hyvision™

TFT LCD MONITOR
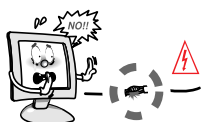
MV190

User's Manual

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Do not scratch the screen of the LCD monitor with sharp materials such as nails and pens.
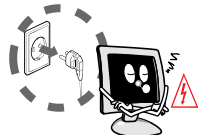
The interior part of the monitor is composed of electric elements. If the monitor is broken, do not try to disassemble it, because it is necessary to contact appropriate technical services in order to have the product repaired.
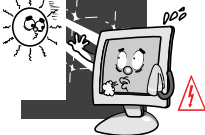
Take care of the LCD monitor so that it is not damaged by the external impact.

Take care not to use damaged cords and keep this product out of reach of children and persons who are not involved in using the product.

Disconnect the power cable when the monitor is not used during a long period of time while you are away from home.

Do not use this product near the windows receiving direct sunlight or direct natural light.
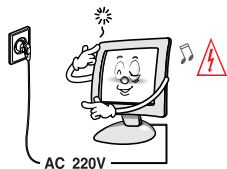
Choose a fresh and dry area and protect the monitor from extreme conditions of temperature and humidity, dust and smoke.
Adequate temperature = 0-40℃.
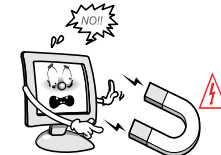Adequate humidity = 30-80 RH

The LCD monitor screen can be damaged in the case that you clean the surface by using acetone, ethyl alcohol or acid detergent.

Do not install the monitor in a sloping place that is not safe due to the fact that the product can fall down and be broken, thus doing harm to other persons.

AC 220V

Check the power voltage before connecting to the AC power cable.

Take care so that the monitor is not in contact with magnetic materials, metals and inflammable substances.

Note

This product uses the TFT LCD panel produced using state-of-the-art technology. The TFT LCD panel consists of millions of pixels and there is much probability of occurrence of bad pixels. Due to this reason, red, blue and green pixels may seem to shine and some black pixels may be visible. But this does not mean that the quality of this product is bad. You can use this product without worrying about the worsening of product performance.

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▶ **Introduction**

Thank you for buying our TFT LCD monitor.
Our monitor is a high-resolution monitor that has features of electromagnetic wave blocking, reduction in electricity consumption, and efficient use of space. In view of the fact that this user's manual is prepared for helping you to adequately use the product, it is recommendable to read the user's manual before using the product.

▶ **Product features**

1) This product has a 19-inch flat surface (Color Active Matrix TFT LCD) with a pixel size of 0.294 mm (H) x 0.294 mm (V) for displaying an ultra-precision, high-resolution image.
2) This product uses 19"(Thin Film Transistor) LCD panel and supports a maximum of 1280 x 1024.
3) This product is a monitor whose deflection frequency is automatically transformed up to 30 - 80 kHz horizontally and up to 56 - 75 Hz vertically.
4) This product is compatible with IBM PC and Apple Macintosh (a different adapter is necessary for Apple Macintosh).
5) This product has a power-saving function less than 37 W in ON mode, less than 2 W in stand-by mode, less than 2 W in pause mode and less than 1 W in OFF mode in comparison with other monitors.
6) This product supports DDC and allows you to use 'Plug and Play'.

Note In the case of some system requirements, it may not be compatible with Plug and Play.

▶ Registered as a device whose electromagnetic wave-blocking capacity is adequate (B Class)
This product is registered as a device whose electromagnetic wave-blocking capacity is adequate and can be used in all places (including homes).
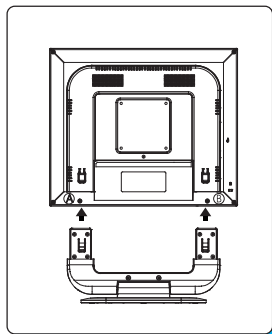
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▶ **Checking the product**

Please check if the product contains the following items. If there are some items missing, please contact the technical services.

1. TFT LCD monitor
2. User's manual (including product warranty).
3. AC to DC adapter.
4. Power cable (the power cable can be different according to use environment).
5. Signal Cable (Monitor Connection Cable)
6. Monitor Base
7. Audio cable ⎫
8. USB cable ⎭ **Option**

▶ **How to connect Base part into Monitor Stand Part**

How to install the monitor stand

1. Lay the monitor on a flat surface.
2. Attach the monitor to the connecting parts as shown in the picture.
3. Push and pull A and B to detach and attach the monitor.

