

8S651M-RZ / 8S651M-RZ-C

Intel Pentium® 4 Processor Motherboard

User's Manual

Rev. 1001

12ME-8S651MRZ-1001

Copyright

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Third-party brands and names are the property of their respective owners.

Notice

Please do not remove any labels on motherboard, this may void the warranty of this motherboard.

Due to rapid change in technology, some of the specifications might be out of date before publication of this booklet.

The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.

Declaration of Conformity

Model Number: 88651M-RZ

Manufacturer: G.J.T. INC. (U.S.A.)
17358 Railroad Street
City of Industry, CA 91748

(Design of the product prior to 2004) Model No. 88651M-RZ

Mother Board

88651M-RZ

According to the information provided by the company, a product
conforms to the following technical specifications:

C 00001	UNITS FOR THE PROTECTION OF RADIO FREQUENCY INTERFERENCE (R.F.I.)	C 00001	2.100 MHz to 2.150 MHz
C 00002	Reg. Information (USA)	C 00002	0.1 mW
C 00003	1.100 MHz to 1.150 MHz	E 00003	2.100 MHz to 2.150 MHz
C 00004	1.150 MHz to 1.200 MHz	C 00004	0.1 mW
C 00005	1.200 MHz to 1.250 MHz	C 00005	0.1 mW
C 00006	1.250 MHz to 1.300 MHz	C 00006	0.1 mW
C 00007	1.300 MHz to 1.350 MHz	C 00007	0.1 mW
C 00008	1.350 MHz to 1.400 MHz	C 00008	0.1 mW
C 00009	1.400 MHz to 1.450 MHz	C 00009	0.1 mW
C 00010	1.450 MHz to 1.500 MHz	C 00010	0.1 mW
C 00011	1.500 MHz to 1.550 MHz	C 00011	0.1 mW
C 00012	1.550 MHz to 1.600 MHz	C 00012	0.1 mW
C 00013	1.600 MHz to 1.650 MHz	C 00013	0.1 mW
C 00014	1.650 MHz to 1.700 MHz	C 00014	0.1 mW
C 00015	1.700 MHz to 1.750 MHz	C 00015	0.1 mW
C 00016	1.750 MHz to 1.800 MHz	C 00016	0.1 mW
C 00017	1.800 MHz to 1.850 MHz	C 00017	0.1 mW
C 00018	1.850 MHz to 1.900 MHz	C 00018	0.1 mW
C 00019	1.900 MHz to 1.950 MHz	C 00019	0.1 mW
C 00020	1.950 MHz to 2.000 MHz	C 00020	0.1 mW
C 00021	2.000 MHz to 2.050 MHz	C 00021	0.1 mW
C 00022	2.050 MHz to 2.100 MHz	C 00022	0.1 mW
C 00023	2.100 MHz to 2.150 MHz	C 00023	0.1 mW
C 00024	2.150 MHz to 2.200 MHz	C 00024	0.1 mW
C 00025	2.200 MHz to 2.250 MHz	C 00025	0.1 mW
C 00026	2.250 MHz to 2.300 MHz	C 00026	0.1 mW
C 00027	2.300 MHz to 2.350 MHz	C 00027	0.1 mW
C 00028	2.350 MHz to 2.400 MHz	C 00028	0.1 mW
C 00029	2.400 MHz to 2.450 MHz	C 00029	0.1 mW
C 00030	2.450 MHz to 2.500 MHz	C 00030	0.1 mW
C 00031	2.500 MHz to 2.550 MHz	C 00031	0.1 mW
C 00032	2.550 MHz to 2.600 MHz	C 00032	0.1 mW
C 00033	2.600 MHz to 2.650 MHz	C 00033	0.1 mW
C 00034	2.650 MHz to 2.700 MHz	C 00034	0.1 mW
C 00035	2.700 MHz to 2.750 MHz	C 00035	0.1 mW
C 00036	2.750 MHz to 2.800 MHz	C 00036	0.1 mW
C 00037	2.800 MHz to 2.850 MHz	C 00037	0.1 mW
C 00038	2.850 MHz to 2.900 MHz	C 00038	0.1 mW
C 00039	2.900 MHz to 2.950 MHz	C 00039	0.1 mW
C 00040	2.950 MHz to 3.000 MHz	C 00040	0.1 mW
C 00041	3.000 MHz to 3.050 MHz	C 00041	0.1 mW
C 00042	3.050 MHz to 3.100 MHz	C 00042	0.1 mW
C 00043	3.100 MHz to 3.150 MHz	C 00043	0.1 mW
C 00044	3.150 MHz to 3.200 MHz	C 00044	0.1 mW
C 00045	3.200 MHz to 3.250 MHz	C 00045	0.1 mW
C 00046	3.250 MHz to 3.300 MHz	C 00046	0.1 mW
C 00047	3.300 MHz to 3.350 MHz	C 00047	0.1 mW
C 00048	3.350 MHz to 3.400 MHz	C 00048	0.1 mW
C 00049	3.400 MHz to 3.450 MHz	C 00049	0.1 mW
C 00050	3.450 MHz to 3.500 MHz	C 00050	0.1 mW
C 00051	3.500 MHz to 3.550 MHz	C 00051	0.1 mW
C 00052	3.550 MHz to 3.600 MHz	C 00052	0.1 mW
C 00053	3.600 MHz to 3.650 MHz	C 00053	0.1 mW
C 00054	3.650 MHz to 3.700 MHz	C 00054	0.1 mW
C 00055	3.700 MHz to 3.750 MHz	C 00055	0.1 mW
C 00056	3.750 MHz to 3.800 MHz	C 00056	0.1 mW
C 00057	3.800 MHz to 3.850 MHz	C 00057	0.1 mW
C 00058	3.850 MHz to 3.900 MHz	C 00058	0.1 mW
C 00059	3.900 MHz to 3.950 MHz	C 00059	0.1 mW
C 00060	3.950 MHz to 4.000 MHz	C 00060	0.1 mW
C 00061	4.000 MHz to 4.050 MHz	C 00061	0.1 mW
C 00062	4.050 MHz to 4.100 MHz	C 00062	0.1 mW
C 00063	4.100 MHz to 4.150 MHz	C 00063	0.1 mW
C 00064	4.150 MHz to 4.200 MHz	C 00064	0.1 mW
C 00065	4.200 MHz to 4.250 MHz	C 00065	0.1 mW
C 00066	4.250 MHz to 4.300 MHz	C 00066	0.1 mW
C 00067	4.300 MHz to 4.350 MHz	C 00067	0.1 mW
C 00068	4.350 MHz to 4.400 MHz	C 00068	0.1 mW
C 00069	4.400 MHz to 4.450 MHz	C 00069	0.1 mW
C 00070	4.450 MHz to 4.500 MHz	C 00070	0.1 mW
C 00071	4.500 MHz to 4.550 MHz	C 00071	0.1 mW
C 00072	4.550 MHz to 4.600 MHz	C 00072	0.1 mW
C 00073	4.600 MHz to 4.650 MHz	C 00073	0.1 mW
C 00074	4.650 MHz to 4.700 MHz	C 00074	0.1 mW
C 00075	4.700 MHz to 4.750 MHz	C 00075	0.1 mW
C 00076	4.750 MHz to 4.800 MHz	C 00076	0.1 mW
C 00077	4.800 MHz to 4.850 MHz	C 00077	0.1 mW
C 00078	4.850 MHz to 4.900 MHz	C 00078	0.1 mW
C 00079	4.900 MHz to 4.950 MHz	C 00079	0.1 mW
C 00080	4.950 MHz to 5.000 MHz	C 00080	0.1 mW
C 00081	5.000 MHz to 5.050 MHz	C 00081	0.1 mW
C 00082	5.050 MHz to 5.100 MHz	C 00082	0.1 mW
C 00083	5.100 MHz to 5.150 MHz	C 00083	0.1 mW
C 00084	5.150 MHz to 5.200 MHz	C 00084	0.1 mW
C 00085	5.200 MHz to 5.250 MHz	C 00085	0.1 mW
C 00086	5.250 MHz to 5.300 MHz	C 00086	0.1 mW
C 00087	5.300 MHz to 5.350 MHz	C 00087	0.1 mW
C 00088	5.350 MHz to 5.400 MHz	C 00088	0.1 mW
C 00089	5.400 MHz to 5.450 MHz	C 00089	0.1 mW
C 00090	5.450 MHz to 5.500 MHz	C 00090	0.1 mW
C 00091	5.500 MHz to 5.550 MHz	C 00091	0.1 mW
C 00092	5.550 MHz to 5.600 MHz	C 00092	0.1 mW
C 00093	5.600 MHz to 5.650 MHz	C 00093	0.1 mW
C 00094	5.650 MHz to 5.700 MHz	C 00094	0.1 mW
C 00095	5.700 MHz to 5.750 MHz	C 00095	0.1 mW
C 00096	5.750 MHz to 5.800 MHz	C 00096	0.1 mW
C 00097	5.800 MHz to 5.850 MHz	C 00097	0.1 mW
C 00098	5.850 MHz to 5.900 MHz	C 00098	0.1 mW
C 00099	5.900 MHz to 5.950 MHz	C 00099	0.1 mW
C 00100	5.950 MHz to 6.000 MHz	C 00100	0.1 mW



Model: Feb. 20, 2004

DECLARATION OF CONFORMITY

Per FCC Part 2 Section 2.1077(a)



Responsible Party Name: G.J.T. INC. (U.S.A.)

