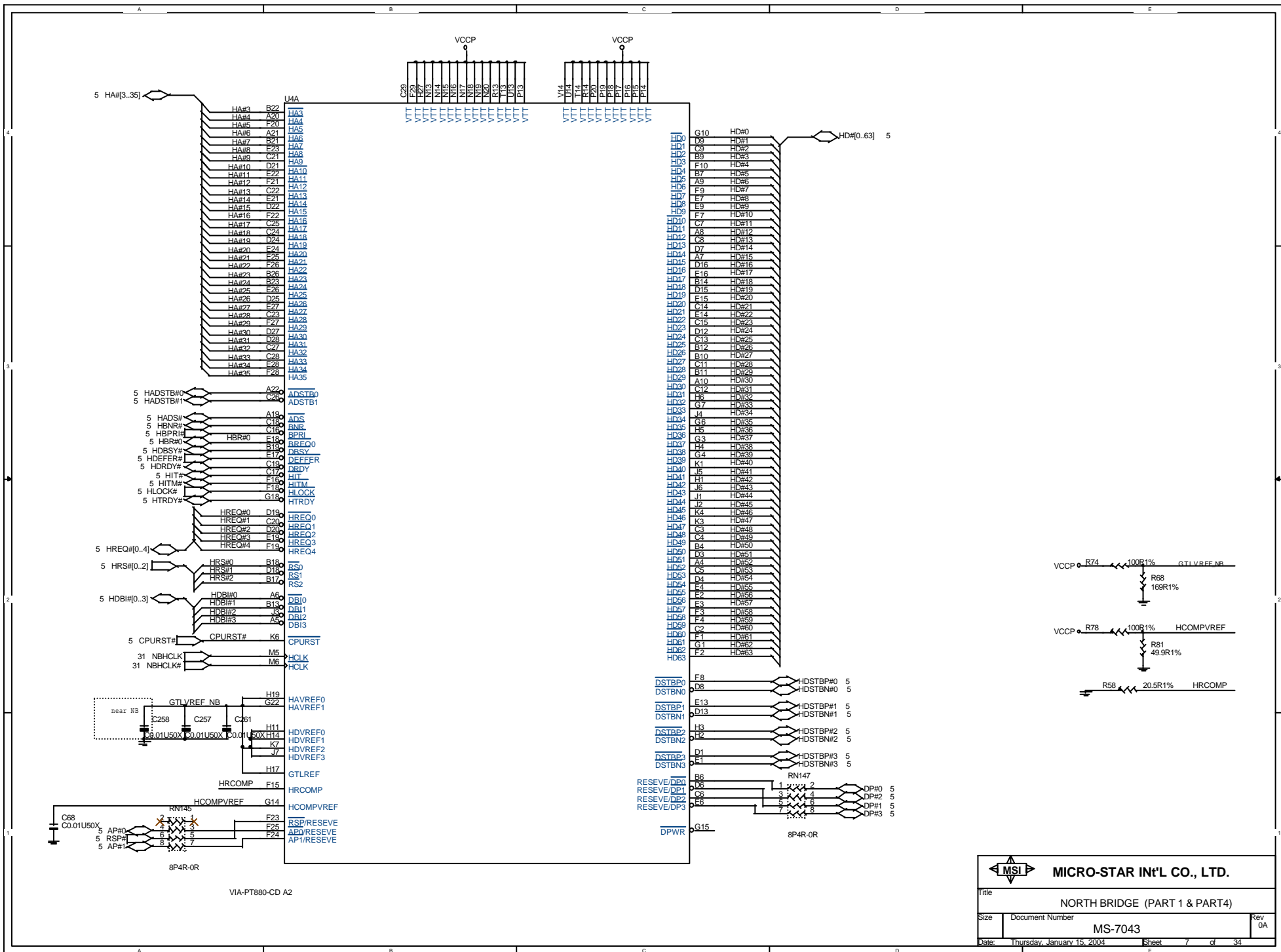
GPI O Pin	Type	Function
GPI 0	I	Pull UP through 1K ohms (unused)
GPI 1	I	Pull UP through 1K ohms (unused)
GPI 2	I	Pull UP through 1K ohms (unused)
GPI 3	I	Pull UP through 1K ohms (unused)
GPI 4	I	Pull UP through 1K ohms (unused)

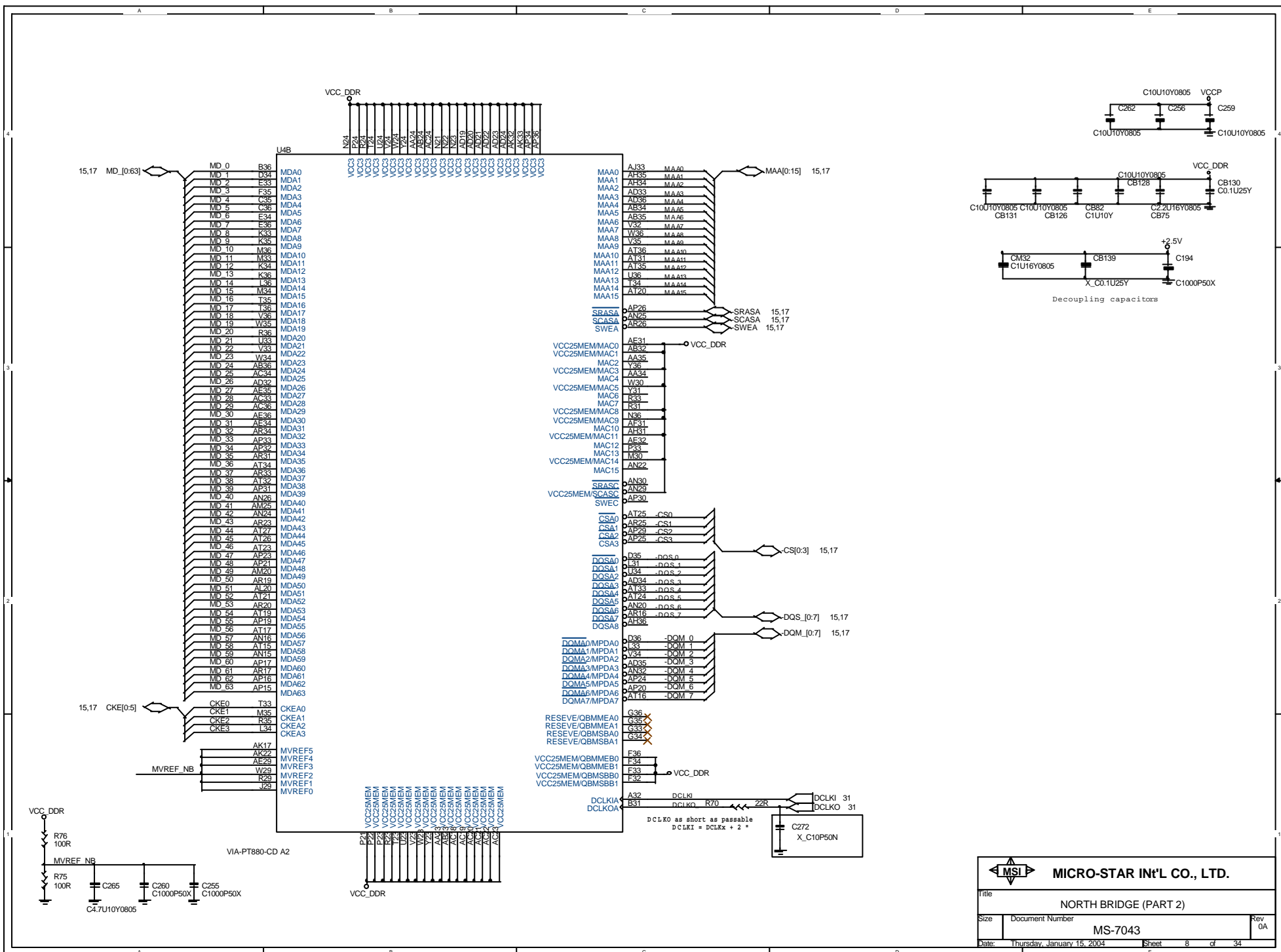
## PCI RESET DEVICE

Signals	Target
PCIRST#1	SB, NB
PCIRST#2	PCI slot 1-5, LAN,
HD_RST#	Primary, Scndary IDE



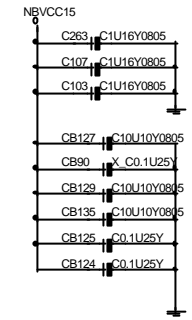
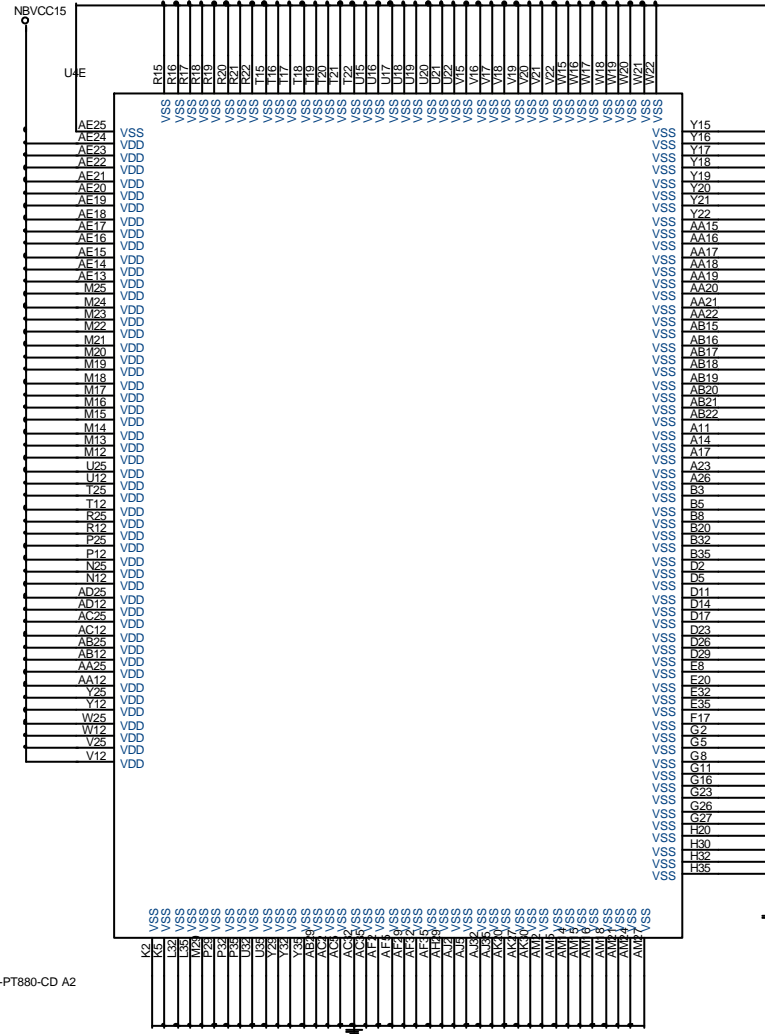


