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MANUAL

Supporting Intel Pentium IV FC-PGA2 Processor in the 478Pin package.

UDMA33/66/100, PC133 SDRAM

Quality, Performance Mainboards

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Overview

Thank You for purchasing our High Performance Mainboard. Our advanced technology mainboard is designed for processing speeds of 1.7G or above and is upgradeable for future processors.

The Intel Mainboard Utilizes 82845 and ICH2 chipset provide an Integrated Bus Mastering IDE controller with two high performance IDE interfaces for up to four UDMA IDE devices (hard drives, or CD-ROM's). The LPC(Low-pin count) I/O controller integrates a floppy drive interface, two enhanced 16C550 compatible serial ports, one parallel port and one consumer infra red compatible interface. The ICH2 I/O controller integrates two USB 1.1 compliant controllers.

Intel 845 chipset support Pentium IV FC-PGA2 Processor on the 478Pin Package. with 133 SDRAM DIMM.

Two DIMM slots support up to 2GB Memory Capacity. WAKEUP-LINK Header supports Wake-On-LAN.

Integrated AC97 2.1 Compliant Codec with 3D Stereo enhancement (optional). Award 2M bits Firmware Hub compliant with PC99,ACPI/DMI power management.

Micor ATX 245mm X 211mm.

Fast Start Installation

This section will aid you in quickly setting up the Mainboard. Be sure to take caution to avoid personal injury or damage to wiring due to sharp pins on connectors, printed circuit assemblies, rough edges and corners and hot components.

Your Location Requirements Are:

- A sturdy, level surface for placement
- Space allowance around mainboard
- A stable environment with no abrupt temperature or humidity changes
- No exposure to chemicals or direct sunlight
- Line voltage and frequency not varying more than + or -10% from the value stated on the package or nameplate (located on the back, opposite the power plug)

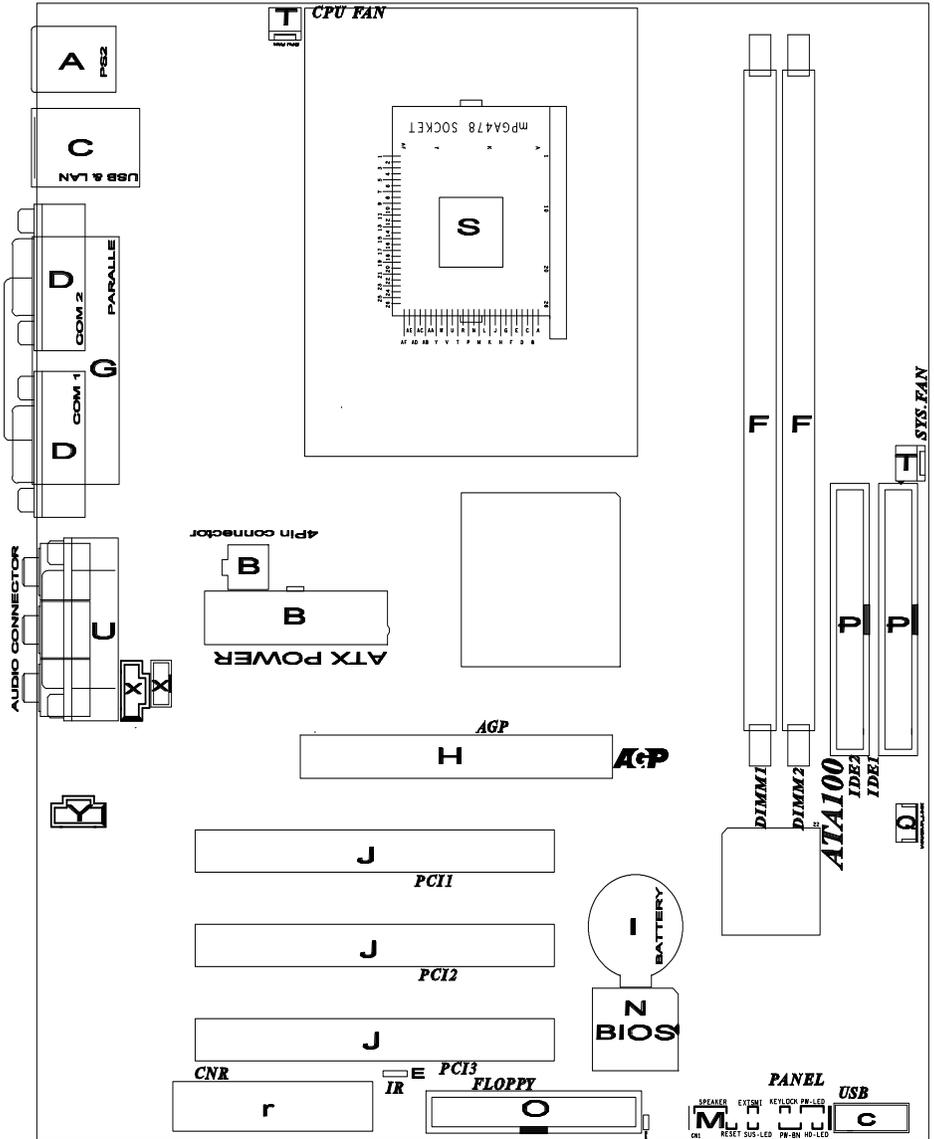
Checking The Package Contents

Remove the items from the box and make sure you have the following items before beginning. If any of the items below are missing, please contact the representative for part replacement.

Micro ATX Box Standard Package

- 1) Mainboard
- 2) Driver CD with Norton AntiVirus 2001 OEM Version
- 3) User Manual
- 4) IDE Hard Drive Ribbon Cable
- 5) Floppy Drive Ribbon Cable

Mainboard Diagram



Before we begin installing your series Mainboard, we have provided you with a diagram of the Mainboard to help you locate the appropriate “connectors”. The letters below describe the key Mainboard components. Page number in the right hand column will direct you to detailed description of the component.

P845SD

Option : AC97 2.1 Compliant 3D Audio

Onboard

COMPONENT	PAGE
A- PS/2 Mouse & Keyboard Connector	45
B- ATX Power Supply + 4Pin extend +12V Connector	45
C- Universal Serial Bus (USB) Connector	46
c- Universal Serial Bus (USB) Header	46
D- Serial (COM1 & 2) Connector	46
E- Infra-Red (IR) Header	47
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r- CNR add-in Board Connector	50
S- CPU Socket	50
T- CPU / SYSTEM & AUXILIARY FAN Connector	50
U- Audio & Joystick Connectors	51
X- CD Audio Connector	51
Y- Auxiliary Audio Connector	51



Jumper settings

Set the Jumper

JP2 [1-2] Normal; [2-3] to clear CMOS.

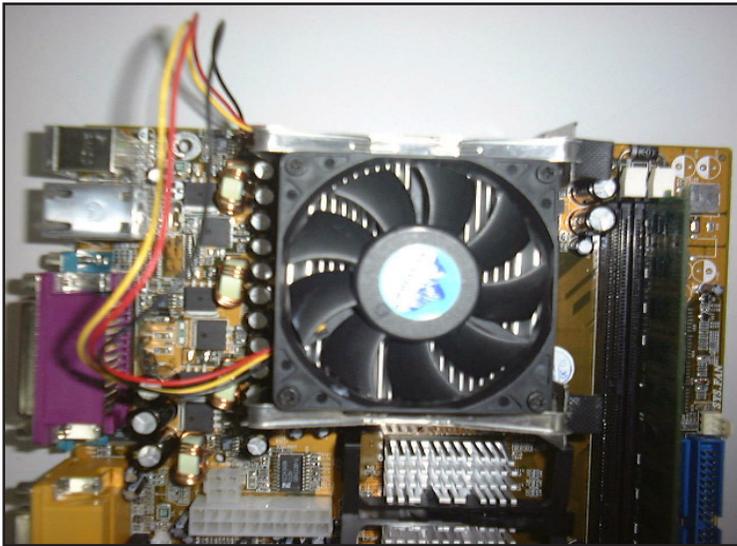
7 Quick Steps

Please follow these steps in order to assure that your series of Mainboard installation is successful. Please refer to the back chapters for further information regarding boot-up and configurations. An anti-static wrist band is recommended when handling electronic components, be sure your work area is static free before you begin this section.

