

Notebook PC Service Manual

Model : 258SA0

Chapter 1 General System Description

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1.1. Hardware / Software Specifications.....

HARDWARE & SOFTWARE SPECIFICATION:**1. CPU****A. D/T INTEL P4 PROCESSOR**

The Intel Pentium® 4 Processor with 512-KB L2 cache on 0.13 micron process utilizes Flip Chip Pin Gray Array (FC-PGA2) package technology, and plugs into a 478-pin surface mount, Zero Insertion Force (ZIF) socket, referred to as the mPGA478B socket. The Pentium 4 Processor with 512-KB L2 cache on 0.13 micron process, like its predecessor, the P4 processor in the 478 pin package, is based on the same Intel 32-bit microarchitecture and maintains the tradition of compatibility with IA-32 software.

Hyper-Threading Technology is a new feature in the Intel P4 processor at 800MHz system bus and 3.06GHz/533 MHz system bus with 512-KB L2 cache on 0.13 micron process. HT Technology allows a single, physical P4 processor to function as two logical processors. Intel recommend enabling HT Technology with Microsoft Windows XP Professional or Windows XP Home, and disabling HT Technology via the BIOS for all previous versions of Windows operating system.

The Intel NetBurst microarchitecture features include hyper pipeline technology, a rapid execution engine, a 400MHz, 533MHz, or 800MHz system bus, and an execution trace cache. The Hyper pipeline technology doubles the pipeline depth in the P4 processor to run at twice the core frequencies. The rapid execution engine allows the two integer ALUs in the processor to run at twice the core frequency, which allow many integer instructions to execute in 1/2 clock tick. The 400MHz, 533MHz, or 800MHz system bus is a quad-pumped bus running off a 100MHz or a 133MHz system clock, making 3.2Gbytes/sec, 4.3Gbytes/sec, or 6.4Gbytes/sec data transfer rates possible.

B. MOBILE INTEL PROCESSOR

The Mobile Intel Pentium 4 processor with 533MHz utilizes a 478-pin, Micro Flip-Chip Pin Grid Array (Micro-FCPGA) package with Integrated Heat Spreader, and plugs into a surface mount, Zero Insertion Force (ZIF) socket. The Mobile Intel Pentium 4 processor maintains full compatibility with IA-32 software.

The Intel NetBurst micro-architecture features include hyper-pipelined technology, a rapid execution engine, a 533MHz system bus, and execution trace cache. The hyper pipelined technology doubles the pipeline depth in the Mobile Intel Pentium 4 Processor allowing the processor to reach much higher core frequency, which allows many integer instructions to execute in 1/2 clock tick. The 533MHz system bus is a quad-pumped bus running off a 133MHz system clock making 4.3Gbytes/sec data transfer rates possible.

The processor, when used in conjunction with the requisite Intel SpeedStep technology

applet or its equivalent, support Enhanced Intel SpeedStep technology, which enables real-time dynamic switching of the voltage and frequency between two performance modes. This occurs by switching the bus ratios, core operating voltage, and core processor speeds without resetting the system. The processor features the Auto Halt, Stop Grant, Deep Sleep, and Deeper Sleep low power states. The processor system bus uses a variant of GTL+ signaling technology called Assisted Gunning Transceiver Logic (AGTL+) signal technology.

2. SIS648FX HMAC

The SIS648FX Host & Memory & AGP Controller integrates a high performance host interface for Intel Pentium 4 processor, a high performance memory controller, an AGP interface, and SIS MuTIOL 1G Technology connecting w/ SIS963L MuTIOL 1G Media IO.

The SIS648FX Host Interface features the AGTL&AGTL+ compliant bus driver technology with integrated on-die termination to support Intel Pentium 4 series processors with PSB 400 MHz/ 533MHz/ 800MHz. It provides a 12-level In-Order-Queue to support maximum outstanding transactions on host bus up to 12.

The Memory Controller supporting DDR only. It can offer bandwidth up to 3.2GB/s under DDR333 in order to sustain the bandwidth demand from host processor, as well as the multi I/O master and AGP masters. The memory Controller mainly comprises the Memory Arbiter, the M-data/M-Command Queues, and the Memory Interface. The Memory Arbiter arbitrates a plenty of memory access Host Controller, and I/O bus master based on a default optimized priority list with the capability of dynamically prioritizing the I/O bus master requests in a bid to offering privileged server to 1) the isochronous downstream transfer to guarantee the min. latency & timely delivery, or 2) the PCI master upstream transfer to curb the latency within the maximum tolerant period of 10us. Prior to the memory access requests pushed into the M-data queue, any command compliant to the paging mechanism is generated and push into the M-CMD queue. The M-data/M-CMD Queues further orders and forwards these queuing requests to the Memory Interface in an effort to utilizing the memory bandwidth to its utmost by scheduling the command requests in the background when the data requests streamlines in the foreground. The memory controller also supports the Suspend to RAM function by retaining the CKE# pins asserted in ACPI S3 state in which only AUX source deliver power.

3. ATI M10-P VGA CHIP(No INTER GRATED MEMORY)

The MOBILITY M10 provides the fastest and most advanced 2D, 3D, and multimedia graphics performance for notebooks. Its architecture introduces the latest achievements in the graphic industry, which enable the use of the progressive new features in upcoming applications, but without compromising performance. ATI's support of DirectX9 features, highly optimized OpenGL support, and flexible memory configurations allow implementations targeted at the gaming enthusiast, consumer, business and workstation platforms.

4. CLOCK GENERATOR & DDR ZERO DELAY BUFFER

The Main clock ICS952005 is a chip clock solution for desktop design using SIS 648FX style chipsets. When used with a Zero Delay buffer such as the ICS93722 for DDR applications it provides all the necessary clocks signals for such a system.

- Programmable output frequency, divider ratios, output rise/fall time, output skew.
- Programmable spread percentage for EMI control.
- Watchdog timer technology to reset system if system malfunctions.
- Support I2C index read/write and block read/write operations.
- Selectable asynchronous/synchronous AGP, ZCLK and PCI output.
- Support DDR333 OEM frequencies.

Uses external 14.318MHz crystal.

5. SYSTEM MEMORY

258SA Support PC 2100/2700 128MB/256MB/512MB/1GB DDR 266/333

SDRAM for Extending with 2 un-buffer Double-side DIMM DDR 266/333:

- Sustains DDR SDRAM CAS Latency at option of 2, 2.5, &3 clock.
- Support up to 2 un-buffer Double-sided DIMM DDR 266/333

DIMM1	DIMM2	TOTAL
128MB	0	128MB
256MB	0	256MB
512MB	0	512MB

6. SIS963 MUTIOL 1G MEDIA/I/O

The SIS963 MuTIOL Media I/O integrates one Universal Series Bus 2.0 Host Controller, the Audio Controller with AC97 Interface, the Ethernet MAC Controller w/ standard MII interface, three Universal Serial Bus 1.1 Host Controller, the IDE Master/Slave controllers, and SiS MuTIOL technology. The PCI to LPC bridge, I/O Advance Programmable Interrupt Controller and legacy power management functionalities are integrated as well

- A. **Ethernet MAC**
- B. **Universal Serial Bus 2.0 (USB2.0)**
- C. **IDE Interface**
- D. **IEEE 1394 Link Interface**

SiS962 support 6 PCI master and complies with PCI2.2 specification. It also incorporates the legacy system I/O like: two 8237A compatible DMA controllers, three 8254 compatible programmable 16-bit counters. hardwire keyboard controller and PS2 mouse interface, Real Time clock with 512b CMOS SRAM and two 8259A compatible interrupt controllers. Besides, the I/O APIC managing up to 24 interrupts with both Serial and FSB interrupt delivery modes is supported

7. MINI PCI(WIRELESS LAN)

Product Name: 11Mbps Wireless LAN Mini-PCI Card

Model Number: WL-350F

Host Interface: Mini PCI type III A

Operating Voltage: 3.3V+-5%

Frequency Band: 2.400~2.4835GHz (subject to regulation)

Standards: IEEE802.11b, Wi-Fi compliant

8. PCMCIA

The OZ711M1 is a single socket PC Card controller that also support Smart Cards and flash media cards. The OZ711M1 is enhance with O2Micro's patent pending MultiMediaBay™ technology, enabling a single passive adapter that supports all four flash media formats - SmartMedia™, Memory Stick™, MultiMediaCard (MMC) and SD Memory Card.

The OZ711M1 also provides a secondary Optional Dedicated Reader (ODR) interface that can support a Smart Card socket, a MMC/SD Card socket, or a Memory Stick socket. The software drivers that support the optional dedicated reader are identical to those required for the PC Card socket extensions for MultiMediaBay™.

The OZ711M1 provides a SmartMedia™ reader fully compliant with the SmartMedia™ Standard, Millennium Version, released in 2000 by the SSFDC forum. The reader supports the unique identifier extension for SDMI, 3Vand 5V SmartMedia™ cards in any capacity from 1MB to 128MB including MASK ROM versions. The integrated MMC/SD Memory Card and Memory Stick reader transfers data at an operating frequency of 16.5MHz and supports all capacities of these media formats and Memory Stick cards.

9. BIOS

The 258SA using AMI system BIOS, and support PnP, APM 1.2 and ACPI 2.0 function. Both of System and VGA BIOS are flashed in a 4Mbit EEPROM, The Flash ROM in the 32-pin PLCC package, there are three of suppliers for BIOS:

- EON (EN29LF040-70)
- AMIC (A29040L-70)
- Hyundai (HY29F040A-70)

10. IEEE1394 PHY

FW802B device provides the analog physical layer functions need to implement a two-port node in a cable based IEEE 1394-1995 and IEEE 1394a-2000 network. Each cable port incorporates two differential line transceivers. The transceivers include circuitry to monitor the line conditions as needed for determining connection status, for initialization, and for packet reception and transmission. The PHY is designed to interface with a link-layer controller (LLC).

The PHY require an external 24.576MHz crystal or crystal oscillator. The internal oscillator drives an internal phase-locked loop (PLL), which generates the required 400MHz reference signal. The 400MHz reference signal is internally divided to provide the 49.152MHz, 98.304MHz, and 196.608MHz clock signals that control transmission of the outbound encoded strobe and data information.

When the PHY/link interface is in the disabled state, the FW802B will automatically enter a low-power mode, if all ports are inactive (disconnected, disabled, or suspended). In this low-power mode, the FW802B disable its PLL and also disable parts of reference circuitry depending on the state of the ports (some reference circuitry must remain active in order to detect incoming TP bias). The lowest power consumption (the microlow-power sleep mode) is attained when all ports are either disconnected or disabled with the ports interrupt enable bit cleared.

- Provides two fully compliant cable ports at 100Mbits/s, 200Mbits/s, and 400Mbits/s.
- Fully supports OHCI requirements.
- Support connection debounce.
- Support multispeed packet concatenation.

11. HARD DISK

The Primary Master HDD supporting PIO Mode 0,1,2,3,4 and Ultra DMA 33/66/100.

Vendor:	Toshiba, Fujitsu, IBM
Capacity:	Support 20/30 or above HDD
Thickness:	9.5mm/2.5"
Host Interface:	Fast IDE Interface

12. OPTICAL DEVICE

The Secondary Master also supporting ATAPI CD-ROM Device as follow:

Secondary Master:

1. COMBO (DVD/CD-RW)
2. DVD
3. CD-R or CD-R/W
4. CD-ROM
5. Second HDD

13. KEYBOARD

Key Board Matrix: 258SA

Travel: 3.0±0.3mm

Contact Resistance: 500 ohm Maximum

Keycap pull off force: Function Key 800g; Normal Key 800g

Switch Life: 5 Million cycles

14. AUDIO SUBSYSTEM

The ALC650 is an 18-bit, full duplex AC'97 2.2 compatible stereo audio CODEC designed for PC Multimedia systems, include host/soft audio and AMR/CNR based designs. The ALC650 incorporates proprietary converter technology to achieve a high SNR, greater than 90dB. The ALC650 AC'97 CODEC supports multiple CODEC extensions with independent variable sampling rates and built-in 3D effects. The ALC650 CODEC provides three pairs of outputs with independent volume controls, a mono output, and multiple stereo and mono inputs, along with flexible mixing, gain and mute functions to provide a complete integrated audio solution for PCs. The digital interface circuitry of the ALC650 CODEC operates from a 3.3V power supply with EAPD (External Amplifier Power Down) control for use in notebook and PC applications. The ALC650 integrates a 50mW/20 ohm headset audio amplifier in to the CODEC, which can save BOM cost. The ALC 650 also supports an AC'97 2.2 compliant SPDIF out function which allows easy connection from the PC to consumer electronic products, such as AC3 decoder/speaker and mini disk.

- High performance CODEC with high S/N ratio (>90dB)
- 18-bit ADC and 20-bit DAC resolution
- Compliant with AC'97 2.2 specifications
- 18-bit stereo full duplex CODEC with independent and variable sampling rate
- One standard MIC input, and one dedicated Front-MIC input for front panel applications (software selectable)
- Digital SPDIF output
- Digital SPDIF input. (ALC650 Rev. E or later)

15. TOUCH PAD UNITE

The Synaptics Touch Pad include two inputs for button switches: Left and Right button, special firmware that permits the Touch Pad to be initialized into 4-byte wheel Mouse mode. In this mode the Touch Pad communicates with the PS/2 host as though it were a Microsoft IntelliMouse. The Touch Pad also includes the standard Synaptics' enhanced mode of operation, 6-byte mode.

Scrolling is implemented in the firmware of this Touch Pad. When it is initialize into Wheel Mouse mode the firmware will decode a finger gesture on the right hand edge of the Touch Pad as intent to scroll.

16. LED INDICATOR

There are two portion of LED indicators on 351S1.

1. Two LED indicators on the right case:

SUSPEND LED: Green color for the system active at suspend mode

Power/Charge LED: Green color for system power on, orange color for battery charging.

2. Fore LED indicator beside by power button:

3. HDD/CD-ROM, Num Lock, Caps Lock, Scroll Lock LED

17. MODEM

I800 and M800 use Silicon based DAA chip set that provides a digital, low-cost, solid-state interface to a telephone line. They eliminate the need for an analog front end (AFE), and isolation transformer, relays, opto-isolator, and 2- to 4-wire hybrid. The products dramatically reduce the number of discrete components and cost required to achieve compliance with FCC Part 68. I800 and M800 comply with AC'97 / MC'97 interface specification Rev. 2.1.

- Power Consumption: Less than 100mW
- Modem mode speed: 56Kb/p maximum
- Compatibility: Bell 103, Bell 212A, ITU-T V.21, V.32bis, V.34, V.90, V.92
- Transmission Way: Full Duplex
- Fax mode speed: 14.4Kbps

18. IR

The HSDL-3600/3602 is a low-profile infrared transceiver module that provides interface between logic and IR signals for through-air, serial, half-duplex IR data link. The module is compliant to IrDA Data Physical Layer Specification 1.1 and IEC825-Class 1 Eye Safe.

- Fully Compliant to IrDA 1.1 Physical Layer Specifications – 9.6kb/s to 4Mb/s operation
- Typical Link Distance > 1.5m
- Compatible with ASK, HP SIR, TV Remote
- Low power operation 2.7V to 3.6V
- Low shutdown current 10nA typical

19. HOT KEY DEFINITION.

Fn + F1 (SMI): Standby

Fn + F3 (SMI): Mute battery warning beep

Fn + F4 (SMI): Toggle LCD/CRT display

Fn + F5 (SMI): Volume increase

Fn + F6 (SMI): Volume decrease

Fn + F7 (SMI): Brightness more lightness

Fn + F8 (SMI): Brightness more darkness

20. SYSTEM INDICATOR(LED)

Caps Lock (on/off)
Num Lock (on/off)
Scroll Lock (on/off)
HDD/CDROM (on/off)
Power on (on/off)
Suspend (flash/off)
Power Switch (on/off)
LAN Switch (on/off)

Use Adaptor	Power LED	Suspend LED	Use Battery	Power LED	Suspend LED
Power On	Green	Off	Power On	Green	Off
Suspend	Off	Green Blinking	Suspend	Off	Green Blinking
Power Off	Off	Off	Power Off	Off	Off
Charging	Orange Blinking	X	Charging	X	X
Discharging	X	X	Discharging	Green	X
Low Battery	X	X	Low Battery		X

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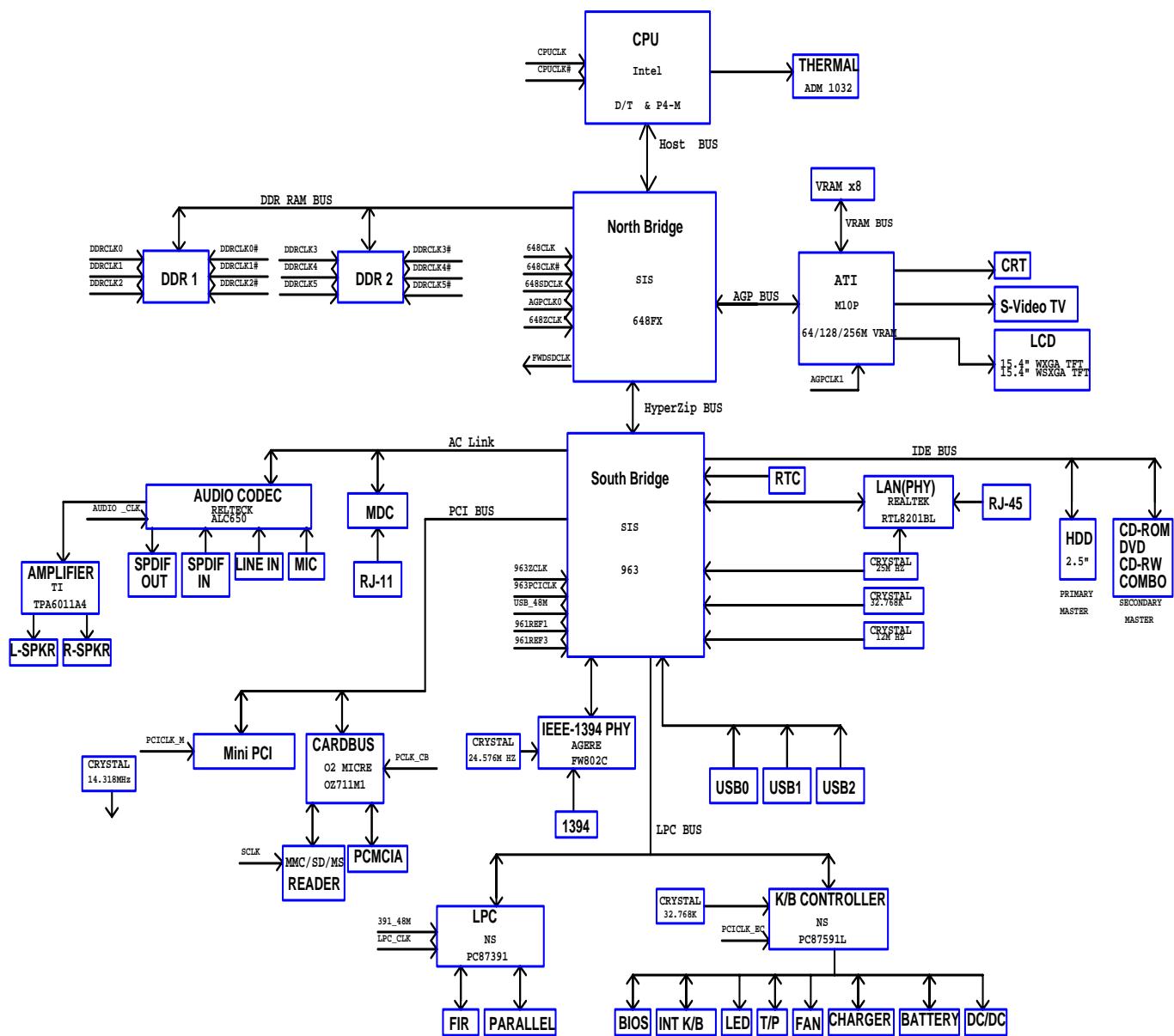
Model : 258SA0

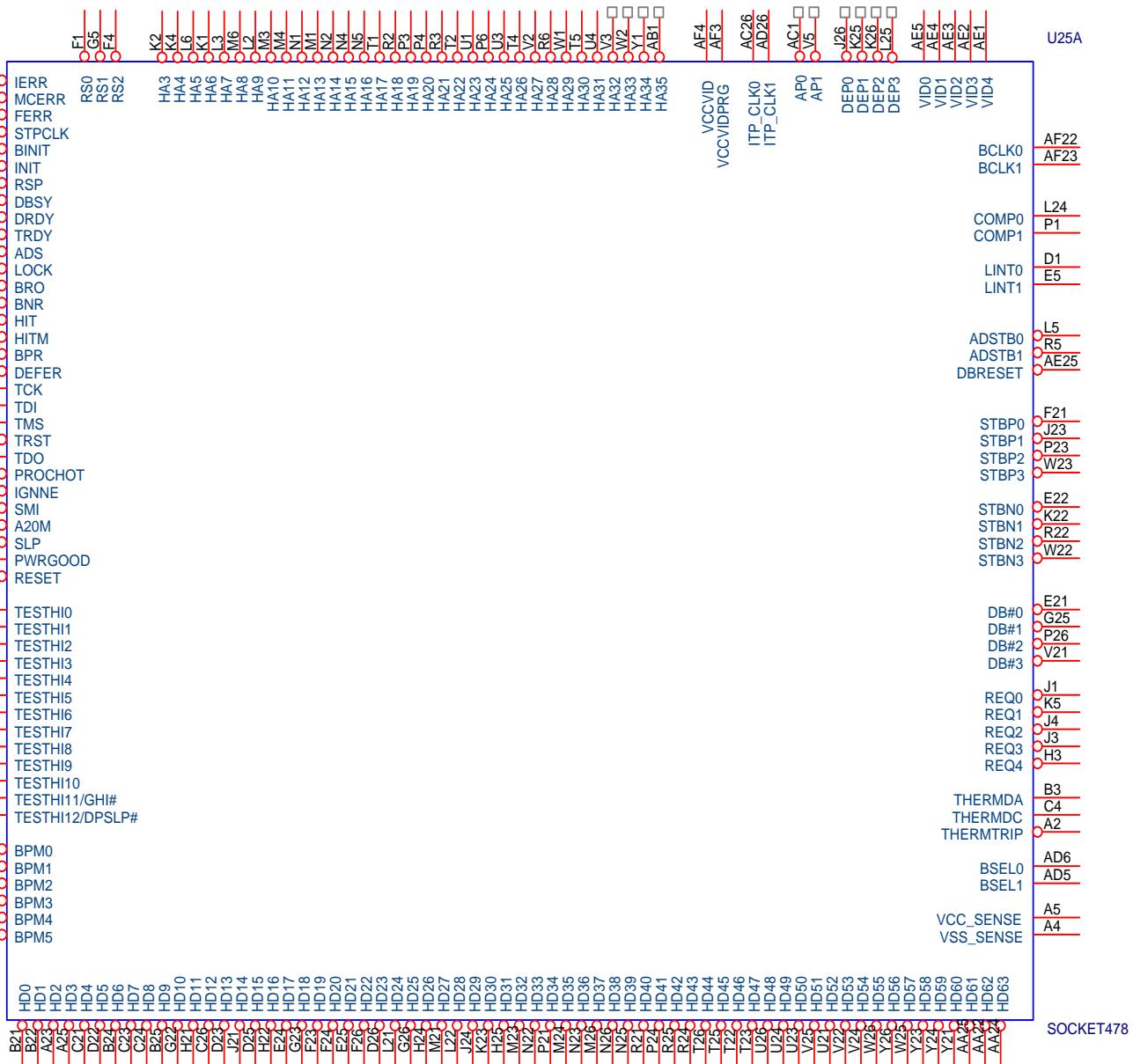
Chapter 2 ***Major Components***

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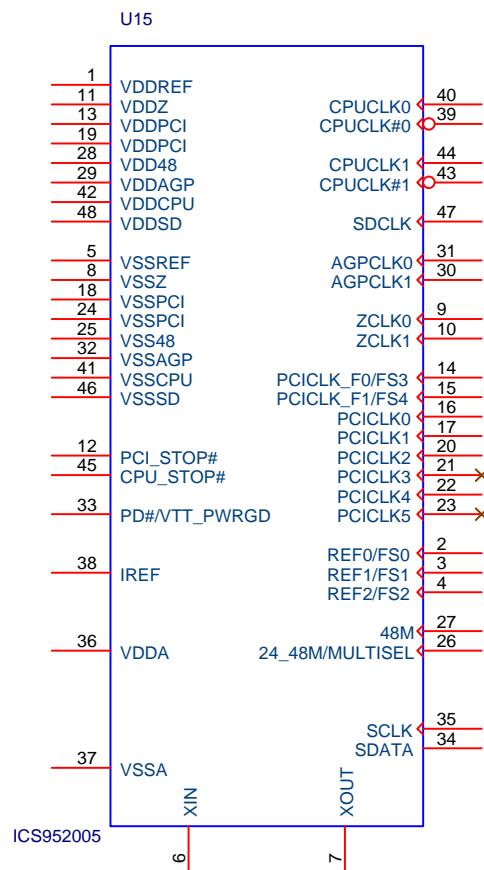
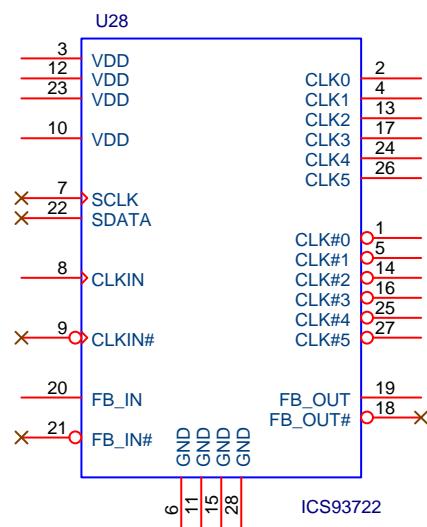
2.1 SYSTEM BLOCK DIAGRAM