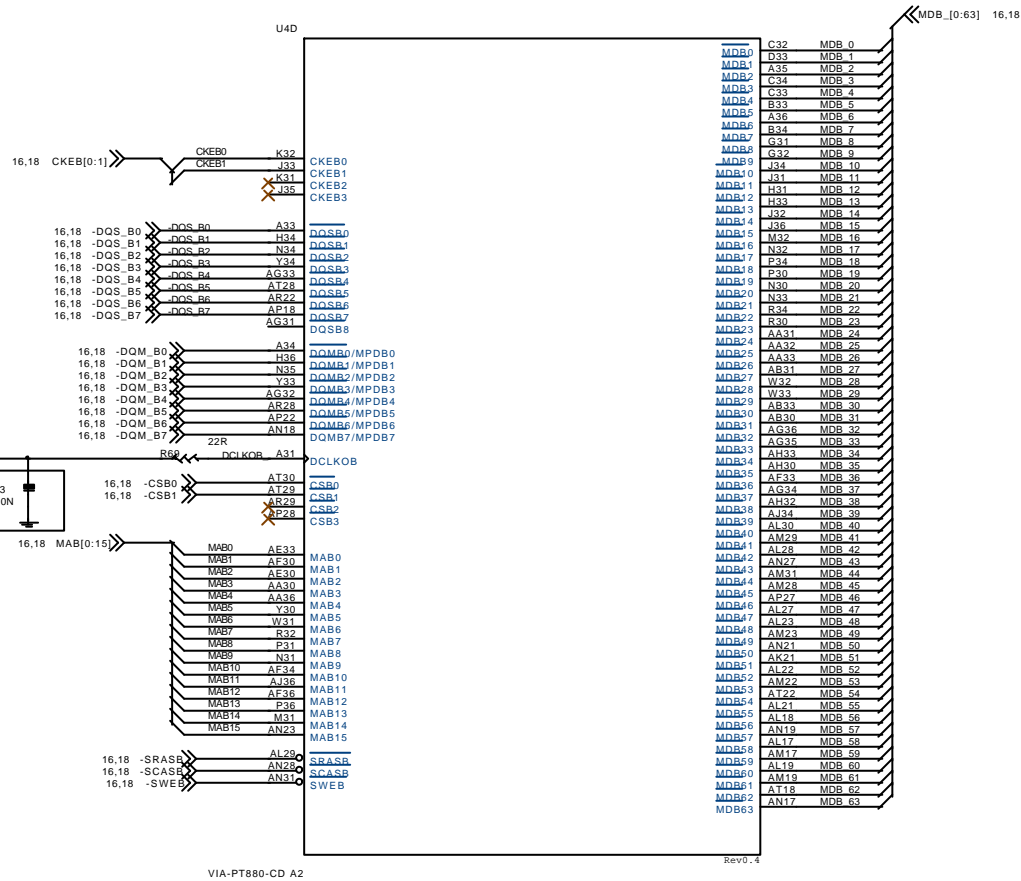


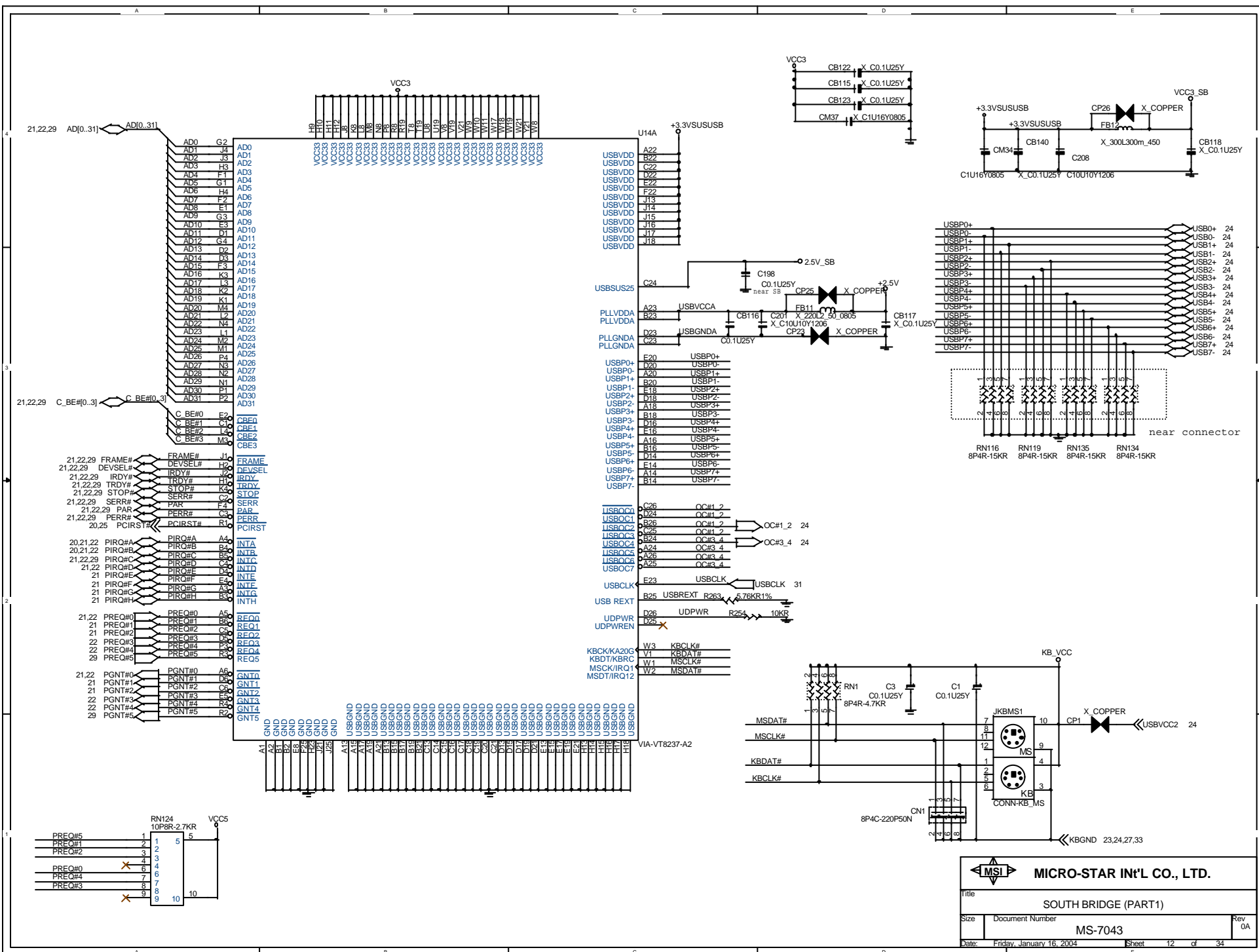


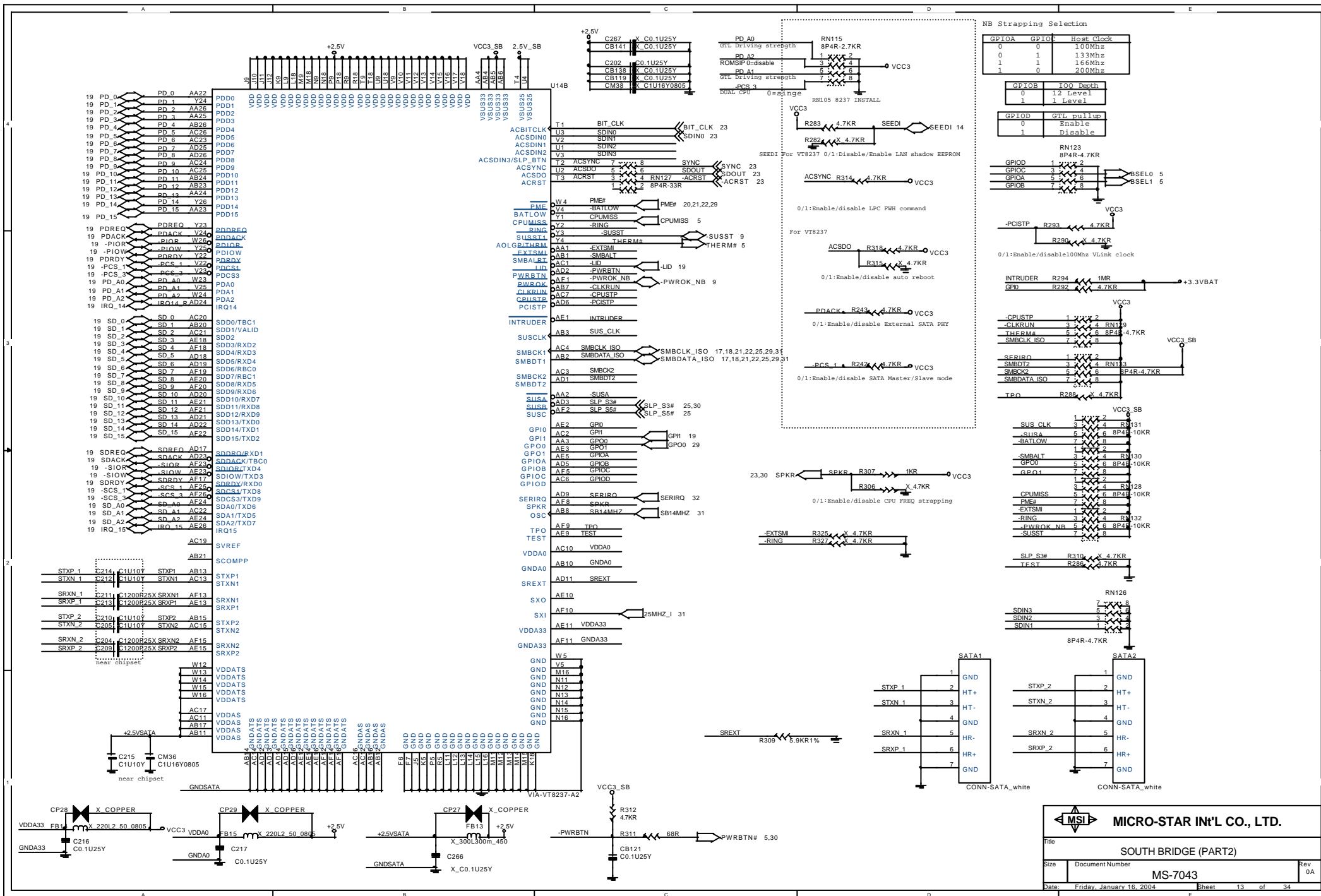




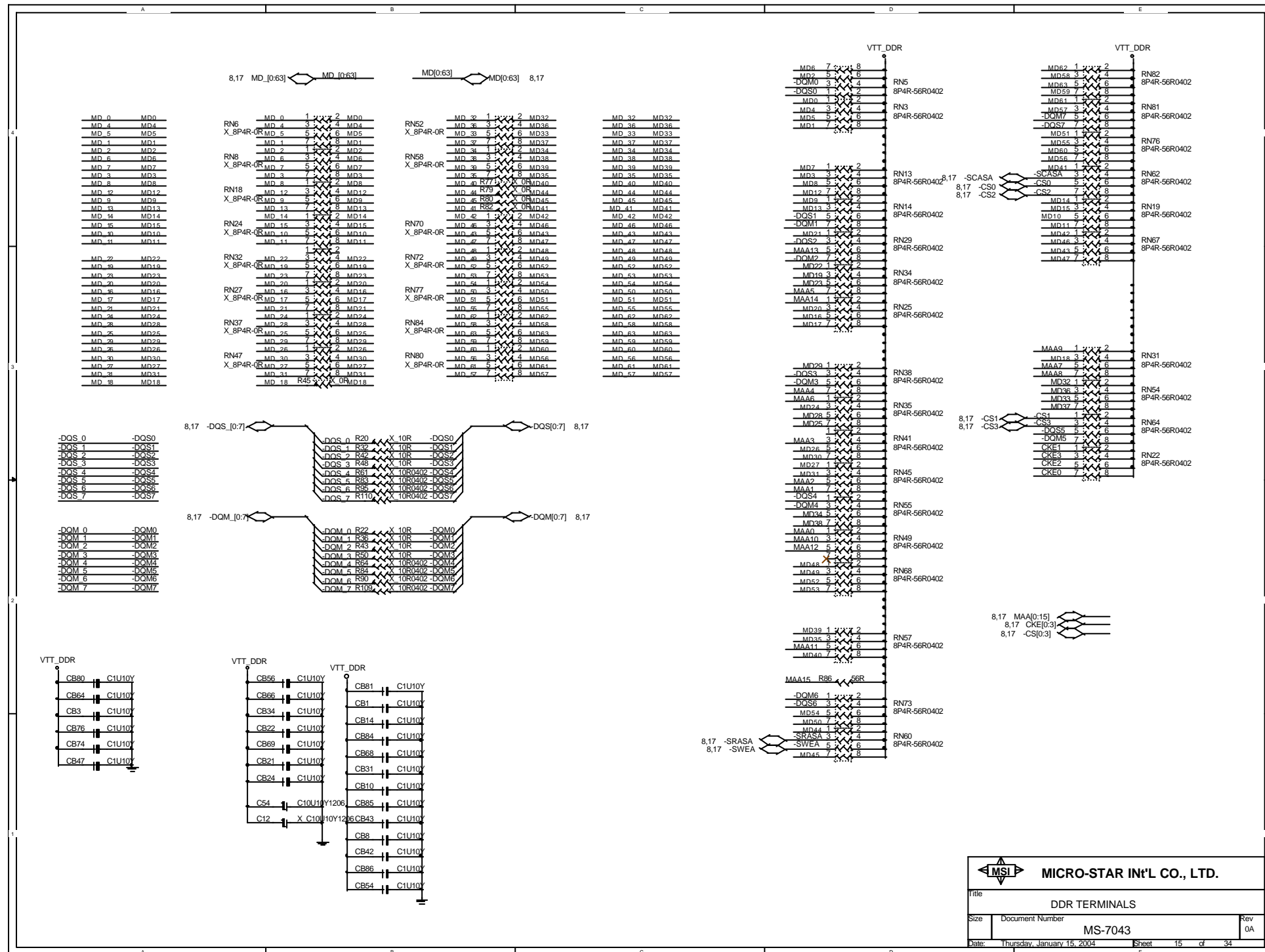


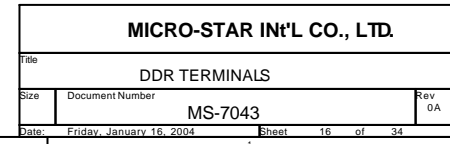




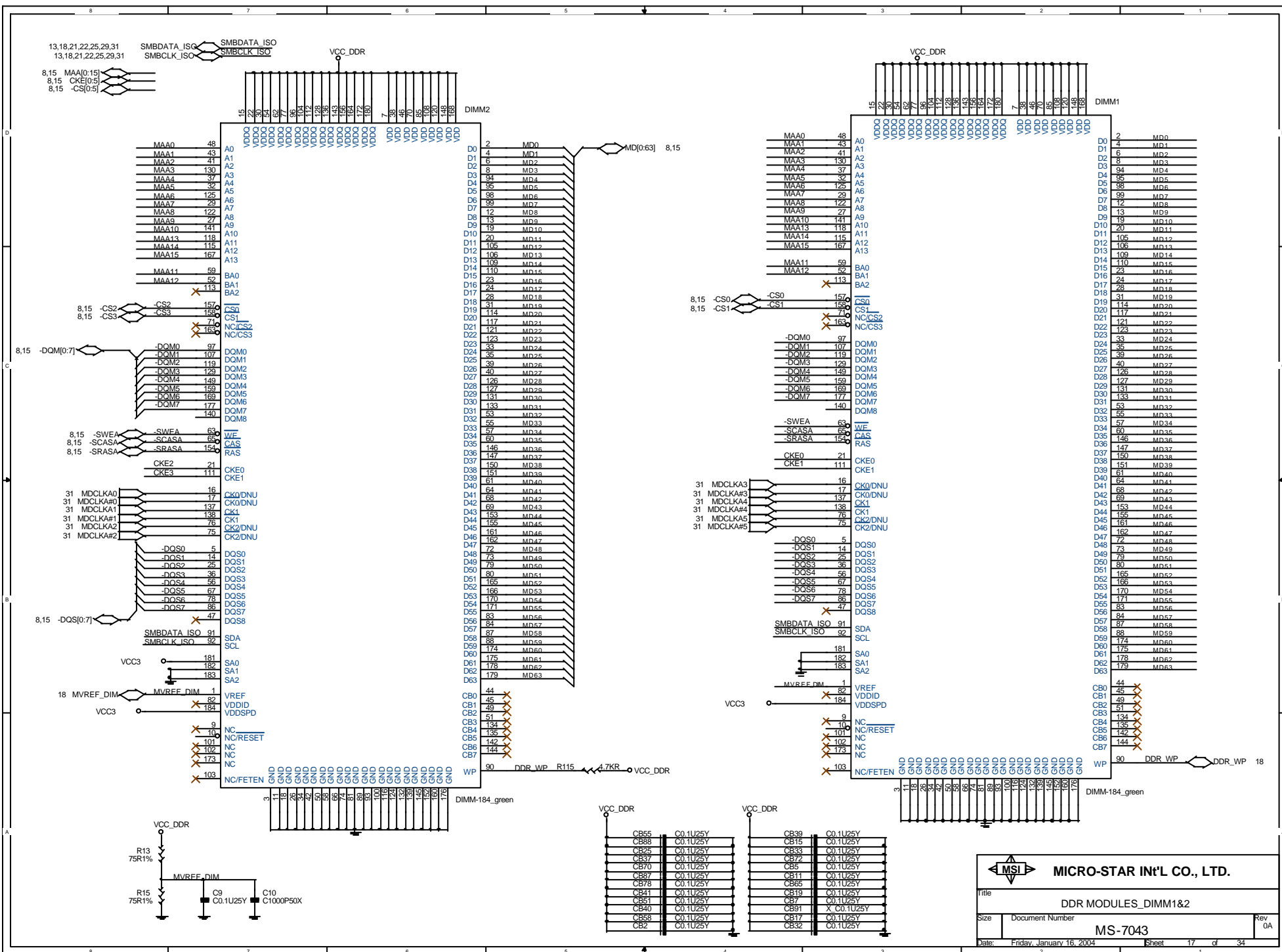






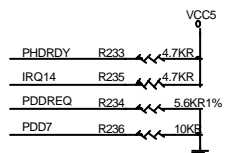
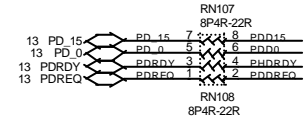
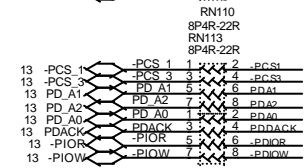
