

FT20

Socket 939

AMD™ Athlon 64 Processor

Based DDR Main Board

User's Manual

Shuttle® FT20

Socket 939

AMD Athlon™ 64 Processor

Based DDR Mainboard

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9M0-A04FT0-2000

Statement of Shuttle Mainboard via the EMI Test

Shuttle mainboards have been via the EMI test in terms of series of regulations: EN55022/CISPR22/AS/NZS3548 Class B, EN55024 (1998/AS/NZS), EN4252.1 (1994), EN61000, ANSI C63.4 (1992), CFR47 Part 15 Subpart B, and CNS13438 (1997). The items tested are illustrated as follows:

(A) Voltage: AC 110V/60HZ & AC 230V/50HZ

(B) Tested Product Information:

Product Name: PC Mainboard

Status: Sample

Model Name: FT20

S/N: N/A

CPU:

External Frequency: 200 MHz

AMD Athlon™ 64 : 2800+, 3200+, 3400+, 3800+, 4000+

VGA Port: one port with 15 pins

DVI Port: one port

1394 Port: one port with 6 pins respectively

Keyboard Port: one port with 6 pins

Mouse Port: one port with 6 pins

LAN Port: one port with 8 pins (10Mbps/100Mbps/1000Mbps)

USB 2.0 Port: two ports with 4 pins respectively

Mic-In & Earphone Ports: one port for each

Side-SURR Port: one port

Line-In Port: one port

Center/Bass-Out Port: one port

Surround-Back Port: one port

Front-Out Port: one port

Clear CMOS button: one port

DIMM Memory (optional): DDR400 256 MB *2

Power Cable: Detachable and Shielded (with a GND pin)

Monitor: CRT (D-Sub) + LCD (DVI Mode)

Maximum Resolution: 1280 X 1024 V:60Hz

All CPUs have completely been tested, and values offered by the worst EMI combination of CPU external frequency are listed as follows:

Test Mode	External Frequency	CPU	CPU Open/Close
1	200MHz	AMD Athlon™ 64 4000 +	Close
2	200MHz	AMD Athlon™ 64 4000 +	Open

(C) Remedy for the Tested Product & Its EMI Interference:

Remedy: N/A

EMI Interference:

Crystal : 32.768 KHz(X8)/ 25 MHz(X7)/ 22.5 MHz(X9)/ 24.576 MHz(X10)/ 24.576 MHz(X6)

(D) Supported Host Peripherals:

Host Peripheral	Product Name	Model Name
# 1	Case	FT20
# 2	Power Supply	PC35I2402
# 3	Serial ATA Seagate	ST3120026AS
# 4	BTC DVD DUAL	DRW 1008UI

(E) Notices for Assembling Computers:

1. Cases should be made of iron or other metal that has good electric conductivity.
2. Cylinders in a case should be made of metal, and as having a mainboard mounted in a case, make sure screws are all utilized and fastened on a mainboard.
3. An I/O shielding should be contacted with I/O metallic parts of a mainboard.
4. Cables should appropriately be arranged and fixed in a case. Follow instructions:
 - Leave IDE cables not crossed upon CPU and SDRAM;
 - Leave power cables minimum in length, and not crossed upon a mainboard;
 - Leave CPU fan cables minimum in length, and not near CPU;
 - Leave cables on panels and other spare cables tied in a computer case.
5. Make sure an EMI shielding attached to a case has properly been installed.
6. Make sure a 5.25" or 3.5" FDD and screws are fastened to an EMI shielding.
7. Make sure a case is closely in contact with EMI connected points.
8. Make sure there is no cleft in a case which is not deformed.
9. Make sure a PCI or AGP door is bound to a case.
10. Make sure cables of other devices (fans or some others) are fixed in a case.

Important Safety Information

SAFETY INSTRUCTIONS

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning.
4. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Please keep this equipment from humidity.
6. Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
7. Do not leave this equipment in an environment unconditioned, it may damage the equipment.
8. The openings on the enclosure are for air convection hence Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
9. Make sure the voltage of the power source when connect the equipment to the power outlet.
10. Place the power cord such a way that people can not step on it. Do not place anything over the power cord. The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not use for long time, disconnect the equipment from mains to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings, this could cause fire or electrical shock.
14. **CAUTION:** The computer is provided with a battery-powered real-time clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacture. Discard used batteries according to the manufacturer's instructions.

**CAUTION : RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN
INCORRECT TYPE. DISPOSE OF USED BATTERIES
ACCORDING TO THE INSTRUCTIONS**

15. THE COMPUTER IS PROVIDED WITH CD DRIVES COMPLY WITH APPROPRIATE SAFETY STANDARDS INCLUDING IEC 60825.

CLASS 1 LASER PRODUCT

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1 INTRODUCTION

1.1 To Different Users

First-Time DIY System Builder

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience successful, right from the start, we have designed the 3.1 Hardware Installation section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new Shuttle FT20 mainboard.

Experienced DIY User

Congratulate on your purchase of the Shuttle FT20 mainboard. You will find that installing your new Shuttle FT20 mainboard is just easy. Bundled with an array of onboard functions, the highly-integrated FT20 mainboard provides you with a total solution to build the most stable and reliable system. Refer to sections 3.2 Jumper Settings and Chapter 4 Drivers/Software Utilities to find out how to get the best out of your new mainboard. Chapter 5 BIOS Setup also contains the relevant information on how to tune up your system to achieve higher performance.

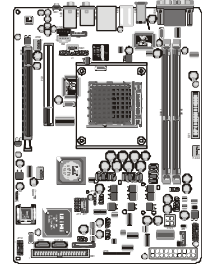
System Integrator

You have wisely chosen Shuttle FT20 to construct your system. Shuttle FT20 incorporates all the state-of-the-art technology of the ATI RS480 + Uli M1573 Chip for AMD™ Athlon64 939 CPU. It integrates the most advanced functions you can find to date in a compact Shuttle Form Factor ATX board.

1.2 Item Checklist

Check all items with you FT20 mainboard to make sure nothing is missing.
The complete package should include:

- ★ One piece of Shuttle FT20 Mainboard



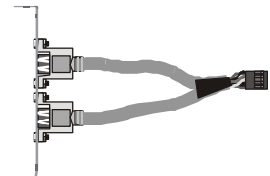
- ★ One piece of ATA100/66/33 Ribbon Cable



- ★ One piece of Floppy Ribbon Cable



- ★ One piece of twin ports USB Cable (optional)



- ★ One piece of Serial ATA Cable



- ★ FT20 User's Manual
- ★ ULI M5287 RAID User's Manual



- ★ One piece of Bundled CD-ROM with containing:
 - FT20 user's manual and ULI Raid manual saved in PDF format
 - Install ATI RADEON Xpress 200 Driver
 - Install ULi South Bridge Driver
 - Install Broadcom Giga Driver
 - Install Broadcom BACS
 - Install High Definition Bus
 - Install High Definition Driver
 - Install ULI USB2.0 Driver
 - Install DirectX9 Utility
 - Award Flashing Utility



2 FEATURES

FT20 mainboard is carefully designed for the demanding PC user who wants high performance and maximum intelligent features in a compact package.

2.1 Specifications

★ CPU Support

AMD™ Athlon64 with 200MHz X5 FSB colock on 939-pins SMT Socket.

★ Chipset

ATI RS480 + Uli M1573 Chip for AMD™ Athlon64 939 CPU.

Onboard Lan

BORADCOM 5751, support 10/100 /1000 Mbps operation rate.

Supports Wake-on-Lan (WOL) function.

Onboard 1394

VIA VT6307, support 400Mb/s, 200Mb/s, or 100Mb/s data transfer rate.

Compliants with 1394 OHCI specification revision V1.0 and V1.1 and provides 2 fully compliant ports.

Onboard SATA

Integrated SATA, support 2 Serial-ATA connectors (devices) with Raid 0/1 / JBOD function. SATA Host controller supports Generation 1.5 Gb/s per channel.

★ Jumperless CPU Configuration

Soft-configuration FSB (The FSB speed is software configurable from 200MHz to 232MHz in the Advanced Chipset Features of BIOS setup program.)

★ HDAudio CODEC (ALC880)

ALC880 compliant with HDAudio and 8-Channel dedicated mode output .

★ Versatile Memory Support

128-bit DDR SDRAM at 100/133/166/200 supports up to 2 GB.

★ PCI Expansion Slots

Provides one 32-bit PCI slot.

★ PCI Express Graphics (PEG) Interface

Support external PCI-E compliant VGA device.

Support up to 8.0G/s data transfer.

*** 8 USB 1.1/2.0 Compliant Interface Onboard**

- Supports up to 8 USB ports. Supports USB 2.0/1.1 compliant.

*** I/O Interface**

Provides a variety of I/O interfaces:

- 1x Floppy interface for 3.5-inch FDD with 720KB, 1.44MB, or 2.88MB format or for 5.25-inch FDD with 360K or 1.2MB format.
- 1 xVGA Port.
- 1 xDVI Port.
- 1 x1394 Port.
- 1 xPS/2 Keyboard Port.
- 1 xPS/2 Mouse Port.
- 1 x10/100/100 LAN Port.
- 2 xUSB 1.1/2.0 Ports.
- 1 xLine-In Port.
- 1 xSide-SURR Port.
- 1 xCenter/Bass Port.
- 1 xSurround-Back Port.
- 1 xFront-Out Port.
- 1 xClear CMOS Button.

*** PCI Bus Master IDE Controller Onboard**

One Ultra DMA 133 Bus Master Dual-channel IDE ports provide support to a maximum of two IDE devices (one Master and one Slave per channel). The IDE Bus implements data transfer speeds of up to 133/100/66/33 MB/sec and also supports Enhanced PIO Modes.

80-pin Cable Backward Compatible Legacy ATAPI Devices, ATAPI IDE CD-ROM, CD-R, CD-RW, and LS-120 Supports.

*** ATX Power Supply Connector**

ATX power supply unit can connected to the onboard 20-pin standard ATX power connectors, supporting Suspend and Soft-On/Off by dual-function power button. One 4-pin 12V ATX power connector.

★ **Advanced Configuration and Power Interface**

Features four power saving modes: S1 (Snoop), S3 (Suspend to RAM), S4 (Suspend to DISK), and S5 (Soft-Off). ACPI provides more efficient Energy Saving Features controlled by your operating system that supports OS Direct Power Management (OSPM) functionality.

★ **System BIOS**

Provides licensed Award BIOS V6.0 PG on 4Mb Flash core and supports Green PC, Desktop Management Interface (DMI).

★ **Form Factor**

System board conforms to Small form factor ATX specification.

Board dimension: 254mm X185mm.

★ **Advanced Features**

- Low EMI - Built in spread spectrum and automatic clock shut-off of unused PCI/SDRAMS slots to reduce EMI.
- Dual Function Power Button - The system can be in one of two states, one is Suspend mode and the other is Soft-Off mode. Pushing the power button for less than 4 seconds places the system into Suspend mode. When the power button is pressed for longer than 4 seconds, the system enters Soft-Off mode.
- Wake-on-LAN (WOL) - The onboard WOL connector can be attached to a network card that supports this function to wake up the system via LAN.
- Thermtrip - The system provides a hardware - enforced thermal protection mechanism. When the processor's die temperature exceeds a specified temperature, the system will auto - power off and thermtrip LED is bright.
- Frequency/Voltage Control - This item allows users to adjust CPU Host Clock, and Voltage in BIOS.

★ **Intelligent Features**

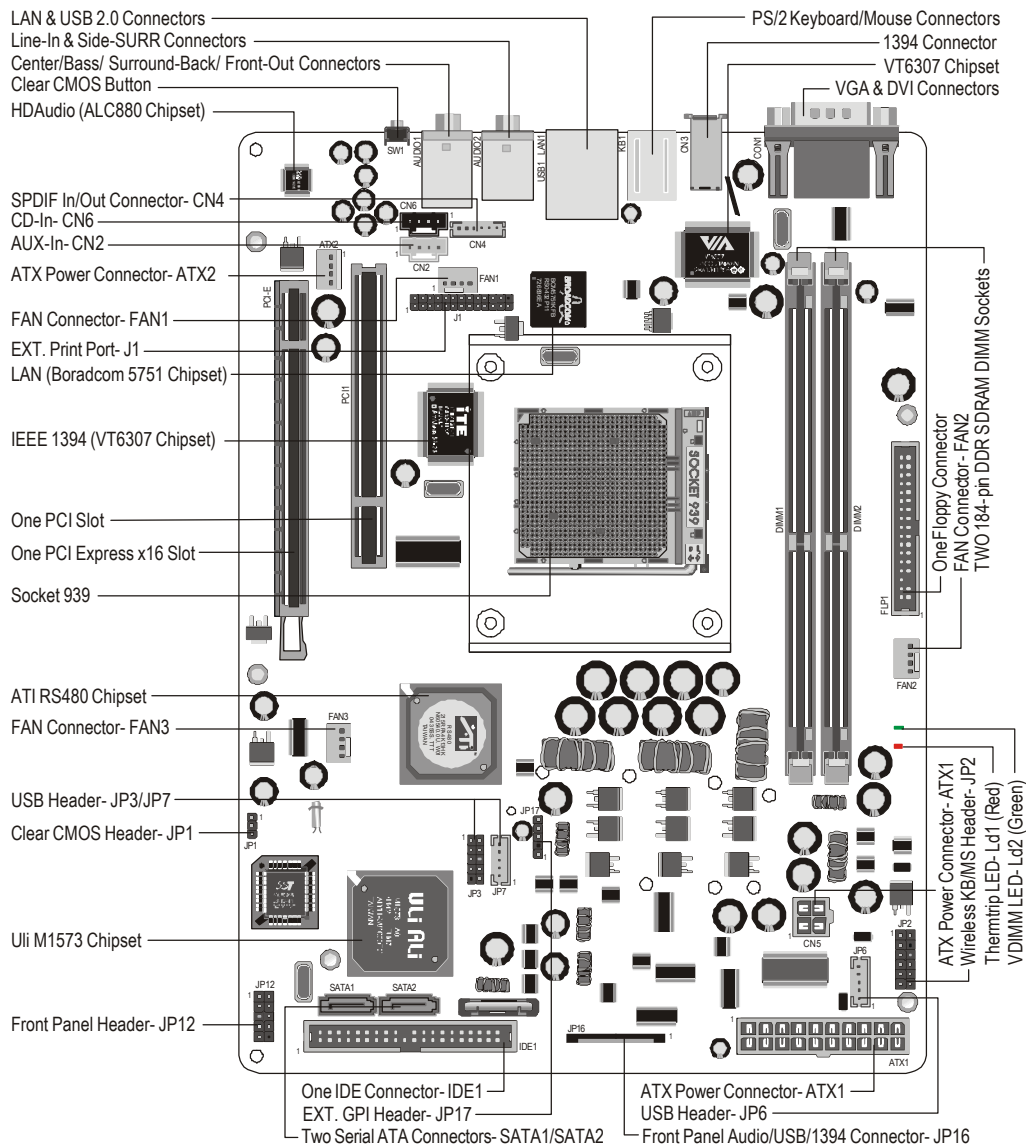
- Voltage Monitoring - Monitors various voltages of key elements, such as the CPU, and other critical system voltage levels to ensure stable current passing through mainboard components.
- Fan Status Monitoring - To prevent CPU from overheating, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN with RPM sensor is required.)
- Temperature Monitoring - This item allows users to make sure whether the CPU or system runs in a suitable temperature.

3 HARDWARE INSTALLATION

Before removing or installing any of these devices including CPU, DIMMs, Add-On Cards, Cables, please make sure to unplug the onboard power connector.

This section outlines how to install and configure your mainboard. Refer to the following mainboard layout to help you to identify various jumpers, connectors, slots, and ports. Then follow these steps designed to guide you through a quick and correct installation of your system.

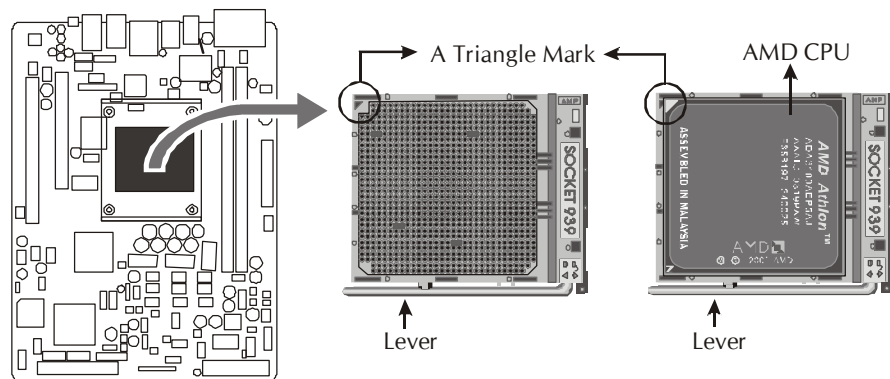
3.1 Step-by-Step Installation Accessories Of FT20



Step 1

Install the CPU:

1. Locate the CPU ZIF (Zero Insertion Force) socket on the upper-right sector of your mainboard.
2. Pull the CPU ZIF socket lever slightly sideways away from the socket to unlock the lever, and then bring it to an upwardly vertical position.
3. Place your AMD Athlon™ 64 processor in the socket 939 CPU. Note that the CPU's edges have been purposely designed non-symmetrically to prevent from inserting the processor in the wrong direction. The following diagram demonstrates the correct placement of the CPU in the ZIF socket. You can see that the Triangle Mark.



