



ATTRACT, DISPLAY, INFORM



OPERATION MANUAL

VM042H/VM032

PROFESSIONAL LCD DISPLAY SIGNAGE

WARNING

OWNER'S RECORD

The model and serial numbers are located on the rear of the unit. Record the model and serial numbers in the spaces provided below for record purposes. Refer to these numbers whenever you call your local dealer regarding this product.

Model Number: _____ Serial Number: _____

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

On Transportation

Hold the unit itself and not the speakers (if applicable) when you carry the display unit. Failing to do so may result in dropping the unit and causing serious damage and/or injury.

For customers in the U.S.A.

If you have any questions about this product, you may call Viewmax Corporation's Customer Service Center 1-800-000-0000 or <http://www.ati-eng.com>.

Declaration of Conformity

Trade Name:	Viewmax Corporation Ltd.
Model:	VM042(H)
Responsible Party:	Viewmax Corporation Ltd.
Address:	1214, Sicox Tower, 513-14, Sangdaewon-Dong, Jungwon-Gu, Seongnam, Gyeonggi-Do, Korea
Telephone Number:	+82-31-745-7812
Email Address:	info@viewmaxcorp.com

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer on an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

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Precautions

General Safety Guide

- A nameplate indicating operating voltage, power consumption, etc. is located on the rear of the unit.
- Should any solid object or liquid fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating the unit any further.
- Unplug the unit from the wall outlet if it is not to be used for several days or more.
- To disconnect the AC power cord, pull it out by grasping the plug. Never pull the cord by itself.
- When you install the units on the floor, be sure to use the optional stand (if applicable).

Installation

- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- When you install multiple equipment with the unit, the following problems such as malfunction of the remote control, noisy picture, and noisy sound may occur depending on the position of the unit and other equipment.

Cleaning

- Be sure to unplug the power cord from the unit and/or electrical outlet before cleaning the display unit.
- Gently wipe off stains using a dry soft cloth. Wipe off grimy stains using a cloth slightly moistened with a mild detergent, then wipe the area again using a dry soft cloth.
- Never use alcohol, benzene or thinner for cleaning purposes. They may damage the finish of the display unit or can remove the markings on it.

Notes on Handling and Cleaning the Display Panel

The special surface finish on the LCD display panel should be treated with care when cleaning or handling the unit. When cleaning it, use a soft cleaning cloth to avoid any scratches or damage to the panel.

Repacking

Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit, repack it in the manner the unit was initially packed.

Contact your authorized local dealer if you have any questions on this unit.

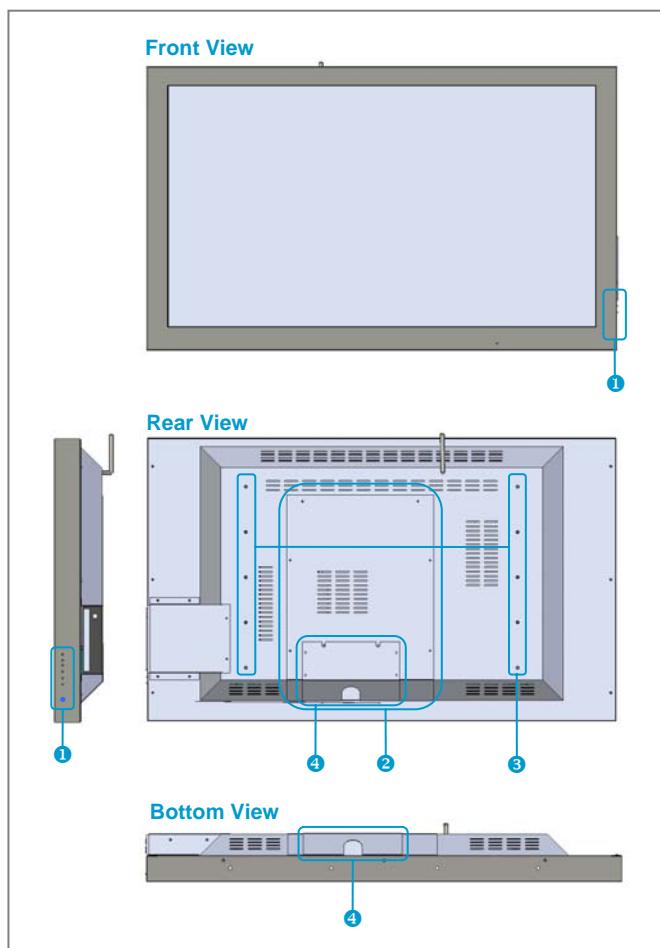
Warning on Power Connection

Use the proper power cord for your local power supply.

	United States, Canada	Continental Europe	United Kingdom, Ireland, Australia, New Zealand
Plug type	CM0233	COX-07 / 636	Appropriate rating plug which complies with local regulations
Female end	CM0089	COX-02 / VM0301B	VM0303B
Cord type	SVT	H05VV-F	CEE (13) 53 rd (O.C)
Minimum cord set rating	10A/125V	10A/250V	10A/250V
Safety approval	UL/CSA	VDE	VDE

Locations and Function of Controls

Front / Rear / Side / Bottom Views



① Indicator and OSD Control Buttons

The power and standby indicator lights up in green when the display unit is powered on. The indicator lights up in red in the standby mode and in orange when the display enters the power saving mode while a signal is input from a computer.

See the “OSD (On-Screen-Display) Control Button” section for more details on page 23.

② Computer Access Panel

Access to the embedded computer is easily obtained through the easy access panel located in the rear of the display unit. The access panel can be easily removed by unscrewing six large screws by hand.

③ Wall Mount Installation Holes

Use the ten wall mount installation holes to install the wall mount bracket or optional stand (not supplied).

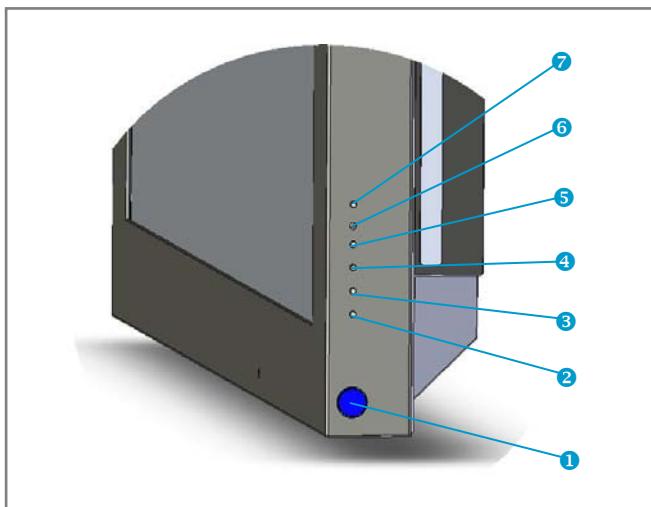
④ Connector Panel Cover

For details on the connector panel, see “Connector Panel” on page 13.

NOTE

Be sure to familiarize yourself with all the locations of various controls and connectors before installing the display unit.

Control Button Section (Side)



① ⏹ Power Button

Press to power on the display unit and the embedded computer. Press again to return to the standby mode.

② Menu Button

Press to show menus. Press again to hide them.

③ Select Button

Press to set your choice.

④ ⑤ ⌂ Up/Down Buttons

Press to move the cursor up or down

⑥ Power and Standby Indicator Light

The power and standby indicator lights up in green when the display unit is powered on. The indicator lights up in red in the standby mode and in orange when the display enters the power saving mode while a signal is input from a computer.

⑦ Rubber Plug

Not used.

NOTE

To turn off the display and the embedded computer, use the remote control or execute the Windows™ shutdown process from the computer.

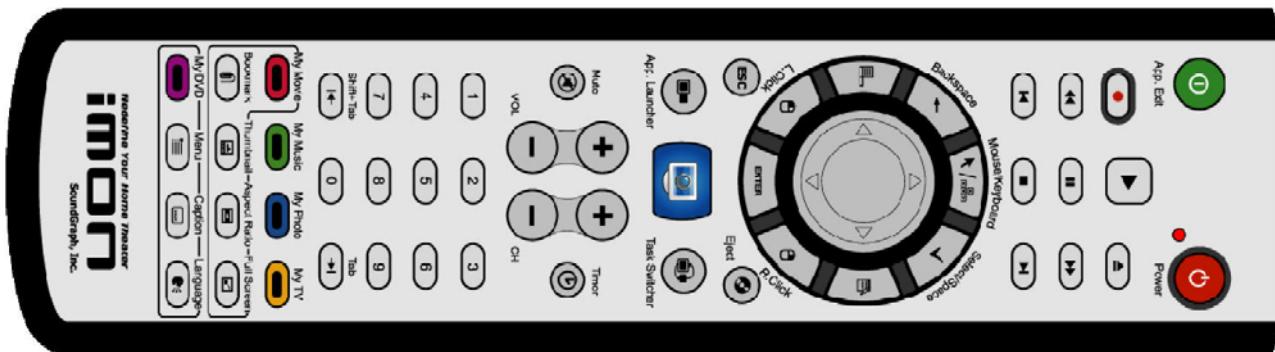
NOTE

To protect the LCD panel, a certain amount of time is required to turn the unit on. Wait about 10 seconds after one operation before executing the next operation.

Remote Control (Optional)

iMON Pad remote controller is designed to control the power of both the LCD display and the internal computer and it will also serve as the mouse pointer using the Pad Controller of the remote controller. Using iMON, iMON pad remote controller can control not only iMEDIAN, but also every Windows applications. The following is the normal usage of the buttons on the iMON Pad remote controller. Please see the section ‘Using remote controller on iMEDIAN’ for instructions on using iMON Pad remote controller on iMEDIAN.

iMON Pad Controller



Power Button: This button is used to turn both the LCD display and computer On and Off.



Application Exit Button: This button generates the keyboard short command, [ALT]+[F4], which is used for closing the active window.



Record Button: This button is used to generate ‘Record’ command in various media applications.



Play Button: This button is used to generate ‘Play’ command in various media applications.



Open Button: This button is used to generate ‘File/Folder Open’ command in various media applications.



Rewind Button: This button is used to generate ‘Rewind’ command in various media applications.



Pause Button: This button is used to generate ‘Pause’ command in various media applications.



Fast Forward Button: This button is used to generate ‘Fast Forward’ command in various media applications.



Previous Button: This button is used to generate ‘Previous’ command in various media applications.



Stop Button: This button is used to generate ‘Stop’ command in various media applications.



Next Button: This button is used to generate ‘Next’ command in various media applications.



Backspace Button: This button functions identically to the [Backspace] key of the keyboard.



Mouse/Keyboard Button: This button is used to toggle Pad controller operation mode. Pressing this button will toggle the mode of the Pad controller between mouse mode and keyboard mode.



Select/Space Button: This button functions identically to the [Space] key of the keyboard.



Windows Logo (Start) Button: This button opens the start menu and functions like the [Windows Start] key of the keyboard.



Pad Controller: This Pad is used to move the mouse pointer in mouse mode, and to input four way arrow keys in the keyboard mode.



Windows Menu Button: This button opens the menu and functions like the [Menu] key of keyboard.



Left Click Button: This button functions as the [Left Click] button of the mouse.



Enter Button: This button functions as the [Enter] key of the keyboard.



Right Click Button: This button functions as the [Right Click] button of the mouse.



Escape Button: This button functions as the [ESC] key of the keyboard.



Eject Button: This button is used to open the ODD (CD/DVD) drive of the computer system.



Application Launcher Button: This button executes the Application Launcher which can run numerous pre-assigned windows applications and files.



Quick Launch Button: This button runs the assigned special application directly. The default assigned application is iMEDIAN. You can change the assigned application in Setup menu of the iMON Manager.



Task Switcher Button: This button is used for choosing the application among the current running applications. This feature is similar to the [ALT]+[TAB] keyboard shortcut command.



Mute Button: This button is used to mute/unmute the volume.



Volume Up/Down Button: This button is used to adjust the volume up or down.



Channel Up/Down Button: This button is used to change the channel up or down.



Timer Button: This button runs the iMON timer. The iMON timer feature can turn off the computer or set the alarm assigned in Setup.



Numeric Button: The numeric buttons from 0 to 9 are custom buttons that can be assigned by users.



Shift+Tab Button: This button is used identically to [Shift]+[Tab] of the keyboard.



Tab Button: This button functions identically to the [Tab] key of the keyboard.



My Movie Button: This button is used to go to the Movie View directly in iMEDIAN, Media Center and Power Cinema.



My Music Button: This button is used to go to the Music View directly in iMEDIAN, Media Center and Power Cinema.



My Photo Button: This button is used to go to the Photo (picture) View directly in iMEDIAN, Media Center and Power Cinema.



My TV Button: This button is used to TV View directly in iMEDIAN, Media Center and Power Cinema.



Bookmark Button: This button is used to generate 'Bookmark' command in various media applications.



Thumbnail Button: This button is used to generate 'Thumbnail' or 'Capture Image' command in various media applications.



Aspect Ratio Button: This button is used to generate 'Change the Aspect Ratio' command in various media applications.



Full Screen Button: This button is used to generate 'Full Screen' command in various media applications.



My DVD Button: This button is used to go to the DVD view directly in iMEDIAN, Media Center and Power Cinema.



Menu Button: This button is used to generate 'DVD Menu' command in DVD applications.



Caption Button: This button is used to generate 'Change the Caption/Subtitle' command in DVD applications.

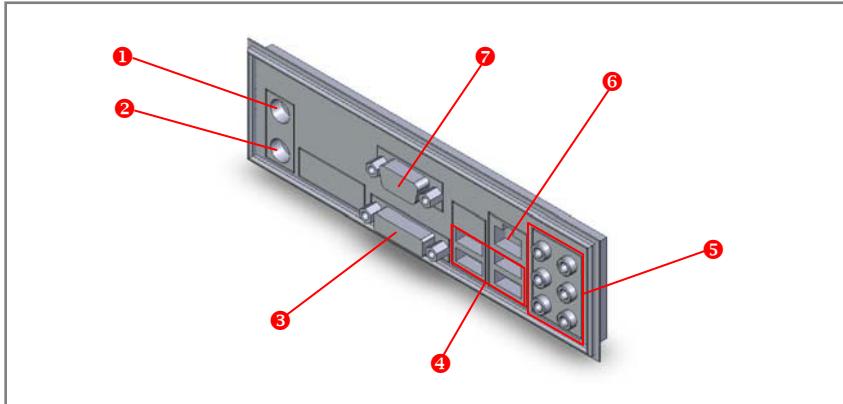


Language Button: This button is used to generate 'Change the Language/Audio' command in DVD applications.

Using iMEDIAN

iMEDIAN is designed to you enjoy various media files such as music, movies and photos in local and network PC, and use multimedia devices like DVD, TV, digital camcorder and web camera using the Pad remote controller.

Connector Panel



The connector panel is located on the bottom side of the display unit.
(Please remove the connector panel cover to access the connector panel)

① Mouse PS/2 Connector

The standard PS/2 mouse DIN connector is for a PS/2 mouse.

② Keyboard PS/2 Connector

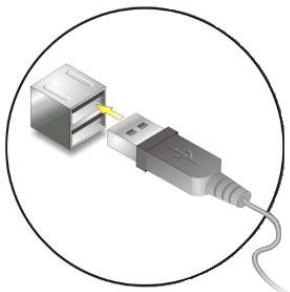
The standard PS/2 keyboard DIN connector is for a PS/2 keyboard.

③ DVI Port

The DVI (Digital Visual Interface) port allows you to connect a LCD monitor. It provides a high-speed digital interconnection between the computer and its display device. To connect an LCD monitor, simply plug your monitor cable into the DVI connector, and make sure that the other end of the cable is properly connected to your monitor.

④ USB Ports

Four USB 2.0 ports are available for connection to various peripheral devices.



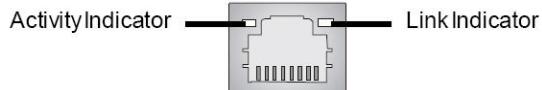
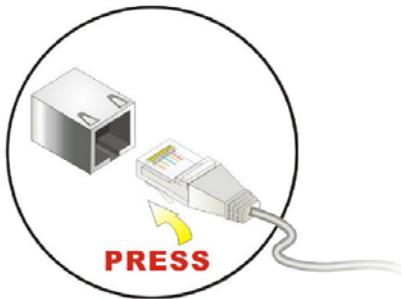
⑤ Audio Connection Port

These audio connectors are used for audio devices. You can differentiate the color of the audio jacks for different audio sound effects.