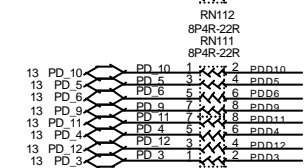
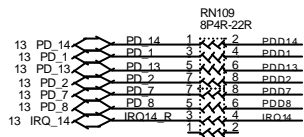
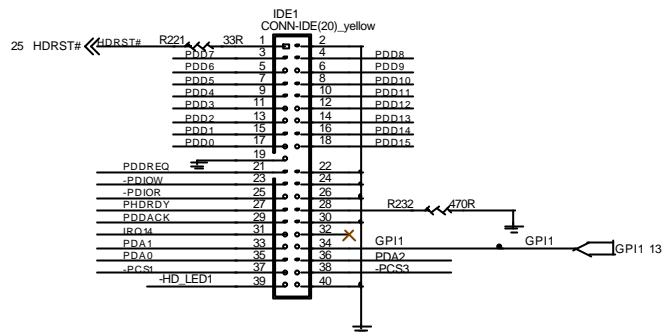




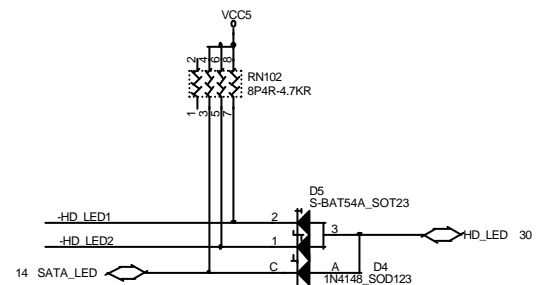
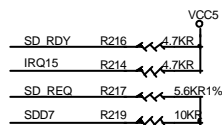
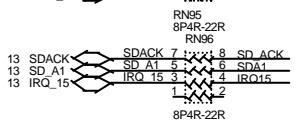
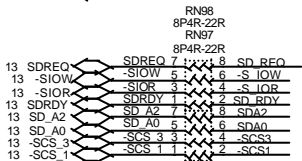
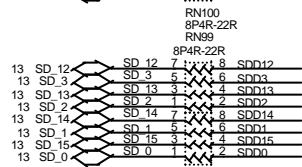
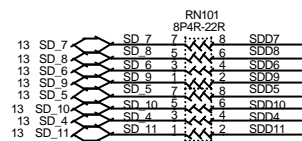
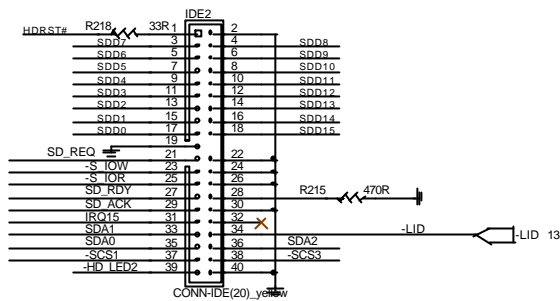