1 Installing the CPU

The Mainboard provides a 478 pins, mPGA478B Socket. The CPU should have a fan attached to prevent overheating. If a fan is not present, user should purchase a fan prior to turning on the system. The recommended heatsinks for the mPGA478B processor are those with three-pin fans that can be connected to the fan connectors on the Mainboard. It provides the +12 Volts DC for your CPU cooling fan.





CAUTION!

Be sure that this MB can't support Cyrix sufficient air circulation must be available across the processor's heatsink. Without sufficient circulation, the processor could overheat and damage both the processor and the mainboard. You may install an auxiliary fan if necessary.

2

Installing the Memory

Memory is installed in DIMM Sockets 1-2 (F Mainboard in diagram) as follows :



After you have set the DIMM firmly into its socket, snap the white chip holders up to lock in the DIMM.

3

Attaching ATX Power Supply.

ATX Power Supply Connector (20-pin ATX PWR and 4Pin +12V).

The single 20-pin connector (B in mainboard diagram) incorporates standard +/-5V and +/-12V, with a standby 5V and +3.3V. With a power supply that supports remote power on/off, the mainboard can turn off the system power through the software control, such as the shutdown in Windows 95 Start Menu. The BIOS system will turn the system power off when it receives the proper APM command from the OS. APM must be enabled in the BIOS and OS systems in order for the soft-off feature to work properly. the 4Pin Connector Provide extend +12V for P4 Mainboard.



ATX Power Connector



12V Connector



Attaching the power supply wire

IMPORTANT: Wire should always be connected with the red stripe on the Pin 1 side of the connector. The four corners of the connector's are labeled on the mainboard.

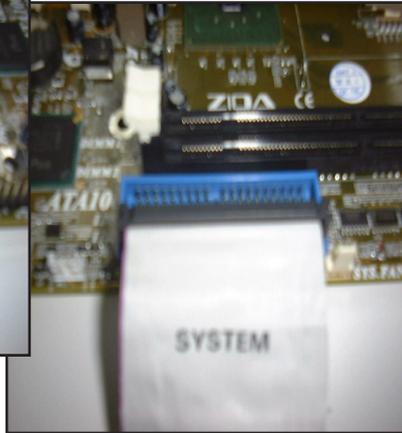
4

Floppy Disk Drive Connector (34-pin FLOPPY).

This is a 34-pin connector that supports the provided floppy drive ribbon cable. After connecting the single end to the on-board “FLOPPY” connector, (O in mainboard diagram) connect the remaining plugs on the other end to the corresponding floppy drives.



Floppy connection



IDE connection

5

IDE Device Connector.

The on-board IDE connectors (P in mainboard diagram) support the provided 40/80-pin IDE hard disk ribbon cable. After connecting the single end to the mainboard, connect the remaining plugs at the other end of your hard disk(s). If you install hard disks, you must configure the drives by setting its jumpers according to the documentation of your hard disk.

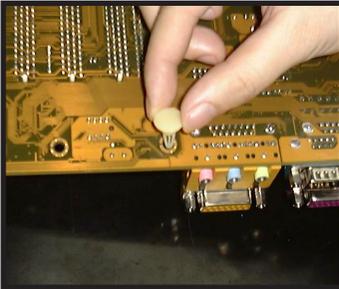
Also, you may connect the hard disk drives so that both become Masters, using one ribbon cable on the primary IDE-connector, and the other on the secondary IDE connector.

NOTE: For the flat ribbon cable connection, please make sure that the pin 1 of the ribbon cable (the red wire side of the cable) is correctly connected to the on-board connector's pin 1 as shown on the “mainboard diagram”.

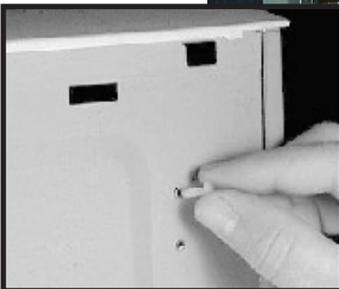
6

Mounting Mainboard to chassis

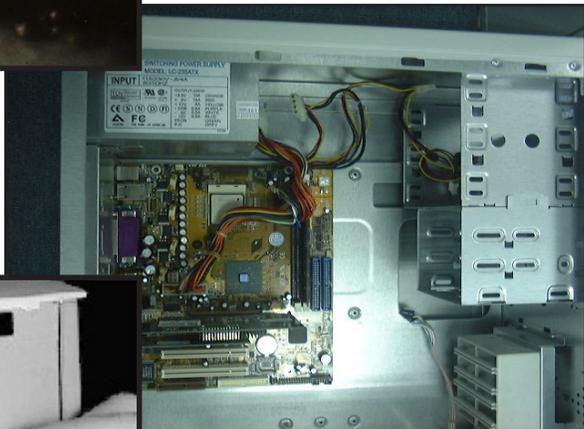
Snap black mounting pins onto the mainboard as shown. Carefully install the mainboard into the computer chassis and align the corresponding mounting holes on the mainboard with the holes on you chassis. While chassis design varies you may need to refer to the chassis manual for the mainboard mounting area. Insert white pins through the chassis and through the mounting holes on the mainboard into the black pin making sure they are snapped fully into place.



Black mounting pin



Insert white mounting pin



Insert into chassis

7

Installing Add-in Boards

First read your expansion card documentation for hardware and software settings that may be required to set up your specific card. Set any necessary jumpers on your expansion card and remove the cover plate on your computer case at the slot you intend to use. Keep the plate for possible future use. Carefully align the card's connector and press firmly. Secure the card on the slot with the screw you removed from the cover plate.



PCI Board Installation



Make sure to align rear external I/O connector's with the corresponding openings in chassis shown below (A,C & G in mainboard diagram)

You can now attach the Front Panel Function Connector (M in mainboard diagram) wires and Keyboard, Mouse and Monitor cables to the appropriate ports. Connect the main power cable and boot your system.

Press the DEL key when prompted and continue BIOS configurations discussed in the next chapter.



I/O connectors aligned with openings

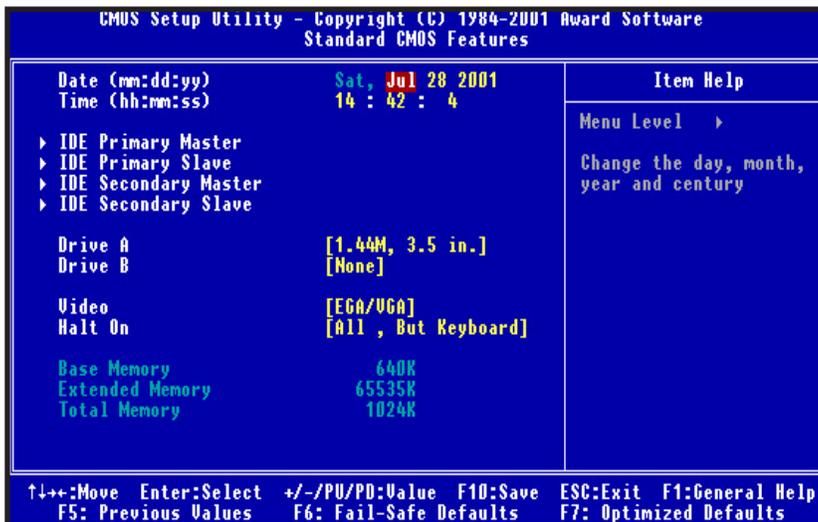
BIOS Setup





Award BIOS Setup

Standard CMOS Features	Sets time, date, hard disk type, types of floppy drive. Monitor type, and if keyboard is installed.
Advanced BIOS Features	Sets Typematic Rate and Delay, Above 1 MB Memory Test, Memory Test Tick Sound, Hit Message Display, System Boot Up Sequence, and many others.
Advanced Chipset Features	Sets chipset - specific options and features
Integrated Peripherals	Controls I/O Controller - related features
Power Management Setup	Controls power savings options
PnP/PCI Configurations	Sets options related to PCI bus and Plug and Play options.
PC Health Status	Display CPU or System Temperature, Fan Speed.
Frequency / Voltage Control	Control CPU's Clock
Load Fail-Safe Defaults	Load Fail-Safe Defaults
Load Optimized Defaults	Load Optimized Defaults
Set Supervisor Password	Change/Set/Disabled Password
Set User Password	Change/Set/Disabled Password
Save & Exit Setup	Save Data to CMOS
Exit Without Saving	Abandon all Saving



Standard CMOS Features

Select the BIOS Setup options by choosing Standard CMOS Features from the BIOS. Standard Setup options are described below.