- Line-Out (Green ○) – Line Out, is a connector for speakers or headphones.
- Line-In (Blue ○) – Line In, is used for external CD player, tape player or other audio devices.
- Mic (Pink ○) – Mic, is a connector for microphones.
- RS-Out (Black ○) – Rear Surround Out in 4, 5.1 and 7.1 channel modes.
- CS-Out (Orange ○) – Center/Subwoofer Out in 5.1 and 7.1 channel modes.
- SS-Out (Gray ○) – Side Surround Out in 7.1 channel mode.

⑥ LAN Port

The standard RJ-45 LAN jack is for connection to the Local Area Network (LAN). You can connect a network cable to it.



LED	Color	LED State	Status
Left	Yellow	Off	LAN link not established
		On (Steady State)	LAN link established
		On (Bright & Pulsing)	Communicating with another computer over LAN
Right	Green	Off	10 Mbit/sec data rate selected
		On	100 Mbit/sec data rate selected
	Orange	On	1000 Mbit/sec data rate selected

7 VGA Port

The DB 15-pin female connector is provided for connection to a monitor.

NOTE

Normally a DB 15-pin cable is already connected to this connector to provide VGA signal to the screen. Please do not disconnect this cable unless you want to change the input signal of the screen to a different source.

Installation/Mounting Guide

Before you start

- First make sure that the power to each piece of equipment is turned off.
- Use connecting cables suitable for the equipment to be connected.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and other noise.
- To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.
- Refer to the connection guide of the operation manual of the equipment to be connected.
- Insert the plug securely into the AC IN socket.

Installation Precautions

When installing the VM032, VM042(H) or VM047 series systems, please follow the precautions listed below:

- **Power OFF:** When installing the VM032, VM042(H) or VM047 series system(s), make sure the power is off. Failing to turn off the power may cause severe injury to the body and/or damage to the system.
- **Qualified Personnel:** Only certified or qualified personnel should install and modify onboard functionalities.
- **Mounting:** The VM032, VM042(H) and VM047 series systems are heavy devices. When mounting the system onto a rack, panel, wall or arm, make sure that at least two people are assisting with the procedure.
- **Anti-static Discharge:** If a user opens the rear panel of the VM032, VM042(H), or VM047 series system to configure, replace or add peripheral devices, be sure to ground the body first or wear an anti-static wristband.

Preinstalled Components

The following components are preinstalled in the VM032, VM042(H) and VM047 series systems:

- Mainboard
- TFT LCD screen
- 2 x 1GB DDR2 memory module
- Wireless LAN module (Optional)
- Remote control (Optional)
- DVD±RW drive (Optional)
- 80GB SATA II hard disk drive

NOTE

Installation or replacement of some of the components is described in the following sections.

Installation and Configuration Steps

The following installation steps must be followed:

- STEP 1** Unpack the VM032, VM042(H) or VM047 series system from its box.
- STEP 2** Mount the VM032, VM042(H) or VM047 series system.
- STEP 3** Connect the main power cord and any other peripheral devices to the bottom connector panel of the VM032, VM042(H) or VM047 series system.
- STEP 4** Turn the power ON and configure the system.

Unpacking

To unpack the VM032, VM042(H) or VM047 series system(s), follow the instructions below:



WARNING!
The front side of the LCD screen has a protective plastic cover attached to the screen. Only remove the protective cover after the monitor has been properly installed. This ensures the screen is protected during the installation process.

- STEP 1** Use a box cutter, a knife, or a sharp pair of scissors to cut the seals on top side of the carbon box.
- STEP 2** Open the carbon box.
- STEP 3** Lift the unit carefully out of the box.
- STEP 4** Remove both polystyrene ends, one from each side.
- STEP 5** Pull the safety plastic cover off the monitor screen.
- STEP 6** Make sure all the components listed in the packing list are present.

Packing List

The VM series monitor is shipped with the following standard components:

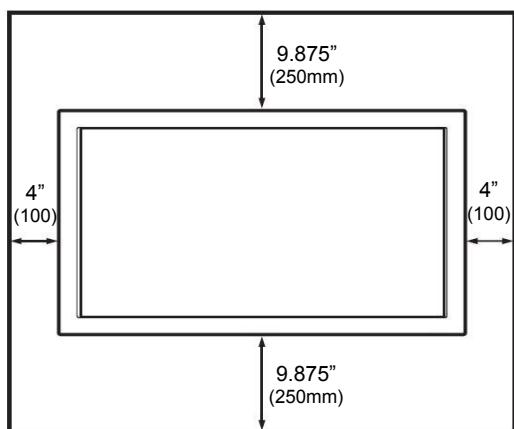
Quantity	Description and Part Number	Image
1	VM032, VM042(H) or VM047 Series System (Part number:)	
1	Remote controller (Optional) (Part number:)	
1	Power cord (Part number:)	
1	Wireless LAN antenna (Optional) (Part number:)	
1	Operation manual (Part number:)	
1	Windows™ XP Professional CD (Part number:)	
1	Driver CD (Part number:)	
1	Wall mount (Part number:)	
1	Screw set (Part number:)	

Mounting Space Requirements

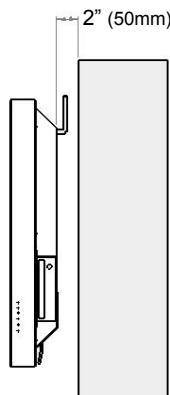
- To prevent internal heat buildup from sealing off the display, make sure to ensure proper ventilation by leaving open the minimum amount of space around the display as illustrated below.
- The ambient temperature must be 0°C to 35°C (32°F to 95°F).
- When installing the display horizontally, use the optional display stand (not supplied).
- Installation of hardware such as brackets, screws, or bolts is not specified and is up to the authorized local dealers. Consult with qualified personnel for installation.
- While the display is on, a certain amount of heat builds up inside. This can cause burns. Avoid touching the top or rear of the unit when it is powered on or just after it has entered standby mode.

Mounting the Display Horizontally

Front



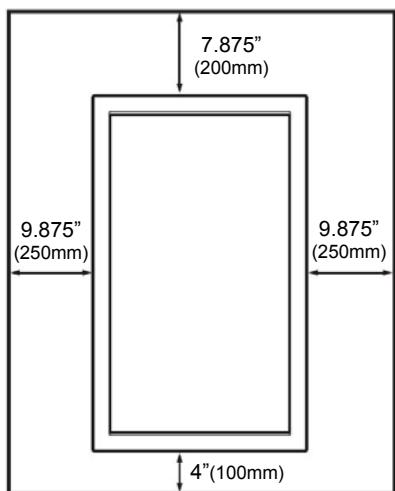
Side



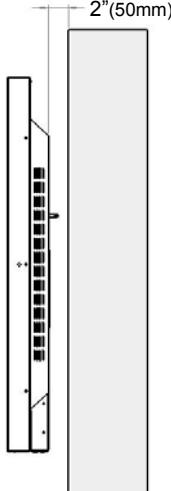
Units: inches (cm)

Mounting the Display Vertically

Front



Side



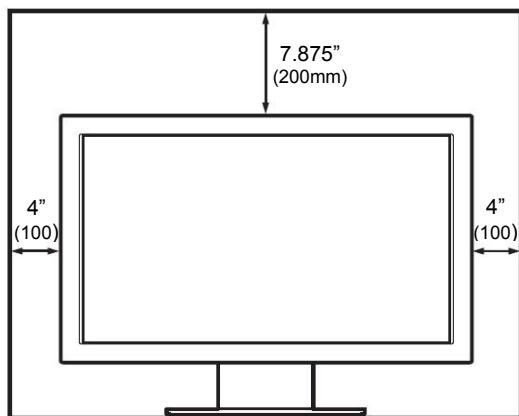
Units: inches (mm)

NOTE

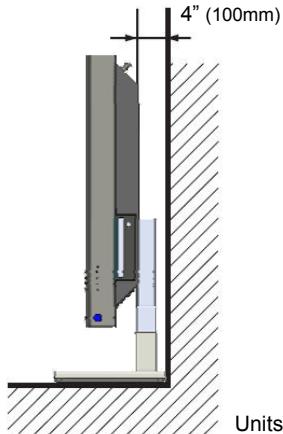
When mounting the LCD display unit vertically, make sure the POWER switch is at the lower position.

Using the Optional Stand (not supplied)

Front



Side



Units: inches (mm)

NOTE

When moving or installing the LCD display unit, it is recommended that at least two people do so to prevent any damage and/or injury to both the display unit and people moving or installing the unit.

Mounting the System

Wall Mounting

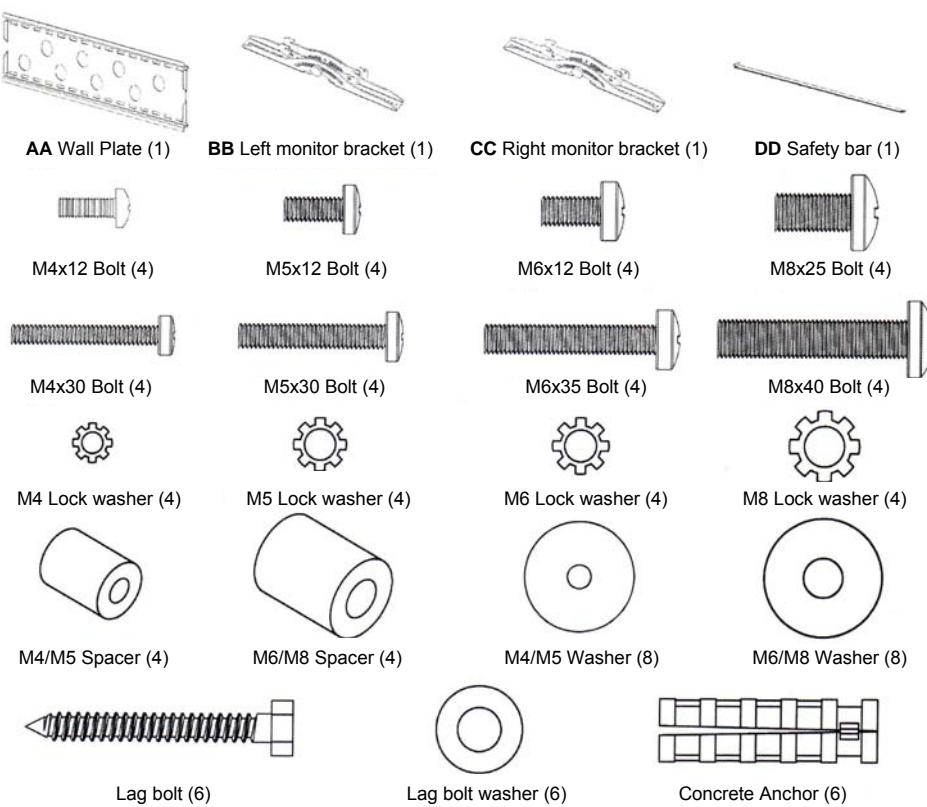
WARNING!

- Do not begin to install the system until you have read and understood the instructions and warnings contained in this section.
- Make sure that the supporting surface will safely support the combined load of the system and all attached hardware and components.
- Never exceed the Maximum Load Capacity of 220 lb (100 kg).
- If mounting to wood wall studs, make sure that mounting screws are anchored into the center of the studs. Use of an "edge to edge" stud finder is highly recommended.
- Always use an assistant or mechanical lifting equipment to safely lift and position the system.
- When installing wall mounts on cinder block, verify that you have a minimum of 1-3/8" of actual concrete thickness in the hole to be used for the concrete anchors. Do not drill into mortar joints. Be sure to mount in a solid part of the block, generally 1" (25 mm) minimum from the side of the block. It is suggested that a standard electric drill on slow setting is used to drill the hole instead of a hammer drill to avoid breaking out the back of the hole when entering a void or cavity.
- Concrete must be 2000 psi density minimum. Lighter density concrete may not hold concrete anchor.
- Concrete anchors are NOT intended for attachment to concrete walls covered with a layer of plaster, drywall, or other finishing materials. If mounting to concrete wall covered with plaster/drywall is unavoidable, plaster/drywall (up to 5/8" thick) must be counterbored. Be sure concrete anchors do not pull away from concrete when tightening screws. If plaster/drywall is thicker than 5/8", custom fasteners must be used.
- Tighten the screws firmly, but do not overtighten. Overtightening can damage the items, greatly reducing their holding power.

Required Tools

Drill, level, 3/16" drill bit, 1/2" masonry bit for brick concrete or concrete block installations, wrench or socket set, Philips screwdriver

Parts List

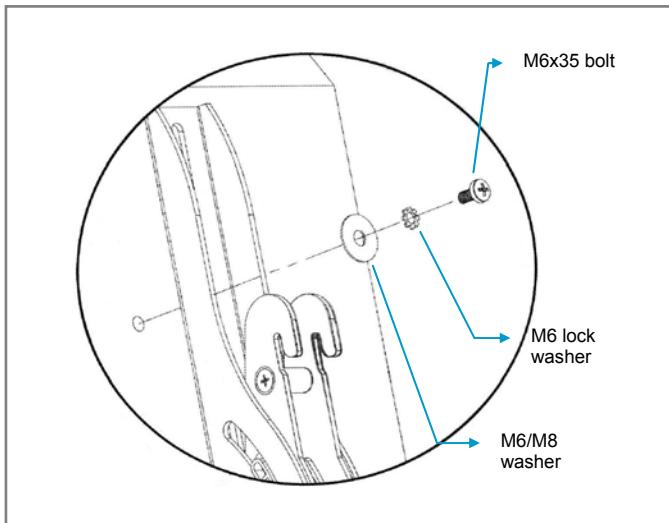


NOTE

Not all bolts, lock washers, spacers, and washers are used during the installation.

To mount the VM032, VM042(H) or VM047 series system(s) onto the wall, please follow the steps below.

Mounting Monitor Brackets to the System

**STEP 1**

The VM042(H) system uses M6x35 bolts for the monitor brackets. Thread the M6x35 bolt through an M6 lock washer, an M6/M8 washer, the monitor bracket (BB/CC) and finally into the monitor system (left).

STEP 2

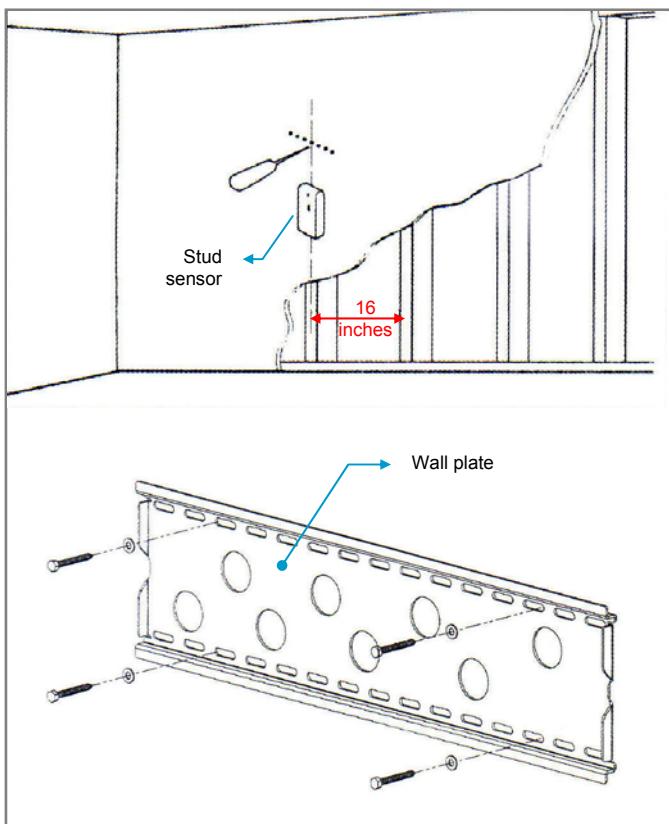
Repeat the above process for the remaining monitor bracket.

NOTE

Make sure the monitor brackets are vertically centered and level with each other.

Mounting the Wall Plate

Wood Stud Mounting

**STEP 1**

Select the location on the wall for wall plate. Make sure there are sufficient spacing as mentioned in the previous section between the monitor and walls when selecting the location.