4. Slightly push the AMD Athlon™ 64 processor into the socket without applying excessive force while making sure there is no gap between CPU and socket. Then lower the socket-lever all the way down to its horizontal position and lock it to secure the CPU in place.
5. The AMD Athlon™ 64 processor requires a set of heatsink/fan to ensure proper cooling of the processor. If heatsink/fan have not been already mounted on your CPU, you must purchase the heatsink/fan separately and have it installed. Plug the cable through the heatsink/fan in the CPU fan power connector located nearby. Note that there are several types of CPU fan connectors. Normally, if your mainboard supports the hardware monitoring function, a 3-pin fan power connector should allow your system to detect the CPU fan's speed. The CPU fan can also run with a 2-pin fan power connector, however, detection of CPU fan's speed is not supported. Another type of CPU fan may feature a large 4-pin fan power connector, which does not support CPU fan's speed detection and must be directly connected to the system's power supply unit. Please refer to the following diagram.

Step 2

Set Jumper

This mainboard is jumperless! The default jumper settings have been set for the common usage standard of this mainboard. Therefore, you do not need to reset the jumpers unless you require special adjustments as any of the following cases:

1. Clear CMOS

For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with the mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their system, section 3.2 Jumper Settings will provide detailed information on how to configure your mainboard manually.

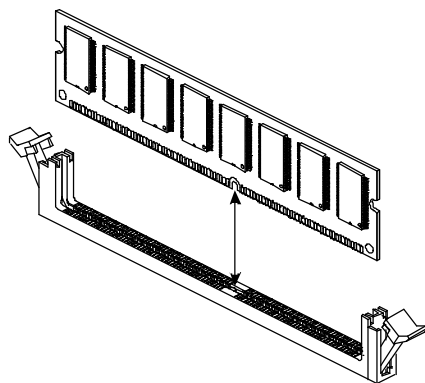
Step 3

Install DDR SDRAM System Memory

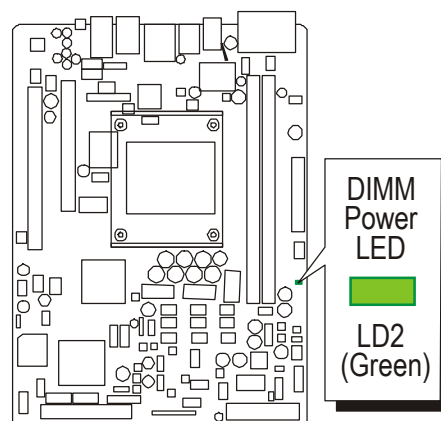
To install memory, insert DDR SDRAM memory module(s) in DIMM slot(s). Note that DDR SDRAM modules are directional and will not go in the DIMM slots unless properly oriented. After the module is fully inserted into the DIMM slots, lift the clips of both sides of the DIMM slot to lock the module in place.

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.

DDR SDRAM



DIMM Power LED



Step 4

Install Internal Peripherals in System Case

Before you install and connect the mainboard into your system case, we recommend that you first assemble all the internal peripheral devices into the computer housing, including but not limited to the hard disk drive (IDE/HDD), floppy disk drive (FDD), CD-ROM drive, and ATX power supply unit. This will greatly facilitate in making the connections to the mainboard described below.

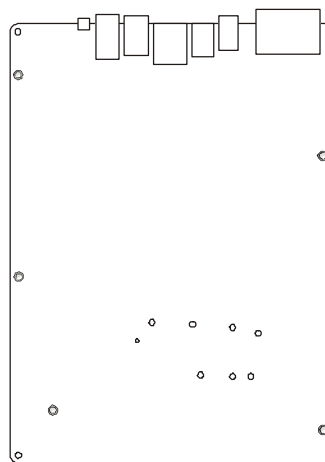
To install IDE & FDD drives, follow this procedure:

1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD, and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of the internal peripheral devices to the corresponding headers on board. Note that the cable should be oriented with its colored stripe (usually red or magenta) connected to pin#1 both on the mainboard IDE or FDD connector and on the device as well.
3. Connect an available power cable from your system power supply unit to the back-panel of each peripheral device. Note that the power cable is directional and cannot fit in if not properly positioned.

Step 5

Mount the Mainboard on the Computer Chassis

1. You may find that there are a lot of different mounting hole positions both on your computer chassis and on the mainboard. To choose correct mounting holes, the key point is to keep the back-panel of the mainboard in a close fit with your system case, as shown below.



2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard.

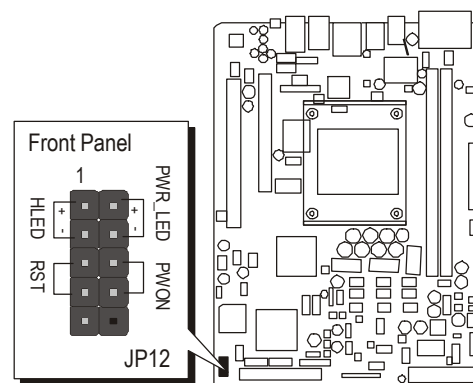
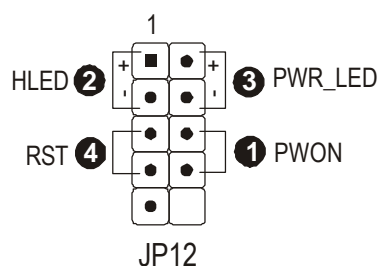
The studs are used to fix the mainboard and to keep a certain distance between the system chassis and the mainboard, in order to avoid any electrical shorts between the board and the metal frame of the chassis. (If your computer case is already equipped with mounting studs, you will need to tighten screws to attach the mainboard.)

Note : In most computer housings, you will be able to find 4 or more attachment points to install mounting studs and then fix the mainboard. If there aren't enough matching holes, then make sure to install at least 4 mounting studs to ensure proper attachment of the mainboard.

Step 6

Connect Front Panel Header (JP12)

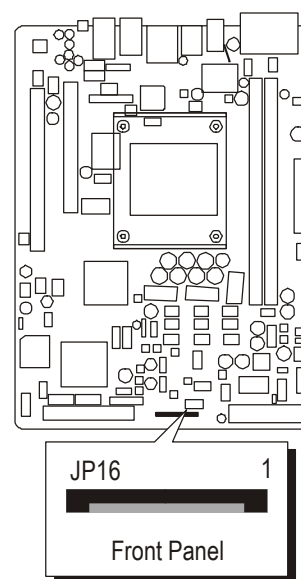
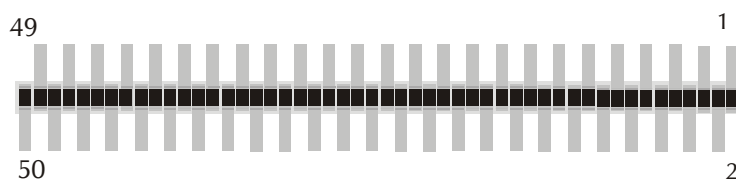
You can find there are several different cables already existing in the system case and originating from the computer's front-panel devices (HDD LED, Power LED, or Reset Switch devices etc.) These cables serve to connect the front-panel switches and LEDs connectors to the mainboard's front-panel connectors group, as shown below.



1. ATX Soft Power On/Off (PWON)
2. HDD LED (HLED)
3. Power LED (PWR_LED)
4. Hardware Reset Switch Button (RST)

Connect Front Panel AUDIO/ USB/ 1394 Connector (JP16)

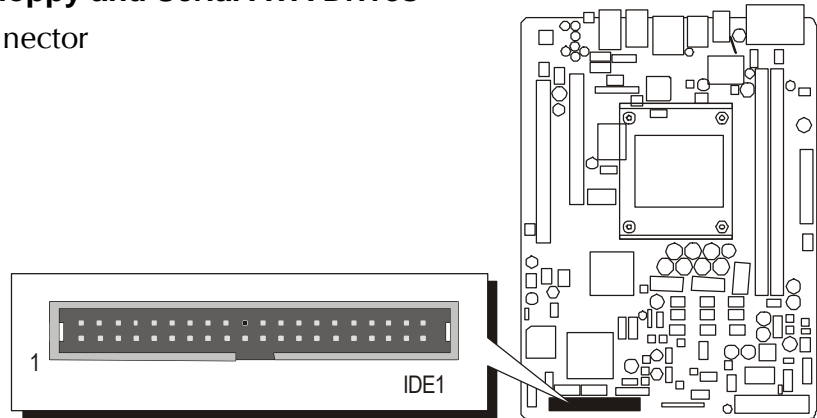
You can find there is FPC cable already existing in the system case and originating from the computer's front-panel devices (AUDIO, USB, 1394a devices etc.). These cables serve to connect the AUDIO, USB, 1394a, connectors to the mainboard's front panel connectors group, as shown below.



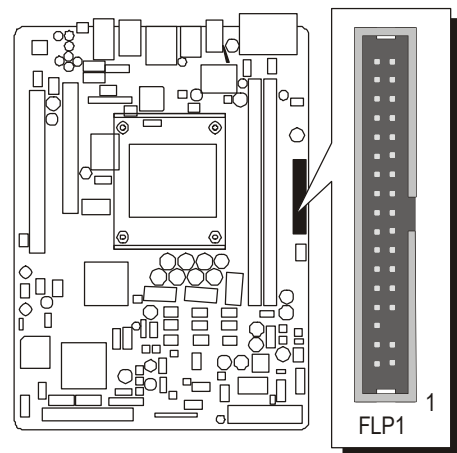
Step 7

Connect IDE, Floppy and Serial ATA Drives

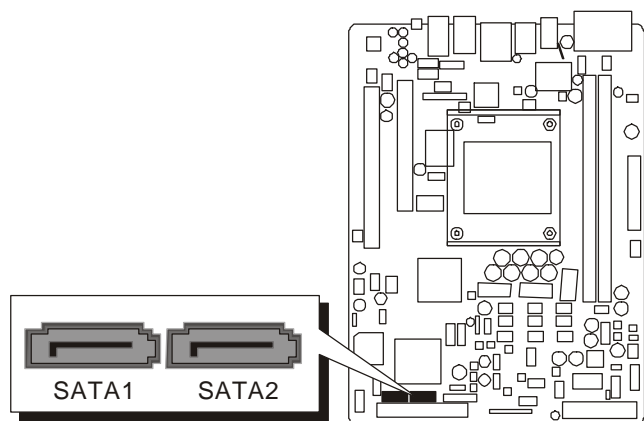
1. IDE cable connector



2. Floppy cable connector



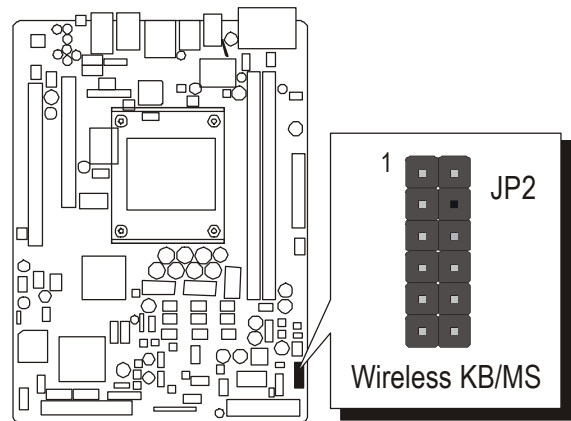
3. Serial ATA connectors



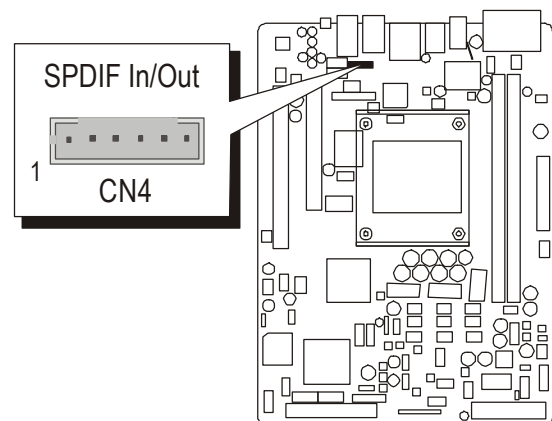
Step 8

Connect Other Internal Peripherals

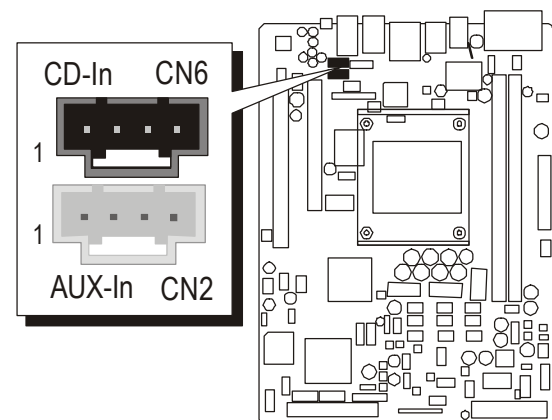
1. Wireless KB/MS Header (JP2)



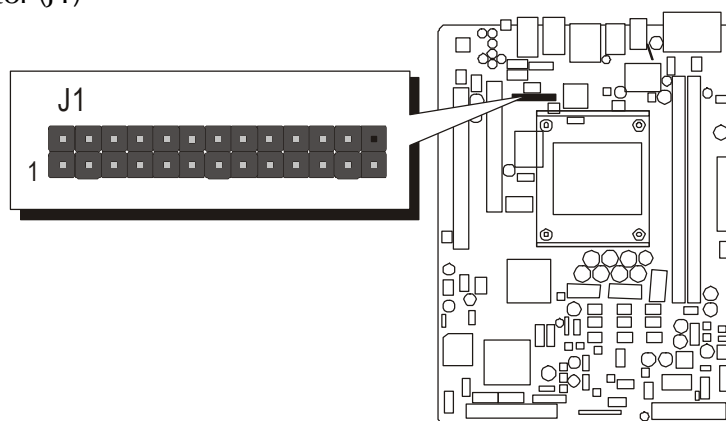
2. SPDIF In/Out Connector (CN4)



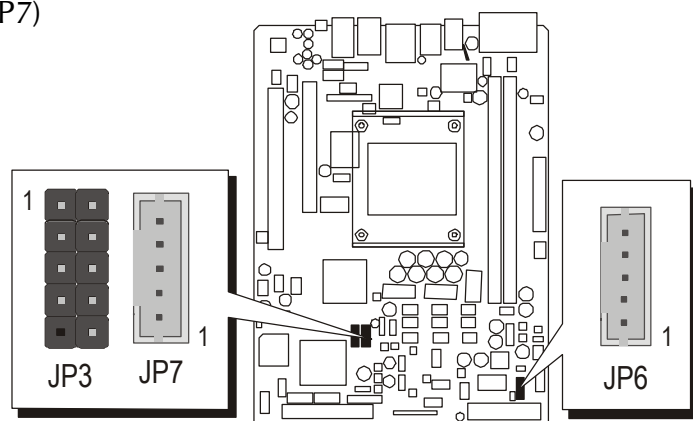
3. CD-In (CN6), AUX-In(CN2) Connectors



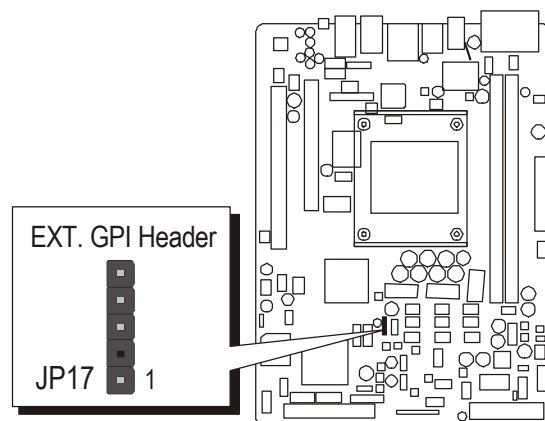
4. Printer Port Connector (J1)



5. DUAL USB Header (JP3) USB Connectors (JP6/JP7)



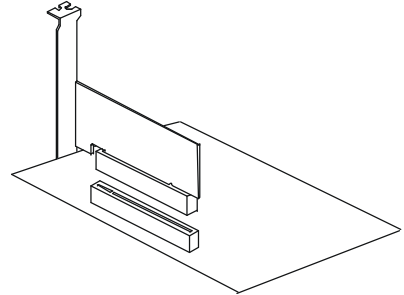
6. EXT. GPI Header (JP17)