Date (mm:dd:yy) - Setting for the system Date

Time (hh:mm:ss) - Setting for the system Time.

Primary Master

Primary Slave

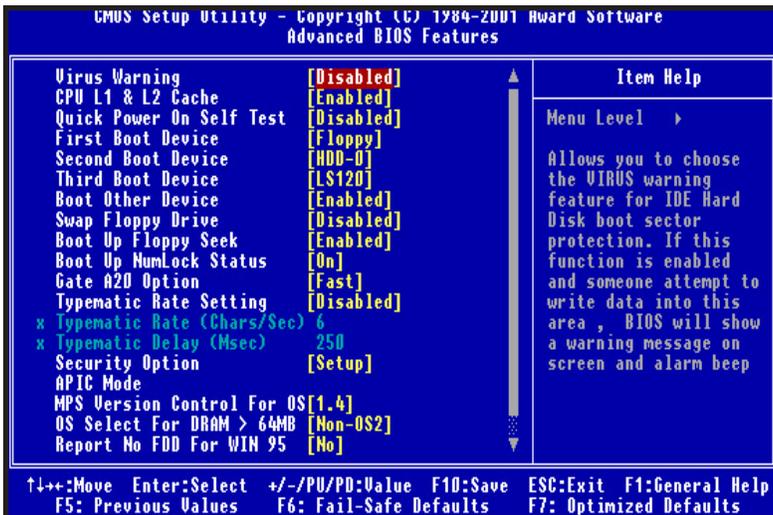
Secondary Master

Secondary Slave

Select these options to configure the drive named in the option. The BIOS can automatically configure the drive. A screen with a list of drive parameters appears.

Floppy Drive A: and B:

Move the cursor to these fields and select the floppy type. The setting are 360 KB 5 1/4 inch, 1.2 MB 5 1/4 inch, 720 KB 3 1/2 inch, 1.44MB 3 1/2 inch or 2.88 MB 3 1/2 inch.



Advanced BIOS Features

Virus Warning

You can "Enable" or "Disable" this feature. When enabled, BIOS will activate automatically if anything attempt to access the boot sector or hard disk partition table during system boot-up. The default value is "Disabled".

CPU L1 & L2 Cache

This category enables or disables the CPU to speed up memory access. The default value is "Enabled".

Quick Power On Self Test

This category speeds up Power On Self Test (POST) after you power on the computer. If it is set to "Enabled", BIOS will shorten or skip some check items during POST. The default value is "Disabled".

First / Second / Third Boot Device

This feature allows you to select the system first boot device. The options are Floppy, LS120, HDD-0, SCSI, CD-ROM, HDD-1, HDD-2,HDD-3, ZIP100, LAN, Disabled.

Boot Other Device

This feature allows you to select other boot device automatically.

Swap Floppy Drive

This feature allows you to enable the system swap floppy function, the default is "Disabled". When this function enables, the system will assign the Drive A as Drive B, and vice versa.

Boot Up Floppy Seek

This default setting is "Enabled", so that the BIOS will search for floppy disk drive during boot up. If disabled, BIOS will not search for the type of floppy disk drive by track number. Note that there will be no warning message if the drive installed is 360K.

Boot Up NumLock Status

It determines the Num-Lock LED on keyboard is turned on/off. When the system is powered on so that the end user can use the arrow keys on both the numeric keypad and the keyboard. The default value is "On".

Gate A20 Option

This entry allows you to enable the A20 address line access. The default is "FAST".

Typematic Rate Setting

Typematic Rate sets the rate at which characters on the screen repeat. The default setting is "Disabled".

Typematic Rate (Chars/Sec)

Typematic rate sets the rate at which characters on the screen repeat when a key is pressed and held down. You can select 6-30 characters per second. The default setting is "6".

Typematic Delay (Msec)

When holding down a key, the time between the first and second character display, this option specifies the numbers of times of character repeat on the screen. The default setting is "250".

Security Option

This option limits the access to the system and Setup or just to Setup. When you select "System", the system will not boot and access to CMOS Setup. A correct password must be entered at the prompt. The default setting is "Setup".

APIC Mode

You can "Enabled" or "Disabled" APIC .When Enabled,User can program the interrupt controler.

MPS Version Control For OS

The Option allows to selct MPS version control for OS,available setting are 1.1and 1.4,Default is "1.1".

OS Select For DRAM > 64MB

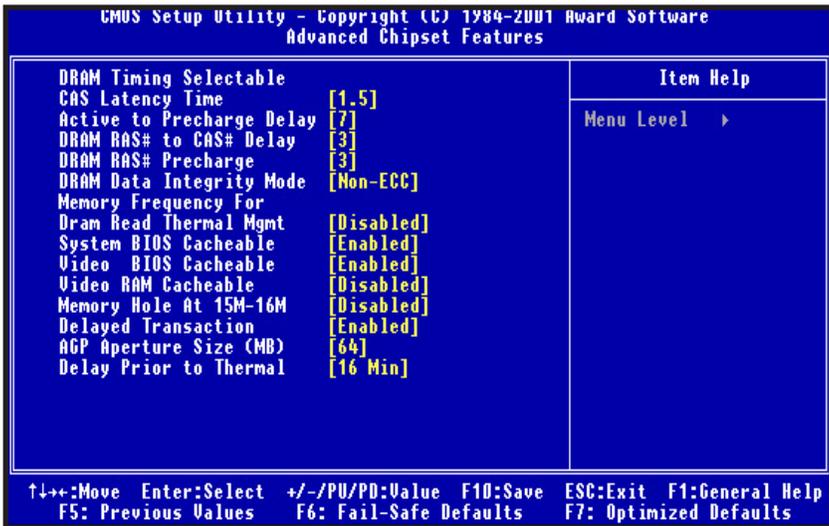
Some of the OS/2 application access the memory in different mode. Enable this option to allow the system use another mode to access the main memory for OS/2 applications.

Report No FDD For Win95

When setting this option to "YES", system can release the IRQ for other peripherals. This option should be "No", when the floppy driver is installed in the system.

Small Logo (EPA) show

When setting this option to "Enabled",Small Logo(EPA) show.When Disabled, Logo EPA wil not show.



Advanced Chipset Features

Choose Chipset Features Setup on the Setup main menu. All Chipset Setup options are then displayed.

DRAM Timing Selectable

Set DRAM Timing setting method Available settingure by SPD Manual ,Default is By SPD.

CAS Latency Time

Specifies the number of SCLKS between the time when the Read command is sample by SDRAM and the whitney sample reads data from SDRAM ,Available settings are 2 (SCLKS) and 3. Default is "3".

Active to Precharge Delay

The Field sets SDRAM active to precharge delay timing. the choices:5, 6, 7.

DRAM RAS# to CAS# Delay

This field sets the RAS to CAS Delay timing.

The choices : 2, 3.

DRAM RAS# Precharge

This field sets the RAS Precharge timing.

The choices : 2, 3.

DRAM Data Integrity Mode

The field sets SDRAM whether to use ECC.

Memory Frequency For

The field sets memory Frequency. Available settings are PC133,Auto ,Default is "Auto".

Dram Read Thermal Mgmt

Select "Enable" to allow Dram Read Thermal Mgmt to manage DRAM speed according to it's temperature. Once the DRAM temperature increases to a specific level, Thermal Mgmt will slow down DRAM speed for a certain period of time (can be specific in "Delay Prior to Thermal") in order to cool down the DRAM. After the delay time is up, Thermal Mgmt will check for the DRAM temperature to determine whether to change DRAM speed back to its normal operation speed or not.

Default setting is "Disable".

System BIOS Cacheable

Select "Enabled" allows caching of the System BIOS, resulting in better system performance.

The choices : Enabled, Disabled.

Video BIOS Cacheable

Select "Enabled" allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

Video RAM Cacheable

Select "enable" allows caching of the video RAM, Resulting in better system performance. Default is "Disable".

Memory Hole At 15M-16M

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

Enabled Memory hole supported.