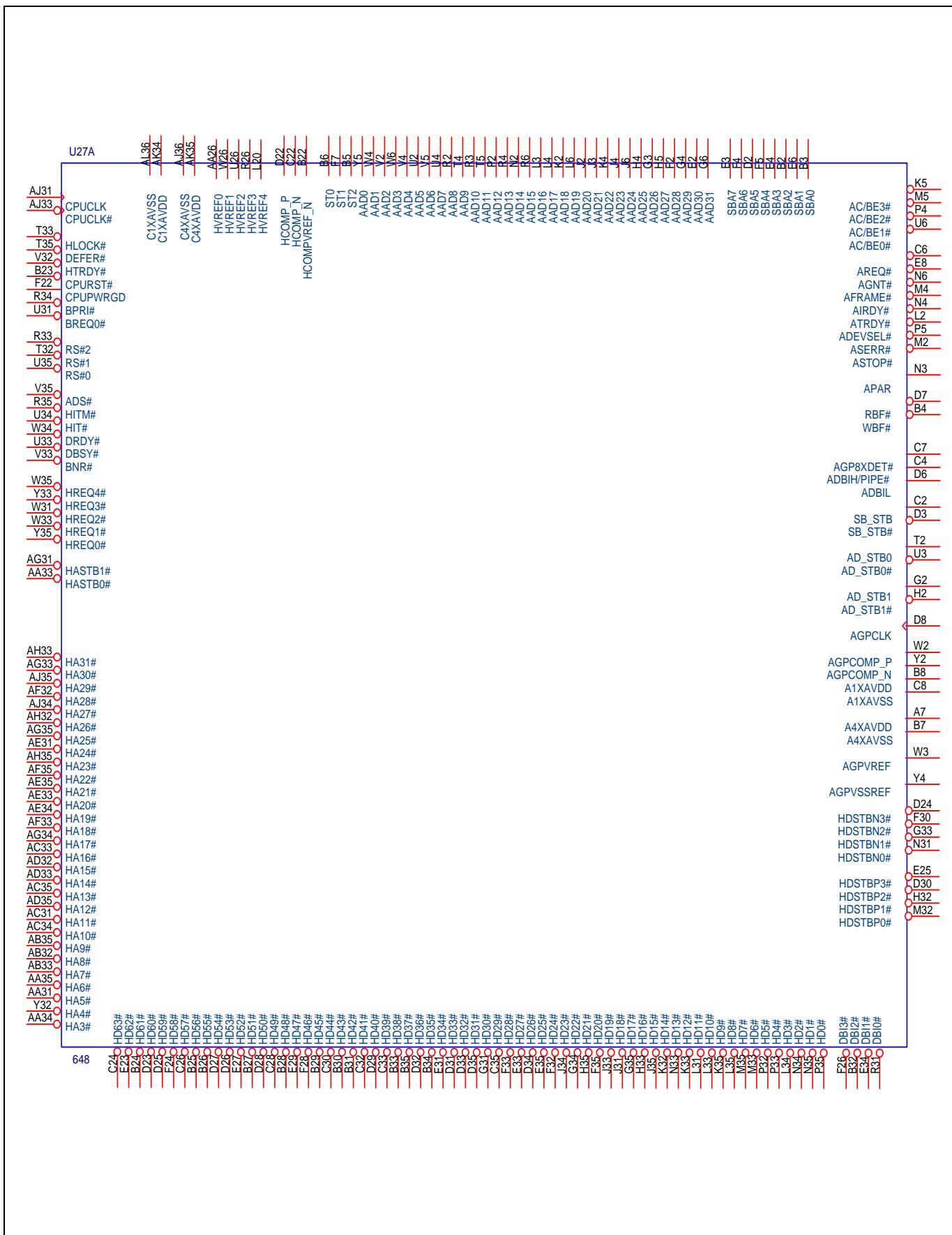
2.2 MAJOR COMPONENTS DEFINITION:
CPU1 HOST(U25A)


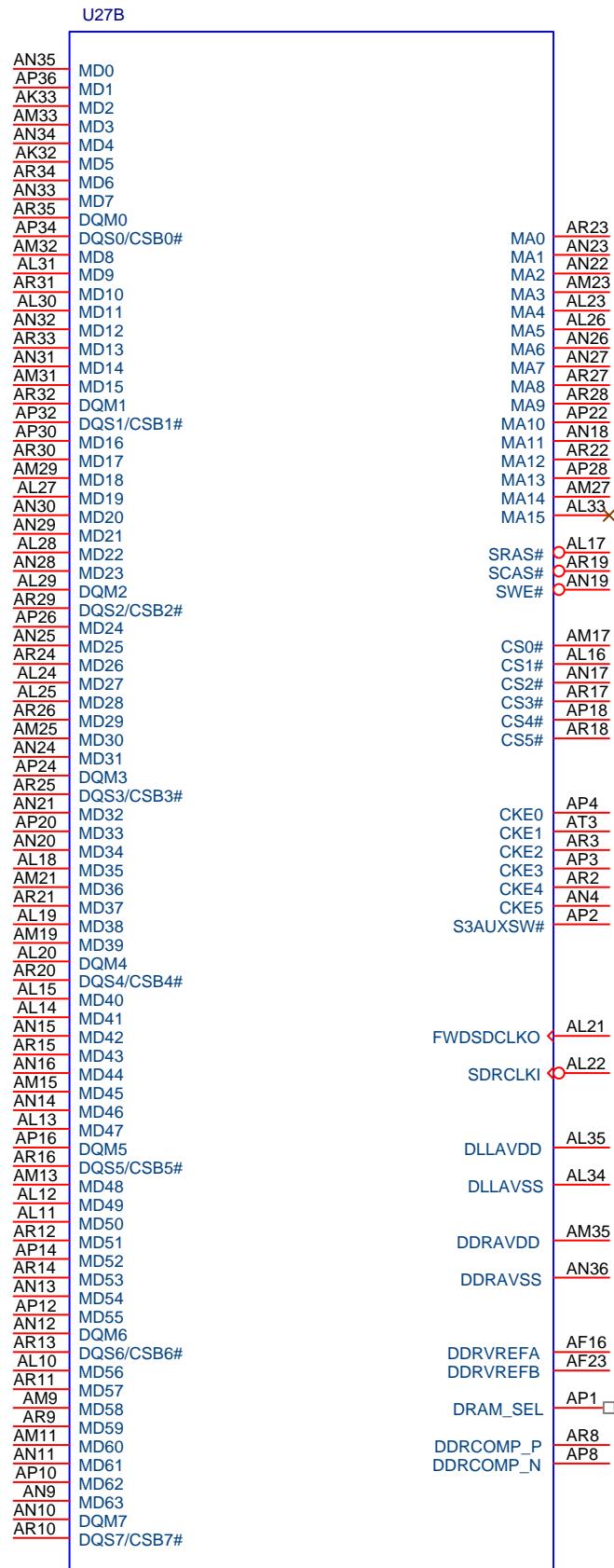
CPU2 POWER(U25B)



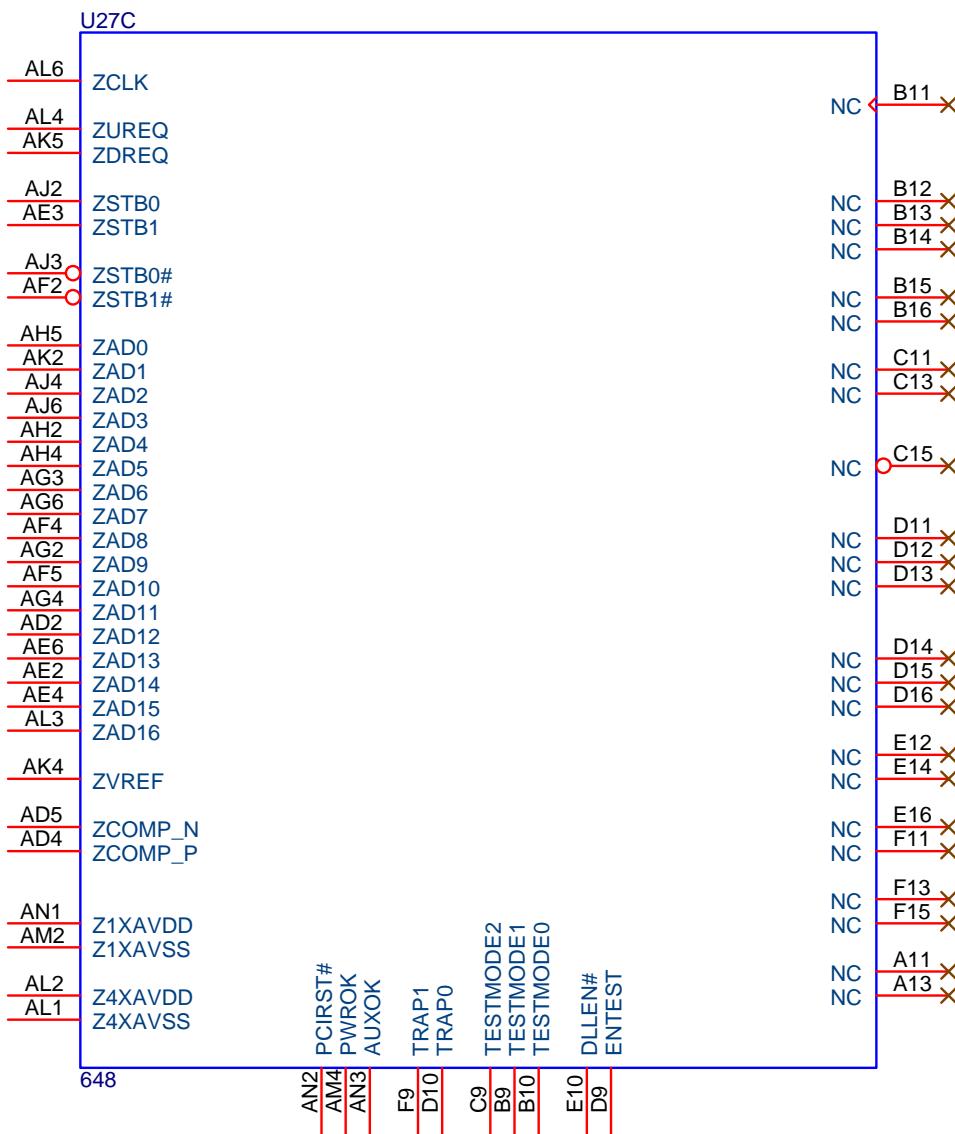
CLOCK GENERATOR(U15)**DDR BUFFER(U28)**

SIS648 HOST&AGP(U27A)

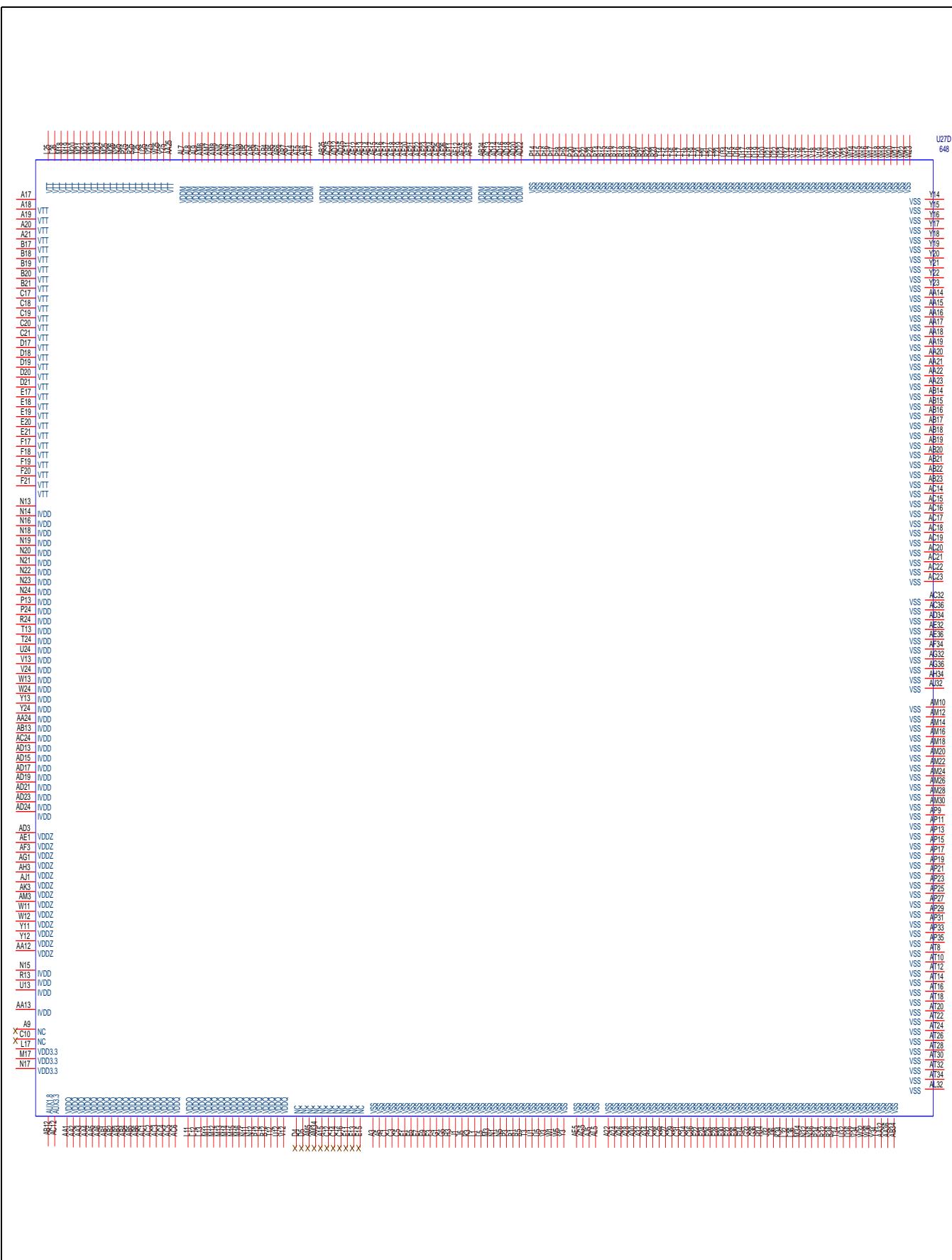


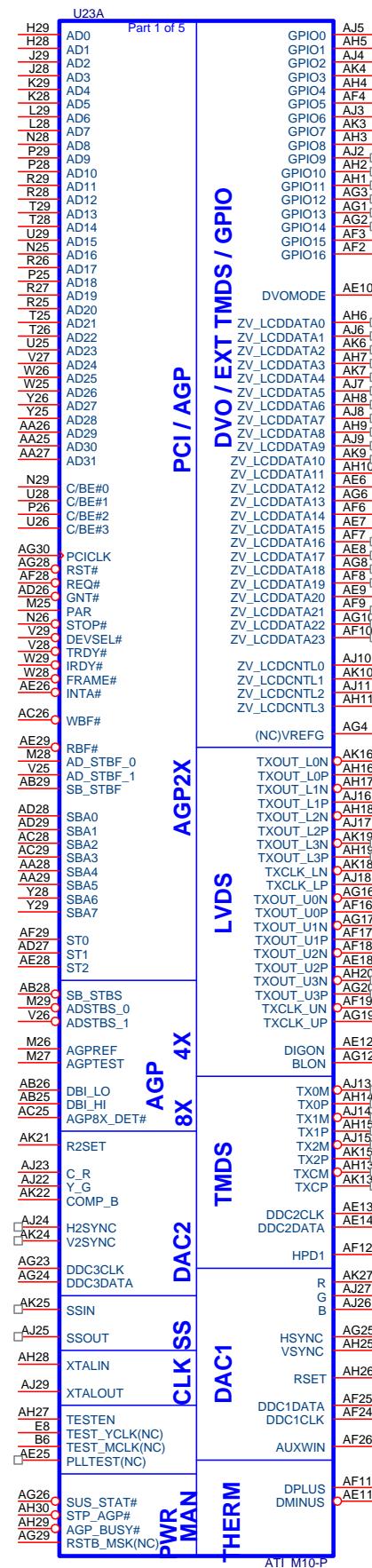
SIS648 MEMORY FOR DDR(U27B)

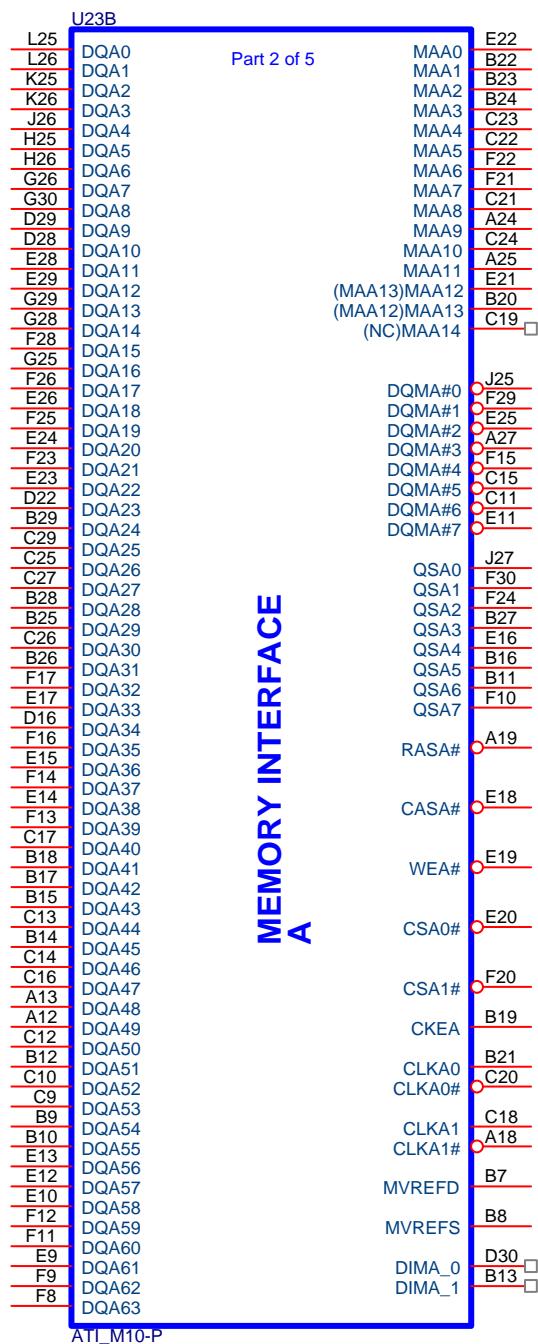
SIS648 HYPERZIP (U27C)



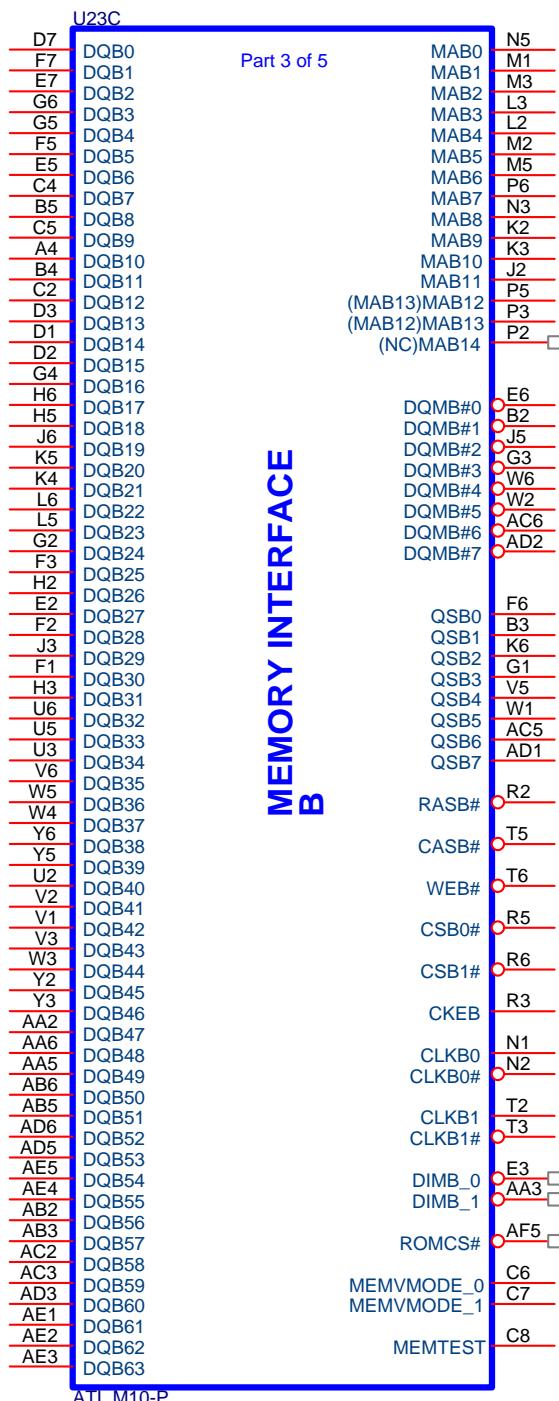
SIS648 POWER(U27D)



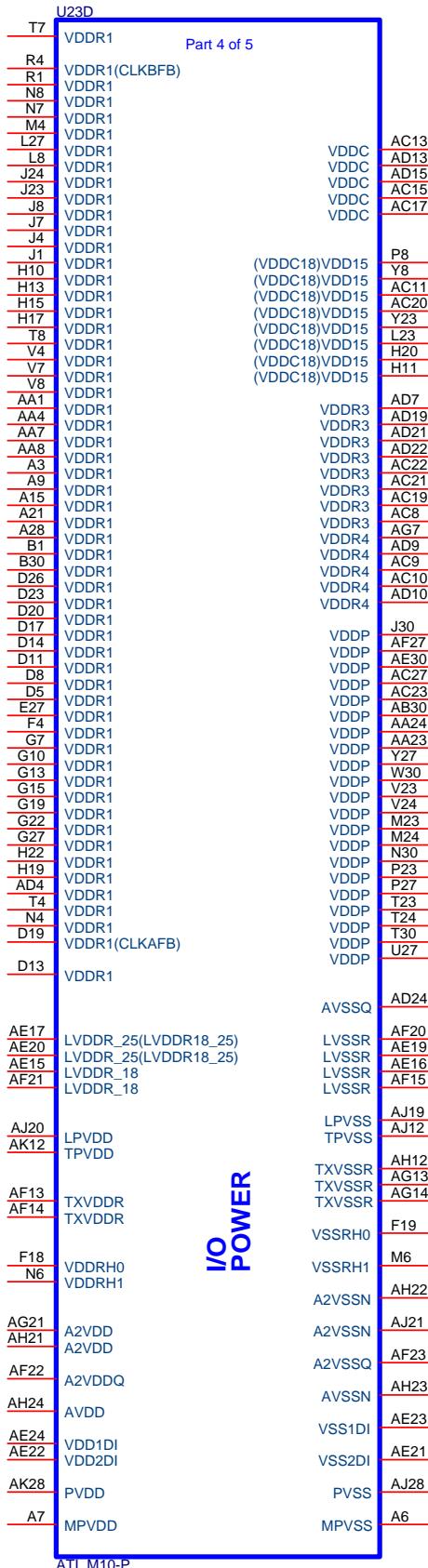
DDR TERMINATION(U23A)


DDR TERMINATION (U23B)

DDR TERMINATION(U23C)



DDR TERMINATION (U23D)



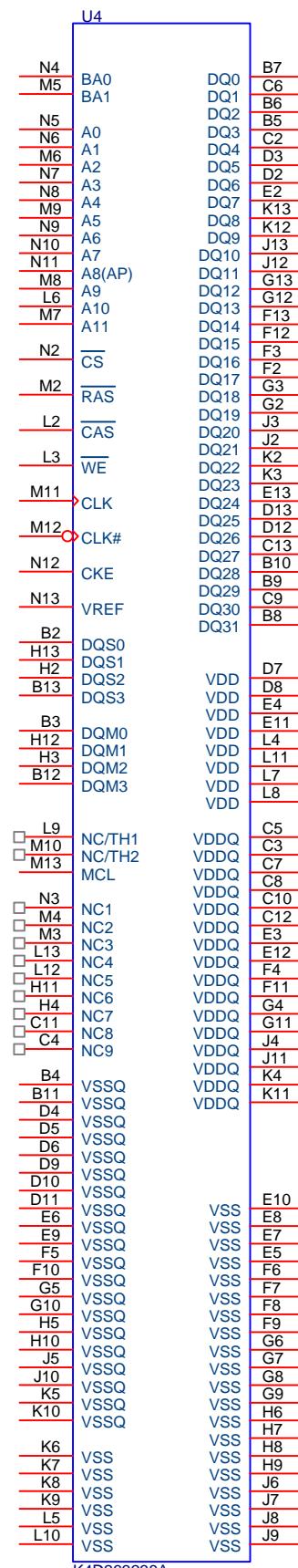
DDR TERMINATION(U21)

U21	
N4	BA0
M5	BA1
N5	A0
N6	A1
M6	A2
N7	A3
N8	A4
M9	A5
N9	A6
N10	A7
N11	A8(AP)
M8	A9
L6	A10
M7	A11
N2	CS
M2	RAS
L2	CAS
L3	WE
M11	CLK
M12	CLK#
N12	CKE
N13	VREF
B2	DQS0
H13	DQS1
H2	DQS2
B13	DQS3
B3	DQM0
H12	DQM1
H3	DQM2
B12	DQM3
L9	NC/TH1
M10	NC/TH2
M13	MCL
N3	NC1
M4	NC2
M3	NC3
L13	NC4
L12	NC5
H11	NC6
H4	NC7
C11	NC8
C4	NC9
B4	VSSQ
B11	VSSQ
D4	VSSQ
D5	VSSQ
D6	VSSQ
D9	VSSQ
D10	VSSQ
D11	VSSQ
E6	VSSQ
E9	VSSQ
F5	VSSQ
F10	VSSQ
G5	VSSQ
G10	VSSQ
H5	VSSQ
H10	VSSQ
J5	VSSQ
J10	VSSQ
K5	VSSQ
K10	VSSQ
K6	VSS
K7	VSS
K8	VSS
K9	VSS
L5	VSS
L10	VSS
	K4D263238A
B7	C6
C6	B6
B5	D5
C2	E2
D3	K13
D2	K12
E2	J13
J12	G13
G13	G12
G2	F13
F12	F15
F3	DQ16
F2	DQ17
G3	DQ18
G2	DQ19
J3	DQ20
J2	DQ21
K2	DQ22
K3	DQ23
E13	DQ24
D13	DQ25
D12	DQ26
C13	DQ27
B10	DQ28
B9	DQ29
C9	DQ30
B8	DQ31
D7	VDD
D8	VDD
E4	VDD
E11	VDD
L4	VDD
L11	VDD
L7	VDD
L8	VDD
C5	VDDQ
C3	VDDQ
C7	VDDQ
C8	VDDQ
C10	VDDQ
C12	VDDQ
E3	VDDQ
E12	VDDQ
F4	VDDQ
F11	VDDQ
G4	VDDQ
G11	VDDQ
J4	VDDQ
J11	VDDQ
K4	VDDQ
K11	VDDQ
E10	VSS
E8	VSS
E7	VSS
E5	VSS
F6	VSS
F7	VSS
F8	VSS
F9	VSS
G6	VSS
G7	VSS
G8	VSS
G9	VSS
H6	VSS
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J9	VSS