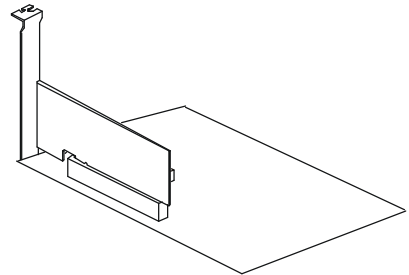
Step 9

Install Add-on Cards in Expansion Slots

1. PCI Card



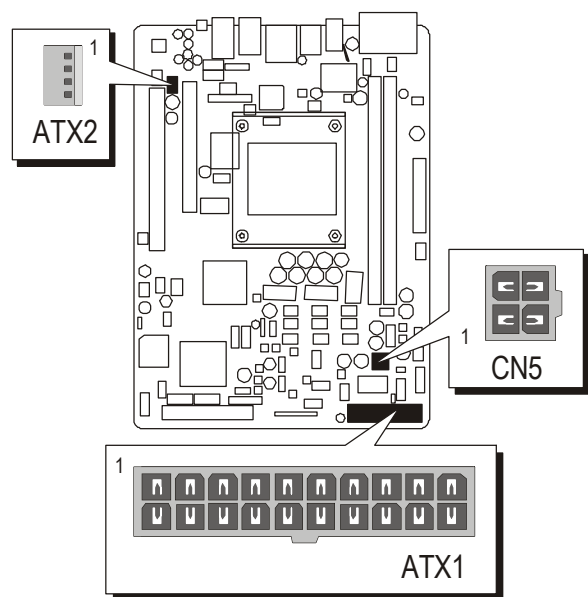
2. PCI Express X16 Graphic (PEG) Card



Step 10

Connect the Power Supply Connectors

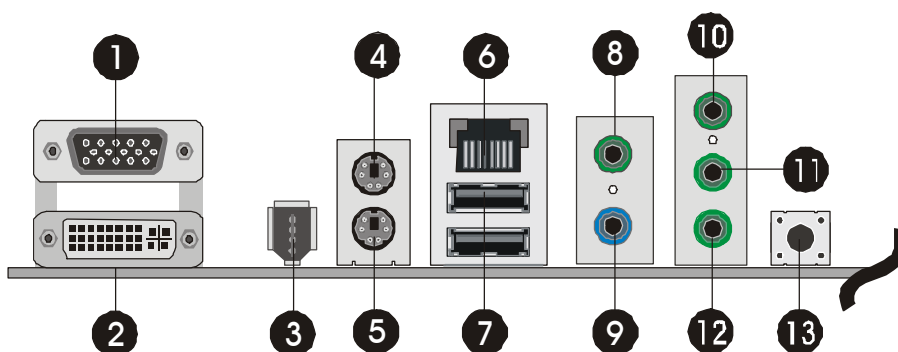
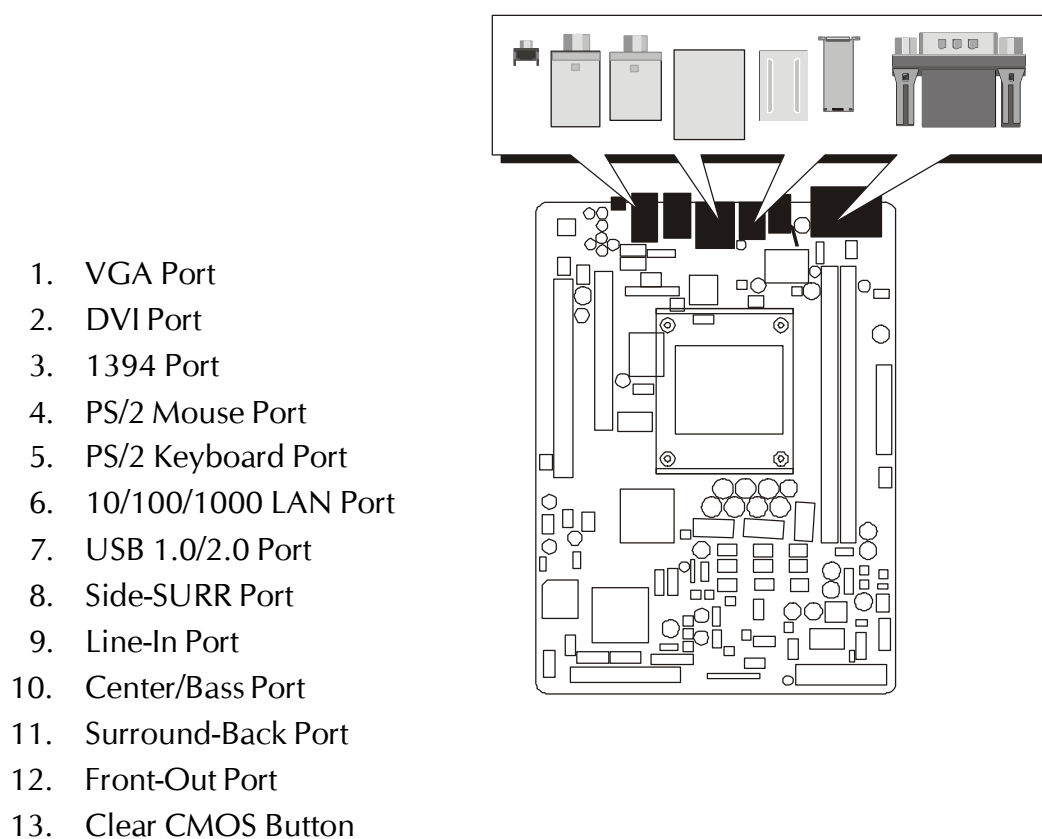
1. System power connectors (ATX1/CN5/ATX2)



Step 11

Connect External Peripherals to Back-Panel

You are now ready to put the computer case back together and get on to the external peripherals connections to your system's back-panel.



Step 12

First Time System Boot Up

To assure the completeness and correctness of your system installation, you may check the above installation steps once again before you boot up your system for the first time.

1. Insert a bootable system floppy disk (DOS 6.2x, Windows NT, or others) which contains FDISK and FORMAT utilities into the FDD.
2. Turn on the system power.
3. First, you must use the FDISK utility to create a primary partition of the hard disk. You can also add an extended partition if your primary partition does not use all of the available hard disk space.

If you choose to add an extended partition, you will have to create one or more logical partitions to occupy all the space available to the extended partition. The FDISK utility will assign a drive letter (i.e., C:, D:, E:,...) to each partition which will be shown in the FDISK program. After FDISK procedure, reboot your system by using the same system floppy disk.

Note : DOS 6.2x can only support up to 2.1GB of HDD partition.
If you use the FDISK utility with one of the operating systems mentioned above, you can only install your HDD into partitions no larger than 2.1GB each.

4. Now, use the FORMAT utility to format all the partitions you've created.
When formatting the primary partition (C:), make sure to use the FORMAT C: /S command.

Note : FORMAT C: /S can transfer all the necessary system files into the primary partition of your hard disk. Then, your HDD will become a bootable drive.

5. Install all the necessary drivers for CD-ROM, Mouse, etc.
6. Setup the complete operating system according to your OS installation guide.

Step 13

Install Drivers & Software Components

Please note that all the system utilities and drivers are designed for Win2000/2003/XP operating systems only. Make sure your operating system is already installed before running the drivers installation CD-ROM programs.

1. Insert the FT20 bundled CD-ROM into your CD-ROM drive.
The autorun program will display the drivers main installation window on screen.
2. Choose "Install ATI RADEON Xpress 200 Driver" and complete it.
3. Choose "Install ULi South Bridge Driver" and complete it.
4. Choose "Install Broadcom Giga Driver" and complete it.
5. Choose "Install Broadcom BACS" and complete it.
6. Choose "Install High Definition Bus" and complete it.
7. Choose "Install High Definition Driver" and complete it.
8. Choose "Install ULI USB2.0 Driver" and complete it.
9. Choose "Install DirectX9 Utility" and complete it.
10. Exit from the autorun drivers installation program.

✿ Please refer to section Chapter 4 Software Utility to install driver.

3.2 Jumper Settings

Several hardware settings are made through the use of mini jumpers to connect jumper pins on the mainboard. Pin #1 could be located at any corner of each jumper, you just find the location with a white right angle which stands for pin 1#. There are several types of pin 1# shown as below:

3-pin and multi (> 3) pin jumpers shown as following:

Pin #1 to the left:



Pin #1 on the top:





Pin #1 to the right:



Pin #1 on the bottom:



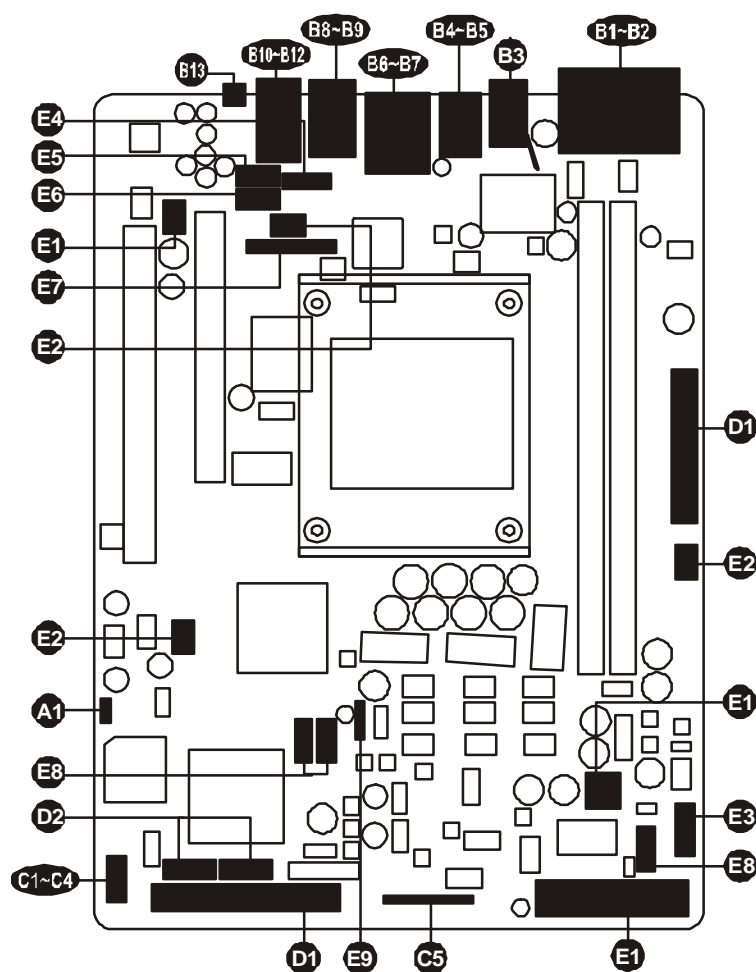
Jumpers with two pins are shown as  for Close [On] or  for Open [Off]. To Short jumper pins, simply place a plastic mini jumpers over the desired pair of pins.

Caution!

1. Do not remove the mainboard from its antistatic protective packaging until you are ready to install it.
2. Carefully hold the mainboard by its edges and avoid touching its components. When putting the mainboard down, place it on top of its original packaging film, on an even surface, and components side up.
3. Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge (ESD) whenever handling this equipment.

Jumpers & Connectors Guide

Use the mainboard layout on page 10 to locate CPU socket, memory banks, expansion slots, jumpers and connectors on the mainboard during the installation. The following list will help you to identify jumpers, slots, and connectors along with their assigned functions:



CPU/Memory/Expansion Slots

- | | |
|-----------------|--|
| Socket 939 | : CPU Socket for AMD Athlon™ 64 |
| DIMM1/2 | : Two 184-pin DIMM Slots for 64, 128, 256, 512 MB, and 1GB of 2.6V DDR SDRAM
(The total installed memory does not exceed 2GB) |
| PCI | : One 32-bit PCI Expansion Slot |
| PCI Express X16 | : One 16-Lane PCI Express port for Graphic Attach |

Jumper

- A1** JP1 : Clear CMOS setting

Back Panel Connectors

- B1** VGA : VGA port (DB15 female)
B2 DVI : DVI port
B3 1394 : 1394 Port
B4 MS : PS/2 mouse port
B5 KB : PS/2 keyboard port
B6 LAN : 10/100/1000 LAN port
B7 USB : 2 X USB (2.0/1.1) (Universal Serial Bus) ports
B8 Side-SURR : Side-SURR port
B9 Line-In : Line-In port
B10 CENTER/BASS : Center/Bass port
B11 Surround-Back : Surround-Back port
B12 Front-Out : Front-Out port
B13 SW1 : Clear CMOS button

Front Panel Connectors

- C1** PWON : ATX power on/off momentary type switch
C2 HLED : IDE drive active LED
C3 PWR_LED : System power LED
C4 RST : Hardware reset switch
C5 JP16 : Front Panel AUDIO/ USB/ 1394 connector

Internal Peripherals Connectors

- D1** FLP1 : Floppy disk drive interface
D1 IDE1 : IDE primary interface (Dual-channel)
D2 SATA1/2 : Serial ATA 1/2 interfaces

Other Connectors

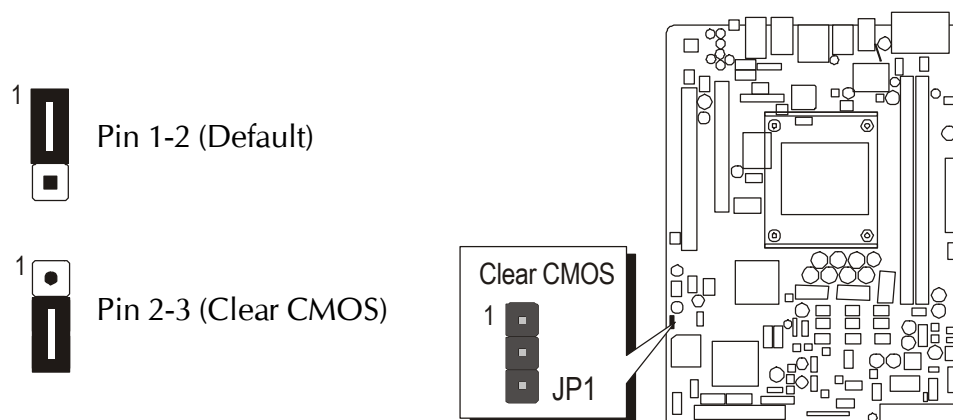
- E1** CN5/ATX1/ATX2 : ATX power connectors
E2 FAN1, 2, 3 : Fan connectors
E3 JP2 : Wireless Keyboard and Mouse connector
E4 CN4 : SPDIF In/Out connector
E5 CN6 : CD-In connector
E6 CN2 : AUX-In connector

-
- | | |
|---------------|-----------------------------------|
| Ⓔ J1 | : EXT. PRINT port |
| Ⓕ JP3/JP6/JP7 | : DUAL USB header/ USB connectors |
| Ⓖ JP17 | : EXT. GPI header |

Jumper

A1 Clear CMOS Setting (JP1)

JP1 is used to clear CMOS data. Clearing CMOS will result in the permanently erasing previous system configuration settings and the restoring original (factory-set) system settings.



- Step 1. Turn off the system power (PC-> Off).

Step 2. Remove ATX Power cable from ATX Power connector.

Step 3. Remove jumper cap from JP11 pins 1-2.

Step 4. Place the jumper cap on JP11 pin 2-3 for a few seconds.

Step 5. Return the jumper cap to pin 1-2.

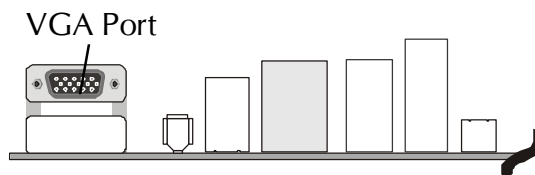
Step 6. Plug ATX Power cable into ATX Power connector.

Step 7. Turn on the system power (PC-> On).

Back-Panel Connectors

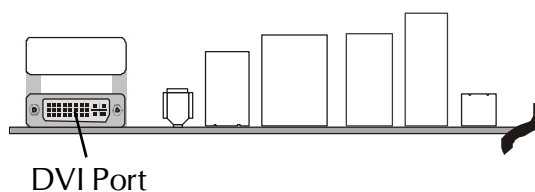
B1 VGA port

One 15-pin VGA port is located at the rear panel of the mainboard.



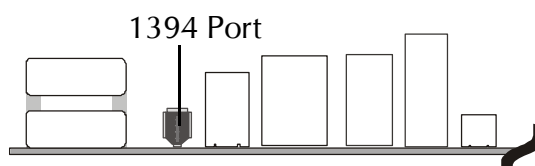
B2 DVI port

One DVI port is located at the rear panel of the mainboard.



B3 1394 port

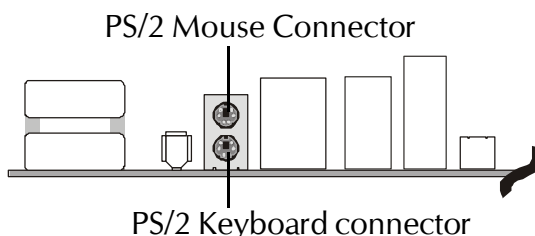
This mainboard offers one 1394 port on back-panel. Plug each device jack into an available 1394 connector.