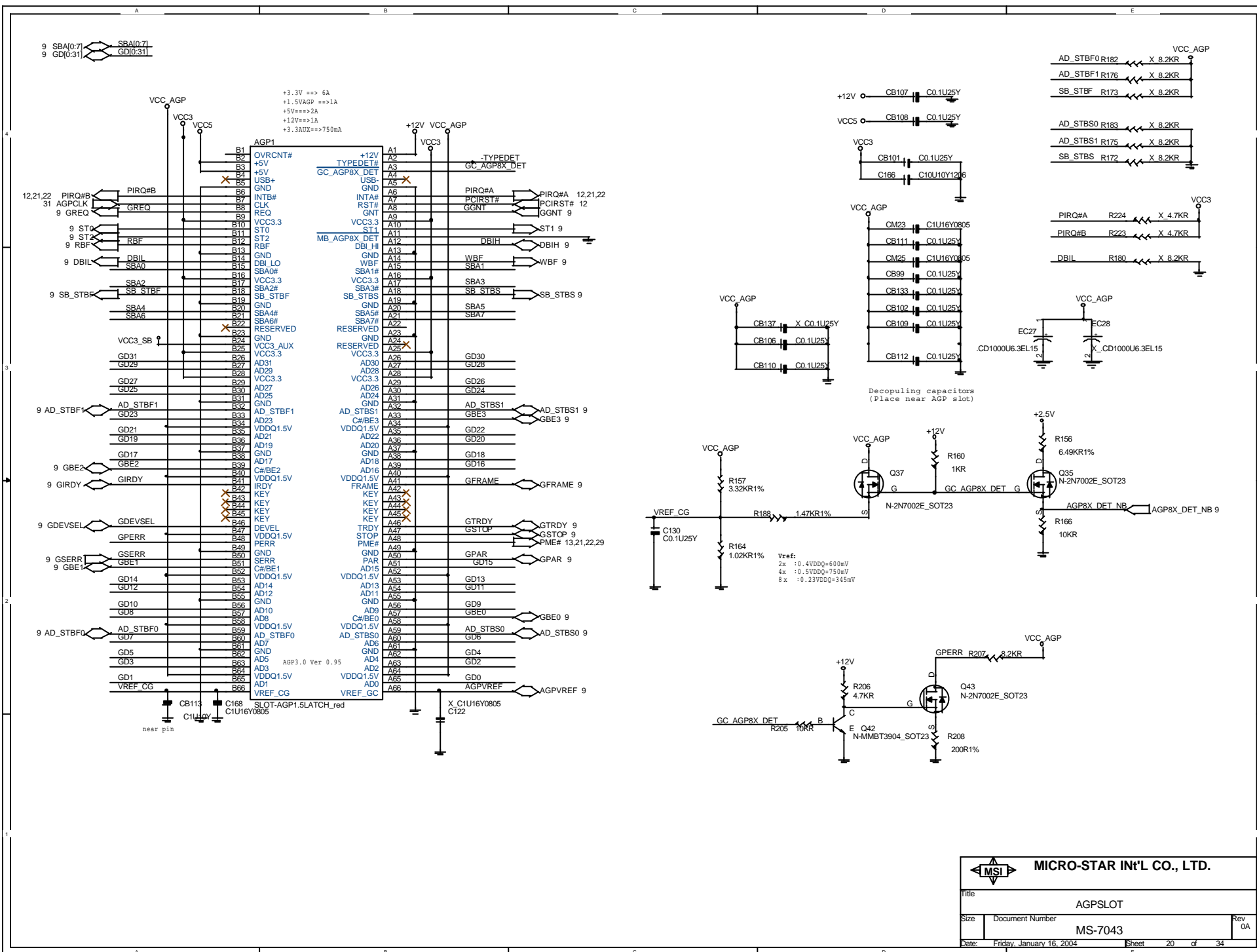
# PRIMARY



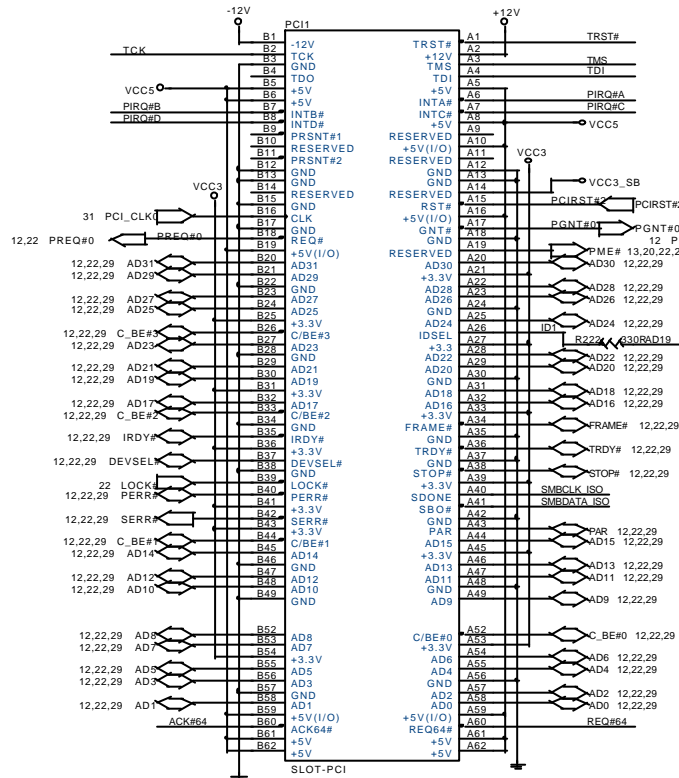
# SECONDARY



MICRO-STAR INT'L CO., LTD.			
Title IDE CONNECTORS			
Size	Document Number	Rev	
	MS-7043	0A	
Date:	Friday, January 16, 2004	Sheet	19 of 34

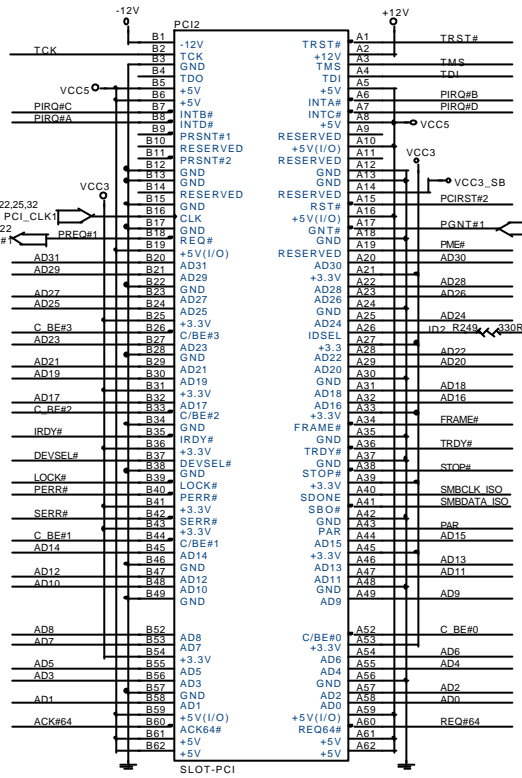


## PCI SLOT1(PCIVER:2.2COMPLY)



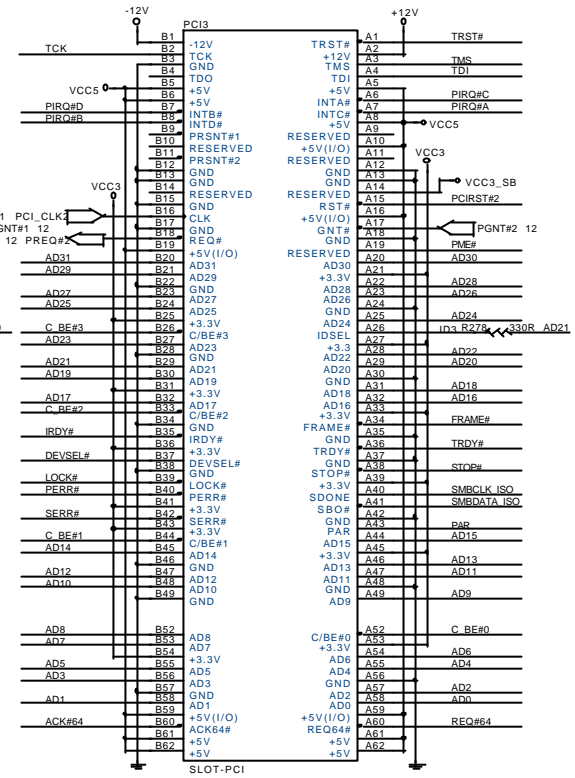
IDSEL = AD19  
MASTER = PREQ#5  
PIRQ#A

## PCI SLOT2(PCIVER:2.2COMPLY)



IDSEL = AD20  
MASTER = PREQ#1  
PIRQ#B

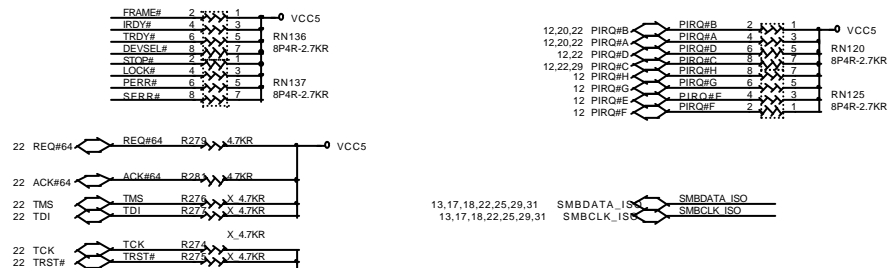
## PCI SLOT3(PCIVER:2.2COMPLY)