Address: 17358 Railroad Street

City of Industry, CA 91748

Phone/Fax No. (818) 854-9338 (818) 854-9339

herby declares that the product

Product Name: Motherboard

Model Number: 88651M-RZ

Conforms to the following specifications:

FCC Part 15, Subpart B, Section 15.107(a) and Section 15.109

(a) Class B Digital Device

Supplementary Information:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful and (2) this device must accept any interference received, including that may cause undisturbed operation.

Representative Person's Name: ERIC LIU

Signature: Eric Liu

Date: Feb. 20, 2004

Preparing Your Computer

Computer motherboards and expansion cards contain very delicate Integrated Circuit (IC) chips. To protect them against damage from static electricity, you should follow some precautions whenever you work on your computer.

1. Unplug your computer when working on the inside.
2. Use a grounded wrist strap before handling computer components. If you do not have one, touch both of your hands to a safely grounded object or to a metal object, such as the power supply case.
3. Hold components by the edges and try not to touch the IC chips, leads or connectors, or other components.
4. Place components on a grounded antistatic pad or on the bag that came with the components whenever the components are separated from the system.
5. Ensure that the ATX power supply is switched off before you plug in or remove the ATX power connector on the motherboard.



Installing the motherboard to the chassis

If the motherboard has mounting holes, but they don't line up with the holes on the base and there are no slots to attach the spacers, do not become alarmed you can still attach the spacers to the mounting holes. Just cut the bottom portion of the spacers (the spacer may be a little hard to cut off, so be careful of your hands). In this way you can still attach the motherboard to the base without worrying about short circuits. Sometimes you may need to use the plastic springs to isolate the screw from the motherboard PCB surface, because the circuit wire may be near by the hole. Be careful, don't let the screw contact any printed circuit write or parts on the PCB that are near the fixing hole, otherwise it may damage the board or cause board malfunctioning.

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Chapter 1 Introduction

Features Summary

CPU	<ul style="list-style-type: none"> • Socket 478 for Intel® Micro FC-PGA2 Pentium® 4 processor • Support Intel® Pentium® 4 (Northwood, 0.13µm) processor • Intel Pentium®4 400/533 MHz FSB • 2nd cache depends on CPU
Chipset	<ul style="list-style-type: none"> • North Bridge:SiS 651 • South Bridge:SiS 962L MuTIOL Media I/O
Memory	<ul style="list-style-type: none"> • 2 184-pin DDR sockets • Supports DDR200/DDR266/DDR333 • Supports up to 2 un-buffer Double-sided DIMM DDR200/266/333 • Supports up to 2GB (Max) • Supports only 2.5V DDR DIMM
Slots	<ul style="list-style-type: none"> • 1 Universal AGP slot (2X/4X) device support • 3 PCI slot supports 33M Hz & PCI 2.2 compliant
On-Board IDE	<ul style="list-style-type: none"> • 2 IDE bus master (UDMA33/ATA66/ATA100/ATA133) IDE ports for up to 4 ATAPI devices • Supports PIO mode3,4 (UDMA 33/ATA66/ATA100/ATA133) IDE & ATAPI CD-ROM
On-Board Floppy	<ul style="list-style-type: none"> • Floppy port supports 2 FDD with 360K, 720K,1.2M, 1.44M and 2.88M bytes
On-Board Peripherals	<ul style="list-style-type: none"> • 1 Parallel port supports Normal/EPP/ECP mode • 1 Serial port (COMA),1 VGA port,COMB on board • 6 x USB 2.0/1.1 (2 x Rear, 4 xFront by cable) • 1 Front Audio Connector • 1 IrDA connector for IR • PS/2 Keyboard interface and PS/2 Mouse interface
On-Board VGA	<ul style="list-style-type: none"> • Build in SiS651 Chipset
On-Board LAN *	<ul style="list-style-type: none"> • Build in RTL8201 Chipset
On-Board Sound	<ul style="list-style-type: none"> • Realtek ALC655 CODEC • Line Out / 2 front speaker • Line In / 2 rear speaker(by s/w switch) • Mic In / center& subwoofer(by s/w switch) • SPDIF Out /SPDIF In • CD_In / Game Port
BIOS	<ul style="list-style-type: none"> • Licensed Award BIOS • Supports Q-Flash
I/O Control	<ul style="list-style-type: none"> • W83697HF

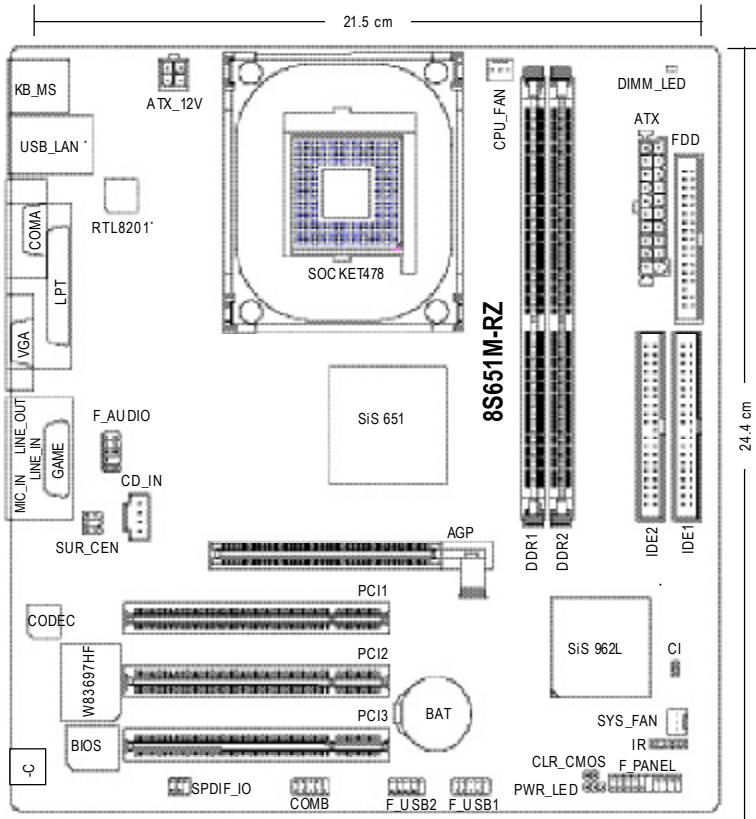
** F for 8S651M-RZ only.

Hardware Monitor	<ul style="list-style-type: none">• CPU/System Fan Revolution detect• CPU/System Fan Control• CPU Overheat Warning• System Voltage Detect
Additional Features	<ul style="list-style-type: none">• PS/2 Keyboard power on by password• PS/2 Mouse power on• STR(Suspend-To-RAM)• AC Recovery• USB KB/Mouse wake up from S3• Supports EasyTune 4• Supports @BIOS
Form Factor	<ul style="list-style-type: none">• 24.4cm x 21.5cm Micro ATX size form factor, 4 layers PCB.



