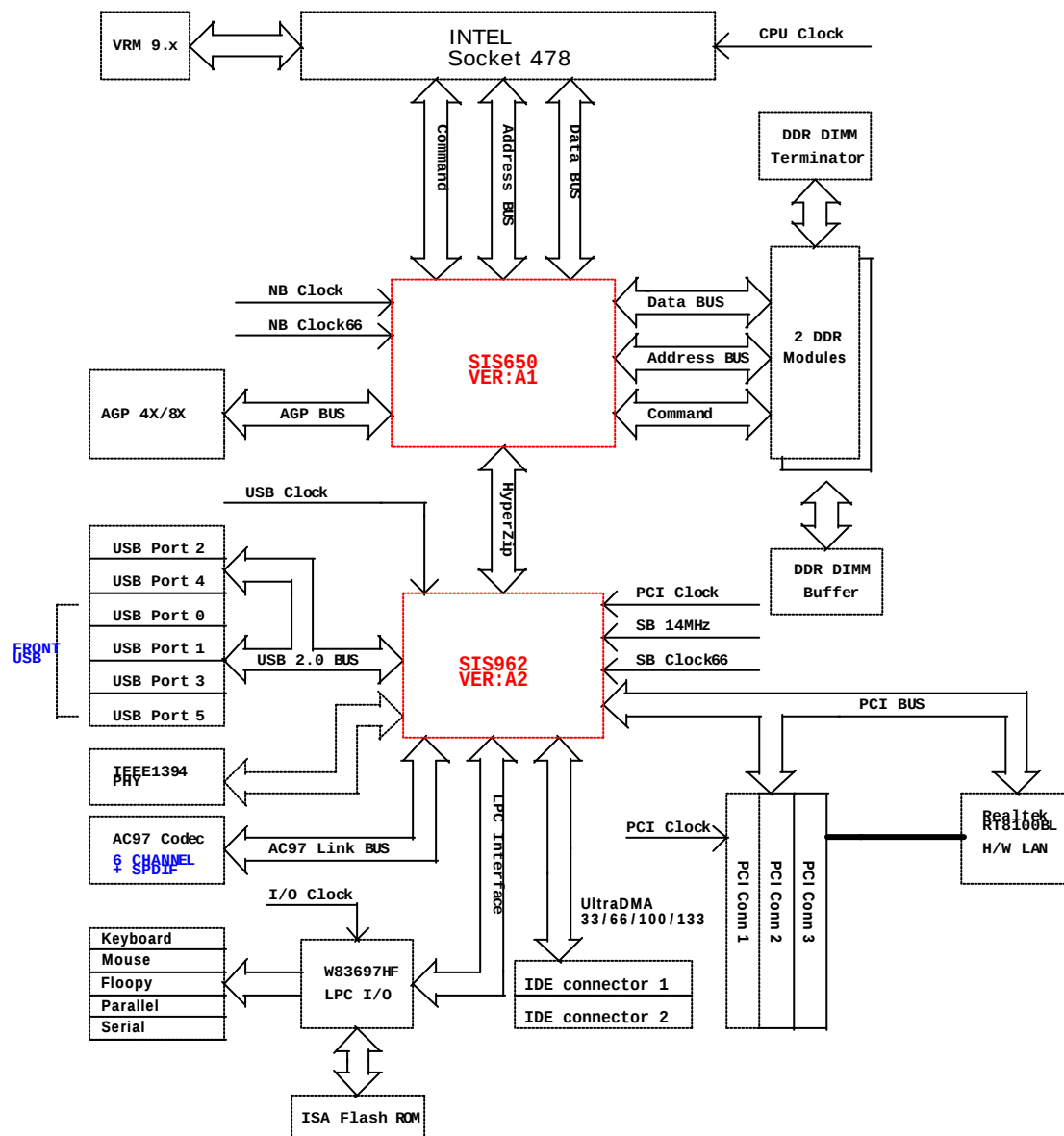




# MS-6719 Ver:1.0

MEDION \*\*\*\*\* Ver:0B



## CPU:

Pentium4 socket-478 Processor

## System Chipset:

SIS651(NB) + SIS962(SB)

## On Board Function Chip:

LPC I/O-W83697HF

IEEE1394 AGERE-FW802

LAN-Realtek RTL8201BL

Audio Codec-Realtek ALC650

## Expansion Slot:

AGP2.0 Slot\*1

PCI2.2 Slot\*3

## CONTENT

|                                   |
|-----------------------------------|
| 01-Block drigram & Cover sheet    |
| 02-Power Div & Specification      |
| 03-Intel socket 478 CPU part 1    |
| 04-Intel socket 478 CPU part 2    |
| 05-Main Clock Gen & Clock buffer. |
| 06-SIS650-1 Host & AGP            |
| 07-SIS650-2 Memory                |
| 08-SIS650-3HyperZip               |
| 09-SIS650-4 Power                 |
| 10-SIS962-1 PCI & IDE & HyperZip  |
| 11-SIS962-2 MISC.                 |
| 12-SIS962-3/4 USB & Power         |
| 14-AGP slot & Pull-UP/DN resistor |
| 14-DIMM 1 & 2                     |
| 15-DDR Terminator                 |
| 16-PCI slot 1 & 2 & 3             |
| 17-W83697HF I/O & BIOS            |
| 18-AC97 Codec                     |
| 19-Audio connector                |
| 20-USB port & BIOS                |
| 21-IEEE1394/RTI8801               |
| 22-RTL8201BL LAN                  |
| 23-MS5 ACPI Controller            |
| 24-VRM 9.0                        |
| 25-ATX & F-Panel & Game port      |
| 26-IDE1/2 & PS2                   |
| 27-Com/Parallel port              |
| 28-Manual & GPIO define           |

| Clock Gen   |             |
|-------------|-------------|
| CPU Clock   | CPU Clock   |
| NB Clock    | NB Clock    |
| NB Clock66  | NB Clock66  |
| SB Clock66  | SB Clock66  |
| AGP Clock66 | AGP Clock66 |
| PCI Clock   | PCI Clock   |
| USB Clock   | USB Clock   |
| I/O Clock   | I/O Clock   |
| SB 14MHz    | SB 14MHz    |

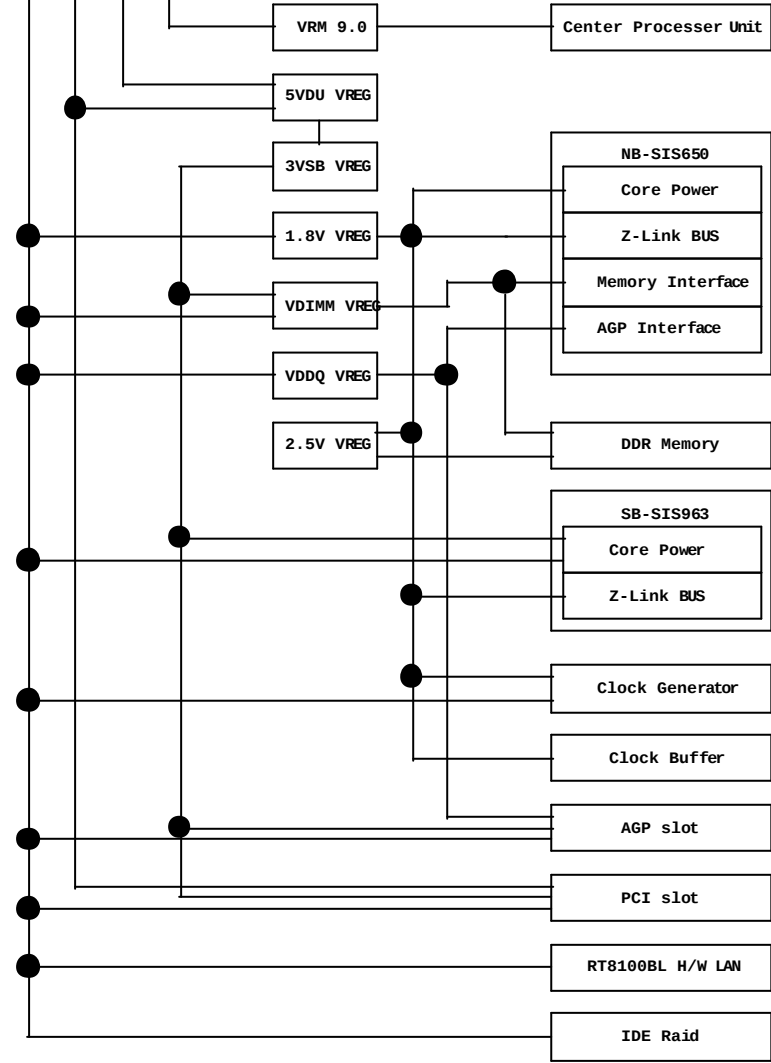
09-17-2002

| MICRO-STAR INT'L CO., LTD.  |                             |         |         |
|-----------------------------|-----------------------------|---------|---------|
| Cover Sheet & Block Diagram |                             |         |         |
| Size                        | Document Number             | Rev 1.0 |         |
| Custom                      | MS-6719                     |         |         |
| Date                        | Wednesday, October 16, 2002 | Sheet   | 1 of 28 |

ATX 12V POWER Supply

|      |    |            |     |
|------|----|------------|-----|
| 3.3V | 5V | 5VSB<br>1A | 12V |
|------|----|------------|-----|

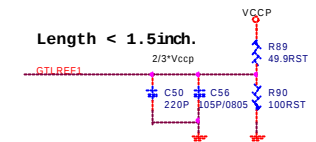
Power Delivery Map



|                           |                             |       |         |
|---------------------------|-----------------------------|-------|---------|
| MICRO-STAR INT'L CO., LTD |                             |       |         |
| Title                     |                             |       |         |
| Power Delivery            |                             |       |         |
| Size                      | Document Number             |       | Rev     |
| Custom                    | MS-6719                     |       | 08      |
| Date                      | Wednesday, October 16, 2002 | Sheet | 2 of 28 |

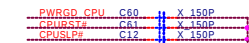
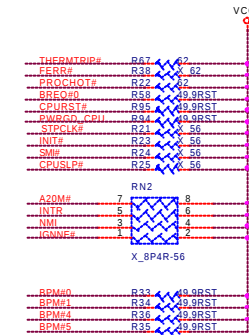
# Socket478-1

## CPU GTL REFERENCE VOLTAGE BLOCK

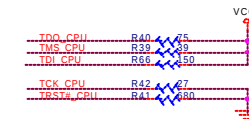


Every pin put one 220pF cap near it.  
Trace Width 15mils, Space 15mils.  
Keep the voltage dividers within 1.5 inches of the first GTLREF Pin

## CPU STRAPPING RESISTORS CLOSED TO SOCKET478



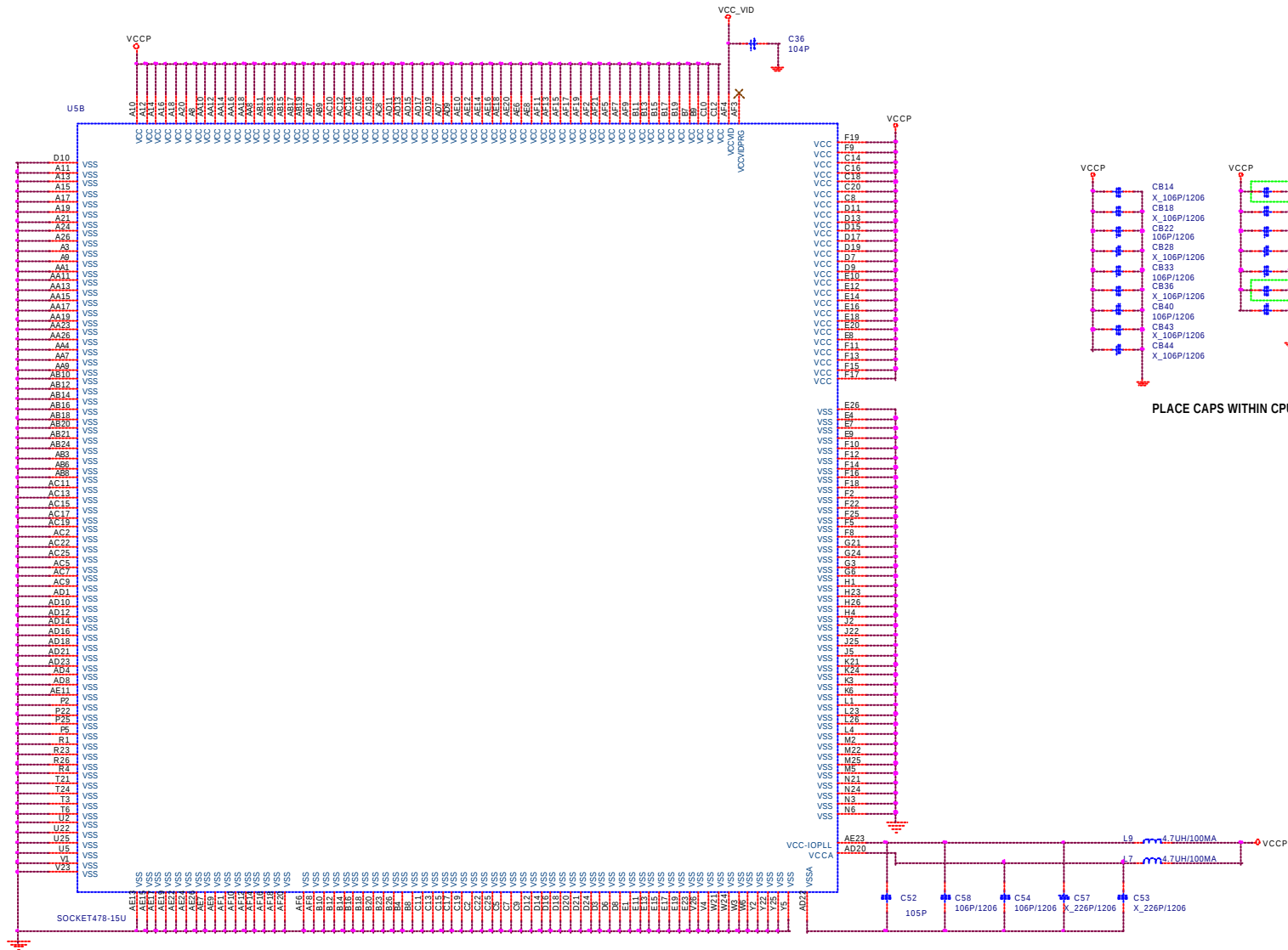
## CPU ITP BLOCK CLOSED TO SOCKET478



MICRO-STAR INT'L CO., LTD

|        |                             |       |            |
|--------|-----------------------------|-------|------------|
| File   |                             |       | FCPGA478-1 |
| Size   | Document Number             | Rev   |            |
| Custom | MS-6719                     | 08    |            |
| Date   | Wednesday, October 16, 2002 | Sheet | 3 of 28    |

