



TFT LCD MONITOR[®]
Slimax

MF170D

Owner's Manual



INFORMATION TO THE USER

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 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.

WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.



For use only with power supply Li Shin Model LSE9901B1260

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Safety Instruction

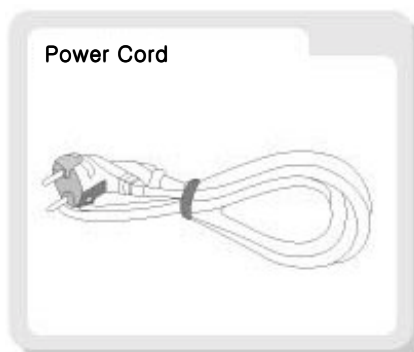
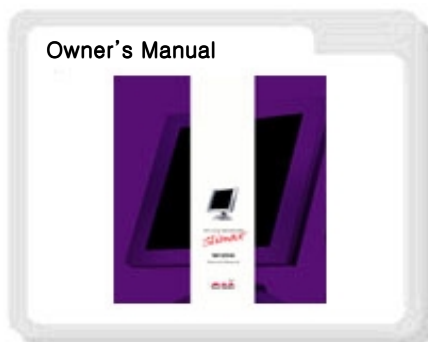
- Before connecting the AC power cord to the DC adapter outlet, make sure the voltage rating of the DC adapter corresponds to the local electrical supply.
- Never insert anything metallic into the cabinet openings of the liquid crystal display (LCD) monitor; doing so may create the danger of electric shock.
- To avoid electric shock, never touch the inside of the LCD monitor. Only a qualified technician should open the case of the LCD monitor.
- Never use your LCD monitor if the power cord has been damaged. Do not allow anything to rest on the power cord, and keep the cord away from areas where people can trip over it.
- Opened ventilation of monitor cabinet is provided for heated air to prevent overheating, these openings should not be blocked or covered. Also, avoid using the LCD monitor on a bed, sofa, rug, or other soft surface. Doing so may block the ventilation openings in the side of basement. If you put the LCD monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- Don't put your LCD monitor in a location with higher humidity and a maximum of dust.
- Do not expose the LCD monitor to rain or use it near water (in kitchens, near swimming pools, etc.). If the LCD monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the LCD monitor with a damp cloth when necessary, but be sure to unplug the LCD monitor first.
- Place the LCD monitor on a solid surface and treat it carefully. The screen is made of thin glass with a plastic front surface and can be damaged if dropped, hit or scratched. Do not clean the front panel with Kenton-type materials (e.g., acetone), ethyl alcohol, toluene, ethyl acid, methyl, or chloride – these may damage the panel.
- Put your LCD monitor near an easily accessible AC outlet.
- If your LCD monitor does not operate normally – in particular, if there are any unusual sounds or smells coming from it – unplug it immediately and contact an authorized dealer or service center.
- High temperature can cause problems. Don't use your LCD monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- Unplug the LCD monitor when it is going to be left unused for an extended period of time.
- Unplug your LCD monitor from the AC outlet before any service.

	CAUTION HAZARD OF ELECTRIC SHOCK DO NOT OPEN ANY COVER
	CHANGE OF MODIFICATIONS NOT EXPRESSLY BY MANUFACTURER COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

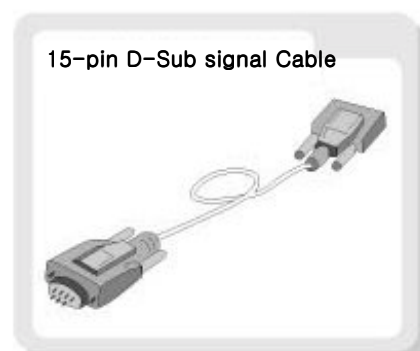
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Contents of Box

Please make sure the following items are included with your monitor. If any items are missing, contact your dealer.



<Option>



Setting up an Ergonomic Working Environment

Consider the advice given below before you install your monitor.

Monitor location

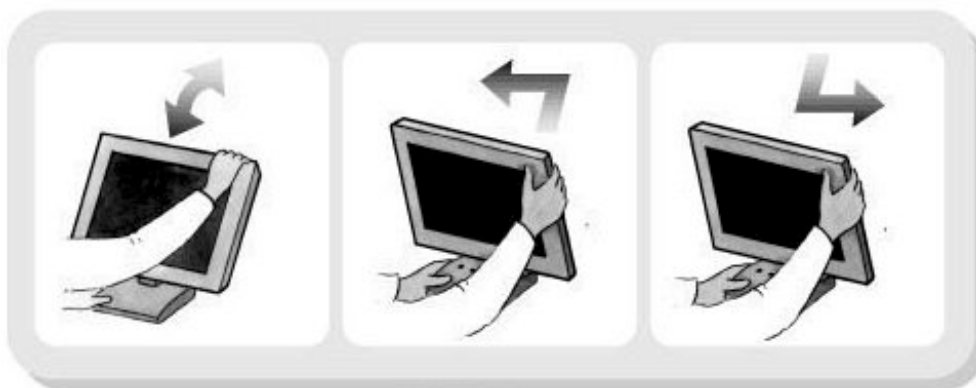
Choose a position that exposes your monitor to the least reflection from lights or windows, usually at a right angle to any window.