Disabled Memory hole not supported.

Delayed Transaction

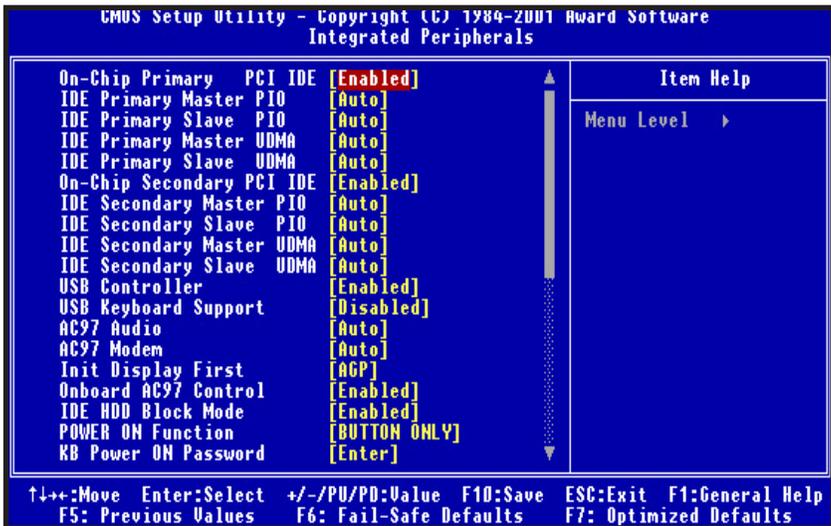
This option specifies the ICH Delay Transaction settings. The settings are Disabled or Enabled. The Optimal and Fail-Safe default settings are "Disabled".

AGP Aperture Size (MB)

Sets Maximum memory aperture for AGP port. Available settings are 4MB, 8MB, 16MB, 32MB, 64MB, 128MB and 256MB. Default is "64MB".

Delay Prior to Thermal

You must have "Dram Read Thermal Mgmt" option enabled in order for this option to be meaningful. This option sets the time between each DRAM Thermal detections. Options are 4min / 8min / 16min / 32min. Default setting is "16min".



Integrated Peripherals

On-Chip Primary / Secondary PCI IDE

The chipset contains a PCI IDE interface with support for two IDE channels. Select "Enabled" to activate the primary IDE interface. Select "Disabled" to deactivate this interface. The choices : Enabled, Disabled.

IDE Primary / Secondary Master / Slave PIO

The four IDE PIO (Programmed Input/ Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE Primary / Secondary Master / Slave UDMA

Ultra DMA33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR3 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA33/66/100, select Auto to enable BIOS support.

The choices : Auto, Disabled.

USB Controller

This should be enabled if your system has a USB installed on the system board and you want to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

USB Keyboard Support

This option is enabled to support USB Keyboard.

AC97 Audio

This option allows you to control the onboard AC97 audio.

The choices : Auto, Disabled.

AC97 Modem (Optional)

This item allows you to control the onboard AC97 Modem.

The choices : Auto, Disabled.

Init Display First

This item allows you to decide to active PCI Slot or AGP first.

The choices : PCI Slot, AGP.

Onboard AC97 Control

This option allows you to control the onboard AC97.

The choices: Enable, Disable.

IDE HDD Block Mode

This item allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD).

Enabled IDE controller uses block mode.

Disabled IDE controller uses standard mode.

POWER ON Function

Specifies the keyboard hot key, mouse button, Power button to wakeup the computer from S3-S5 state, Available options are password, Hot key, Mouse Left, Mouse Right, Any key, Button only, keyboard 98, Default setting is button only.

KB Power ON Password

Sets Keyboard power on password.

Hot Key Power On

Sets power on hot key. Default setting is "Ctrl+F1".

Onboard FDC Controller

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

The choices : Enabled, Disabled.

Onboard Serial Port 1 / Port 2

This item allows you to determine access onboard serial port 1 / port 2 controller with which I/O address.

The choices : 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Disabled, Auto.

UART Mode Select

This option specifies the mode of UART.

The choices : Normal, IrDA, ASKIR.

RxD, TxD Active

Select this option to enable or disable of TxD(Transmit) or RxD(Receive) function.

IR Transmission Delay

This option specifies the type of transmission used by the infrared devices attached to serial port 3. This option only appears if the Onboard Serial Port2 option is not set to Auto or Disabled. The settings are Disabled or Enabled. The default settings are Enabled.

UR2 Duplex Mode

This option provides the mode in Full or Half duplex mode.

Use IR Pins

This option provides RxD2, TxD2, IR-Rx2Tx2. (Default)

Onboard Parallel Port

This option specifies the base I/O port address of the parallel port on the mainboard. The settings are Disabled, 378/IRQ7, 278/IRQ5, or 3BC/IRQ7. The Optimal default setting is "378/IRQ7".

Parallel Port Mode

This option specifies the parallel port mode. The Optimal default setting is Normal. The Fail-Safe default setting is Disabled. The settings are SPP, EPP, ECP, ECP+EPP.

EPP Mode Select

This option specifies the Enhanced Parallel Port specification version number that is used in the system. This option only appears if the Parallel Port Mode option is set to EPP.

ECP Mode Use DMA

Select a DMA channel for the port. Choices are 3, 1.

PWRON After PWR-Fail

Resume the system to power on status after power fail.

Options : On, Off or Former-Sts.

Game Port Address

Set this option to "Enabled" to enable the onboard Game Port. The settings are Disable, 201, 209.

Midi Port Address

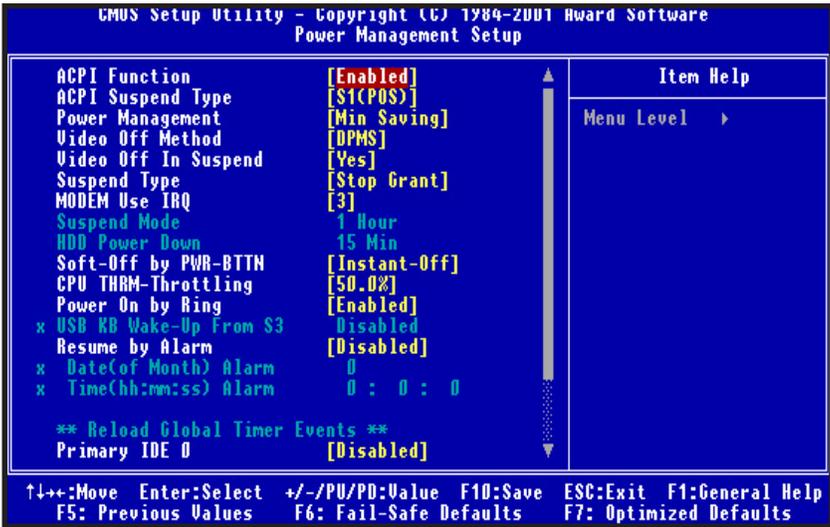
Select the Midi Port address.

Options : Disabled, 290, 300 & 330.

Midi Port IRQ

Select the Midi Port IRQ.

Options : 5 and 10.



Power Management Setup

Power Management

This option enables the chipset power management and APM (Advanced Power Management) features. The settings are User Define, Min Saving or Max Saving.

Video Off Method

This determines the manner in which the monitor is blanked.

V/H SYNC+Blank

This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen

This option only writes blanks to the video buffer.

DPMS

Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.

Video Off In Suspend

When enabled, this feature allows the VGA adapter to operate in a power saving mode. Options : Yes, No.

Suspend Type

This determines the suspend type.

Options : Stop Grant, and Pwr On Suspend.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

The choices : 3, 4, 5, 7, 9, 10, 11, NA.

Suspend Mode

This option specifies the length of a period of system inactivity while in Full power on state. When this length of time expires, the computer enters Standby power state. The settings are Disabled, 1 min, 2 min, 4 min, up to 1 hour. The Optimized default settings are Disabled.

HDD Power Down

This option specifies the length of a period of hard disk drive inactivity. When this length of time expires, the computer enters power-conserving state specified in the Hard Disk Power Down Mode Option. The settings are Disabled, 1 min, 2 min, 3 min, 4 min, 5 min, 6 min, 7 min, 8,min, 9 min, 10 min, 11 min, 12 min, 13 min, 14 min, 15 min. The Optimal and Fail-Safe default settings are "Disabled"

Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-OFF state when the system "hang". The choice : Delay, 4 Sec, Instant-Off.