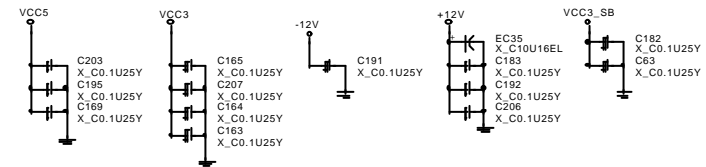
IDSEL = AD21  
MASTER = PREQ#2  
PIRQ#C

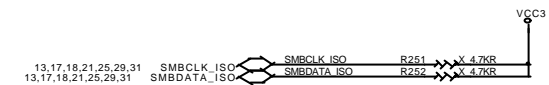
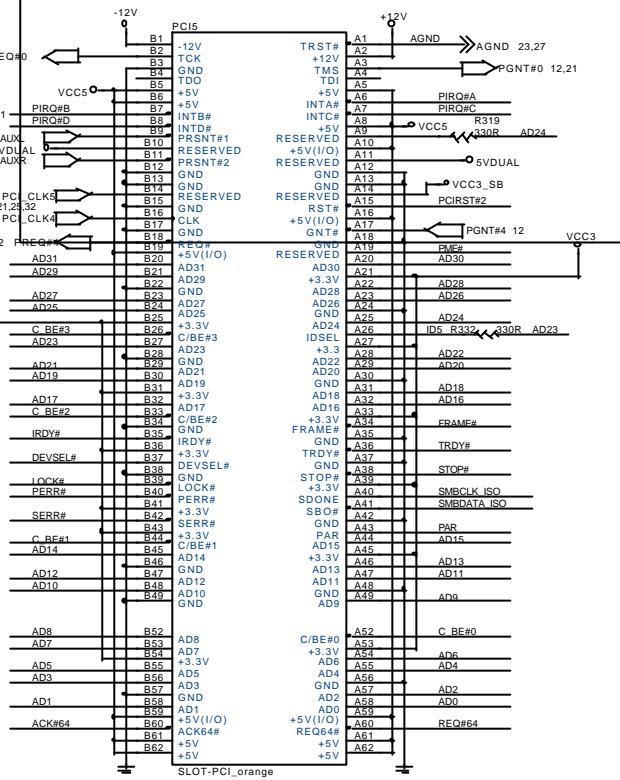
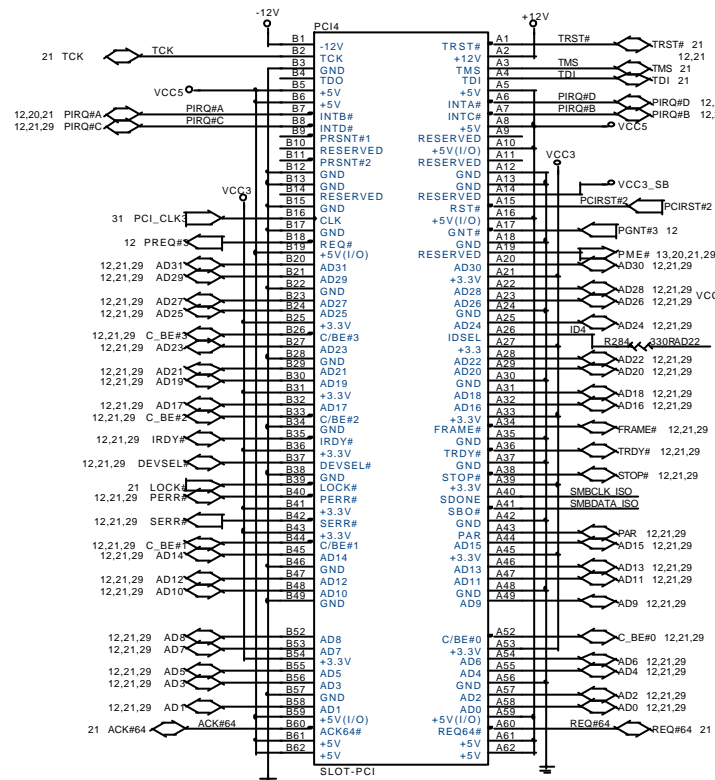
13,17,18,22,25,29,31 SMBCLK\_ISO  
13,17,18,22,25,29,31 SMBDATA\_ISO

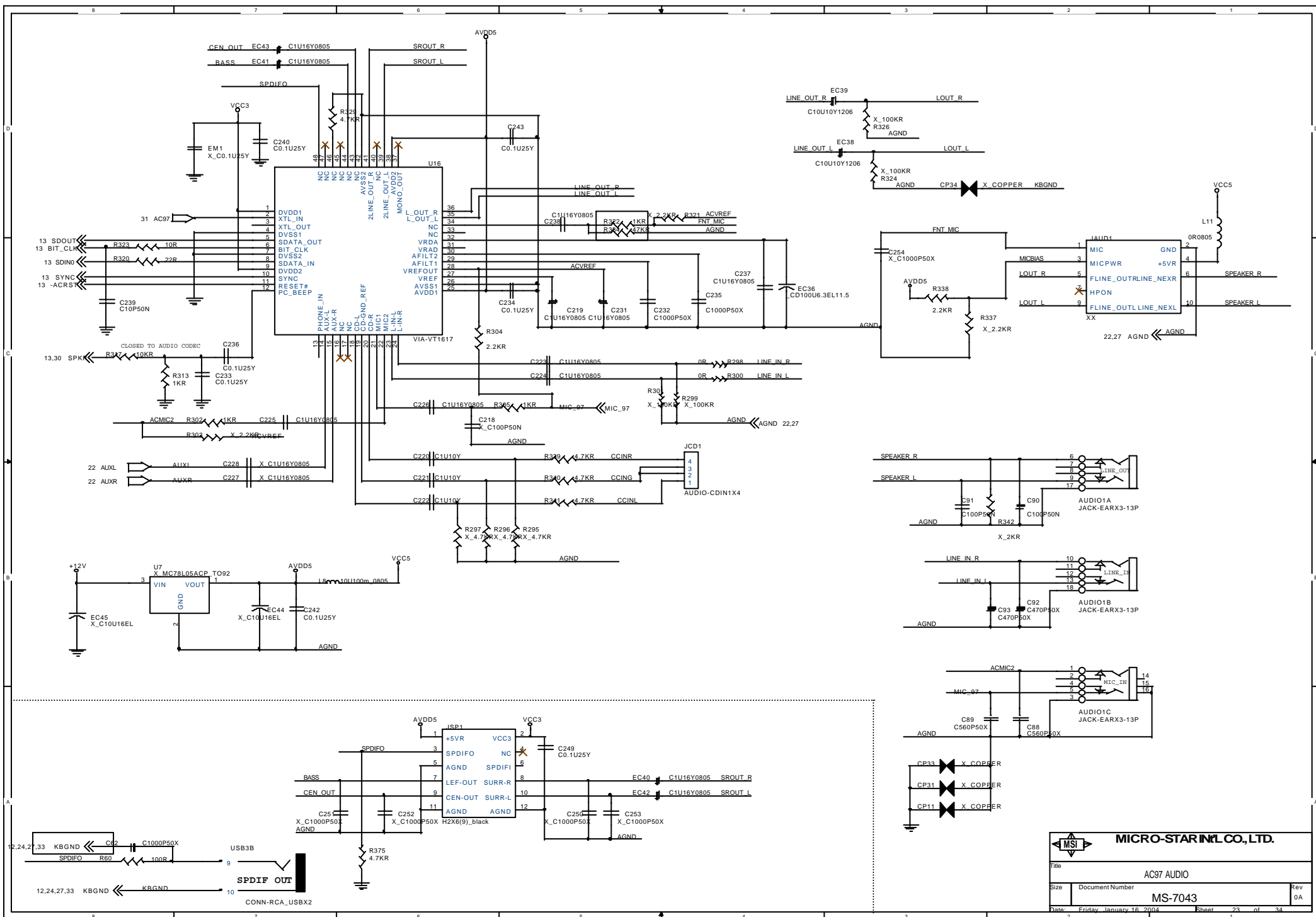
## PCI PULL-UP /DOWN RESISTORS



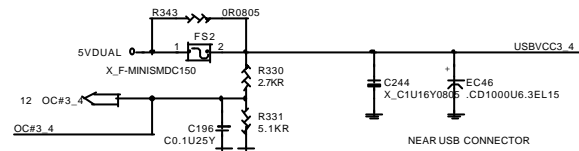
## PCI SLOT DECOUPLING CAPACITORS



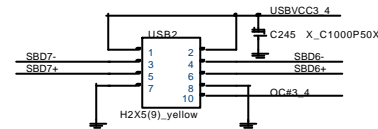
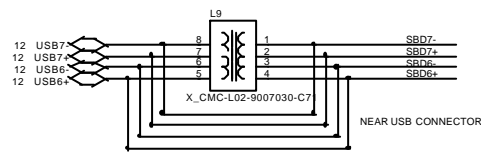
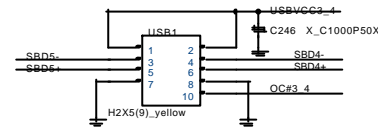
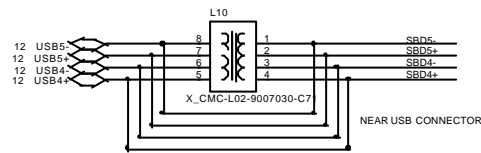




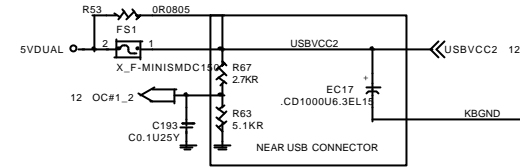
### POWER CIRCUIT FOR USB PORT 4,5,6,7



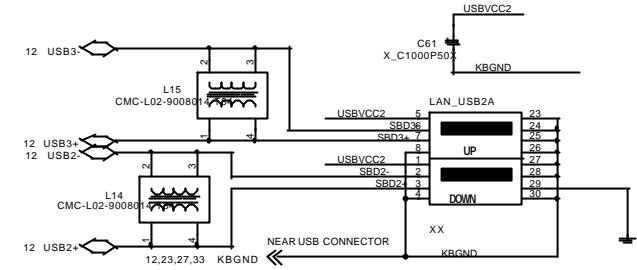
### REAR PANEL USB CONNECTOR FOR USB PORT 4,5,6,7



### POWER CIRCUIT FOR USB PORT 4,5

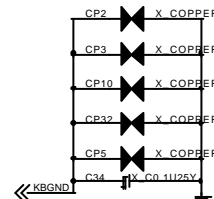
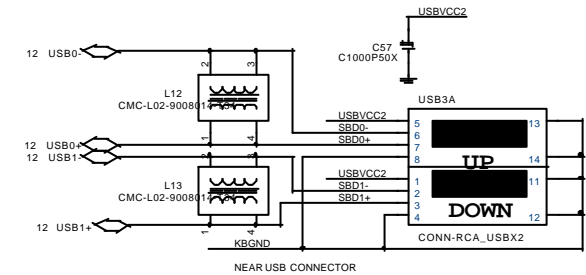