B4 PS/2 Mouse & PS/2 Keyboard ports

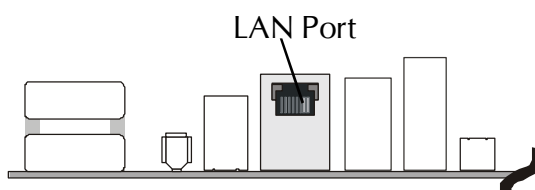
B5 Two 6-pin female PS/2 Mouse & Keyboard connectors are located on the rear panel of the mainboard.

In a desktop computer, the PS/2 Mouse connector is situated on the top of the PS/2 Keyboard connector. In a tower computer, the PS/2 Mouse connector is located on the rightside of the PS/2 Keyboard connector.



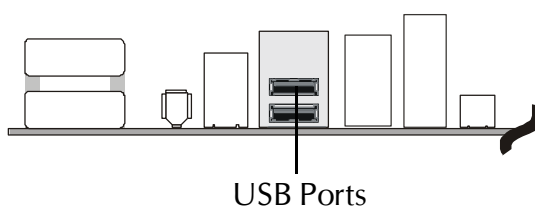
B6 LAN port

This mainboard can accommodate one device on LAN. Attach a RJ45 cable to the LAN port at the back-panel of your computer.



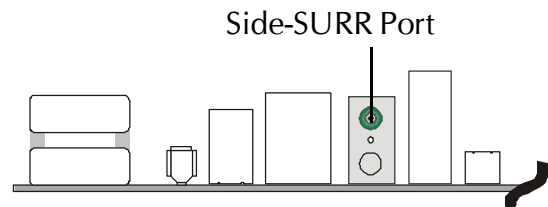
B7 USB ports

Two female connectors USB1/USB2 share the same USB (Universal Serial Bus) bracket at the rear panel of your mainboard. Plug each USB device jack into an available USB1/USB2 connector.



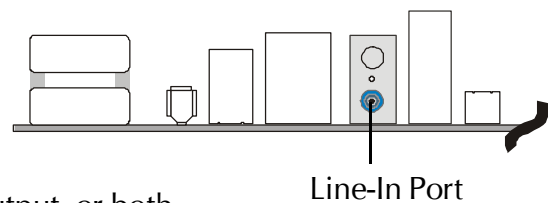
B8 Side-SURR port

Side-SURR is a stereo line-level output port that accepts a 1/8-inch TRS stereo plug.



B9 Line-In port

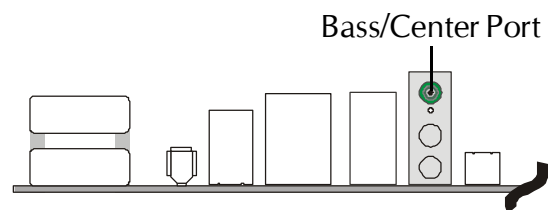
Line-In is a stereo line-level input port that accepts a 1/8-inch TRS stereo plug. It can be used as a source for digital sound recording, a source to be mixed with the output, or both.



B10 Bass/Center port

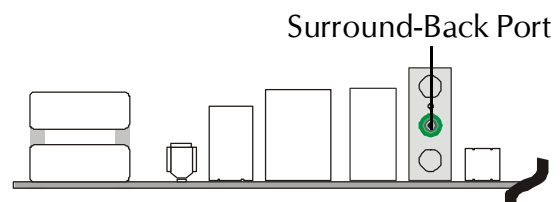
Bass/Center-Out is a stereo output port through which the combined signal of all internal and external audio sources on the board is output.

It can be connected to 1/8-inch TRS stereo headphones or to bass/center amplified speakers.



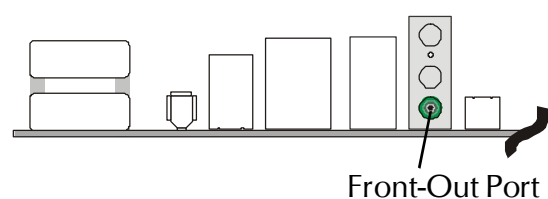
B11 Surround-Back port

Surround-Back is a stereo line-level output port that accepts a 1/8-inch TRS stereo plug.



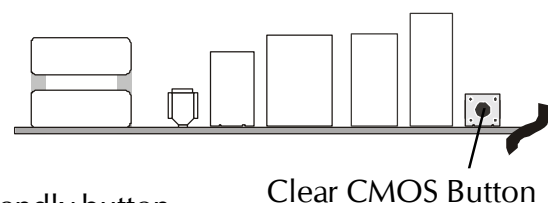
B12 Front-Out port

Front-Out is a stereo output port through which the combined signal of all internal and external audio sources on the board is output. It can be connected to 1/8-inch TRS stereo headphones or to amplified speakers.



B13 Clear CMOS button

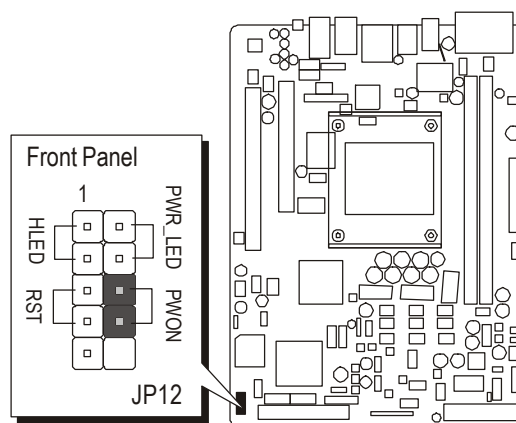
This button is used to clear CMOS data. You can clear CMOS without opening the chassis. It's a very friendly button.



Front-Panel Connectors

C1 ATX Power On/Off Switch connector (PWON)

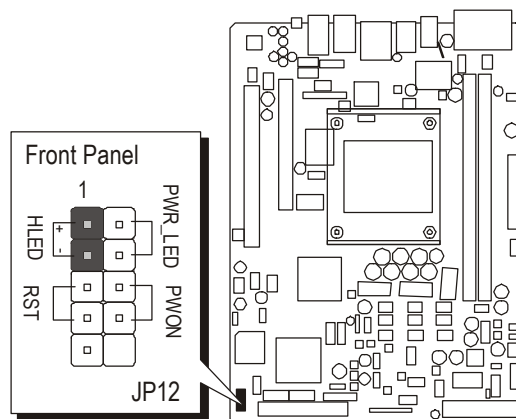
The Power On/Off Switch is a momentary type switch used for turning on or off the system ATX power supply. Attach the connector cable from the Power Switch to the 2-pin (PWON) header on the mainboard.



Note : Please notice all the LED connectors are directional. If your chassis's LED does not light up during running, please simply change to the opposite direction.

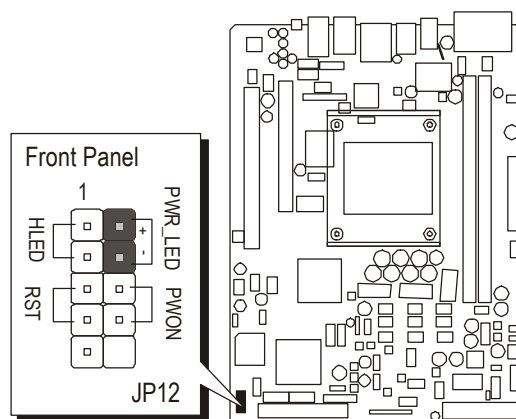
C2 HDD LED connector (HLED)

Attach the connector cable from the IDE device LED to the 2-pin (HDD LED) header. The HDD LED lights up whenever an IDE device is active.



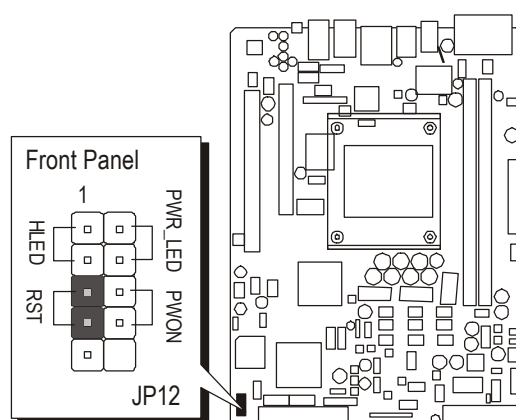
C3 Power LED connector (PWR_LED)

This Power LED will go off during power saving mode. Attach a 2-pin Power LED cable to (PWR_LED) header.



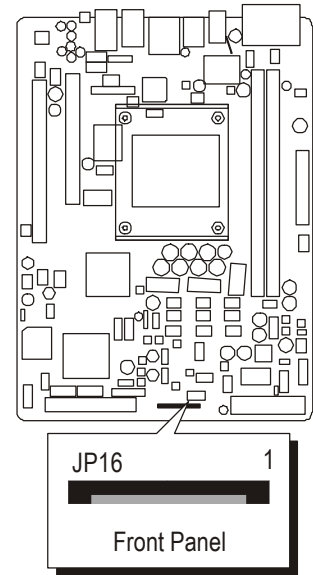
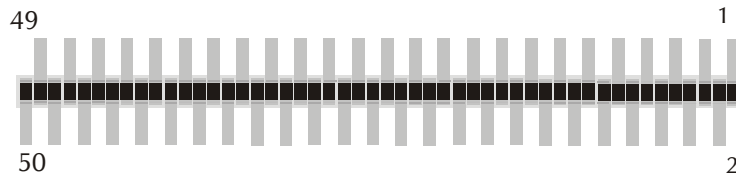
C4 Hardware Reset connector (RST)

Attach the 2-pin hardware reset switch cable to the (RST) header.
Pressing the reset switch causes the system to restart.



Front Panel AUDIO/ USB/ 1394 connector (JP16)

Port JP16 can be used to connect special device.



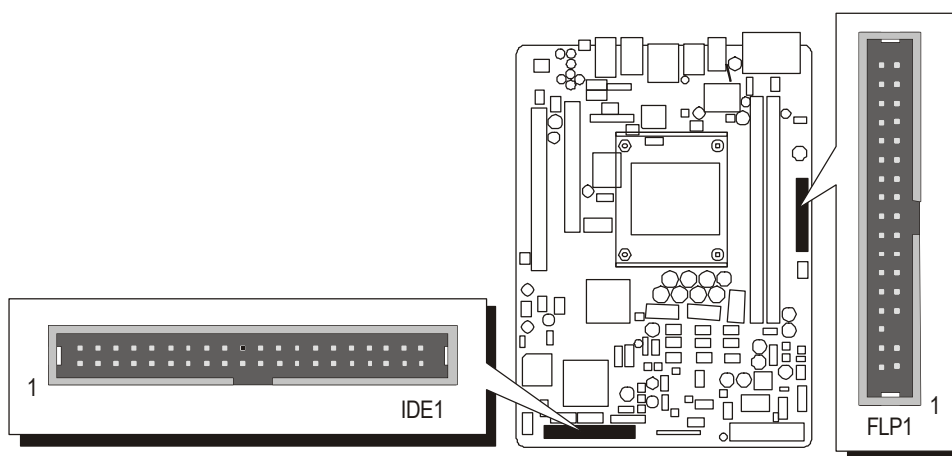
Pin Assignments:

1 = USBPWR	2 = USBPWR	3 = USBPWR
4 = USBPWR	5 = USBPWR	6 = USBPWR
7 = USBPWR	8 = USBPWR	9 = USBA +
10 = USBA-	11 = USBGND	12 = USBGND
13 = USBB +	14 = USBB-	15 = USBGND
16 = USBGND	17 = TPA1 +	18 = TPA1-
19 = 1394GD	20 = 1394GD	21 = TPB1 +
22 = TPB1-	23 = 1394GD	24 = 1394GD
25 = FMIC	26 = MIC_PWR	27 = SENSE0
28 = AUDIOGD	29 = LINE_IL	30 = AUDIOGD
31 = LINE_IR	32 = SENSE1	33 = AUDIOGD
34 = AUDIOGD	35 = LINE_OR	36 = LINE_FR
37 = AUDIOGD	38 = AUDIOGD	39 = LINE_OL
40 = LINE_FL	41 = AUDIOGD	42 = AUDIOGD
43 = HDPWR	44 = GLEDA	45 = HDLED
46 = GLEDB	47 = RST_SW	48 = PW_SW
49 = VCC	50 = VCC	

Internal Peripherals Connectors

D1 Enhanced IDE and Floppy connectors

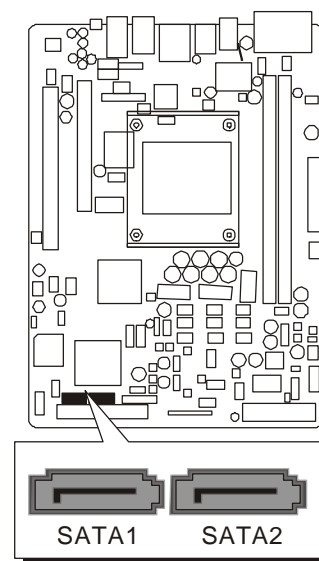
The mainboard features one 40-pin dual-channel IDE device connectors (IDE1) providing support for up to two IDE devices, such as CD-ROM and Hard Disk Drives (H.D.D.). This mainboard also includes one 34-pin floppy disk controller (FDC) to accommodate the Floppy Disk Drive (FDD1). Moreover, this mainboard comes with one 80-pin ATA 133/100/66/33 ribbon cable to connect to IDE H.D.D. and one 34-pin ribbon cable for F.D.D. connection.



Important : Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE2 or FDC connector on the mainboard.

D2 Serial ATA connectors (SATA1/SATA2)

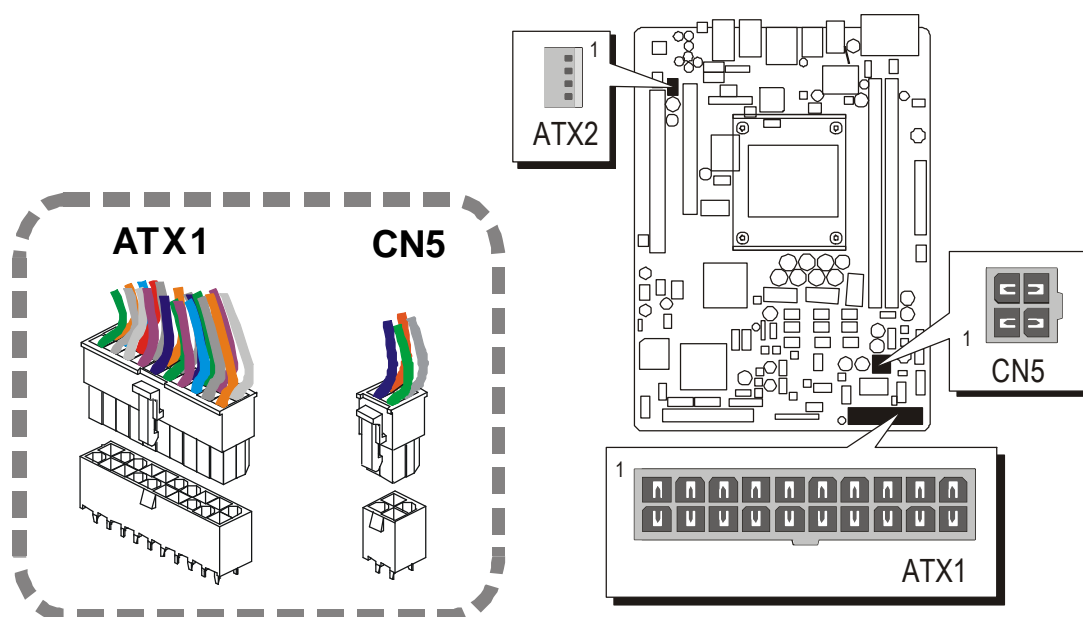
The Serial ATA is an evolutionary replacement for the Parallel ATA physical storage interface. Serial ATA is scalable and will allow future enhancements to the computing platform. The Serial ATA supports all ATA and ATAPI device, including CDs, DVDs, tape devices, high capacity removable devices, zip drivers, and CDRWs. The Serial ATA interface supports data transfer rates up to 150MB/s.



☞ Other Connectors

Ⓔ ATX Power Supply connectors (ATX1/CN5/ATX2)

This motherboard uses 20-pin ATX power header (ATX1), and comes with the other one header (CN5). Please make sure you plug each in the right direction. It is essential to have these two power supply connectors plugged or your system won't boot up.