Height

Place your LCD monitor so that the top of the screen is slightly below your eye level when you are comfortably seated.

Tilt

Tilt the screen so as you feel comfortable working with your monitor.



Height and tilt screen

Connecting Your LCD Monitor



Cable connections

- A. Connect the power cord to the AC/DC power adapter and connect the adapter jack to the DC12V power port ② on the rear of your monitor.
- B. Connect the signal cable from monitor to the video port ① on your computer.
- C. Connect the USB Cable to Upstream port ③ on the monitor.(Option)
- D. The USB devices connect to the USB port ④ on the monitor.
- E. Connect the DVI-D cable to DVI-D port ⑤ on the monitor.(Option)
- F. Connect the DVI-D cable from monitor to the DVI-D port on your computer.
- G. Connect the video cable from VCR or Camcorder with the port ⑥ or ⑦. (Option)

Plug and Play

The adoption of the new VESA[®] Plug and Play solution eliminates complicated and time consuming setup. It allows you to install your monitor in a Plug and Play compatible system without the usual hassles and confusion. Your PC system can easily identify and configure itself for use with your display. This monitor automatically tells the PC system its Extended Display Identification Data (EDID) using Display Data Channel (DDC) protocols so the PC system can automatically configure itself to use the flat panel display. If your PC system needs a video driver, set to SXGA(1280 x 1024)@75Hz monitor as default or Flat panel.(1280 x 1024)

Setup

Monitor Self-Test

Your monitor provides a self-test function that allows you to check whether your monitor is functioning properly. Check your monitor by following the steps:



Power Status Indicator

- Turn off both your computer and the monitor.
- Unplug the video cable from the back of the computer.
- Turn on the monitor.
- Message will be shown as following.



- Turn off your monitor and reconnect the video cable; then turn on both your computer and monitor.
- If your monitor screen remains blank after following the previous procedure, check your video Controller and computer system; your monitor is functioning properly.

Help Index

If your monitor does not display an image, check your cable connections and refer to "Trouble Shooting" on page 21. If you feel difficult to get optimized displayed image, run Auto Configuration (see page 14) and refer to "Adjustment of Your LCD Monitor " on page 9~16.

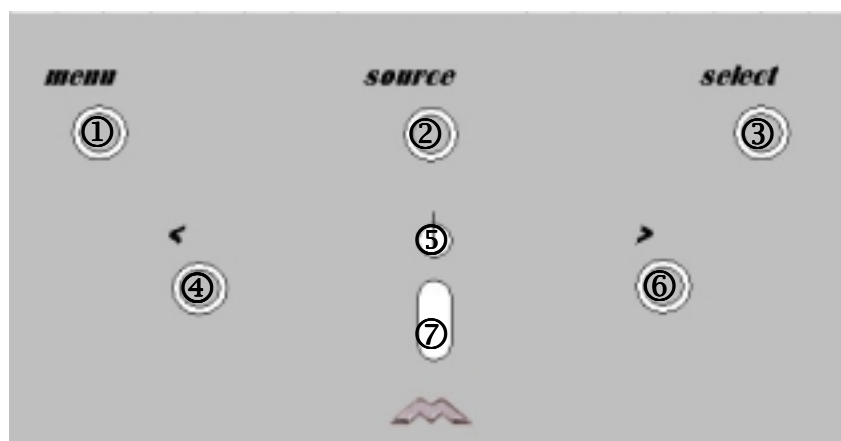
Warm-up Time

All LCD monitors need time to become thermally stable whenever you turn on the monitor after letting the monitor be turned off for a couple of hours. Therefore, to achieve more accurate adjustments for parameters, allow the LCD monitor to warm (be on) for at least 30 minutes before making any screen adjustments.

Adjustment of Your LCD Monitor

User Controls

Your LCD monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the front of the monitor. While you use these buttons to adjust the controls, an on-screen menu shows you their numeric values as they change.