DDR TERMINATION(U20)

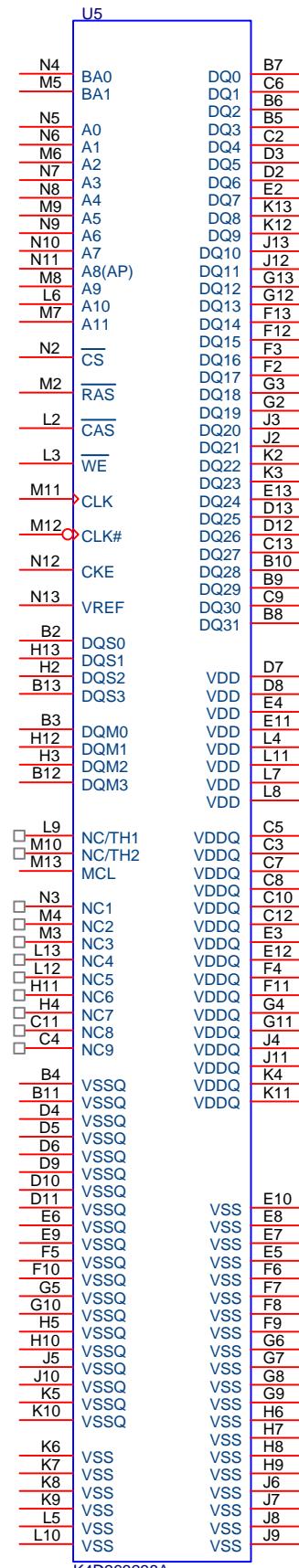
U20	
N4	BA0
M5	BA1
N5	A0
N6	A1
M6	A2
N7	A3
N8	A4
M9	A5
N9	A6
N10	A7
N11	A8(AP)
M8	A9
L6	A10
M7	A11
N2	CS
M2	RAS
L2	CAS
L3	WE
M11	CLK
M12	CLK#
N12	CKE
N13	VREF
B2	DQS0
H13	DQS1
H2	DQS2
B13	DQS3
B3	DQM0
H12	DQM1
H3	DQM2
B12	DQM3
L9	NC/TH1
M10	NC/TH2
M13	MCL
N3	NC1
M4	NC2
M3	NC3
L13	NC4
L12	NC5
H11	NC6
H4	NC7
C11	NC8
C4	NC9
B4	VSSQ
B11	VSSQ
D4	VSSQ
D5	VSSQ
D6	VSSQ
D9	VSSQ
D10	VSSQ
D11	VSSQ
E6	VSSQ
E9	VSSQ
F5	VSSQ
F10	VSSQ
G5	VSSQ
G10	VSSQ
H5	VSSQ
H10	VSSQ
J5	VSSQ
J10	VSSQ
K5	VSSQ
K10	VSSQ
K6	VSS
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K9	VSS
L5	VSS
L10	VSS
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DDR TERMINATION(U4)



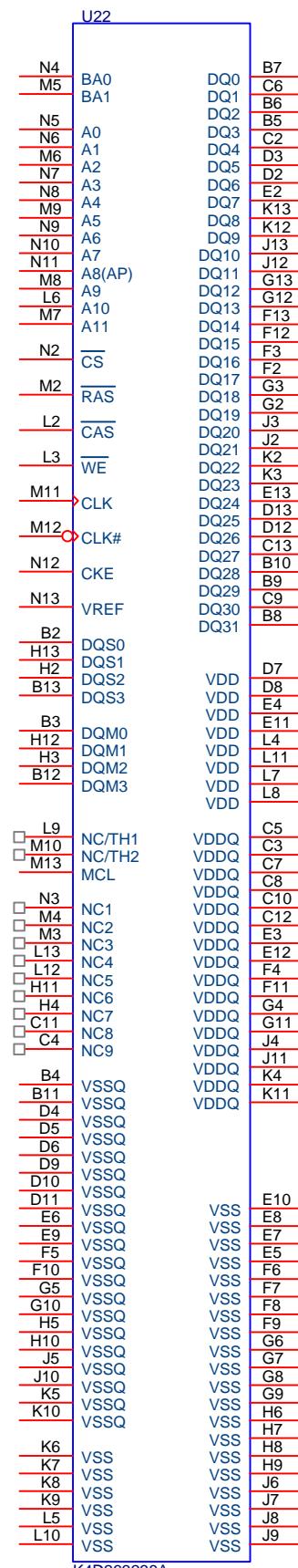
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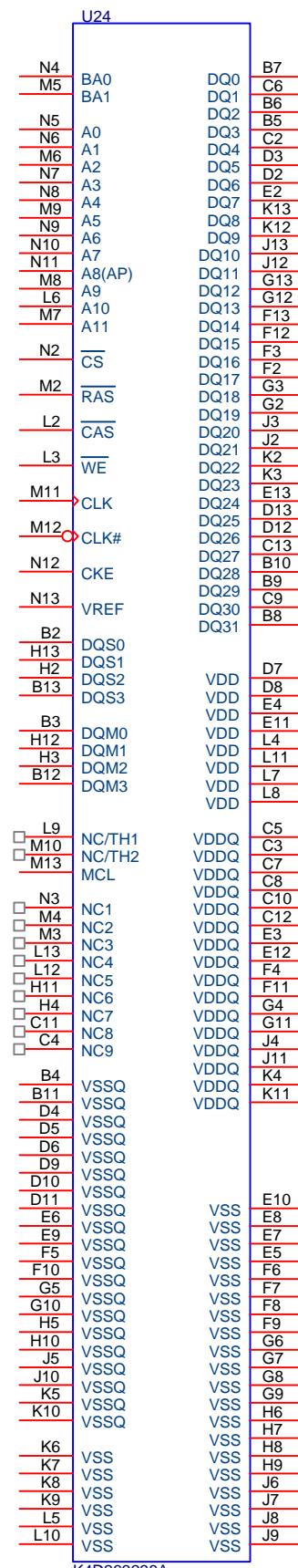
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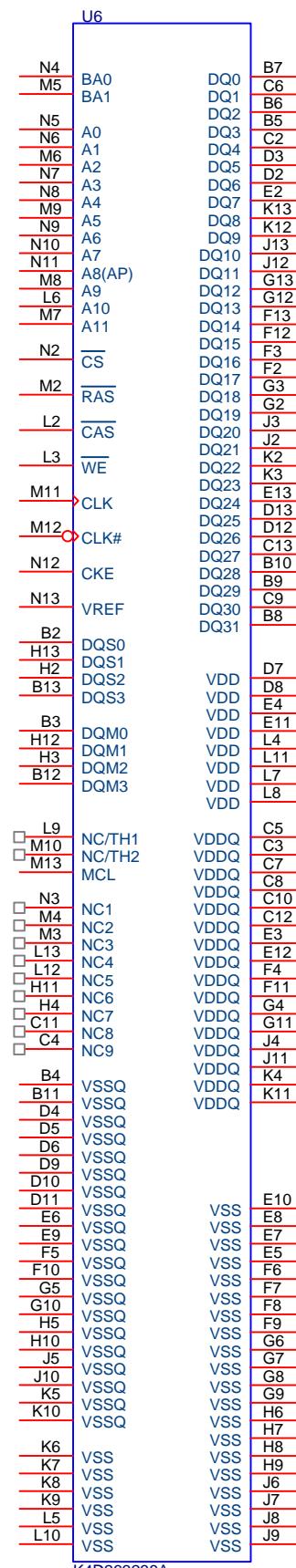
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DDR TERMINATION(U24)



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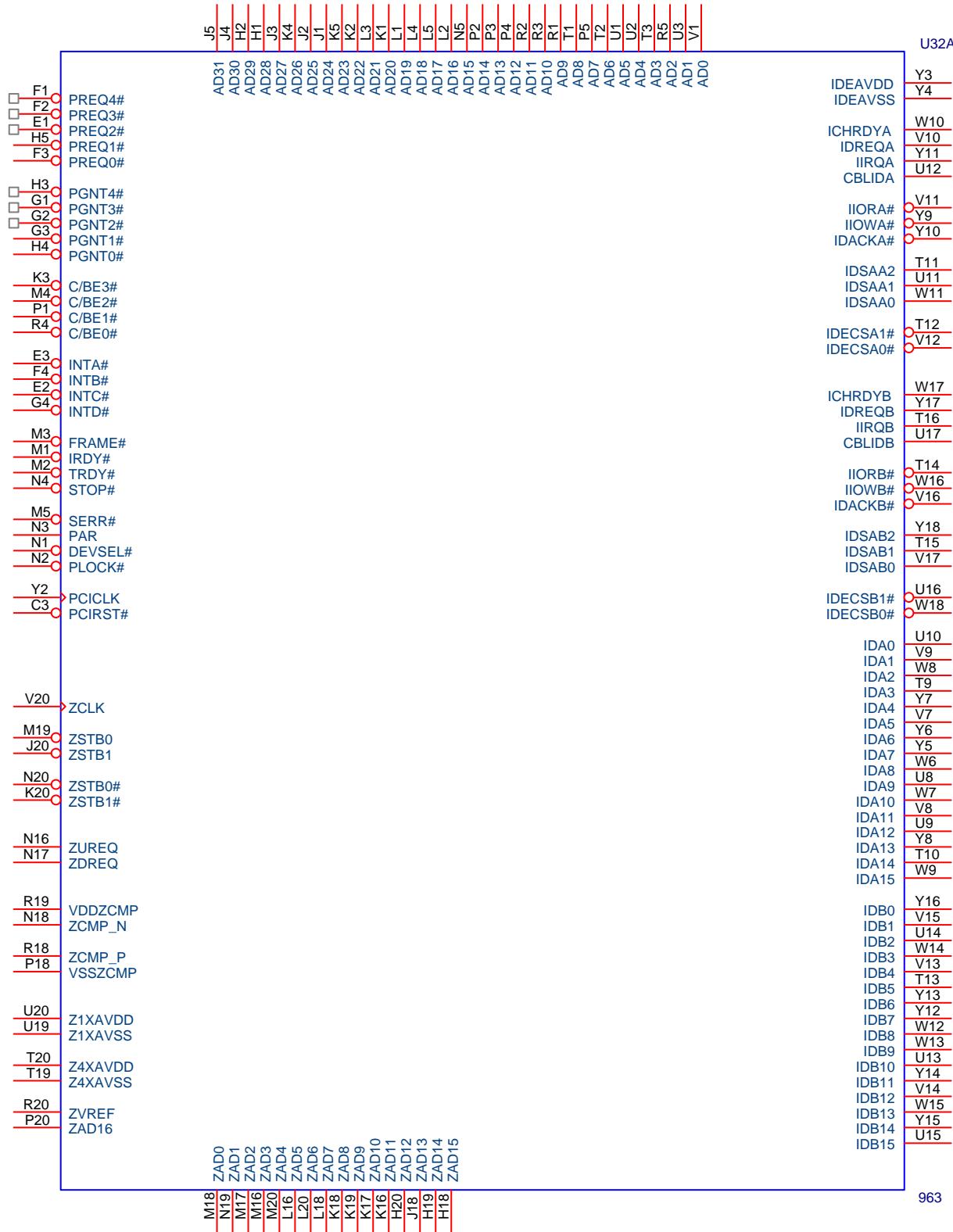


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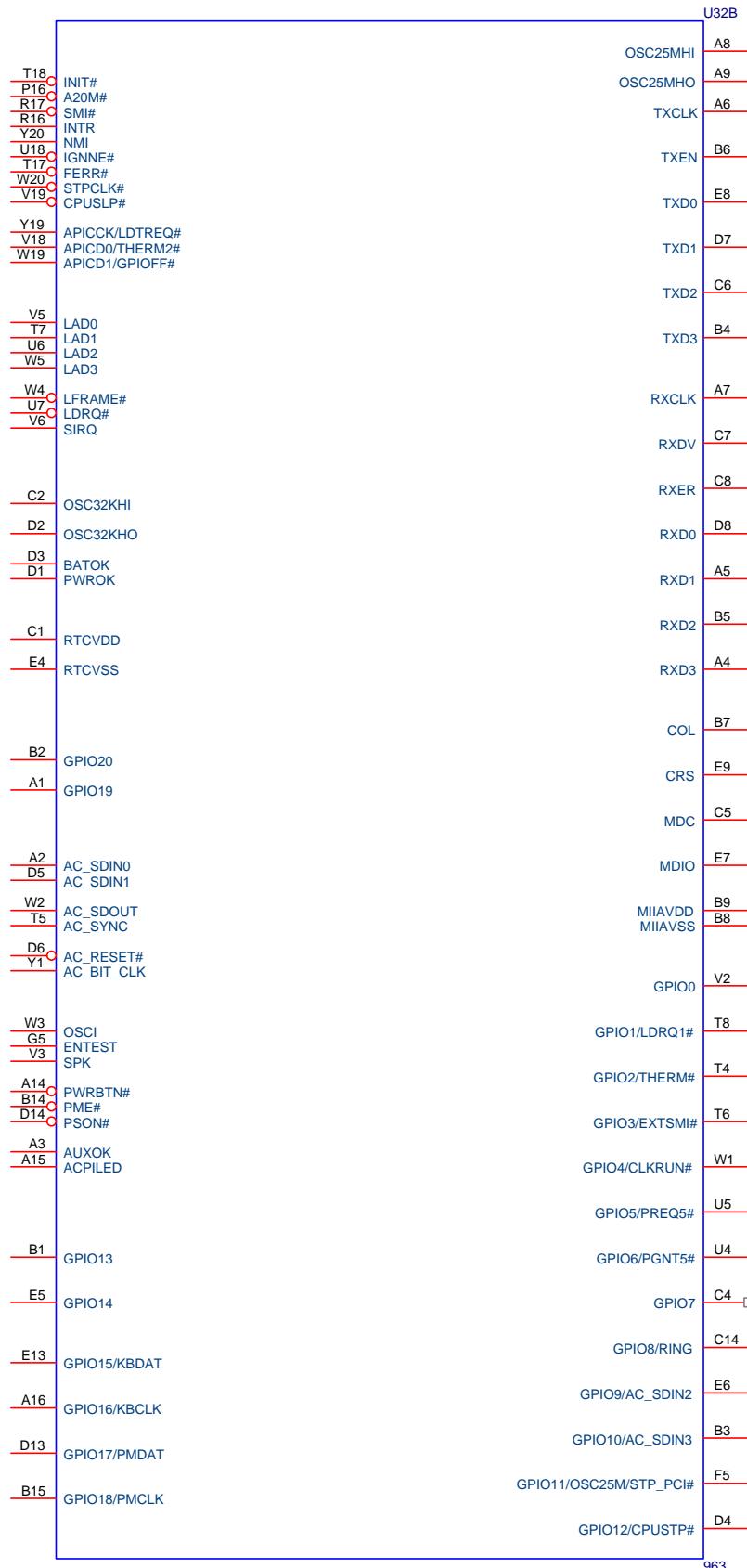
DDR TERMINATION(U9)

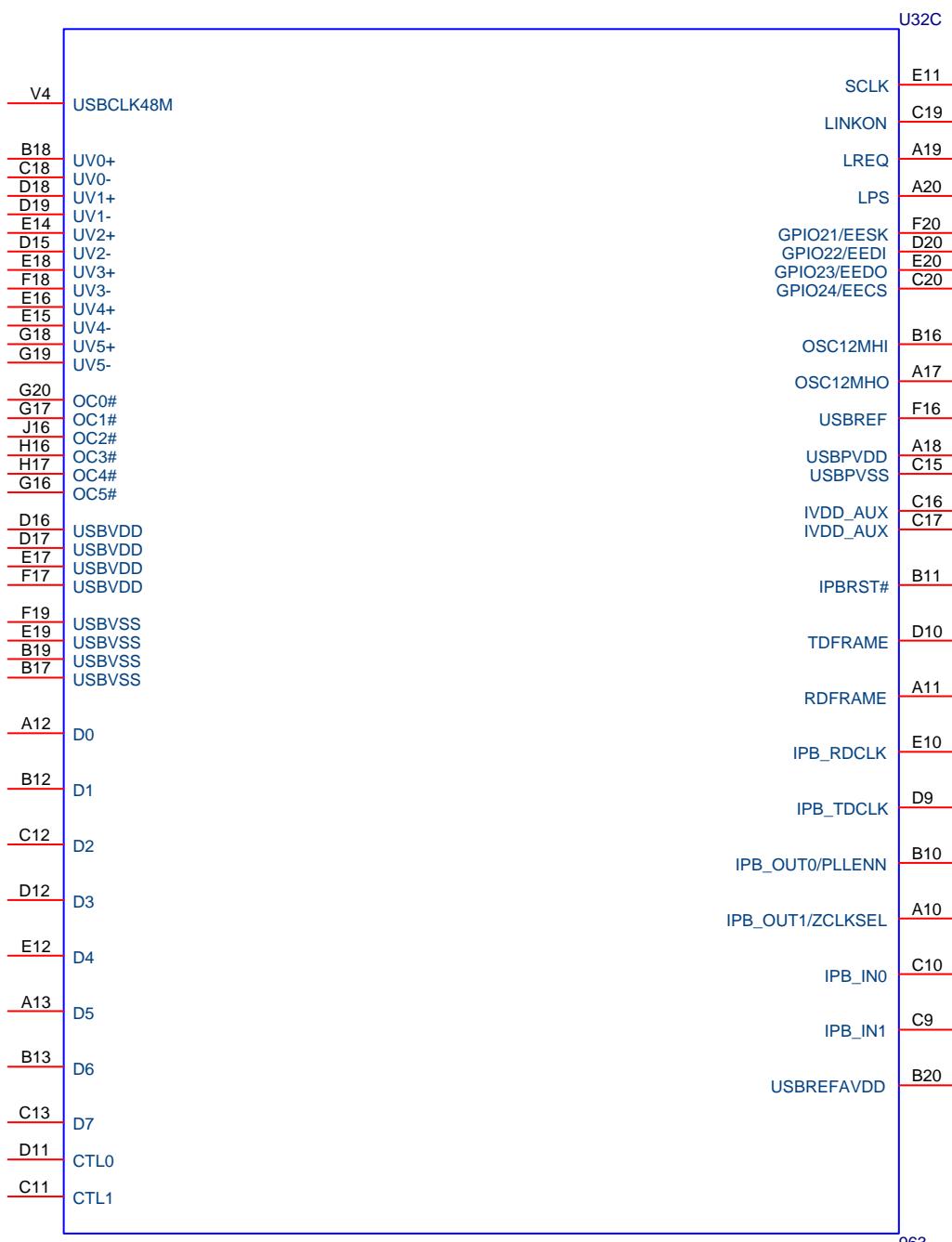
U9	
N4	BA0
M5	BA1
N5	A0
N6	A1
M6	A2
N7	A3
N8	A4
M9	A5
N9	A6
N10	A7
N11	A8(AP)
M8	A9
L6	A10
M7	A11
N2	CS
M2	RAS
L2	CAS
L3	WE
M11	CLK
M12	CLK#
N12	CKE
N13	VREF
B2	DQS0
H13	DQS1
H2	DQS2
B13	DQS3
B3	DQM0
H12	DQM1
H3	DQM2
B12	DQM3
L9	NC/TH1
M10	NC/TH2
M13	MCL
N3	NC1
M4	NC2
M3	NC3
L13	NC4
L12	NC5
H11	NC6
H4	NC7
C11	NC8
C4	NC9
B4	VSSQ
B11	VSSQ
D4	VSSQ
D5	VSSQ
D6	VSSQ
D9	VSSQ
D10	VSSQ
D11	VSSQ
E6	VSSQ
E9	VSSQ
F5	VSSQ
F10	VSSQ
G5	VSSQ
G10	VSSQ
H5	VSSQ
H10	VSSQ
J5	VSSQ
J10	VSSQ
K5	VSSQ
K10	VSSQ
K6	VSS
K7	VSS
K8	VSS
K9	VSS
L5	VSS
L10	VSS
	VSS
K4D263238A	

SIS963 HYPERZIP&PCI&IDE(U32A)

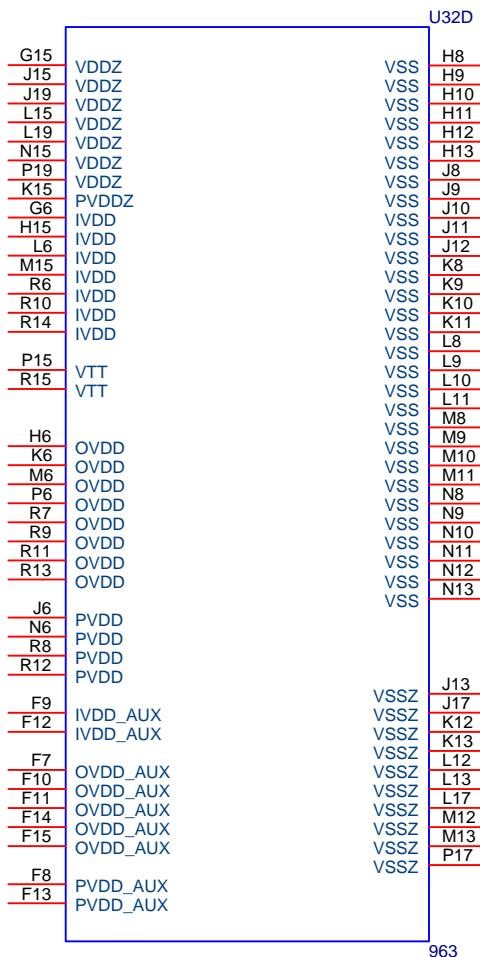


963

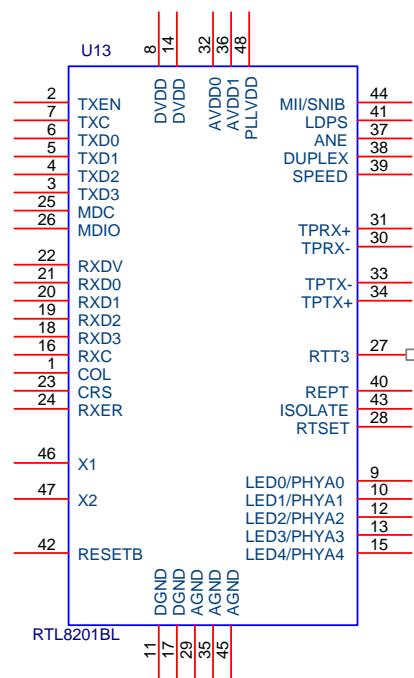
SIS963(LGPIO&HOST&LPC&APIC&AC97&MII&ACPI)(U32B)

SIS963 POWER&USB&USB&1394(U32C)

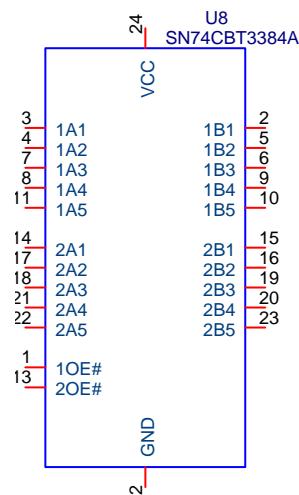
SIS963(U32D)



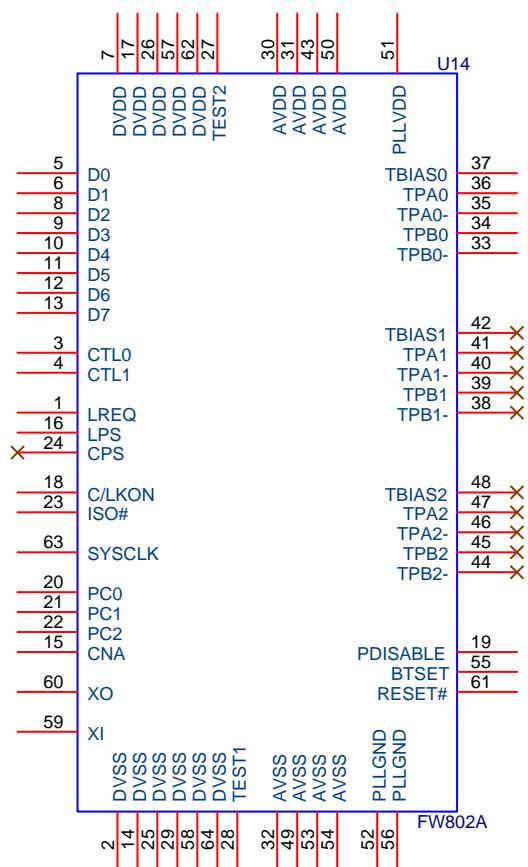
RTL8201BL(U13)

