

# FA31

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## MAINBOARD MANUAL

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## Handling Precautions

**Warning:**

1. Static electricity may cause damage to the integrated circuits on the mainboard. Before handling any motherboard outside of its protective packaging, ensure that your body is not electrostatically charged.
2. There is a danger of explosion if the battery is incorrectly replaced. Replace only with the same or an equivalent type of battery as recommended by the manufacturer.
3. Discard used batteries according to the manufacturer's instructions.

Observe the following basic precautions when handling the motherboard or other computer components:

- Wear a static wrist strap which fits around your wrist and is connected to a natural earth ground.
- Touch a grounded or anti-static surface or a metal fixture such as a water pipe.
- Ensure add-on cards, mainboards, and models do not come into contact with the golden fingers connectors, plugged into the expansion slot.

The above methods prevent static build-up and allow it to be discharged properly.

## Trademark

*All trademarks mentioned in this manual are registered property of the respective owners.*

## Handling Precautions

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## Quick Installation

The mainboard has several user-adjustable jumpers on the board that allow you to configure your system to suit your requirements. This chapter contains information on the various jumper settings on your mainboard.

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

- Step 1 - Set system jumpers/switches
- Step 2 - Install memory modules
- Step 3 - Install the Central Processing Unit (CPU)
- Step 4 - Install expansion cards
- Step 5 - Connect ribbon cables, cabinet wires, and power supply
- Step 6 - Set up BIOS software
- Step 7 - Install supporting software tools

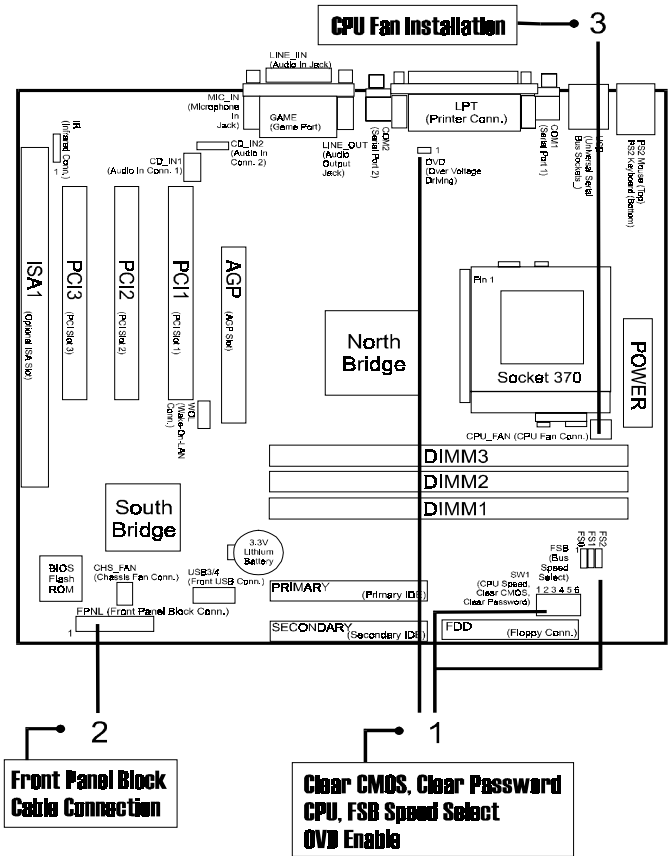


**WARNING:** Excessive torque may damage the mainboard. When using an electric screwdriver on the mainboard, make sure that the torque is set to the allowable range of 5.0 ~ 8.0kg/cm.

Mainboard components contain very delicate Integrated Circuit (IC) chips. To prevent static electricity from harming any of the mainboard's sensitive components, you should follow the following precautions whenever working on the computer:

1. Unplug the computer when working on the inside.
2. Hold components by the edges and try not to touch the IC chips, leads, or circuitry.
3. Wear an anti-static wrist strap which fits around the wrist.
4. Place components on a grounded anti-static pad or on the bag that came with the component whenever the components are separated from the system.