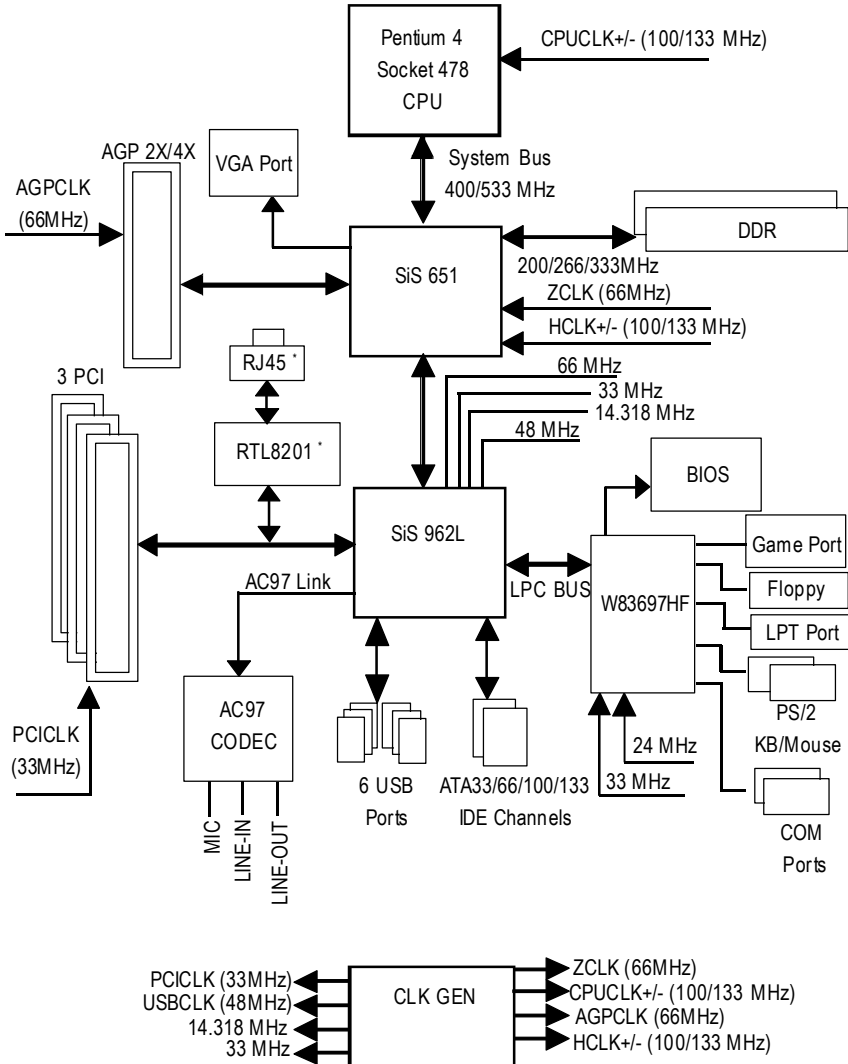
Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Chipsets, Memory, Cards.....etc.

8S651M-RZ Series Motherboard Layout



“ * ” For 8S651M-RZ only.

Block Diagram



“ * ” For 8S651M-RZ only.

Hardware Installation Process

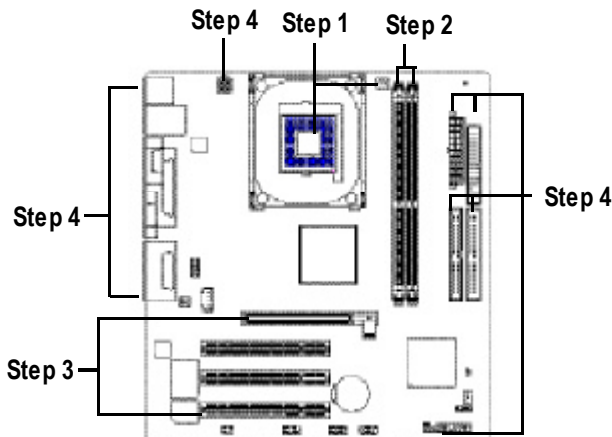
To set up your computer, you must complete the following steps:

Step 1- Install the Central Processing Unit (CPU)

Step 2- Install memory modules

Step 3- Install expansion cards

Step 4- Install I/O Peripherals cables



Step 1: Install the Central Processing Unit (CPU)



Before installing the processor, adhere to the following warning:

1. Please make sure the CPU type is supported by the motherboard.
2. The processor will overheat without the heatsink and/or fan, resulting in permanent irreparable damage.
3. If you do not match the CPU socket Pin 1 and CPU cut edge well, it will cause improper installation. Please change the insert orientation.
4. Apply thermal grease between the processor and cooling fan.
5. Never run the processor without the heatsink properly and firmly attached. Permanent damage will result.
6. Please set the CPU host frequency in accordance with your processor's specifications. We don't recommend you to set the system bus frequency over the CPU's specification because these specific bus frequencies are not the standard specifications for CPU, chipset and most of the peripherals. Whether your system can run under these specific bus frequencies properly will depend on your hardware configurations, including CPU, Memory, Cards...etc.



HT functionality requirement content :

Enabling the functionality of Hyper-Threading Technology for your computer system requires all of the following platform components:

- CPU: An Intel® Pentium 4 Processor with HT Technology
- Chipset: An Intel® Chipset that supports HT Technology
- BIOS: A BIOS that supports HT Technology and has it enabled
- OS: An operation system that has optimizations for HT Technology

Step 1-1: CPU Installation

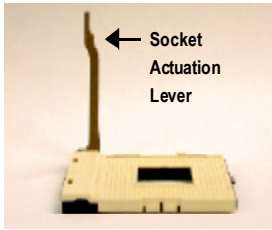


Figure 1.
Pull the rod to the 90-degree directly.

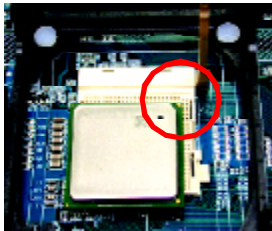


Figure 2.
Locate Pin 1 in the socket and look for a (golden) cut edge on the CPU upper corner. Insert the CPU into the socket. (Do not force the CPU into the socket.) Then move the socket lever to the locked position while holding pressure on the center of the CPU.

Step 1-2: CPU Cooling Fan Installation



Figure 1.
Apply the thermal tape(or grease) to provide better heat conduction between your CPU and cooling fan.



Figure 2.
Fasten the cooling fan supporting-base onto the CPU socket on the motherboard.

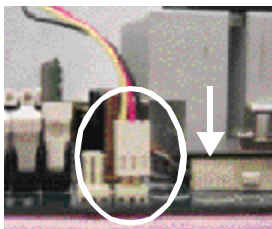


Figure 3.
Make sure the CPU fan is plugged to the CPU fan connector, than install complete.

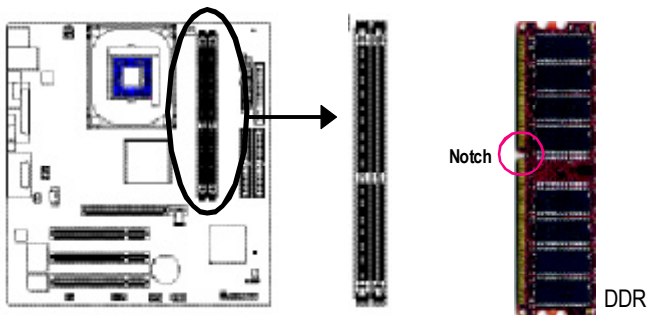
Step 2: Install memory modules



Before installing the memory modules, adhere to the following warning:

1. When DIMM LED is ON, do not install / remove DIMM from socket.
2. Please note that the DIMM module can only fit in one direction due to the one notch. Wrong orientation will cause improper installation. Please change the insert orientation.

The motherboard has 2 dual inline memory module (DIMM) sockets. The BIOS will automatically detects memory type and size. To install the memory module, just push it vertically into the DIMM socket. The DIMM module can only fit in one direction due to the notch. Memory size can vary between sockets.



Support Unbuffered DDR DIMM Sizes type:

64 Mbit (2Mx8x4 banks)	64 Mbit (1Mx16x4 banks)	128 Mbit (4Mx8x4 banks)
128 Mbit (2Mx16x4 banks)	256 Mbit (8Mx8x4 banks)	256 Mbit (4Mx16x4 banks)
512 Mbit (16Mx8x4 banks)	512 Mbit (8Mx16x4 banks)	



1. The DIMM socket has a notch, so the DIMM memory module can only fit in one direction.



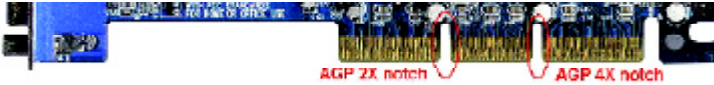
2. Insert the DIMM memory module vertically into the DIMM socket. Then push it down.



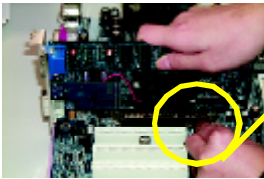
3. Close the plastic clip at both edges of the DIMM sockets to lock the DIMM module.
Reverse the installation steps when you wish to remove the DIMM module.

Step 3: Install expansion cards

1. Read the related expansion card's instruction document before install the expansion card into the computer.
2. Please make sure your AGP card is AGP 4X/8X (1.5V).