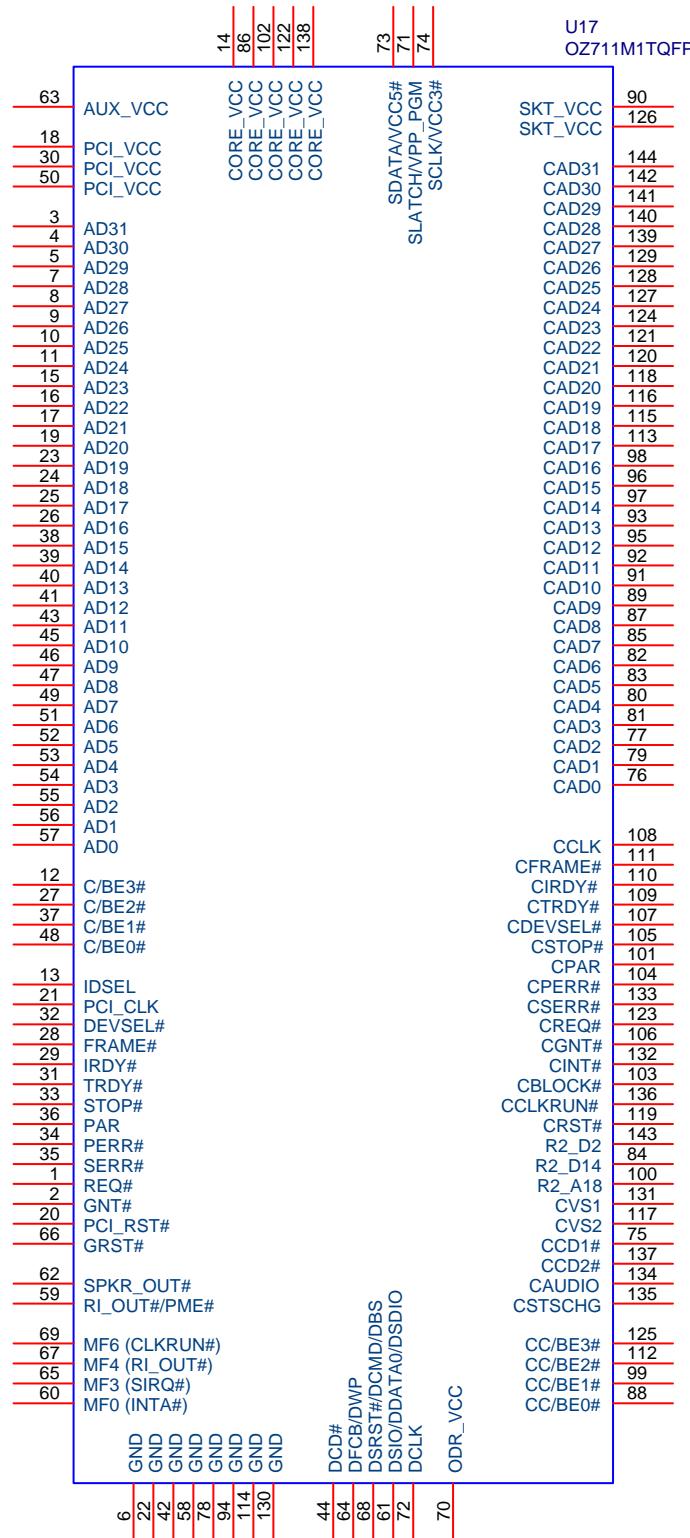


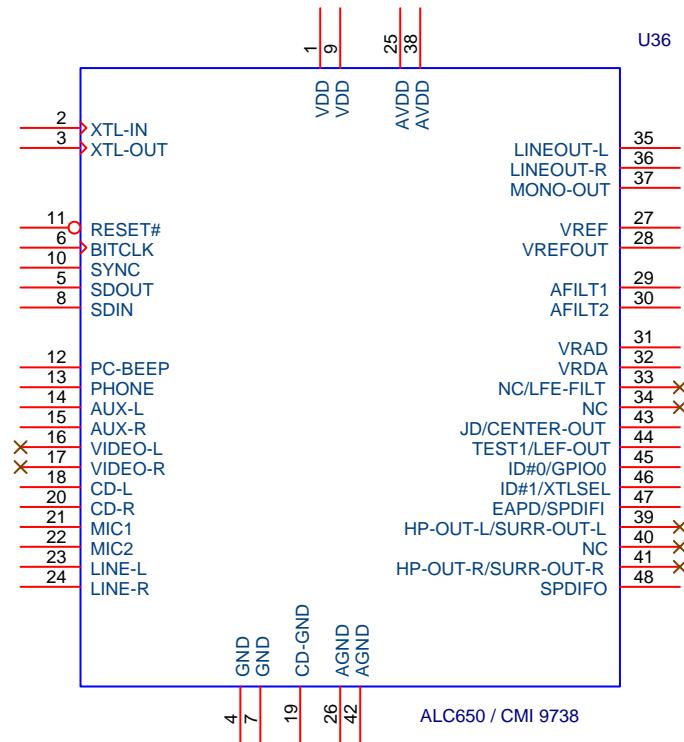
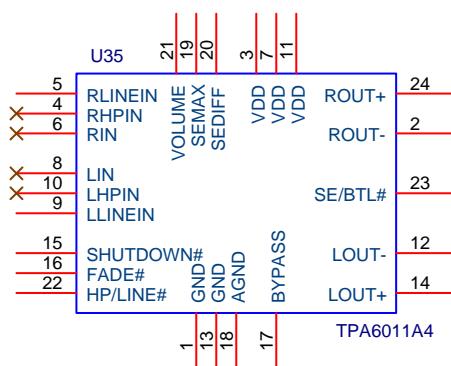
SMART POWER IC(U80)



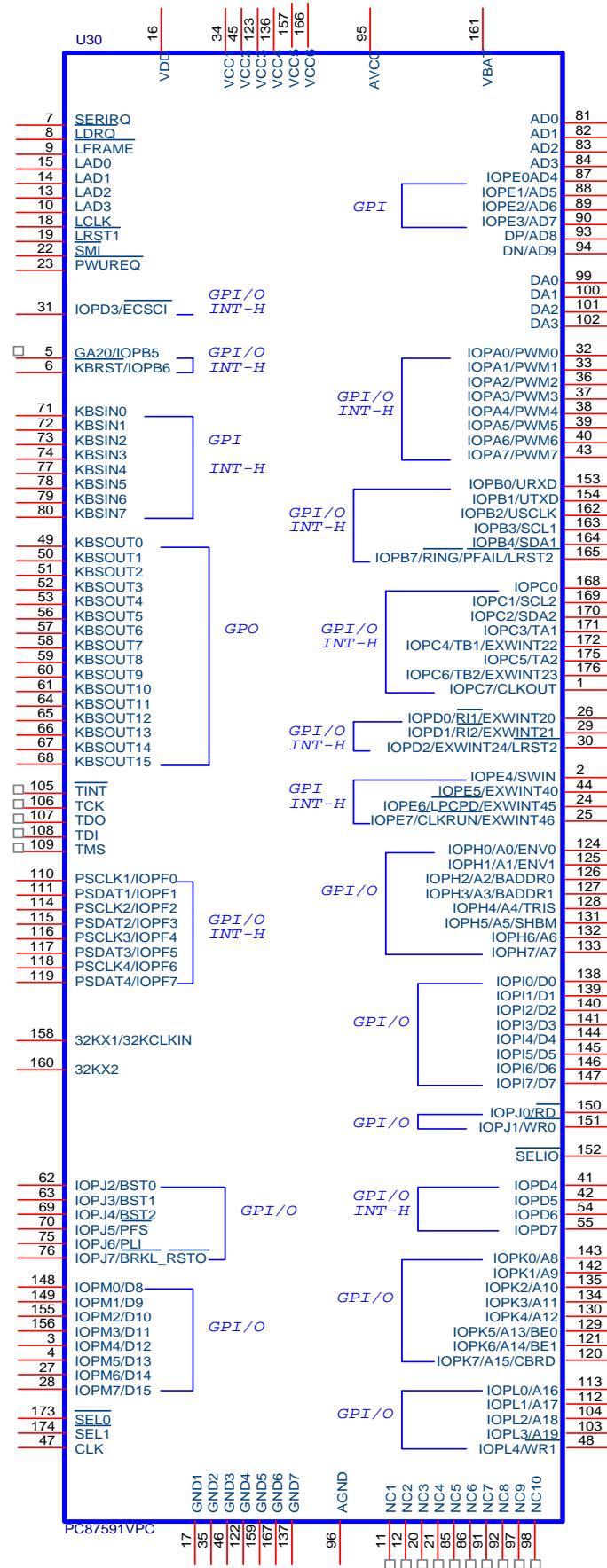
IEEE1394PHY(U14)

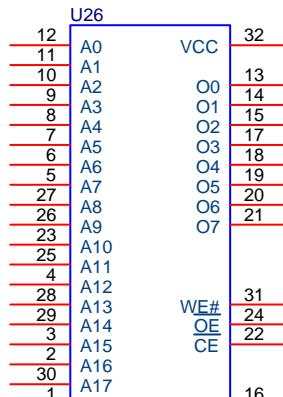


OZ MICRO(U17)


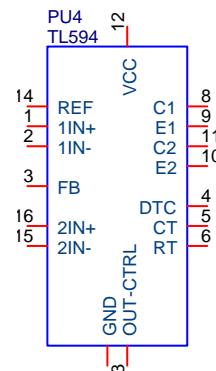
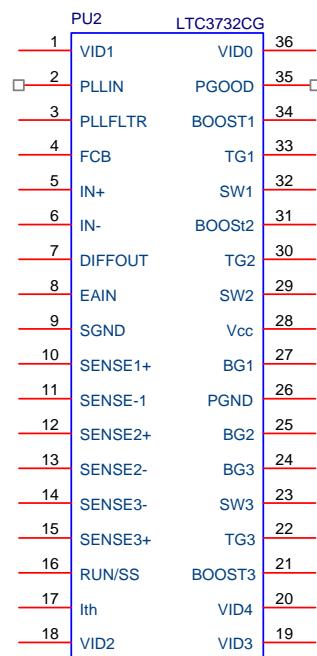
AUDIO CODEC(U36)

AMP & SPKR(U35)


PC87591VPC(U30)

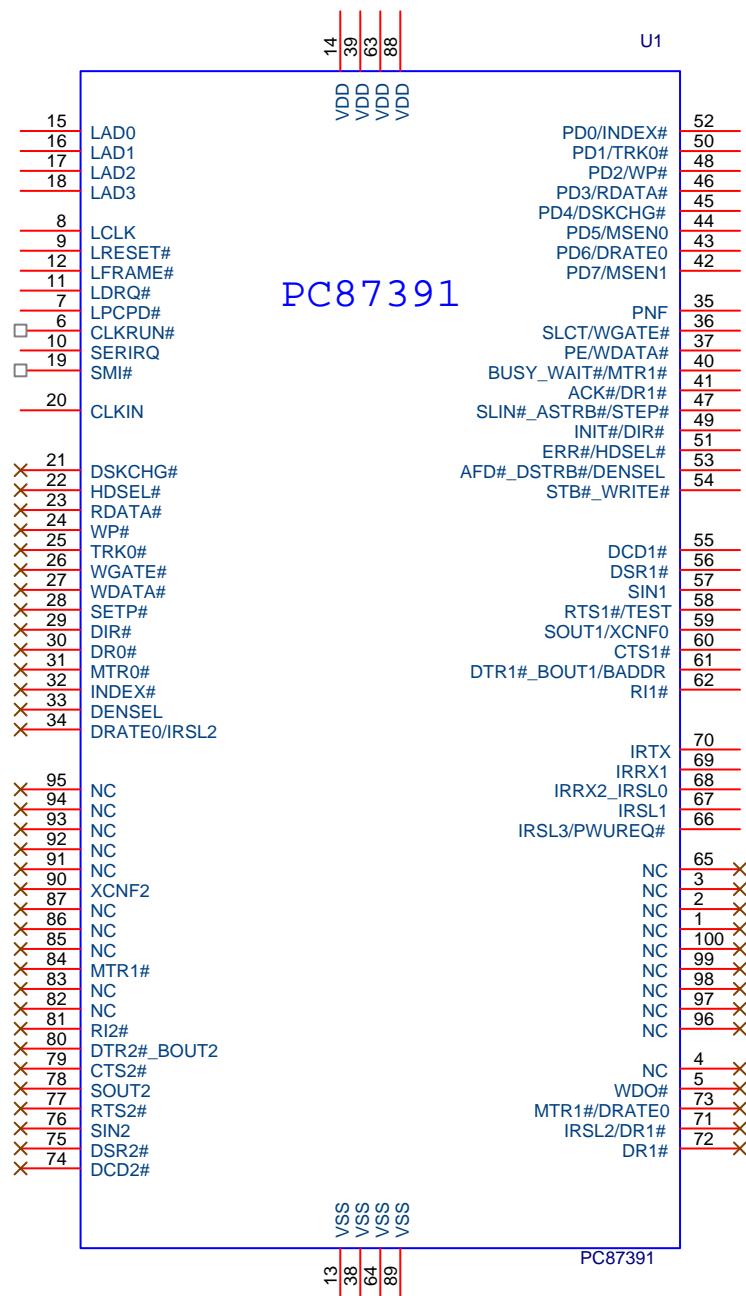


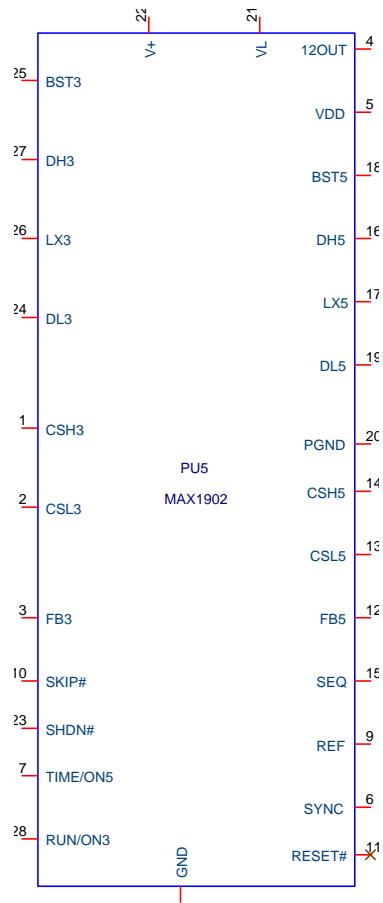
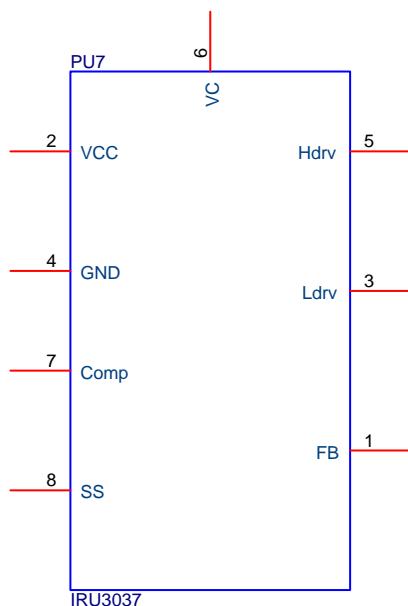
FLASH ROM(U26)


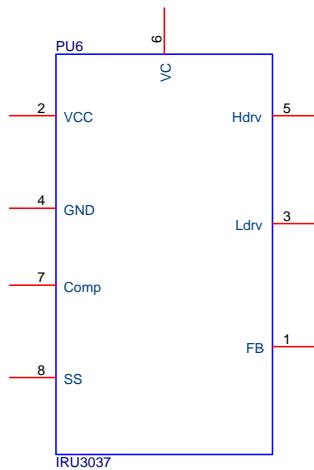
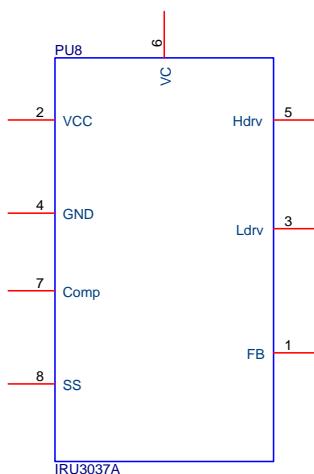
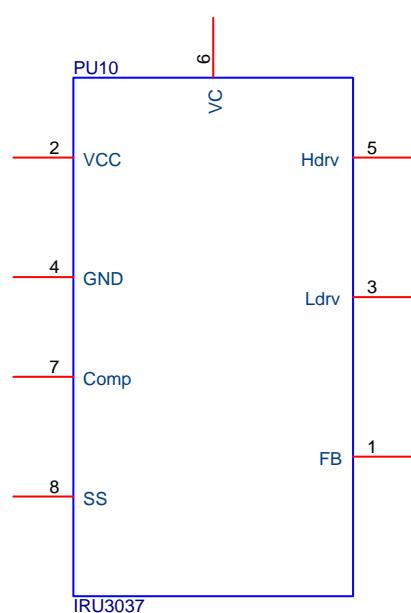
Flash ROM

CHARGER IC TL594 (PU4)

CPU CORE(PU20)


PC87391(U1)

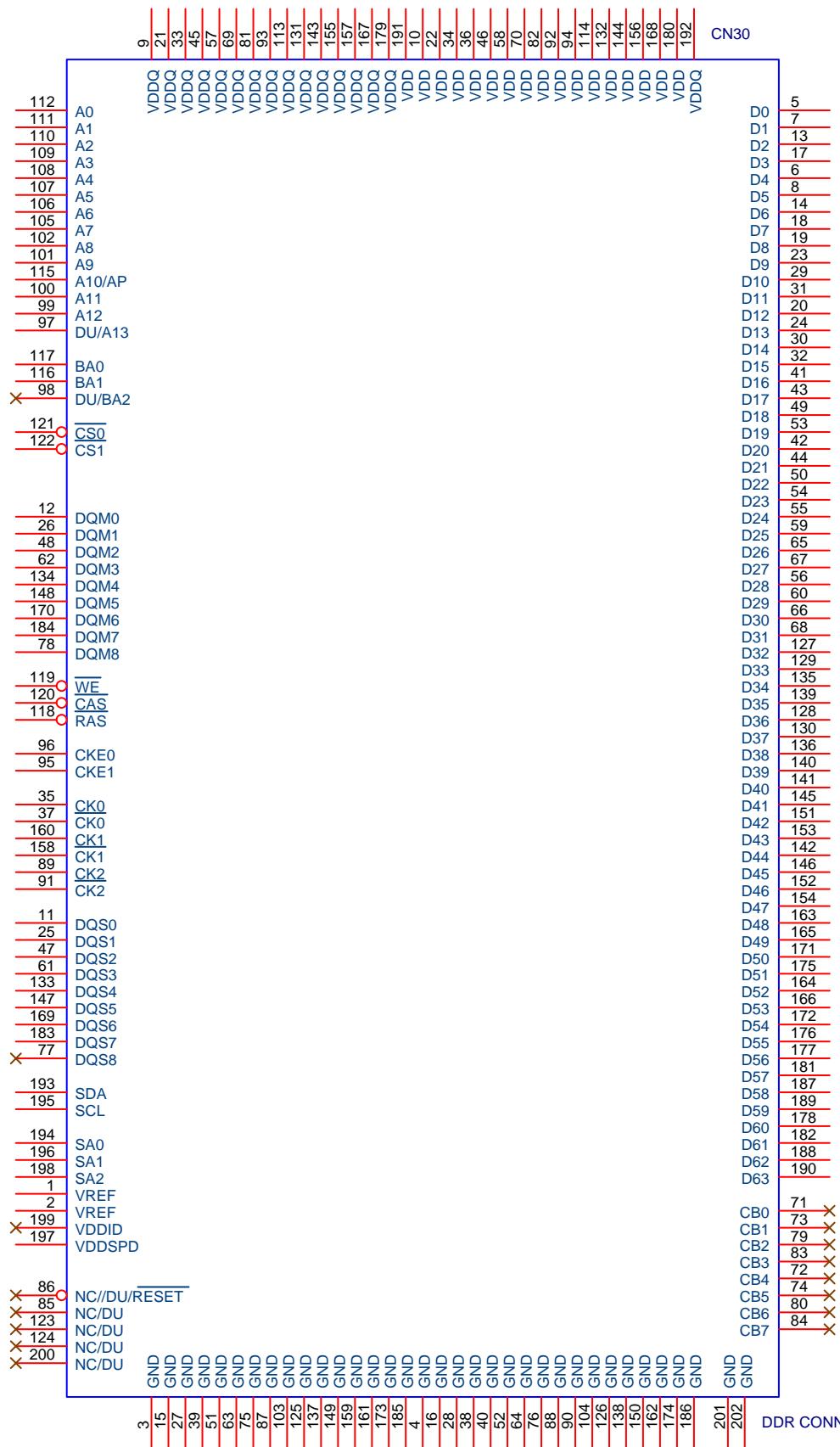


MAX1902(PU5)**1.8 AUX(PU7)**

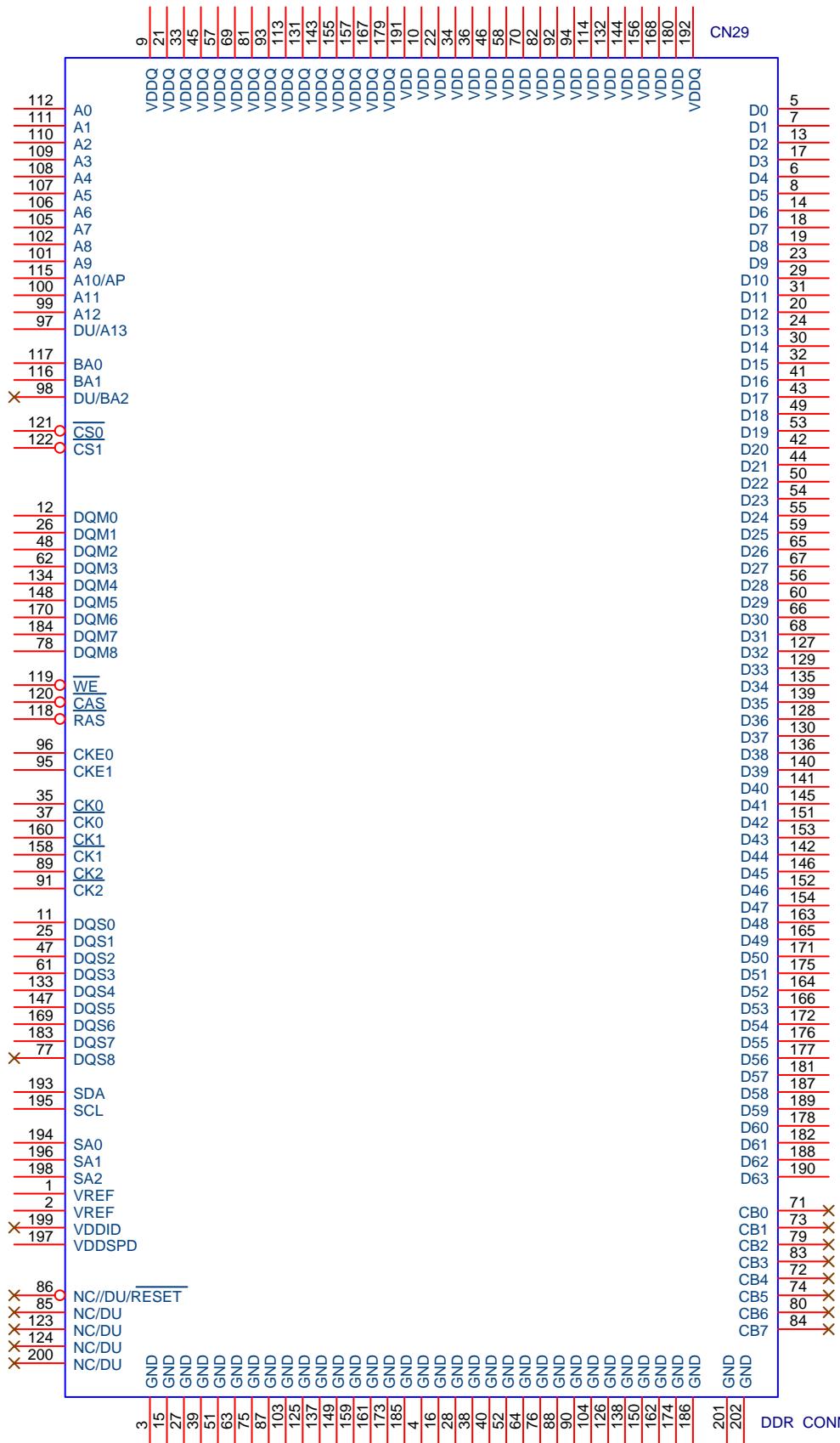
1.8 AUX(PU6)**2.5V / 1.25 / 1.2V(PU8)****2.5V / 1.25 / 1.2V(PU10)**

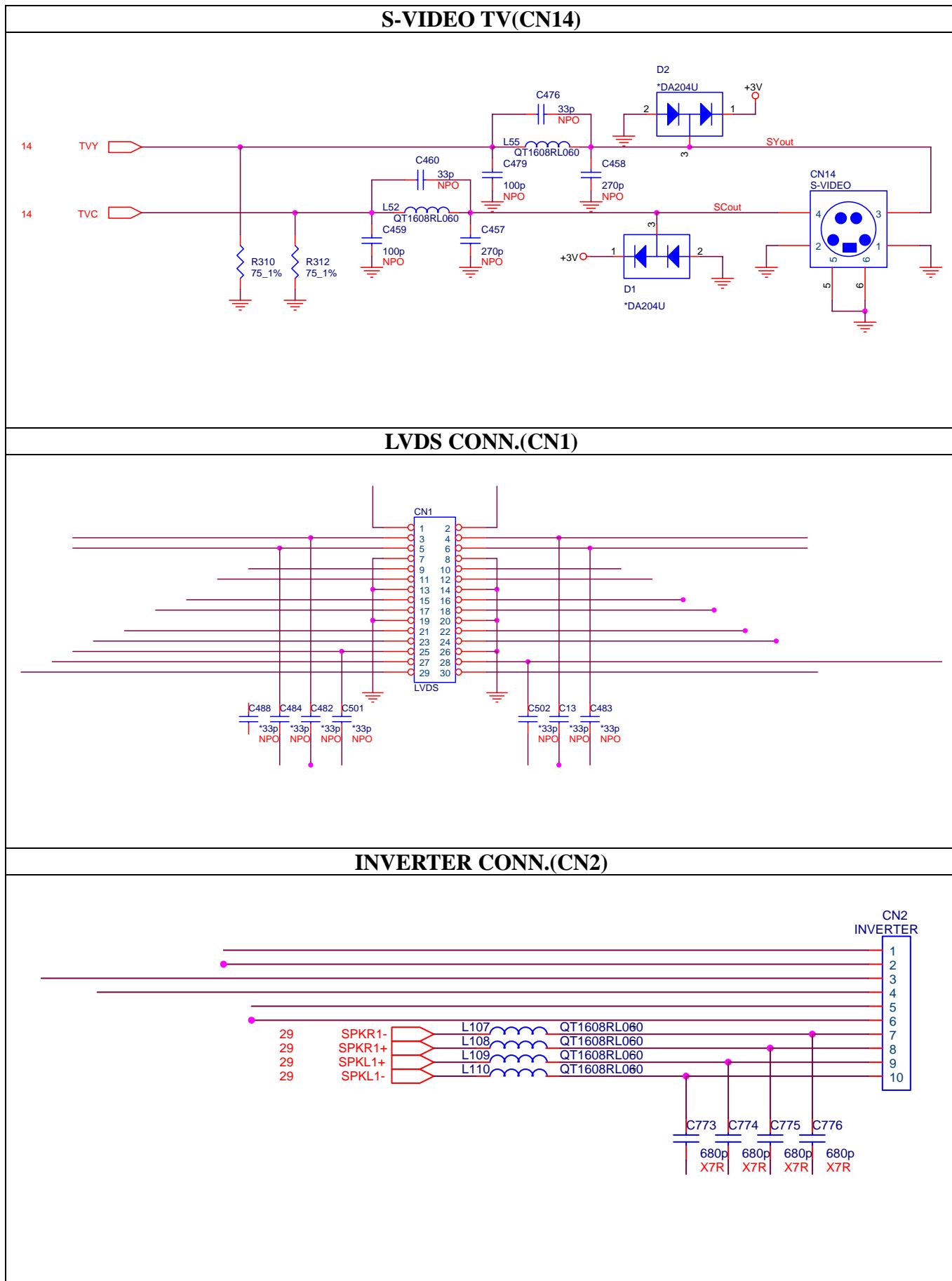
2.3 CONNECTOR DEFINITION:

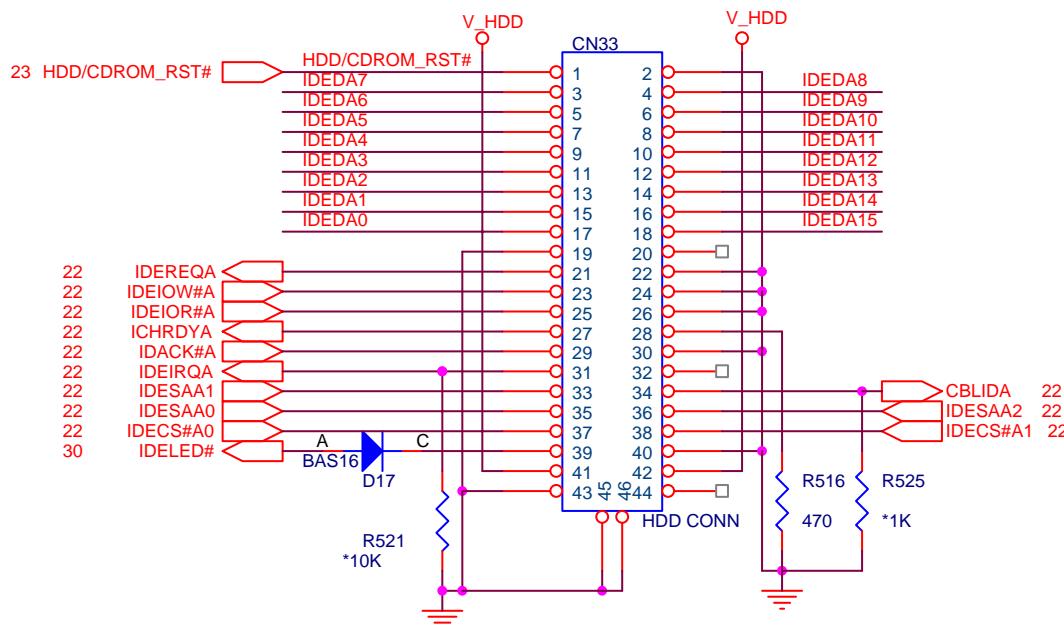
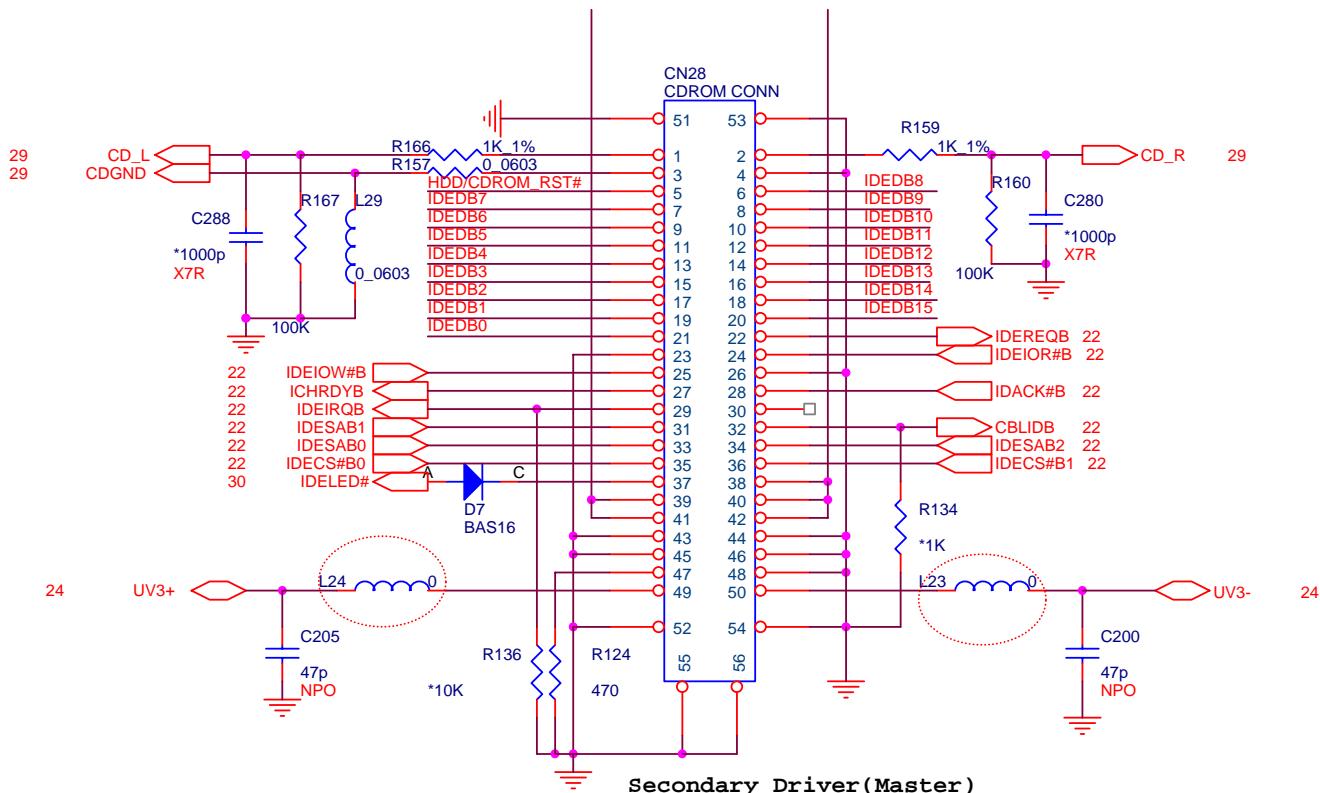
DDR CONN.(CN30)



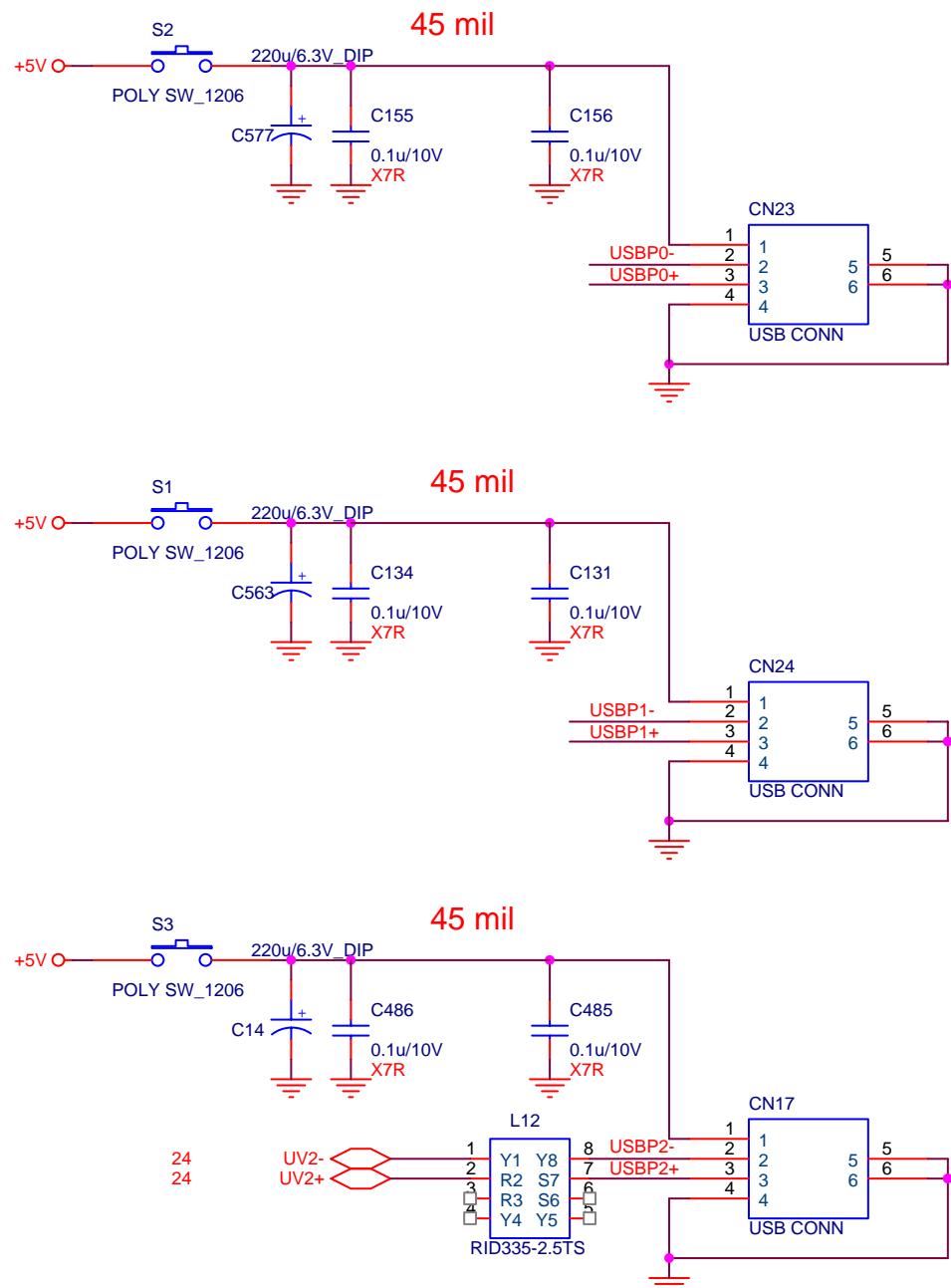
DDR CONN.(CN29)

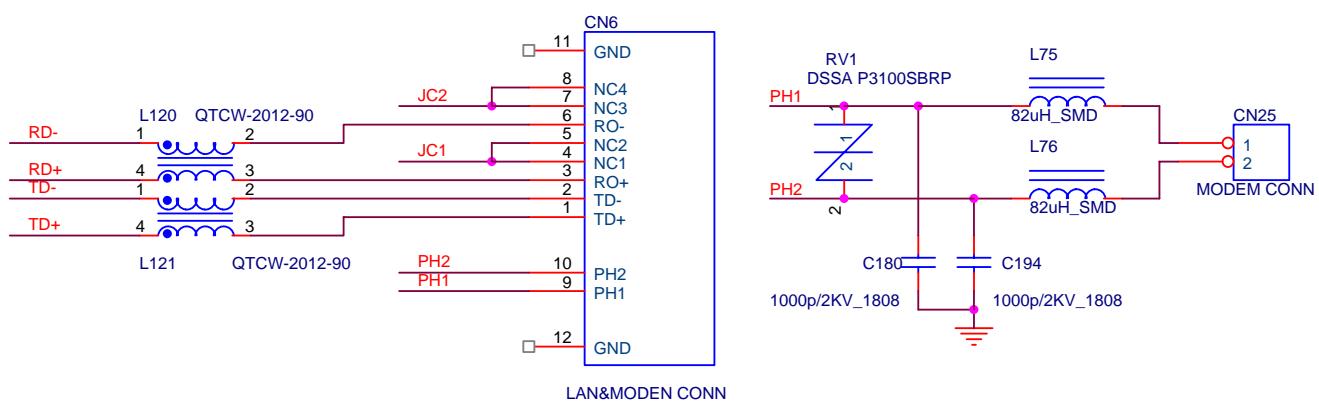
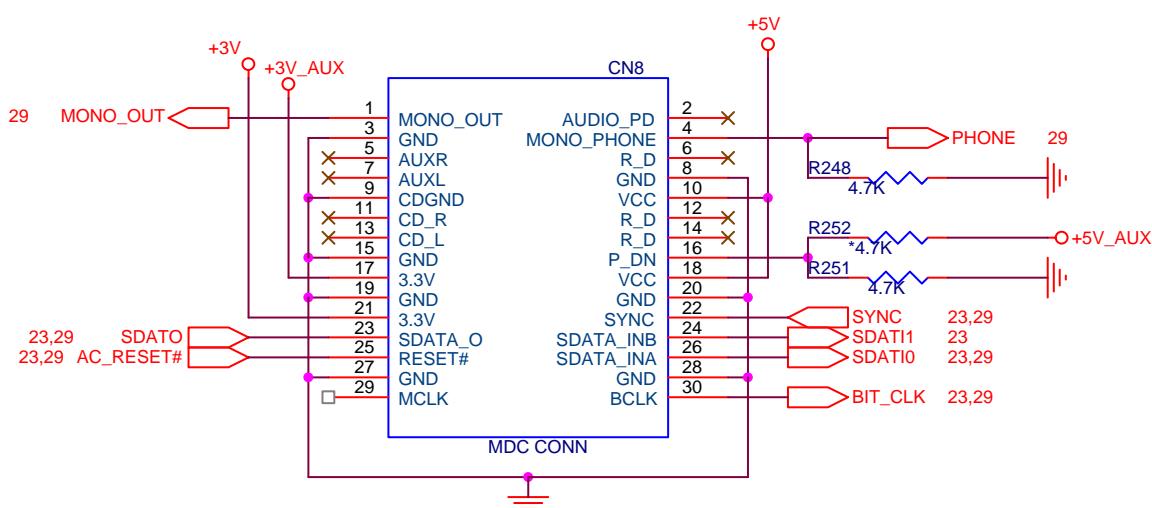


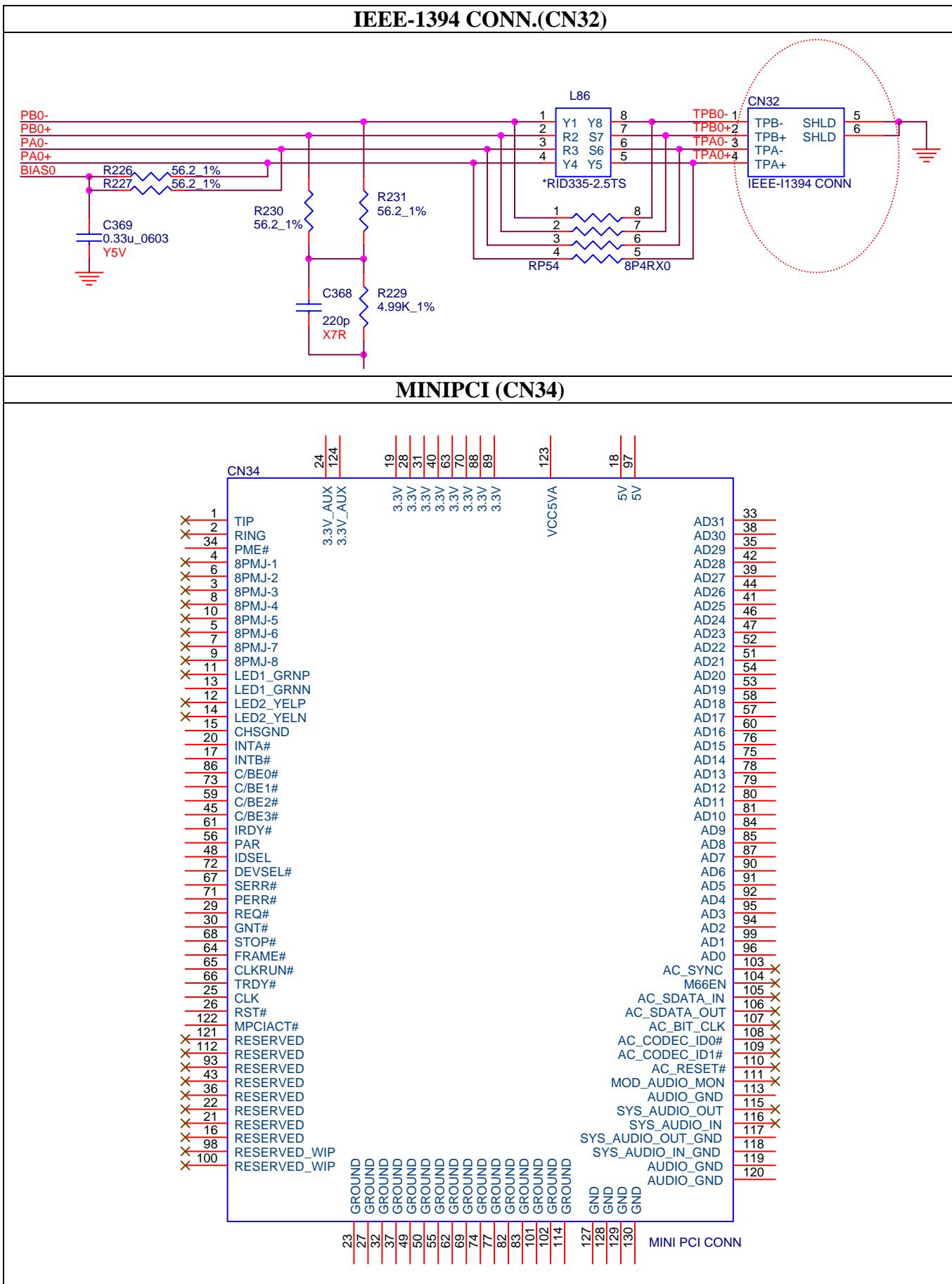


HDD CONN.(CN33)

CDROM CONN.(CN28)


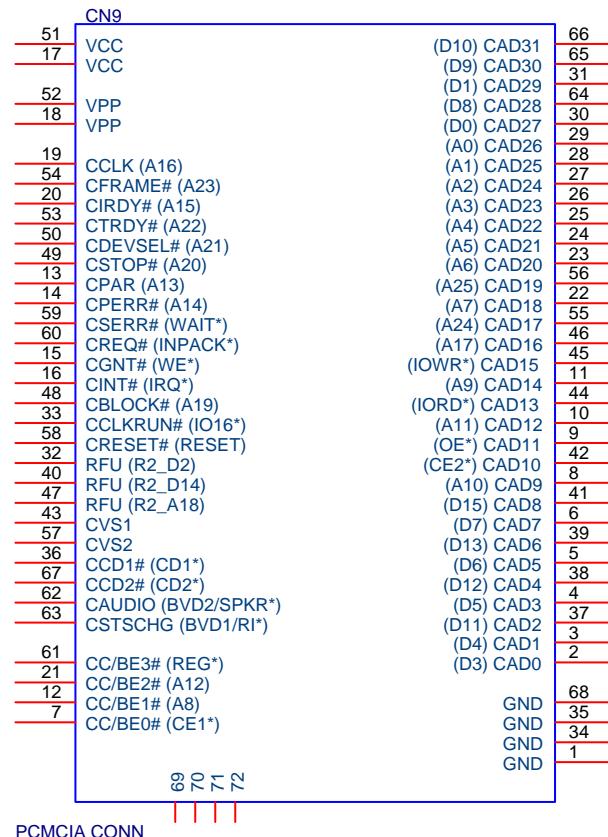
USB CONN.(CN23,CN24,CN17)



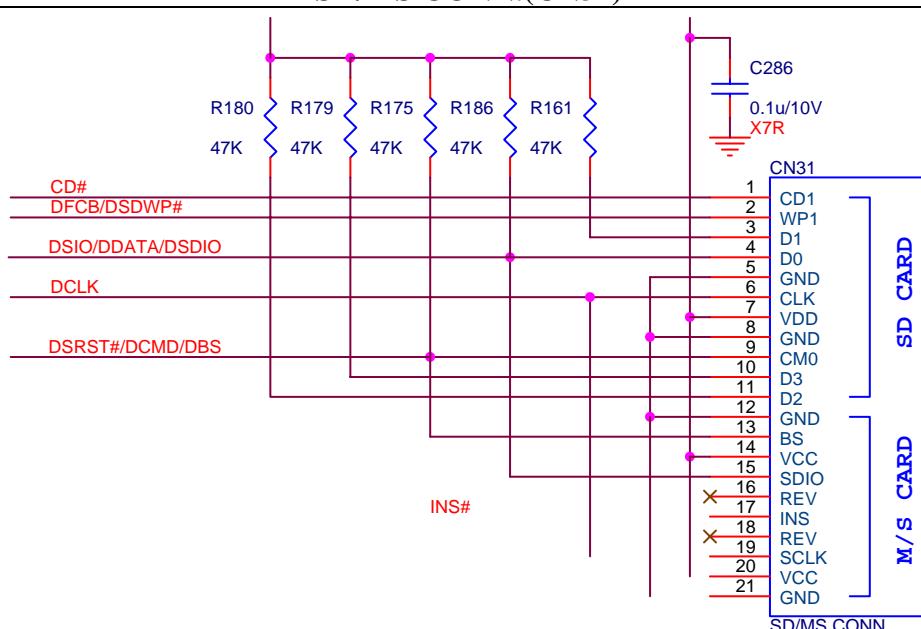
LAN&MODEM CONN.(CN6)(CN25)

MDC CONN.(CN8)




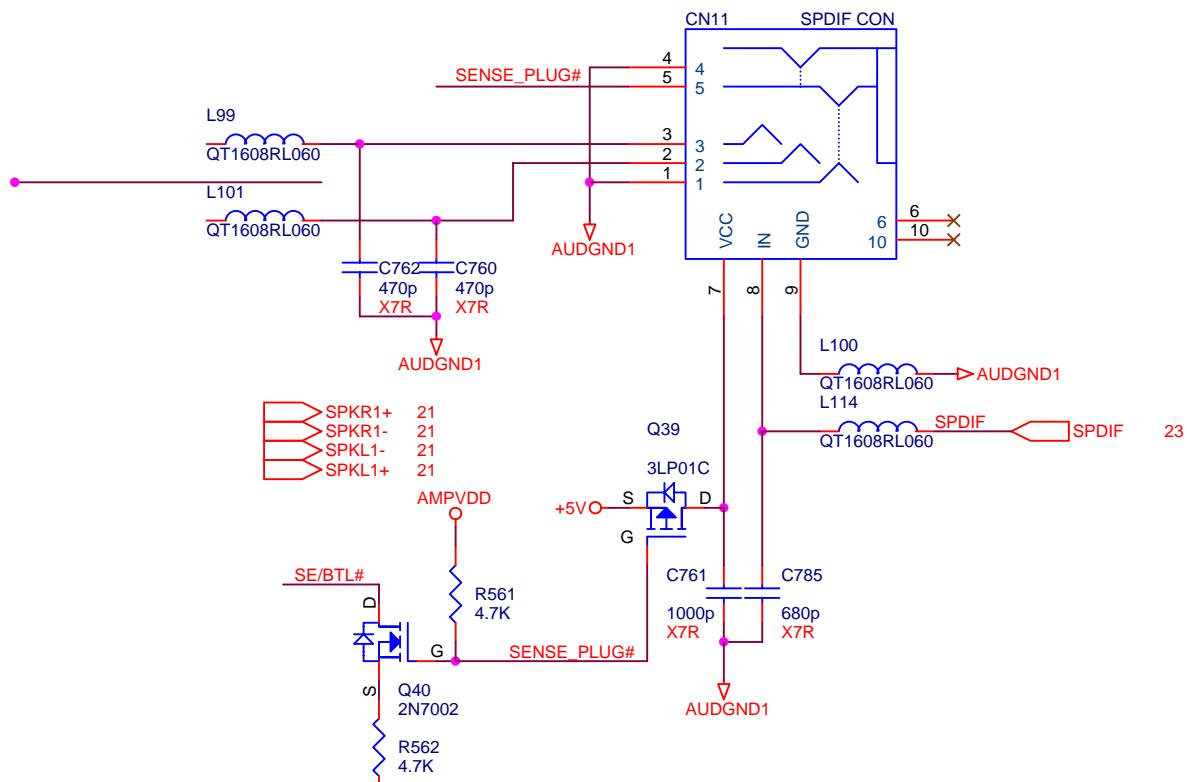
PCMCIA CONN.(CN9)



SD/MS CONN.(CN31)



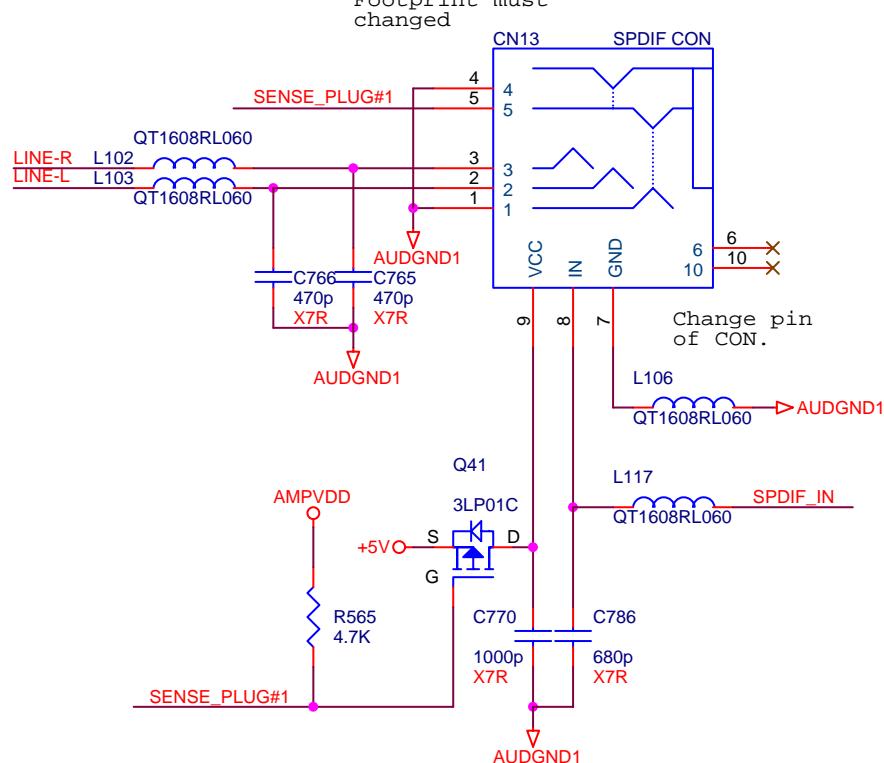
SPDIF OUT(CN11)