STEP 2

The wall plate (AA) must be mounted to two wood studs at least 16" (406mm) apart. Use a stud sensor to locate two adjacent studs. It is a good idea to verify where the studs are located with an awl or thin nail shown left.

STEP 3

Pre-drill a 2-1/2" (64mm) deep hole at the desired height in each stud using a 3/16" drill bit. Make sure these holes are in the center area of the studs and level with each other. Use the wall plate as a template to mark the location of the second hole in each stud.

STEP 4

Drill 2-1/2" (64mm) deep holes using the 3/16" drill bit in the marked locations.

STEP 5

Attach the wall plate to the wall using 4 pieces of 1/4"x2-1/2" lag bolts and 4 pieces of lag bolt washers. Make sure the wall plate is oriented so the flat surface in the center of the plate is against the wall and that a set of lag bolts is on each side of the two large holes in the center as shown above.

Brick, Solid Concrete and Concrete Block Mounting

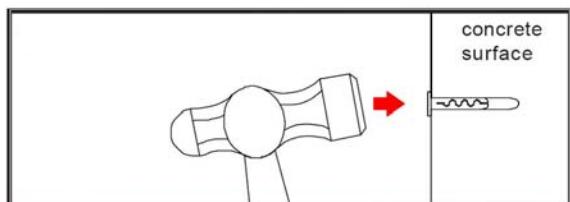
STEP 1

Use the wall plate (AA) as a template to mark six hole locations on the wall. The outer holes must fall to the left and right of the two holes in the middle of the plate; three in the top row of slots and three more in the bottom row. Make sure the holes are level and there is at least 6" (152mm) distance between any two holes.

STEP 2

Pre-drill the holes with a 1/2" drill bit to at least 2-1/2" (64mm) in depth.

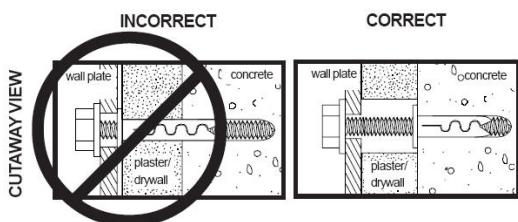
STEP 3



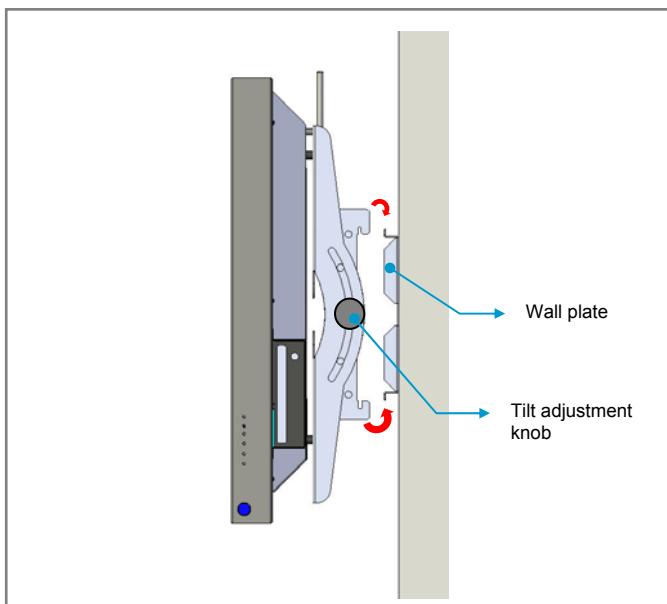
Insert a concrete anchor into each holes that were drilled in the previous step. Make sure the anchor is seated completely flush with the concrete surface. Use a hammer if the anchor does not seat properly.

NOTE

Concrete anchors are not intended for attachment to concrete walls covered with a layer of plaster, drywall, or other finishing material. If mounting to concrete walls covered with plaster or drywall is unavoidable, plaster/drywall (up to 5/8" thick) must be counterbored as shown below.



Hanging the Monitor onto the Wall Plate



STEP 1

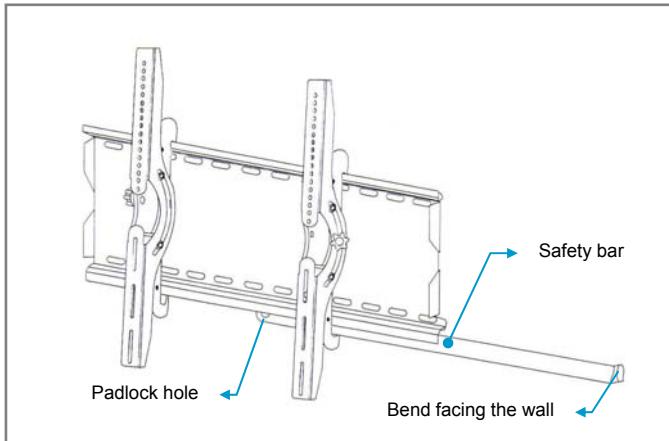
First hook the monitor brackets over the top of the wall plate as shown left, then let the bottom of the monitor brackets swing in under the bottom of the wall plate.

STEP 2

Once the system has been installed properly on the wall plate, the horizontal position of the system can be adjusted. The black knobs on are used to adjust the tilt position of the monitor. Loosen both knobs and adjust the tilt of the monitor until satisfied then tighten both knobs. The monitor can be tilted up or down by 15°.

NOTE

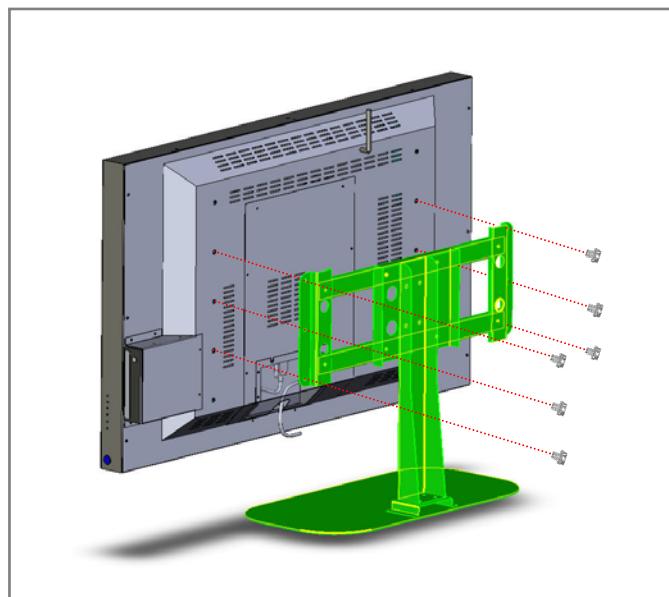
When loosening the tilt adjustment knobs, the monitor may suddenly tilt downwards and cause injury or damage. Make sure to hold the monitor firmly when adjusting the tilt of the monitor to prevent injury or damage.



STEP 3

Once the system is in place, insert the safety bar into the slots in the bottom of the monitor brackets so that it sits behind the bottom tab on the wall plate as shown left. The bend at the end of the safety bar should face toward the wall. Once the safety bar passes out the other side of the wall plate, a padlock can be added to the hole at the end of the safety bar for additional security.

Using the Monitor Stand (Optional)



STEP 1

Using a Philips screwdriver, tighten six screws as shown on the left to install the optional monitor stand.

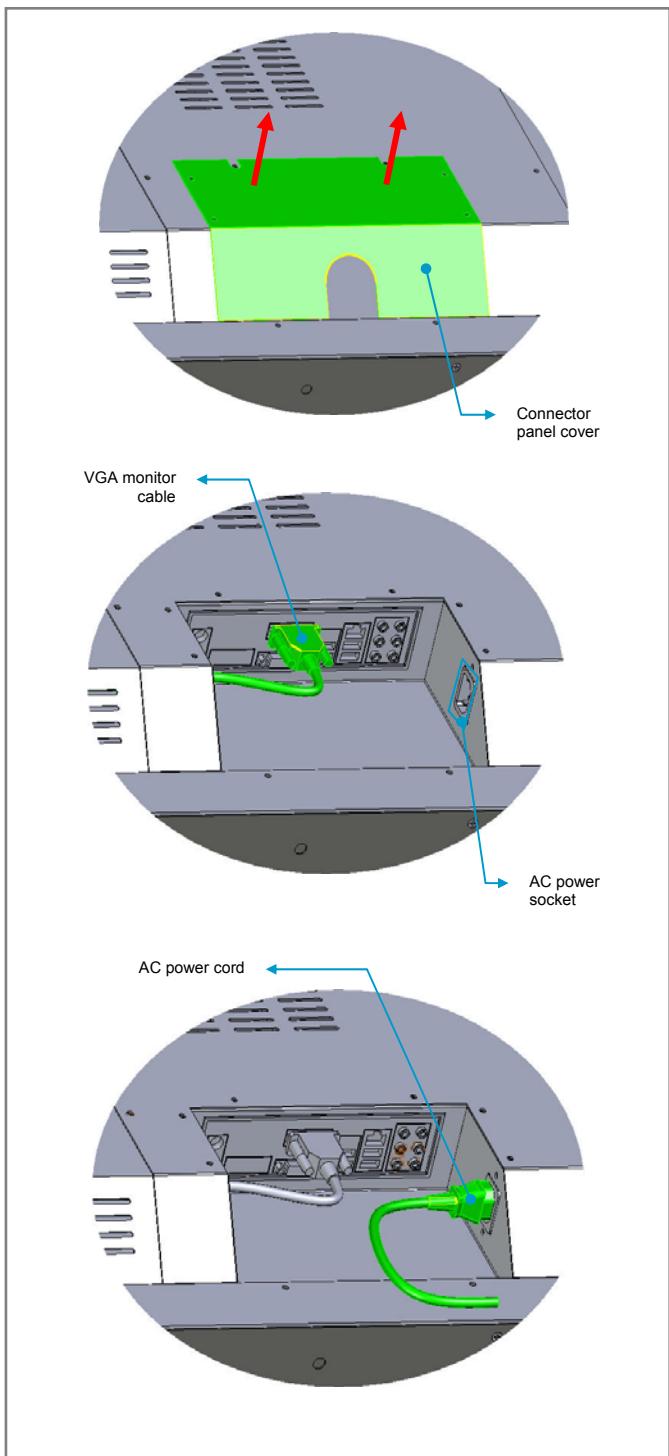
NOTE

To prevent scratching the screen, set a cloth on a flat, level surface that will support the weight of the screen. Place screen face side down. Place monitor stand bracket on back of screen and align to holes.

NOTE

The vertical position of the monitor may be adjusted by changing the hole positions.

Connecting the AC Power Cord



STEP 1

Remove the connector panel cover to reveal the connector panel.

Removing the connector panel will reveal the connector panel and the AC power socket. You will also notice the VGA monitor cable that is already connected to the VGA port of the connector panel.

STEP 2

Plug the AC power cord into the AC power socket and install the connector panel cover.

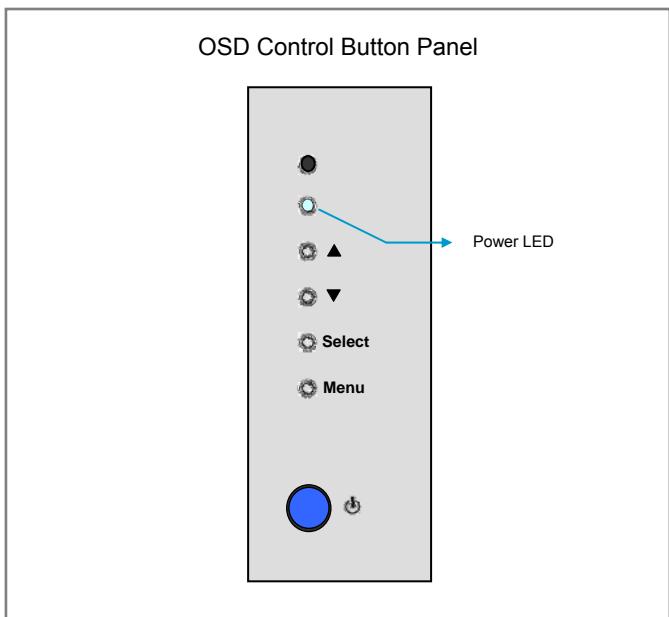
Connecting the Speakers (Optional)

Using On-Screen-Display (OSD) Menus

Operating OSD Menus

Menu operating buttons

Use the buttons on the LCD display unit for On-Screen Display menu operations.



Configuration of the Menu

1. Press MENU.

The main menu appears on the screen.



2. Press **↑/↓** to move the cursor (blue) to the main menu items you want to select and press SELECT.
The cursor moves to the next menu.
3. Press **↑/↓** to move the cursor (blue) to the item you want to select and press SELECT.
The menu for the selected item appears and the selected menu turns to pink. Select a different item by repeating this procedure.
4. Press **↑/↓** to adjust or select the setting press MENU to set it.
The setting is registered and the menu returns to the previous menu.

To complete the configuration and return to the normal screen, press MENU.

To return to the previous menu level, press **↑/↓** to move the cursor to the main menu section and press SELECT.

Press SELECT from normal screen at any time for automatic screen adjustment. The screen will flicker for a moment as the screen adjusts automatically to the screen configurations.

To Switch the On-Screen Language

You can select the desired on-screen language for menus and messages from among 5 different languages. "English" is set as the factory default language.

For details on switching the on-screen language, see "Selecting the On-Screen Language" on page 27.

Menu Guide

NOTE

Items that cannot be set or adjusted (depending on the setting or the type of signal input) are shown in dark gray.

Color Mode

Adjusts the quality of the picture.



Select "Color" with **↑/↓** and press SELECT.

Contrast

Select "Brightness" with **↑/↓** and press SELECT. Adjust the contrast with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

- ↑**: Increases the picture contrast.
- ↓**: Decreases the picture contrast.

Brightness

Select "Contrast" with **↑/↓** and press SELECT. Adjust the brightness with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

- ↑**: Makes the picture brighter.
- ↓**: Makes the picture darker.

Color Adjust

Select "Clock" with **↑/↓** and press SELECT. Adjust the color for RGB with **↑/↓** within the range of MIN (0) to MAX (255) for R, G, and B, then press SELECT.

Color Temperature

Select "Phase" with **↑/↓** and press SELECT. Adjust the color temperature by selecting 9300, 6500, 5800, or User with **↑/↓** (If User is selected adjust the set values of each gain with **↑/↓**).

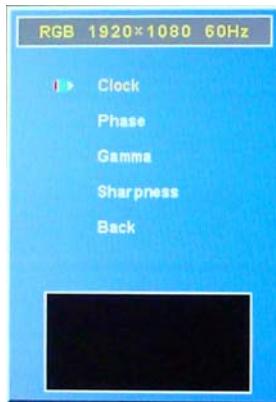
1. Select the color temperature with **↑/↓** and press SELECT.

- 5800: Sets the color temperature to low.
- 6500: Sets the color temperature to neutral.
- 9300: Sets the color temperature to high.
- Red, Green, and Blue: Sets values for each gain separately.

- When you select Red, Green, or Blue, press **↑/↓** to move the cursor (blue) to the gain that you want to adjust and press SELECT.
- Adjust the gain (0 to 100) with **↑/↓** and press MENU.

Image Setting

Adjusts the quality of the picture.



Select "Image Setting" with **↑/↓** and press SELECT.

Clock

Select "Clock" with **↑/↓** and press SELECT. Adjust the clock frequency with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Increases the clock frequency.

↓: Decreases the clock frequency.

NOTE

The clock mode is only enabled during the PC mode.

Phase

Select "Phase" with **↑/↓** and press SELECT. Adjust the phase with **↑/↓** within the range of MIN (0) to MAX (63), then press SELECT.

↑: Moves the display position upward.

↓: Moves the display position downward.

NOTE

The phase mode is only enabled during the PC mode.

Gamma

Select "Gamma" with **↑/↓** and press SELECT. Adjust the Gamma level with **↑/↓** within the range of MIN (0) to MAX (3), then press SELECT.

Sharpness

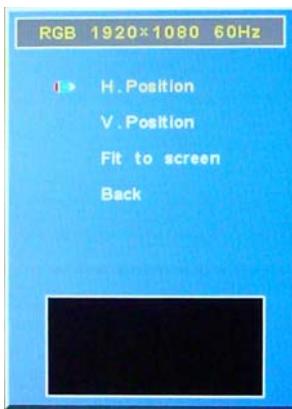
Select "Sharpness" with **↑/↓** and press SELECT. Adjust the sharpness with **↑/↓** within the range of MIN (0) to MAX (4), then press SELECT.