# Mainboard Layout

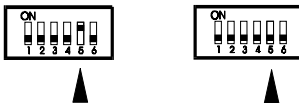


1). CPU Speed Select, Clear CMOS, Clear Password, FSB Speed Select, OVD Enable

CPU Speed (MHz)			DIP Switch SW1			
133	100	66	SW1-1	SW1-2	SW1-3	SW1-4
400	300	200	ON	ON	ON	OFF
467	350	233	ON	ON	OFF	OFF
533	400	266	ON	OFF	ON	ON
600	450	300	ON	OFF	ON	OFF
667	500	333	ON	OFF	OFF	ON
733	550	366	ON	OFF	OFF	OFF
800	600	400	OFF	ON	ON	ON
867	650	433	OFF	ON	ON	OFF
933	700	466	OFF	ON	OFF	ON
1000	750	500	OFF	ON	OFF	OFF
1067	800	533	OFF	OFF	ON	ON

Note: If your CPU ratio is locked and is over 8x, its performance is not guaranteed.

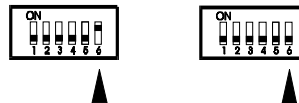
SW1-5 (Clear CMOS)



Enable  
(Clear CMOS)

Disable  
(Default)

SW1-6 (Clear Password)

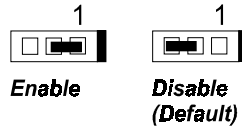


Enable  
(Clear Password)

Disable  
(Default)

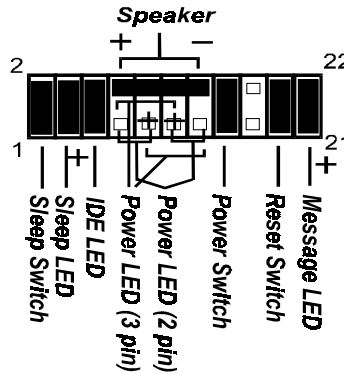
CPU	Front Side Bus	FS0	FS1	FS2
Cyrrix	66	1-2	2-3	2-3
	100		2-3	1-2
	133		1-2	1-2
Intel	66	2-3	2-3	2-3
	100		2-3	open
	133		open	open
	Auto Detect		1-2	1-2

**OVD  
(Over Voltage Driving)**



**Caution:**  
Voltage and Frequency above CPU's and chipset's original specifications are NOT guaranteed to be stable.

**2). Front Panel Block Cable Connection**



**3). CPU Fan Installation**

This connector is linked to the CPU fan. When the system is in suspend mode, the CPU fan will turn off; when it reverts back to full on mode, the fan will turn back on. Without sufficient air circulation, the CPU may overheat resulting in damage to both the CPU and the mainboard.

*Damage may occur to the mainboard and/or the CPU fan if these pins are used incorrectly. These are not jumpers, do not place jumper caps over these pins.*

## General Information

### About the Mainboard

The new Micro ATX, Socket 370 1st Mainboard FA31 supports a full range of the latest generation Intel® and Cyrix processors. Intel's new Celeron™ and lightning fast Coppermine processors of up to 933MHz\*, are supported with Front Side Bus of 66 / 100 / 133 MHz, while Cyrix Joshua Processors of 433-566\* MHz and future Cyrix Samuel Processors of 500-733MHz\* are supported by Front Side Bus speeds of 66 / 100 / 133 MHz. (\* : not yet tested)

The FA31 is based around the VIA Apollo Pro 694X North-Bridge and the VIA Super South. The North Bridge supports AGP 4 x bandwidth which enables the increase of the AGP bus of up to 66x4 MHz, providing vastly improved data transfer speeds for graphics as well as reducing power consumption. The VIA Super South supports Sound Blaster Pro, which provides exceptional onboard audio capabilities.

With 3 DIMM, the FA31 affords a large 1.5 GB of memory support, while support for the PC133 protocol results in a highly promoted and advanced system performance. Ultra DMA 66 allows for high-range bandwidth and high-speed data transfer necessary for the improvement of idle CPU sequential transfers.