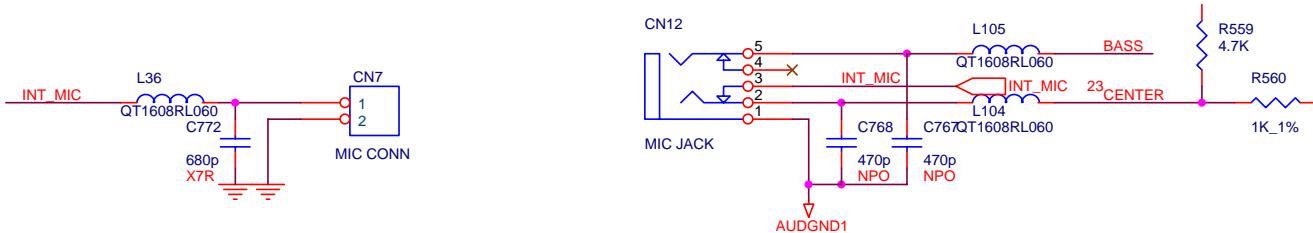
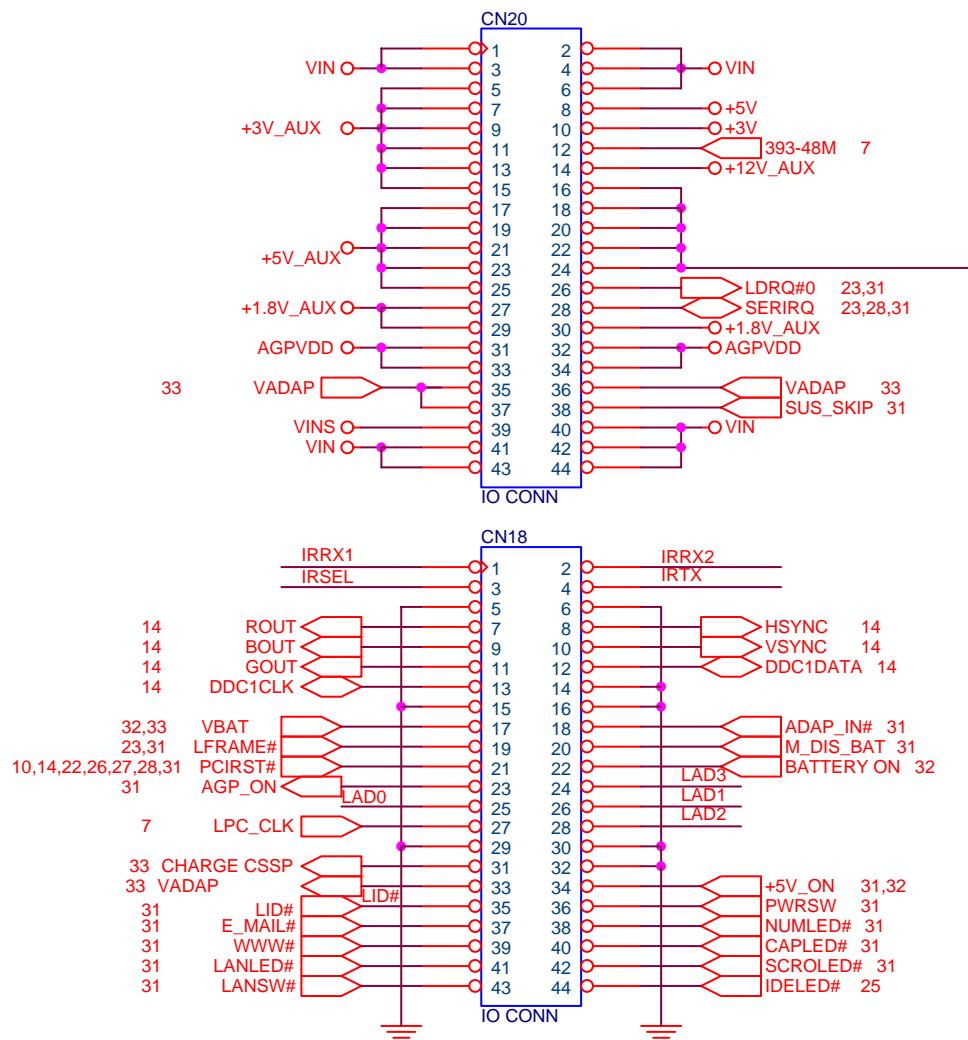


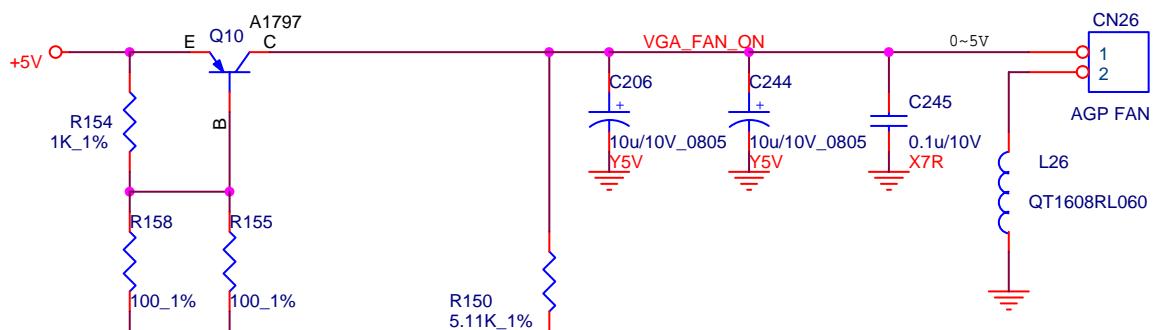
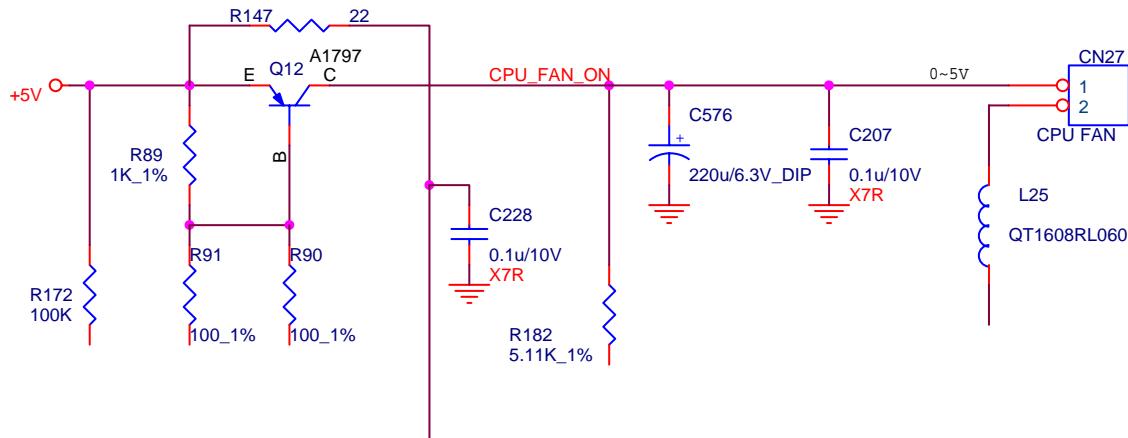
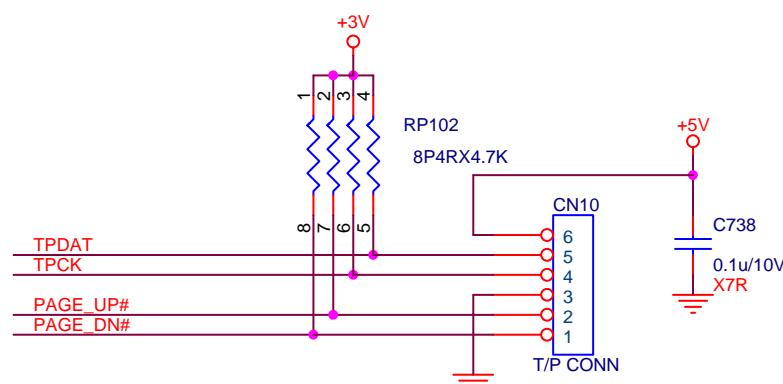
SPDIF IN(CN13)

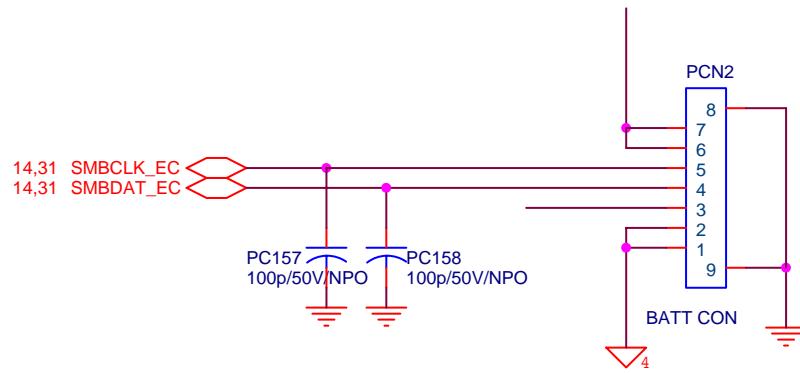
SPDIF IN

Footprint must
changed

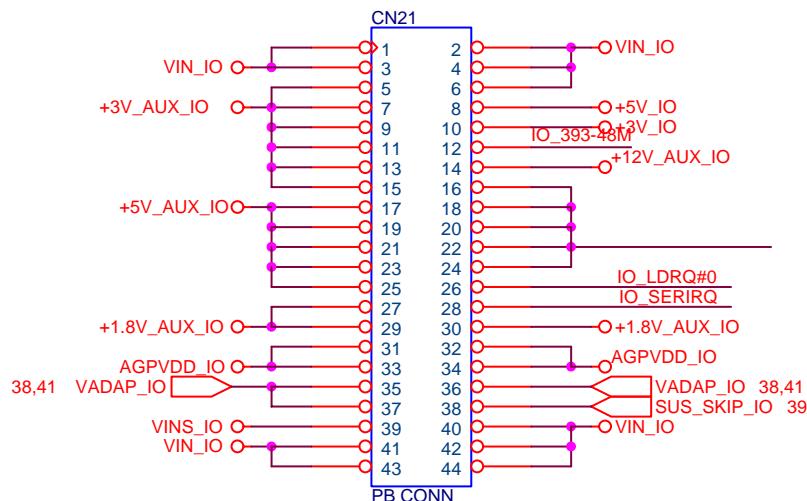


MIC JACK CONN.(CN7,CN12)

I/O CONN.(CN20,CN18)


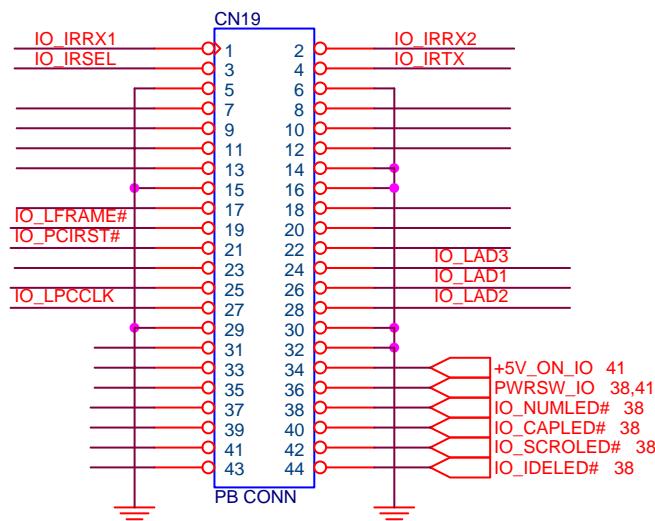
VGA FAN(CN26)**CPU FAN(CN27)****T/P CONN.(CN10)**

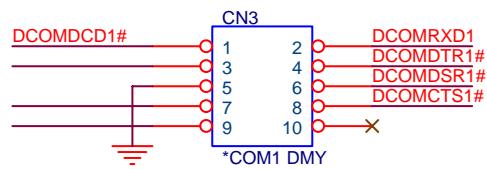
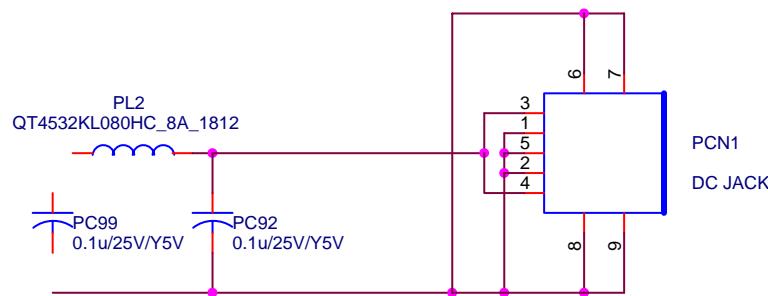
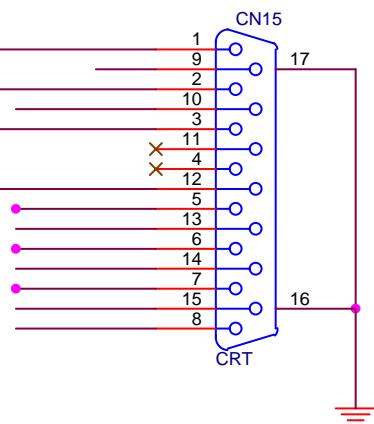
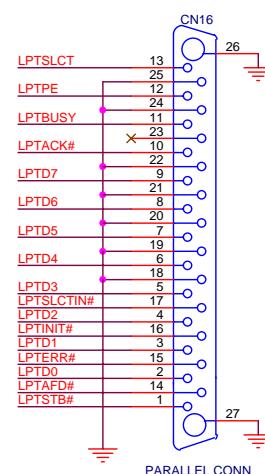


PB CONN.(CN21)



PB CONN.(CN19)



COM1 CONN.(CN3)

PCN1 DC JACK CONN.

CRT CONN.(CN15)

LPT CONN.(CN16)


Notebook PC Service Manual

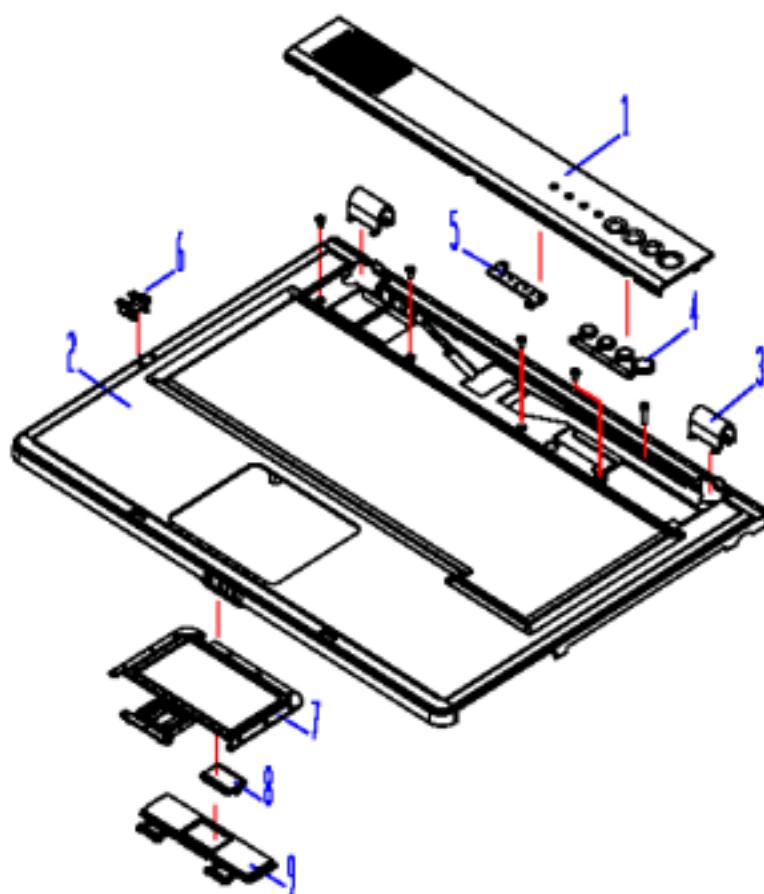
Model : 258SA0

Chapter 3 ***Explosion Chart***

UNIWILL COMPUTER CORP.
No. 24 Pei Yuan Road
Chung Li Industrial Park, Chung Li City
Tao Yuan, Taiwan,
R.O.C.
TEL: 886-3-461-6000
FAX: 886-3-461-6317
URL: [http:// www.uniwill.com.tw/](http://www.uniwill.com.tw/)

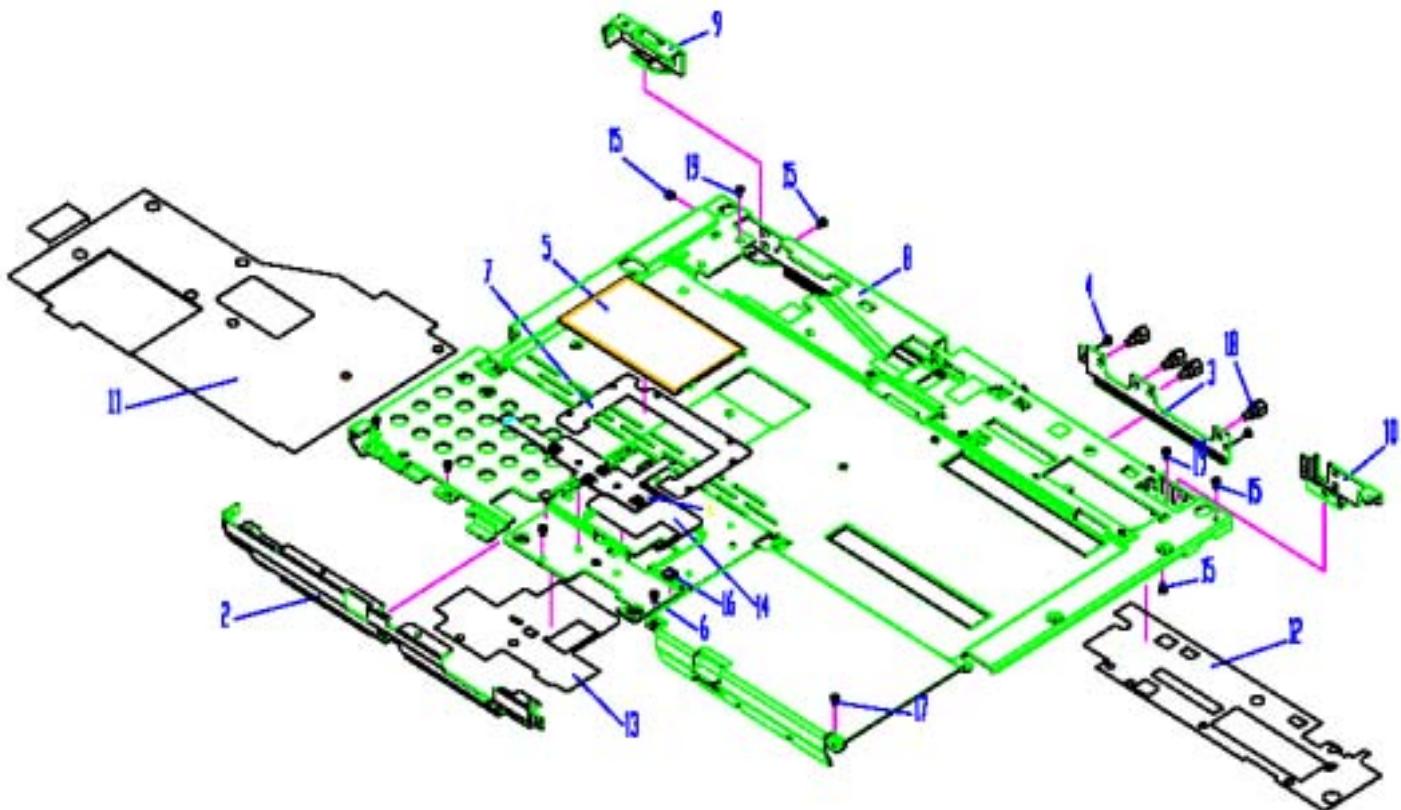
3.1. Top Cabinet Assembly	3
3.2. Top Housing Assembly.....	4
3.3. Mother Board Assembly.....	5
3.4. Bottom Assembly	6
3.5. HDD Assembly.....	7
3.6 CD/DVD/COMBO Assembly.....	8
3.7 LCD Module Assembly.....	9

3.1 Top Cabinet Assembly.



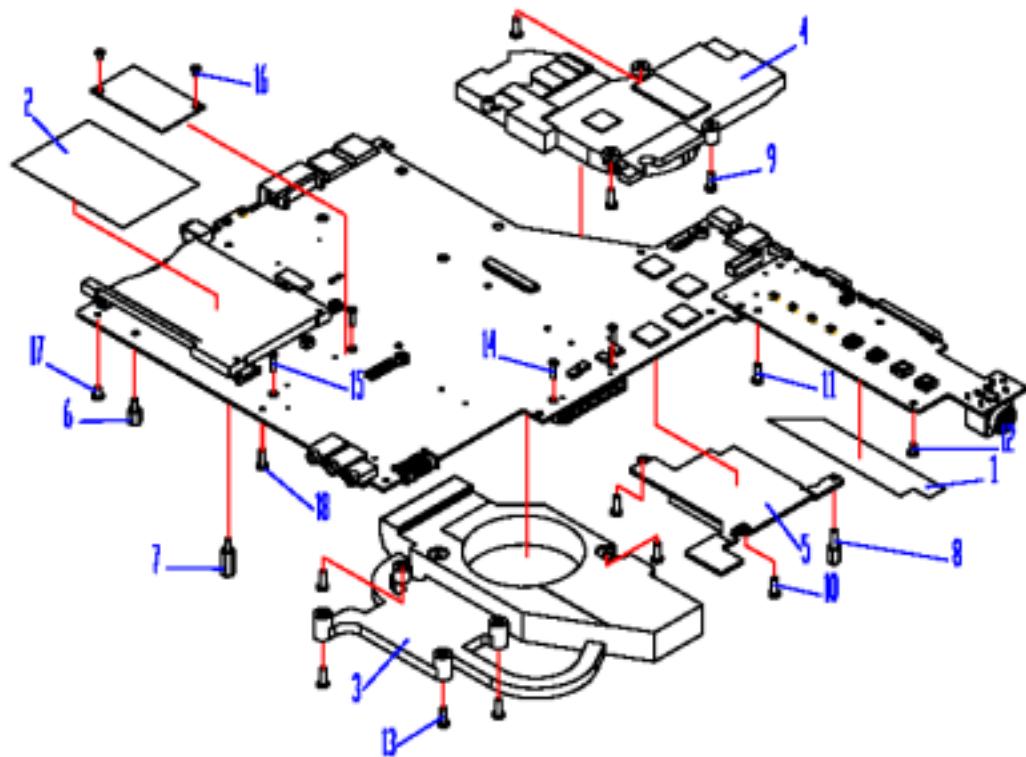
ITEM	PART NO.	DESCRIPTION	QTY
1	50-UD7052-00	COVER K/B ID1#8139 258SA0	1
2	50-UD7010-00	TOP CAB ID1#8138/8139 258SA0	1
3	50-UD7051-00	COVER HINGE #8139 258SA0	2
4	50-UD7082-00	BUTTTON POWER ID1 258SA0	1
5	50-UD7102-00	LENS STATUS ID1 258SA0	1
6	50-UD7101-00	LENS POWER 258SA0	1
7	50-UD7300-00	FRAME TOUCHPAD	1
8	50-UD7081-00	BUTTON SCROLLID1#8100 258SA0	1
9	50-UD7080-00	BUTTON TOUCHPAD ID1#8100 258SA0	1
10	41-720120-03	SCREW M2.0X3 I #1 NI	4
11	41-720620-06	SCREW M2.0X6 I #1 BNI	1

3.2 Top housing Assembly.



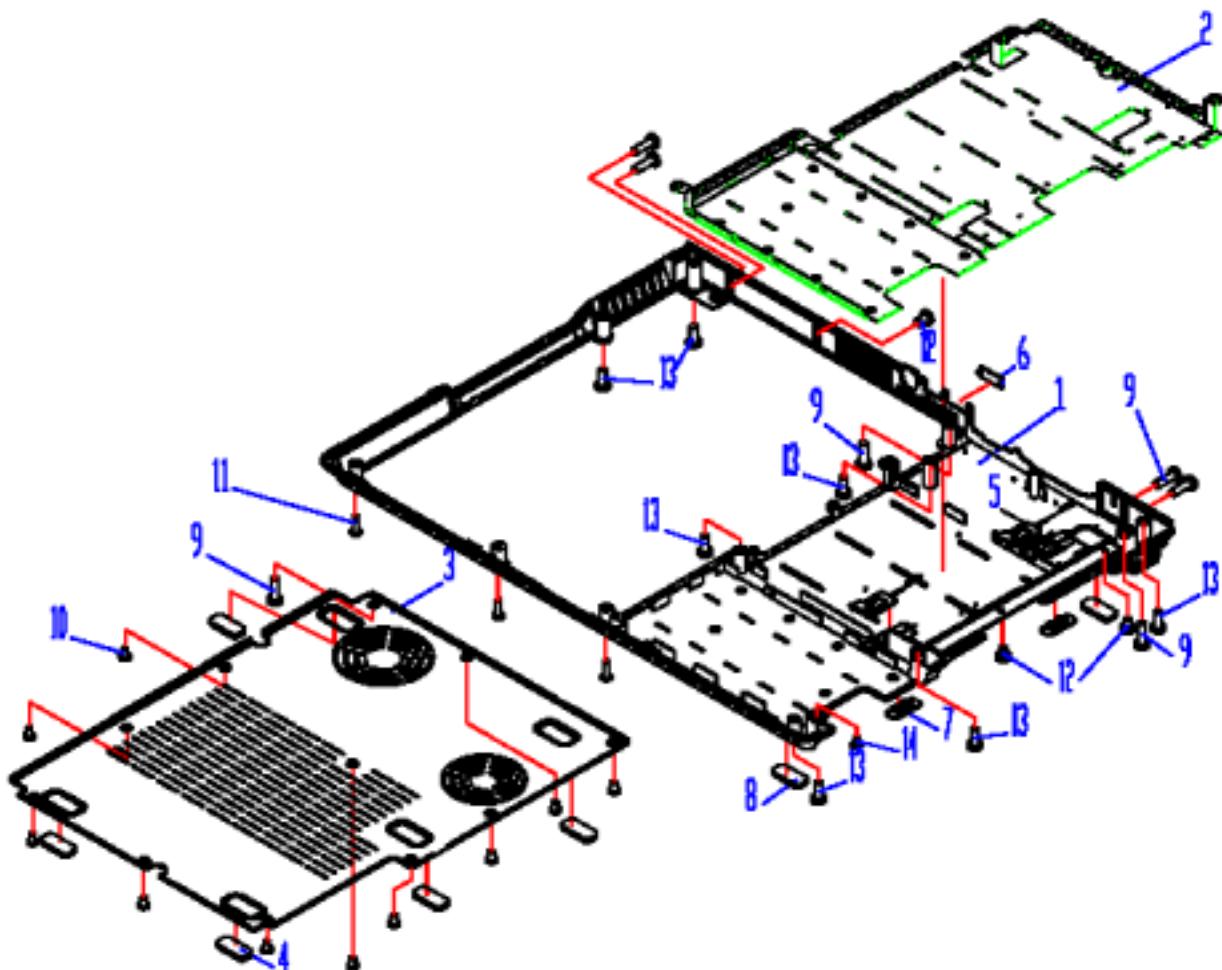
ITEM	PART NO.	DESCRIPTION	QTY
1	29-UD7030-00	FPC TOUCHPAD (SUNFLEX) 258SA0	1
2	40-UD7025-00	BRACKET AUDIO 258SA0	1
3	40-UD7026-00	BRACKET I/O	1
4	41-760120-04	SCREW M2.0X0.4X4L I #1 NI	2
5	73-080041-00	TOUCHPAD TN42DA9307 SYNAPTICS	1
6	41-760120-04	SCREW M2.0X 0.4X4L I #1 NI	4
7	27-300080-00	ADHESIVE TAPE T/P T-4000 T=0.1mm 258SA0	1
8	40-UD7023-00	BRACKET TOP HOUSING 258SA0	1
9	40-UD7024-00	BRACKET HOUSING SKELETON-L	1
10	40-UD7024-10	BRACKET HOUSING SKELETON-R	1
11	50-UD7212-00	MYLAR TOP HOUSING (K/B) 258SA0	1
12	50-UD7212-10	MYLAR TOP HOUSING (DC/B) 258SA0	1
13	50-UD7212-20	MYLAR TOP HOUSING(T/P BUTTON) 258S0	1
14	50-UD7212-30	MYLAR TOP HOUSING (T/P)258SA0	1
15	41-760120-04	SCREW M2.0X0.4X4L I #1 NI	4
16	51-UD7023-00	SPONGE CR-4305 5X5X4.15 258SA0	2
17	41-720120-06	SCREW M2.0X6 I #1 NI	1
18	41-300002-21	HEX D4.8X10.2L #4-40	4
19	41-720120-04	SCREW M2.0X4 I #1 NI	2