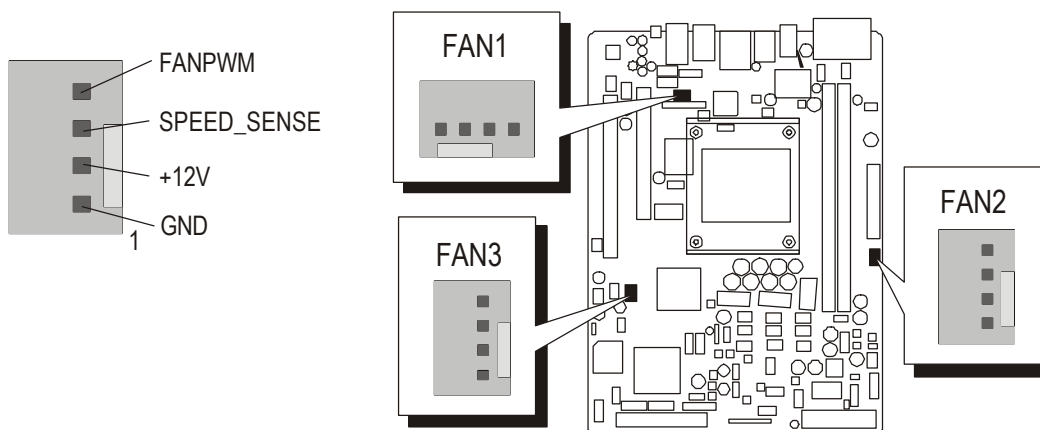


A traditional ATX system remains in the power-off stage when AC power resumes from power failure. However, it is inconvenient for a network server or workstation if there is not an UPS to execute power-on. Thus, this motherboard supports an AC Power Auto Recovery function to solve this problem. You may enable the function, "PWRON After PWR-Fail," in the sub-menu of "Power Management Setup" within the BIOS setup program.

- | | |
|---------|---|
| Note 1: | The ATX power connector is directional and will not go in unless the guides match perfectly, making sure that pin#1 is properly positioned. |
| Note 2: | Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment. |
| Note 3: | Your ATX power supply must be supplied to ACPI + 5V standby power and at least 720mA compatible. |
| Note 4: | Make sure your power supply have enough power for higher speed processor installed. |

E2 Fan connectors - FAN1/2/3 OFF when suspend

The mainboard provides three onboard 12V cooling fan power connectors to support FAN1, FAN2 or FAN3 cooling fans.



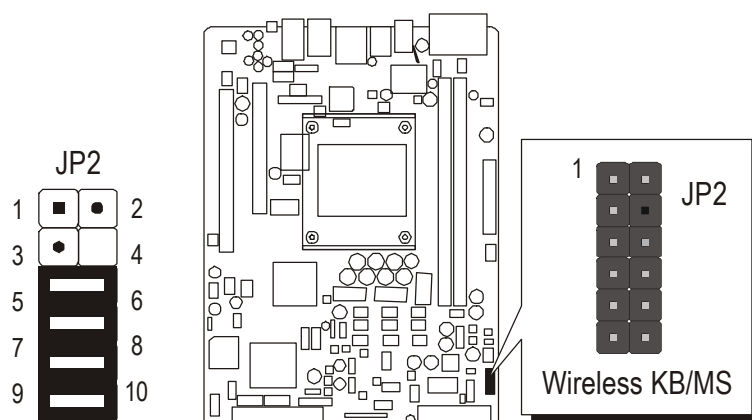
Note : Both cable wiring and type of plug may vary , which depends on the fan maker. Keep in mind that the red wire should always be connected to the + 12V header and the black wire to the ground (GND) header.

E3 Wireless Keyboard and Mouse connector (JP2)

Port JP2 can be used to connect wireless keyboard and mouse device. 4 mini Jumper must be setted on pin 5-6, 7-8, 9-10 and 11-12 when this header is not used.

Pin Assignments:

- 1 = VCC
- 2 = VCC
- 3 = GND
- 4 = KEY
- 5 = MS_CLK
- 6 = MS_CLK_IC
- 7 = MS_DAT
- 8 = MS_DAT_IC
- 9 = KB_CLK
- 10 = KB_CLK_IC
- 11 = KB_DAT
- 12 = KB_DAT_IC

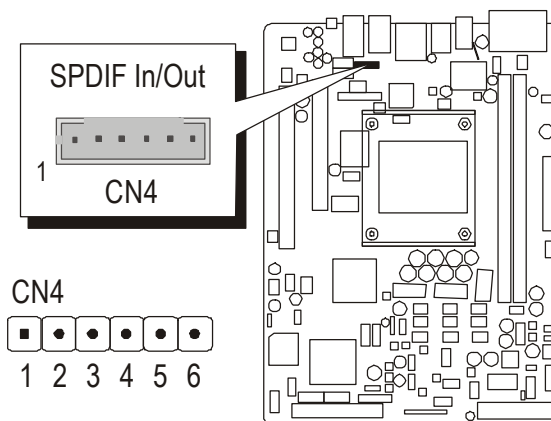


E4 SPDIF In/Out connector (CN4)

Port CN4 can be used to connect special device.

Pin Assignments:

- 1 = SPDIF IN
- 2 = GND
- 3 = VCC
- 4 = GND
- 5 = VCC
- 6 = SPDIF OUT

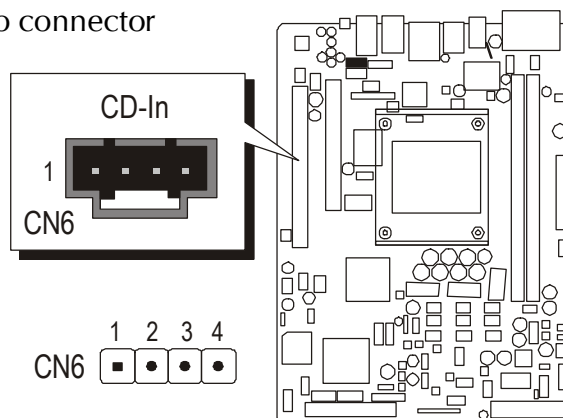


E5 CD-In connector (CN6) (Black)

Port CN6 is used to attach an audio connector cable from the CD-ROM drive.

Pin Assignments:

- 1 = CD-IN Left
- 2 = Ground
- 3 = Ground
- 4 = CD-IN Right

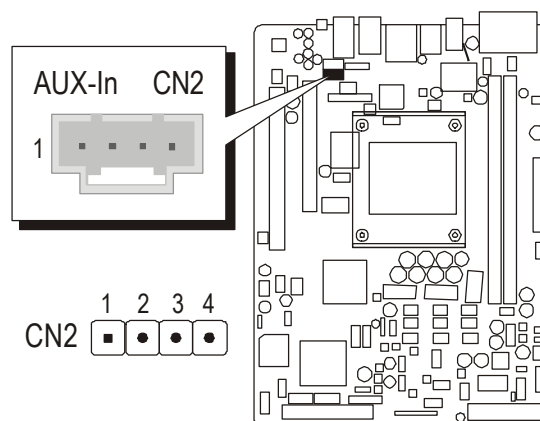


E6 AUX_In connector (CN2) (White)

Port CN2 (White) can be used to connect stereo audio inputs from CD-ROM, TV-tuner or MPEG card.

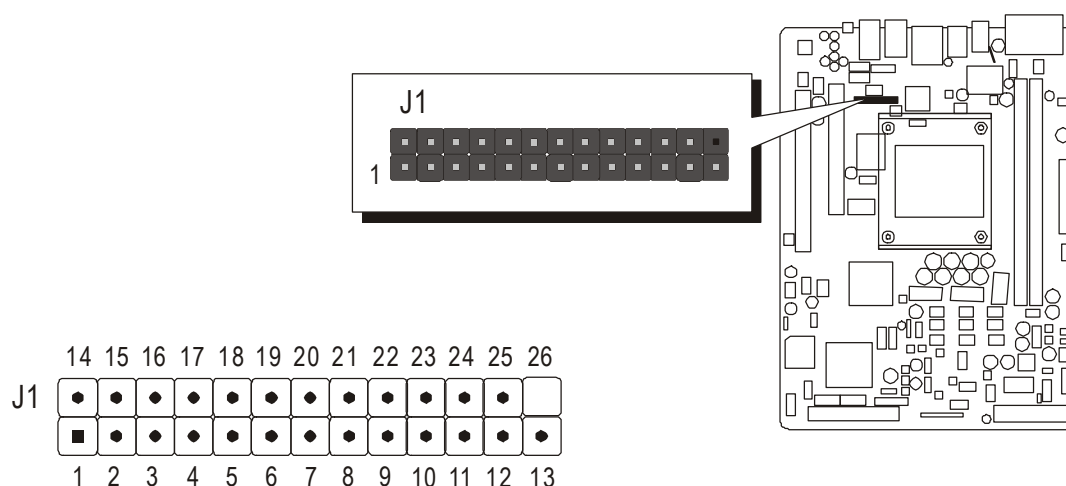
Pin Assignments:

- 1 = AUX-IN Left
- 2 = Ground
- 3 = Ground
- 4 = AUX-IN Right



EXT. PRINT port (J1)

One parallel port header is located at the rear panel of the mainboard.
The header is used to connect the cable attached to a parallel connector.
But the parallel cable and connector are optional at the time of purchase.

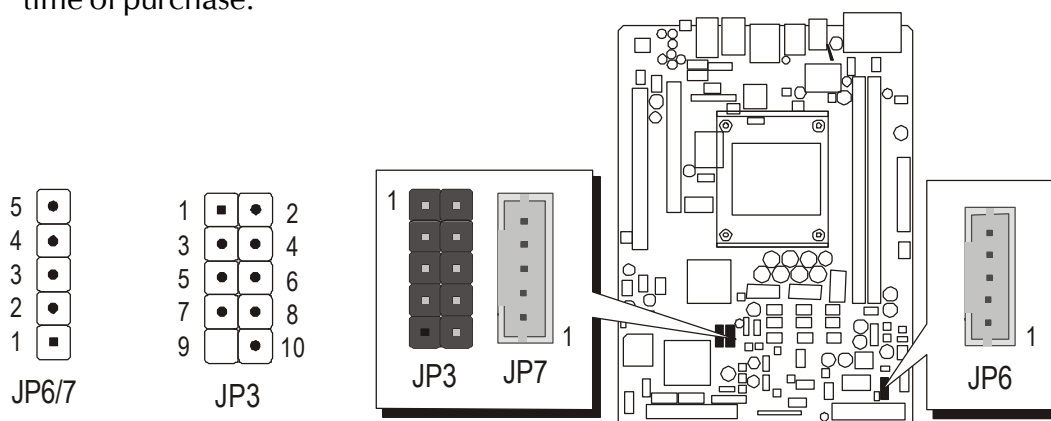


Pin Assignments:

1 = PSTB	8 = PD6	15 = P_-ERR	22 = GND
2 = PD0	9 = PD7	16 = PINIT	23 = GND
3 = PD1	10 = P_-ACK	17 = PSLCTIN	24 = GND
4 = PD2	11 = P_BUSY	18 = GND	25 = GND
5 = PD3	12 = P_PE	19 = GND	26 = KEY
6 = PD4	13 = P_SLCT	20 = GND	
7 = PD5	14 = PAUTOFD	21 = GND	

E8 Dual USB header (JP3)/ USB connectors (JP6, JP7)

The headers are used to connect the cable attached to USB connectors which are mounted on front panel or back panel. But the USB cable is optional at the time of purchase.



Pin Assignments (JP6/ JP7):

1 = GND
2 = GND
3 = USB D+
4 = USB D-
5 = USB PWR

Pin Assignments (JP3):

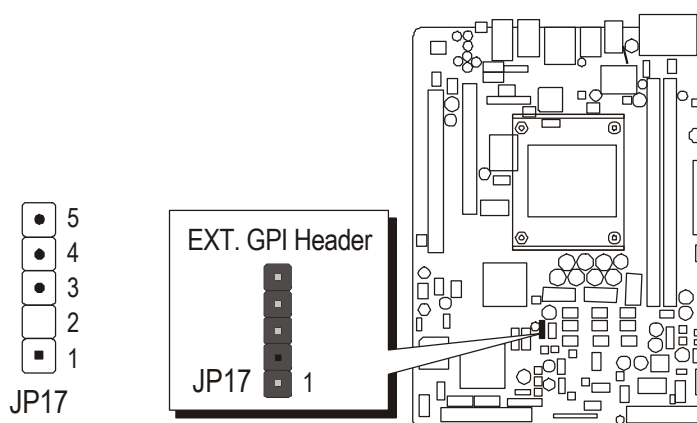
1 = VCC 2 = VCC
3 = Data0- 4 = Data1-
5 = Data0+ 6 = Data1+
7 = Ground 8 = Ground
9 = Key 10 = N/C

E9 EXT. GPI Header (JP17)

The GPI supports user-defined function names. This means that the functions inside the platform-independent code can be called anything. The user defines the linking function names in the GPI header file.

Pin Assignments (JP17):

1 = 5VSB
2 = KEY
3 = GND
4 = RSMGPIO_2
5 = RSMGPIO_1



3.3 System Memory Configuration

The FT20 mainboard has two 184-pin DIMM slots that allow you to install from 64MB up to 2GB of system memory. Each 184-pin DIMM (Dual In-line Memory Module) Slot can accommodate 64MB, 128MB, 256MB, 512MB, and 1GB of PC2100, PC2700 or PC3200 compliant 2.6V single or double side 64-bit wide data path DDR SDRAM modules.

Install Memory:

Install memory in any or all of the slots and in any combination shown as follows.

Note : Total 2 DIMM capacities are up to 2GB max and 1GB per DIMM.

Devices Used on DIMMs	Size Per CS
64 M-bit (2M x8-bits x4 bnaks)	64 Mbyte
64 M-bit (1M x16-bits x4 bnaks)	32 Mbyte
128 M-bit (4M x8-bits x4 bnaks)	128 Mbyte
128 M-bit (2M x16-bits x4 bnaks)	64 Mbyte
256 M-bit (8M x8-bits x4 bnaks)	256 Mbyte
256 M-bit (4M x16-bits x4 bnaks)	128 Mbyte
512 M-bit (16M x8-bits x4 bnaks)	512 Mbyte
512 M-bit (8M x16-bits x4 bnaks)	256 Mbyte
1 G-bit (32M x8-bits x4 bnaks)	1 Gbyte
1 G-bit (16M x16-bits x4 bnaks)	512 Mbyte

Memory Configuration:

Note : Please plug the DIMM1 first.

	DIMM1	DIMM2
64-Bit	Single Side	X
64-Bit	Double Side	X
128-Bit	Single Side	Single Side
128-Bit	Double Side	Double Side

Upgrade Memory:

You can easily upgrade the system memory by inserting additional DDR SDRAM modules in available DIMM slots. The total system memory is calculated by simply adding up the memory in all DIMM slots. After upgrade, the new system memory value will automatically be computed and displayed in the field "Standard CMOS Setup" of BIOS setup program.

4 SOFTWARE UTILITY

4.1 Install SATA Driver During Windows XP or 2000 installation

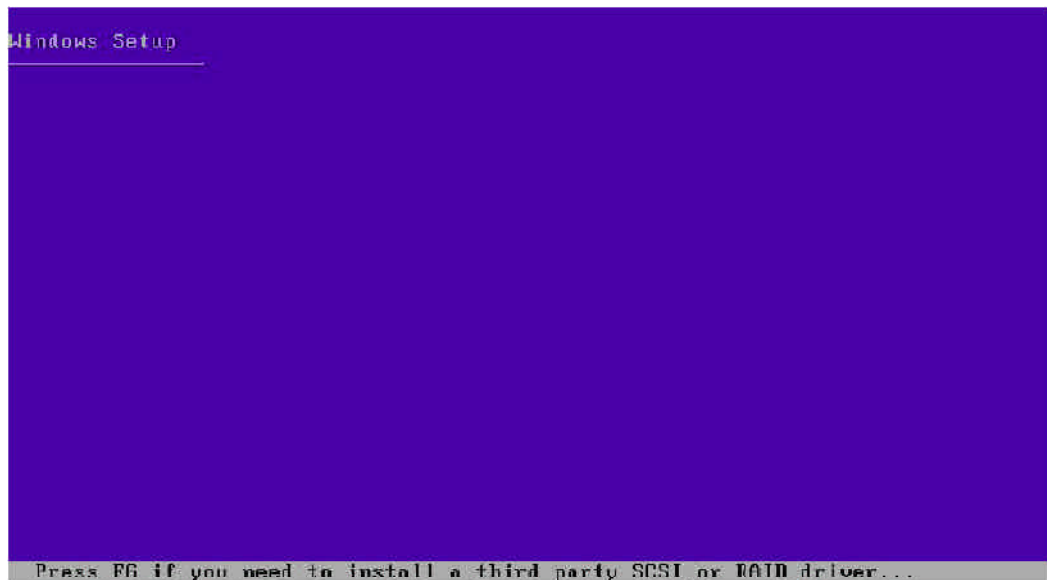
The current Microsoft in-box IDE driver is not suitable for ULi SATA Controller (M5287). Please install ULi SATA driver during Windows XP or 2000 installation. Using the ULi SATA driver can achieve better performance than traditional Microsoft in-box IDE driver, resulting in overall system performance boost.