3. Please carefully pull out the small white- drawbar at the end of the AGP slot when you try to install/ Uninstall the AGP card. Please align the AGP card to the onboard AGP slot and press firmly down on the slot .Make sure your AGP card is locked by the small white- drawbar.

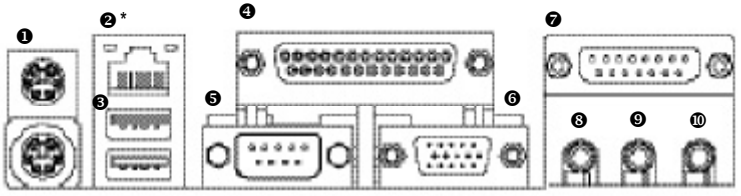


AGP Card



Step 4: Install I/O Peripherals Cables

Step 4-1: I/O Back Panel Introduction



❶ PS/2 Keyboard and PS/2 Mouse connector

This connector supports standard PS/2 keyboard and PS/2 mouse.

❷ LAN port*

LAN is fast Ethernet with 10/100Mbps speed.

❸ USB port

Before you connect your device(s) into USB connector(s), please make sure your device(s) such as USB keyboard, mouse, scanner, zip, speaker...etc. Have a standard USB interface. Also make sure your OS supports USB controller. If your OS does not support USB controller, please contact OS vendor for possible patch or driver upgrade. For more information please contact your OS or device(s) vendors.

❹ Parallel port (LPT)

Device like printer can be connected to Parallel port.

❺ Serial port (COMA)

Mouse and modem etc. can be connected to Serial port.

***For 8S651M-RZ only.

⑥ VGA port

Monitor can be connected to VGA port.

⑦ Game/MIDI port

This connector supports joystick, MIDI keyboard and other relate audio devices.

⑧ Line Out jack

Connect the stereo speakers or earphone to this connector.

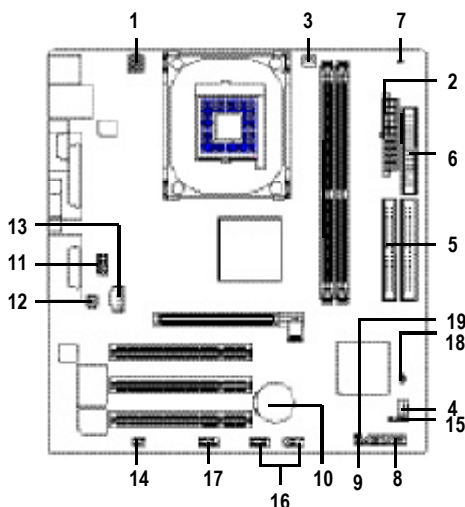
⑨ Line In jack

Devices like CD-ROM , walkman etc. can be connect to Line In jack.

⑩ MIC In jack

Microphone can be connect to MIC In jack.

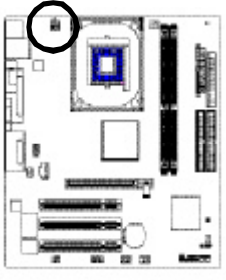
After installation of the audio driver, you are able to use 2/4/6-channel audio feature by software selection. You can connect "Front speaker" to "Line Out" jack, Connect "Rear speaker" to "Line In" jack and connect "Center/Subwoofer" to "MIC In" jack.

Step 4-2: Connectors Introduction

1) ATX_12V	11) F_AUDIO
2) ATX	12) SUR_CEN
3) CPU_FAN	13) CD_IN
4) SYS_FAN	14) SPDIF_IO
5) IDE1/IDE2	15) IR
6) FDD	16) F_USB1/F_USB2
7) DIMM_LED	17) COMB
8) F_PANEL	18) CI
9) PWR_LED	19) CLR_CMOS
10) BAT	

1) ATX_12V(+12V Power Connector)

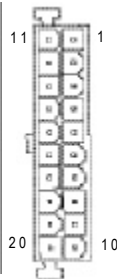
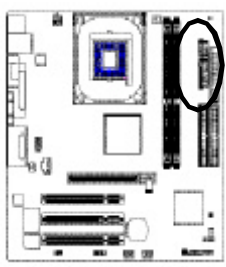
This connector (ATX_12V) supplies the CPU operation voltage (Vcore).
If this "ATX_12V connector" is not connected, system cannot boot.



Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

2) ATX(ATX Power)

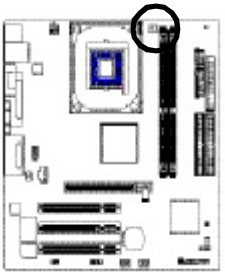
AC power cord should only be connected to your power supply unit after ATX power cable and other related devices are firmly connected to the mainboard.



Pin No.	Definition	Pin No.	Definition
1	3.3V	11	3.3V
2	3.3V	12	-12V
3	GND	13	GND
4	VCC	14	PS_ON(soft on/off)
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	Power Good	18	-5V
9	5V SB (stand by +5V)	19	VCC
10	+12V	20	VCC

3) CPU_FAN (CPU FAN Connector)

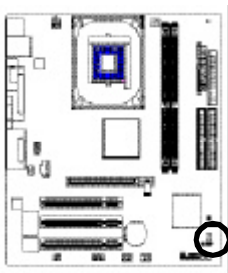
Please note, a proper installation of the CPU cooler is essential to prevent the CPU from running under abnormal condition or damaged by overheating. The CPU fan connector supports Max. current up to 600 mA.



Pin No.	Definition
1	GND
2	+12V
3	Sense

4) SYS_FAN (System FAN Connector)

This connector allows you to link with the cooling fan on the system case to lower the system temperature.

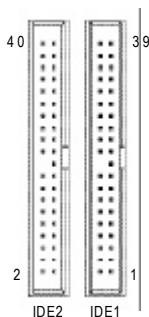
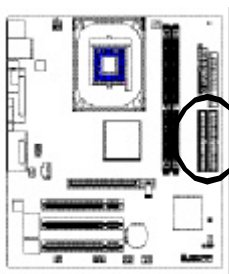


PinNo.	Definition
1	GND
2	+12V
3	Sense

5) IDE1/ IDE2(IDE1/IDE2 Connector)

Please connect first harddisk to IDE1 and connect CDROM to IDE2.

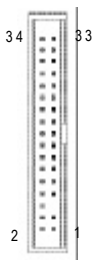
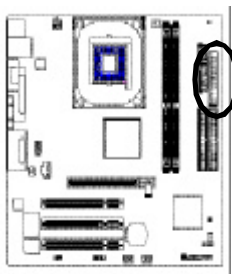
The red stripe of the ribbon cable must be the same side with the Pin1.



6) FDD (Floppy Connector)

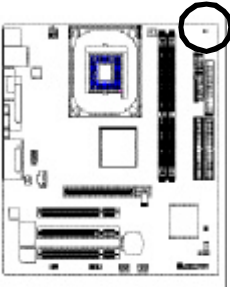
Please connect the floppy drive ribbon cables to FDD. It supports 360K,720K,1.2M,1.44M and 2.88M bytes floppy disk types.

The red stripe of the ribbon cable must be the same side with the Pin1.



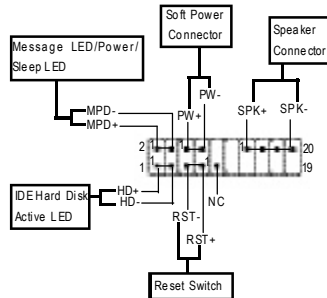
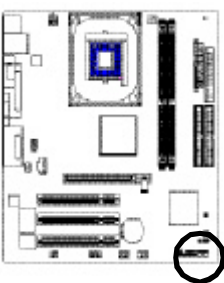
7) DIMM_LED

Do not remove memory modules while DIMM LED is on. It might cause short or other unexpected damages due to the 2.5V stand by voltage. Remove memory modules only when AC Power cord is disconnected.



8) F_PANEL (2x10 pins connector)

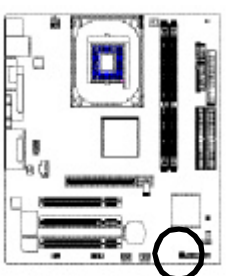
Please connect the power LED, PC peaker, reset switch and power switch etc of your chassis front panel to the F_PANEL connector according to the pin assignment above.