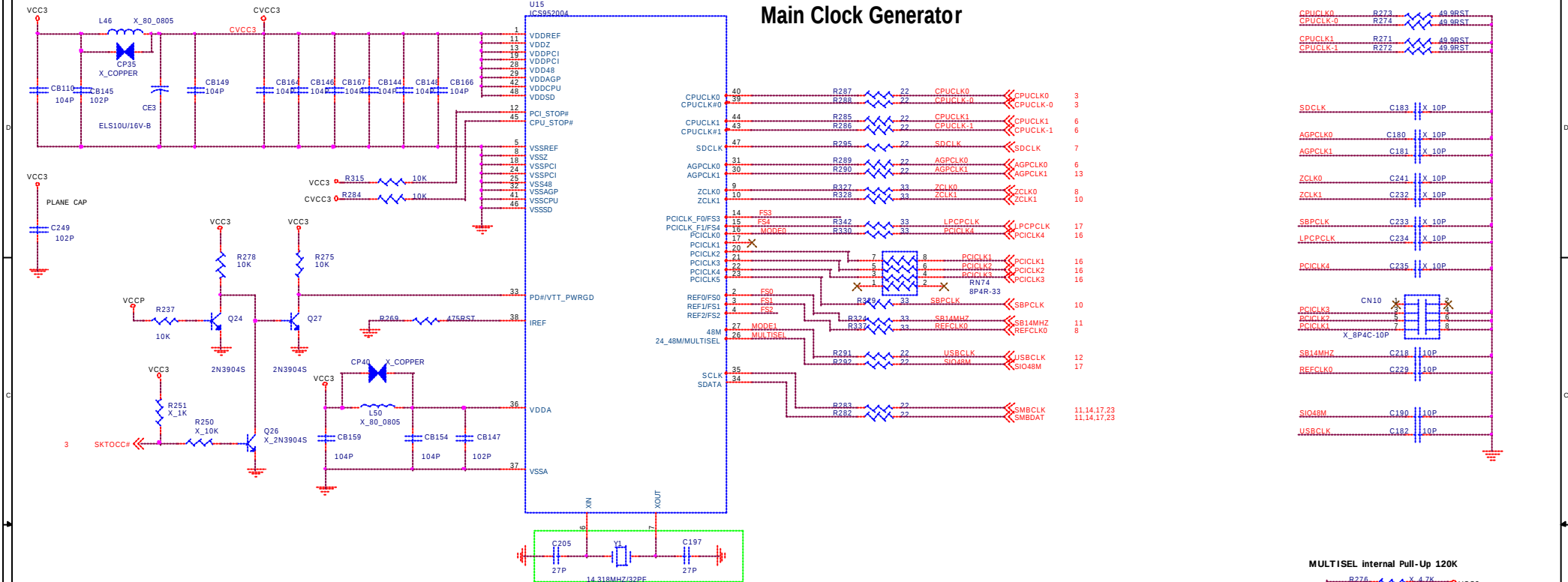
EPB ONLY



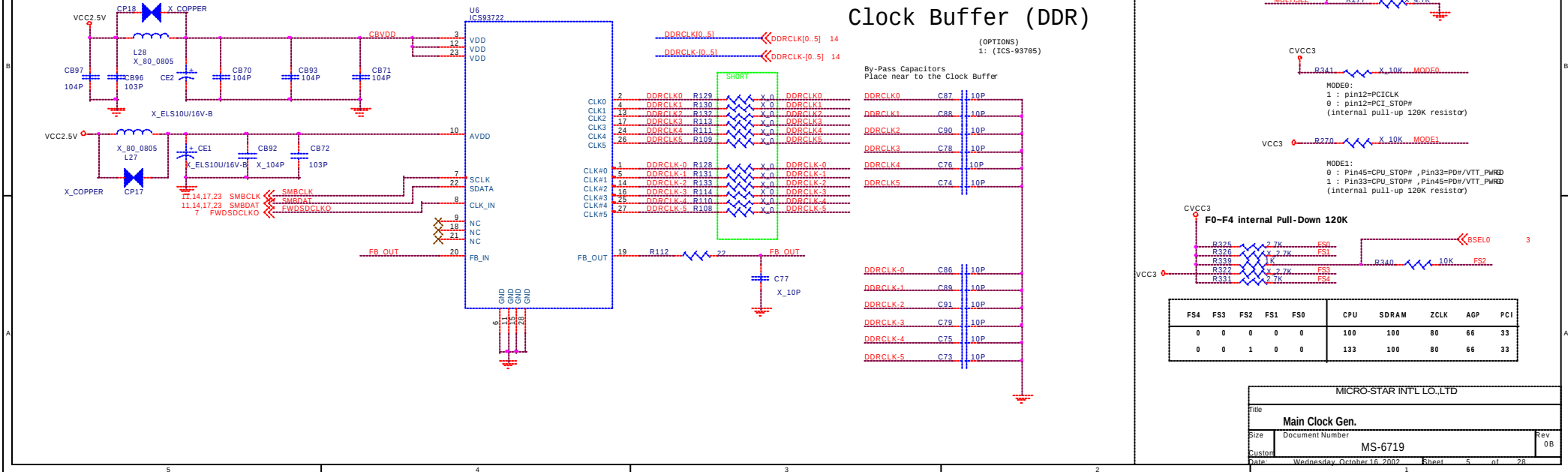
PLACE CAPS WITHIN CPU CAVITY

| MICRO-STAR INT'L CO., LTD. |                             |       |         |
|----------------------------|-----------------------------|-------|---------|
| File                       |                             |       |         |
| FCPGA478-2                 |                             |       |         |
| Size                       | Document Number             |       | Rev     |
| Custom                     | MS-6719                     |       | 08      |
| Date                       | Wednesday, October 16, 2002 | Sheet | 4 of 28 |

## Main Clock Generator



## Clock Buffer (DDR)



| FS4 | FS3 | FS2 | FS1 | FS0 | CPU | SDRAM | ZCLK | AGP | PCI |
|-----|-----|-----|-----|-----|-----|-------|------|-----|-----|
| 0   | 0   | 0   | 0   | 0   | 100 | 100   | 80   | 66  | 33  |
| 0   | 0   | 1   | 0   | 0   | 133 | 100   | 80   | 66  | 33  |

| MICRO-STAR INT'L CO., LTD |                             |       |         |
|---------------------------|-----------------------------|-------|---------|
| File                      |                             |       |         |
| Main Clock Gen.           |                             |       |         |
| Size                      | Document Number             |       | Rev     |
| Custom                    | MS-6719                     |       | 0B      |
| Date                      | Wednesday, October 16, 2002 | Sheet | 5 of 28 |

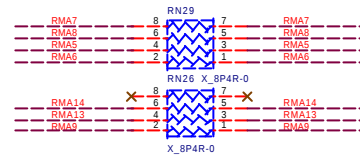


Rs place close to DIMM1

|       |         |   |   |      |
|-------|---------|---|---|------|
| RMD1  | RN4     | 1 | 2 | MD1  |
| RMD5  |         | 3 | 4 | MD5  |
| RMD4  |         | 5 | 6 | MD4  |
| RMD0  | 8P4R-10 | 7 | 8 | MD0  |
| RMD6  | RN6     | 1 | 2 | MD6  |
| RMD2  |         | 3 | 4 | MD2  |
| RDOM0 |         | 5 | 6 | DOM0 |
| RDC50 | 8P4R-10 | 7 | 8 | DC50 |
| RMD8  | RN8     | 1 | 2 | MD8  |
| RMD7  |         | 3 | 4 | MD7  |
| RMD3  | 8P4R-10 | 7 | 8 | MD3  |
| RMD11 | RN14    | 1 | 2 | MD11 |
| RMD10 |         | 3 | 4 | MD10 |
| RMD15 |         | 5 | 6 | MD15 |
| RMD14 | 8P4R-10 | 7 | 8 | MD14 |
| RDOM1 | RN11    | 1 | 2 | DOM1 |
| RMD13 |         | 3 | 4 | MD13 |
| RDC51 | 8P4R-10 | 7 | 8 | DC51 |
| RMD12 | 8P4R-10 | 7 | 8 | MD12 |
| RMD21 | RN20    | 1 | 2 | MD21 |
| RMD17 |         | 3 | 4 | MD17 |
| RMD16 |         | 5 | 6 | MD16 |
| RMD20 | 8P4R-10 | 7 | 8 | MD20 |
| RMD22 | RN23    | 1 | 2 | MD22 |
| RMD18 |         | 3 | 4 | MD18 |
| RDC52 | 8P4R-10 | 7 | 8 | DC52 |
| RMD28 | RN30    | 1 | 2 | MD28 |
| RMD24 |         | 3 | 4 | MD24 |
| RMD23 | 8P4R-10 | 7 | 8 | MD23 |
| RMD19 | RN34    | 1 | 2 | MD19 |
| RMD31 |         | 3 | 4 | MD31 |
| RMD27 |         | 5 | 6 | MD27 |
| RMD30 | 8P4R-10 | 7 | 8 | MD30 |
| RMD26 | 8P4R-10 | 7 | 8 | MD26 |
| RDC53 | RN32    | 1 | 2 | DC53 |
| RDC54 |         | 3 | 4 | DC54 |
| RMD29 | 8P4R-10 | 7 | 8 | MD29 |
| RMD37 | RN40    | 1 | 2 | MD37 |
| RMD33 |         | 3 | 4 | MD33 |
| RMD38 | 8P4R-10 | 7 | 8 | MD38 |
| RMD32 | RN42    | 1 | 2 | MD32 |
| RMD34 |         | 3 | 4 | MD34 |
| RDC54 |         | 5 | 6 | DC54 |
| RMD44 | 8P4R-10 | 7 | 8 | MD44 |
| RMD40 | RN45    | 1 | 2 | MD40 |
| RMD35 |         | 3 | 4 | MD35 |
| RMD39 | 8P4R-10 | 7 | 8 | MD39 |
| RDC55 | RN48    | 1 | 2 | DC55 |
| RDC56 |         | 3 | 4 | DC56 |
| RMD41 |         | 5 | 6 | MD41 |
| RMD45 | 8P4R-10 | 7 | 8 | MD45 |
| RMD47 | RN51    | 1 | 2 | MD47 |
| RMD46 |         | 3 | 4 | MD46 |
| RMD43 |         | 5 | 6 | MD43 |
| RMD22 | 8P4R-10 | 7 | 8 | MD22 |
| RDC56 | RN53    | 1 | 2 | DC56 |
| RDC58 |         | 3 | 4 | DC58 |
| RMD54 |         | 5 | 6 | MD54 |
| RDC59 | 8P4R-10 | 7 | 8 | DC59 |
| RMD53 | RN52    | 1 | 2 | MD53 |
| RMD52 |         | 3 | 4 | MD52 |
| RMD49 |         | 5 | 6 | MD49 |
| RMD48 | 8P4R-10 | 7 | 8 | MD48 |
| RMD66 | RN57    | 1 | 2 | MD66 |
| RMD60 |         | 3 | 4 | MD60 |
| RMD51 |         | 5 | 6 | MD51 |
| RMD69 | 8P4R-10 | 7 | 8 | MD69 |
| RMD62 | RN62    | 1 | 2 | MD62 |
| RDCM7 |         | 3 | 4 | DCM7 |
| RMD57 |         | 5 | 6 | MD57 |
| RMD61 | 8P4R-10 | 7 | 8 | MD61 |
| RMD59 |         | 1 | 2 | MD59 |
| RMD63 |         | 3 | 4 | MD63 |
| RDC57 | 8P4R-10 | 7 | 8 | DC57 |

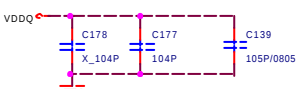
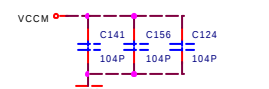
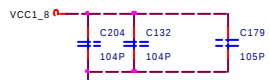
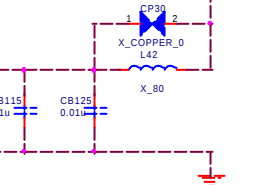
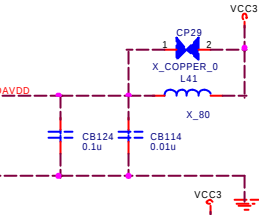
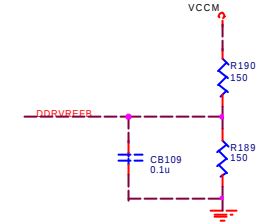
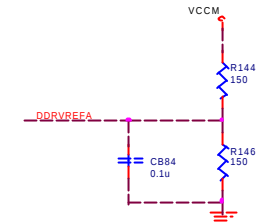
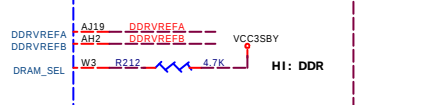
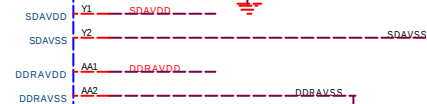
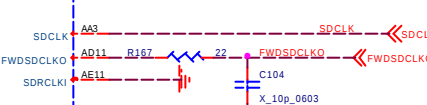
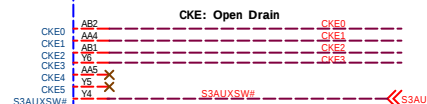
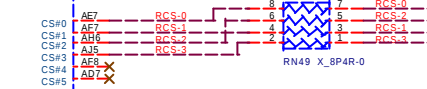
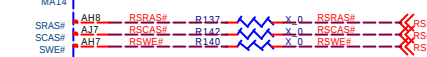
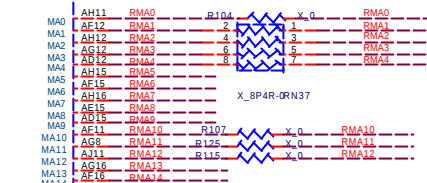
|      |      |            |
|------|------|------------|
| MD0  | AJ23 | MD0        |
| MD1  | AG22 | MD1        |
| MD2  | AH21 | MD2        |
| MD3  | AD21 | MD3        |
| MD4  | AD23 | MD4        |
| MD5  | AE23 | MD5        |
| MD6  | AF22 | MD6        |
| MD7  | DO50 | MD7        |
| DO50 | AF22 | DO50       |
| MD8  | AH22 | MD8        |
| MD8  | AD21 | DQ50/CSB#0 |
| MD9  | AG20 | MD9        |
| MD10 | AD19 | MD10       |
| MD11 | AF18 | MD11       |
| MD12 | AE21 | MD12       |
| MD13 | AD20 | MD13       |
| MD14 | AD19 | MD14       |
| MD15 | AH19 | MD15       |
| DO51 | AF20 | DO51       |
| DO51 | AH20 | DQ51/CSB#1 |
| MD16 | AF18 | MD16       |
| MD17 | AG18 | MD17       |
| MD18 | AH17 | MD18       |
| MD19 | AD18 | MD19       |
| MD20 | MD22 | MD20       |
| MD21 | AD17 | MD21       |
| MD22 | AF17 | MD22       |
| MD23 | AH23 | MD23       |
| DO52 | AE17 | DO52       |
| DO52 | AH18 | DQ52/CSB#2 |
| MD24 | MD24 | MD24       |
| MD25 | AG14 | MD25       |
| MD26 | AJ13 | MD26       |
| MD27 | AE14 | MD27       |
| MD28 | AH13 | MD28       |
| MD29 | AF14 | MD29       |
| MD30 | AD13 | MD30       |
| MD31 | AF13 | MD31       |
| DO53 | AH14 | DO53       |
| DO53 | AH14 | DO53       |
| MD32 | AD10 | DQ53/CSB#3 |
| MD33 | AH10 | MD33       |
| MD34 | AE9  | MD34       |
| MD35 | AD8  | MD35       |
| MD36 | AG10 | MD36       |
| MD37 | AF10 | MD37       |
| MD38 | AH9  | MD38       |
| DO54 | AF9  | DO54       |
| DO54 | AD8  | DO54       |
| MD40 | AJ9  | MD40       |
| MD40 | AH5  | DQ54/CSB#4 |
| MD41 | AG4  | MD41       |
| MD42 | AE3  | MD42       |
| MD43 | AH3  | MD43       |
| MD44 | AG6  | MD44       |
| MD45 | AE6  | MD45       |
| MD46 | AD6  | MD46       |
| MD47 | AE4  | MD47       |
| DO55 | AH4  | DO55       |
| DO55 | AH4  | DQ55/CSB#5 |
| MD48 | AD6  | MD48       |
| MD49 | AE7  | MD49       |
| MD50 | AG5  | MD50       |
| MD51 | AG2  | MD51       |
| MD52 | AG1  | MD52       |
| MD54 | AE3  | MD54       |
| MD55 | AE6  | MD55       |
| DO56 | AD5  | DO56       |
| DO56 | AD5  | DQ56/CSB#6 |
| MD57 | AD7  | MD57       |
| MD58 | AE6  | MD58       |
| MD59 | AE8  | MD59       |
| MD60 | AC4  | MD60       |
| MD61 | MD61 | MD61       |
| MD62 | AD2  | MD62       |
| MD63 | AC1  | MD63       |
| DO57 | AD1  | DO57       |
| DO57 | AC2  | DQ57/CSB#7 |