4.1.1 Preparation

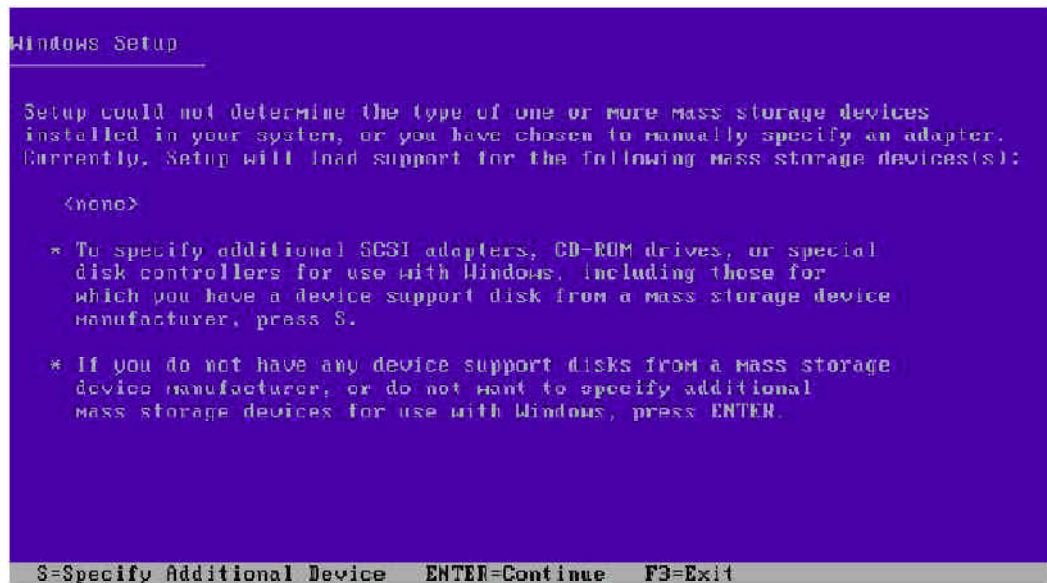
Prepare a diskette containing the ULi SATA driver. The driver binary for Windows XP/2000/Server 2003 can be found under win_xp, win_2000, and Server 2003 subdirectory respectively. There should be two files, TXTSETUP.OEM and DISK1, included at the root directory of the diskette.

4.1.2 Start installation

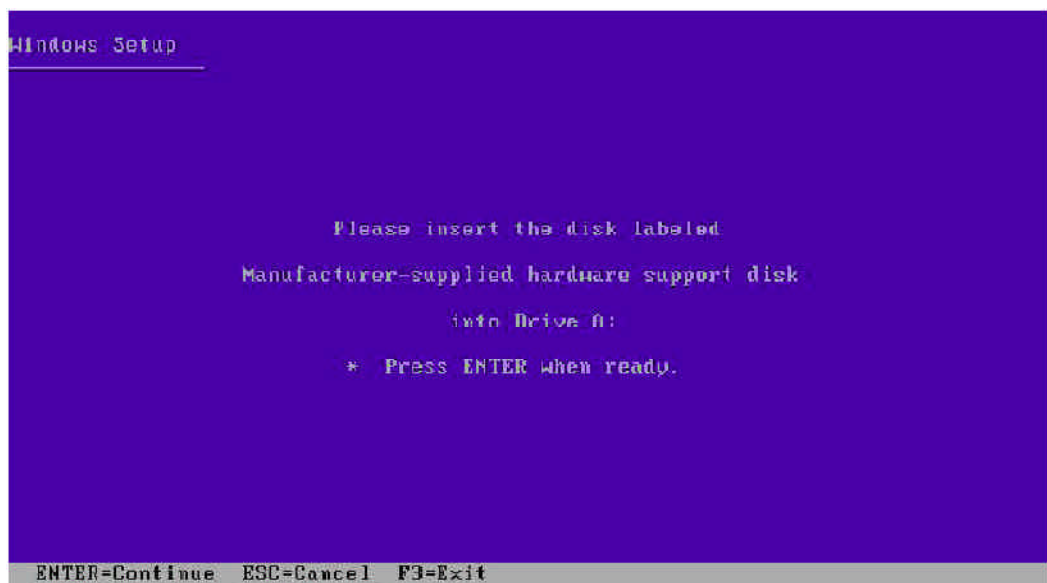
1. Boot from Windows XP installation CD-ROM. When Windows Setup screen prompts "Press F6 if you need to install a third party SCSI or RAID driver...", press F6 to run the driver installation.



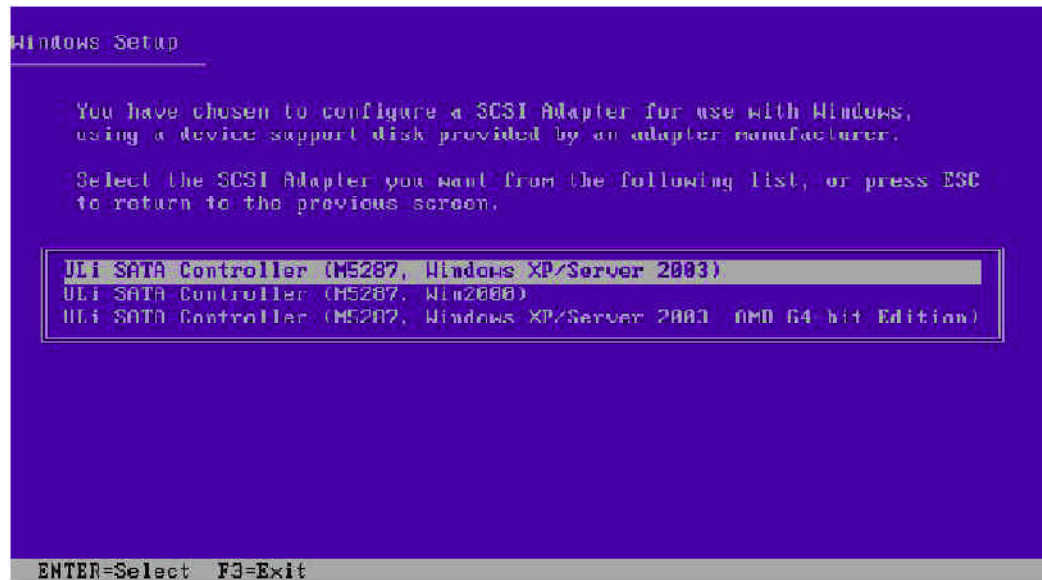
-
2. Wait for a while when Setup is loading files. When Setup shows a message indicating it could not determine the type of device, press 'S' and Windows Setup will prompt for driver.



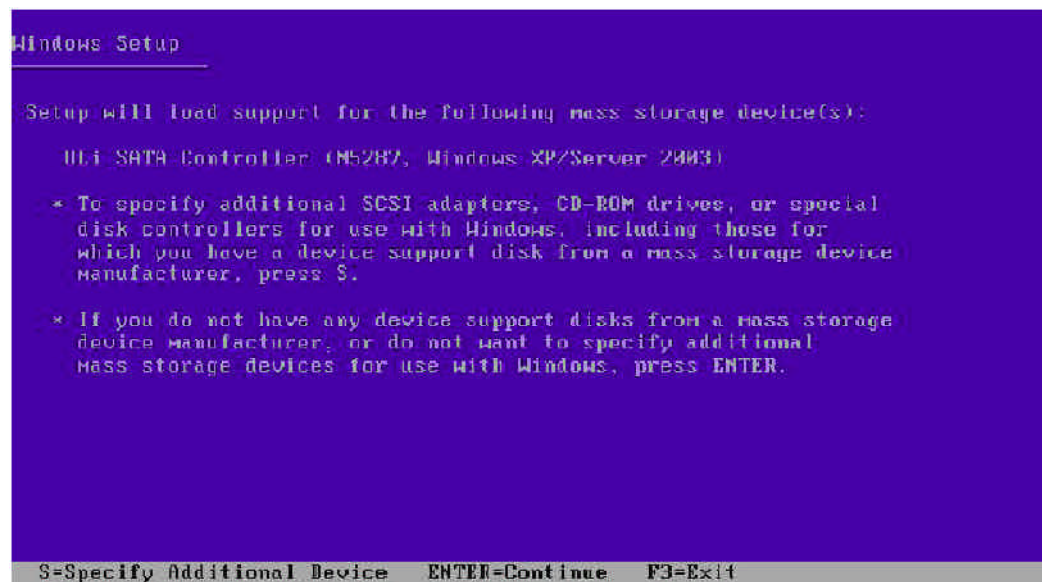
3. When Setup asks for driver diskette, insert the prepared driver diskette and press 'Enter'.



4. When the controller menu shows up, use ?? keys to select "ULi STAT Controller (M5287, Windows XP/Server 2003)" and press 'Enter'.



5. Wait for while when Setup is loading driver files. After setup recognizes the driver for ULi SATA Controller and shows the following prompt, press 'ENTER' to continue the rest of Windows setup.



6. After several minutes of normal Windows XP installation, if a warning dialog box shows up to indicate that the driver has not passed Windows Logo testing, it means you are installing a non-logo driver version. Make sure the version is right for your adapter or system. Click 'YES' after you confirm the unsigned driver is ready to be used. If the driver is signed, this warning dialog will not show up.

4.2 Mainboard CD Overview

Note : The CD contents attached in FT20 mainboard are subject to change without notice.

To start your mainboard CD disc, just insert it into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click or run D:\Autorun.exe (assuming that your CD-ROM drive is drive D:)

Navigation Bar Description:

- ☞ Install Mainboard Software - Installing ATI RADEON Xpress 200 Driver, ULi South Bridge Driver, Broadcom Giga Driver, Broadcom BACS, High Definition Bus, High Definition Driver, ULI USB2.0 Driver, DirectX9 Utility.
- ☞ Install Utility - Installing Acrobat Reader, WinFlash Utility.
- ☞ Manual - FT20 Series mainboard user's manual and ULI Raid manual in PDF format.
- ☞ Link to Shuttle Homepage - Link to shuttle website homepage.
- ☞ Browse this CD - Allows you to see contents of this CD.
- ☞ Quit - Close this CD.



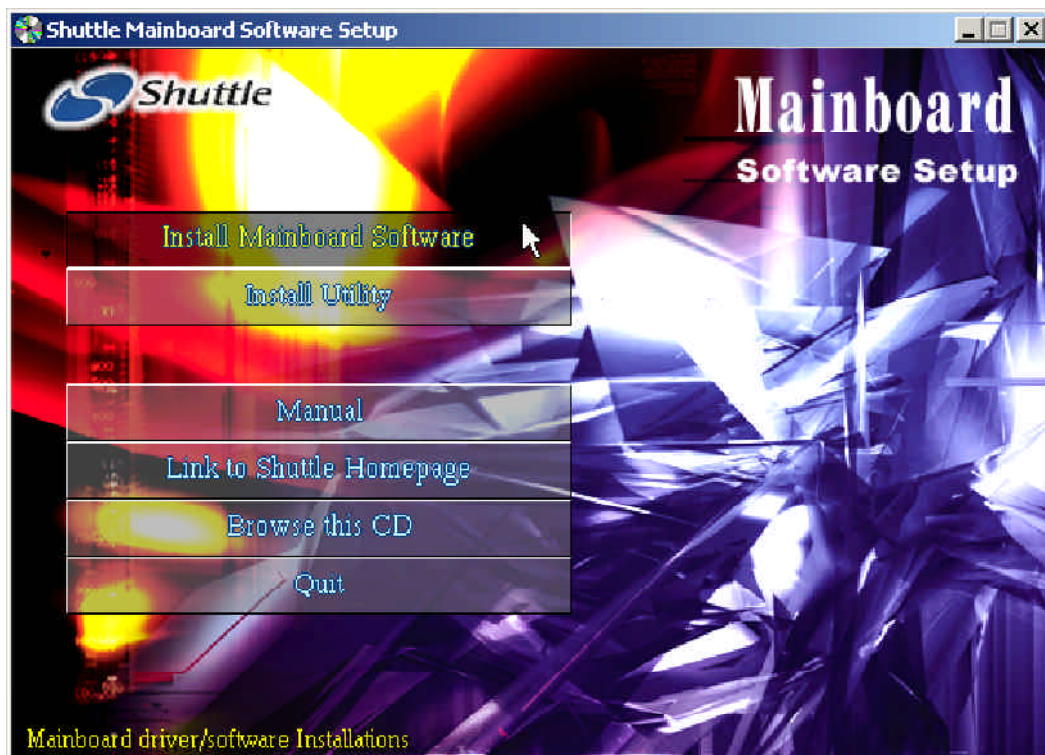
4.3 Install Mainboard Software

Insert the attached CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Auto-run icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the "Install Mainboard Software" bar to run into sub-menu.

The Mainboard Software include:

- [4.3.A] Install ATI RADEON Xpress 200 Driver
- [4.3.B] Install ULi South Bridge Driver
- [4.3.C] Install Broadcom Giga Driver
- [4.3.D] Install High Definition Driver
- [4.3.E] Install ULI USB2.0 Driver
- [4.3.F] Install DirectX9 Utility



4.3.A Install ATI RADEON Xpress 200 Driver

Select using your pointing device (e.g. mouse) on the "Install ATI RADEON Xpress 200 Driver" bar to install ATI RADEON Xpress 200 Driver.



Once you made your selection, a Setup window run the installation automatically. When the copying files is done, make sure you reboot the system to take the installation effect.

4.3.B Install ULi South Bridge Driver

Select using your pointing device (e.g. mouse) on the "Install ULi South Bridge Driver" bar to install ULi South Bridge Driver.



Once you made your selection, a Setup window run the installation automatically. When the copying files is done, make sure you reboot the system to take the installation effect.

4.3.C Install Broadcom Giga Driver

Select using your pointing device (e.g. mouse) on the "Install Broadcom Giga Driver" bar to install LAN driver.



Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.

Important: Under Win 98/Me, please check the "Read me" file and follow steps for manual installation.

4.3.D Install High Definition Driver

Select using your pointing device (e.g. mouse) on the "Install High Definition Driver" bar to install High Definition Audio Driver.



Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.

4.3.E Install ULI USB2.0 Driver

Select using your pointing device (e.g. mouse) on the “Install ULI USB2.0 Driver” bar to install the USB2.0 driver.



Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.

4.3.F Install DirectX9 Utility

Select using your pointing device (e.g. mouse) on the “Install DirectX9 Utility” bar to install DirectX9.



Once you made your selection, a Setup window run the installation automatically.

When the copying files is done, make sure you reboot the system to take the installation effect.

4.4 View the User's Manual

Insert the attached CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on AutoRun icon in My Computer to bring up Shuttle Mainboard Software Setup screen. Select using your pointing device (e.g. mouse) on the "Manual" bar.

Then Online Information windows will appear on your screen.

1. Click on the "Install Acrobat Reader" bar if you need to install acrobe reader.
2. Click on "FT20 Manual" bar to view FT20 Motherboard User's Manual in PDF format.



3. Click on "ULI Raid Manual" bar to view ULI RAID manual in PDF format.



5 BIOS SETUP

FT20 BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in battery-backed RAM so that it retains the Setup information even if the system power is turned off.

The system BIOS is managing and executing a variety of hardware related functions in the system, including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

5.1 Enter the BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

- Step 1. Power on the computer, and the system will perform its POST (Power-On Self Test) routine checks.
- Step 2. Press key immediately, or at the following message: Press DEL to enter SETUP, or simultaneously press <Ctrl>, <Alt>, <Esc> keys

Note 1. If you miss trains of words meationed in step2 (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the <RESET> switch located at the computer's front-panel. You may also reboot by simultaneously pressing the <Ctrl>, <Alt>, keys.

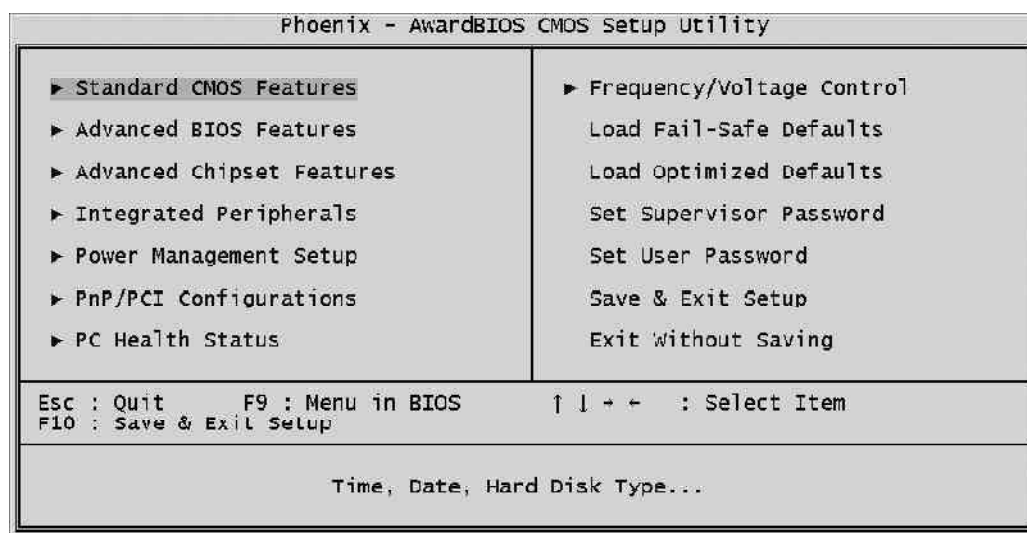
Note 2. If you do not press the keys in time and system does not boot, the screen will prompt an error message, and you will be given the following options:

“Press F1 to Continue, DEL to Enter Setup”

- Step 3. As you enter the BIOS program, the CMOS Setup Utility will prompt you the Main Menu, as shown in the next section.