HD (IDE Hard Disk Active LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
SPK (Speaker Connector)	Pin 1: VCC(+) Pin 2- Pin 3: NC Pin 4: Data(-)
RST (Reset Switch)	Open: Normal Operation Close: Reset Hardware System
PW (Soft Power Connector)	Open: Normal Operation Close: Power On/Off
MPD (Message LED/Power/Sleep LED)	Pin 1: LED anode(+) Pin 2: LED cathode(-)
NC	NC

9) PWR_LED

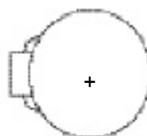
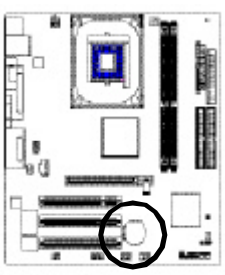
PWR_LED is connect with the system power indicator to indicate whether the system is on/off. It will blink when the system enters suspend mode. If you use dual color LED, power LED will turn to another color.



1 

PinNo.	Definition
1	MPD+
2	MPD-
3	MPD-

10) BAT (Battery)



CAUTION

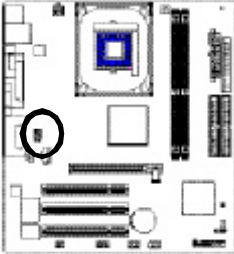
- ❖ Danger of explosion if battery is incorrectly replaced.
- ❖ Replace only with the same or equivalent type recommended by the manufacturer.
- ❖ Dispose of used batteries according to the manufacturer's instructions.

If you want to erase CMOS...

1. Turn OFF the computer and unplug the power cord.
2. Remove the battery, wait for 30 second.
3. Re-install the battery.
4. Plug the power cord and turn ON the computer.

11) F_AUDIO (F_AUDIO Connector)

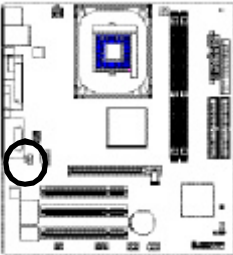
If you want to use Front Audio connector, you must remove 5-6, 9-10 Jumper. In order to utilize the front audio header, your chassis must have front audio connector. Also please make sure the pin assignment on the cable is the same as the pin assignment on the MB header. To find out if the chassis you are buying support front audio connector, please contact your dealer. Please note, you can have the alternative of using front audio connector or of using rear audio connector to play sound.



PinNo.	Definition
1	MIC
2	GND
3	REF
4	POWER
5	FrontAudio(R)
6	RearAudio(R)
7	Reserved
8	NoPin
9	FrontAudio(L)
10	RearAudio(L)

12) SUR_CEN

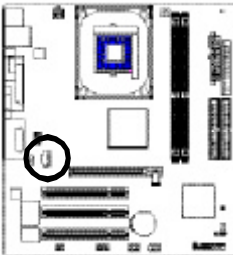
Please contact your nearest dealer for optional SUR_CEN cable.



PinNo.	Definition
1	SUROUTL
2	SUROUTR
3	GND
4	NoPin
5	CENTER_OUT
6	BASS_OUT

13) CD_IN

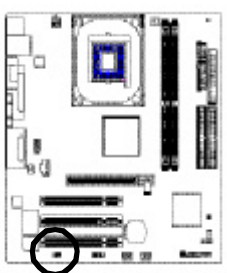
Connect CD-ROM or DVD-ROM audio out to the connector.



PinNo.	Definition
1	CD-L
2	GND
3	GND
4	CD_R

14) SPDIF_IO (SPDIF In/Out)

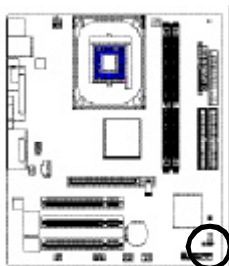
The SPDIF output is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby Digital Decoder. Use this feature only when your stereo system has digital input function. Use SPDIF IN feature only when your device has digital output function. Be careful with the polarity of the SPDIF_IO connector. Check the pin assignment carefully while you connect the SPDIF_IO cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional SPDIF_IO cable, please contact your local dealer.



PinNo.	Definition
1	VCC
2	NoPin
3	SPDIF
4	SPDIF I
5	GND
6	GND

15) IR

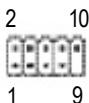
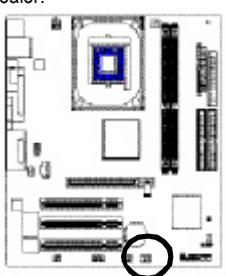
Make sure the pin 1 on the IR device is align with pin one the connector. To enable the IR function on the board, you are required to purchase an option IR module. Be careful with the polarity of the IR connector. For optional IR cable, please contact your local dealer.



PinNo.	Definition
1	VCC
2	NoPin
3	IRData Input
4	GND
5	IRData Output

16) F_USB1 / F_USB2 (Front USB Connector)

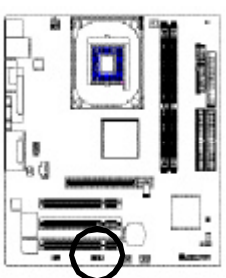
Be careful with the polarity of the F_USB connector. Check the pin assignment carefully while you connect the F_USB cable, incorrect connection between the cable and connector will make the device unable to work or even damage it. For optional F_USB cable, please contact your local dealer.



PinNo.	Definition
1	Power
2	Power
3	USB D _X -
4	USB D _y -
5	USB D _X +
6	USB D _y +
7	GND
8	GND
9	NoPin
10	NC

17) COMB (COM B Connector)

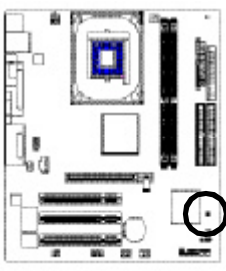
Be careful with the polarity of the COMB connector. Check the pin assignment while you connect the COMB cable. Please contact your nearest dealer for optional COMB cable.



PinNo.	Definition
1	NDCDB-
2	NSINB
3	NSOUTB
4	NDTRB-
5	GND
6	NDSRB-
7	NRTSB-
8	NCTSB-
9	NRIB-
10	NoPin

18) CI (CASE OPEN)

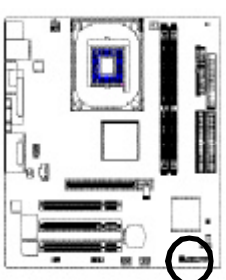
This 2 pin connector allows your system to enable or disable the "case open" item in BIOS if the system case begin remove.




PinNo.	Definition
1	Signal
2	GND

19) CLR_CMOS (Clear CMOS)

You may clear the CMOS data to its default values by this jumper. To clear CMOS, temporarily shor 1-2 pin. Default doesn't include the "Shunter" to prevent from im proper use this jumper.



1  Open: Normal

1  Close: Clear CMOS

Chapter 2 BIOS Setup

BIOS Setup is an overview of the BIOS Setup Program. The program that allows users to modify the basic system configuration. This type of information is stored in battery-backed CMOS RAM so that it retains the Setup information when the power is turned off.

ENTERING SETUP

Powering ON the computer and pressing immediately will allow you to enter Setup. If you require more advanced BIOS settings, please go to "Advanced BIOS" setting menu. To enter Advanced BIOS setting menu, press "Ctrl+F1" key on the BIOS screen.

CONTROL KEYS

<↑><↓><←><→>	Move to select item
<Enter>	Select Item
<Esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<+/PgUp>	Increase the numeric value or make changes
<-/PgDn>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F2>	Item Help
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the file-safe default CMOS value from BIOS default table
<F7>	Load the Optimized Defaults
<F8>	Q-Flash utility
<F9>	System Information
<F10>	Save all the CMOS changes, only for Main Menu

Main Menu

The on-line description of the highlighted setup function is displayed at the bottom of the screen.

Status Page Setup Menu / Option Page Setup Menu

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item. To exit the Help Window press <Esc>.

The Main Menu (For example: BIOS Ver. : E4)

Once you enter Award BIOS CMOS Setup Utility, the Main Menu (as figure below) will appear on the screen. The Main Menu allows you to select from eight setup functions and two exit choices. Use arrow keys to select among the items and press <Enter> to accept or enter the sub-menu.

CMOS Setup Utility-Copyright (C) 1984-2004 Award Software

<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI Configurations ▶ PC Health Status ▶ Frequency/Voltage Control 	<ul style="list-style-type: none"> Top Performance Load Fail-Safe Defaults Load Optimized Defaults Set Supervisor Password Set User Password Save & Exit Setup Exit Without Saving
ESC: Quit	↑↓←→: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Time, Date, Hard Disk Type...	



If you can't find the setting you want, please press "Ctrl+F1" to search the advanced option hidden.