650-2



RMD[0..63] 14.15  
 RDQM[0..7] 14.15  
 RDQS[0..7] 14.15  
 RMA[0..14] 14.15  
 RCS[0..3] 14.15  
 CKE[0..3] 14

Rs place close to DIMM



|                            |                             |       |         |
|----------------------------|-----------------------------|-------|---------|
| MICRO-STAR INT'L CO., LTD. |                             |       |         |
| File                       | SIS648-Memory               |       |         |
| Size                       | Document Number             | Rev   | 08      |
| Custom                     | MS-6719                     |       |         |
| Date                       | Wednesday, October 16, 2002 | Sheet | 7 of 28 |

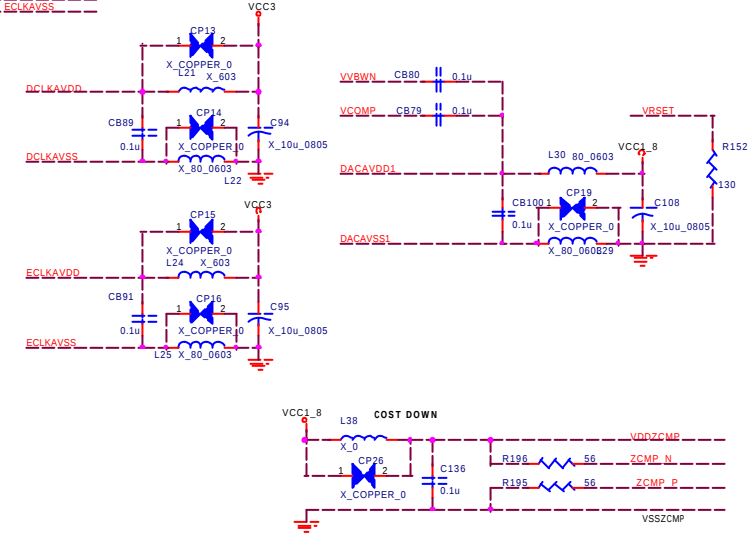
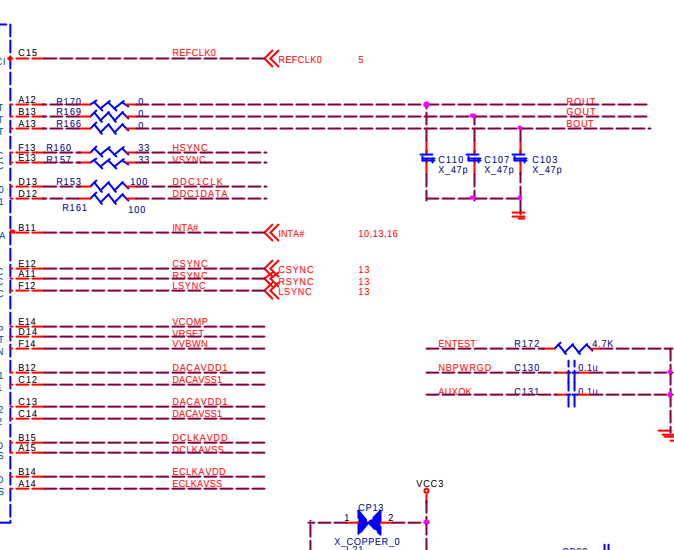
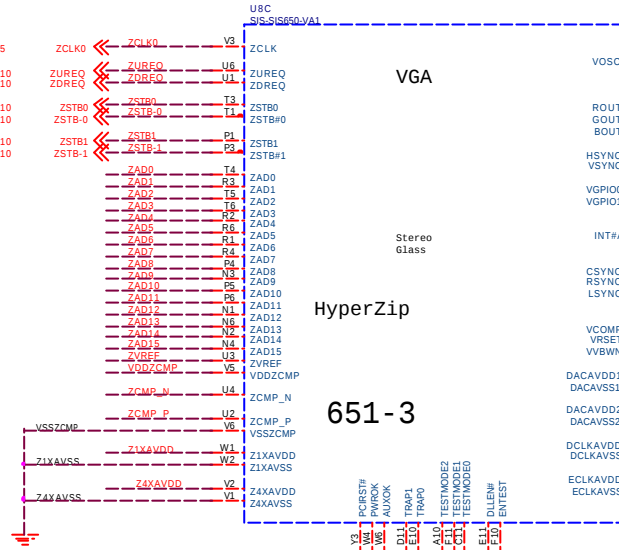
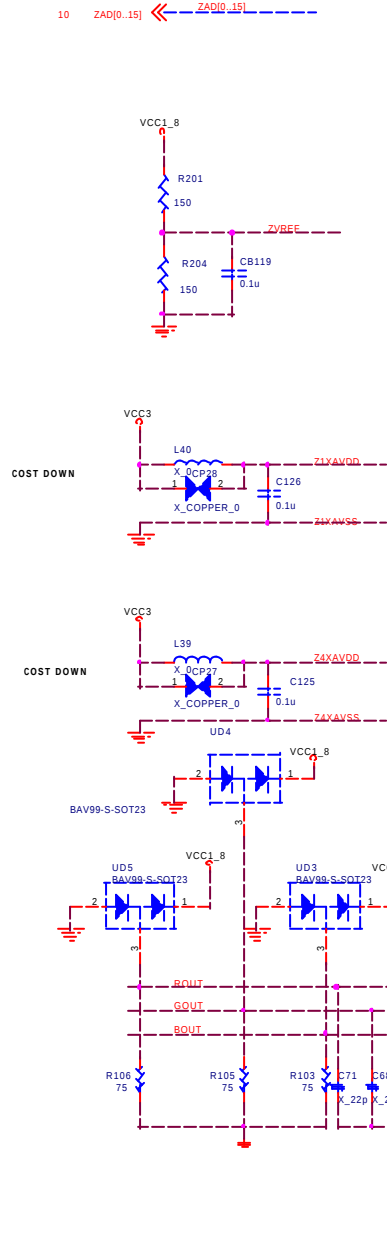
NOTE: This page is for universal PCB design( suitable for both 645 or 650)

NB Hardware Trap Table

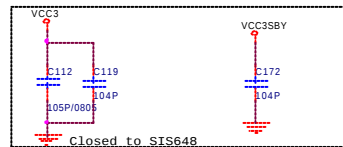
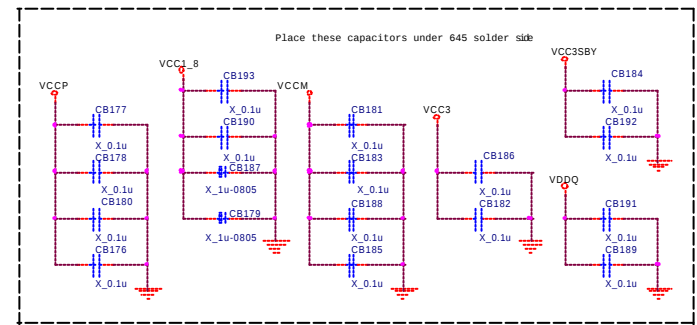
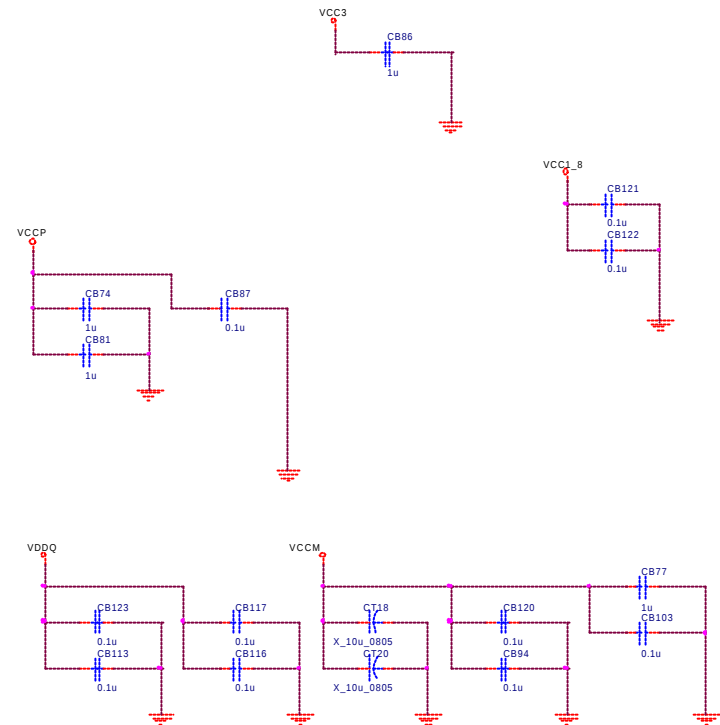
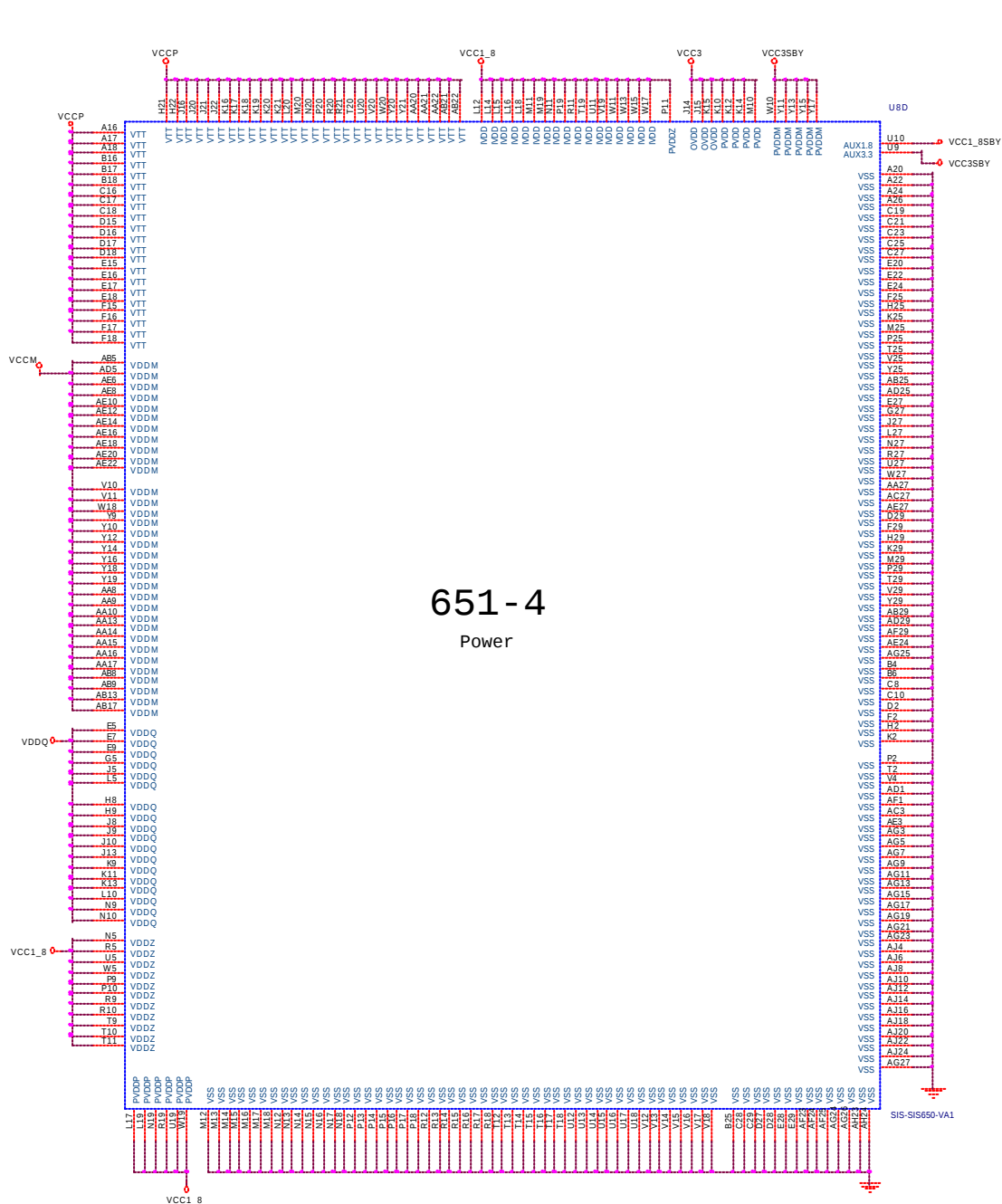
|          | 0                           | 1           | Default |
|----------|-----------------------------|-------------|---------|
| OLLEN#   | enable PLL                  | disable PLL | yes     |
| DRAM_SEL | SOR                         | DDR         | 1(DDR)  |
| TRAMP    | normal                      | debug mode  | 0       |
| TRAPT    | TV selection, NTSC/PAL(0/1) |             | 0       |
| CSYNC    | enable V8                   |             | 0       |
| RSYNC    | enable VGA interface        |             | 1       |
| LSYNC    | enable panel link           |             | 0       |