3.3 Main Board Assembly.

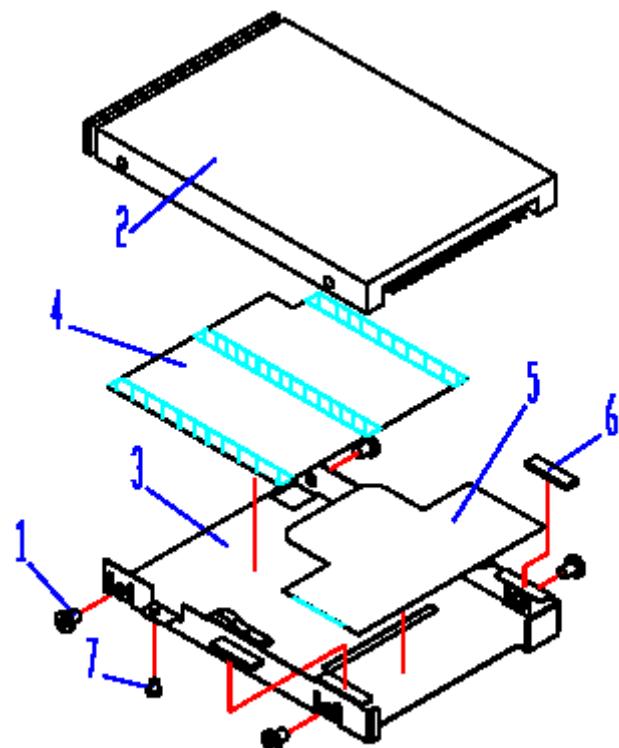


ITEM	PART NO.	DESCRIPTION	QTY
1	50-UD7211-20	MYLAR FOR CD ROM 258SA0	1
2	50-UD7211-10	MYLAR FOR PCMCIA 258SA0	1
3	40-UD7710-00	THERMAL MODULE FOR 258SA0	1
4	40-UD7041-00	VGA SINK(ROBIN-SUNON) FOR 258SA0	1
5	40-UD7040-00	SIS SINK FOR 258SA0	1
6	41-670425-06	SCREW M2.5X6 (HEX X 6.5) STEEL-NI	1
7	41-671425-06	SCREW M2.5X6(HEX X 12.7) STEEL -IN	1
8	41-672425-05	SCREW M2.5X5(HEX X 7.1)STEEL -IN	1
9	41-720125-06	SCREW M2.5X6 I#1 NI	3
10	41-720125-06	SCREW M2.5X6 I#1 NI	2
11	41-720125-06	SCREW M2.5X6 I#1 NI	1
12	41-720125-04	SCREW M2.5X4 I #1 NI	1
13	41-721125-04	SCREW M2.5X4 PAN NI ASSY SPR	5
14	41-720102-09	SCREW M2.0X9 D3.5 T0.8 I #1 NI	2
15	41-720102-09	SCREW M2.0X9 D3.5 T0.8 I #1 NI	2
16	41-720120-04	SCREW M2.0X4 I #1 NI	2
17	41-720120-04	SCREW M2.0X4 I #1 NI	2
18	41-720120-06	SCREW M2.0X6 I #1 NI	2

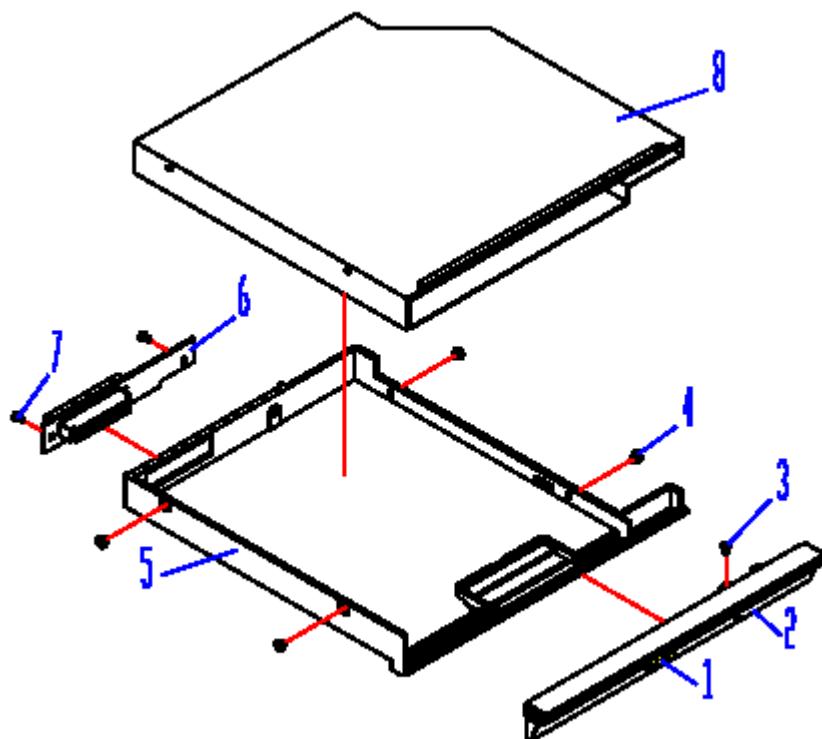
3.4 Bottom Cabinet Assembly.



ITEM	PART NO.	DESCRIPTION	QTY
1	50-UD7020-00	BTM CAB #8086 258SA0	1
2	40-UD7031-00	SHIELDING BOTTOM 259SA0	1
3	40-UD7022-00	BRACKET DOORBTM #8086 258SA0	1
4	52-UD7010-00	RUBBER FOOT (BLACK) 258SA0	5
5	50-UD7072-00	HOOK BATT #8086 258SA0	2
6	50-UD7103-00	LENS IR 258SA0	1
7	50-UD7090-00	LATCH BATT #8086 258SA0	2
8	52-UD7010-00	RUBBER FOOT(BLACK)258SA0	2
9	41-720025-08	SCREW M2.5X8 I #1 BNI AND NYLOK	7
10	41-720620-04	SCREW M2.5X8 I #1 BNI	10
11	41-720620-06	SCREW M2.0X6 I #1 BNI	3
12	41-720625-04	SCREW M2.5X4 I #1 BNI	3
13	41-720625-06	SCREW M2.5X6 I #1 BNI	6
14	41-760120-03	SCREW M2.0X3 H=0.4 I #0 NI	1

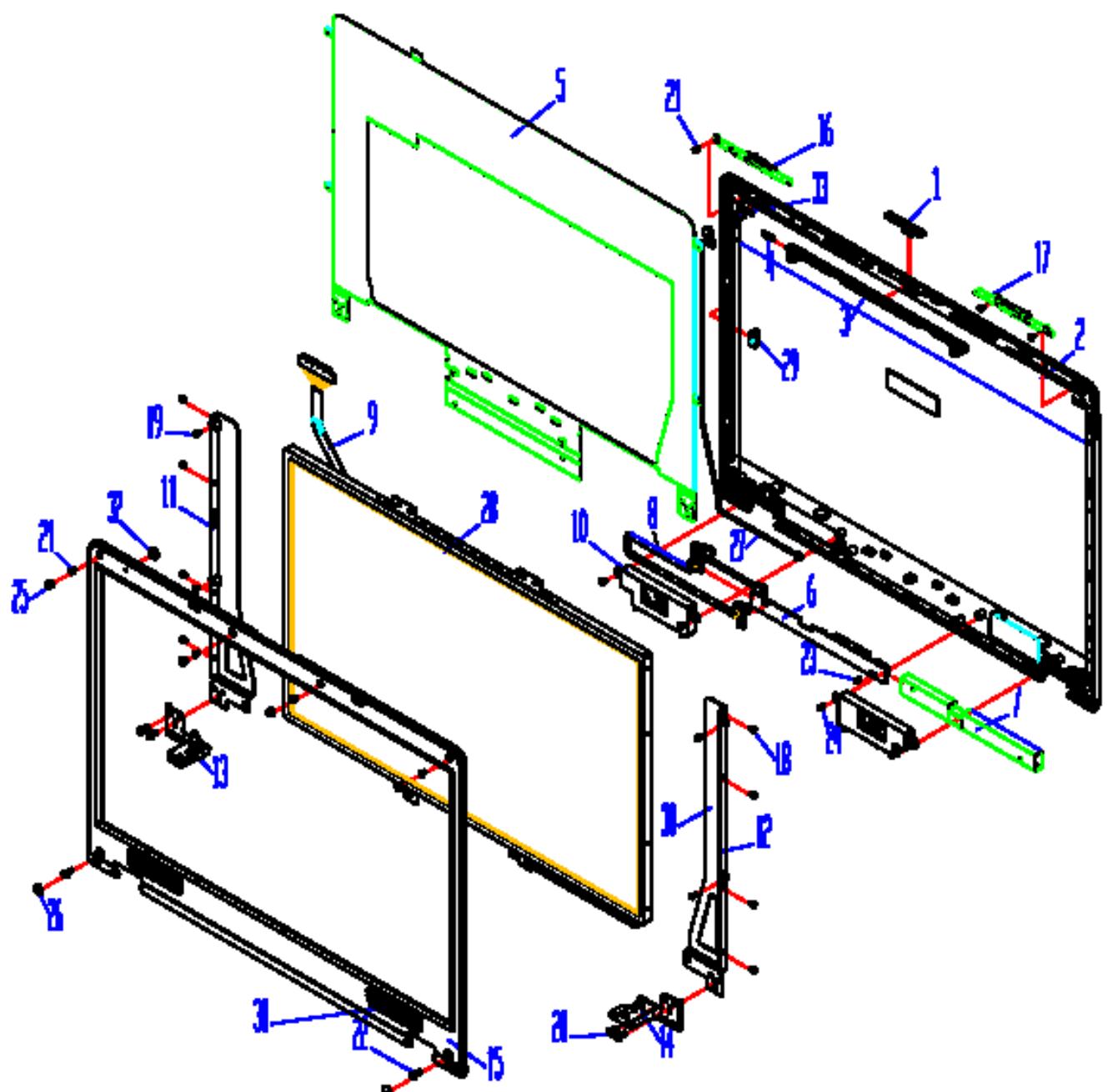
3.5 HDD Assembly.

ITEM	PART NO.	DESCRIPTION	QTY
1	41-720130-04	SCREW M3X4mm I NI	4
2	70-822400-10	HDD 40GB MK4021GAS TOSHIBA	1
3	40-UD7027-00	BRACKET HOLDER HDD258SA0	1
4	50-UD7213-00	MYLAR HDD 258SA0	1
5	50-UD7213-10	MYLAR HDD PULL BAR 258SA0	1
6	52-UD7030-00	RUBBER HDD 15X4X12 NR 258SA0	2
7	41-720120-04	SCREW M2.0X4 I #NI	1

3.6 CD/DVD/COMBO Rom Assembly.

ITEM	PART NO.	DESCRIPTION	QTY
1	50-UD7073-00	KNOB COMBO QUA #8086 258SA0	1
2	50-UD7130-00	BEZEL COMBO QUA #8086 258SA0	1
3	41-910217-03	SCREW TP1.7X3 I #0 BLACK H=0.6	1
4	41-720C02-25	SCREW M2X2.5 H=0.4 D=3.5 I#0 NI+NYLOK	4
5	50-UD7160-00	HOLDER CD-ROM #8086 258SA0	1
6	80-UD7020-00B	PCB CD ROM TRASFER BD ASSY	1
7	41-720120-06	SCREW M2.0X6 I #1 NI	2
8	70-210030-10	COMBO 24X 24R/24RW/8D SBW-242U	1

3.7 LCD Module Assembly.



ITEM	PART NO.	DESCRIPTION	QTY
1	50-UD7070-00	KNOB FOR LCD #8100 258SA0	1
2	50-UD 7040-00	BACK CAB 15.4" ID1 #8100 258SA0	1
3	50-UD7071-00	HOOK LCD 15.4" #8098 258SA0	1
4	40-U54060-10	SPRING FOR LCD HOOK N34AS1	1
5	40-UD7030-00	SHIELDINGAL FOR LCD 15.4" 258SA0	1
6	76-030003-3A	INVERTER SAMPO DIVTN0D03-D11-R3A	1
	76-030562-1B	INVERTER DELTA DAC-08B031 R0B	1
	76-033128-3A	INVERTER SUMIDA IVI3I28T/D2 REV3A	1
7	50-UD7211-00	MYLAR FOR LCD INVERTER 258SA0	1
8	29-UD7060-00	CABLE FOR 15.4" LCD INVERTER CNI 258SA0	1
	29-UD7060-10	CABLE FOR 15.4" LCD INVERTER HL 258SA0	1
9	29-UD7051-00	CABLE COAXIAL LCD 15.4"XGA HT 258SA0	1
	29-UD7051-10	CABLE COAXIAL LCD 15.4"SXGA CMI 258SA0	1
10	22-325140-00	SPEAKER ASSY FG-2514 1.5W 258SA0	1
11	40-UD7021-00	BRACKET -L FOR LCD 15.4" 258SA0	1
12	40-UD7021-10	BRACKET-R FOR LCD 15.4" 258SA0	1
13	40-UD7050-00	HINGE-L LCD 15.4"(SZS)258SA0	1
14	40-UD7050-10	HINGE-R LCD 15.4"(SZS)258SA0	1
15	50-UD7030-00	FRONT CAB 15.4" #8100258SA0	1
16	22-600061-00	ANTENNA&CABLE WLAN HANNSTAR L895 258SA0	1
17	22-600060-00	ANTENNA&CABLE WLAN HANNSTAR R960 258SA0	1
18	41-720120-03	SCREW M2.0X3 I #1 NI	8
19	41-720520-03	SCREWM2.0X3I NI+NYLOK INSIDE	4
20	41-720525-06	SCREW M2.5X6 I #1 NI +NYLOK	4
21	41-720120-04	SCREW M2.0X4I #1 NI	7
22	41-720525-06	SCREW M2.0X6 I #1 NI+NYLOK	2
23	41-760120-04	SCREW M2.0X0.4X4L I #1 NI	2
24	41-720520-04	SCREW M2.0X4 NI+NYLOK I	4
25	52-U54023-01	RUBBER LCD UP #8079 N34AS1	4
26	50-U54215-00	MYLAR LCD FRONT CAB #B1D0 N34AS1	2
27	29-UD7081-00	CABLE CABLE FOR MIC PHONE 258SA0	1
28	72-115272-00	LCD 15.4"TFT WXGA TX39DB9VC1FAA HITAC	1
	72-115261-00	LCD TFT 15.4"WXGA N15II-L02 CM0	1
	72-115273-00	LCD 15.4"TFT LTN154X1-L02 SAMSUNG	1
	72-115274-00	LCD 15.4"TFTWXGA CLAA154WA01 CPT	1
	72-1152271-00	LCD15.4"TFT WSXGA+TX39D99VC1FAA HITAC	1
	72-115277-00	LCD 15.4"TFTWSXGA+LTN154P1-L02 SAM	1
29	40-UD7800-00	MAGNETIC FOR SUCPEND SENSOR 258SA0	1
30	51-UD7020-00	SPONGE CR-4305 65X15X1 258SA0	1
31	50-UD7140-00	FELT 45X20X0.25 FOR LCD FRONT 258SA0	2
32	51-UD7021-00	SPONGE FOR CABLE NIC UP 25BSA0	1
33	51-UD7022-00	SPONGE FOR CABLE NIC UP 25BSA0	1

Notebook PC Service Manual

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Chapter 4 ***System Disassembly***

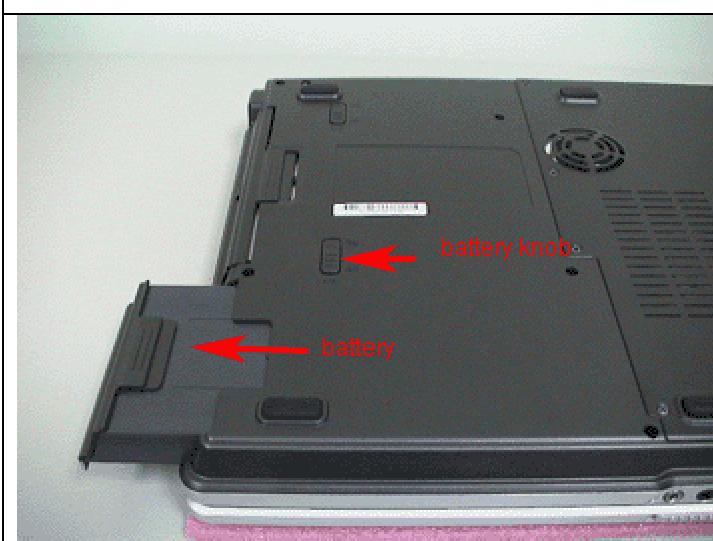
UNIWILL COMPUTER CORP.
No. 24 Pei Yuan Road
Chung Li Industrial Park, Chung Li City
Tao Yuan, Taiwan,
R.O.C.
TEL: 886-3-461-6000
FAX: 886-3-461-6317
URL: <http://www.uniwill.com.tw/>

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4.2. LCD Display Panel Disassembly Procedure.....	14

4.1. System Disassembly Procedures



1. Please refer to the disassembly procedures of the 258SA0.



2. Unlock the battery knob and pull out the battery pack.



3. Unlock the cd rom knob and pull out the cd rom.



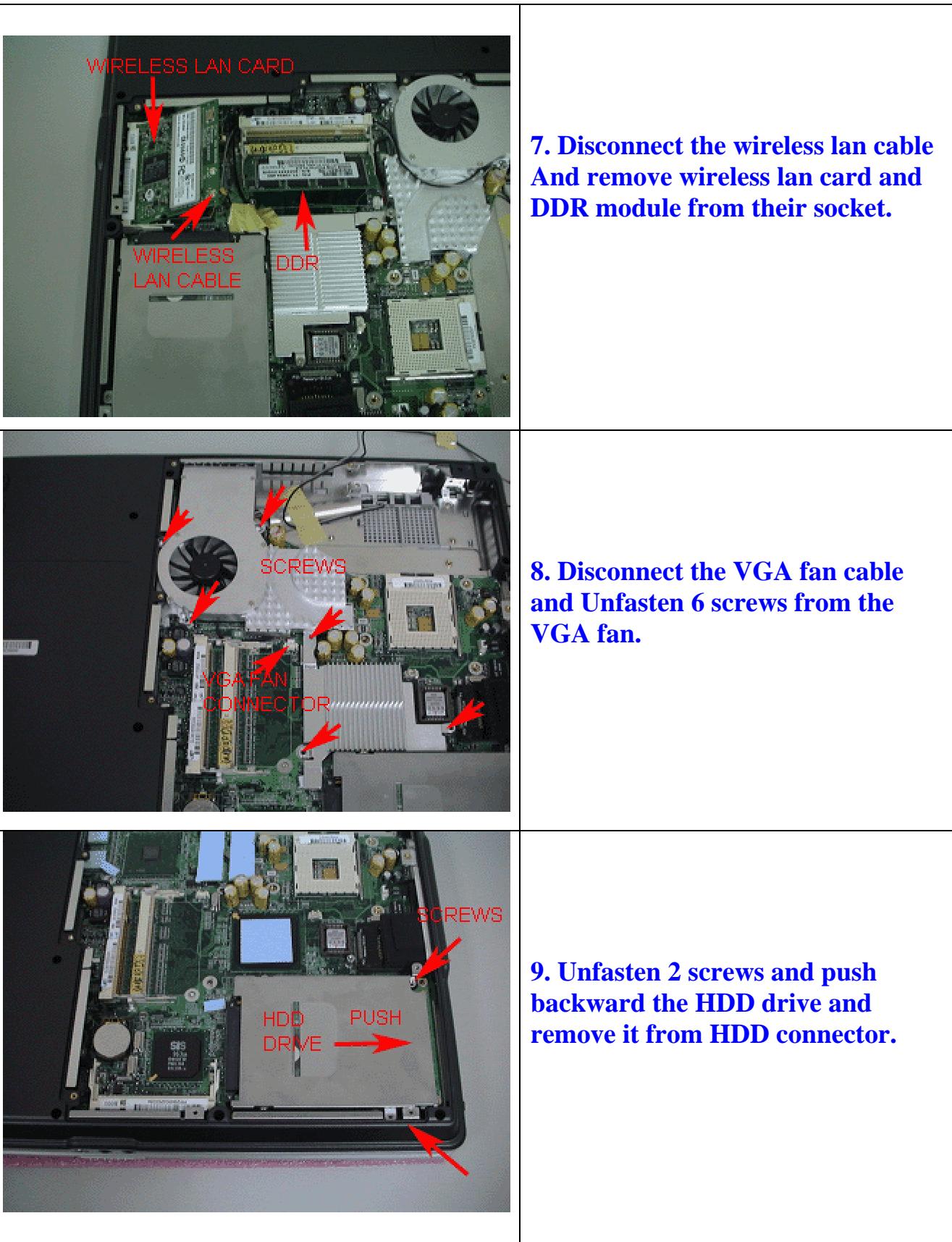
4. Unfasten 11 screws and remove the CPU and VGA cover.



5. Unfasten 6 screws, disconnect the Cpu fan cable and remove the Cpu fan.

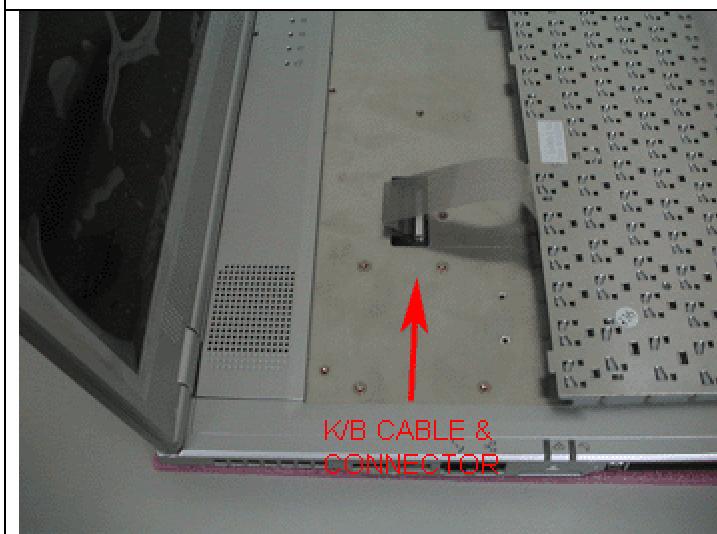


6. Lift up the CPU lever arm with an angel of 90 degree and remove the CPU.

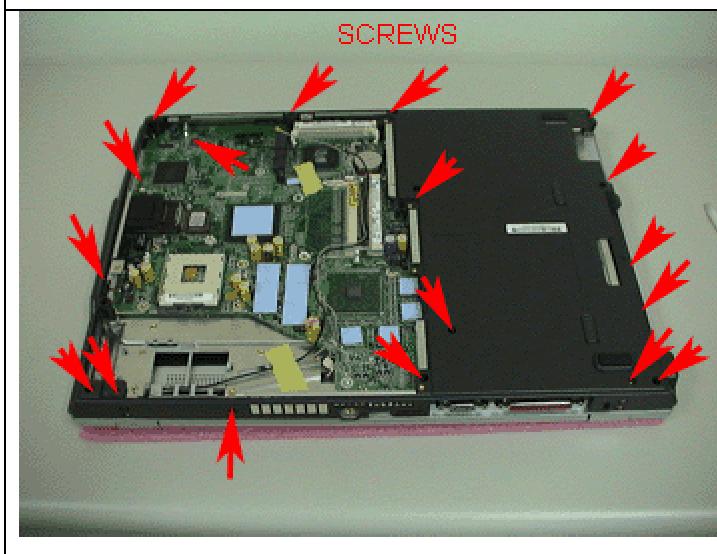




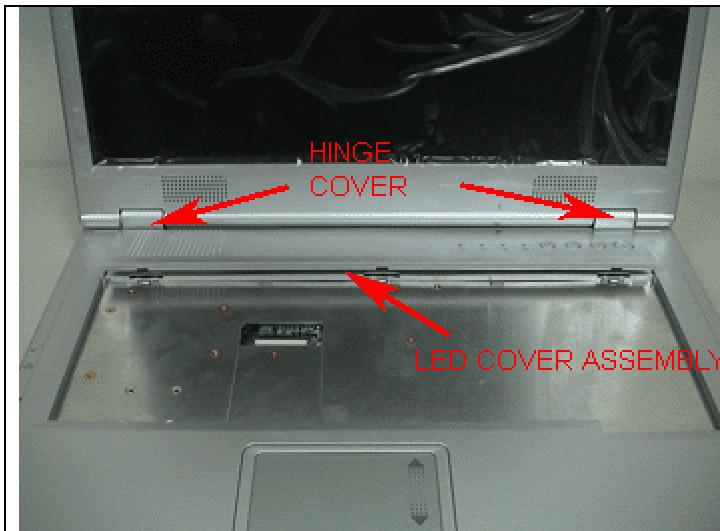
10. Unlock 3 latches of the keyboard.