### REAR PANEL USB CONNECTOR FOR USB PORT 2,3



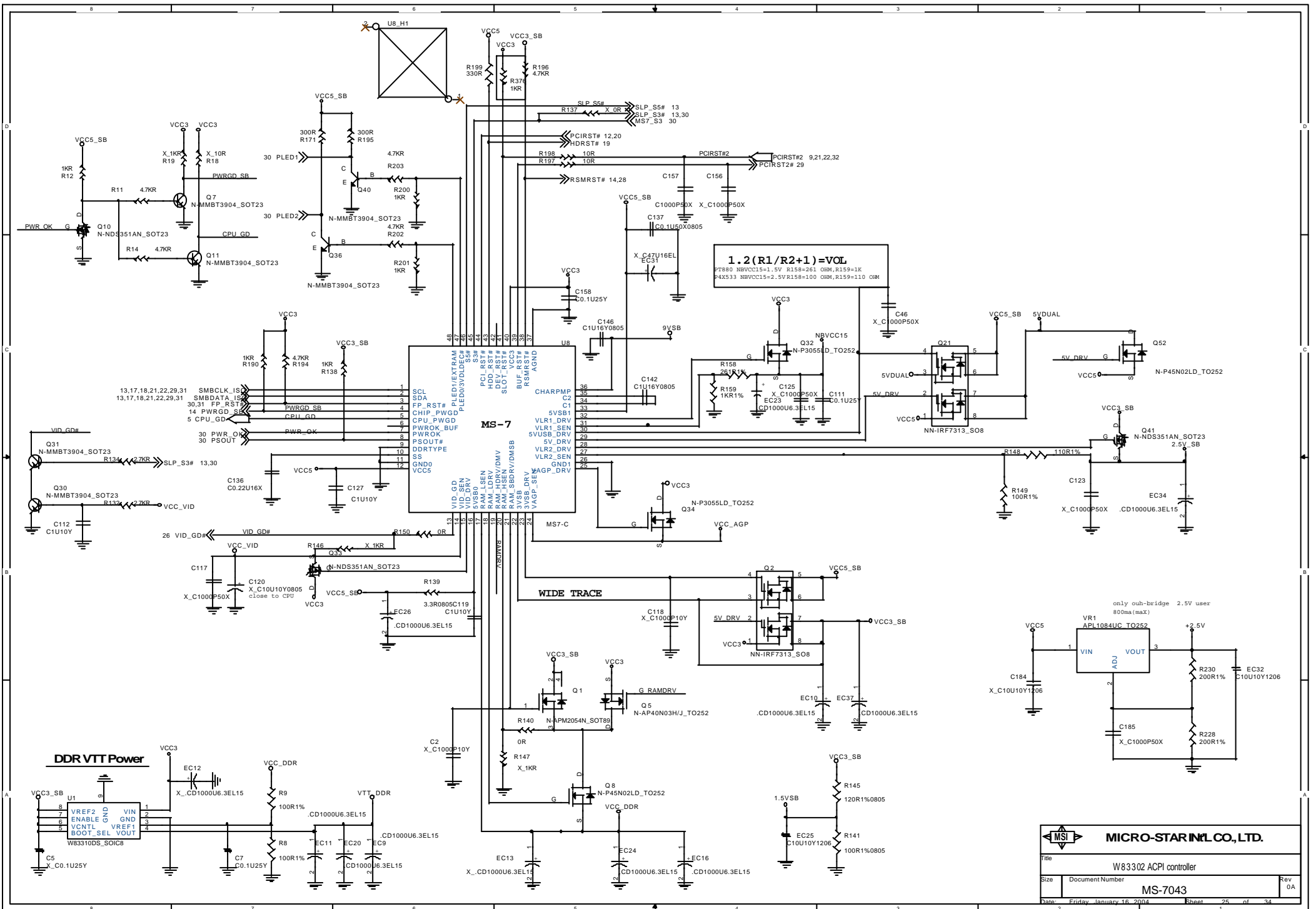
### POWER CIRCUIT FOR USB PORT 6,7

### REAR PANEL USB CONNECTOR FOR USB PORT 0,1



MSI MICRO-STAR INT'L CO., LTD.			
Title USB Connectors			
Size	Document Number MS-7043		Rev 0A
Date	Friday, January 16, 2004	Sheet 24	of 34



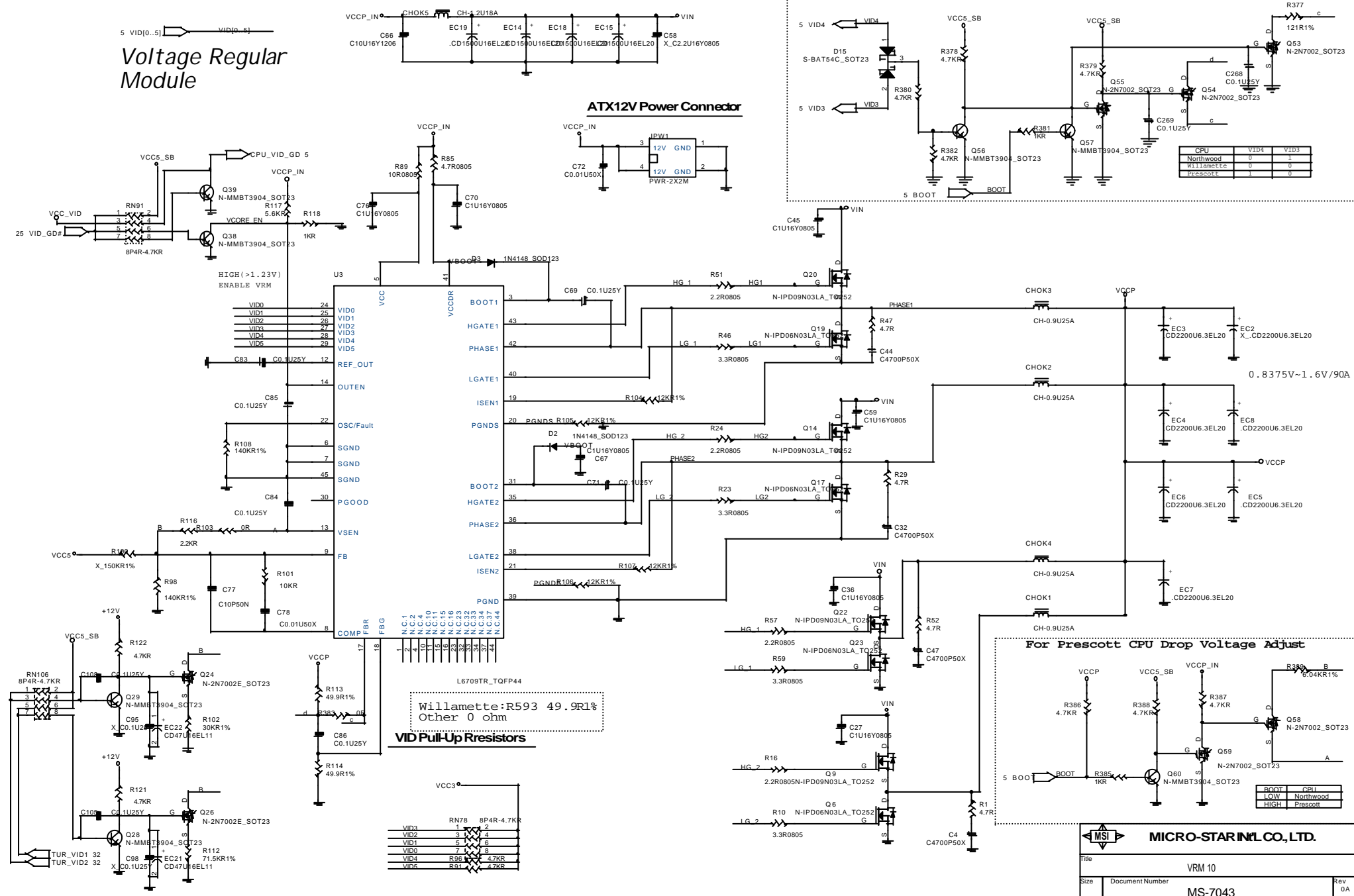


# Voltage Regular Module

## ATX12V Power Connector

## For Willamette CPU Offset Voltage Adjust

## For Prescott CPU Drop Voltage Adjust



CPU	VID4	VID3
Northwood	0	1
Willamette	0	0
Prescott	1	0

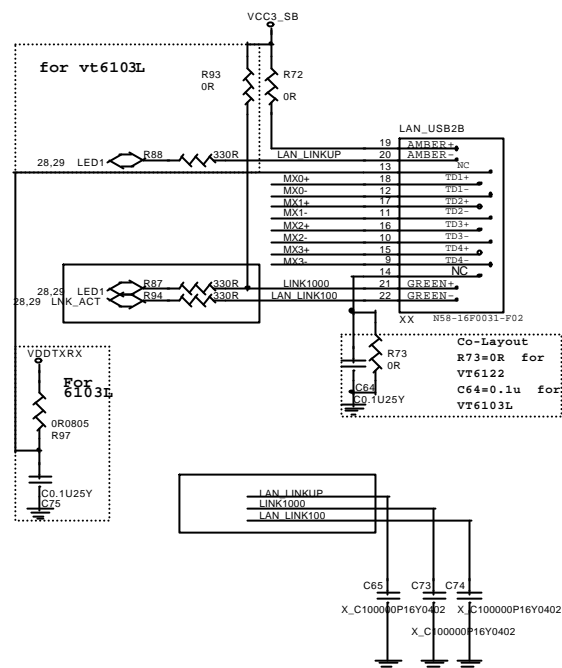
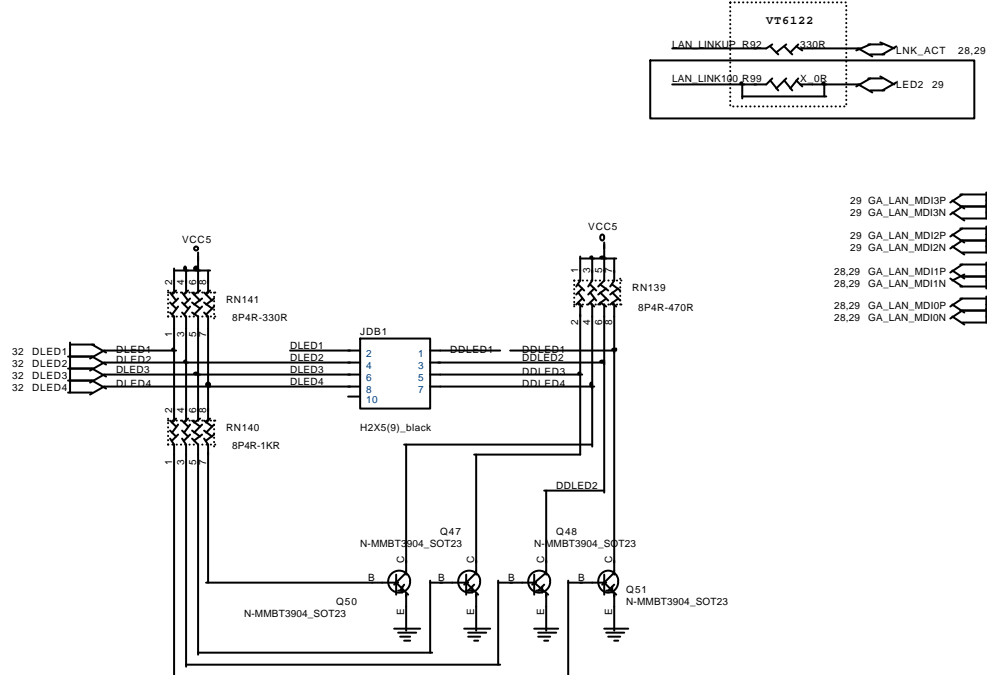
BOOT	GBL
LOW	Northwood
HIGH	Prescott