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

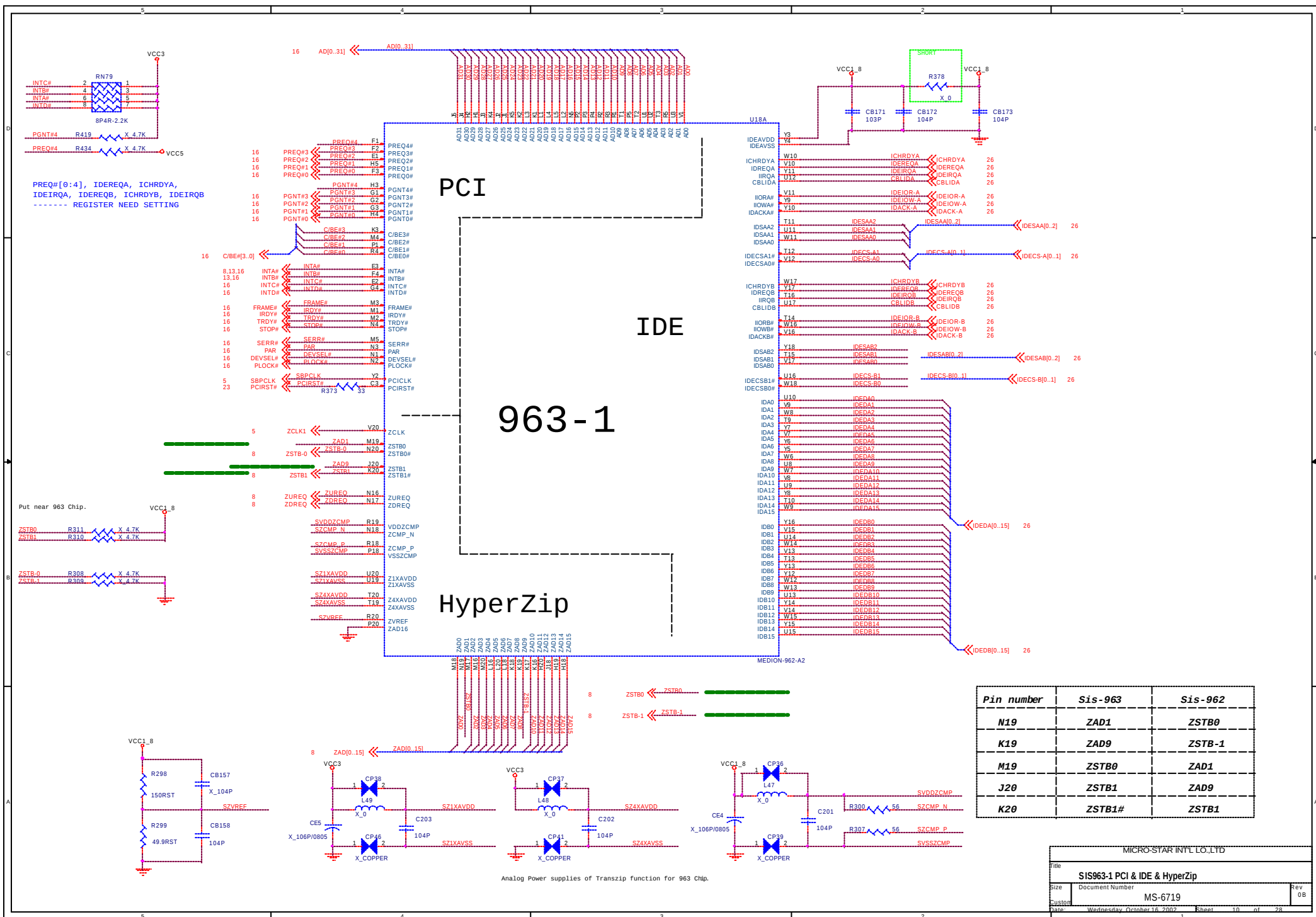
for 651 only



# 651-4 Power



| MICRO-STAR INT'L CO., LTD        |  |  |  |
|----------------------------------|--|--|--|
| File                             |  |  |  |
| SIS648-Power & HyperZip          |  |  |  |
| Size Document Number             |  |  |  |
| Custom MS-6719                   |  |  |  |
| Date Wednesday, October 16, 2002 |  |  |  |
| Sheet 9 of 28                    |  |  |  |
| Rev 08                           |  |  |  |



Programmable on-die pull-high strength for CPU\_S:  
( Infinite, 150, 110, 56 Ohm)

3 INIT# T18 INIT#  
3 A20M# P16 A20M#  
3 SM# R17 SM#  
3 INTR Y20 INTR  
3 NMI U18 NMI  
3 IONNE# T17 IONNE#  
3 FERR# W20 FERR#  
3 STPCLK# W20 STPCLK#  
3 CPUSLP# W19 CPUSLP#

VCC3 R318 10K V19  
3 PROCHOT# V19  
3.17 THERMTRIP# W19

LAD0 V5 LAD0  
LAD1 T7 LAD1  
LAD2 U6 LAD2  
LAD3 W5 LAD3  
LFRAME# W4 LFRAME#  
LDRQ# W4 LDRQ#  
SIRQ# W5 SIRQ#

OSC32KHI C2 OSC32KHI  
OSC32KHO D2 OSC32KHO  
BATOK D3 BATOK  
PWRGD D3 PWRGD  
RTCVD D1 RTCVD  
C282 104P C284 104P  
C280 10P Y5 32.768KHZ

5,14,17,23 SMBDAT B2 SMBDAT  
5,14,17,23 SMBCLK A1 SMBCLK

18 AC\_SDIN0 A2 AC\_SDIN0  
AC\_SDIN1 D5 AC\_SDIN1  
18 AC\_SDOU7 W2 AC\_SDOU7  
AC\_SYNC T8 AC\_SYNC  
18 AC\_RST# D6 AC\_RST#  
18 AC\_BITCLK Y2 AC\_BITCLK

5 SB14MHZ W3 SB14MHZ  
18,25 SPK G5 SPK  
25 PWRBRTN# A14 PWRBRTN#  
13,16 PME# B14 PME#  
23,25 PSON# D14 PSON#  
8 AUXOK A3 AUXOK  
C267 X\_103P

GPIO13 B1 GPIO13  
GPIO14 E5 GPIO14  
26 KB DAT E13 KB DAT  
26 KB CLK A16 KB CLK  
26 MS DAT D13 MS DAT  
26 MS CLK B15 MS CLK

GPIO15/KBDAT  
GPIO16/KBCLK  
GPIO17/PMDAT  
GPIO18/PMCLK

CPU\_S

APIC

LPC

RTC

963-2

GPIO

AC97

ACPI  
/others

KBC  
/geyserville

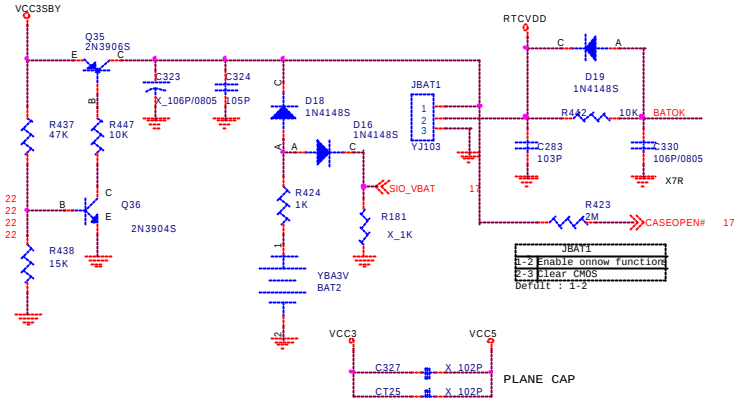
MII

GPIO

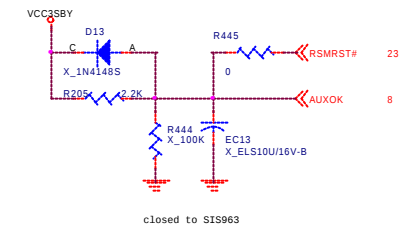
U18B  
OSC25MHZ A8 MIUCLK250  
OSC25MHZ A9 MIUCLK250  
TXCLK A6 MIUCLK250  
TXEN B6 R366 22 MITXEN  
TXD0 E8  
TXD1 D7 7 RN76 8 MITXD0  
TXD2 C6 5 MITXD1  
TXD3 B4 3 MITXD2  
RXCLK A7 MIURCLK  
RXDV C7 MIURDV  
RXER C8 MIURXER  
RXD0 D8 MIURXD0  
RXD1 A5 MIURXD1  
RXD2 B5 MIURXD2  
RXD3 A4 MIURXD3  
COL B7 MIICOL  
CRS E9 MIICRS  
MDC C5 R37 22 MIIMDC  
MDIO E7 R35 22 MIIMDIO  
MIAVDD B8 805/0805  
MIAVSS B8 805/0805  
GPIO0 V2 GPIO0  
GPIO1/LDRQ1# T8 GPIO1  
GPIO2/THERM# T4 THERM#  
GPIO3/EXTSMI# T6 EXTSMI#  
GPIO4/CLKRUN# W1 GPIO4  
GPIO5/PREQ5# U5 PREQ5#  
GPIO6/PNT5# U4 PNT5#  
GPIO7 C4 GPIO7  
GPIO8/RING C14 RING  
GPIO9/AC\_SDIN2 E6 AC\_SDIN2  
GPIO10/AC\_SDIN3 B3 AC\_SDIN3  
GPIO11/OSC25M/STP\_PCI# F5  
GPIO12/CPUSTP# D4

MEDION-962-A2  
FOR TEST

## BATTERY BLOCK

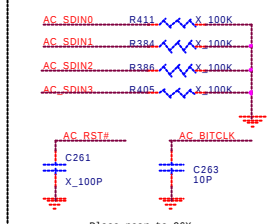


## RSMRST

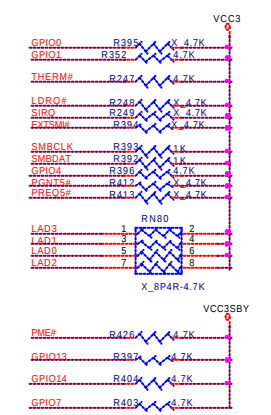
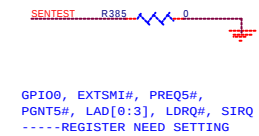


## AC'97 Pull-Down:

In order to stabilize 963 AC'97 controller, pull-down resistors on SDA11 and SDA10 can not be removed.



NEED NOT to place  
close to SIS96X



| MICRO-STAR INT'L CO., LTD   |  |  |  |
|-----------------------------|--|--|--|
| File                        |  |  |  |
| SIS963-2 MSIC.              |  |  |  |
| Size                        |  |  |  |
| Document Number             |  |  |  |
| Custom                      |  |  |  |
| MS-6719                     |  |  |  |
| Date                        |  |  |  |
| Wednesday, October 16, 2002 |  |  |  |
| Sheet                       |  |  |  |
| 11 of 28                    |  |  |  |
| Rev                         |  |  |  |
| 08                          |  |  |  |



6 SBA[0..7] << SBA[0..7]  
6 ST[0..2] << ST[0..2]  
6 ACBE#[0..3] << ACBE#[0..3]  
6 AAD[0..31] << AAD[0..31]  
6 ADSTB[0..1] << ADSTB[0..1]  
6 ADSTB#[0..1] << ADSTB#[0..1]

10,16 INTB# << INTB#  
5 AGPCLK1 << AGPCLK1  
6 AREQ# << AREQ#

6 RBF# << RBF#

6 SBSTB << SBSTB

6 SBSTB << SBSTB

AAD31  
AAD29  
AAD27  
AAD25  
AAD23  
ADSTB1  
AAD21  
AAD19  
AAD17  
ACBE#2  
AIRDY#  
CSYNC  
ADEVSEL#  
ASERR#

AIRDY# << AIRDY#  
CSYNC << CSYNC  
ADEVSEL# << ADEVSEL#  
ASERR# << ASERR#

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

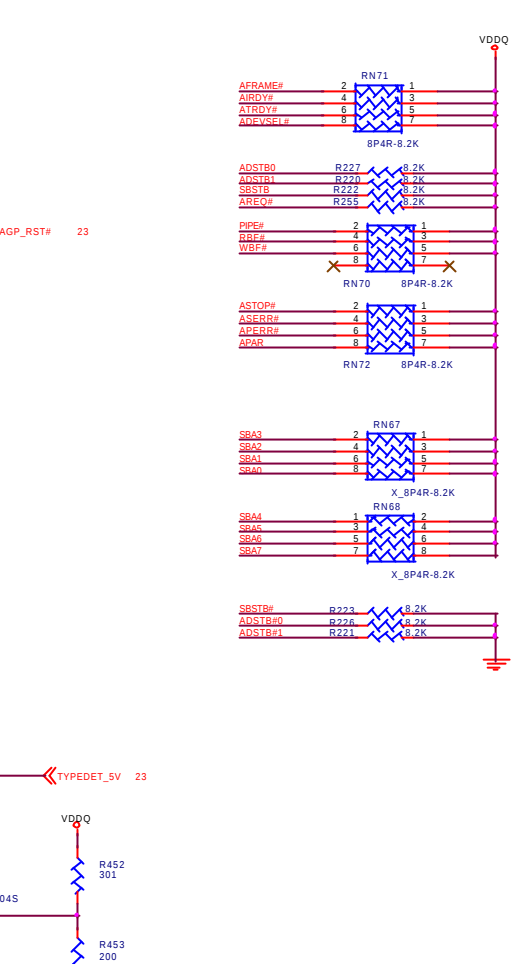
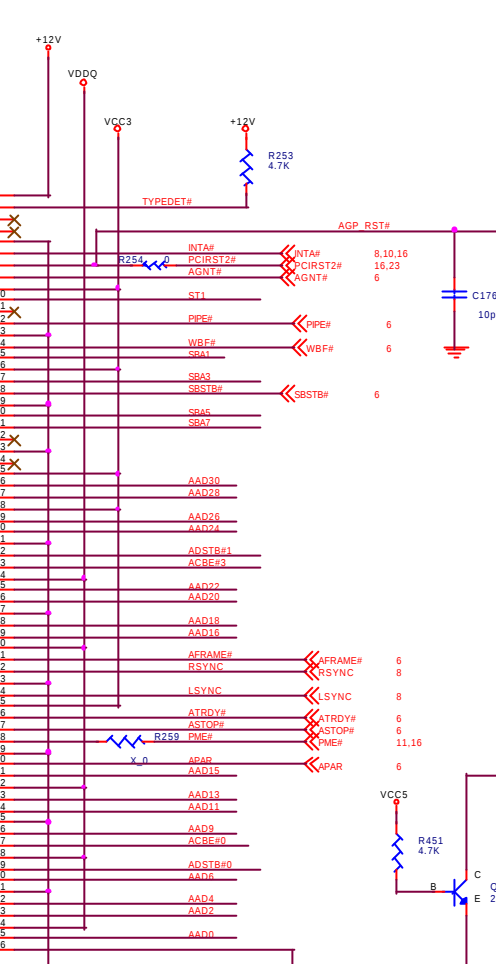
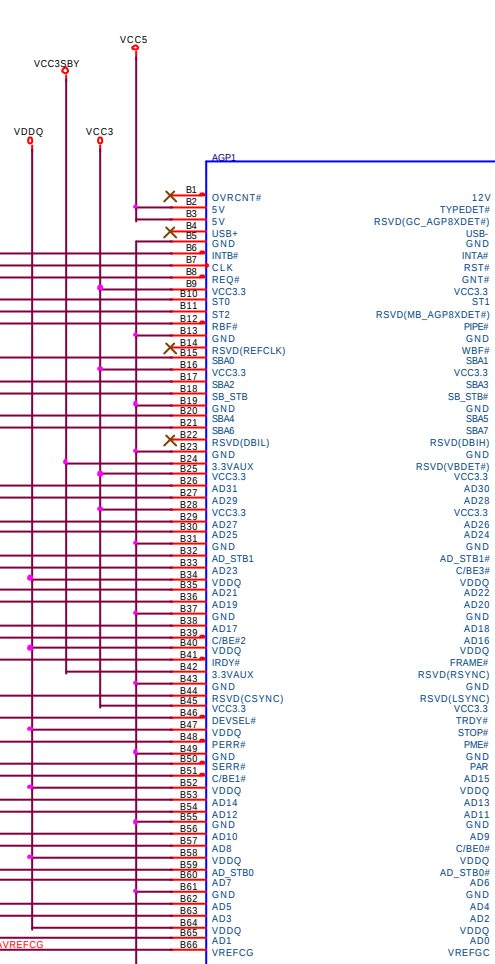
AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1