The FA31 comes equipped with the new NOVUS range of innovative features such as *AudioAlert!* (option), the World's first voice warning system for motherboards. In the event of no CPU, memory or VGA being detected, the *AudioAlert!* facility will provide an audible voice warning. Other features include *EasyKey*, which provides instant keyboard access to the BIOS Sub menus for adjustments to Clock and Default settings, and *LogoGenie*, which allows you to create your own customized logo to be displayed during system boot up. *BIOS Guardian* is an Anti Virus utility that provides a fire-wall against viruses that attack your system BIOS. Extensive connectivity is provided by 2 serial ports, 1 parallel port, 1 PS/2 mouse and 1 keyboard connector, 4 USB connectors (2 in rear side, 2 in front side) and 1 media connector (MIDI/Game port, Line-in, Line-out, Mic-in). 1 AGP 4x and 3 PCI provide additional expansion (ISA bus slot is optional).



## Package Checklist

If you discover any item below was damaged or lost, please contact your vendor.

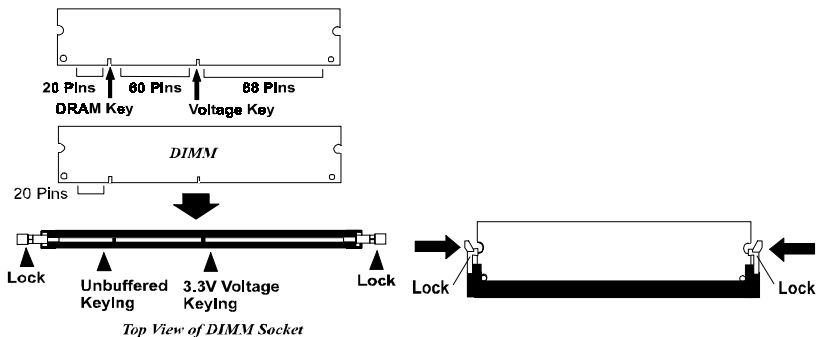
- The mainboard
- This user manual
- One FDD cable
- One HDD cable
- One ATA 66 cable
- Two Software CDs (CD Pro, CD Plus and its manual)

## Install Memory Modules

This mainboard provides three onboard DIMM sockets supporting 3.3V (unbuffered) SDRAM DIMM modules. Either 32, 64, 128, 256, 512 MB DIMM can be installed on these three sockets. The maximum total memory supported is up to 1.5 GB.

### Install and Remove DIMMs

1. Locate the DIMM slots on the mainboard.
2. Install the DIMM straight down into the DIMM slot using both hands.
3. The clip on both ends of the DIMM slot will close up to hold the DIMM in place when the DIMM reaches the slot's bottom.



Press the clips with both hands to remove the DIMM.

## Install the CPU

The mainboard has built-in Switching Voltage Regulator to support CPU Vcore autodetection. That is, it has the ability to detect and recognize the CPU voltage, clock, ratio and enables users to set up the CPU frequency from the BIOS Setup Screen. Users can adjust the frequency through “Frequency / Voltage Control” of the BIOS Setup Screen.

To install the CPU, do the following:

1. Lift the lever on the side of the CPU socket.
2. Handle the chip by its edges and try not to touch any of the pins.
3. Place the CPU in the socket. The chip has a notch to correctly locate the chip. Align the notch with pin one of the socket. Pin one is located in the blank triangular area. Do not force the chip. The CPU should slide easily into the socket.
4. Swing the lever to the down position to lock the CPU in place.
5. Place the cooling fan with heatsink on top of the installed CPU.

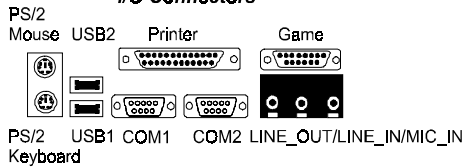


**NOTE:** The pin alignments might be different for different mainboards. Please follow the directions in step three above to locate pin one and install the CPU.