**MSI MICRO-STAR INT'L CO., LTD.**

Title: VRM 10

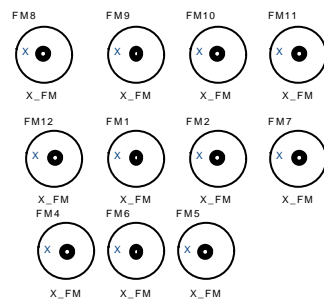
Size: Document Number: MS-7043 Rev: 0A

Date: Thursday, January 15, 2004 Sheet: 26 of 34

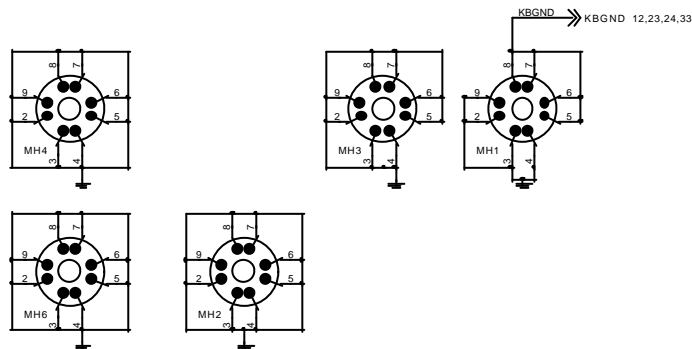


	6103L	6122
R93	0 OHM	X
R72	0 OHM	0 OHM
R88	330 OHM	X
R87	X	330 OHM
R94	330 OHM	X
R97	0 OHM	X
R99	X	X
R92	X	330 OHM
c75	0.10	X
c64	0.10	X
R73	X	0 OHM

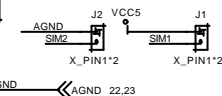
### Optics Orientation Holes



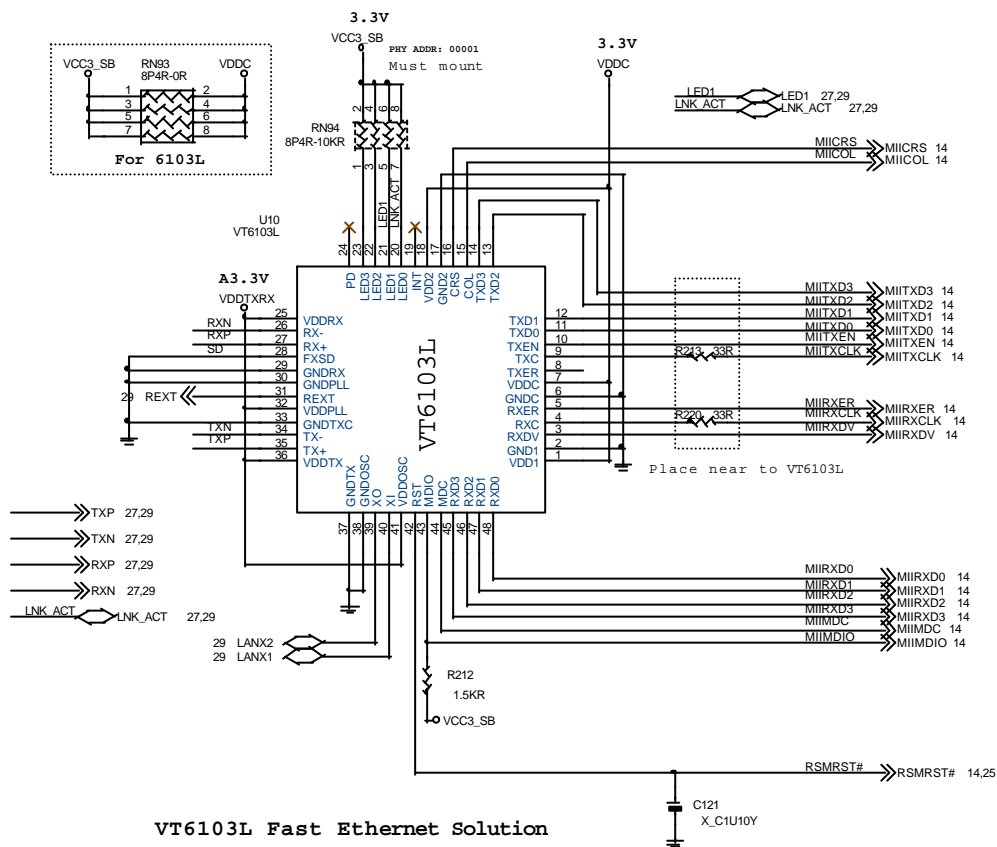
### Mounting Holes



### Simulation



MSI MICRO-STAR INT'L CO., LTD.	
Title DLED BRACKET AND LAN CONN.	
Size	Document Number MS-7043
Date	Rev 0A
Friday, January 16, 2004	Sheet 27 of 34




#### Change Part

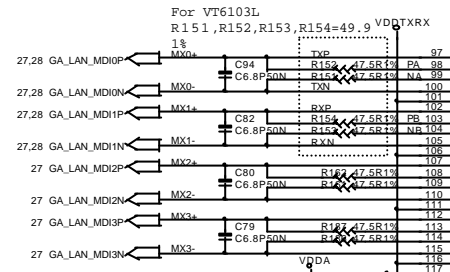
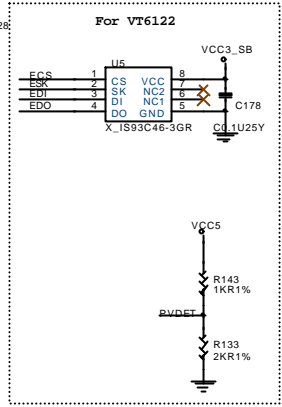
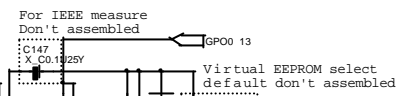
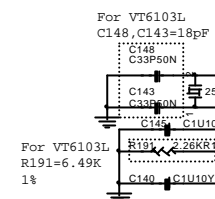
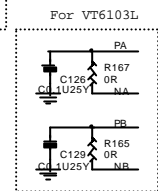
Capacitor	C1=C2=18pF
Resistor	R8=6.49K 1% R10=R12=R13=R15=49.9 1%
Other	CN1=P35-152-1GP9

#### Remove Part value

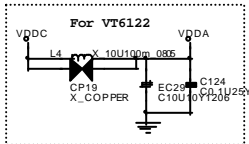
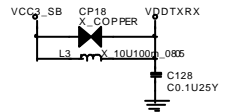
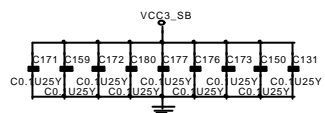
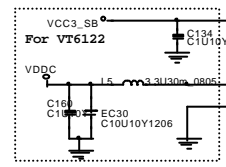
Capacitor	C3, C4, C10, C22, C28, C29, C31, C40, C45
Resistor	R1, R2, R3, R4, R16, R17, R18, R19, R22, R23
Other	FB2, L1, U1, U2

 <b>MICRO-STAR INT'L CO., LTD.</b>	
Title: VT6103L Fast Ethernet	
Size: Document Number	Rev: 0A
MS-7043	
Date: Friday, January 16, 2004	Sheet: 28 of 34

USB-RJ45-LED-P35-152-1GJ9(Speed Tech) for VT6122  
 USB-RJ45-LED-P35-152-1GP9(Speed Tech) for VT6103L



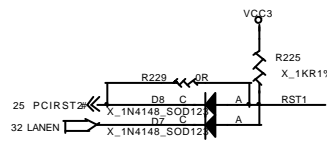
VT6122  
 GIGA NIC  
 LQFP-128



### VT6122 Gigabit Ethernet Solution

Remove Part

Capacitor	C4, C12, C15, C16, C24
Resistor	RN1, R11, R14, R24, R25, R27, R30, R32, R35
Other	U5