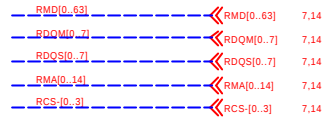
AAD14  
AAD12  
AAD10  
AAD8  
ADSTB0  
AAD7  
AAD5  
AAD3  
AAD1



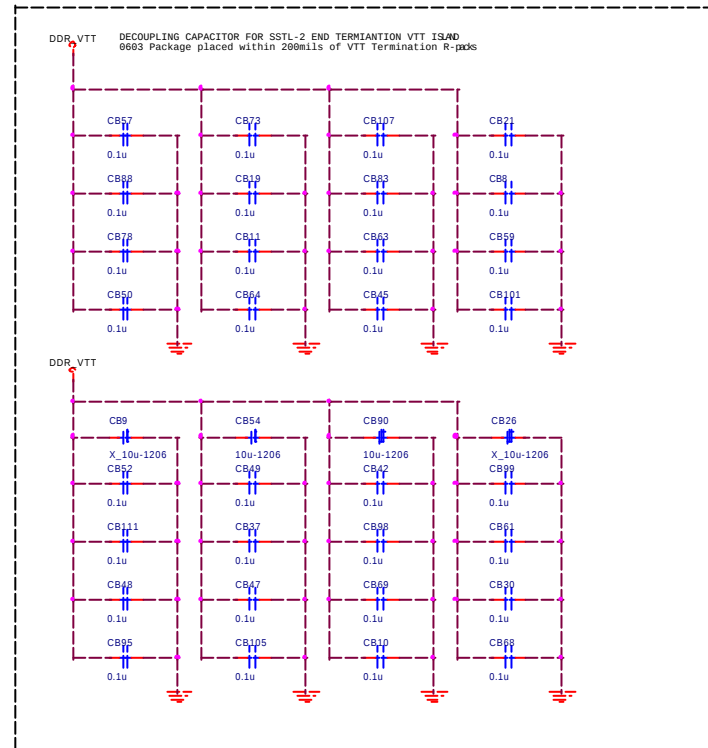
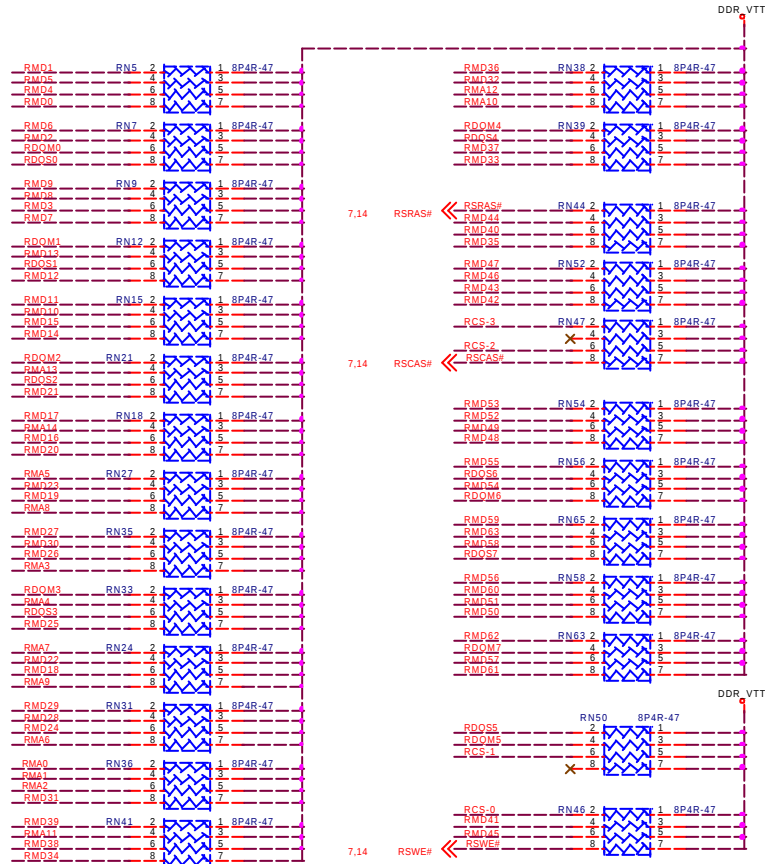
|                                 |                             |       |           |
|---------------------------------|-----------------------------|-------|-----------|
| MICRO-STAR INT'L CO.,LTD        |                             |       |           |
| Title                           |                             |       |           |
| A GP Slot & Pull up/dn resistor |                             |       |           |
| Size                            | Document Number             |       | Rev<br>08 |
| Custom                          | MS-6719                     |       |           |
| Date                            | Wednesday, October 16, 2002 | Sheet | 13 of 28  |



# SSTL-2 Termination Resistors



|              | SDR       | FS     | DDR     | FS | RLT |
|--------------|-----------|--------|---------|----|-----|
| MD/DQM(/DQS) | L.V.-CMOS | 0/10/- | SSTL-2  | 10 | 47  |
| MA/Control   | L.V.-CMOS | 10     | SSTL-2  | 9  | 47  |
| CS           | L.V.-CMOS | 8      | SSTL-2  | 8  | 47  |
| WE           | DD 3.3V   |        | DD 2.5V |    |     |



# PCI SLOT 1,2,3(PCI VER:2.2 COMPLY)

PC12:AD18

INTC#

10 AD[0..31] <= AD[0..31]

10 C/BE#[3..0] <= C/BE#[3..0]

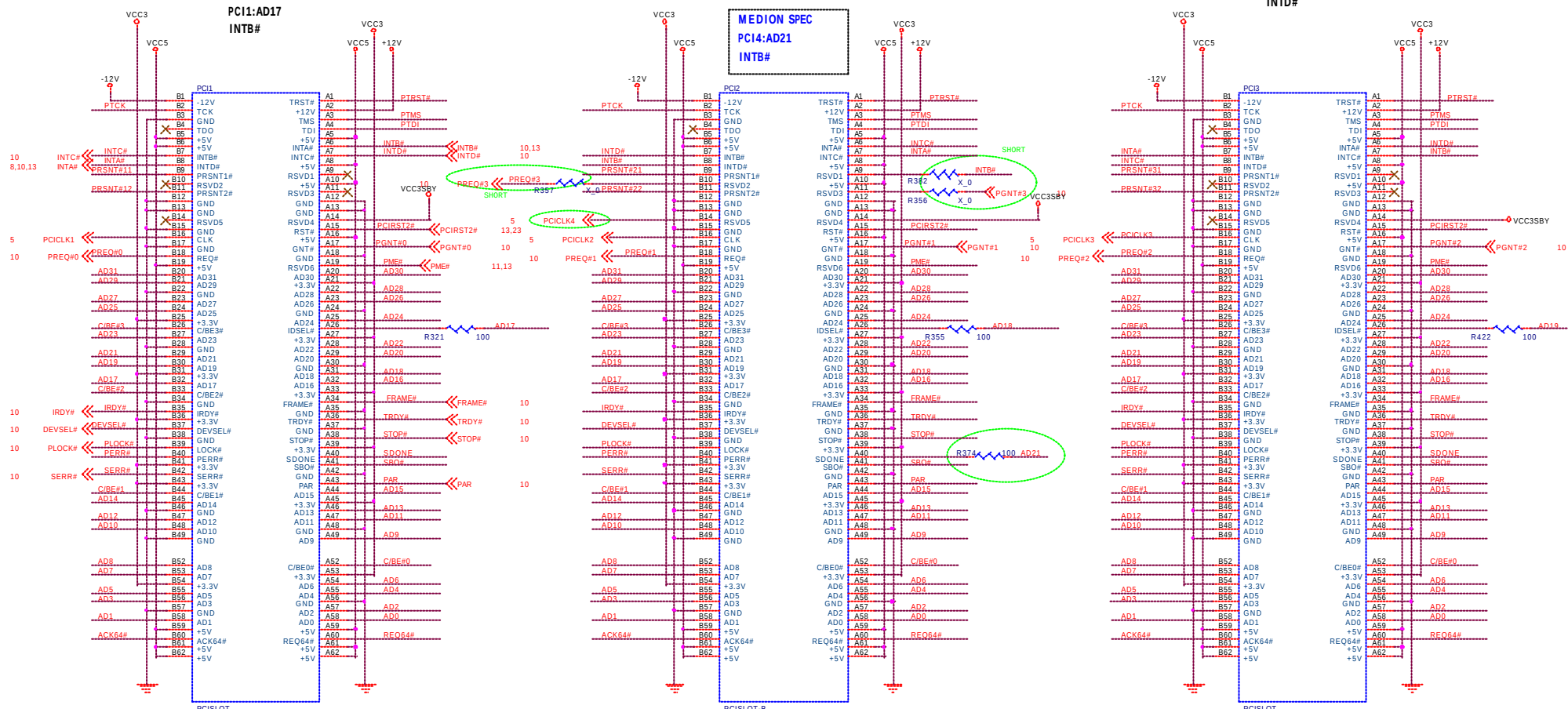
PC13:AD19

INTD#

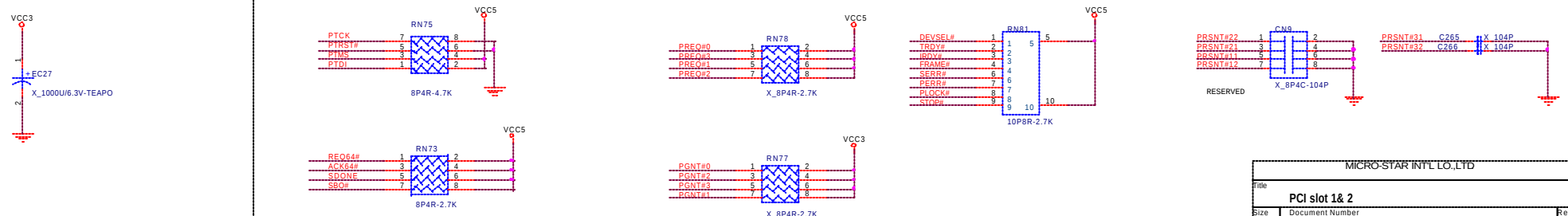
MEDION SPEC

PCI4:AD21

INTB#



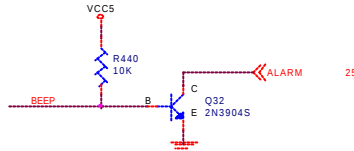
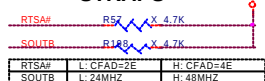
## PCI BUS PULL-UP



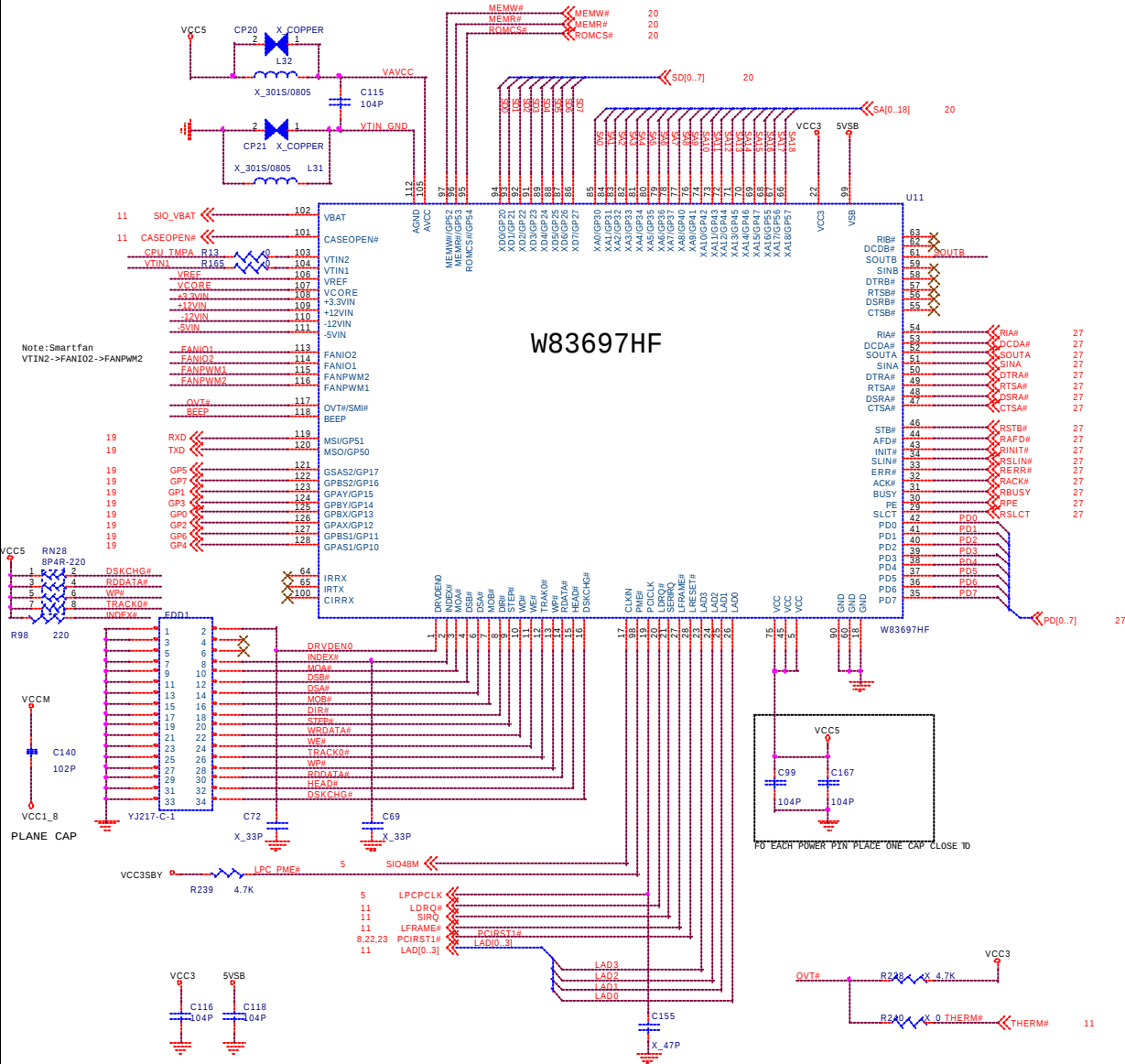
| MICRO-STAR INT'L CO., LTD |                             |         |          |
|---------------------------|-----------------------------|---------|----------|
| File                      | PCI slot 1 & 2              |         |          |
| Size                      | Document Number             | MS-6719 |          |
| Custom                    |                             |         | Rev 08   |
| Date                      | Wednesday, October 16, 2002 | Sheet   | 16 of 28 |