↑: Increases the sharpness of the image.

↓: Decreases the sharpness of the image.

Position

Adjusts the position of the display screen.



Select "Position" with **↑/↓** and press SELECT.

H. Position

Select "H. (Horizontal) Position" with **↑/↓** and press SELECT. Adjust the position of the display horizontally with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Moves the display position right.

↓: Moves the display position left.

V. Position

Select "V. (Vertical) Position" with **↑/↓** and press SELECT. Adjust the position of the display vertically with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Moves the display position upward.

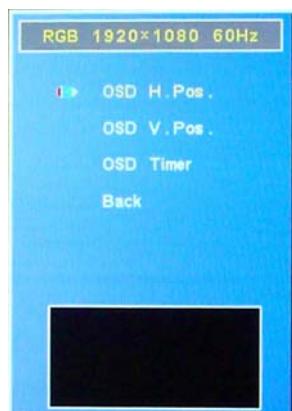
↓: Moves the display position downward.

Fit to Screen

Select "Fit to Screen" with **↑/↓** and press SELECT. Select from 16:9 or 4:3 aspect ratio with **↑/↓** the press SELECT.

OSD Menu

From this menu, various on-screen display related options can be controlled and setup.



Select "OSD Setup" with **↑/↓** and press SELECT.

OSD H. Position

Select "OSD H. (Horizontal) Position" with **↑/↓** and press SELECT. Adjust the position of the OSD display horizontally with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Moves the OSD display position right.

↓: Moves the OSD display position left.

OSD V. Position

Select “OSD V. (Vertical) Position” with **↑/↓** and press SELECT. Adjust the position of the OSD display vertically with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Moves the OSD display position upward.

↓: Moves the OSD display position downward.

OSD Timer

Select “OSD Timer” with **↑/↓** and press SELECT. Adjust the OSD display time with **↑/↓** within the range of MIN (0) to MAX (60), then press SELECT. The on-screen display will automatically disappear after the designated set time in this menu.

↑: Increases the OSD display time.

↓: Reduces the OSD display time.

Language

You can select the on-screen language from English, German, French, Spanish and Korean. At the factory, the default language has been setup in English.



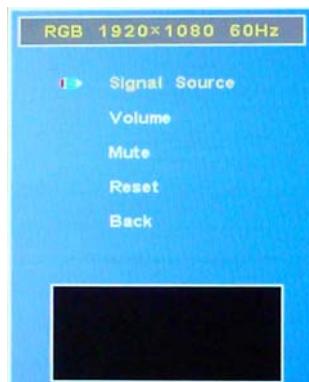
Select “Language” with **↑/↓** and press SELECT.

Select “Language” with **↑/↓** and press SELECT. Press **↑/↓** to the desired language and press SELECT. The on-screen language is switched to the one you have selected.

- English: English
- Français: French
- Deutsch: German
- Español: Spanish
- 한국어: Korean

Miscellaneous

You can select the desired input signal of the display, control volume (Not available in this system) and reset the OSD values to factory default.



Select “Misc” with **↑/↓** and press SELECT.

Signal Source

Select “Signal Source” with **↑/↓** and press SELECT. Using **↑/↓** select DVI or RGB then press SELECT.

Volume

Select “Volume” with **↑/↓** and press SELECT. Adjust the volume with **↑/↓** within the range of MIN (0) to MAX (100), then press SELECT.

↑: Increases sound volume.

↓: Decreases sound volume.

NOTE

The volume adjustment is not available in PC mode.

Mute

Select “Mute” with **↑/↓** and press SELECT. Using **↑/↓** select ON or OFF then press SELECT.

ON: Mute function is enabled and all sounds are muted.

OFF: Mute function is disabled.

NOTE

The mute feature is not available in PC mode.

Reset

Select “Reset” with **↑/↓** and press SELECT. Selecting reset will restore all settings to their factory presetsettings.

Specifications

System Specifications

The technical specifications for the VM032, VM042(H) and VM047 series systems are listed in table below.

Mainboard Specifications

Category	Specifications
CPU Type	Intel® Core™ Solo/Duo or Core™ 2 Duo, Core™ 2 Quad, Pentium™ D, Celeron™
CPU Socket	LGA775
System Chipset	NVIDIA® GeForce 73PV
Memory Type	DDR2 533/667/800 MHz
Memory Slot	2 x DIMM
Standard Memory	2 GB (2 x 1 GB)
Maximum Memory	4 GB (2 x 2 GB)
Ethernet LAN Chip	Realtek® RTL 8211BL
Audio Chip	Realtek® ALC888
Rear Connectors	1 x DVI, 1 x RJ45 LAN, 1 x Azalia Audio Rack, 4 x USB 2.0, 2 x PS/2,
Onboard Slots & Internal Connectors	2 x DDR2 DIMM, 4 x SATA II, 1 x PCIe *1, 1 x CD audio in, 2 x Front panel, 6 x USB 2.0, 2 x Cooling fans, 1 x Front audio,
Operating System	Windows™ XP Pro (Standard) Windows™ Vista™ Premium (Optional)

The VM032, VM042(H) and VM047 series systems come with a MSI P6NGM mainboard. The technical specifications of the mainboard are listed in table below.

Flat Panel Screen Specifications

Model	VM015	VM019	VM032	VM042	VM042H	VM047
Screen Size (Diagonal)	15" (381mm)	19" (482.6mm)	32" (812.8mm)	42" (1066.8mm)	42" (1066.8mm)	47" (1193.8mm)
Resolution	1024 x 768	1280 x 1024	1366 x 768	1366 x 768	1920 x 1080	1920 x 1080
Active Area (mm)	304.128 x 228.096	376.320 x 301.056	697.6845 x 392.256	930.25 x 523.01	930.24 x 523.26	1039.68 x 584.82
Pixel Pitch (mm)	0.297 x 0.297	0.098 x 0.294	0.51075 x 0.17025	0.227 x 0.681	0.4845 x 0.4845	0.5415 x 0.5415
LCD Colors	16.2 Million	16.2 Million	16.7 Million	16.7 Million	16.7 Million	16.7 Million
Viewing Angle	130 / 110	160 / 160	178 / 178	178 / 178	178 / 178	178 / 178
Brightness (cd/m ²)	400	300	500	500	500	500
Contrast Ratio	500:1	800:1	1000:1	1000:1	1000:1	1000:1
Response Time	25 msec	10 msec	10 msec	8 msec	8 msec	8 msec
Power Consumption	14.6 W	24.0 W	113.7 W	167.4 W	168.8 W	247.2 W
Input Voltage	3.3 V	5.0 V	24.0 V	24.0 V	24.0 V	24.0 V
Electrical Interface	1ch LVDS	2ch LVDS	1ch LVDS	1ch LVDS	2ch LVDS	2ch LVDS

Mainboard

Introduction

The VM032, VM042(H) and VM047 series systems contain the MSI P6NGM mainboard. The mainboard is the heart of any computer and is responsible for transmitting, receiving and processing data as well as driving the different onboard devices and peripherals.

CPU

The MSI P6NGM mainboard comes with a preinstalled Intel® Pentium™ D, Core™ Duo, Core™ 2 Duo, Core™ 2 Quad, P4EE™, or Pentium™ XE processors. The Intel® Core™ Duo and Core™ 2 Duo processors are built on Intel's next generation 65 nanometer technology with copper interconnect. The Intel® Core Solo processor refers to a single core processor and the Intel® Core™ 2 Duo processor refers to a dual core processor. The table below shows list of processors that can be installed on MSI P6NGM mainboards.

Processor Number	Clock Speed	Front Side Bus	Cache
Core 2 Quad Q6700	2.66 GHz	1066 MHz	8MB L2
Core 2 Quad Q6600	2.40 GHz		
Core 2 Duo E6850	3.00 GHz	1333 MHz	
Core 2 Duo E6750	2.66 GHz		
Core 2 Duo E6700	2.66 GHz	1066 MHz	4MB L2
Core 2 Duo E6550	2.33 GHz	1333 MHz	
Core 2 Duo E6540	2.33 GHz		
Core 2 Duo E6400	2.13 GHz	1066 MHz	
Core 2 Duo E6300	1.86 GHz		
Core 2 Duo E4700	2.60 GHz		2MB L2
Core 2 Duo E4600	2.40 GHz		
Core 2 Duo E4500	2.20 GHz		
Core 2 Duo E4400	2.00 GHz		
Core 2 Duo E4300	1.80 GHz		
Core Duo E2220	2.40 GHz		1MB L2
Core Duo E2180	2.00 GHz		
Core Duo E2160	1.80 GHz		
Core Duo E2140	1.60 GHz		
Pentium D960	3.60 GHz		4MB L2
Pentium D950	3.40 GHz		
Pentium D945	3.40 GHz		
Pentium D940	3.20 GHz		
Pentium D935	3.20 GHz		
Pentium D930	3.00 GHz		
Pentium D925	3.00 GHz		
Pentium D915	2.80 GHz		

NOTE

With CPU speed changing rapidly, there might be faster CPUs on the market by the time you receive this operation manual. The applicable processor table is for your reference only.

On-Board Chipset

The MSI P6NGM mainboard has a preinstalled NVIDIA® GeForce 73PV(7100/NF630i) chipset. The NVIDIA® GeForce 73PV(7100/NF630i) chipset supports Intel's x86 Core™ 2 Quad processors as well as Core™ 2 Duo, Pentium™ and Celeron™ processors. With a 1333 MHz system bus, DDR memory technology and support for Microsoft® Windows Vista™ Premium, the NVIDIA® GeForce 73PV(7100/NF630i) chipset enables a scalability and performance for everyday computing.

- NVIDIA® GeForce 7 Series Graphics Processing Unit (GPU) – Industry-leading NVIDIA® GPU delivers better graphics, faster performance, and a great Microsoft® Windows Vista™ experience.
- Microsoft® Windows Vista™ Premium Capable – NVIDIA® GPU mainboards are ready for Microsoft® Windows Vista™ Premium experience when coupled with 1GB of system memory.

- Microsoft DirectX 9.0 Shader Model 3.0 Support – Top-notch compatibility and performance for all Microsoft DirectX® 9.0 applications, including Shader Model 3.0 support.
- Integrated HDMI™ with On-Chip HDCP – On board HDMI™ connector designed to meet the output protection management (HDCP) and security specifications of the Blu-ray Disc and HD DVD formats, allowing the playback of encrypted movie content on PCs when connected to HDCP-capable displays.
- Integrated DVI with HDCP – Able to drive flat-panel displays supporting single-link TMDS at 162MHz pixel clock. Designed to meet the output protection management (HDCP) and security specifications of the Blu-ray Disc and HD DVD formats, allowing the playback of encrypted movie content on PCs when connected to HDCP-capable displays.
- PCI Express – Supports PCI Express bus architecture with full bandwidth x16 expansion slot.
- NVIDIA® nForce® Storage – Safeguards your most important digital media assets; always reliable, scalable, and accessible. Includes NVIDIA RAID and drive support.
- NVIDIA® RAID and MediaShield™ Technology – Provides a simple point and click wizard-based interface for creating and managing multi-disk storage configurations. Allows multi-disk designs to be set up for maximum performance (RAID 0), for data protection (RAID 1), or for a combination of both performance and protection (RAID 0+1 and RAID 5). Also allows RAID volumes to be converted from one configuration to another with a single operation. Uniquely allows users to assign an extra disk to any RAID volumes so that should a disk failure occur, NVIDIA® RAID will automatically remove the failed disk and replace it with the spare.
- SATA 3Gb/s – Take advantage of the latest SATA 3Gb/s hard disk drives, which double bus bandwidth and provides blazingly high disk performance. This technology provides easy-to-install, high-performance but low-powered hard drives.
- NVIDIA® nForce® Networking – NVIDIA® nForce® Networking solution enables Internet connectivity through industry standard 10/100/1000 Mb/s Ethernet connection.
- NVIDIA® Native Gigabit Ethernet – The industry's fastest Gigabit Ethernet performance eliminates network bottlenecks and improves overall system efficiency and performance.
- NVIDIA® CineFX™ 3.0 Engine – Powers the next generation of cinematic realism. Full support for Microsoft® DirectX® 9.0 Shader Model 3.0 enables stunning and complex special effects. Next-generation shader architecture delivers faster and smoother game play.
- NVIDIA® nView™ Multi-Display Technology – Advanced technology provides the ultimate in viewing flexibility and control for multiple monitors.
- NVIDIA® Digital Vibrance Control™ 3.0 Technology – Allows the user to adjust color controls digitally to compensate for the lighting conditions of their workspace, in order to achieve accurate, bright colors in all conditions.
- OpenFL® 1.5 Optimizations and Support – Top-notch compatibility and performance for all OpenGL® applications.
- 300 MHz RAMDAC – Blazing-fast RAMDAC supports the display with high, ergonomic refresh rates up to and including 1920x1440 @ 75MHz.
- DDR2 Memory Architecture – A state-of-the-art DDR2 memory controller allows high bandwidth and low latency data access to the CPU. Enables data and information to be relayed through the system as quickly as possible for incredible performance. Supports up to 4 GB of system memory.
- High Definition Audio (HDA) – High definition audio brings consumer electronics quality sound to the PC delivering high quality sound from multiple channels. Using HAD, systems can deliver 192 kHz/32-bit quality for eight channels, supporting new audio formats.
- USB Ports – A standard plug-and-play interface that provides easy-to-use connectivity for USB devices. Supports up to 10 USB 1.1/2.0 ports.

Peripheral Device Interfaces, Connectors and Slots

The peripheral device connectors, interfaces and slots on the MSI P6NGM mainboard are listed in the sections below.

Internal Slots

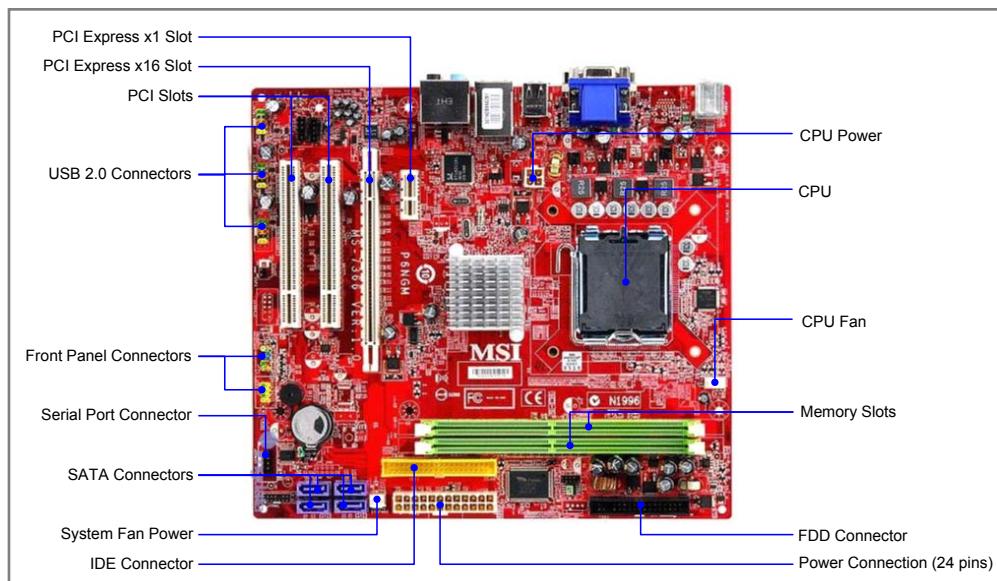
The slots listed below can all be found on the MSI P6NGM mainboard.

- 2 x 240-pin DDR2 DIMM slots
- 1 x PCI (Peripheral Component Interconnect) express x1 slot
- 1 x PCI (Peripheral Component Interconnect) express x16 slot
- 2 x PCI (Peripheral Component Interconnect) slots

Internal Peripheral Device Connectors

The peripheral device connectors listed below are located on the MSI P6NGM mainboard and used for the VM series.

- 1 x SPDIF(Sony & Philips Digital Interconnect Format)-out pinheader
- 1 x Serial port pinheader
- 1 x Floppy disk drive connector
- 4 x Serial ATA II connectors
- 1 x IDE connector
- 6 x USB 2.0 connectors
- 1 x Front audio connector
- 1 x CD audio in connector
- 2 x Front panel connector (Power and reset switch connectors)



External Peripheral Device Connectors

The peripheral device connectors listed below are located on the MSI P6NGM mainboard.