5.2 The Main Menu

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



Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management Setup

Use this menu to specify your settings for power management.

PnP / PCI Configurations

This entry appears if your system supports PnP / PCI.

PC Health Status

This entry shows the current system temperature, Voltage, and FAN speed.

Frequency/Voltage Control

Use this menu to specify your settings for Frequency/Voltage control.

Load Fail-Safe Defaults

Use this menu to load the BIOS default values for the minimal/stable performance of your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory-set for optimal performance system operation. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet users' needs.

Set Supervisor / User Password

Use this menu to change, set, or disable password. It allows you to limit access to the system and Setup, or only to Setup.

Save & Exit Setup

Save CMOS value changes in CMOS and exit from setup.

Exit Without Saving

Abandon all CMOS value changes and exit from setup.

Standard CMOS Features

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Phoenix - AwardBIOS CMOS Setup Utility	
Standard CMOS Features	
Date (mm:dd:yy)	Wed, Jan 5 2005
Time (hh:mm:ss)	13 : 44 : 25
▶ IDE Channel 0 Master	
▶ IDE Channel 0 Slave	
▶ IDE Channel 2 Master	
▶ IDE Channel 3 Master	
Drive A	[1.44M, 3.5 in.]
Halt On	[All Errors]
Base Memory	640K
Extended Memory	65472K
Total Memory	1024K
Item Help	
Menu Level ▶	
change the day, month, year and century	

[Left Arrow]: Move Enter: Select +/-/PU/PD: value F10: Save ESC: Exit F1: General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

Date

<Month> <DD> <YYYY>

Set the system date. Note that the 'Day' automatically changes when you set the date.

Time

<HH : MM : SS>

The time is converted based on the 24-hour military-time clock. For example, 5 p.m. is 17:00:00.

IDE Channel 0 Master/Slave / IDE Channel 2/3 Master

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Drive A

Select the type of floppy disk drive installed in your system.

- The choice: None, 360K, 5.25 in, 1.2M, 5.25 in, 720K, 3.5 in, 1.44M, 3.5 in, or 2.88M, 3.5 in.

Halt On

Select the situation in which you want the BIOS to stop the POST process and notify you.

- The choice: All Errors, No Errors, All, But Keyboard, All, But Diskette, or All, But Disk/Key.

Base/Extended/Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You can't make change to these fields.

IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub-menu to configure each hard disk drive.

IDE HDD Auto-Detection

Press <Enter> to auto-detect HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

- Press Enter

IDE Channel 0 Master/Slave / IDE Channel 2/3 Master

Selecting 'manual' lets you set the remaining fields on this screen and select the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc., Note: PRECOMP = 65535 means NONE !

- The choice: None, Auto, or Manual.

Access Mode

Choose the access mode for this hard disk.

- The choice: CHS, LBA, Large, or Auto.

Capacity

Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.

- Auto-Display your disk drive size.

The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual'

Cylinder

Set the number of cylinders for this hard disk.

➤ Min = 0, Max = 65535

Head

Set the number of read/write heads.

➤ Min = 0, Max = 255

Precomp

Warning: Setting a value of 65535 means no hard disk.

➤ Min = 0, Max = 65535

Landing zone

Set the Landing zone size.

➤ Min = 0, Max = 65535

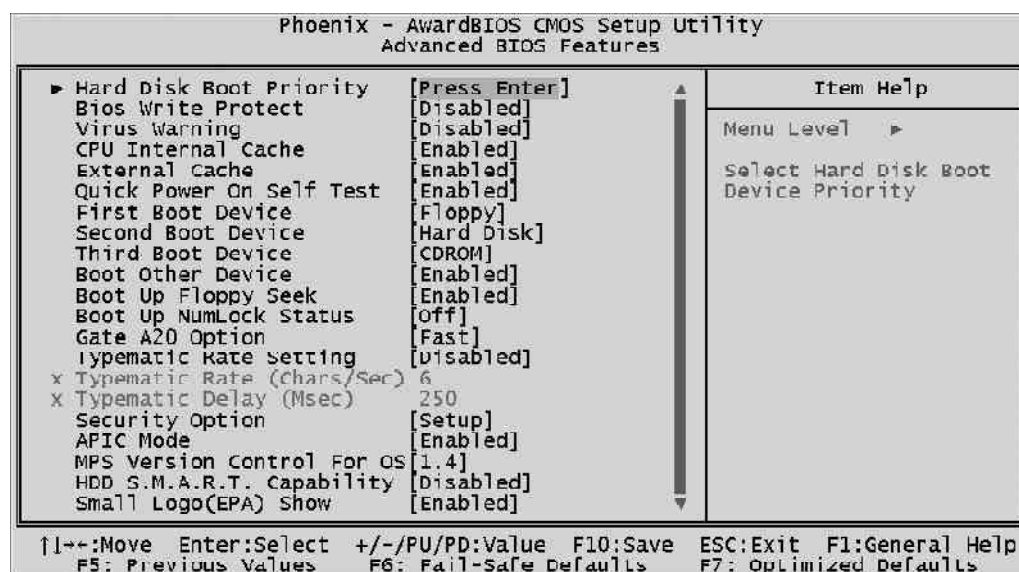
Sector

Number of sector per track.

➤ Min = 0, Max = 255

Advanced BIOS Features

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing, and security.



Hard Disk Boot Priority

This item allows you to select Hard Disk Book Device Priority.

BIOS Write Protect

The item allows you to enable/disable the Bios Write Protect.

- The choice: Enabled or Disabled.

Virus Warning

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enables and someone attempts to write data into this area, BIOS will show a warning message on screen, and an alarm beep.

Enabled Activates automatically when the system boots up, causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

- The choice: Enabled or Disabled.

CPU Internal Cache

All processors that can be installed in this mainboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value for better performance.

- The choice: Enabled or Disabled.

External Cache

Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

- The choice: Enabled or Disabled.

Quick Power On Self Test

This item 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 choice: Enabled or Disabled.

First/Second/Third Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

- The Choice: Floppy, LS120, Hard Disk, CDROM, ZIP100, USB-FDD, USB-ZIP, USB-CDROM, Legacy LAN, or Disabled.

Boot Other Device

Select Your Boot Device Priority.

- The choice: Enabled or Disabled.

Boot Up Floppy Seek

Seeks disk drives during boot-Up. Disabling speed boots up. Enabled tests floppy drives to determine whether they have 40 or 80 tracks.

- The choice: Enabled or Disabled.

Boot Up NumLock Status

Selects power on state for NumLock.

- The choice: Off or On.

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used for above 1MByte of address memory. Initially, the gate A20 was handled via a pin on the keyboard. Today, while a keyboard still provides this support, it is more common and much faster in setting to Fast for the system chipset to provide support for gate A20.

- The choice: Normal or Fast.

Typematic Rate Setting

Keystrokes repeat at a rate determined by the keyboard controller. When this controller enabled, the typematic rate and typematic delay can be selected.

- The choice: Enabled or Disabled.

Typematic Rate (Chars/Sec)

This item sets how many times the keystroke will be repeated in a second when you hold the key down.

- The choice: 6, 8, 10, 12, 15, 20, 24 or 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

- The choice: 250, 500, 750 or 1000.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

- | | |
|--------|--|
| System | The system will not boot and access to Setup will be denied if the correct password is not entered promptly. |
| Setup | The system will boot, but access to Setup will be denied if the correct password is not entered promptly. |

- The choice: System or Setup.

Note : To disabled security, select PASSWORD SETTING at Main Menu, and then you will be asked to enter password. Do not type anything and just press <Enter>; it will disable security. Once the security is disabled, the system will boot, and you can enter Setup freely.

APIC Mode

Selects enable/disable IO APIC function

- The choice: Enabled or Disabled.

MPS Version Control For OS

Selects the operating system multiprocessor support version.

- The choice: 1.1 or 1.4

HDD S.M.A.R.T. Capabiliry

This item enable/disable the HDD system management function.

- The choice: Enabled or Disabled.

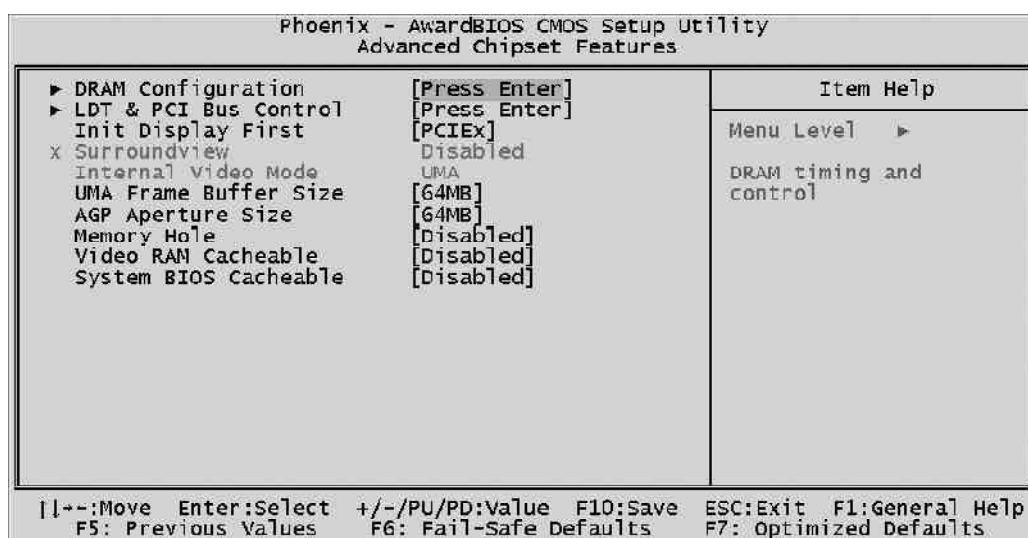
Small Logo(EPA) Show

This item allows you to enable/disable the EPA Logo.

- The choice: Enabled or Disabled.

Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It states that these items should never need to be altered. The default settings have been chosen because they provide the best operating conditions for your system. If you discovered that data was being lost while using your system, you might consider making any changes.



DRAM Configuration

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

Timing Mode

➤ The Choice: Auto, or Manual.

Memclock index value (Mhz)

Places an artificial memory clock limit on the system.

Memory is prevented from running faster than this frequency.

➤ The Choice: 100Mhz, 133Mhz, 166Mhz, or 200Mhz.

CAS# latency (Tcl)

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Don't change this field from the default value specified by the system designer.

➤ The Choice: 2, 2.5, or 3.

Min RAS# active time (Tras)

This item allows you to set the Min RAS# active time.

- The Choice: 5T ~ 15T, or Auto.

RAS# to CAS# delay (Trcd)

This item allows you to set the RAS# to CAS# delay.

- The Choice: 2T ~ 7T, or Auto.

Row precharge Time (Trp)

This item allows you to set the Row precharge Time.

- The Choice: 2T ~ 7T, or Auto.

MTRR mapping mode

This item allows you to set the MTRR mapping mode.

- The Choice: Continuous or Discretes.

LDT & PCI Bus Control

The LDT & PCI Bus Control sub-section offers features to control the HyperTransport bus of the Athlon64. Available settings of concern are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

LDT Configuration

This item allows you to enable/disable the LDT Configuration.

- The Choice: Enabled, or Disabled.

Upstream LDT Bus Width

- The Choice: 16 bit, or 8 bit.

Downstream LDT Bus Width

- The Choice: 16 bit, or 8 bit.

LDT Bus Frequency

- The Choice: Auto, 1G, 800MHz, 600MHz, 400MHz, or 200MHz.

PCIE Reset Delay

This item allows you to enable/disable the PCIE Reset Delay.

- The Choice: Disabled, or Enabled.

Init Display First

This item is used to determine initial device when system power on.

- The choice: PCIEx, PCI Slot, or onboard.

Surroundview

The item allows Disabled the surroundview.

Internal Video Mode

This item allows you to set the Internal Video Mode.

- The Choice: Always UMA.

UMA Frame Buffer Size

This item is select UMA Frame Buffer Size.

It will be shared from system memory.

- The Choice: 16M, 32M, 64M, or 128M.

AGP Aperture Size(MB)

Select the size of Accelerated Graphics Port(AGP) aperture.

The aperture is a portion of the PCI memory address range dedicated to graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

- The choice: None, 32MB, 64MB, 128MB, 256MB, 512MB, 1GB, 2GB.

Memory Hole

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

- The Choice: Enabled or Disabled.

Video RAM Cacheable

Selecting Enabled allows caching of the video RAM, resulting in better system performance. However, if any program is written to this memory area, a system error may result.

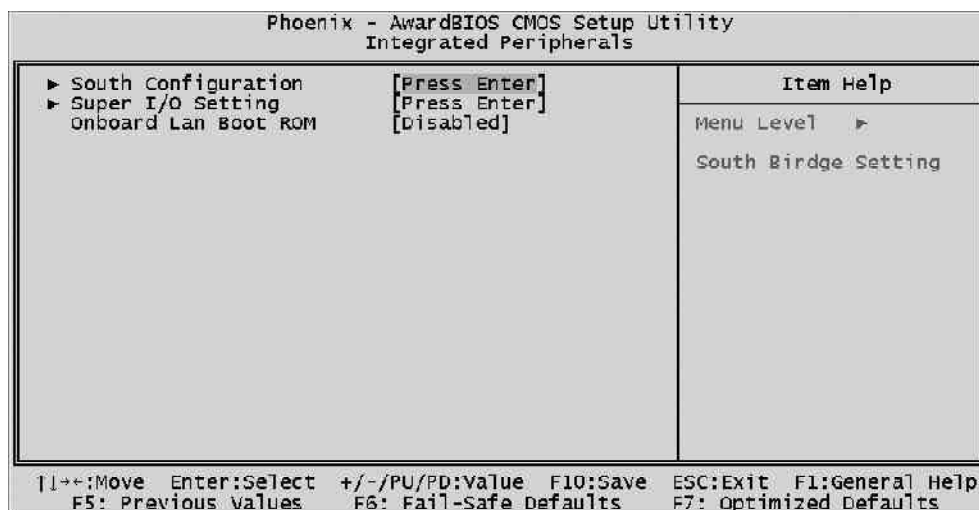
- The Choice: Disabled or Enabled.

System BIOS Cacheable

Selecting Enabled allows caching for the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program is written to this memory area, a system error may result.

- The Choice: Disabled or Enabled.

Integrated Peripherals



South Configuration

Press <Enter> to enter the sub-menu of detailed options.

South Birdge Feature

South Birdge Power Saving, Clock Gated and Prefetch. Options are in its sub-menu. Press <Enter> to enter the sub-menu of detailed options.

P2P Pre-fetch Queue Depth

- The Choice: Depth = 1, Depth = 2, Depth = 3, Depth = 4, Depth = 5, Depth = 6, Depth = 7, Depth = 8,

P2P Maximum Pre-fetch DW

- The Choice: Pre-fetch 1x16DW ~ Pre-fetch 16x16DW.

PCI/14M/USB CLK PowerDown

This item allows you to enable/disable the PCI/14M/USB CLK PowerDown.

- The Choice: Disabled, or Enabled.

S.B. PCI-E Performance

This item allows you to enable/disable the S.B. PCI-E Performance.

- The Choice: Enabled, or Disabled.

OnChip IDE Setting

Options are in its sub-menu.

Press <Enter> to enter the sub-menu of detailed options.

On-Chip Primary IDE

The chipset contains a PCI IDE interface with support to one IDE channels. Select Enabled to activate the primary IDE interface. select Disabled to deactivate this interface.

- The Choice: Enabled or Disabled.

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.

- The Choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, or Mode 4.

Master/Slave UDMA

Ultra DMA/100 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If both of your hard drive and your system software support Ultra DMA/100, select Auto to enable BIOS support.

- The Choice: Auto or Disabled.

IDE DMA transfer access

Improve IDE HD/CDROM transfer performance.

- The Choice: Enabled or Disabled.

IDE HDD Block Mode

Select Enabled for automatic detection of the optimal number of block read/write per sector the drive can support.

- The Choice: Enabled or Disabled.

On-Chip USB Controller

Select Enabled if your system contains a Universal Serial Bus controller

and you have USB peripherals.

- The Choice: Enabled or Disabled.

High Definition Audio

This item allows you to enable/disable the High Definition Audio.

- The Choice: Enabled or Disabled.

Serial ATA Controller

This item allows you to enable/disable the Serial ATA Controller.