# SUPER I/O

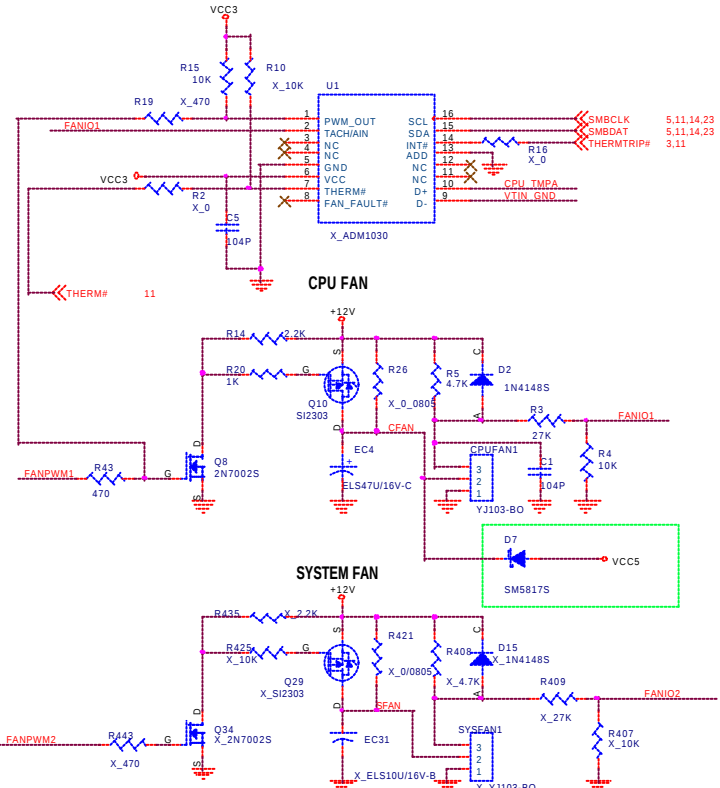
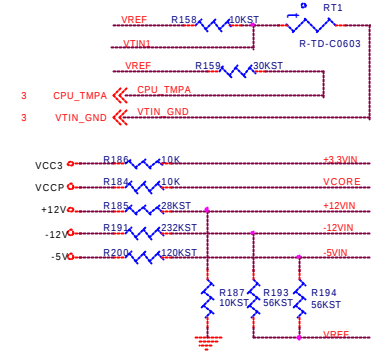
## STRAPS



## W83697HF



## Hardware Monitor



|                           |                             |    |       |
|---------------------------|-----------------------------|----|-------|
| MICRO-STAR INT'L CO., LTD |                             |    |       |
| File                      |                             |    |       |
| W83697HF I/O & HWMONITOR  |                             |    |       |
| Size                      | Document Number             |    | Rev   |
| Custom                    | MS-6719                     |    | 08    |
| Date                      | Wednesday, October 16, 2002 |    | Sheet |
|                           |                             | 17 | of 28 |

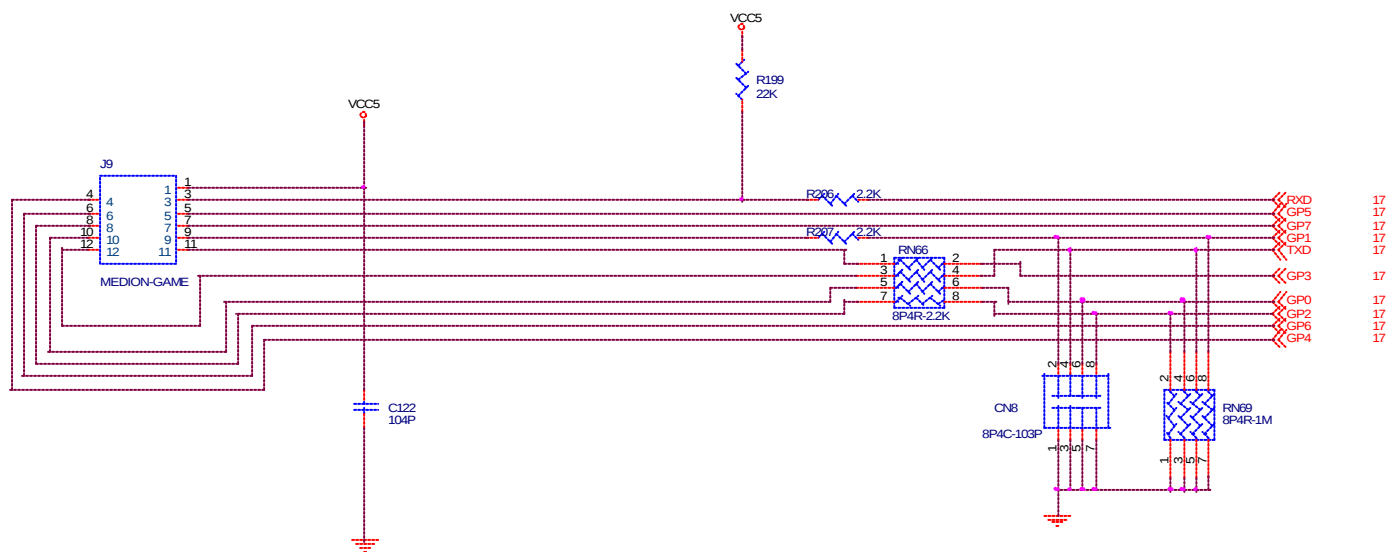
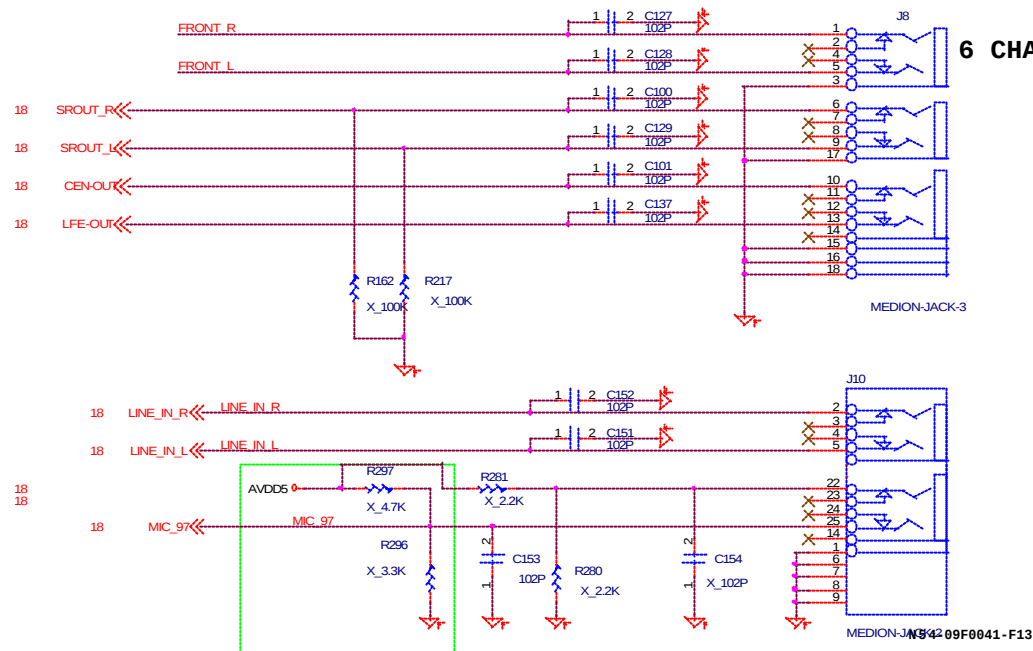
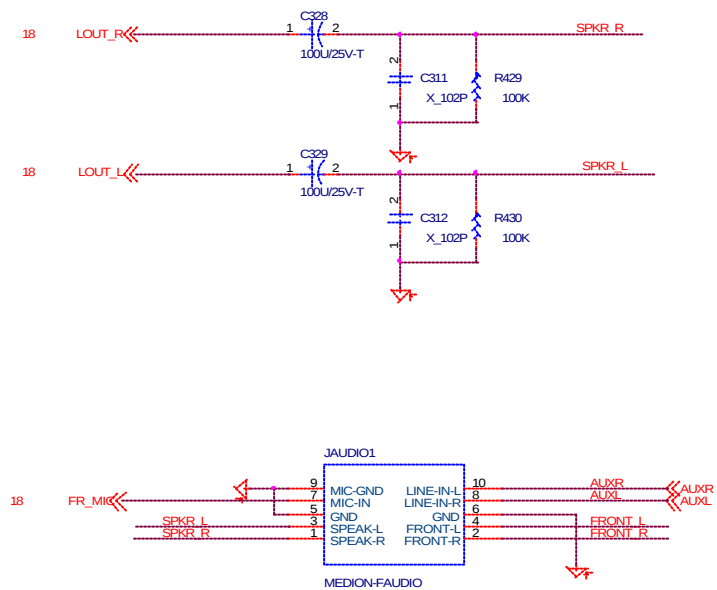


## SPEAKER OUT CIRCUIT

## Audio Connector

N54-13F0011-K06  
CN-IOC-JACKx3+PHONE-D13

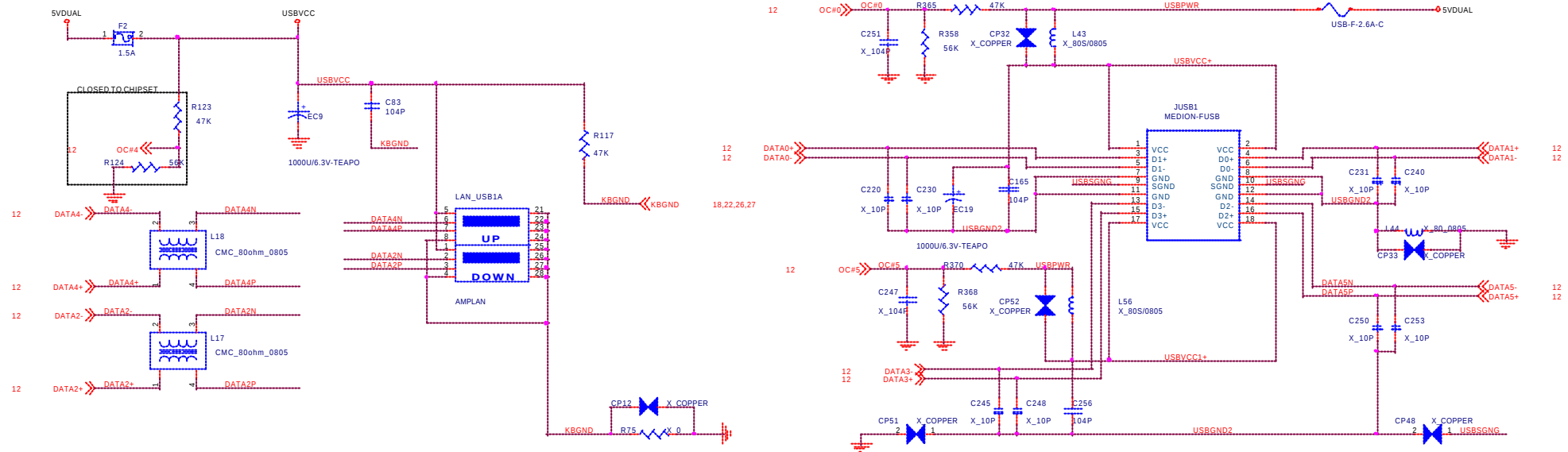
## 6 CHANNEL



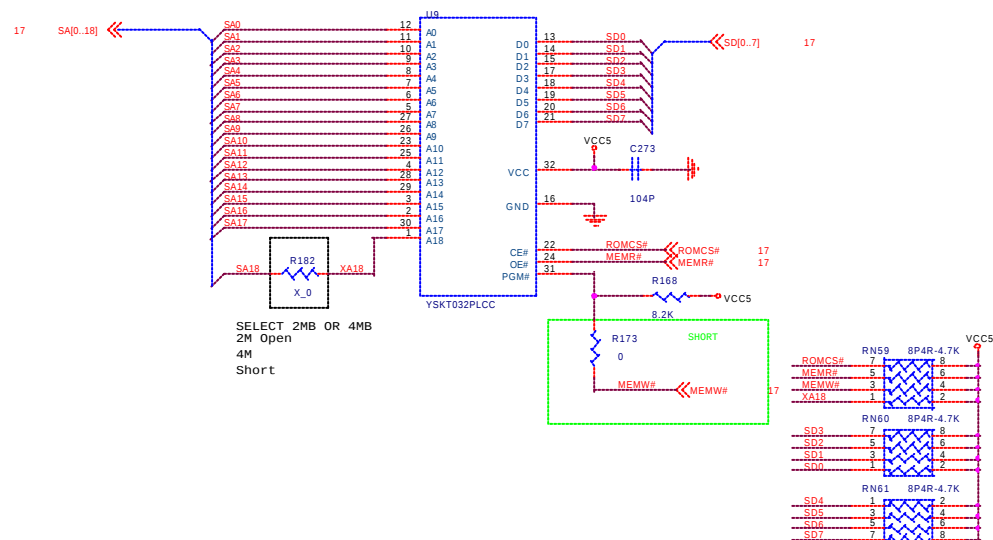
**MICRO-STAR INT'L CO.,LTD.**

|                 |                             |       |          |
|-----------------|-----------------------------|-------|----------|
| Title           |                             |       |          |
| AUDIO AMPLIFIER |                             |       |          |
| Size            | Document Number             |       | Rev      |
|                 | MS-6719                     |       | OE       |
| Date:           | Wednesday, October 16, 2002 | Sheet | 19 of 28 |