- 1 x PS/2 keyboard
- 1 x PS/2 mouse
- 4 x USB 2.0 ports
- 1 x 2 in 1 audio jack
- 1 x RJ45 LAN port
- 1 x DVI connector
- 1 x VGA port

System Maintenance

System Maintenance Introduction

If the components such as memory or hard disk drive of VM032, VM042(H) and VM047 series systems fail, they must be replaced by qualified personnel. Please contact the local dealer or vendor to purchase or replace the parts. Procedures for the rear cover removal and jumper settings for the VM032, VM042(H) and VM047 series systems are described in sections below.

Mainboard Replacement

Although the mainboard will not fail under normal usage, if it does fail, the mainboard needs to be replaced by qualified personnel or be returned to the local dealer or vendor for replacement. Please contact the local dealer or vendor for the replacement of the mainboard.

NOTE

Any attempt to remove and replace the mainboard voids warranty, and the local dealer, vendor, and manufacturer are not responsible for any consequential damages and injuries.

Mainboard Access Panel Removal



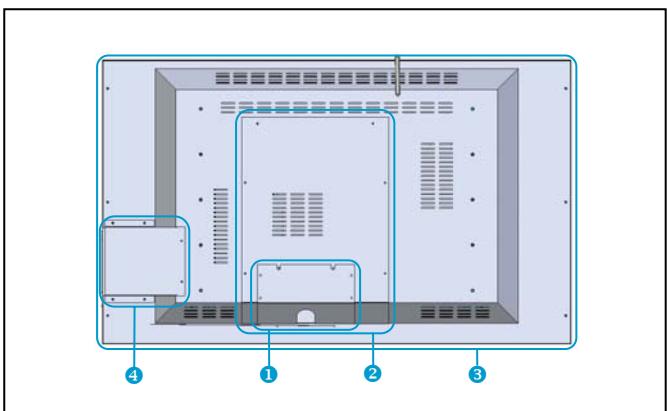
WARNING!

BEFORE REMOVING THE REAR COVER, MAKE SURE THE POWER CORD HAS BEEN DISCONNECTED FROM THE SYSTEM. Failing to do so may lead to severe damages of the VM series monitors and injury to the body.



WARNING!

PLEASE TAKE ANTISTATIC PRECAUTIONS WHEN WORKING WITH THE INTERNAL COMPONENTS. The interior of VM series monitors contain very sensitive electronic components. These components are prone to electrostatic discharge (ESD). Before working with the internal components, make sure all antistatic precautions have been observed.



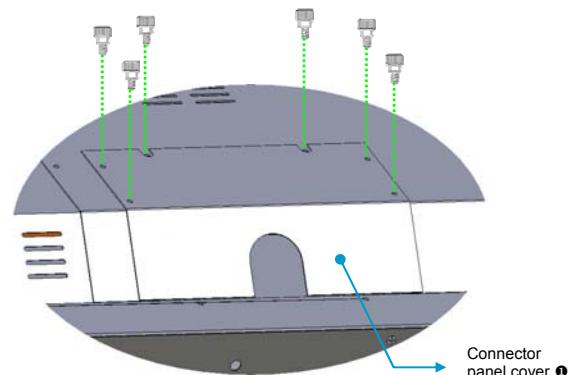
- ① Connector panel cover
- ② Mainboard access panel
- ③ Rear panel
- ④ DVD drive housing

There are two rear panels on the back of the VM032, VM042(H) and VM047 series systems. The rear panel (②) in the center secured by 6 screws allows easy access to various computer components such as the mainboard and hard disk drive and is referred to as the mainboard access panel. This removal of this panel allows access to all major computer components and although the user will not normally need to remove this panel, this panel is the only panel that needs to be removed for access to the mainboard and hard disk drive.

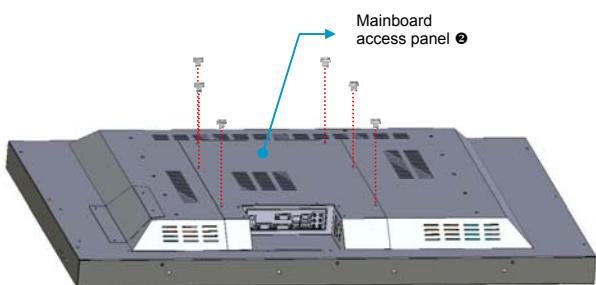
The large rear panel (③) needs to be removed in order to gain access to the following components:

- AD board
- Mainboard power supply
- SMPS for LCD panel

Mainboard Access Panel Removal

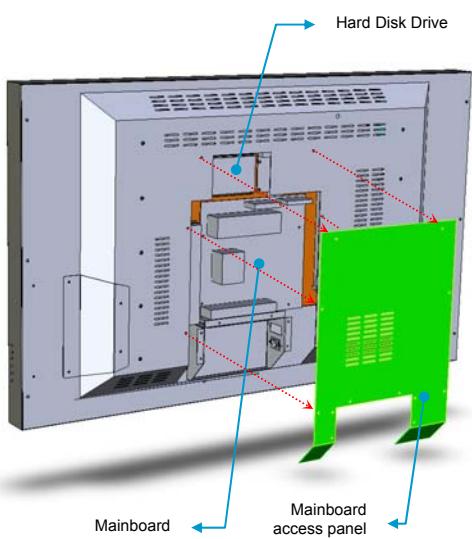


In order to remove the mainboard access panel and gain access to various computer components, the connector panel cover (①) needs to be removed first.



Step 1

Unscrew 6 thumb screws holding the connector panel cover. Remove the connector panel.



Step 2

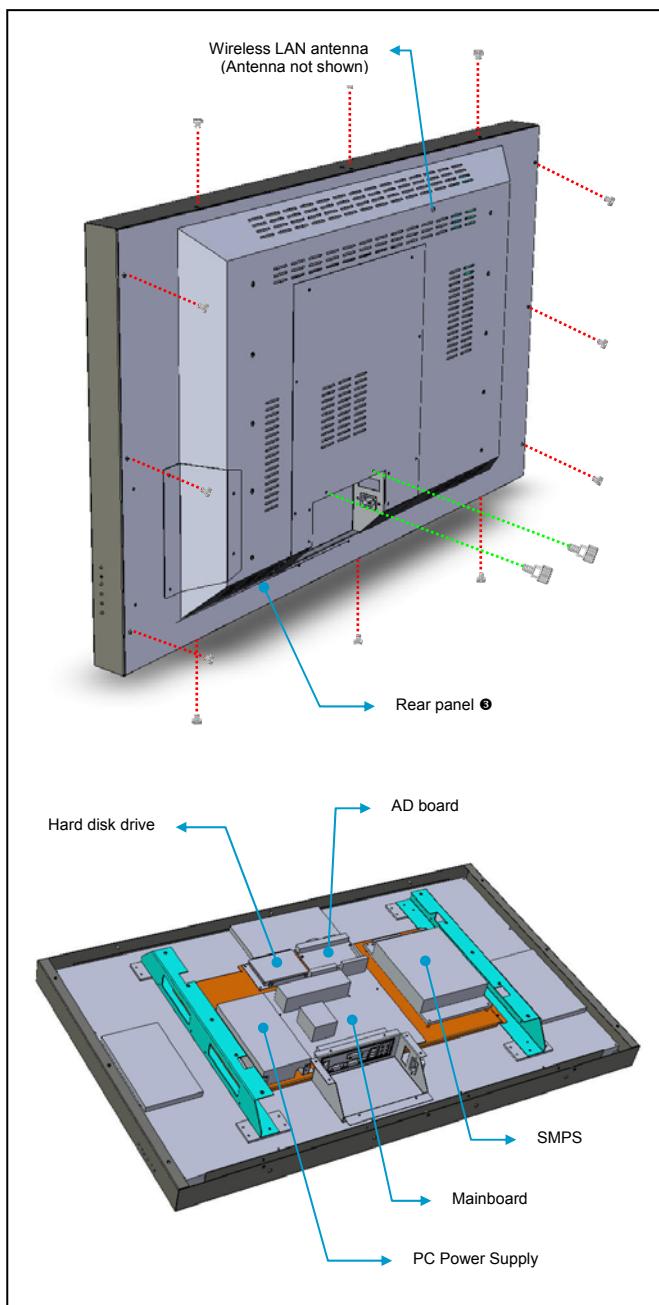
Unscrew 6 screws holding the mainboard access panel (②) using a Philips screwdriver. Remove the mainboard access panel to access the various computer components inside.

After removing the mainboard access panel, you will have access to the mainboard and hard disk drive. Please see the section for component replacement for procedures on hard disk drive replacement.

NOTE

PLEASE REMOVE THE CONNECTOR PANEL COVER (①) BEFORE ATTEMPTING TO REMOVE THE MAINBOARD ACCESS PANEL (②). Any attempt to remove the mainboard access panel without removing the connector panel cover may damage the panels in doing so.

Rear Panel Removal



To remove the rear panel, follow the following steps.

Step 1

Unscrew the wireless LAN antenna located on the rear panel.

Step 2

Remove 2 thumb screws holding the connector panel cover.

Step 3

Using a Philips screwdriver, unscrew the 12 screws holding the large rear panel as shown in the drawing on the left.

NOTE

Be sure to remove any wall mount before proceeding with the removal of the rear panel.

The following components are accessible once the large rear panel (④) has been removed.

- Mainboard
- Hard disk drive
- SMPS
- PC power supply

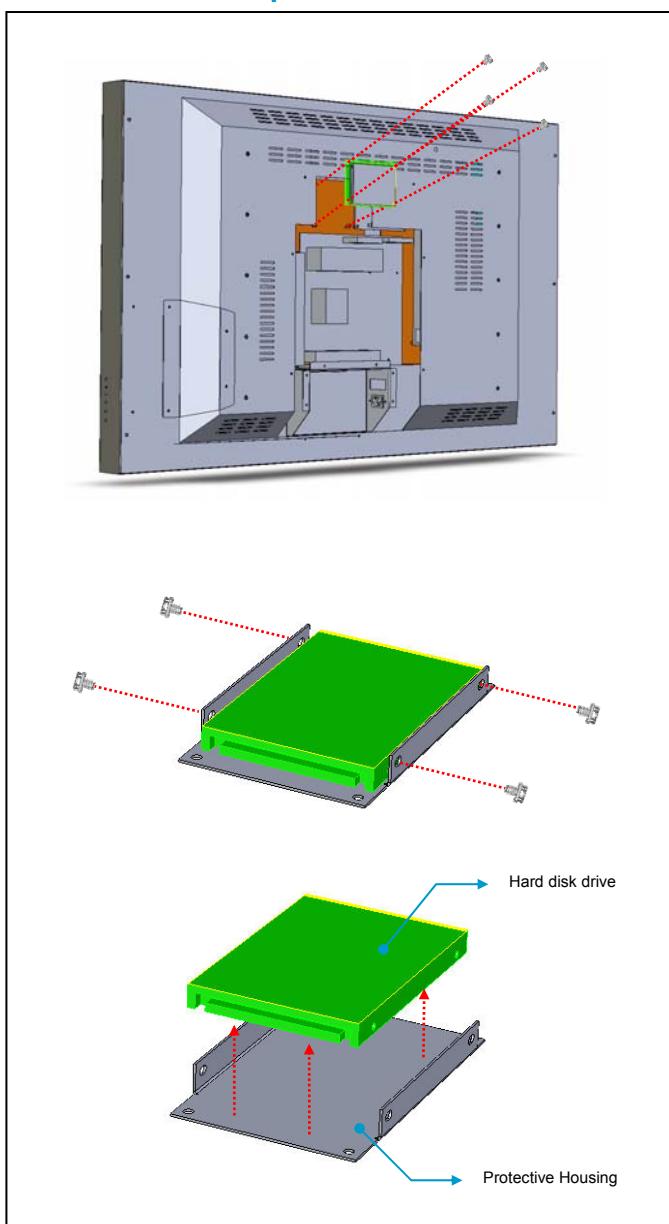
NOTE

Be sure to lay the unit flat facing the floor before removing the rear panel. (The mainboard access panel will be attached to the rear panel when it is removed.)

Component Replacements

The following sections cover the replacement procedures for various components inside the VM032, VM042(H) and VM047 series monitors. Only qualified personnel should perform the replacement work.

Hard Disk Drive Replacement



Step 1

Remove the mainboard access panel following the procedures in the previous section.

Step 2

Using a Philips screwdriver, unscrew 4 screws from the protective housing that holds the hard disk drive. Once the screws have been removed, lift out the entire hard disk drive assembly.

Step 3

Using a Philips screwdriver, unscrew the 4 screws holding the hard disk drive as shown in the drawing on the left. Once the screws have been removed, remove the rubber rings holding the hard disk drive in place. (Be sure to keep the rubber rings in safe place after removal.)

Step 4

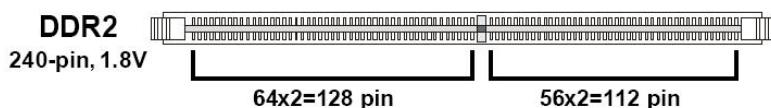
Remove the hard disk drive from the protective housing.

NOTE

Repeat the above procedures in reverse to install the hard disk drive.

Memory Module Replacement

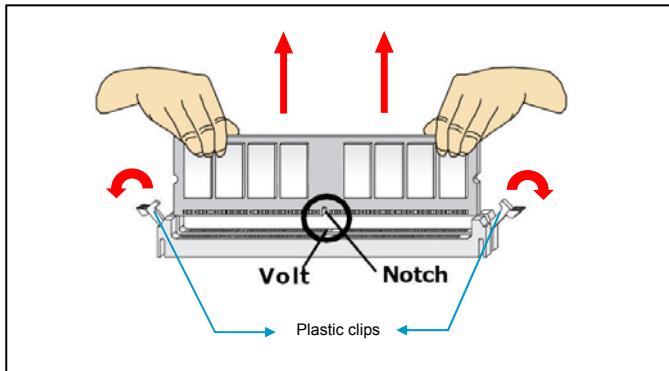
The DIMM slots located on the mainboard are used for memory modules. (Please refer to the section on 'Internal Peripheral Device Connectors' in previous section to locate the DIMM slots on the mainboard.)



The following types of memory modules can be used:

- PC4300 DDR2 RAM (DDR-533)
- PC5300 DDR2 RAM (DDR-667)
- PC6400 DDR2 RAM (DDR-800)
- PC8500 DDR2 RAM (DDR-1066)

To remove the memory module from the DIMM slot(s), follow the following steps.



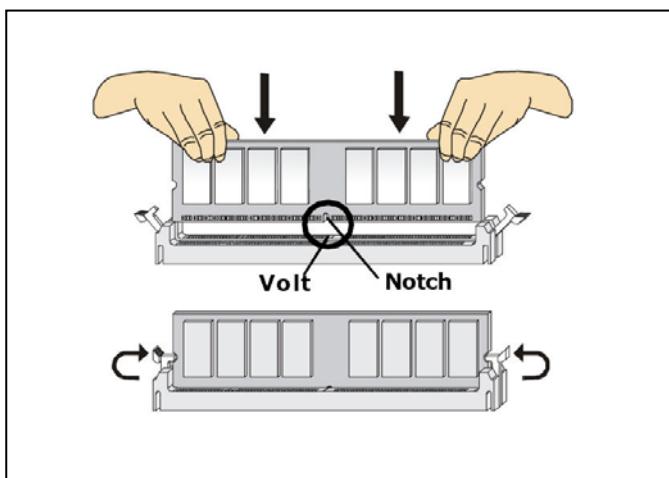
Step 1

Flip the plastic clips at each side of the DIMM slot outward and the memory module will pop up.

Step 2

Hold the memory module with both hands and bring it upward to remove it completely from the DIMM slot.

To install a new memory module, follow the following steps.



Step 1

Flip the plastic clips at each side of the DIMM slot outward before installing the memory module.

Step 2

Hold the memory module with both hands and insert it vertically into the DIMM slot. Then push it in until the golden finger on the memory module is deeply inserted in the DIMM slot (The golden finger can barely be seen if the memory module is properly inserted in the DIMM slot).

NOTE

The memory module has only one notch in the center and will only fit in the right orientation.