- The Choice: Enabled or Disabled.

Serial ATA RAID Mode

This item allows you to enable/disable the Serial ATA RAID Mode.

- The Choice: Disabled, or Enabled.

Super I/O Setting

Press <Enter> to enter the sub-menu of detailed options.

Onboard FDC Controller

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you want to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field.

- The Choice: Enabled or Disabled.

Onboard Parallel Port

This item allows you to determine onbaord parallel port controller I/O address setting.

- The Choice: 378/IRQ7, 278/IRQ5, 3BC/IRQ7 or Disabled.

Parallel Port Mode

Select an operating mode for the onboard parallel(printer) port. Select Normal,Compatible, or SPP unless you are certain your hardware and software both support one of the other avaukable modes.

- The Choice: SPP, EPP, ECP or ECP + EPP.

ECP Mod Use DMA

Select a DMA channel for the parallel port for use during ECP mode.

- The Choice: 1 or 3.

Onboard Lan Boot ROM

Decide whether to invoke the boot ROM of the onboard LAN chip.
This item allows you to control the onboard Lan.

- The Choice: Enabled or Disabled.



Power Management Setup

Phoenix - AwardBIOS CMOS Setup Utility	
Power Management Setup	
ACPI Function	[Enabled]
ACPI Suspend Type	[S1(POS)]
Power Management	[User Define]
MODEM Use IRQ	[3]
Video Off In Suspend	[Yes]
Video Off Method	[DPMS]
PM Timers	
HDD Power Down	[Disabled]
Suspend Mode	[Disabled]
▶ PowerOn/Wakeup Function	[Press Enter]
▶ Suspend Break Events	[Press Enter]

Item Help
Menu Level ▶

↑↓:Move Enter:Select +/-/PU/PD:value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

The Power Management Setup allows you to configure your system to most effectively saving energy while operating in a manner consistent with your own style of computer use.

ACPI Function

This item allows Enable the Advanced Configuration and Power Management (ACPI)

- The choice: Disabled or Enabled.

ACPI Suspend Type

This item allows you to select sleep state when suspend.

- The choice: S1(POS), S3(STR) or S1&S3.

Power Management

This category allows you to select the type (or degree) of power saving mode settings.

Min Saving Minimum power management.

Suspend Mode = 15 min.

Max Saving Maximum power management.

Suspend Mode = 1 min.

User Define Allows you to set each mode individually.

Suspend Mode = Disabled or 1 min ~ 15min.

- The choice: User Define, Min Saving or Max Saving.

MODEM Use IRQ

This item allows you to set the MODEM Use IRQ.

- The Choice: NA, 3, 4, 5, 7, 9, 10, or 11.

Video Off In Suspend

This item allows you to set the Video Off In Suspend.

- The Choice: Yes or No.

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 Initial display power management signaling.

- The choice: V/H SYNC + Blank, Blank Screen or DPMS.

PM Timers

HDD Power Down

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

- The choice: Disabled or 1 Min ~ 15 Min.

Suspend Mode

This item allows you to set the Suspend Mode.

- The Choice: Disabled, 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, or 1Hour.

PowerOn\WakeUp Function

Press <Enter> to enter the sub-menu of detailed options.

Soft-Off By PBTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung".

- The choice: Delay 4 Sec or Instant-Off.

WakeUp\PowerOn by PCI Card

The item allows you to enable or disable the WakeUp\PowerOn by PCI Card.

- The choice: Enabled or Disabled.

USB Dev WakeUp

If you are using a USB keyboard, and the ACPI suspend type is set to S3, you can enable this item to allow a keystroke to wake up the system from power saving mode.

- The choice: Enabled or Disabled.

Resume by Alarm

When set to Enabled, the following three fields become available and you can set the month, date (day of the month), hour, minute and second to turn on your system.

- The choice: Enabled or Disabled.

Date(of Month) Alarm

This item selects the alarm Day of Month.

- The choice: 0 ~ 31.

Time(hh:mm:ss) Alarm

This item selects the alarm Time.

[hh] ➤ Key in a DEC number: Min = 0, Max = 23.

[mm/ss] ➤ Key in a DEC number: Min = 0, Max = 59.

PS2 Keyboard Wake Up

When the Wake Up Function is set to PS2 Keyboard, use this item to set the PS2 keyboard combination that turns on the system.

- The choice: Disabled, Password or Hot KEY.

KB Wakeup Password

When the Wake Up Function is set to Password, use this item to set the password.

- The choice: Enter.

Hot Key Wake Up

When the Wake Up Function is set to Hot Key, use this item to set the hot key combination that turns on the system.

- The choice: Ctrl-F1 ~ F12 or Any key.

PS2 Mouse Wake Up

When the Wake Up Function is set to PS2 Mouse, use this item to set the PS2 mouse combination that turns on the system.

- The choice: Disabled or Enabled.

PWRON After PWR-Fail

This item allows you to select power on function when power fail.

- The choice: Former-Sts, Off or On.

Suspend Break Events

Press <Enter> to enter the sub-menu of detailed options.

IRQ[1] (KeyBoard)	[Enabled/Disabled]
IRQ[3]	[Disabled/Enabled]
IRQ[4]	[Disabled/Enabled]
IRQ[5]	[Disabled/Enabled]
IRQ[6] (Floppy Disk)	[Disabled/Enabled]
IRQ[7]	[Disabled/Enabled]
IRQ[8] (RTC)	[Disabled/Enabled]
IRQ[9]	[Disabled/Enabled]
IRQ[10]	[Disabled/Enabled]
IRQ[11]	[Disabled/Enabled]
IRQ[12] (PS2 Mouse)	[Enabled/Disabled]
IRQ[14] (Primary IDE)	[Enabled/Disabled]
IRQ[15] (Secondary IDE)	[Disabled/Enabled]

PnP/PCI Configurations

Phoenix - AwardBIOS CMOS Setup Utility	
PnP/PCI Configurations	
Reset Configuration Data	[Disabled]
Resources Controlled By	[Auto(ESCD)]
x IRQ Resources	Press Enter
PCI/VGA Palette Snoop	[Disabled]
Assign IRQ For VGA	[Enabled]
Assign IRQ For USB	[Enabled]
** PCI Express relative items **	
Maximum Payload Size	[4096]
Item Help	
Menu Level ▶	
Default is 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 OS cannot boot.	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

This section describes the configuration of PCI bus system. PCI or Personal Computer Interconnection is a system which allows I/O devices to operate at the speed CPU itself keeps when CPU communicating with its own special components. This section covers some very technical items, and it is strongly recommended that only experienced users should make any changes to the default settings.

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit from Setup if you have installed a new device or software and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

➤ The choice: Enabled or Disabled .

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 Windows 95.

If you set this field to "manual" , choose specific resources by going into each of the sub-menu that follows this field (a sub-menu is proceeded by a ">").

➤ The choice: Auto(ESCD) or Manual.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

IRQ3/4/5/7/9/10/11/12/14/15 assigned

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices is compliant with the original PC AT bus specification; PCI/ISA PnP for devices is compliant with the Plug-and-Play standard whether designed for PCI or ISA bus architecture.

➤ The choice: PCI Device or Reserved.

PCI/VGA Palette Snoop

It determines whether the MPEG ISA/VESA VGA Cards can work with PCI/VGA or not. If you have MPEG ISA/VESA VGA Cards and PCI/VGA Card worked, Enable this field. Otherwise, please Disable it.

➤ The choice: Enabled or Disabled.

Assign IRQ For VGA

The item allows you to enabled or disabled the Assign IRQ For VGA.

➤ The choice: Enabled or Disabled.

Assign IRQ For USB

The item allows you to enabled or disabled the Assign IRQ For USB.

➤ The choice: Enabled or Disabled.

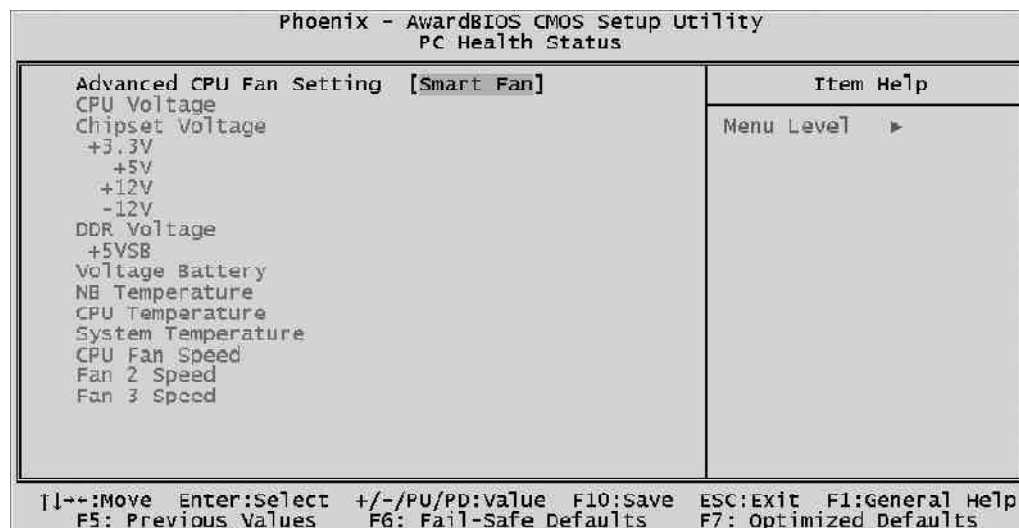
** PCI Express relative items **

Maximum Payload Size

Set maximum TLP payload size for the PCI Express devices.
The unit is byte.

➤ The choice: 128,256,512,1024,2048, or 4096.

PC Health Status



Advanced CPU Fan Setting

Set the CPU Fan Speed.

- The choice : Smart Fan, Noise Control - U Low, Noise Control - Low, Noise Control - Mid, Noise Control - Full, Temp Control - 40°C, Temp Control - 45°C, Temp Control - 50°C, Temp Control - 55°C, or Temp Control - 60°C.

Smart Fan : The CPU fan speed will be increased when the temperature of CPU is raising up. Upon the temperature raising up to 80°C, the CPU fan will be full speed.

Noise Control-U Low : When the CPU fan being set up as ULTRA LOW and the temperature of CPU is raising up to 80°C, the CPU fan being full speed.

Noise Control-Low : When the CPU fan being set up as LOW and the temperature of CPU is raising up to 80°C, the CPU fan being full speed.

Noise Control-Mid : When the CPU fan being set up as Mid and the temperature of CPU is raising up to 80°C, the CPU fan being full speed.

Noise Control-Full : CPU fan full speed.

Temp Control-40°C : When the CPU fan being set up as auto-modified, the temperature of CPU will be remained as 40°C.

Temp Control-45°C : When the CPU fan being set up as auto-modified, the temperature of CPU will be remained as 45°C.

Temp Control-50°C : When the CPU fan being set up as auto-modified, the temperature of CPU will be remained as 50°C.

Temp Control-55°C : When the CPU fan being set up as auto-modified, the temperature of CPU will be remained as 55°C.

Temp Control-60°C : When the CPU fan being set up as auto-modified, the temperature of CPU will be remained as 60°C.

Note :Before manually modifying the CPU fan setting, please make sure fan connectors are plug into the correct fan connector designations on the mainboard.

CPU Voltage

Chipset Voltage

+ 3.3V

+ 5V

+ 12V

-12V

DDR Voltage

+ 5VSB

Voltage Battery

NB Temperature

CPU Temperature

System Temperature

CPU Fan Speed

Fan 2 Speed

Fan 3 Speed

Warning :It is Strongly recommended to disable CPU Fan Auto Guardian feature, if you wish to use other fan cooler, allowing the fan to run at its default speed.

Frequency/Voltage Control

Phoenix - AwardBIOS CMOS Setup Utility	
Frequency/Voltage Control	
**** Frequency Setting ****	Item Help
Spread Spectrum [+/- 0.1%]	
CPU Ratio [StartUp]	
CPU Clock [100MHz]	Menu Level ▶
**** Voltage Setting ****	
CPU Voltage Select [Auto]	
RAM Voltage Select [Auto]	
Chipset Voltage Select [Auto]	

↑↓←→:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults

*** Frequency Setting ****

Spread Spectrum

This item allows you to set the Spread Spectrum.

- The choice: +/- 0.1% ~ +/- 0.9%, or Disabled.

CPU Ratio

This item allows you to adjust CPU Ratio.

- The choice: x4 800Mhz, x5 1000Mhz, x6 1200Mhz, x7 1400Mhz, x8 1600Mhz, x9 1800Mhz, x10 2000Mhz, x11 2200Mhz, x12 2400Mhz, x13 2600Mhz, x14 2800Mhz, x15 3000Mhz, x16 3200Mhz, x17 3400Mhz, x18 3600Mhz, x19 3800Mhz, x20 4000Mhz, x21 4200Mhz, x22 4400Mhz, x23 4600Mhz, x24 4800Mhz, x25 5000Mhz or StarUp.

CPU Clock

This item allows you to set the CPU Clock.

- The choice: 100 ~ 232MHz.

*** Voltage Setting ****

CPU Voltage Select

This item allows you to set the CPU Voltage.

- The choice: 0.800V, 0.825V, 0.850V, 0.875V, 0.900V, 0.925V, 0.950V, 0.975V, 1.000V, 1.025V, 1.050V, 1.075V, 1.100V, 1.125V, 1.150V, 1.175V, 1.200V, 1.225V, 1.250V, 1.275V, 1.300V, 1.325V, 1.350V, 1.375V, 1.400V, 1.425V, 1.450V, 1.475V, 1.500V, 1.525V, 1.550V, 1.600V, 1.650V, 1.700V or Auto.

RAM Voltage Select

This item allows you to set the RAM Voltage.

- The choice: 2.70V, 2.80V, 2.90V or Auto.

Chipset Voltage Select

This item allows you to set the Chipset Voltage.

- The choice: 1.85V, 1.90V, 1.95V or Auto.



Load Fail-Safe Defaults

When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

Pressing 'Y' loads the BIOS default values for the most stable, minimal performance system operations.



Load Optimized Defaults

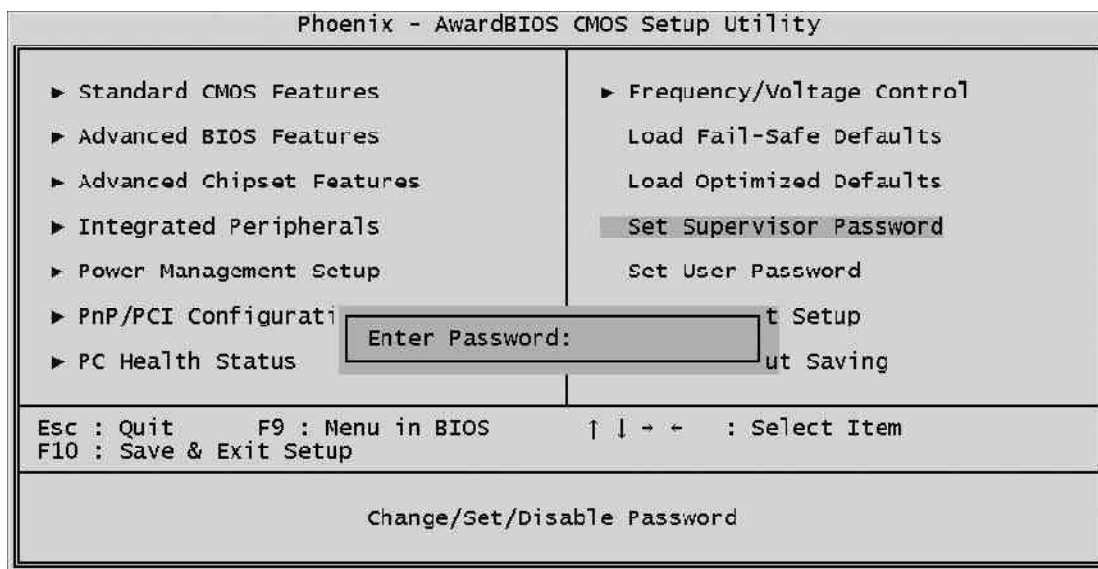
When you press <Enter> on this item, you will get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory-set for optimal performance system operation.



Set Password



This item is to set supervisor password. Please follow below steps.

New Password Setting:

1. While pressing <Enter> to set a password, a dialog box appears to ask you enter a password.
2. Key in a new password.
The password can not exceed eight characters.
3. System will request you to confirm the new password again.
4. When completed, new code takes effect.

No Password Setting:

If you want to disable the password, just press <Enter> as a password input is requested.

If You Forget Password:

If you forget the password, the only way to access the system is to clear the CMOS memory. Please refer to page 26 on clear CMOS setting.

Save & Exit Setup

Pressing <Enter> on this item asks for confirmation:

Save to CMOS and EXIT (Y/N)? Y

Pressing "Y" stores the selections made in the menus of CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing <Enter> on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit from Setup without storing in CMOS any change. The previous selections remain in effect. This exits from the Setup utility and restarts your computer.