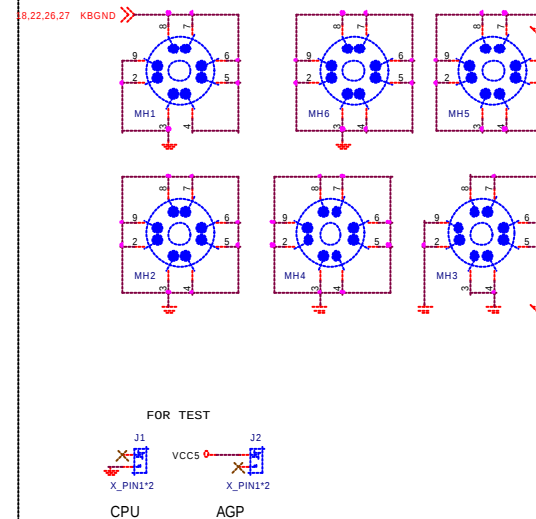
## USB PORT



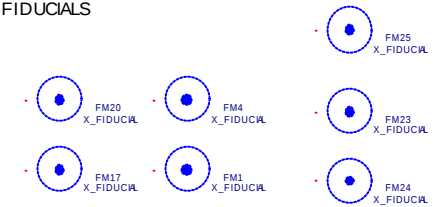
## Flash Rom



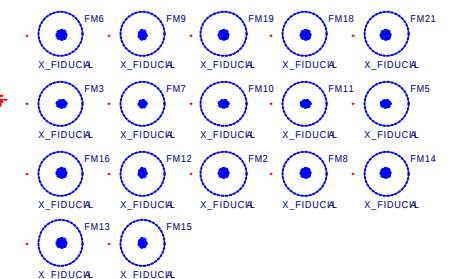
## PCB OTHER COMPONENT



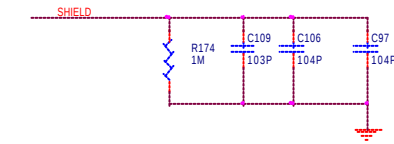
## FIDUCIALS



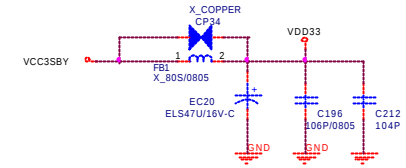
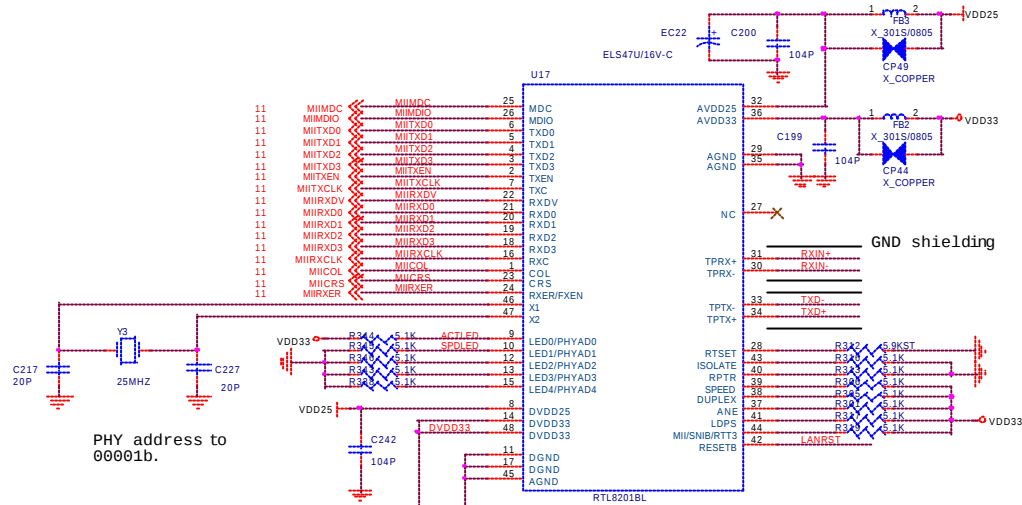
## CHIP FIDUCIALS



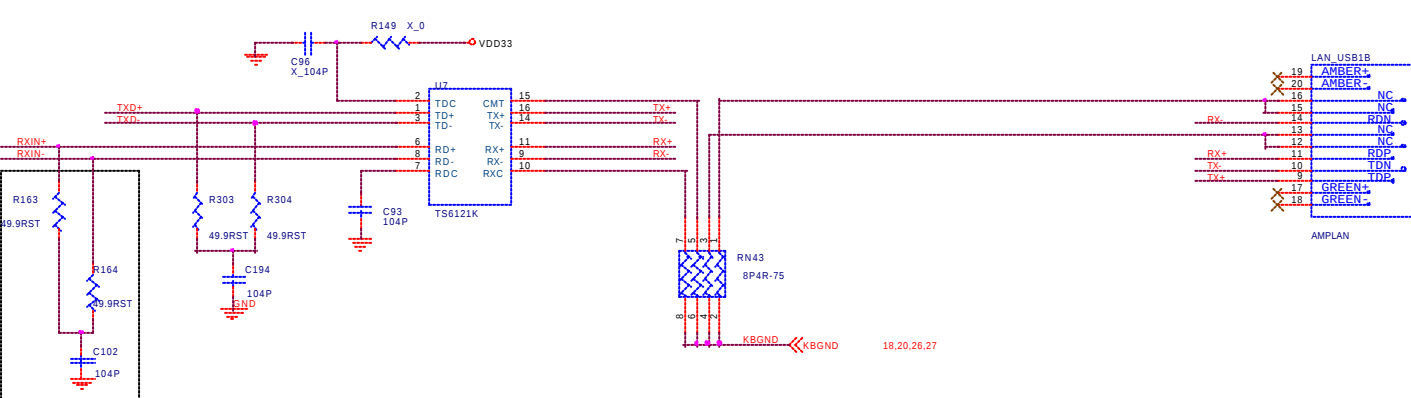
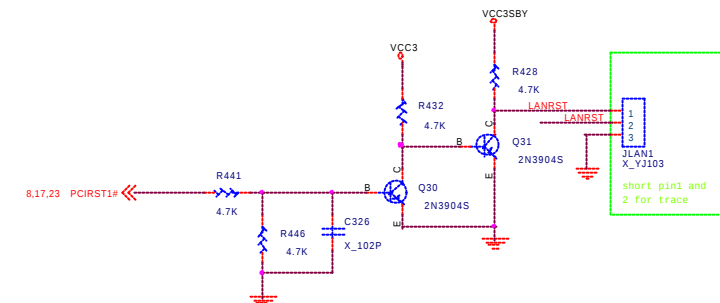
|                                    |                             |       |          |
|------------------------------------|-----------------------------|-------|----------|
| MICRO-STAR INT'L CO., LTD          |                             |       |          |
| Title<br><b>USB port &amp; MS1</b> |                             |       |          |
| Size                               | Document Number             |       | Rev      |
|                                    | MS-6719                     |       | 08       |
| Customer                           |                             |       |          |
| Date                               | Wednesday, October 16, 2002 | Sheet | 20 of 28 |



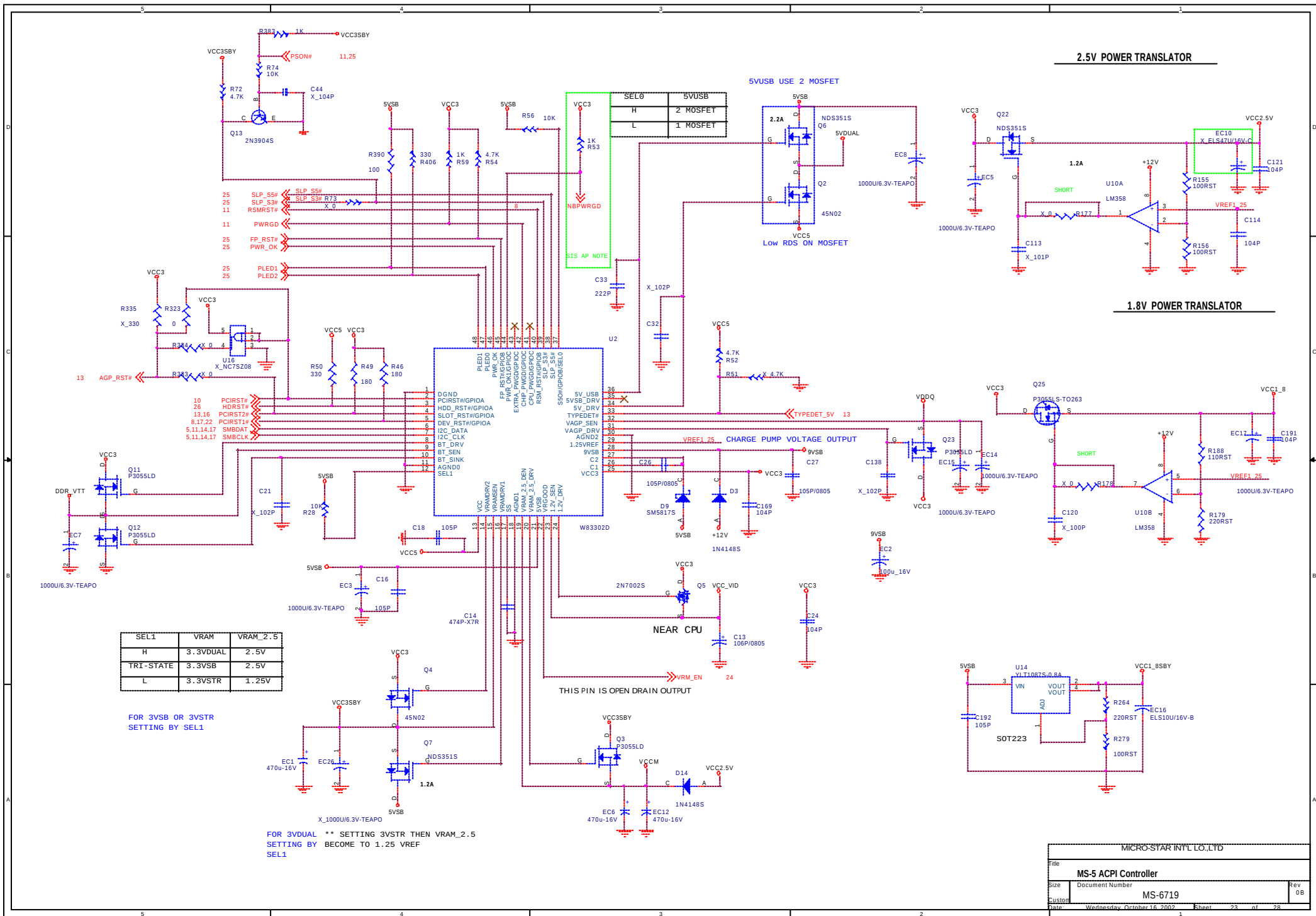
# REALTEK 8201BL MII PHY



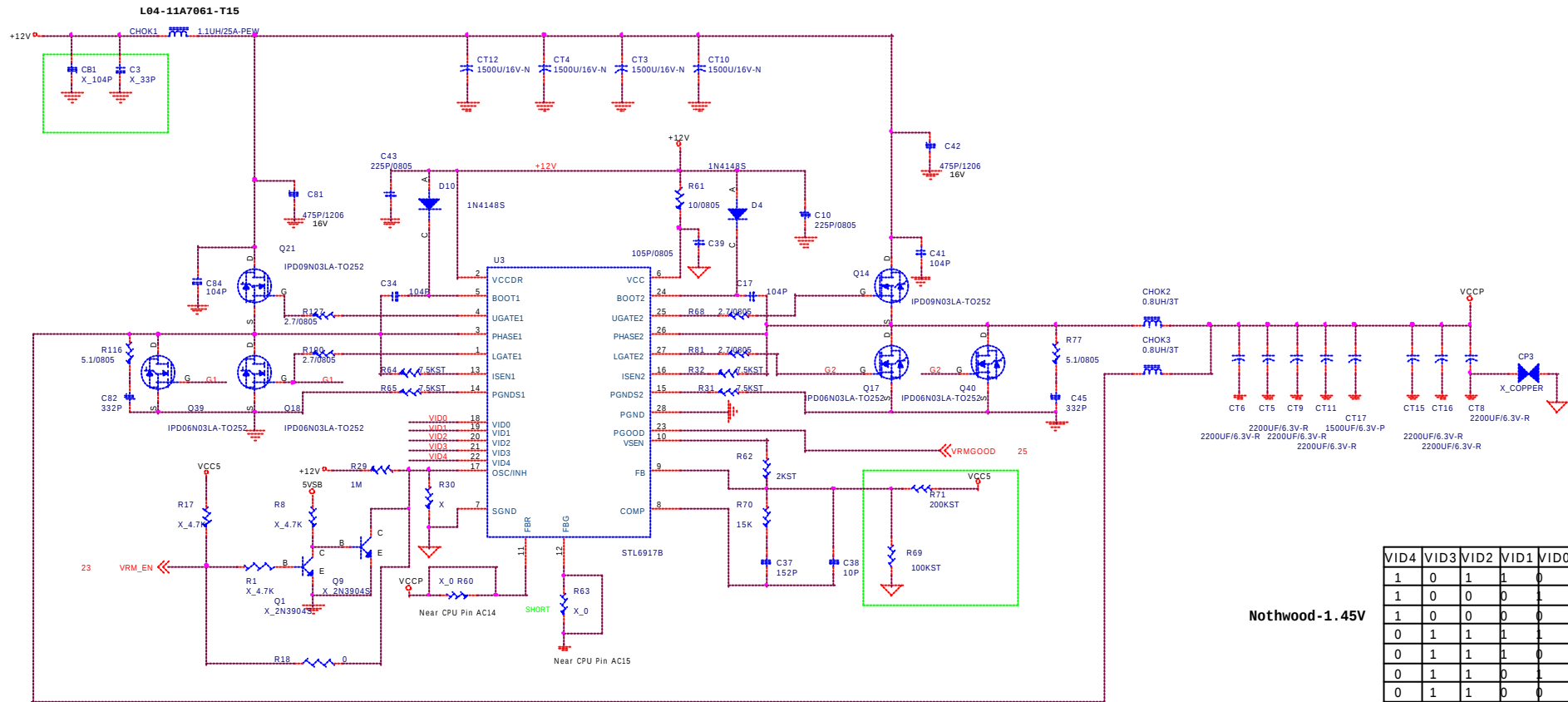
| JLAN1 | LAN SELECT |
|-------|------------|
| 1-2   | ENABLED    |
| 2-3   | DISABLED   |



| MICRO-STAR INT'L CO., LTD. |                             |        |          |
|----------------------------|-----------------------------|--------|----------|
| Title                      | Realtek RTL8201BL MII PHY   |        |          |
| Size                       | Document Number             | Rev 08 |          |
| Customer                   | MS-6719                     |        |          |
| Date                       | Wednesday, October 16, 2002 | Sheet  | 22 of 28 |



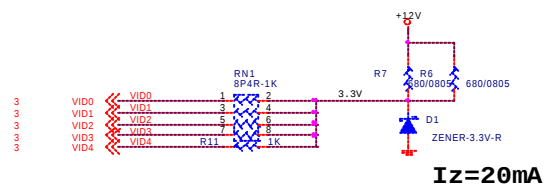
# VRM9.X



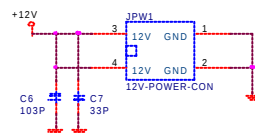
Notthwood-1.45V

| VID4 | VID3 | VID2 | VID1 | VID0 | VDC(V) |
|------|------|------|------|------|--------|
| 1    | 0    | 1    | 1    | 0    | 1.30   |
| 1    | 0    | 0    | 0    | 1    | 1.425  |
| 1    | 0    | 0    | 0    | 0    | 1.45   |
| 0    | 1    | 1    | 1    | 1    | 1.475  |
| 0    | 1    | 1    | 1    | 0    | 1.500  |
| 0    | 1    | 1    | 0    | 1    | 1.525  |
| 0    | 1    | 1    | 0    | 0    | 1.550  |
| 0    | 1    | 0    | 1    | 1    | 1.575  |
| 0    | 1    | 0    | 1    | 0    | 1.600  |
| 0    | 1    | 0    | 0    | 1    | 1.625  |