Step 3

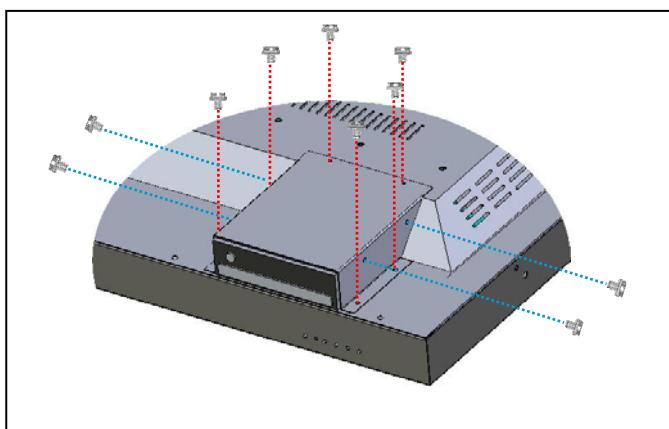
The plastic clips at each side of the DIMM slot will automatically close when the memory module is inserted, but make sure the plastic clips have completely closed and locked in place.

NOTE

- 1) DDR2 memory modules are not interchangeable with DDR memory modules and they are not backwards compatible. You should always install DDR2 memory modules in DDR2 DIMM slots.
- 2) To enable successful system boot-up, always insert the memory modules into the DIMM1 slot first.

DVD Drive Replacement

In order to remove the DVD drive, follow the instructions below.

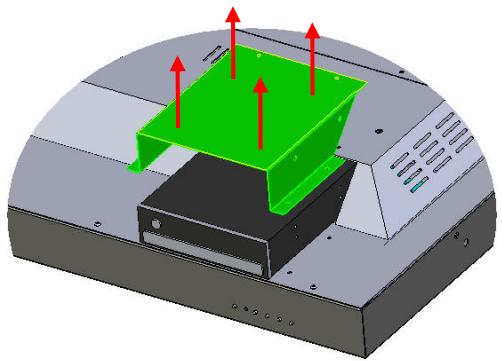


Step 1

Using a Philips screwdriver, unscrew 6 screws holding the DVD drive housing from the main rear panel.

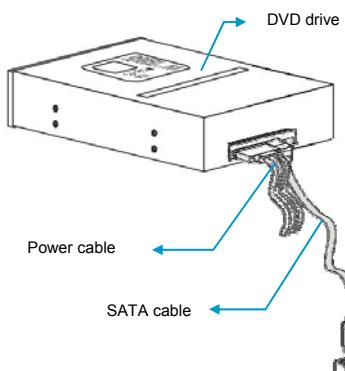
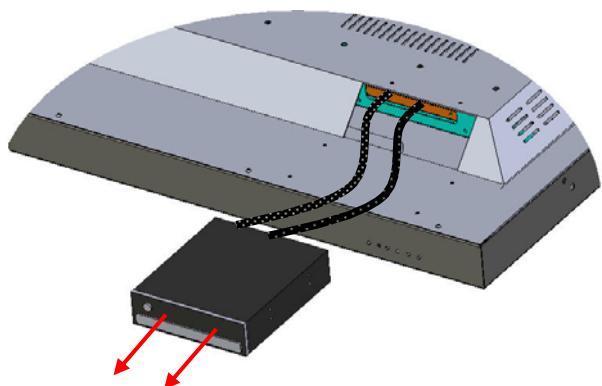
Step 2

With the DVD drive housing still in place, unscrew 4 screws holding the DVD drive itself from the DVD drive housing using a Philips screwdriver. (Do not remove the DVD drive housing when unscrewing since the DVD drive is still connected internally to the mainboard.)



Step 3

Once all the screws in steps 1 and 2 have been removed, lift the DVD drive housing and remove it from the main rear panel.



Step 4

Pull out the DVD drive carefully from its position. The DVD drive will have two cables (power and SATA cables) connected to it.

NOTE

Do not exert too much force when pulling out the DVD drive since the length of the cables are limited and too much force can damage the cables and/or connectors and the cables may also come loose from the mainboard.

Step 5

Looking at the rear of the DVD drive, remove the power cable and SATA cable from the DVD drive.

BIOS Setup

Entering Setup

Power on the computer and unit using the main power switch and the system will begin the POST (Power On Self Test) process. When the message below appears on the screen, press key to enter the setup menu.

Press DEL to enter SETUP

If the message appears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On. You may also restart the system by simultaneously pressing <Ctrl>, <ALT>, and <Delete> keys.

Control Keys

<↑>	Move to the previous item
<↓>	Move to the next item
<↔>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<ESC>	Jumps to the Exit menu or returns to the main menu from a sub-menu
<+/Page Up>	Increase the numeric value or make changes
<-/Page Down>	Decrease the numeric value or make changes
<F6>	Load optimized default values
<F10>	Save all the CMOS changes and exit

Getting Help

After entering the Setup menu, the first menu you will see is the Main Menu.

Main Menu

The main menu lists the setup functions you can make changes to. You can use the arrow keys ($\uparrow/\downarrow/\leftarrow/\rightarrow$) to select the item. The on-line description of the highlighted setup function is displayed at the bottom of the screen.

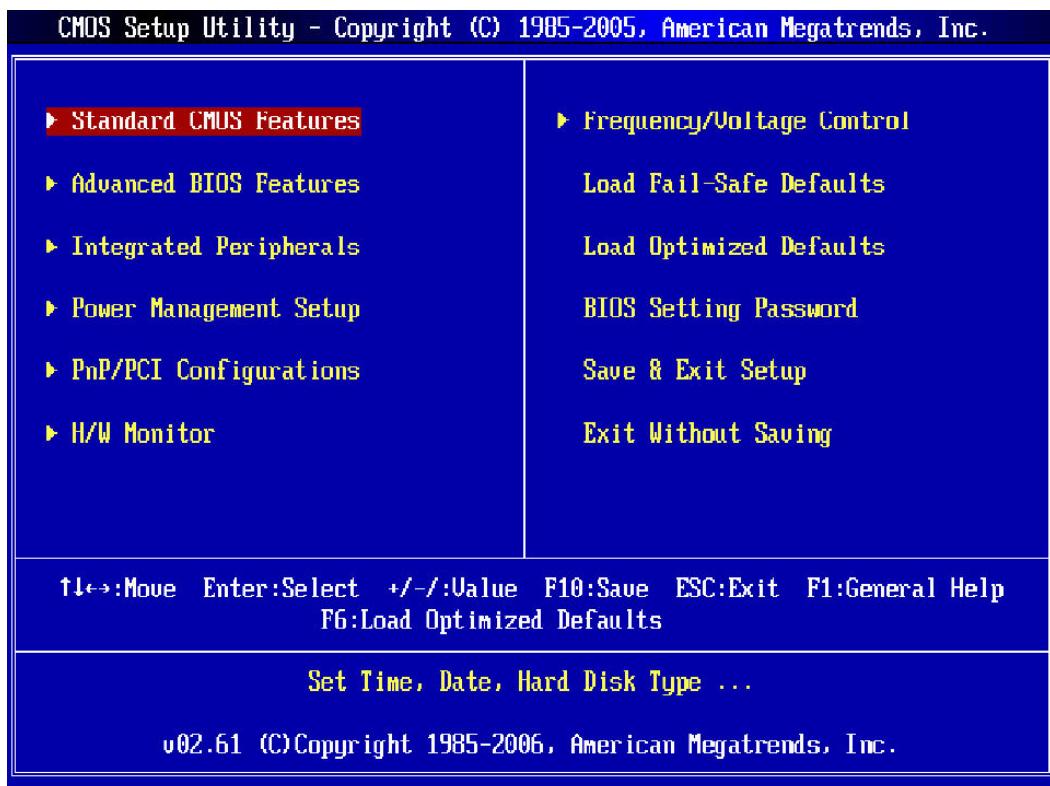
Sub-Menu

If you find a right pointer symbol appears to the left of certain fields that means a sub-menu can be launched from this field. A sub-menu contains additional options for a field parameter. You can use arrow keys ($\uparrow/\downarrow/\leftarrow/\rightarrow$) to highlight the field and you can press <Enter> to call up the sub-menu. Then you can use the control keys to enter the values and move from field to field within a sub-menu. If you want to return to the main menu, just press the <ESC> key.

General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible sections for the highlighted item. Press <ESC> to exit the Help screen.

The Main Menu

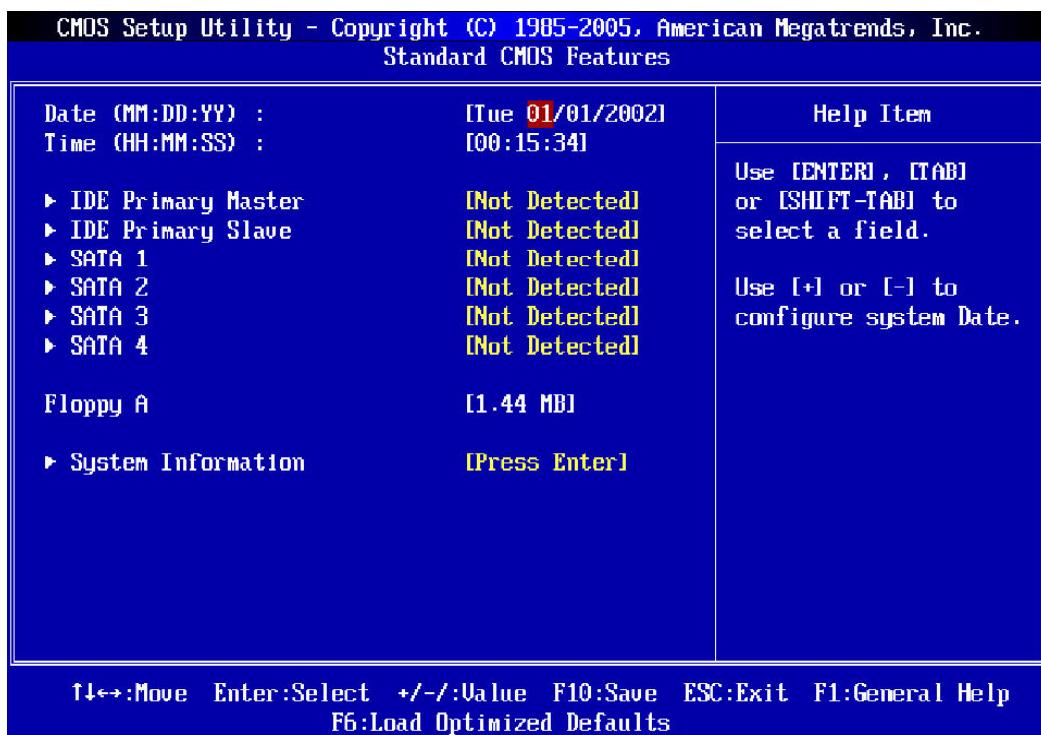


- Standard CMOS Features
Use this menu for basic system configurations such as time, date, etc.
- Advanced BIOS Features
Use this menu to setup the items of AMI® special enhanced features.
- Integrated Peripherals
Use this menu to specify your settings for integrated peripherals.
- Power Management Setup
Use this menu to specify your settings for power management
- PnP/PCI Configurations
This entry appears if your system supports PnP/PCI.
- H/W Monitor
This entry shows your PC health status
- Frequency/Voltage Control
Use this menu to specify your settings for frequency/voltage control and overclocking.
- Load Fail-Safe Defaults
Use this menu to load the default values set by the BIOS vendor for stable system performance.
- Load Optimized Defaults
Use this menu to load the default values set by the mainboard manufacturer specifically for optimal performance of the mainboard.
- BIOS Setting Password
Use this menu to set the password for BIOS.
- Save & Exit Setup
Save changes to CMOS and exit setup.

- Exit Without Saving
Abandon all changes and exit setup.

Standard CMOS Features

The items in Standard CMOS Features Menu include some basic 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.



Date (MM:DD:YY)

This allows you to set the system to the date that you want (usually the current date). The format is <day> <month> <date> <year>.

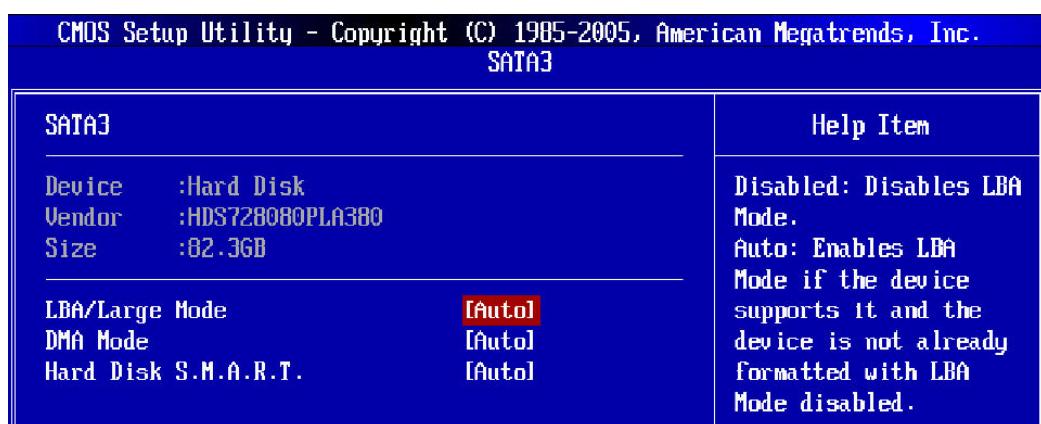
Day	Day of the week, from Sun to Sat, determined by BIOS. Read-only.
Month	The month from Jan to Dec.
Date	The date from 1 to 31 can be keyed in by numeric keys
Year	The year can be adjusted by users.

Time (HH:MM:SS)

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

IDE Primary Master/Slave, SATA 1~4

Press <Enter> to enter the sub-menu and the following screen appears.



Device / Vendor / Size

Shows the device information that you connected to the SATA connectors.

LBA/Large Mode

This allows you to enable or disable the LBA Mode. Setting to Auto enables LBA mode if the device supports it and the devices are not already formatted with LBA mode disabled.

DMA Mode

Selects the DMA mode.

Hard Disk S.M.A.R.T.

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T. is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data from a hard disk that is going to fail to a safe place before the hard disk becomes offline.

NOTE

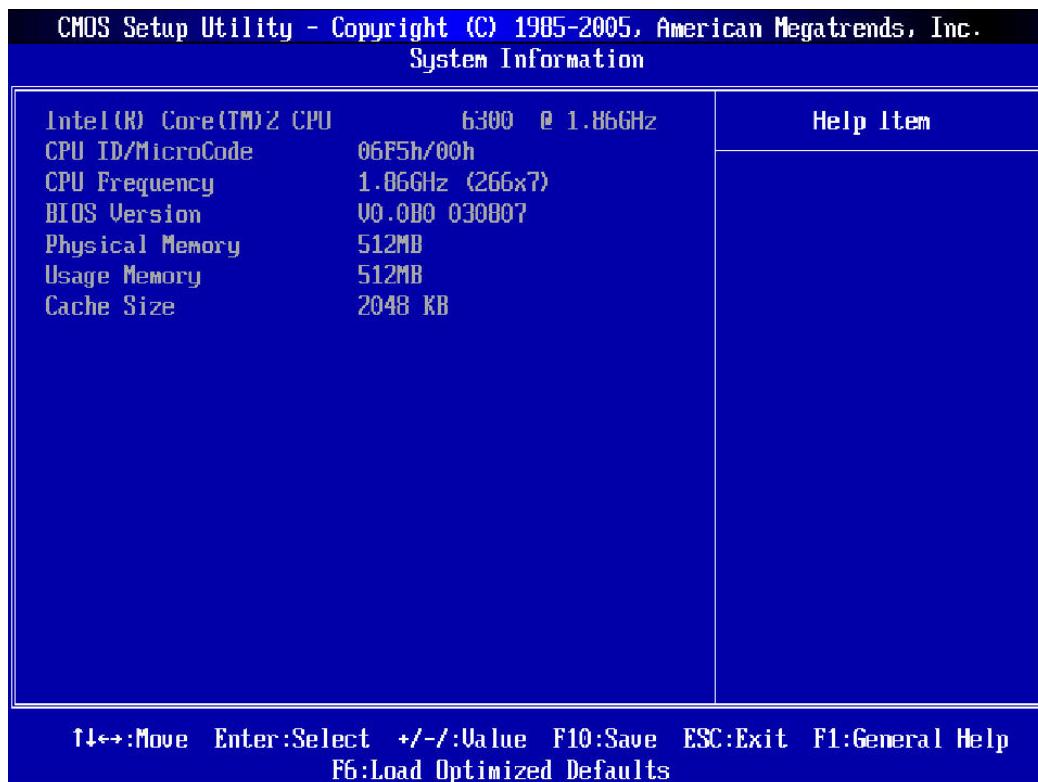
IDE Primary Master/Slave and Serial-ATA 1/2/3/4 Channels appear when you connect the HD devices to the IDE/SATA connectors on the mainboard.