**MICRO-STAR INT'L CO., LTD.**

Title: VT6122 Gigabit Ethernet

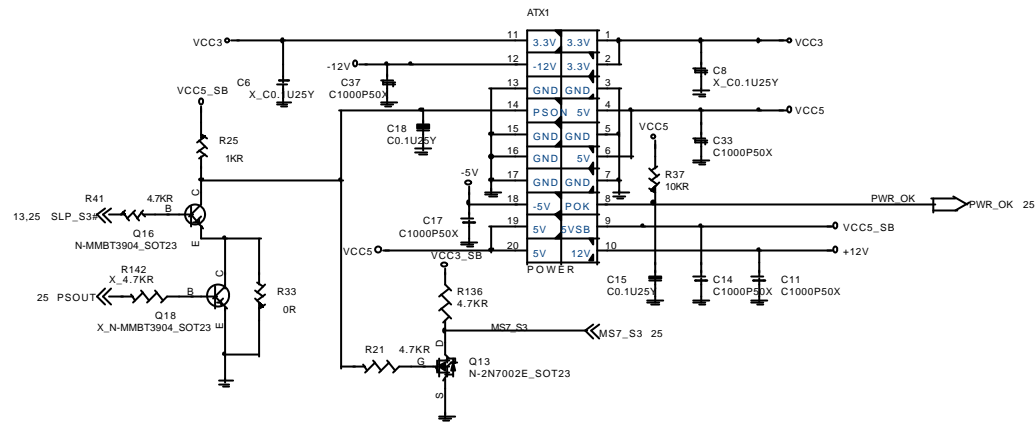
Size: Document Number

MS-7043

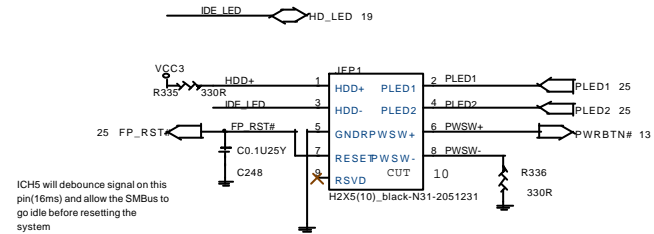
Date: Friday, January 16, 2004

Sheet: 29 of 34

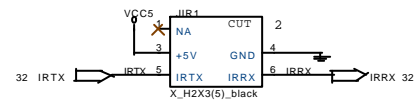
## ATX Connector



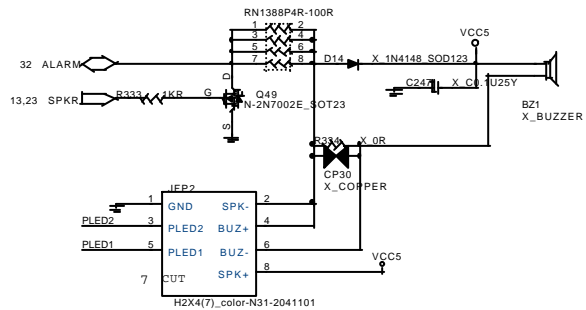
## INTEL/PB Front Panel Connector



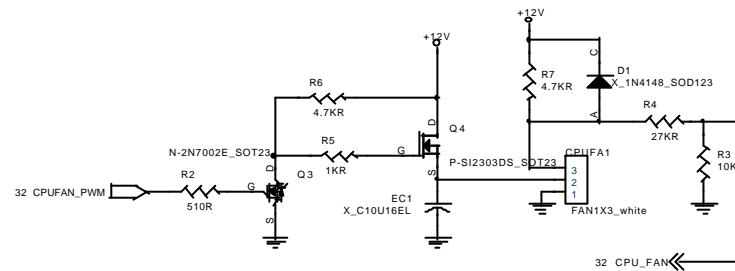
## IR Connector



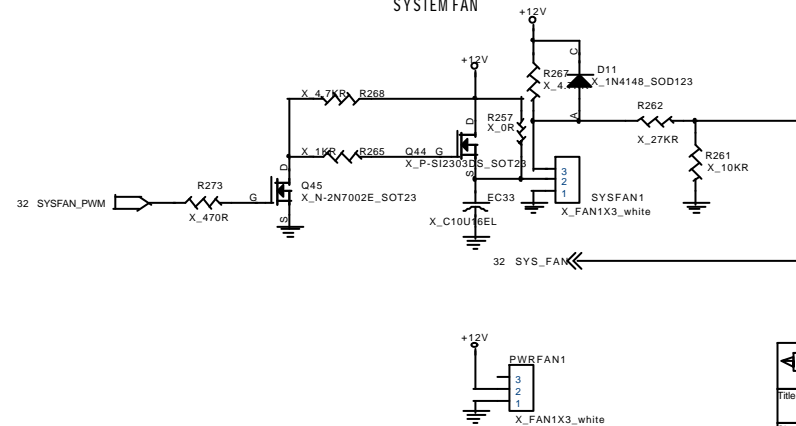
## MSI Front Panel Connector



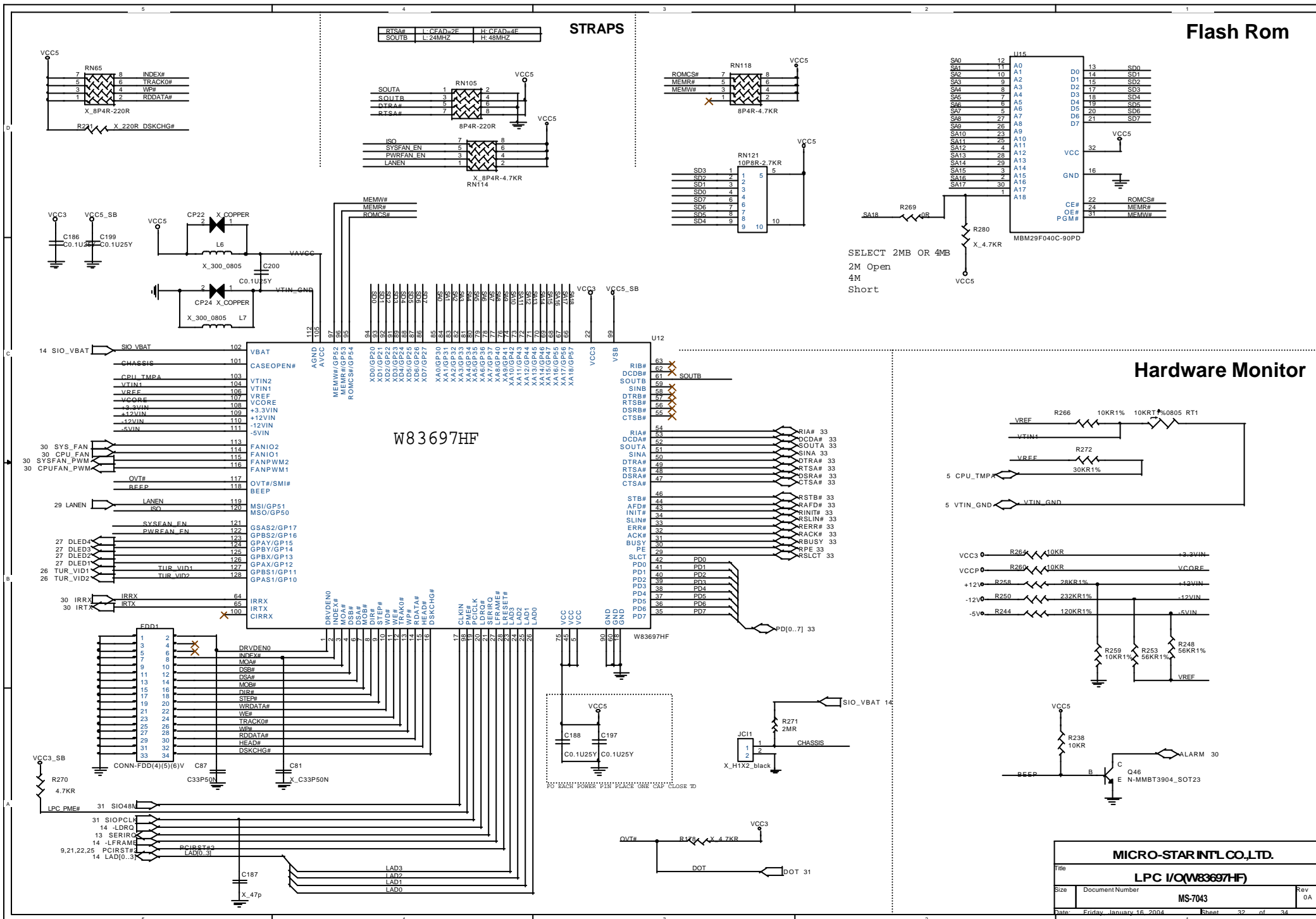
## CPU FAN



## SYSTEM FAN

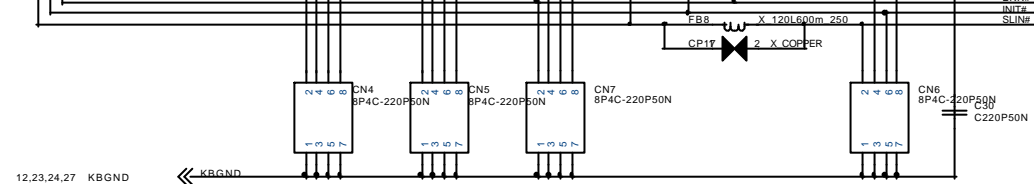
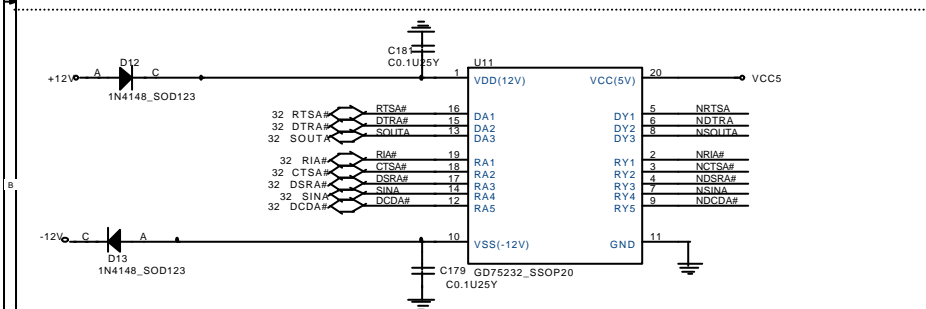
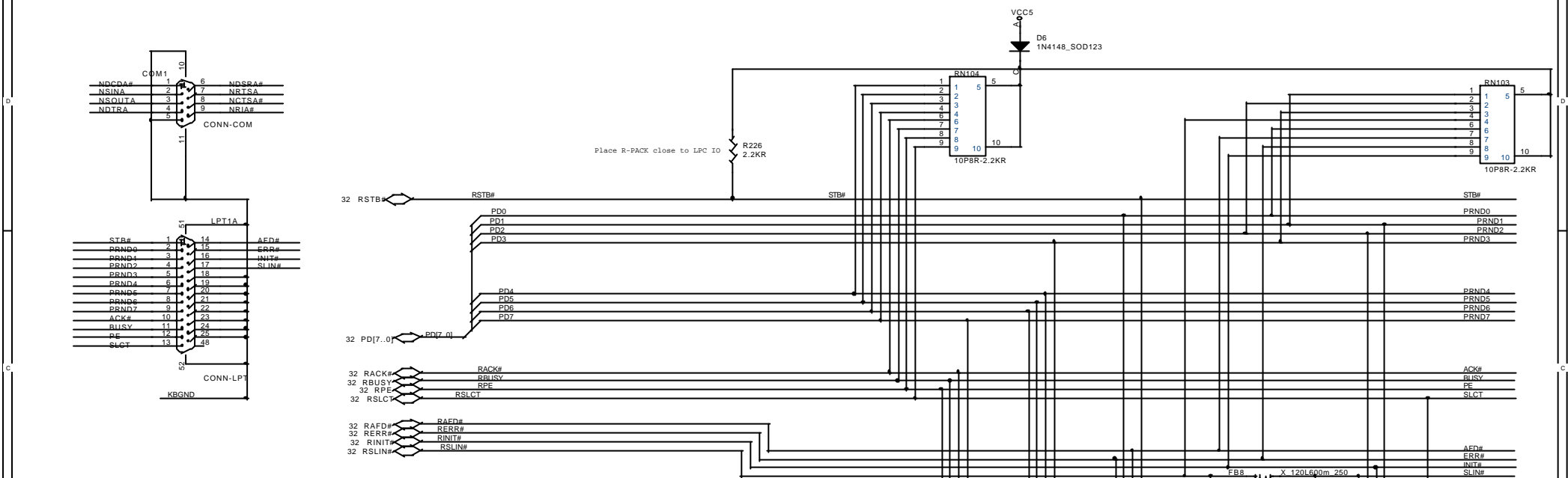








## Parallel Port



## Serial Port