- **Standard CMOS Features**
This setup page includes all the items in standard compatible BIOS.
- **Advanced BIOS Features**
This setup page includes all the items of Award special enhanced features.
- **Integrated Peripherals**
This setup page includes all onboard peripherals.
- **PowerManagement Setup**
This setup page includes all the items of Green function features.
- **PnP/PCI Configuration**
This setup page includes all the configurations of PCI & PnP ISA resources.
- **PC Health Status**
This setup page is the System auto detect Temperature, voltage, fan, speed.
- **Frequency/VoltageControl**
This setup page is control CPU clock and frequency ratio.
- **TopPerformance**
If you wish to maximize the performance of your system, set "Top Performance" as "Enabled".
- **Load Fail-Safe Defaults**
Fail-Safe Defaults indicates the value of the system parameters which the system would be in safe configuration.
- **Load Optimized Defaults**
Optimized Defaults indicates the value of the system parameters which the system would be in best performance configuration.
- **Set Supervis or Password**
Change, set, or disable password. It allows you to limit access to the system and Setup, or just to Setup.
- **Set User Password**
Change, set, or disable password. It allows you to limit access to the system.
- **Save & Exit Setup**
Save CMOS value settings to CMOS and exit setup.
- **Exit Without Saving**
Abandon all CMOS value changes and exit setup.

☞ Drive A / Drive B

The category identifies the types of floppy disk drive A or drive B that has been installed in the computer.

- ▶▶ None No floppy drive installed
- ▶▶ 360K, 5.25" 5.25 inch PC-type standard drive; 360K byte capacity.
- ▶▶ 1.2M, 5.25" 5.25 inch AT-type high-density drive; 1.2M byte capacity
(3.5 inch when 3 Mode is Enabled).
- ▶▶ 720K, 3.5" 3.5 inch double-sided drive; 720K byte capacity
- ▶▶ 1.44M, 3.5" 3.5 inch double-sided drive; 1.44M byte capacity.
- ▶▶ 2.88M, 3.5" 3.5 inch double-sided drive; 2.88M byte capacity.

☞ Floppy 3 Mode Support (for Japan Area)

- ▶▶ Disabled Normal Floppy Drive. (Default value)
- ▶▶ Drive A Drive A is 3 mode Floppy Drive.
- ▶▶ Drive B Drive B is 3 mode Floppy Drive.
- ▶▶ Both Drive A & B are 3 mode Floppy Drives.

☞ Halt on

The category determines whether the computer will stop if an error is detected during power up.

- ▶▶ No Errors The system boot will not stop for any error that may be detected and you will be prompted.
- ▶▶ All Errors Whenever the BIOS detects a non-fatal error the system will be stopped.
- ▶▶ All, But Keyboard The system boot will not stop for a keyboard error; it will stop for all other errors. (Default value)
- ▶▶ All, But Diskette The system boot will not stop for a disk error; it will stop for all other errors.
- ▶▶ All, But Disk/Key The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

☞ Memory

The category is display-only which is determined by POST (Power On Self Test) of the BIOS.

▶▶ Base Memory

The POST of the BIOS will determine the amount of base (or conventional) memory installed in the system.

The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

▶▶ Extended Memory

The BIOS determines how much extended memory is present during the POST.

This is the amount of memory located above 1 MB in the CPU's memory address map.

Advanced BIOS Features

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Advanced BIOS Features

First Boot Device	[Floppy]	Item Help
Second Boot Device	[HDD-0]	Menu Level▶
Third Boot Device	[CDROM]	Select Boot Device priority
Boot Up Floppy Seek	[Disabled]	[Floppy] Boot from floppy
Password Check	[Setup]	[LS120] Boot from LS120
		[HDD-0] Boot from First HDD
		[HDD-1] Boot from Second HDD
↑↓→←: Move Enter: Select +/~/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults		

First / Second / Third Boot Device

- ▶ Floppy Select your boot device priority by Floppy.
- ▶ LS120 Select your boot device priority by LS120.
- ▶ HDD-0~3 Select your boot device priority by HDD-0~3.
- ▶ SCSI Select your boot device priority by SCSI.
- ▶ CDROM Select your boot device priority by CDROM.
- ▶ ZIP Select your boot device priority by ZIP.
- ▶ USB-FDD Select your boot device priority by USB-FDD.
- ▶ USB-ZIP Select your boot device priority by USB-ZIP.
- ▶ USB-CDROM Select your boot device priority by USB-CDROM.
- ▶ USB-HDD Select your boot device priority by USB-HDD.
- ▶ LAN Select your boot device priority by LAN.
- ▶ Disabled Select your boot device priority by Disabled.

Boot Up Floppy Seek

During POST, BIOS will determine the floppy disk drive installed is 40 or 80 tracks. 360K type is 40 tracks 720K, 1.2M and 1.44M are all 80 tracks.

- ▶ Enabled BIOS searches for floppy disk drive to determine it is 40 or 80 tracks. Note that BIOS can not tell from 720K, 1.2M or 1.44M drive type as they are all 80tracks.
- ▶ Disabled BIOS will not search for the type of floppy disk drive by track number. Note that there will not be any warning message if the drive installed is 360K. (Default value)

Password Check

- ▶ System The system will not boot and will not access to Setup page if the correct password is not entered at the prompt.
- ▶ Setup The system will boot but will not access to Setup page if the correct password is not entered at the prompt. (Default value)

Integrated Peripherals

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Integrated Peripherals

IDE1 Conductor Cable	[Auto]	Item Help
IDE2 Conductor Cable	[Auto]	Menu Level ►
On-Chip Primary PCI IDE	[Enabled]	[Auto]
On-Chip Secondary PCI IDE	[Enabled]	Auto-detect IDE cable type
AC97 Audio	[Enabled]	
Onboard LAN Device [Ⓜ]	[Enabled]	[ATA66/100/133]
System Share Memory Size	[32MB]	Set Conductor cable to ATA66/100/133 (80-pins)
USB Controller	[Enabled]	
USB Legacy Support	[Disabled]	
Init Display First	[AGP]	
Onboard Serial Port A	[3F8/IRQ4]	[ATA33]
Onboard Serial Port B	[2F8/IRQ3]	Set Conductor cable to ATA33 (40-pins)
Serial Port B Mode	[Normal]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[ECP]	
x EPP Mode Select	EPP1.7	
ECP Mode Use DMA	[3]	
Game Port Address	[201]	
Midi Port Address	[330]	
Midi Port IRQ	[10]	
⬆⬇⬅⬅: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults		

☞ IDE1 Conductor Cable

- ☛ Auto Will be automatically detected by BIOS. (Default Value)
- ☛ ATA66/100/133 Set IDE1 Conductor Cable to ATA66/100/133 (Please make sure your IDE device and cable is compatible with ATA66/100/133).
- ☛ ATA33 Set IDE1 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

☞ IDE2 Conductor Cable

- ☛ Auto Will be automatically detected by BIOS. (Default Value)
- ☛ ATA66/100/133 Set IDE2 Conductor Cable to ATA66/100/133 (Please make sure your IDE device and cable is compatible with ATA66/100/133).
- ☛ ATA33 Set IDE2 Conductor Cable to ATA33 (Please make sure your IDE device and cable is compatible with ATA33).

☞ On-Chip Primary PCI IDE

- ☛ Enabled Enable onboard 1st channel IDE port. (Default value)
- ☛ Disabled Disable onboard 1st channel IDE port.

☞ On-Chip Secondary PCI IDE

- ☛ Enabled Enable onboard 2nd channel IDE port. (Default value)
- ☛ Disabled Disable onboard 2nd channel IDE port.

☞ AC97 Audio

- ☛ Enabled Enable onboard AC'97 audio function. (Default value)
- ☛ Disabled Disable this function.

** For 8S651M-RZ only.

☞ Onboard LAN Device ^(*)

- ▶ Enabled Enable onboard LAN device. (Default value)
- ▶ Disabled Disable onboard LAN device.

☞ System Share Memory Size

- ▶ 4MB/8MB/16MB/32MB/64MB Set onchip VGA shared memory size.(Default Value:32MB)

☞ USB Controller

- ▶ Enabled Enable USB Controller. (Default value)
- ▶ Disabled Disable USB Controller.

☞ USB Legacy Support

- ▶ Enabled Enable USB Legacy Support.
- ▶ Disabled Disable USB Legacy Support. (Default value)

☞ Init Display First

- ▶ AGP Set Init Display First to AGP. (Default value)
- ▶ PCI Set Init Display First to PCI.

☞ Onboard Serial Port A

- ▶ Auto BIOS will automatically setup the port A address.
- ▶ 3F8/IRQ4 Enable onboard Serial port A and address is 3F8. (Default value)
- ▶ 2F8/IRQ3 Enable onboard Serial port A and address is 2F8.
- ▶ 3E8/IRQ4 Enable onboard Serial port A and address is 3E8.
- ▶ 2E8/IRQ3 Enable onboard Serial port A and address is 2E8.
- ▶ Disabled Disable onboard Serial port A.