User control locations

No.	Name	Descriptions
①	<i>menu</i>	<ul style="list-style-type: none">● OSD (On Screen Display) ON/OFF● Sub Menu Exit
②	<i>source</i>	<ul style="list-style-type: none">● Input signal Selection (Order :ANALOG->COMPOSITE->S-VIDEO->DIGITAL)
③	<i>select</i>	<ul style="list-style-type: none">● OSD Menu Select● Auto Configuration Direct Access
④	<	<ul style="list-style-type: none">● OSD Menu Navigation left direction● Selected Menu Value control
⑤	⏻	<ul style="list-style-type: none">● Turns on and off Power the monitor
⑥	>	<ul style="list-style-type: none">● OSD Menu Navigation right direction● Selected Menu Value control
⑦	LED indicator	<ul style="list-style-type: none">● Green : Normal Operation● Amber : Power Saving Mode or Disconnected Signal Cable● Off : Turns off the monitor

Automatic Save

Whenever you open the on-screen menu and allow an adjustment window to remain active for about 30 seconds without pressing other buttons, the monitor automatically saves any adjustment you have made. These changes are saved into a user NVRAM(Non Volatile RAM) in the monitor. The monitor execute Auto Configuration when it detect new video mode.

Adjustment of Your LCD Monitor

On-Screen Display(OSD) : Analog Input (D-sub)



Accessing the menu

- With the OSD off, push the **menu** button to display the main OSD menu.
 - Use the **←** **→** buttons to move from one function to another function. When you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon.
 - Complete list of all of the functions available for the monitor.
 - Press the **menu** button once to activate the highlighted function, then select the function and adjust the value.
 - Use **select** buttons to select the sub-menu, and press the **select** button once to move at the sub-menu.
 - After selecting a function, use **←** **→** buttons to adjust value setting bar moves and the numeric value indicator changes to response your adjustments.
 - NOTE : The numeric value indicator is provided as a point of reference only and has nothing to do with a real measurement.
 - Press the **menu** button a couple of times to return to the main menu to select another function or to exit from the OSD.
-

Adjustment of Your LCD Monitor

On-Screen Display(OSD) : Digital Input (DVI-D)



Accessing the menu

- With the OSD off, push the **menu** button to display the main OSD menu.
 - Use the **←** **→** buttons to move from one function to another function. When you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon.
 - Complete list of all of the functions available for the monitor.
 - Press the **menu** button once to activate the highlighted function, then select the function and adjust the value.
 - Use **select** buttons to select the sub-menu, and press the **select** button once to move at the sub-menu.
 - After selecting a function, use **←** **→** buttons to adjust value setting bar moves and the numeric value indicator changes to response your adjustments.
 - NOTE : The numeric value indicator is provided as a point of reference only and has nothing to do with a real measurement. Some icons are disable when monitor is operated at digital mode.
 - Press the **menu** button a couple of times to return to the main menu to select another function or to exit from the OSD.
-

Adjustment of Your LCD Monitor

On-Screen Display(OSD) : Video Input (S/C Video)



Accessing the menu

- With the OSD off, push the **menu** button to display the main OSD menu.
- Use the **←** **→** buttons to move from one function to another function. When you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon.
- Complete list of all of the functions available for the monitor.
- Press the **menu** button once to activate the highlighted function, then select the function and adjust the value.
- Use **select** buttons to select the sub-menu, and press the **select** button once to move at the sub-menu.
- After selecting a function, use **←** **→** buttons to adjust value setting bar moves and the numeric value indicator changes to response your adjustments.
- NOTE : The numeric value indicator is provided as a point of reference only and has nothing to do with a real measurement. Some icons are disable when monitor is operated at digital mode.
- Press the **menu** button a couple of times to return to the main menu to select another function or to exit from the OSD.

Adjustment of Your LCD Monitor

Operation and Indication Message



Auto Configuration Execution Message



POWER SAVING MODE Message



INPUT NOT SUPPORTED Message











These messages show status of operation

"PLEASE WAIT" means the monitor is executing self-adjust to optimize input video signal. "POWER SAVING MODE" means the monitor is going to do power saving function

"INPUT NOT SUPPORTED" means the monitor can not display properly because input signal is out of display range. So make sure your display mode as Page 19 Display Modes

Adjustment of Your LCD Monitor











OSD functions and adjustment (Analog Input)