Floppy A

This item allows you to set the type of floppy drives installed. Available options: [None], [360K, 5.25 in.], [1.2M, 5.25 in.], [720K, 3.5 in.], [1.44M, 3.5 in.], [2.88M, 3.5 in.].

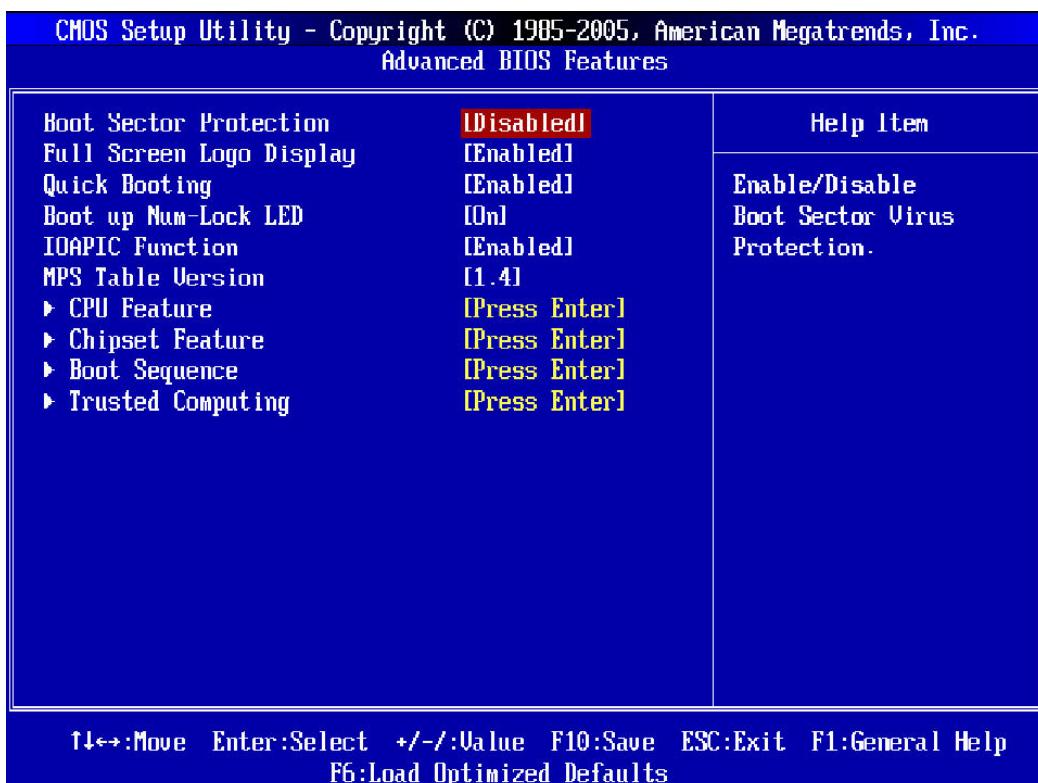
System Information

Press <Enter> to enter the sub-menu and the following screen appears.



This sub-menu shows the CPU information, BIOS version and memory status of your system (read-only).

Advanced BIOS Features



Boot Sector Protection

This function protects the BIOS from accidental corruption by unauthorized users or computer viruses. When enabled, the BIOS' data cannot be changed when attempting to update the BIOS with a Flash utility. To successfully update the BIOS, you will need to disable this Flash BIOS Protection function.

You should enable this function at all times. The only time when you need to disable it is when you want to update the BIOS. After updating the BIOS, you should immediately re-enable it to protect it against viruses.

Full Screen LOGO Display

This item enables you to show the company logo on the bootup screen. Settings are:

- | | |
|------------|--------------------------------------------------------|
| [Enabled] | Shows a still image (logo) on the full screen at boot. |
| [Disabled] | Shows the POST messages at boot. |

Quick Booting

Setting this item to [Enabled] allows the system to boot within 10 seconds since it will skip some check items.

Boot Up Num-Lock LED

This setting is to set the Num Lock status when the system is powered on. Setting to [On] will turn on the Num Lock key when the system is powered on. Setting to [Off] will allow users to use the arrow keys on the numeric keypad.

IOAPIC Function

This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2001 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources for the system.

MPS Table Version

This field allows you to select which MPS (Multi-Processor Specification) version to be used for the operating system. You need to select the MPS version supported by your operating system. To find out which version to use, consult the vendor of your operating system.

CPU Feature

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
CPU Feature		
Execute Bit Support	[Disabled]	Help Item
Set Limit CPUID MaxVal to 3	[Disabled]	

- Hyper-Threading Technology

This field appears only when the CPU supports Hyper-Threading. The processor uses Hyper-Threading technology to increase transaction rates and reduces end-user response times. The technology treats the two cores inside the processor as two logical processors that can execute instructions simultaneously. In this way, the processor will use only one core to execute the instructions.

- Execute Bit Support

Intel's Execute Disable Bit functionality can prevent certain classes of malicious "buffer overflow" attacks when combined with a supporting operating system. This functionality allows the processor to classify areas in memory by where application code can execute and where it cannot. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation.

- Set Limit CPUID MaxVal to 3

The Max CPUID Value Limit is designed to limit the listed speed of the processor to older operating systems.

Chipset Feature

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
Chipset Feature		
HPET	[Disabled]	Help Item
VGA Share Memory	[8MB]	
DVMT Mode Select	[DVMT Mode]	
DUMT/FIXED Memory	[256MB]	Options

- HPET

The HPET (High Precision Event Timers) is a component that is part of the chipset. You can enable it and it will provide you with the means to get to it via the various ACPI methods.

- VGA Share Memory Size

The system shares memory to the onboard VGA card. This setting controls the exact memory size shared to the VGA card.

- DVMT Mode Select

This item allows you to set the mode for the graphics core.

[Fixed Mode], a fixed-size fragment of the system memory is allocated to the graphics core. It can only be used by the graphics core.

[DVMT Mode], the driver of the graphics core uses the system memory like any other OS component or application does.

Boot Sequence

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
Boot Sequence		
1st Boot Device	[1st FLOPPY DRIV]	Help Item
Boot From Other Device	[Yes]	Specify the boot

- 1st Boot Device

This allows you to set the first boot device when BIOS attempts to load the disk operating system.

- Boot From Other Device

Setting this option to [Yes] allows the system to try to boot from other device. If the system fails to boot from this device, it will attempt to boot from the selected first boot device, second boot device then finally the third boot device.

Trusted Computing

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.	
Trusted Computing	
Trusted Computing	Help Item
TCG/TPM SUPPORT [Yes]	Enable/Disable TPM TCG (TPM 1.1/1.2) supp in BIOS
TPM Enable/Disable Status [No State]	
TPM Owner Status [No State]	

- TCG/TPM Support

This field is used to enable or disable TPM (Trusted Platform Module) support in BIOS.

- TPM Enable/Disable Status, TPM Owner Status

These items show the status of TPM (read-only).

Integrated Peripherals

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.	
Integrated Peripherals	
USB Controller	Help Item
USB Controller [Enabled]	
USB Device Legacy Support [Enabled]	
Onboard LAN Controller [Enabled]	
LAN Option ROM [Disabled]	
Audio Controller [Enabled]	
► On-Chip ATA Devices [Press Enter]	
► I/O Devices [Press Enter]	

**T↔:Move Enter:Select +/-:Value F10:Save ESC:Exit F1:General Help
F6:Load Optimized Defaults**

USB Controller

This setting allows you to enable/disable the onboard USB controller.

USB Device Legacy Support

Select [Enabled] if you need to use a USB-interfaced device in the operating system.

Onboard LAN Controller

This item is used to enable/disable the onboard LAN controller.

LAN Option ROM

This item is used to decide whether to invoke the Boot ROM of the LAN controller.

Audio Controller

This setting is used to enable/disable the onboard audio controller.

On-Chip ATA Devices

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
On-Chip ATA Devices		
On-Chip IDE Controller	[Enabled]	Help Item
PCI IDE BusMaster	[Disabled]	
On-Chip SATA Controller	[IDE]	Options

- On-Chip IDE Controller

These items allow users to enable or disable the IDE controller.

- PCI IDE BusMaster

This item allows you to enable/disable BIOS to use PCI busmastering for reading/writing to IDE drives.

- On-Chip SATA Controller

These items allow users to enable or disable the SATA controller.

I/O Devices

Press <Enter> to enter the sub-menu and the following screen appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
I/O Devices		
COM Port 1	[3F8/IRQ4]	Help Item
Parallel Port	[378]	
Parallel Port Mode	[Bi-Directional]	Allows BIOS to Select
Parallel Port IRQ	[IRQ7]	Serial Port1 Base Address

- COM Port 1

Select an address and corresponding interrupt for the first serial port.

- Parallel Port

This item allows you to set the parallel port.

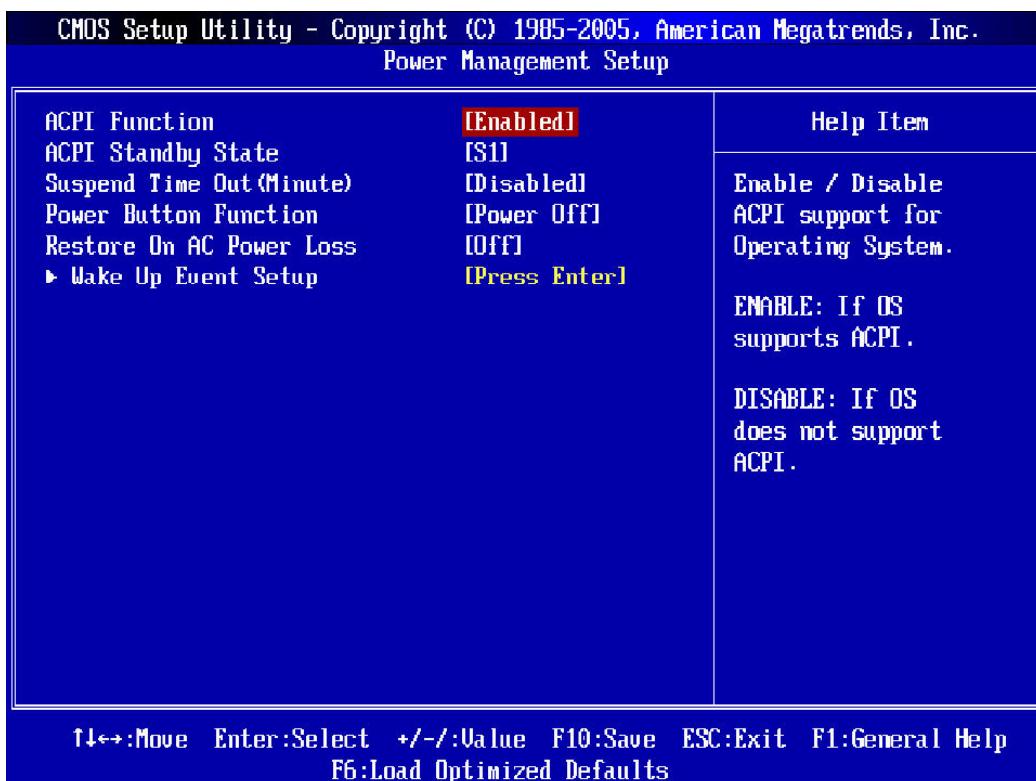
- Parallel Port Mode

This item allows you to select the parallel port mode.

- Parallel IRQ

This item allows you to set parallel IRQ.

Power Management Setup



ACPI Function

This item is used to activate the ACPI (Advanced Configuration and Power Management Interface) Function. If your operating system is ACPI-aware, such as Windows 2000/SP, select [Enabled].

ACPI Standby State

This item specifies the power saving modes for ACPI function. If your operating system supports ACPI, such as Windows 2000/XP, you can choose to enter the Standby mode in S1 (POS) or S3 (STR) fashion through the setting of this field. Settings are:

- | | |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [S1] | The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context. |
| [S3] | The S3 sleep mode is a lower power state where the information of system configuration and open application/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information is stored in memory will be used to restore the system when a "wake up" event occurs. |

Suspend Time Out (Minute)

If system activity is not detected for the length of time specified in this field, all devices except CPU will be shut off.

Power Button Function

This feature sets the function of the power button. Settings are:

- | | |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| [On/Off] | The power button functions as normal power off button. |
| [Suspend] | When you press the power button, the computer enters the suspend/sleep mode, but if the button is pressed for more than four seconds, the computer is turned off. |

Restore On AC Power Loss

This item specifies whether your system will reboot after a power failure or interrupt occurs. Settings are:

- | | |
|-------|----------------------------------------------------|
| [Off] | Always leaves the computer in the power off state. |
|-------|----------------------------------------------------|

[On]	Always leaves the computer in the power on state.
[Last State]	Restores the system to the status before power failure or interrupt occurred.

Wakeup Event Setup

Press <Enter> and the following sub-menu appears:

CMOS Setup Utility - Copyright (C) 1985-2005, American Megatrends, Inc.		
Wake Up Event Setup		
Setting	Value	Help Item
Resume From S3 By USB Device	[Disabled]	Enable/Disable USB Device Wakeup From S3.
Resume From S3 By PS/2 Keyboard	[Disabled]	
Specific Key for PowerOn	[Press Enter]	
Resume From S3 By PS/2 Mouse	[Disabled]	
Resume By PCI Device (PME#)	[Enabled]	
Resume By PCI-E Device	[Enabled]	
Resume By RTC Alarm	[Disabled]	

- Resume From S3 By USB Device

This item allows the activity of the USB device to wake up the system from S3 (Suspend to RAM) sleep state.

- Resume From S3 By PS/2 Keyboard

This setting determines whether the system will be awakened from what power saving modes when input signal of the PS/2 keyboard is detected.

- Keyboard Power On Function

This item allows you to specify a key from the keyboard to power on the system.

- Resume From S3 By PS/2 Mouse

This setting determines whether the system will be awakened from what power saving modes when input signal of the PS/2 mouse is detected.

- Resume By PCI Device (PME#)

When set to [Enabled], the feature allows your system to be awakened from the power saving modes through any event on PME (Power Management Event).

- Resume By PCI-E Device

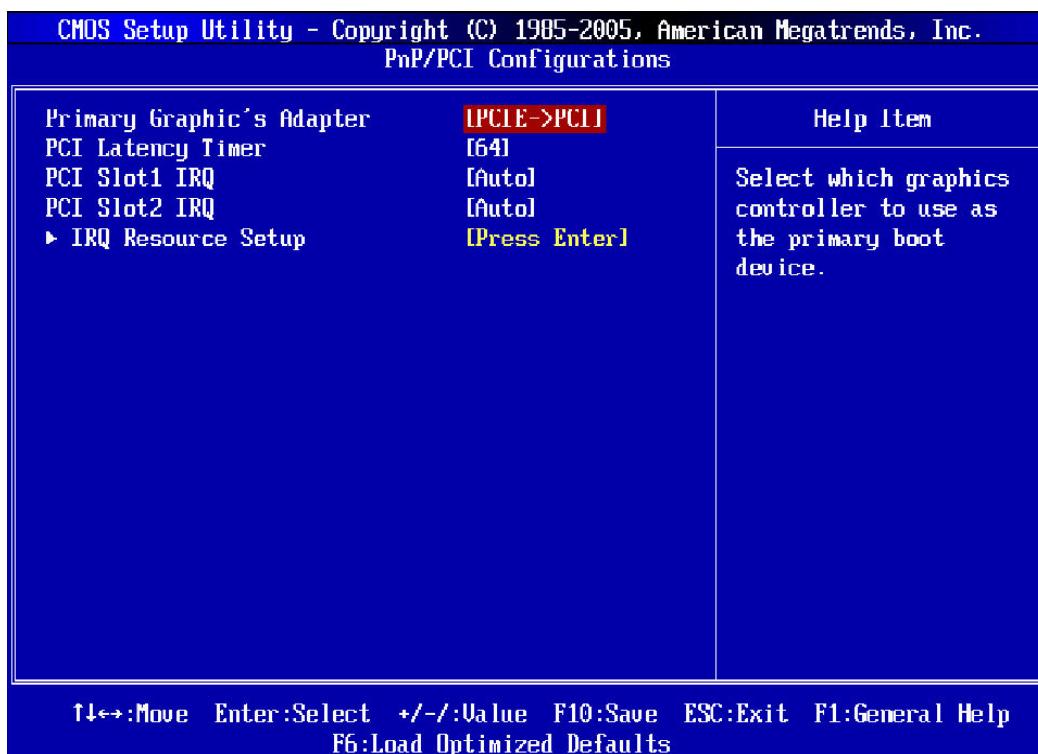
When set to [Enabled], the feature allows your system to be awakened from the power saving modes through any event on PCI-E device.