CPU THRM-Throttling

This option specifies the throttle slow clock ratio. The settings are 87.5%, 75.0%, 62.5% 50.0%, 37.5%, 25.0%, 12.5%. The Optimal and Fail-Safe default settings are 50.0%.

Power On by Ring

An input signal on the serial Ring Indicator (RI) line (an incoming call from the modem) awakens the system from a soft-off state.

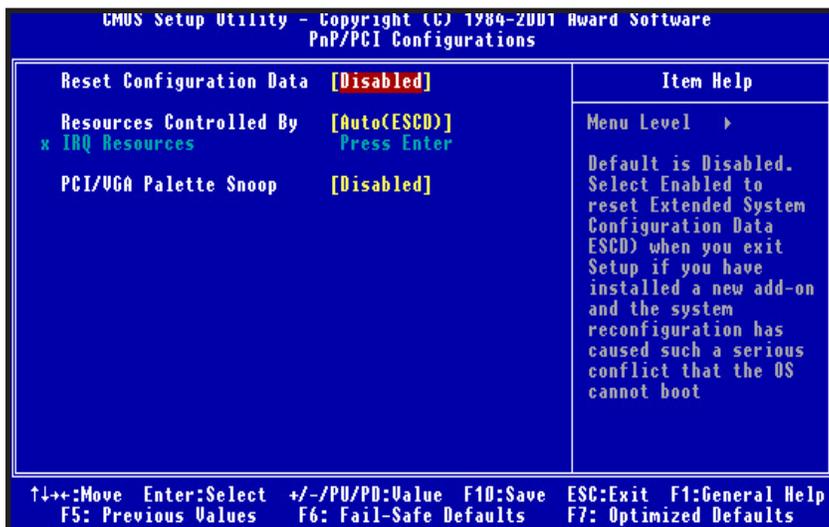
USB KB Wake-up From S3

Enable/Disable USB KB Wake-up from S3. Default setting is "Disable".

Resume by Alarm

When Enabled, you can set the date and time at which the RTC (real-time clock) alarm awakens the system from Suspend mode.

Primary IDE 0/1	options : enabled, disabled
Seconday IDE 0/1	options : enabled, disabled
FDD, COM, LPT Port	options : enabled, disabled
PCI PIRQ [A-D] #	options : enabled, disabled



PnP/PCI Configurations

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot. The choices : Disabled, Enabled.

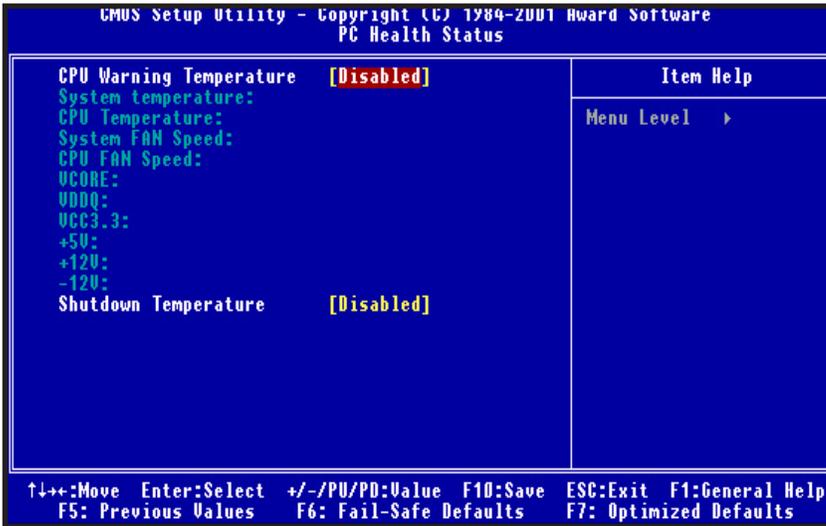
Resources Controlled By

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows98. The choices : Auto (ESCD), Manual.

PCI / VGA Palette Snoop

Leave this field at Disabled.

Choices are Enabled, Disabled.



PC Health Status

CPU Warning Temperature

Specifies CPU warning temperature value. Available options are 50°C/122°F, 53°C/127°F, 56°C/133°F, 60°C/140°F, 63°C/145°F, 66°C/151°F, 70°C/158°F and Disabled. Default setting is "Disabled".

System Temperature.

CPU Temperature

Detect System and CPU temperature automatically.

System FAN Speed

CPU FAN Speed

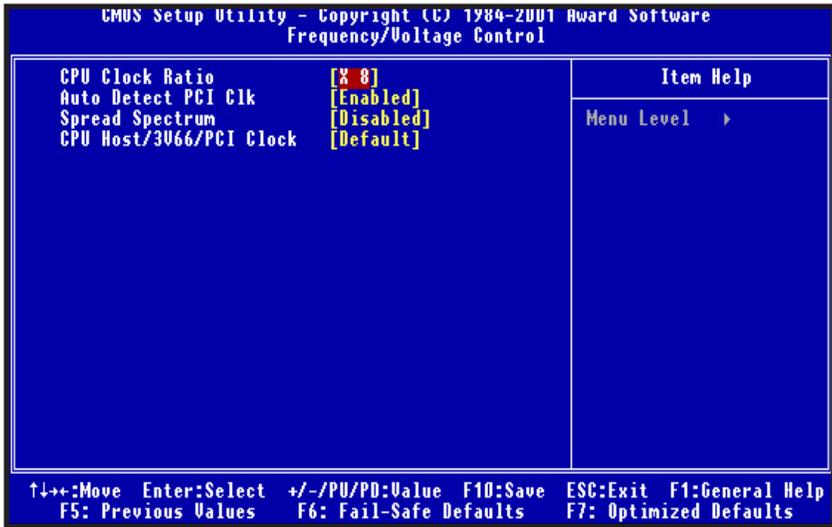
Detect Fan Speed Status automatically.

Vcore/VDDQ/VCC3-3/+5V/+12V/-12V

Detect System's Voltage status automatically.

Shutdown Temperature

This function will be effective only for the operating systems that support ACPI Function. Specifies Shutdown Temperature Value. Available option are 60°C/140°F, 65°C/149°F, 70°C/158°F, 75°C/167°F and Disabled. Default setting is "Disabled".



Frequency / Voltage Control

CPU Clock Ratio

Options : X8, X9, X10, up to X24.