▶ **Installation**

1. Turn off the power connected to the monitor before connecting to an external device.
2. Power connection
   Connect the adapter to the DC jack connected to the signal cable of the monitor and connect the power cable.
3. Signal connection
   This signal input terminal is a D-SUB connector. Connect the signal cable to the signal input of the computer.
4. Turn on the power of the monitor.
5. Turn on the power of the system that you want to use.
6. Continue with the operation when the screen appears. You can adjust the desired status of the screen using control buttons at the bottom of the monitor.
7. Up/Down Monitor Angle should not be over 15/20 degree.
8. If you wan to finish the operation, turn off the system power and then turn off the power of the monitor.

▶ **USB installation (option)**

1. Connect the monitor to the PC with signal cable and turn on the PC.
2. Connect USB-compatible PC or other hub to the upstream port on the left of the monitor with USB cable.
3. When the USB cable is connected, the USB function is automatically set.
4. After setting, you can connect USB-compatible accessories to the downstream port on the monitor's USB hub.

Note
!
- USB hub function may not work correctly according to PC, OS or accessories. Consult the manufacturer for information on USB support.
- Use of USB Rev. 2.0-compatible PC and accessories is recommended.
- When the monitor is turned off, the accessories connected to the downstream port do not work.
- Even when the monitor is in power save mode, the device connected to the monitor's USB will work.

Names and operation of control buttons

▶ **Names and operation of control buttons**

This monitor has several control buttons.
They can be used according to the user preference.

| MENU | ◀ | ▶ | SELECT | POWER |

▶ **Function of the buttons**

◆ Power button (⏻)

If you press the power button, the indicator lamp
is turned on, and the operation of the monitor is
initiated. If you do not want to start the operation
of the monitor, press the power button again.

◆ Power indicator lamp (green)

Considering that this product has a power-saving
function, if the power cable is connected, the power indicator lamp is
shown as follows.

Mode	On	Stand-by	Suspend	Off
Power indicator lamp	Green	Green (blinks every second)		Dark
Screen	Active	Blanked	Blanked	Blanked

◆ MENU

If you pres the menu button, the OSD (On-Screen Display) menu
window appears.

◆ SELECT

If you press SELECT button in the screen status, it is automatically
adjusted for the optimal size and optimal position, and if you press the
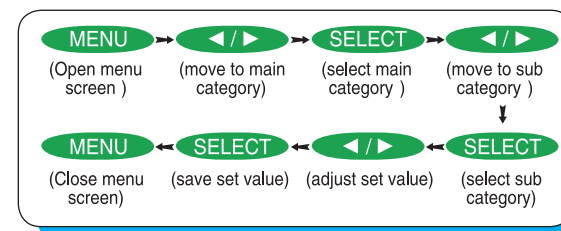OSD button, it functions as a selection button.

◆ (◀ / ▶)

You can choose the desired item using the button ◀ (decrease) / ▶
(increase) in the OSD menu, or you can modify the selected values.

🔊 ▭▭▭ 11 - Speaker volume adjustment (Option) Adjust
the volume with ◀/▶ button (0-100).

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Selection and operation of the OSD menu

You can select the OSD menu in the OSD window using all the control buttons
at the bottom of the screen. To change the current settings or adjust them for the
desired settings, follow the following steps.

MENU	→	◀/▶	→	SELECT	→	◀/▶
(Open menu screen)		(move to main category)		(select main category)		(move to sub category)

MENU	←	SELECT	←	◀/▶	←	SELECT
(Close menu screen)		(save set value)		(adjust set value)		(select sub category)

1. Press the Menu button to open the OSD menu window.
2. Press the ◀ / ▶ button to move the item of desired main menu.
3. If you highlight the desired menu item, press the Select button.
4. Press the ◀ / ▶ button to move the desired submenu item.
5. If you highlight the submenu item, press the Select button.
6. Press the ◀ / ▶ button to modify the current value.
7. Press the Select button to save the modified value.
8. Push MENU button to exit to sub category, main category and menu screen
   in this order.

> **Note** The OSD window will disappear within a few seconds if there is no
> input in the OSD window. It does not appear when there is no input
> signal.

Main menu is configured as follows.

1. Screen
Factors in the brightness of the environment at the vicinity to automatically adjust
the brightness of monitor, and also adjusts to the level desired by user
Manually/automatically adjusts screen location, modulation and frequency.

2. Color
Manually/automatically adjusts screen brightness, luminosity, color temperature
and color proportion.

3. OSD
Adjusts the language used, the position of the menu screen, the display time of
the menu screen and the saturation of the menu screen.

4. Others
Adjusts the language on the menu screen, and initializes menu value. User is
able to select input signal, and adjust On/Off and value of audio function.