☞ Onboard Serial Port B

- ▶ Auto BIOS will automatically setup the port B address.
- ▶ 3F8/IRQ4 Enable onboard Serial port B and address is 3F8.
- ▶ 2F8/IRQ3 Enable onboard Serial port B and address is 2F8. (Default value)
- ▶ 3E8/IRQ4 Enable onboard Serial port B and address is 3E8.
- ▶ 2E8/IRQ3 Enable onboard Serial port B and address is 2E8.
- ▶ Disabled Disable onboard Serial port B.

☞ Serial Port B Mode

(This item allows you to determine which Infra Red(IR) function of Onboard I/O chip)

- ▶ ASKIR Set onboard I/O chip UART to ASKIR Mode.
- ▶ IrDA Set onboard I/O chip UART to IrDA Mode.
- ▶ Normal Set onboard I/O chip UART to Normal Mode. (Default Value)

☞ Onboard Parallel port

- ▶ 378/IRQ7 Enable onboard LPT port and address is 378/IRQ7. (Default Value)
- ▶ 278/IRQ5 Enable onboard LPT port and address is 278/IRQ5.
- ▶ Disabled Disable onboard LPT port.
- ▶ 3BC/IRQ7 Enable onboard LPT port and address is 3BC/IRQ7.

*** For 8S651M-RZ only.

☞ ACPI Suspend Type

- ▶ S1(POS) Set ACPI suspend type to S1. (Default Value)
- ▶ S3(STR) Set ACPI suspend type to S3.

☞ Soft-off by PWR_BTTN

- ▶ Off The user press the power button once, he can turn off the system. (Default Value)
- ▶ Suspend The user press the power button once, then the system will can enter suspend mode.

☞ System after AC Back

- ▶ LastState When AC-power back to the system , the system will return to the Last state before AC-power off.
- ▶ Off When AC-power back to the system , the system will be in "Off" state. (Default Value)
- ▶ On When AC-power back to the system , the system will be in "On" state.

☞ IRQ [3-7, 9-15], NMI

- ▶ Disabled Disable this function.
- ▶ Enabled Enable this function. (Default value)

☞ ModemRingOn

- ▶ Disabled Disable Modem Ring on function.
- ▶ Enabled Enable Modem Ring on function. (Default Value)

☞ PME Event Wake Up

- ▶ Disabled Disable this function.
- ▶ Enabled Enable PME Event Wake up. (Default Value)

☞ Power On by Keyboard

- ▶ Password Input password (from 1 to 8 characters) and press Enter to set the Keyboard Power On Password.
- ▶ Any Key Set Keyboard power on by any key.
- ▶ Disabled Disable this function. (Default Value)

☞ Power On by Mouse

- ▶ Enabled Enable Power On by Mouse function.
- ▶ Disabled Disable this function. (Default Value)

☞ Resume by Alarm

You can set "Resume by Alarm" item to enabled and key in Data/time to power on system.

- ▶ Disabled Disable this function. (Default Value)
- ▶ Enabled Enable alarm function to POWER ON system.
 - If RTC Alarm Lead To Power On is Enabled.
 - Month Alarm : NA, 1~12
 - Day (of Month) : 0~31
 - Time (hh: mm: ss) : (0~23) : (0~59) : (0~59)

☞ Power LED in S1 state

- ▶ Blinking In standby mode(S1), power LED will blink. (Default Value)
- ▶ Dual/OFF In standby mode(S1):
 - a. If use single color LED, power LED will turn off.
 - b. If use dual color LED, power LED will turn to another color.

PnP/PCI Configurations

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PnP/PCI Configurations

	[Auto]	Item Help
PCI 1 IRQ Assignment	[Auto]	Menu Level▶
PCI 2 IRQ Assignment	[Auto]	Device(s) using this INT:
PCI 3 IRQ Assignment	[Auto]	Display Cntrlr -Bus 1 Dev 0 Func 0
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults		

☞ PCI 1 IRQ Assignment

- ▶ Auto Auto assign IRQ to PCI 1. (Default value)
- ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 1.

☞ PCI 2 IRQ Assignment

- ▶ Auto Auto assign IRQ to PCI 2. (Default value)
- ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 2.

☞ PCI 3 IRQ Assignment

- ▶ Auto Auto assign IRQ to PCI 3. (Default value)
- ▶ 3,4,5,7,9,10,11,12,14,15 Set IRQ 3,4,5,7,9,10,11,12,14,15 to PCI 3.

PCI Health Status

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PC Health Status

Reset Case Open Status	[Disabled]	Item Help
Case Opened	No	Menu Level▶
VCORE	1.71V	
+3.3V	3.29V	
+5V	4.99V	
+12V	11.73V	
Current System Temperature	33° C/ 91° F	
Current CPU Temperature	27° C/ 80° F	
Current CPU FAN Speed	4821 RPM	
Current SYSTEM FAN Speed	0 RPM	
CPU Warning Temperature	[Disabled]	
CPU FAN Fail Warning	[Disabled]	
SYSTEM FAN Fail Warning	[Disabled]	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults		

Reset Case Open Status

Case Opened

If the case is closed, "Case Opened" will show "No".

If the case have been opened, "Case Opened" will show "Yes".

If you want to reset "Case Opened" value, set "Reset Case Open Status" to "Enabled" and save CMOS, your computer will restart.

Current Voltage (V) VCORE / +3.3V / +5V / +12V

▶ Detect system's voltage status automatically.

Current System/CPU Temperature

▶ Detect System/CPU Temp. automatically.

Current CPU/SYSTEM FAN Speed (RPM)

▶ Detect CPU/SYSTEM Fan speed status automatically.

CPU Warning Temperature

▶ 60°C / 140°F Monitor CPU Temp. at 60°C / 140°F.

▶ 70°C / 158°F Monitor CPU Temp. at 70°C / 158°F.

▶ 80°C / 176°F Monitor CPU Temp. at 80°C / 176°F.

▶ 90°C / 194°F Monitor CPU Temp. at 90°C / 194°F.

▶ Disabled Disable this function.(Default value)

CPU FAN Fail Warning

▶ Disabled Fan Warning Function Disable. (Default value)

▶ Enabled Fan Warning Function Enable.

☞ SYSTEM FAN Fail Warning

- ▶ Disabled Fan Warning Function Disable. (Default value)
- ▶ Enabled Fan Warning Function Enable.

Frequency/Voltage Control

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Frequency/Voltage Control

CPU Clock Ratio	[10X]	Item Help
Linear Frequency Control	[Disabled]	Menu Level ▶
x CPU Clock (MHz)	100	
x DRAM Clock (MHz)	AUTO	
x AGP Clock (MHz)	AUTO	
x PCI Clock (MHz)	AUTO	
↑↓→←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Save Default F7: Optimized Defaults		

☞ CPU Clock Ratio

This setup option will automatically assign by CPU detection.

For Willamette CPU:

8X~23X default: 14X

For C-Stepping P4:

8X,10X~24X default: 15X

For Northwood CPU:

12X~24X default: 16X

The option will display "Locked" and read only if the CPU ratio is not changeable.

☞ Linear Frequency Control

- ▶ Disabled Disable this function. (Default value)
- ▶ Enabled Enable this function.

☞ CPU Clock

- ▶ 100~355 Select CPU Clock to 100MHz~355MHz.

If you use FSB400 Pentium 4 processor, please set "CPU Clock" to 100MHz. If you use FSB533 Pentium 4 processor, please set "CPU Clock" to 133MHz. If you use FSB800 Pentium 4 processor, please set "CPU Clock" to 200MHz.

Incorrect using it may cause your system broken. For power End-User use only!

☞ DRAM Clock (MHz)

- ▶ Please set DRAM Clock according to your requirement.

If you use DDR200 DRAM module, please set "DRAM Clock(MHz)" to 200. If you use DDR333 DRAM module, please set "DRAM Clock(MHz)" to 333.

Incorrect using it may cause your system broken. For power End-User use only!

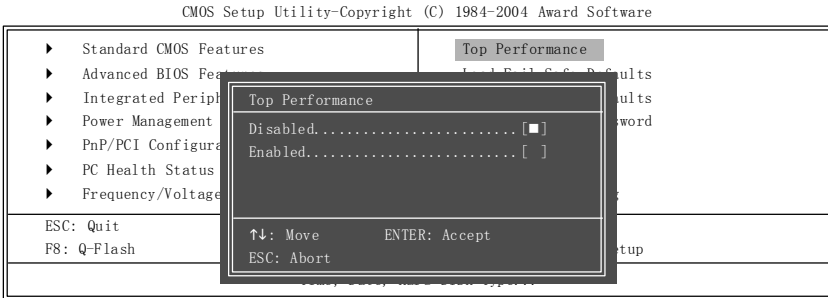
AGP Clock (MHz)

Please set AGP Clock according to your requirement.
 Incorrect using it may cause your system broken. For power End-User use only!