Auto Detect PCI Clk

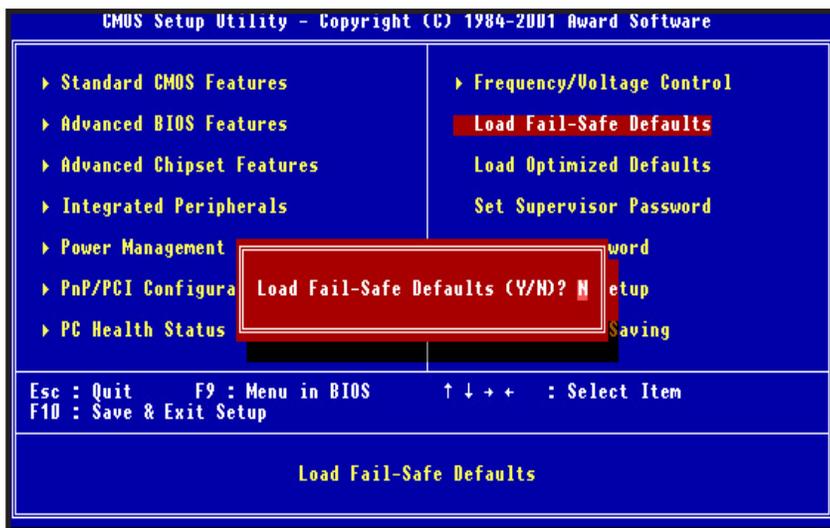
Options : Enabled / Disabled

Spread Spectrum

Options : Enabled / Disabled

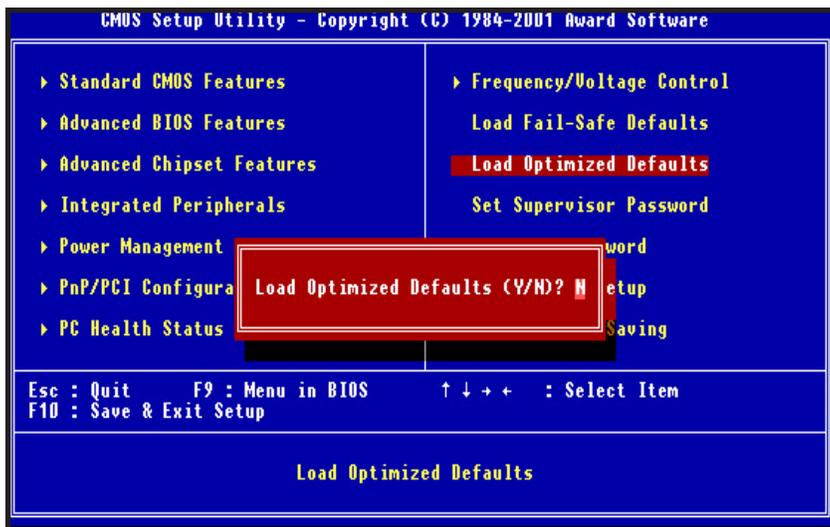
CPU Host / 3V66/PCI Clock

Options: Default, 100/66/33MHz, 103/69/34MHz,
 105/70/35MHz, 107/71/36MHz, 109/73/36MHz,
 111/74/37MHz, 114/76/38MHz, 117/78/39MHz,
 120/80/40MHz, 127/85/42MHz, 130/87/43MHz.



Load Fail-safe Defaults

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



Load Optimized Defaults

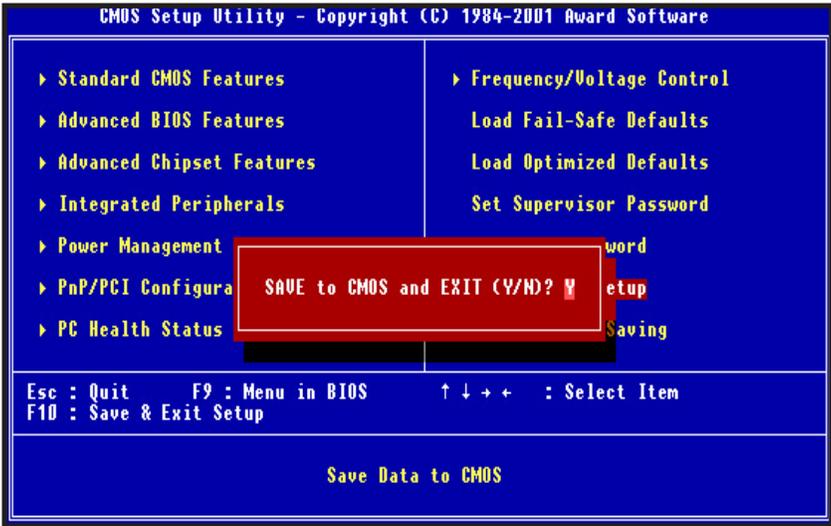
Selecting this field loads the factory defaults for BIOS and Chipset Features which the system automatically detects.



Set Supervisor / User password

When you select this function, the following message will appear at the center of the screen to assist you in creating a password.

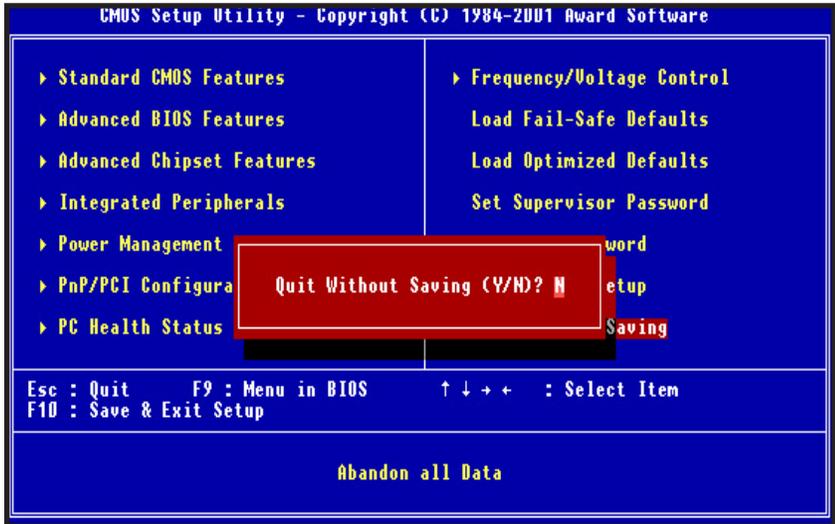
Type the password, up to eight characters and press<Enter>. The new password will clear the previously entered password from CMOS Memory, you will be asked to confirm the Password. Type the password again and press <Enter>.



Save & Exit Setup

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

Type "Y" will quit the Setup Utility and Without Saving the User setup Value.

Type "N" will return to Setup Utility.

Glossary

Glossary

A



PS/2 Mouse & Keyboard Connector

The Mainboard provides two on-board PS/2 connectors, one for the keyboard, and one for the mouse. PS/2 devices all have a standard 6-pin round shape connector. If you are already using a PS/2 mouse or keyboard, simply plug them into the corresponding connector. No jumper settings are necessary.

B



ATX Power Supply Connector

The Mainboard provides a single 20-pin ATX power supply connector and a 4pin extend +12V connector, the 20pin connector incorporates standard +5V and +12V, 3.3V and soft-on/off signals. With a power supply that supports remote power on/off, the mainboard can turn off the system power through software control, such as the shutdown command in the Windows 95 / Windows 98 Start Menu. The BIOS system will turn the system power off when it receives the proper APM command from the OS. APM must be enabled in the BIOS and OS systems in order to set the soft-off feature working properly. The 4pin connector extend +12V Power connection.

Pin	Signal Name	Pin	Signal Name
1	+3.3V	11	+3.3V
2	+3.3V	12	-12V
3	Ground	13	Ground
4	+5V	14	PW_ON
5	Ground	15	Ground
6	+5V	16	Ground
7	Ground	17	Ground
8	PWRGOOD	18	-5V
9	+5VSB	19	+5V
10	+12V	20	+5V

4Pin Connector

Pin	Signal Name
1	Ground
2	Ground
3	+12V
4	+12V



About the Soft Touch Power Button

In an ATX based system, the new soft touch power button replaces the main power switch that turns your system on and off. From an OFF state, you can switch the system ON by simply pressing the power button. From an ON state, the system can be turned OFF by pressing and holding the power button for four (4) seconds OR shut down instantly. The functions of the power button can also be altered in the Power Management section of the CMOS setup.

C Universal Serial Bus (USB) Connector

The Mainboard provides two Universal Serial Bus (USB) connectors. USB is a new interface standard for adding external Plug-and-Play (PnP) devices to the computer system. Peripherals that support USB PnP capabilities can operate at up to a 12Mb/sec data transfer rate. Eventually, all external devices connected to your computer will be standardized to USB.

c Universal Serial Bus (USB) Header

The Mainboard provides a 9pin Universal Serial Bus (USB) Header.

D Serial (COM1 & 2) Connector

The ATX Mainboard provides two serial port connectors. Based on the ATX standard, (2) 9-Pin serial ports is now built on the mainboard back panel. This design makes the mainboard installation easier.

E**Infra-Red (IR) Header**

The Mainboard provides a 5-pin header interface, IR for connection to a Hewlett Packard HSDSL-1000 compatible infrared (IrDA) transmitter/receiver. Connect IR to the front panel I/O IrDA connector provided with your system. Once the module is connected to the front panel I/O IrDA connector, Serial port 2 can be re-directed to the IrDA module. When configured for IrDA, the user can transfer files to or from portable devices such as laptops, PDA's and printers using application software such as LapLink. The IrDA specification provides for data transfers at 115 kbps from a distance of 1-meter. Support for Consumer infrared (ASK-IR) is also included. Please refer to your IR equipment for more detailed information.

The header pin-out is as follows:

Pin	Signal Name
1	VCC, power source
2	No Connection
3	IRRX, infra-red receive
4	Ground
5	IRTX, infra-red transmit

F**Memory Module Sockets**

The Mainboard provides 168 pin standard DIMM sockets for installation of 3.3V unbuffered Single or Double Bank SDRAM modules.