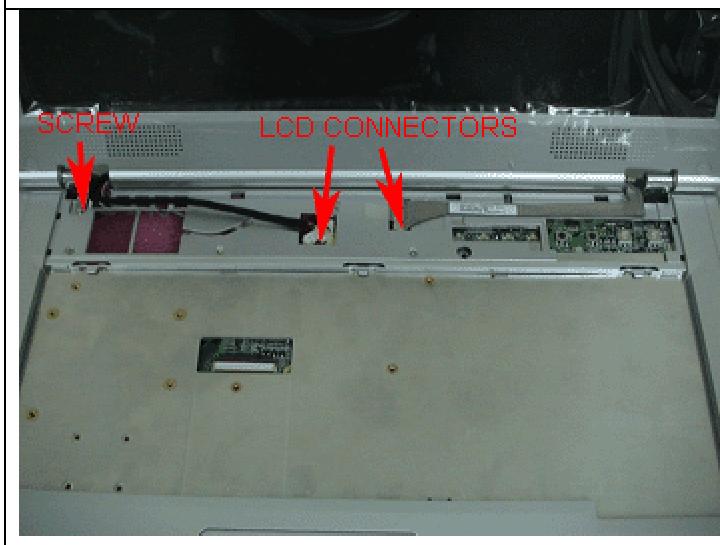
11. Disconnect K/B cable and remove the K/B.



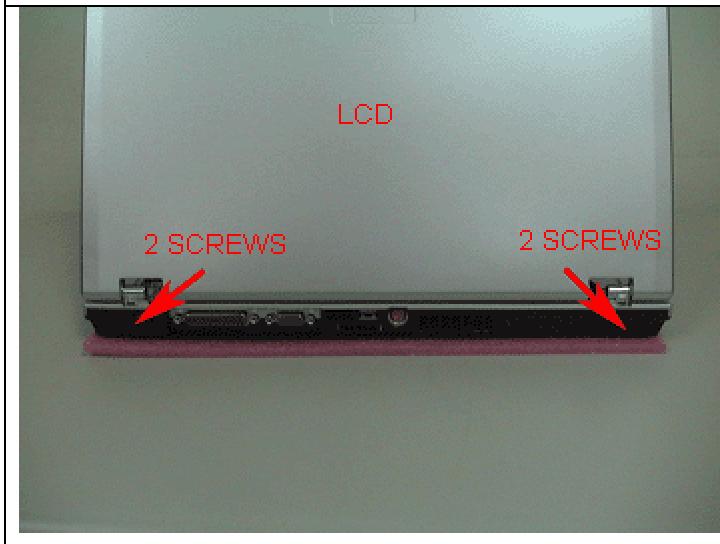
12. Unfasten 14 screws and 2 hexnuts.



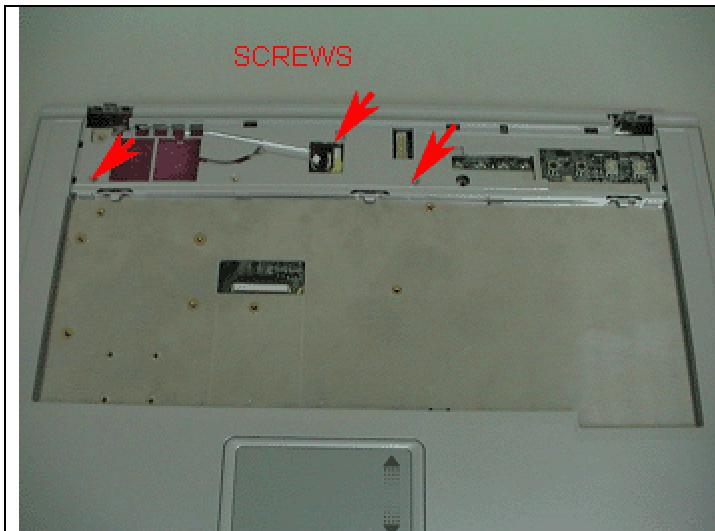
13. Remove the led cover assembly and remove the 2 hinge cover (left & right cover)..



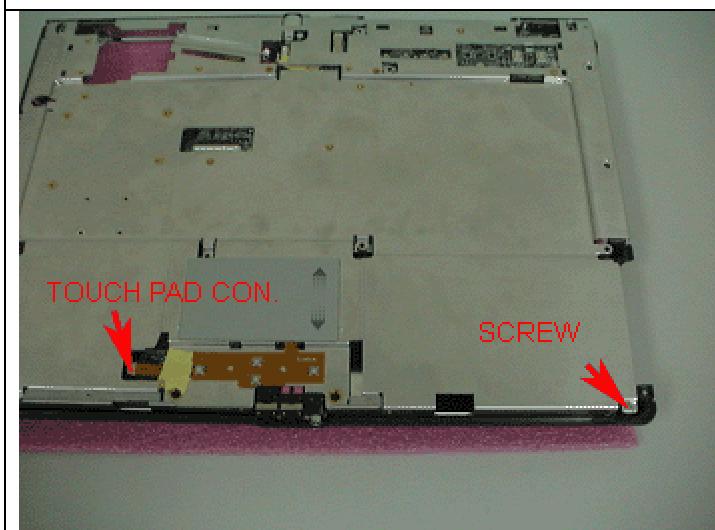
14. Unfasten 1 screw and disconnect the 2 LCD cables.



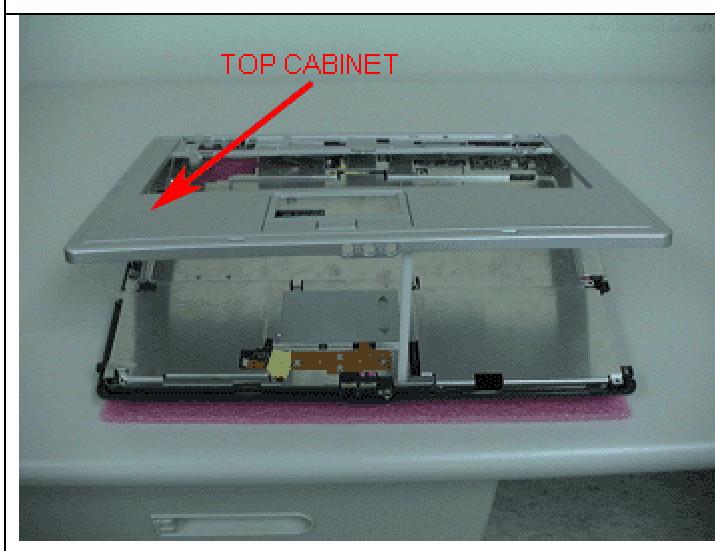
15. Unfasten 4 screws of the hinge (2 left&2 right)and remove the LCD gently.



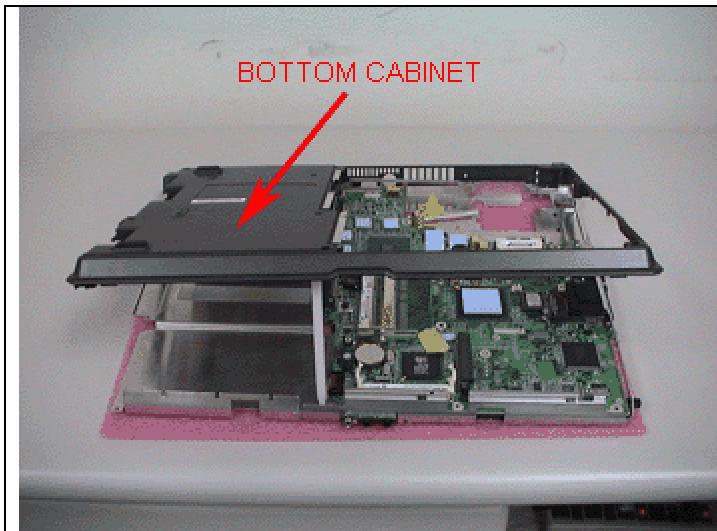
16. Unfasten 3 screws of the top cabinet..



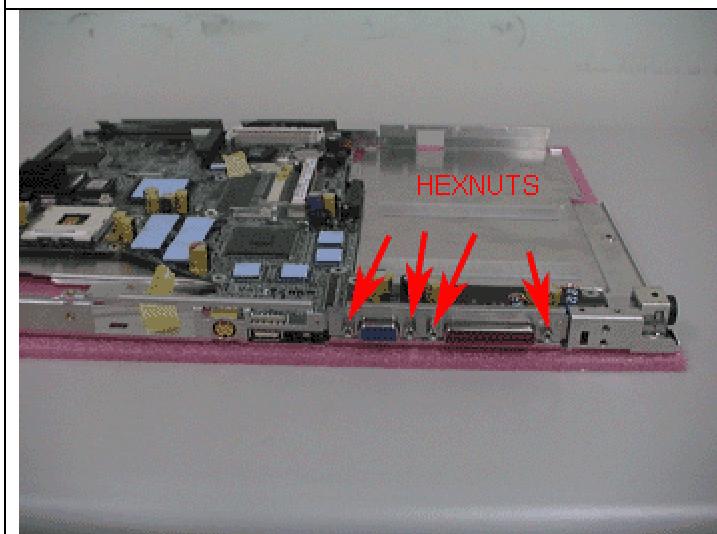
17. Unfasten 1 screw and disconnect touch pad cable..



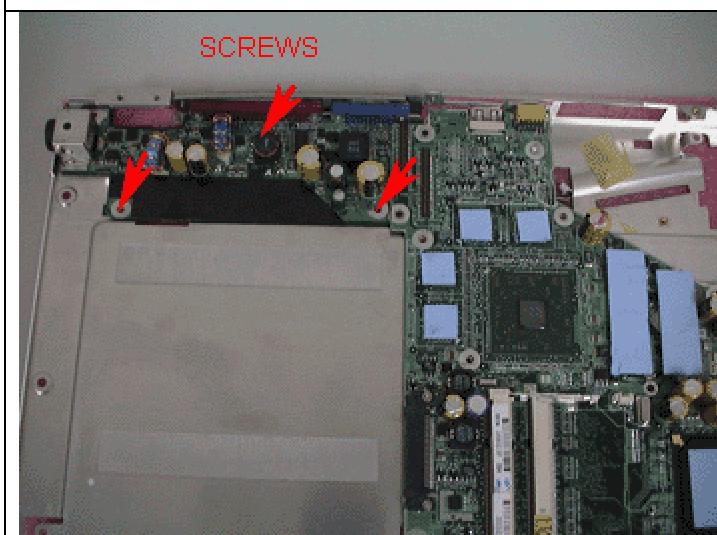
18. Remove Top housing cabinet gently.



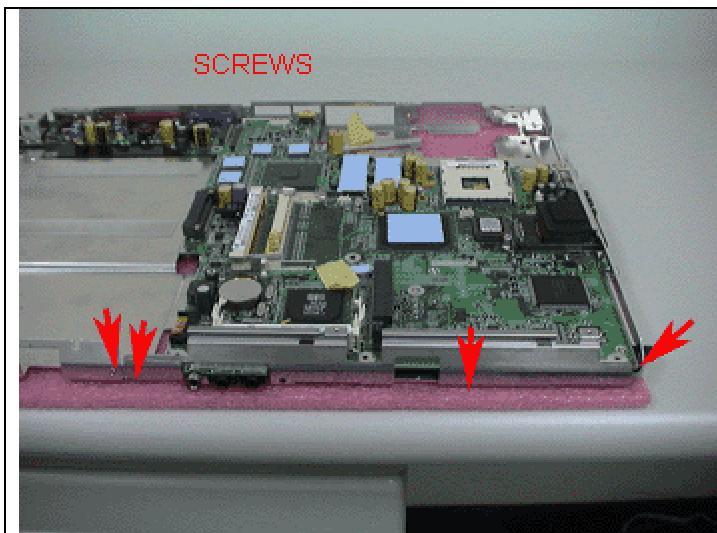
19. Remove the bottom housing cabinet gently.



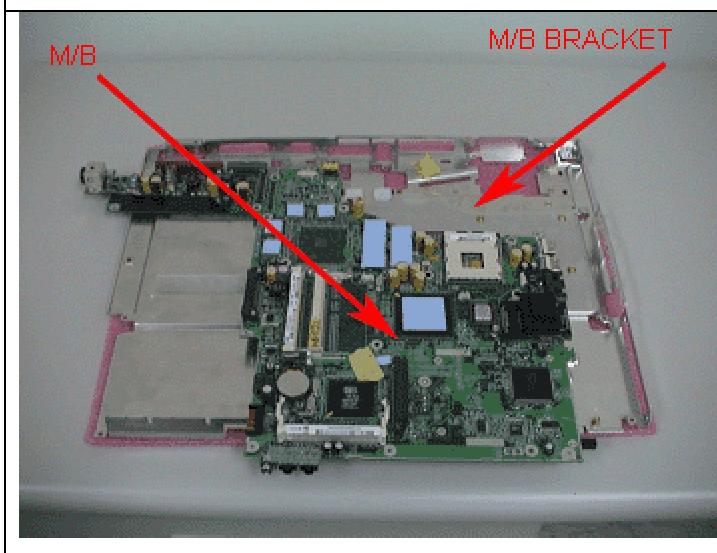
20. Unfasten 4 hexnuts.



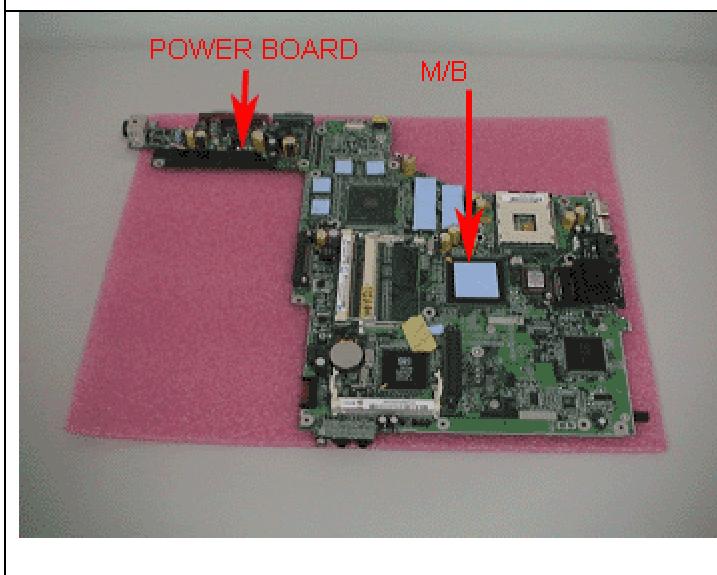
21. Unfasten 3 screw .



22. Unfasten 4 screws.



23. Gently remove the M/B to the m/b bracket.



24. Gently disconnect the power board to the mother board..

M/B OF 258SA0

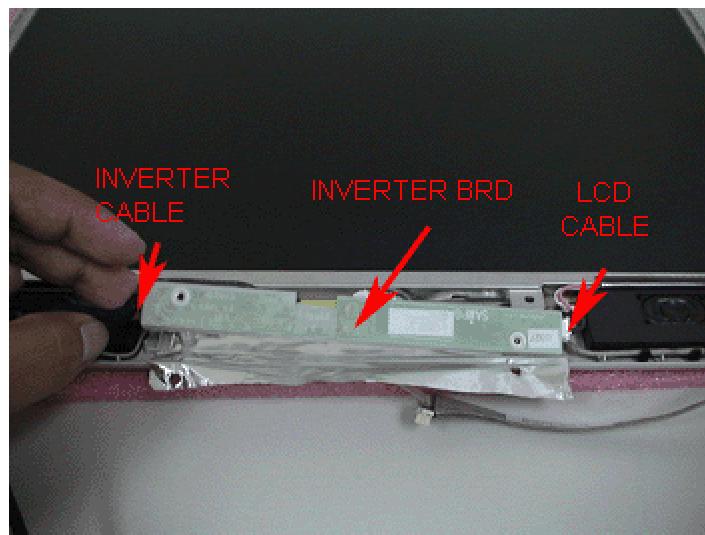
25. System Disassembly finished.

4.2 LCD Display panel Disassembly procedure.

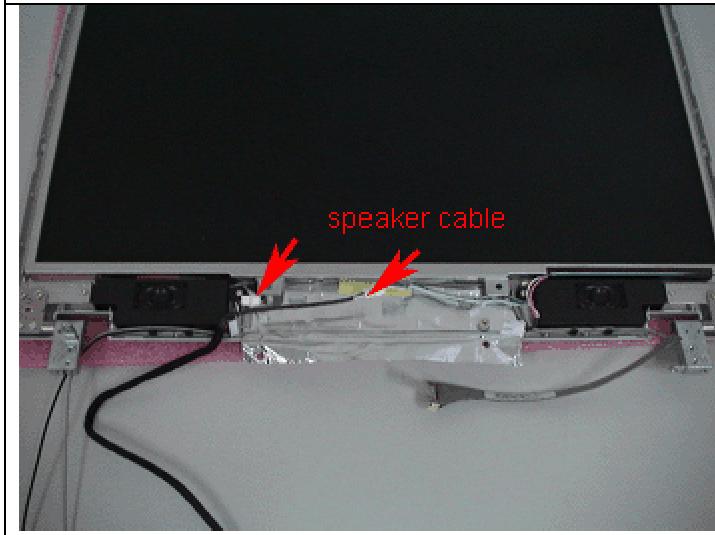
	<p>1. Remove the 4 rubber stoppers and 2 mylar stoppers.</p>
	<p>2. Unfasten 6 screws.</p>
	<p>3. Gently disassemble the Lcd front cabinet.</p>



4. Unfasten the 2 screws in right hinge and 2 screws in left hinge together the the 2 screws in inverter board.



5. Disconnect LCD cable and Inverter cable then remove the inverter.



6. Disconnect the 2 speaker cable.



7. Unfasten 8 screws and remove the lcd panel from the lcd back cabinet.



8. Unfasten 8 screws and remove the right & left lcd bracket.



9. Disconnect the LCD single cable



10. LCD display panel disassembly finished.

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Chapter 5 Installation Guidelines

UNIWILL COMPUTER CORP.
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URL: <http://www.uniwill.com.tw/>

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5.1. CPU, RAM, HDD Installation

Warning Notice

For precautionary measures, please disconnect the AC adapter and remove the battery from the battery compartment while doing the installation procedure of the CPU, Memory & HDD.

Procedure to remove the battery



Unlock the battery knob and pull out the battery pack

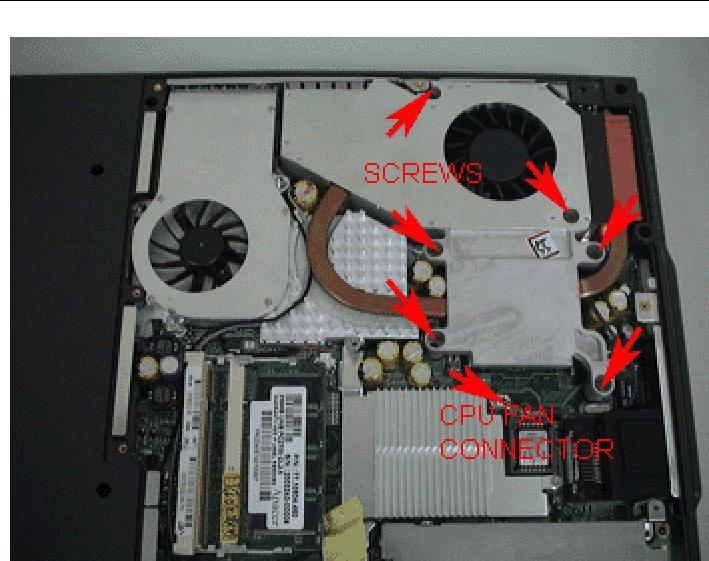
A. CPU Installation Guide

Important Notice

The CPU thermal pad of the CPU fan heat sink (black color) is one time use only. Meaning that if you remove the CPU heat sink from the CPU, you must REPLACE the CPU thermal pad with a new thermal pad (black color). Clean any residue on the CPU and the CPU heat sink assembly before putting the new CPU thermal pad. Otherwise, there might be an overheat problem on the CPU.



1. Unfasten 11 screws and remove the CPU cover.



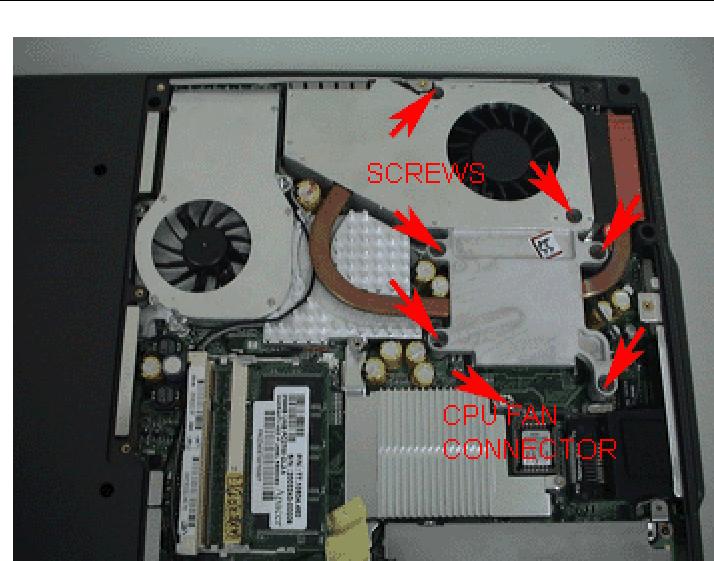
2. Unfasten 6 screws, disconnect the Cpu fan cable and remove the Cpu fan.



3. Pull up the lever arm to 90 degree angle sure that the CPU socket is in unlocking position.



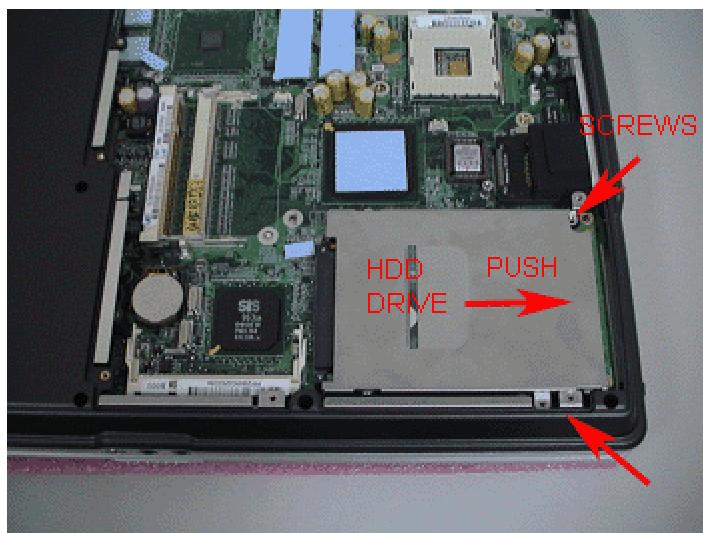
4. Align the pin 1 of CPU with pin 1 of CPU socket and gently put the CPU into the CPU socket and press down the lever arm.



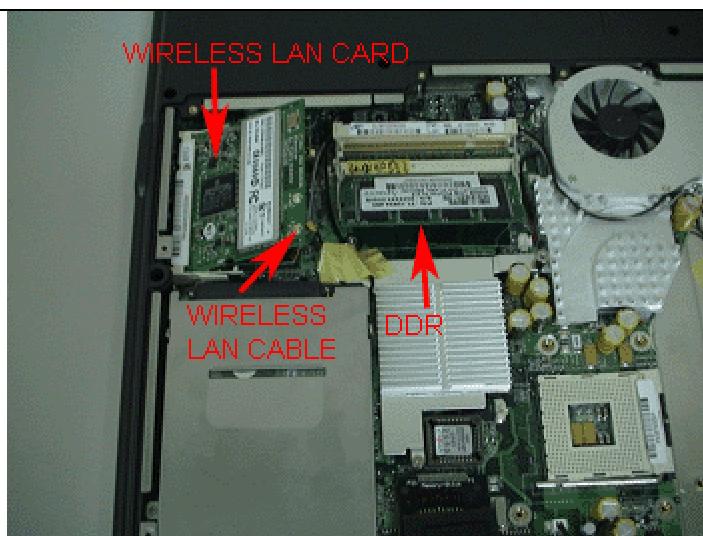
5. Put back the CPU heat sink assembly, fasten the 6 screws and connect the fan cable to the fan connector.

B. HDD Module Installation Guide

1. Fasten 4 screws of HDD module.



2. Push the HDD braket into the HDD socket and fasten the 2 HDD screws.



1. Gently assemble the DDR RAM module

5.2. Upgrade the BIOS

Important Notice

The utility only support at real mode (DOS mode), can not run at the protected mode (Window Mode). Do make sure that the system boot from real mode and plug AC power when to update the BIOS or install the utility.

BIOS Update Procedure

The F82741.EXE utility is used to flash the system ROM and upgrade the BIOS.

1. Make sure the AC adapter is connected to your notebook before you run this utility.
2. Please make a clean Boot Disk which has no config.sys and autoexec.bat files.
3. Boot from Floppy disk, enter DOS prompt.
4. Type
DIR
5. Please make sure the diskette has the following files :
F82741.EXE and xxxx.xxx (Bios Filename)
6. Start to update the system BIOS, AC power must plug into unit. Type
A:\F82741 xxxx.xxx
7. Press Enter. After updating the bios, please go to BIOS setup and load DEFAULT setting.

The system reboots automatically after installation is complete.