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Picture

```
Picture        1280×1024   60.2Hz
  Brightness          ≫ 70 ≪
  Contrast            ≫ 70 ≪
  H Position          ≫ 69 ≪
  V Position          ≫ 88 ≪
  Phase               ≫ 58 ≪
  Clock               ≫ 49 ≪
  Auto Adjust         No
```

Brightness_ Adjusts brightness. 0 ~ 100
Contrast_ Adjusts contrast. 0 ~ 100
Horizontal position_ Adjusts the horizontal positionof the current screen. 0 ~ 100
Vertical position_ Adjusts the vertical position of the current screen. 0 ~ 100
Phase_ Adjusts the center of the current screen. 0 ~ 100
Clock_ Increases or decreases the number of pixel to adjust the horizontal size.
Auto-Adjust_ Configures Auto-Position, Auto-Phase, Auto-Clock and
　　　　　　　 Auto-Color at the same time.

Color

```
Color          1280×1024   60.2Hz
  Color Temp          User
  Red                 ≫ 50 ≪
  Green               ≫ 50 ≪
  Blue                ≫ 50 ≪
  Auto Color          No
```

Color template_ Adjusts the color desired by the user. 19300. 6500. 5000. User.
Red　　Adjusts color saturation. 0 ~ 100
Green Adjusts color saturation. 0 ~ 100
Blue　 Adjusts color saturation. 0 ~ 100
Auto-Color_ Adjusts the colors of the screen automatically.

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OSD

```
OSD            1280×1024   60.2Hz
  OSD H Posi          ≫ 50 ≪
  OSD V Posi          ≫ 50 ≪
  OSD Timer           10 SEC
  Transparency        25 %
```

OSD horizontal position
Adjusts the horizontal position of the OSD menu screen. 0 ~ 100

OSD vertical position
Adjusts the vertical position of the OSD menu screen. 0 ~ 100

OSD timer
Adjusts OSD menu screen's marking time within the screen Possible to set the time for disappearance of OSD menu screen up to 40 seconds when OSD operation button is not pushed on. (10,20,30,40)

Transparency
Adjusts transparency at the OSD menu screen background.(0~100)

Misc

```
Misc           1280×1024   60.2Hz
  Language            English
  Recall              No
  Input Select        RGB
  Audio               ON
  volume              ≫ 50 ≪
```

Language
Configures the language used in the OSD menu. The languages are as follows: English, German, French, Italian, Spanish, Chinese Simplified, Chinese Traditional and Japanese.
Recall_ Resets all the functions.
Input Select_ User can select input signal depending on
　　　　　　　 installed device.(RGB,DVI)
Audio_ Turns audio function On/Off. 　　　　　 } **Option**
Volume_ Adjusts size of sound.(0-100)

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Auto Adjust

◈ **Auto Adjust**
Appears when automatic screen adjustment
is executed on RGB mode.

◈ **No Signal**
Appears when there is no PC input signal
Check cable connection.

No Signal

Video Mode Not Supported

◈ **Video Mode Not Supported**
Appears when Video Mode Not Supportd the permissible range.

Power Saver Mode

◈ **Power Saver Mode**
Appears when PC input signal is absent.
This message disappears automatically after five seconds.
Check PC power

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▶ **Timing guide**

This product is a multi-frequency monitor.
It functions in horizontal frequencies from 30 kHz to 80 kHz and vertical
frequencies from 56 Hz to 75 Hz. Due to its design based on
microprocessor, it offers the functions of automatic synchronization and
automatic size. This monitor is equipped with 10 programmed configurations
that are shown in the timing table. The followings are the ten configurations.

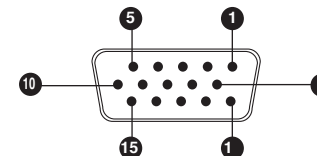| Preset		Resolution		Frequency		Clock [MHz]	Polarity (H/V)
		Horizontal	Vertical	Horizontal	Vertical		
VGA	M1	720	400	31.5KHz	70Hz	28.322	- / +
VESA	M2	640	480	31.5KHz	60Hz	25.175	- / -
	M3	640	480	37.5KHz	75Hz	31.500	- / -
	M4	800	600	37.9KHz	60Hz	40.000	+ / +
	M5	800	600	46.9KHz	75Hz	49.500	+ / +
	M6	1024	768	48.4KHz	60Hz	65.000	- / -
	M7	1024	768	60.0KHz	75Hz	78.750	+ / +
	M8	1280	1024	64.0KHz	60Hz	108.000	+ / +
	M9	1280	1024	80.0KHz	75Hz	135.000	+ / +
MAC	M10	832	624	49.7KHz	75Hz	57.284	- / -

▶ **Signal connection**

This signal input terminal is a D-SUB connector. Connect the signal cable to
the signal input of the computer.