G**Parallel Port onnector**

The ATX Mainboard provides a parallel port connector. Based on the ATX standard, a 25-pin parallel port is now built on the mainboard back panel. This design makes the mainboard installation easier. The parallel port can be BIOS configured into standard (SPP) mode, Enhanced Parallel Port (EPP) mode, and a high speed Extended Capabilities Port (ECP) mode. EPP Mode requires a driver provided by the peripheral manufacturer in order to operate properly.

H Accelerated Graphics Port [AGP] Connector

The Mainboard provides an AGP slot compatible with the Accelerated Graphics Port specification. AGP compliant video cards offer a much higher throughput than equivalent PCI bus video cards. PCI currently only supports a 33MHz bandwidth, and can transport at peak rates up to 133MB/s over its 32 bit data bus. AGP operates at a 66MHz bandwidth which enables a peak rate of 266MB/s in what is known as 'X1' mode. Using 'X2' mode, the peak transport rate can go as high as 532MB/s; Using "X4" model, the peak transport rate can go as high as 1066MB/s.

I LITHIUM BATTERY

A 3V, CR2032, Lithium battery is installed on the on-board battery socket. This battery is used to supply the CMOS RAM backup power during system powered-off. Danger of explosion if battery is incorrectly replaced. Therefore, if you have any difficulties, please consult the technical personnel.

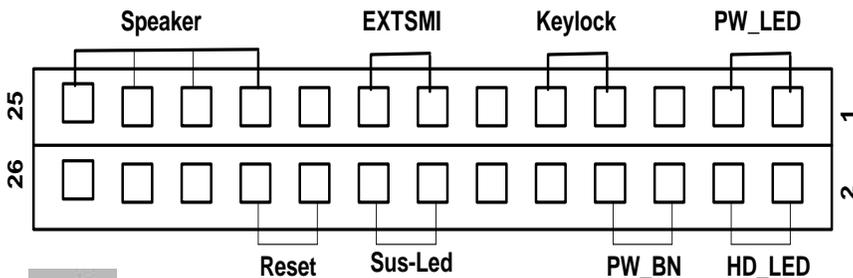
J PCI Add-In Board Connector

The Mainboard provides 3 PCI Connector for the PCI cards.

M Front Panel Function Connector

The Mainboard integrates all system front panel functions into a single on-board connector. These include connections for the following features:

Function	Connector Pin-Out Label
System Reset	RESET
Power LED	PW-LED
Hard Drive Activity LED	HD_ LED
Soft-Touch Button Power On/Off	PW-BN
External Power Saving Control (optional)	EXTSMI
suspend LED	Sus-Led
External speaker	Speaker



N



Flash BIOS

The Mainboard flash BIOS provides users with more flexibility in upgrading their mainboards. The flash BIOS can be easily reprogrammed via software.

O



Floppy Drive Header

The Mainboard provides a 34-pin connector that supports the included floppy drive ribbon cable. After connecting the single end to the on-board “FLOPPY” connector, connect the remaining plugs on the other end of the cable to the corresponding floppy drives.

NOTE: Pin 5 is removed to prevent inserting the connector in the wrong orientation.

P



IDE Device Header

The Mainboard provides (2) independent bus-mastering PCI IDE interfaces capable of supporting up to Mode 4 and Ultra DMA-33/66/100 devices. The system BIOS supports automatic detection of the IDE device data transfer rate and translation between different kinds of device modes such as Logical Block Addressing (LBA), Extended Cylinder Sector Head (ECSH) translation modes and ATAPI (e.g., CD-ROM) devices on both IDE interfaces.

The two on-board IDE headers support the provided 80-pin IDE hard disk ribbon cables. If you install two hard disks and/or CD-Rom drives, you must configure the two drives by setting their IDE master/slave jumpers according to the documentation for those devices.

Also, you may connect the two hard disk drives so that both become Masters, using one ribbon cable on the primary IDE header and one on the secondary IDE header.



Q WAKEUP-LINK Header

The Mainboard provides on WAKEUP-LINK header (WOL) used to connect an add-in Network Interface Card which has Wakeup capability.



r "CNR" Add-in Board Connector

Communication & Networking Riser(CNR) is a new interface standard for Networking or modem Audio add-in card.



S CPU Socket

The Mainboard provides a 478-pin CPU Socket for Pentium IV FC-PGA2 Processor. The CPU should have a fan attached to it to prevent overheat. If a fan is not present, a fan should be installed prior to turning the system on.



T CPU / System & Auxiliary Fan Connector

The recommended heatsink for the processor are those with 12 Volt three-conductor fan that can be connected to the fan connector on the mainboard. It provides +12 Volts DC to the CPU cooling fan as follows:

PIN	SIGNAL NAME
1	Ground
2	+12V
3	FAN Speed Detect



CAUTION! Be sure that sufficient air circulation is available across the processor's heatsink by regularly checking that your CPU fan is working. Without sufficient circulation, the processor could overheat and damage both the processor and the mainboard. You may install an auxiliary fan if necessary.

The **SYSTEM** and **AUXILIARY** fan connectors are provided for optional cooling fans.

U **Audio & Joystick Connectors**

The Mainboard provides Audio headers.

Audio & Joystick Connectors



Line Output



Line Input



Microphone Input



Game Port

X **CD Audio Connector**

CD Audio input (Right, Ground, Ground, Left)

Y **Auxiliary Audio Connector**

Auxiliary input (Right, Ground, Ground, Left)

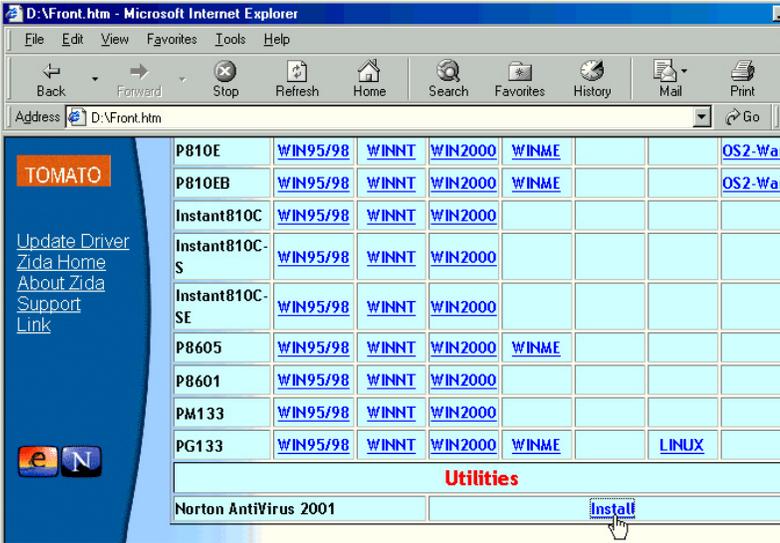
CD Driver & Software Installation Guide

Steps :

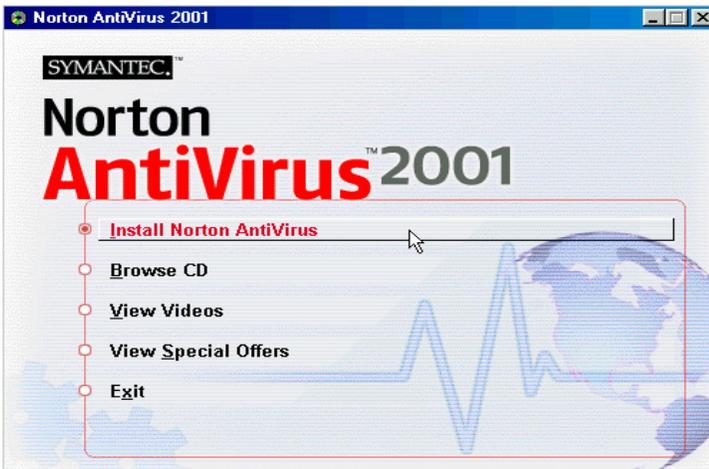
1. Boot up the Operating System (Windows 95/98/NT/2000)
2. Put the CD Disc into the CD-ROM Drive and wait for Autorun
3. Select P845SD and click your Operating System Type
4. Follow the instructions and install suitable drivers