## Connectors

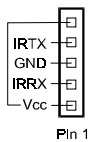
FLOPPY PRIMARY, SECONDARY	Floppy Diskette Drive Connector
POWER	IDE HDD Device Connectors
CPU_FAN	ATX Power Connector
CHS_FAN	CPU Fan Connector
WOL	System Case Fan Connectors
CD_IN1/2	Wake on LAN Connector
IR	CD Audio-In Connector
FPNL	Infrared Port Module Connector
	Connectors for Front Panel LEDs and Switches on Front Panel
PS2_KB, PS2_MS	PS/2 Keyboard and Mouse Connector
USB1/2, USB3/4	Universal Serial Bus Connectors
LPT	Printer Connector
COM1/2	Serial Port Connector
GAME	Joystick/MIDI Device Connector
LINE_OUT, LINE_IN, MIC_IN	Audio I/O Jacks

### Integrated I/O Connectors

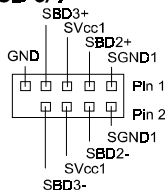


### Pin Assignments of Some Connectors

#### IR



#### USB 3/4



## BIOS Setup

**Standard CMOS Features** allows you to record some basic system hardware configuration and set the system clock and error handling. If the mainboard is already installed in a working system, you will not need to select this option anymore. However, if the configuration stored in the CMOS memory on the mainboard gets lost or damaged, or if you change the system hardware configuration, you will need to specify the configuration values. The configuration values usually get lost or corrupted when the power of the onboard CMOS battery weakens.

**Advanced BIOS Features** contains the entries that allows you to improve the system performance, or lets you set up some system features according to your preference. Some entries here are required by the board's design to remain in their default settings.

**Advanced Chipset Features** controls the configuration of the mainboard's chipset.

**Integrated Peripherals** allows you to configure the parameters that your peripheral devices provided to take advantage of them.

**Power Management Setup** allows you to reduce the system power consumption. It provides some features for turning off the video display and shutting down some peripheral devices, such as hard disks, after a specified time period.

**PnP/PCI Configurations** allows you to set up the PCI bus slots. All PCI bus slots on the system use INTA#, thus all installed PCI adapter cards must be set to this value.

**PC Health Status** allows you and technicians to monitor data provided by the BIOS on this mainboard. Some of them are not user-configurable.

**Frequency/Voltage Control** allows you to configure the frequency and voltage of your processor.

**Load Fail-Safe Defaults** is for settings that provide a more efficient computer. If the computer will not boot, select this option and try to diagnose the problem after the computer boots. These settings do not give optimal performance.

**Load Optimal Defaults** is selected for settings which provide the best system performance.

### Set Supervisor/User Password

To enable the Supervisor/User passwords, select the item from the Standard CMOS Setup. You will be prompted to create your own password. Type your password up to eight characters and press Enter. You will be asked to confirm the password. Type the password again and press Enter. To disable password, press Enter twice when you are prompted to enter a password. A message appears, confirming the password is disabled

Under the BIOS Feature Setup, if *Setup* is selected under the Security Option field and the Supervisor/User Password is enabled, you will be prompted password every time you try to enter the CMOS Setup Utility. If *System* is selected and the Supervisor/User Password is enabled, you will be requested to enter the Password every time when you reboot the system or enter the CMOS Setup utility.

**Save & Exit Setup** allows you to write the current settings to CMOS and exit.

**Exit Without Saving** allows you to exit without writing the current settings to CMOS.



**NOTE:** BIOS Guardian by default is enabled. **It must be disabled in order to reflash BIOS**, thus effectively acts as a fire-wall against viruses that can attack the BIOS while the system is running.

BIOS Guardian can be disabled as follows:

1. Go to BIOS Set Up Menu. (Press **Del** key while booting.)
2. Go to *Advanced BIOS Features* Submenu.
3. Disable **BIOS Guardian**.
4. Save the setting, and restart system.