Note Disconnect the power connected to the monitor before connecting the
signal output of the system.

Pin number	Description	Pin number	Description
1	Red	9	No connection
2	Green	10	Ground
3	Blue	11	Ground
4	No connection	12	SDA
5	Ground	13	Horizontal - Sync
6	Red ground	14	Vertical - Sync
7	Green ground	15	SCL
8	Blue ground		

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Product specifications

LCD	Type	19" diagonal viewable screen TFT (Thin Film Transistor). Active Matrix Panel 0.294 mm (H) x 0.294 (V).
	pixel pitch	R. G. B. vertical stripe.
	Surface Color	16,194.277 colors.
	Display Condition	anti-glare coating.
Angle of view	H/V	150°/135°
Contrast ratio	Type	700:1
Brightness	Type	300 cd/m²
Response Time	Type	8ms
Compatibility	PC	IBM XT, AT, 386, 486, Pentium or PS/2 and compatibles (from VGA up to 1280x768 @ 75Hz NI).
Refresh rate	Maximum	1280x1024 @ 75 Hz N (60 Hz for optimal display)
Connectors	Input signal	15-pin D-SUB, DVI-D
	Power	Jack type DC+12 V In
Voltage/Power	Input Output Consumption	AC 100-240 V , 50-60 Hz DC 12 V 37W(MAX)
Screen size	Maximum	337.920 mm(H) x 270.336 mm(V)
Features	Temperature Humidity Altitude	33°F ~ 104°F (0°C ~ 40°C) 20%RH-90%RH (no condensation) Up to 10,000 feet
Storage conditions	Temperature Humidity	-14°F ~ 104°F (-20°C ~ 40°C) 5%RH-90%RH(no condensation)
Dimension		420 mm (width) x 408 mm (height) x 180 mm (depth)
Weight	unit/box	4.9 kg / 6.6 kg
Option	Speaker	Built-in type
	USB Hub	USB 2.0 4-Port Hub

★ The design and specifications of the product are subject to change without previous notice to improve the quality of the product.

▶ **No power.**
- Flip the power switch ON. The Power LED turns on.
- Make sure AC power cord is securely connected to the power jack and to a power outlet.

▶ **Power on but no screen image.**
- Make sure the video cable attached with this monitor is tightly secured to the video output port on the back of the computer
- Adjust the brightness and contrast.

▶ **Image is unstable, unfocused.**
- Use AUTO-TUNE to adjust automatically.
- If the image is still unstable after AUTO-TUNE processing, please adjust PHASE manually to get image focused.
- Check whether the resolution or refresh rate in windows display setting is beyond supported range (please refer to the specification of supported mode.)

▶ **Flickering**
- Not enough power is being supplied to the Monitor. Connect the Monitor to a different outlet. If a surge protector is being used, there may be too many devices plugged in.
- See Timing Guide in this manual with a list of refresh rates and frequency settings showing the recommended setting for the Monitor.

▶ **Wrong or abnormal colors.**
- If any colors (Red, Green, or Blue) are missing, check the video cable to make sure it is securely connected. Loose pins in the cable connector could cause a bad connection.
- Connect the Monitor to another computer.
- Check the graphics card for proper sync scheme (or sync polarities) to match the Monitor's specifications.

▶ **Double (split) screen image**
- Make sure your graphics card is set to Non-Interlaced mode.

▶ **Entire screen image rolls (scrolls) vertically.**
- Make sure the input signals are within the LCD monitor's specified frequency range. (Maximum : VESA, MAC 1280 X 1024 @ 75Hz)
- Connect the video cable securely.
- Try the Monitor with another power source.

▶ Control buttons do not work.
  - Press only one button at a time.

ABOUT THE LCD

The LCD contains over 3,932,160 thin-film transistors (TFTs).
A small number of missing, discolored, or lighted dots on the screen
is an intrinsic characteristic of TFT LCD technology and is not an LCD
defect.
If you display a fixed pattern for more than 10 hours, its image may
remain on the screen in overlap mode when you display something else.

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FCC   NOTE

: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 reception, 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 or an experienced radio/TV technician for help.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED,

INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY RADIO OR TV INTERFERENCE

CAUSED   UNAUTHORIZED   MODIFICATIONS   TO   THIS   EQUIPMENT.   SUCH

MODIFICATIONS COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.