Norton Anti-Virus OEM Version Setup Guide

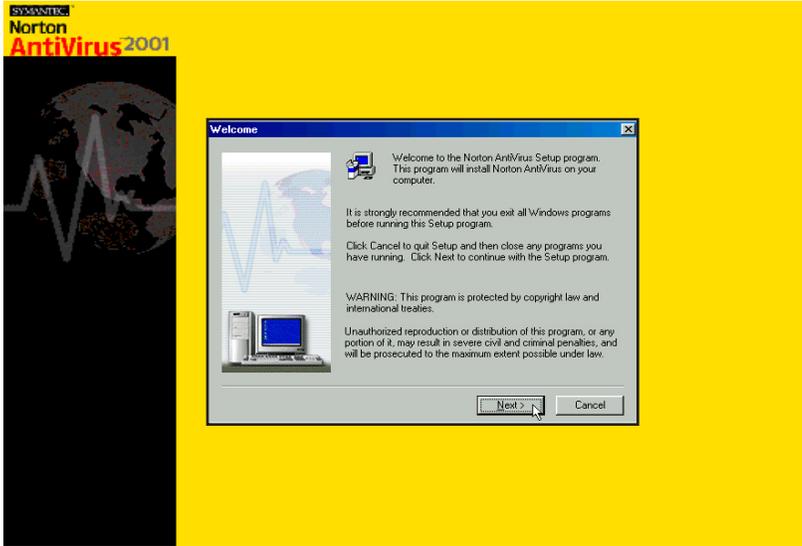
Step 1 : Load the Driver CD in CDROM and find the Norton AntiVirus 2001 "Install" Option.



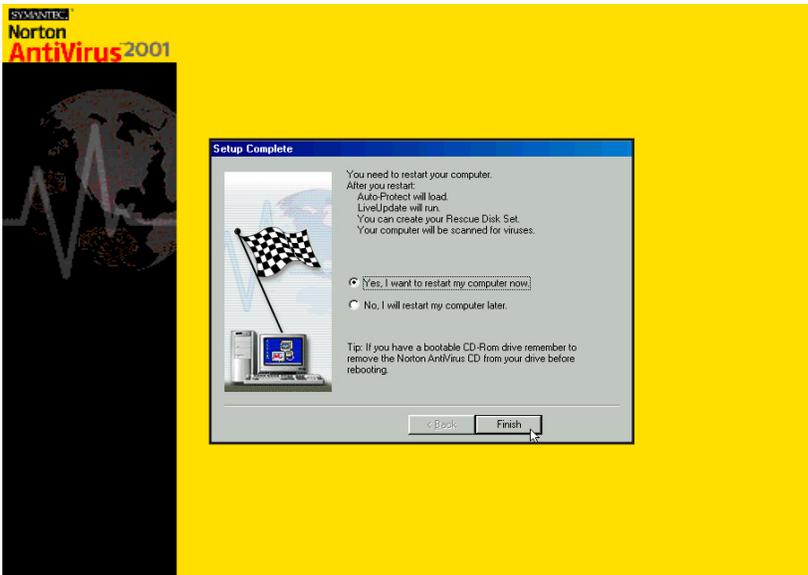
Step 2 : When CD finishes loading, press " Install Norton AntiVirus" to install the software.



Step 3 : Follow the installation procedures on screen.



Step 4 : Select "Yes" and press "Finish" button to reboot computer.



Introduce INSTANT ON function:

INSTANT ON is a Windows 98 ACPI sleep mode function. When recovering from sleep mode, the system is able, in just a few seconds, to retrieve the last “state” of the system before it went to sleep and recover to that state. The “state” is stored in memory (RAM) before the system goes to sleep. During sleep mode, your system uses only enough energy to maintain critical information and system functions, primarily the system state and the ability to recognize various “wake up” triggers or signals, respectively.

INSTANT ON function Installation

Please follow the steps to complete the **INSTANT ON** function installation.

1

Power on the computer when memory counting starts, press . You will enter BIOS Setup. Select the item “**POWER MANAGEMENT SETUP**”, then select **S3 (STR)** in “**ACPI Suspend Type**” option. Remember to save the settings by pressing “ESC” and choose the “**SAVE & EXIT SETUP**” option.

2

The installation of **INSTANT ON** is completed. You can use this function in Windows 98.

3

How to put your system into Stand by mode ?

There are two ways :

1. Choose the “Stand by” item in the “Shut Down Windows” area.

A. Press the “Start” button and then select “Shut Down”

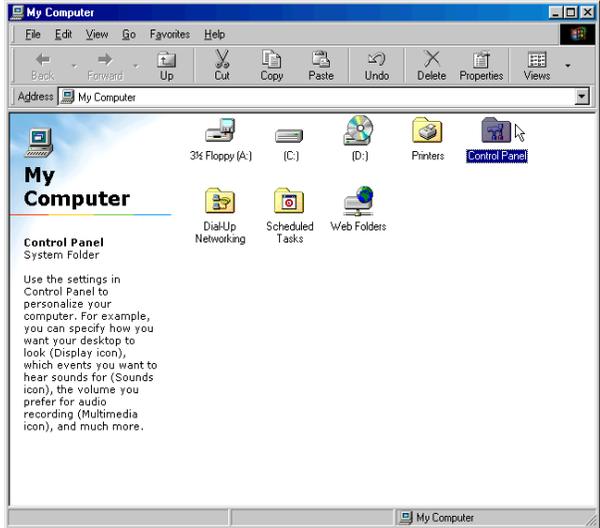


B. Choose the “Stand by” item and Click “OK”



2. Set the system "power on" button to initiate sleep mode in Win95/98:

A. Double click "My Computer" and then "Control Panel"

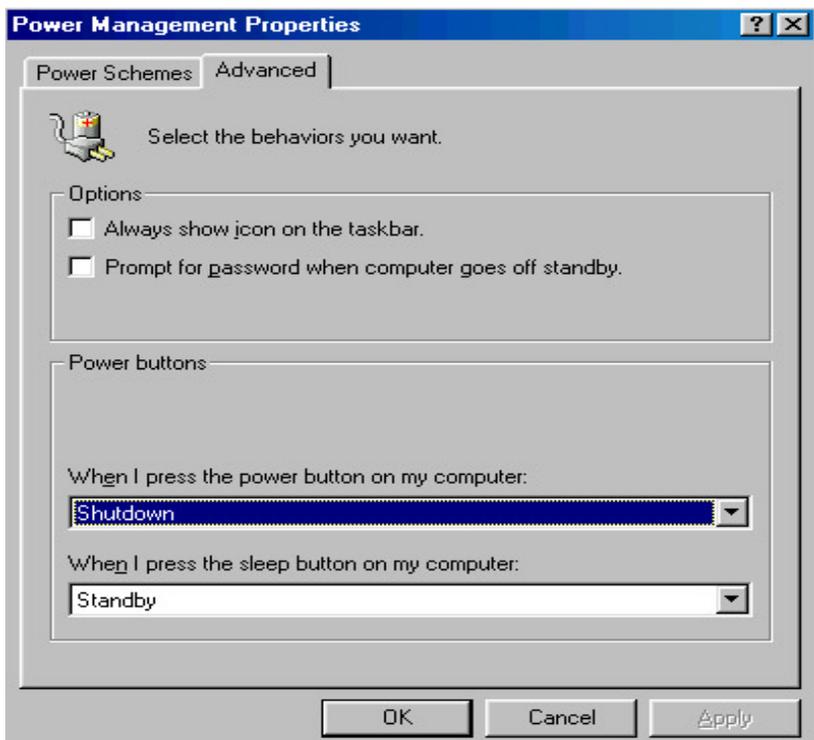


B. Double click the "Power Management" item.



- C. Select the “Advanced” tab and “Standby” mode in Power Buttons.

Restart your computer to complete setup.
Now when you want to enter sleep mode, just press the “Power on” button.



5

How to recover from the sleep mode?

There are four ways to “wake up” the system:

1. Press the “Power On” button.
2. Use the “Keyboard Power On” function.
3. Use the “Modem/Lan Resume” function.
4. Use the “Resume by Alarm” function.

Notice to INSTANT ON users :

1. ATX power supply requirement
 - comply with the ATX 2.01
 - provide more than 720 mA 5V Stand-By current
2. SDRAM requirement
 - PC133 compliant.