VID PULL-UP RESISTORS



ATX12V POWER CONNECTOR

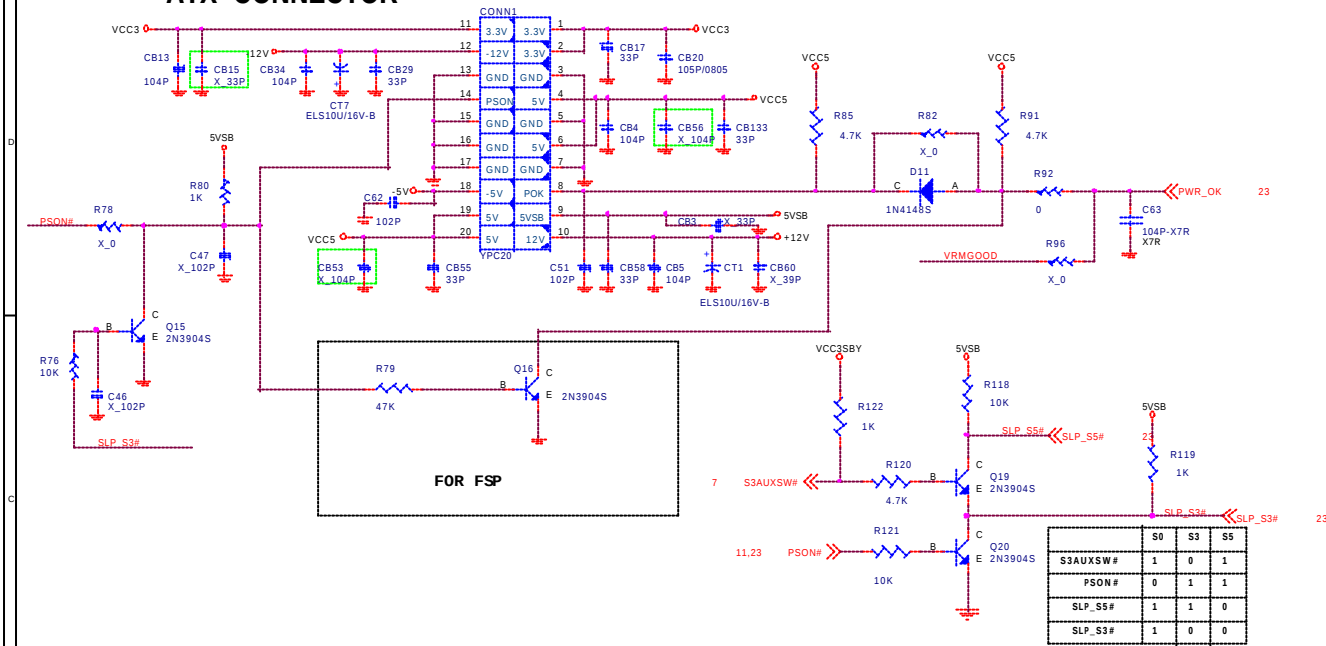


Willamette-1.75V

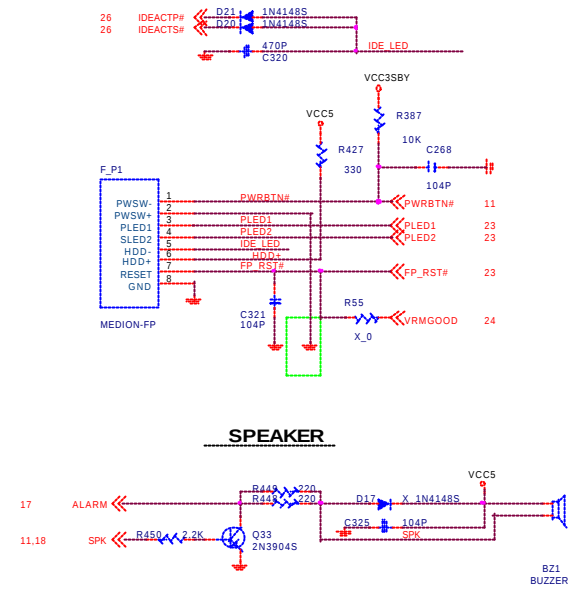
| VID4 | VID3 | VID2 | VID1 | VID0 | VDC(V) |
|------|------|------|------|------|--------|
| 0    | 1    | 0    | 0    | 0    | 1.650  |
| 0    | 0    | 1    | 1    | 1    | 1.675  |
| 0    | 0    | 1    | 1    | 0    | 1.70   |
| 0    | 0    | 1    | 0    | 1    | 1.725  |
| 0    | 0    | 1    | 0    | 0    | 1.75   |
| 0    | 0    | 0    | 1    | 1    | 1.775  |
| 0    | 0    | 0    | 1    | 0    | 1.80   |
| 0    | 0    | 0    | 0    | 1    | 1.825  |
| 0    | 0    | 0    | 0    | 0    | 1.85   |
| 1    | 1    | 1    | 1    | 1    | OFF    |

|                           |                             |  |       |          |
|---------------------------|-----------------------------|--|-------|----------|
| MICRO-STAR INT'L CO., LTD |                             |  |       |          |
| Title                     |                             |  |       |          |
| VRM 9.0                   |                             |  |       |          |
| Size                      | Document Number             |  |       | Rev 08   |
| Custom                    | MS-6719                     |  |       |          |
| Date                      | Wednesday, October 16, 2002 |  | Sheet | 24 of 28 |

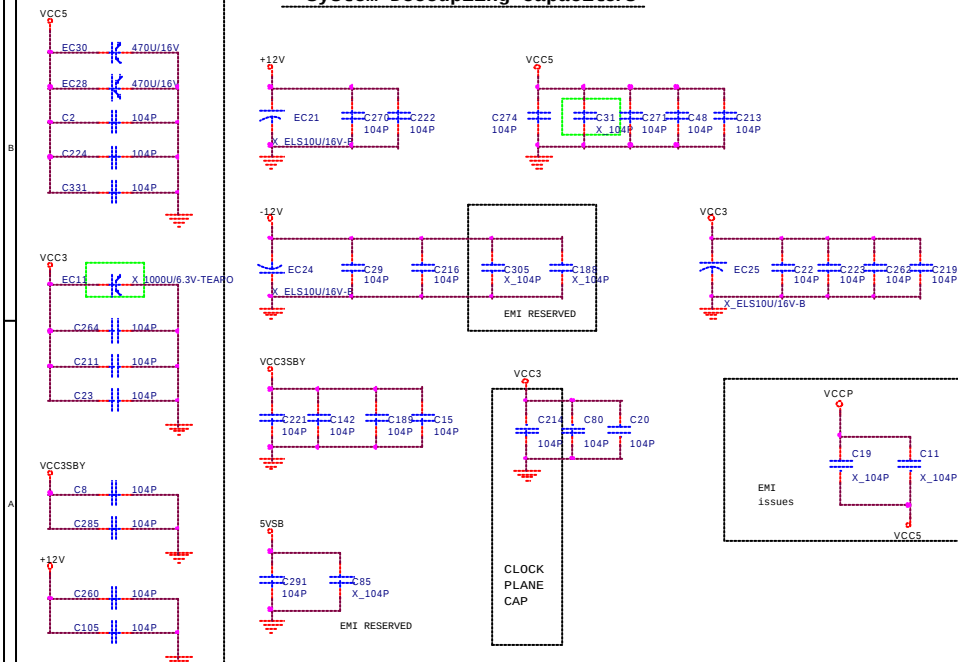
## ATX CONNECTOR



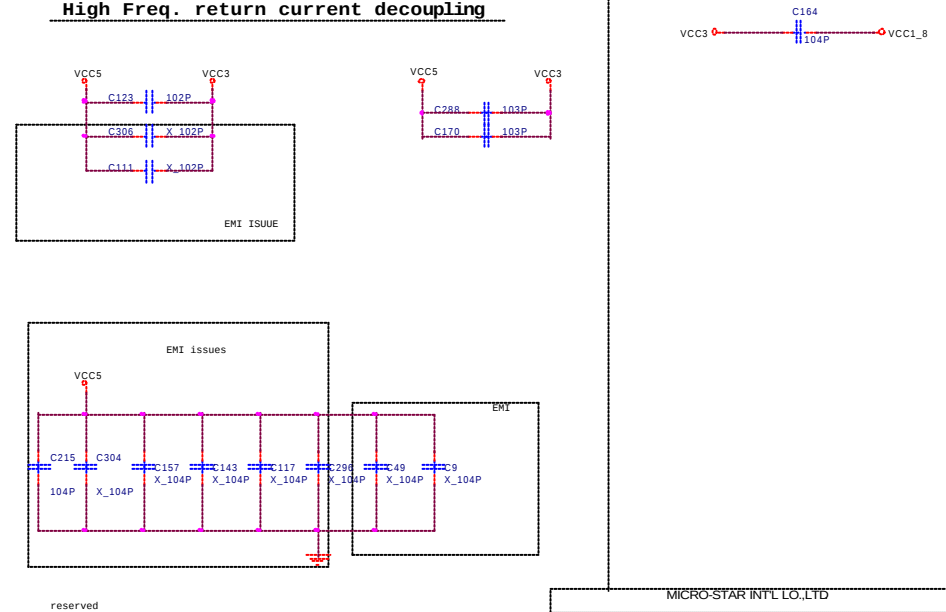
## Brookdale FRONT PANEL-M



## System Decoupling Capacitors



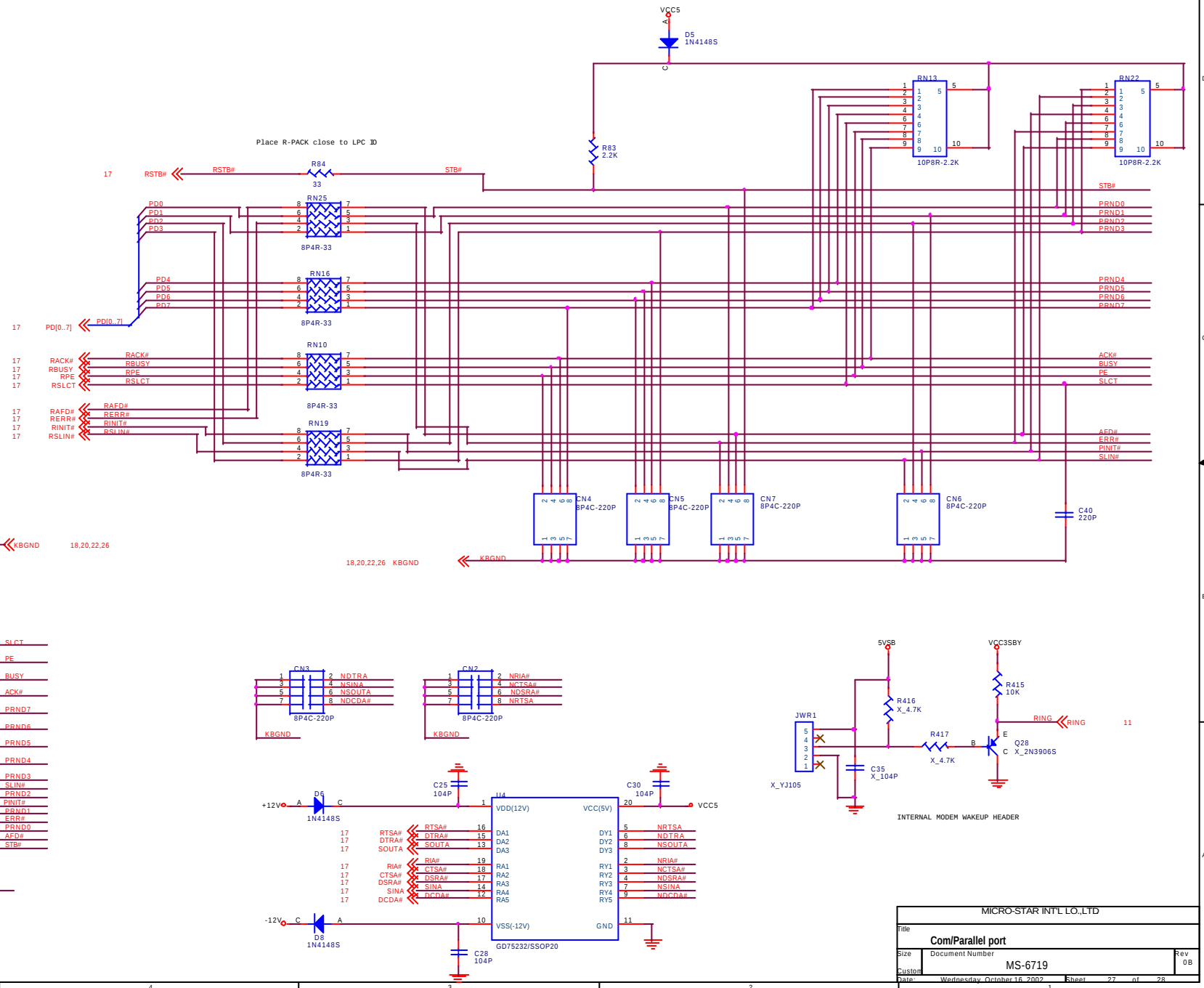
## High Freq. return current decoupling



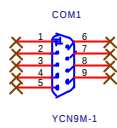
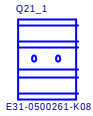
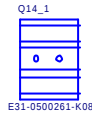
|                            |                             |       |          |
|----------------------------|-----------------------------|-------|----------|
| MICRO-STAR INT'L CO., LTD  |                             |       |          |
| Title                      |                             |       |          |
| ATX & F-panel & Audio port |                             |       |          |
| Size                       | Document Number             |       | Rev      |
|                            | MS-6719                     |       | 08       |
| Custom                     |                             |       |          |
| Date                       | Wednesday, October 16, 2002 | Sheet | 25 of 28 |



## Parallel Port & COM1



## MANUAL PART



1-2 ENABLED  
2-3 CLEAR CMOS



JAUDIO1(1-2), (3-4)

FP\_1

1-2 PS-ON  
3-4 PWR LED  
5-6 HDD LED (6+)  
7-8 RESET



## COMPONENT CHANGED LIST

- 1.F5 change to new component for process (ver:1.0a)
- 2.C330,C312 change to 2.2u for AUX-IN audio precision (ver:1.0a)
- 3.C119 change to 2.2u (ver:1.0a)
- 4.L76,C62,L77,C60,C61,C412,C411 change component value for SPDIF EMI issue (ver:1.0a)
- 5.Add U21,R515,R516,C414 for SPDIF-IN pass through level (ver:1.0a)
- 6.Q23 change to P3055LS (ver:1.0a)
- 7.C70 change to X7R (ver:1.0a)
- 8.Add D21,EC3 for smart FAN function (ver:1.0a)

MICRO-STAR INT'L CO.,LTD

|        |                             |       |             |       |
|--------|-----------------------------|-------|-------------|-------|
| File   |                             |       | Manual Part |       |
| Size   | Document Number             |       | Rev         |       |
| Custom | MS-6701                     |       | 0A          |       |
| Date   | Wednesday, October 16, 2002 | Sheet | 28          | of 28 |