- Resume By RTC Alarm

This field is used to enable or disable the feature of booting up the system on a scheduled time/date.

PnP/PCI Configurations

This section describes configuring the PCI bus system and PnP (Plug & Play) feature. PCI, or Peripheral Component Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its special components. This section covers some very technical items and it is strongly recommended that only experienced users make any changes to the default settings.



Primary Graphic's Adapter

This setting specifies which graphics card is your primary graphics adapter.

PCI Latency Timer

This item controls how long each PCI device can hold the bus before another takes over. When set to higher values, every PCI device can conduct transactions for a longer time and thus improve the effective PCI bandwidth. For better PCI performance, you should set the item to higher values.

PCI Slot 1/2 IRQ

These items specify the IRQ line for each PCI slot.

IRQ Resource Setup

Press <Enter> to enter the sub-menu and the following screen appears:



■ IRQ 3/4/5/7/9/10/11/14/15

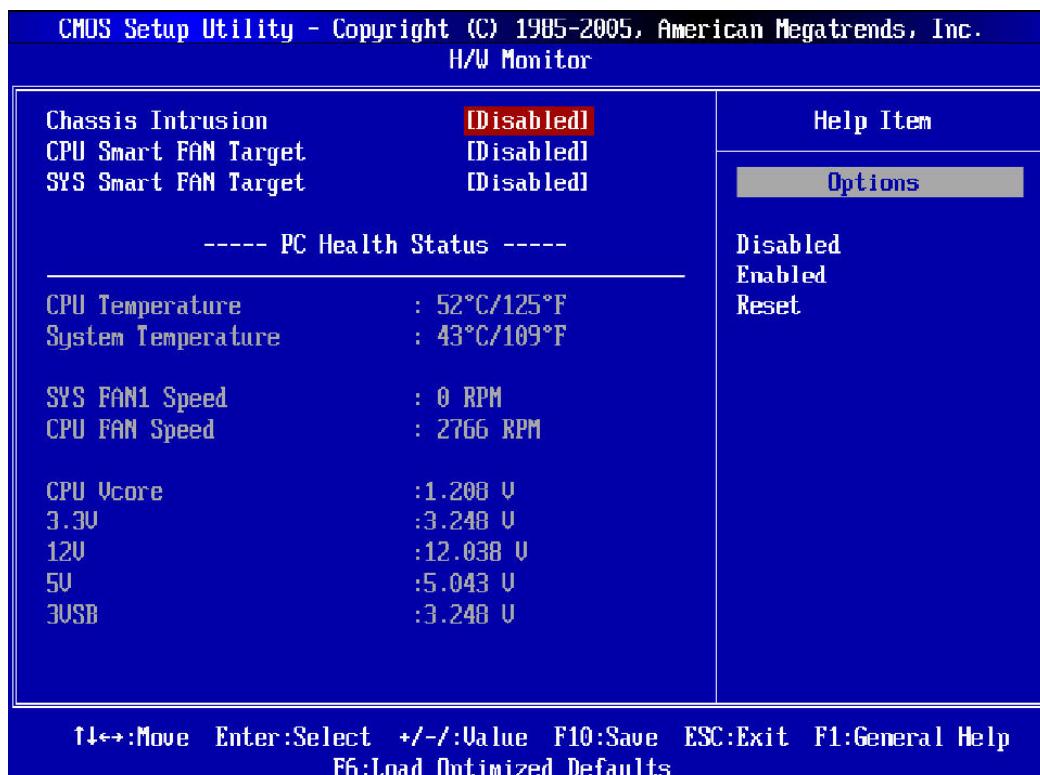
These items specify the bus where the specified IRQ line is used. The settings determines if AMIBIOS should remove an IRQ from the pool of available IRQs passed to devices that are configurable by the

system BIOS. The available IRQ pool is determined by reading the ESCD NVRAM. If more IRQs must be removed from the IRQ pool, the end user can use these settings to reserve the IRQ by assigning a [Reserved] setting to it. Onboard I/O is configured by AMIBIOS. All IRQs used by onboard I/O are configured as [Available]. If all IRQs are set to [Reserved], and IRQ 14/15 are allocated to the onboard PCI IDE, IRQ 9 will still be available for PCI and PnP devices.

NOTE

IRQ (interrupt Request) lines are system resources allocated to I/O devices. When an I/O device needs to gain attention of the operating system, it signals this by causing an IRQ to occur. After receiving the signal, when the operating system ready, the system will interrupt itself and perform the service required by the I/O device.

H/W Monitor



Chassis Intrusion

The field enables or disables the feature of recording the chassis intrusion status and issuing a warning message if the chassis is once opened. To clear the warning message, set the field to [Reset]. The setting of the field will automatically return to [Enabled] later.

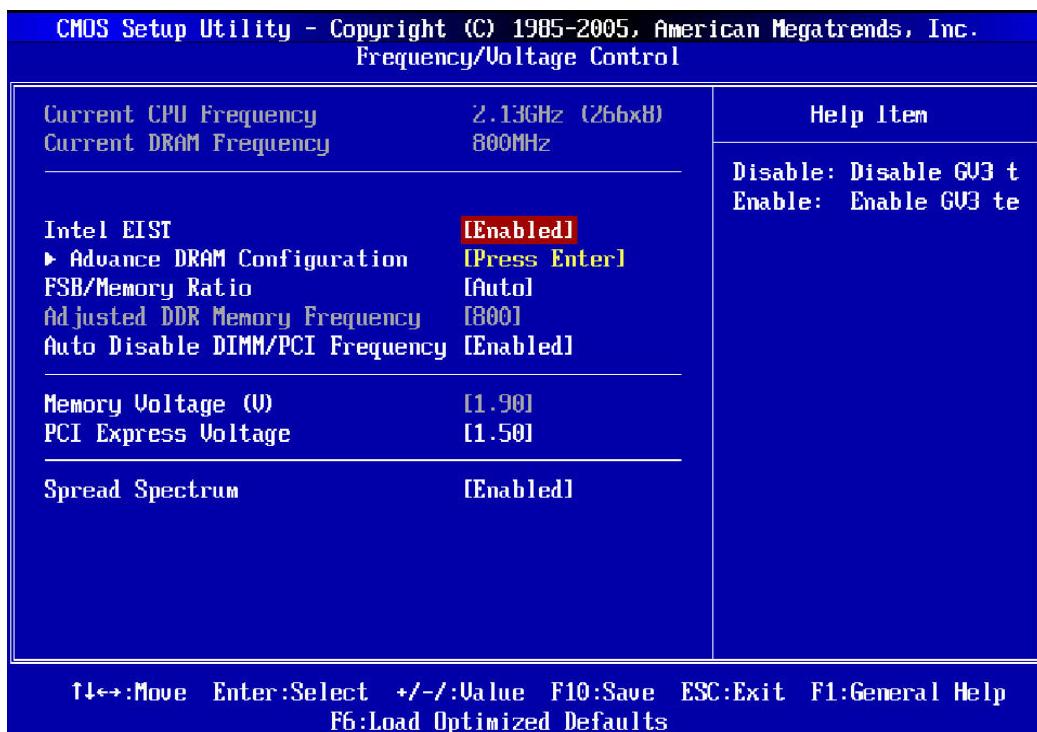
CPU/SYS Smart Fan Target

The mainboard provides the Smart Fan function which can control the CPU/System fan speed automatically depending on the current temperature to keep it with in a specific range. You can select a fan target value here. If the current CPU/System fan temperatures reach the target value, the smart fan function will be activated. It provides several selections to speed up or cool down automatically.

PC Health Status

- CPU/System Temperature, CPU FAN/SYS FAN1 Speed, CPU Vcore, 3.3V, 5V, 12V, 3VSB
- These items display the current status of all the monitored hardware devices/components such as CPU voltage, temperatures and all fans' speeds.

Frequency/Voltage Control



NOTE

Do **NOT** change these settings unless you are familiar with the chipset.

Current CPU/DRAM Frequency

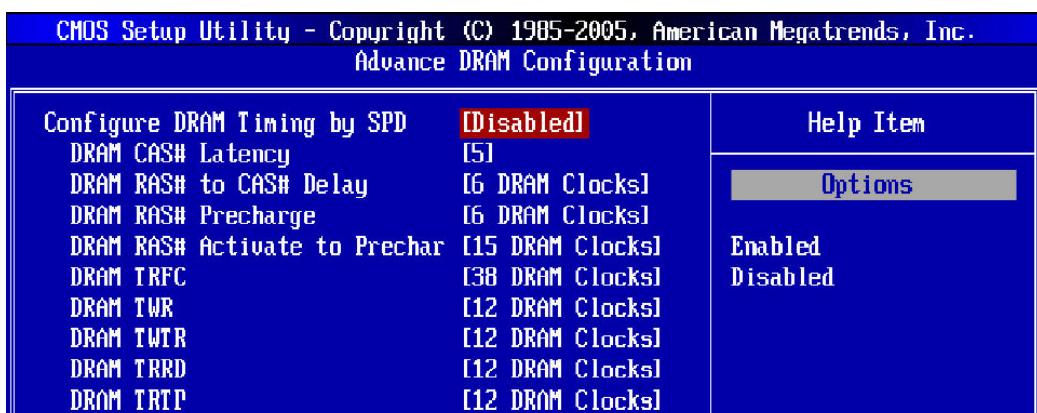
These items show the current clocks of CPU and Memory speed. Read-only.

Intel® EIST

The Enhanced Intel® SpeedStep Technology allows you to set the performance level of the microprocessor whether the computer is running on battery or AC power. This field will appear after you installed the CPU which supports speedstep technology.

Advanced DRAM Configuration

Press <Enter> to enter the sub-menu and the following screen appears:



Configuration of DRAM Timing by SPD

Setting to [Enabled] enables DRAM CAS# Latency to be automatically determined by BIOS based on the configurations of the SPD (Serial Presence Detect) EEPROM on the DRAM module.

- DRAM CAS# Latency
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. This controls the CAS latency, which determines the timing delay (in clock cycles) before SDRAM starts a read command after receiving it.
- DRAM RAS# to CAS# Delay
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. When DRAM is refreshed, both rows and columns are addressed separately. This setup item allows you to determine the timing of the transition from RAS (row address strobe) to CAS (column address strobe). The smaller the clock cycles, the faster the DRAM performance.
- DRAM RAS# Precharge
When the **Configuration DRAM Timing by SPD** sets to [Disabled], this field is adjustable. This field is adjustable. This setting controls the number of cycles for Row Address Strobe (RAS) to be allowed for precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.
- DRAM RAS# Activate to Precharge
When the **Configuration DRAM Timing by SPD** sets to [Disabled], this field is adjustable. This field is adjustable. This setting controls the number of cycles for Row Address Strobe (RAS) to be allowed for precharge. If insufficient time is allowed for the RAS to accumulate its charge before DRAM refresh, refresh may be incomplete and DRAM may fail to retain data. This item applies only when synchronous DRAM is installed in the system.
- DRAM TRFC
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. This setting determines the time RFC takes to read from and write to a memory cell.
- DRAM TWR
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. Minimum time interval between end of write data burst and the start of a precharge command. Allows sense amplifiers to restore data to cells.
- DRAM TWTR
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. Minimum time interval between end of write data burst and the start of a column-read command. It allows I/O gating to overdrive sense amplifiers before read command starts.
- DRAM TRRD
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. Specifies the active-to-active delay of different banks. Time interval between a read and a precharge command.
- DRAM TRTP
When the **Configuration DRAM Timing by SPD** sets to [Disabled], the field is adjustable. Time interval between a read and a precharge command.

FSB/Memory Ratio

This item will allow you to adjust the FSB/Ratio of memory.

Adjusted DDR Memory Frequency

It shows the adjusted DDR memory frequency. Read-only.

Auto Disable DIMM/PCI Frequency

When set to [Enabled], the system will remove (turn off) clocks from empty DIMM and PCI slots to minimize the electromagnetic interference (EMI).

Memory Voltage (V)

This item will allow you to adjust the Memory voltage.

PCI Express Voltage

This item will allow you to adjust the PCI Express voltage.

Spread Spectrum

When the mainboard's clock generator pulses, the extreme values (spikes) of the pulses create EMI (Electromagnetic Interference). The Spread Spectrum function reduces the EMI generated by modulating the pulses so that the spikes of the pulses are reduced to flatter curves. If you do not have any EMI problem, leave the setting at Disabled for optimal system stability and performance. But if you are plagued by EMI, set to Enabled for EMI reduction. Remember to disable Spread Spectrum if you are overclocking because even a slighter jitter can introduce a temporary boost in clock speed which may just cause your overclocked processor to lock up.

NOTE

1. *If you do not have any EMI problem, leave the setting at [Disabled] for optimal system stability and performance. Bit if you are plagued by EMI, select the value of Spread Spectrum for EMI reduction.*
2. *The greater the Spread Spectrum value is, the greater the EMI is reduced, and the system will become less stable. For the most suitable Spread Spectrum value, please consult your local EMI regulation.*
3. *Remember to disable Spread Spectrum if you are overclocking because even a slight jitter can introduce a temporary boost in clock speed which may just cause your overclocked processor to lock up.*

Load Fail-Safe/Optimized Defaults

The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for optimal performance of the mainboard. The Fail-Safe Defaults are the default values set by the BIOS vendor for stable system performance.

When you select Load Fail-Safe Defaults, a message appears as below:



Pressing [Ok] loads the BIOS default values for the most stable, minimal system performance.

When you select Load Optimized Defaults, a message as below appears:



Pressing [Ok] loads the default factory settings for optimal system performance.

BIOS Setting Password

When you select this function, a message as below will appear on the screen:



Type the password, up to six characters in length, and press <Enter>. The password typed now will replace any previously set password from CMOS memory. You will be prompted to confirm the password. Retype the password and press <Enter>. You may also press <ESC> to abort the selection and not enter a password.

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

When a password has been set, you will be prompted to enter it every time you try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Troubleshooting

Before requesting service, please check the following points.
If the problem persists, contact your local dealer or vendor.

Problem	Cause	Remedy
No picture (Power indicator is lit)	A different input is selected.	Using the On-Screen Display controls, check the input selection.
	Loose VGA cable	Open the connector panel cover and check the VGA cable connection.
	Computer standby mode	Go to control panel in Windows and check the power savings configuration.
No picture (Power indicator is not lit)	Loose power cord	Check the power cord connection to the power outlet. Open the connector panel cover and check the power cord connection.
Colors do not display properly.	Loose VGA cable	Open the connector panel cover and check the VGA cable connection.
Display power or screen turns off after a short time.	Screen saver activation	Go to control panel in Windows and check the screen saver configuration.
	Computer standby mode	Go to control panel in Windows and check the power savings configuration.
Horizontal lines of static disturb the picture.	The internal temperature of the display is getting high.	Turn off the power and make sure the air vents are not blocked, that there is ample space for air to flow around the display, and that the ventilation in the room is working properly. When the internal temperature returns to normal, the display will operate properly again.
Remote control does not work	Something is blocking the remote control signal detector on the display.	Make sure no object is blocking the remote control receiver located in the front of the display.
	The batteries in the remote control are drained.	Replace the batteries in the remote control.

Software Drivers

Mainboard Drivers

Mainboard INF Drivers

VGA Driver

Soundcard Driver

Network Driver

Additional Drivers

iMON Remote Control (Optional)

Optional Drivers