PCI Clock (MHz)

Please set PCI Clock according to your requirement.
 Incorrect using it may cause your system broken. For power End-User use only!

Top Performance

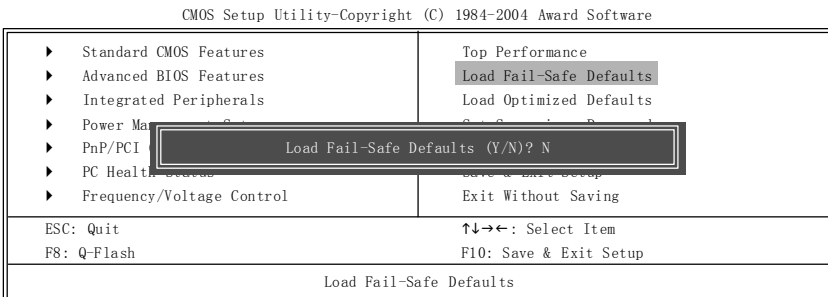


If you wish to maximize the performance of your system, set "Top Performance" as "Enabled".

- ▶ Disabled Disable this function. (Default Value)
- ▶ Enabled Enable Top Performance function.

⚠ "Top Performance" will increase H/W working speed. Different system configuration (both H/W component and OS) will effect the result. For example, the same H/W configuration might not run properly with Windows XP, but works smoothly with Windows NT. Therefore, if your system is not perform enough, the reliability or stability problem will appear sometimes, and we will recommend you disabling the option to avoid the problem as mentioned above.

Load Fail-Safe Defaults



Fail-Safe defaults contain the most appropriate values of the system parameters that allow minimum system performance.

Save & Exit Setup

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<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI ▶ PC Health Status ▶ Frequency/Voltage Control 	<ul style="list-style-type: none"> Top Performance Load Fail-Safe Defaults Load Optimized Defaults Save & Exit Setup Exit Without Saving
Save to CMOS and EXIT (Y/N)? Y	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Save Data to CMOS	

Type "Y" will quit the Setup Utility and save the user setup value to RTC CMOS.
Type "N" will return to Setup Utility.

Exit Without Saving

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<ul style="list-style-type: none"> ▶ Standard CMOS Features ▶ Advanced BIOS Features ▶ Integrated Peripherals ▶ Power Management Setup ▶ PnP/PCI ▶ PC Health Status ▶ Frequency/Voltage Control 	<ul style="list-style-type: none"> Top Performance Load Fail-Safe Defaults Load Optimized Defaults Save & Exit Setup Exit Without Saving
Quit Without Saving (Y/N)? N	
ESC: Quit	↑↓→←: Select Item
F8: Q-Flash	F10: Save & Exit Setup
Abandon all Data	

Type "Y" will quit the Setup Utility without saving to RTC CMOS.
Type "N" will return to Setup Utility.

Chapter 3 Install Drivers


Install Drivers

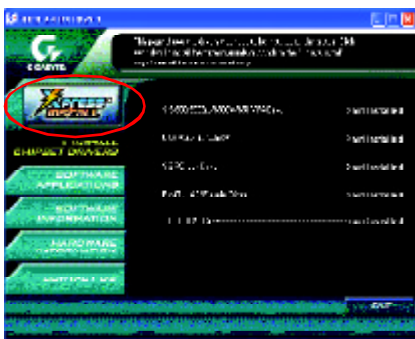


Pictures below are shown in Windows XP


Insert the driver CD-title that came with your motherboard into your CD-ROM drive, the driver CD-title will auto start and show the installation guide. If not, please double click the CD-ROM device icon in "My computer", and execute the setup.exe.

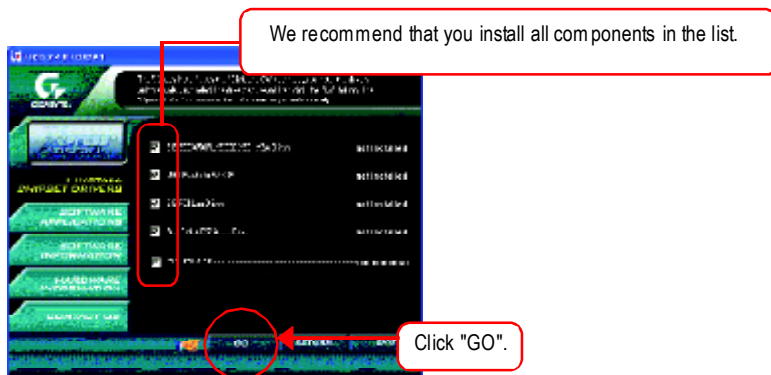
INSTALL CHIPSET DRIVER

This page shows the drivers that need to be installed for the system. Click each item to install the driver manually or switch to the  to install the drivers automatically.



Message: Some device drivers will restart your system automatically. After restarting your system the "Xpress Install" will continue to install other drivers.

The "Xpress Install" uses the "Click and Go" technology to install the drivers automatically. Just select the drivers you want then click the "GO" button. The  will execute the installation for you by itself.





Driver install finished!! you have to reboot system!!

Item Description

- SiS 650/650GL/650GX/651 VGA Driver
VGA driver for VGA integrated SiS 650/650GL/650GX/651chipset.
- USB Patch for WinXP
This patch driver can help you to resolve the USB device wake up S3 hang up issue in XP.
- SiS PCI Lan Driver (*)
SiS 962L/963L LAN driver.
- RealTek AC97 Audio Driver
Install RealTek AC97 audio driver.
- SiS USB 2.0 Driver
It is recommended that you use the Microsoft Windows update for the most updated driver for XP/2K.



If your CD doesn't have SiS® USB2.0 driver, please download the USB2.0 driver from Microsoft® website (www.microsoft.com) for USB2.0 devices support. Please also note that Microsoft® USB2.0 driver is currently supported by Windows XP and Windows 2000 only. Once we get the latest SiS® USB2.0 driver for Windows 98 and Windows ME, we will put the driver on GIGABYTE website asap. (<http://www.gigabyte.com.tw>).



For USB2.0 driver support under Windows XP operating system, please use Windows Service Pack. After install Windows Service Pack, it will show a question mark "?" in "Universal Serial Bus controller" under "Device Manager". Please remove the question mark and restart the system (System will auto-detect the right USB2.0 driver).

** For 8S651M-RZ only.

CONTACT US

Contact us via the information in this page all over the world.

• Taiwan

Gigabyte Technology Co., Ltd.
 Address: No.6, Bau Chiang Road, Hsin-Tien, Taipei Hsien, Taiwan, R.O.C.
 Tel: 886 (2) 8912-4888
 Fax: 886 (2) 8912-4004
 Tech.Support:
<http://tw.giga-byte.com/TechSupport/ServiceCenter.htm>
 Non-Tech.Support (Sales/Marketing issues):
<http://ggts.gigabyte.com.tw/nontech.asp>
 Website: <http://www.gigabyte.com.tw>

• USA

G.B.T. INC.
 Address: 17358 Railroad St, City of Industry, CA91748.
 Tel: 1 (626) 854-9338
 Fax: 1 (626) 854-9339
 Tech.Support:
<http://www.giga-byte.com/TechSupport/ServiceCenter.htm>
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<http://ggts.gigabyte.com.tw/nontech.asp>
 Website: <http://www.giga-byte.com>

• Germany

G.B.T. Technology Trading GmbH
 Tel: 49-40-2533040
 49-01803-428468 (Tech.)
 Fax: 49-40-25492343 (Sales)
 49-01803-428329 (Tech.)
 Tech.Support:
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• Japan

Nippon Giga-Byte Corporation
 Website: <http://www.gigabyte.co.jp>

• U.K

G.B.T. TECH.CO.LTD.
 Tel: 44-1908-362700
 Fax: 44-1908-362709
 Tech.Support:
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<http://ggts.gigabyte.com.tw/nontech.asp>
 Website: <http://uk.giga-byte.com>

• The Netherlands

Giga-Byte Technology B.V.
 Address: Verdunplein 8 5627 SZ, Eindhoven, The Netherlands
 Tel: +31 40 290 2088
 NL Tech.Support: 0900-GIGABYTE (0900-44422983, €0.2/M)
 BE Tech.Support: 0900-84034 (€0.4/M)
 Fax: +31 40 290 2089
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Beijing
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