Icons	Name	Descriptions
	AUTO CONFIGURATION	<ul style="list-style-type: none"> " AUTO CONFIGURATION" allows the monitor to self-adjust to the incoming video signal. The values of phase, clock and position are adjusted automatically
	BRIGHTNESS	<ul style="list-style-type: none"> " BRIGHTNESS" allows for user to control backlight brightness
	CONTRAST	<ul style="list-style-type: none"> " CONTRAST" allows for user to control gain of input video signal level.
	PHASE/CLOCK	<ul style="list-style-type: none"> "PHASE/CLOCK" allows for user to get optimized image. PHASE : fine tune up image CLOCK : rough tune image
	COLOR TEMPERATURE	<ul style="list-style-type: none"> "COLOR TEMPERATURE" allows for user to select color modes COLOR 1 : Plain White COLOR 2 : Bluish White USER : Control Black level and R, G and B color
	POSITION	<ul style="list-style-type: none"> "Position" allows for user to control display position H- POSITION : Horizontal direction V- POSITION : Vertical direction
	OSD POSITION	<ul style="list-style-type: none"> "OSD POSITION" allows for user to control OSD display position 5 positions Center, Right Upper, Left Upper, Left Bottom, Right Bottom
	TIMEOUT/SEC	<ul style="list-style-type: none"> "TIMEOUT/SEC" allows for user to control OSD display time from 10 to 60 seconds
	BACKLIGHT TIME	<ul style="list-style-type: none"> "BACKLIGHT TIME" allows for user to check used time. It is time of monitor turn on and displayed time
	RESET	<ul style="list-style-type: none"> "RESET" allows for user to initialize adjusted value except backlight time. When some value of menu is differently displayed press select this menu.

When you select some menu which becomes highlighting and press **select** button go into sub menu .At the sub-menu, **select** button is selecting key.

Adjustment of Your LCD Monitor











OSD functions and adjustment (Digital Input)

Icons	Name	Descriptions
	AUTO CONFIGURATION	<ul style="list-style-type: none"> ● Disable in Digital Input
	BRIGHTNESS	<ul style="list-style-type: none"> ● " BRIGHTNESS" allows for user to control backlight brightness
	CONTRAST	<ul style="list-style-type: none"> ● Disable in Digital Input
	PHASE/CLOCK	<ul style="list-style-type: none"> ● Disable in Digital Input
	COLOR TEMPERATURE	<ul style="list-style-type: none"> ● Disable in Digital Input
	POSITION	<ul style="list-style-type: none"> ● Disable in Digital Input
	OSD POSITION	<ul style="list-style-type: none"> ● "OSD POSITION" allows for user to control OSD display position 5 positions Center, Right Upper, Left Upper, Left Bottom, Right Bottom
	TIMEOUT/SEC	<ul style="list-style-type: none"> ● "TIMEOUT/SEC" allows for user to control OSD display time from 10 to 60 seconds
	BACKLIGHT TIME	<ul style="list-style-type: none"> ● "BACKLIGHT TIME" allows for user to check used time. It is time of monitor turn on and displayed time
	RESET	<ul style="list-style-type: none"> ● "RESET" allows for user to initialize adjusted value except backlight time. When some value of menu is differently displayed press select this menu.

When you select some menu which becomes highlighting and press **select** button go into sub menu .At the sub-menu, **select** button is selecting key.

Adjustment of Your LCD Monitor

OSD functions and adjustment (Video Input)

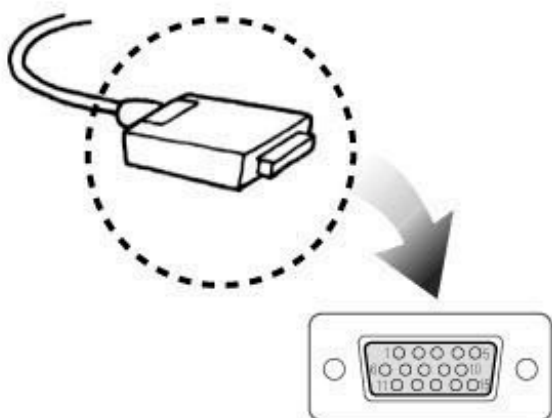
Icons	Name	Descriptions
	AUTO CONFIGURATION	<ul style="list-style-type: none"> ● Disable in Video Input
	BRIGHTNESS	<ul style="list-style-type: none"> ● " BRIGHTNESS" allows for user to control black level of signal
	CONTRAST	<ul style="list-style-type: none"> ● "CONTRAST" allows for user to control contrast of signal
	PHASE/CLOCK	<ul style="list-style-type: none"> ● Disable in Video Input
	COLOR	<ul style="list-style-type: none"> ● SHARP : allows for user to control sharpness of signal ● COLOR : allows for user to control color thickness of signal ● TINT : allows for user to control color tone of signal
	POSITION	<ul style="list-style-type: none"> ● Disable in Video Input
	OSD POSITION	<ul style="list-style-type: none"> ● "OSD POSITION" allows for user to control OSD display position 5 positions Center, Right Upper, Left Upper, Left Bottom, Right Bottom
	TIMEOUT/SEC	<ul style="list-style-type: none"> ● "TIMEOUT/SEC" allows for user to control OSD display time from 10 to 60 seconds
	BACKLIGHT TIME	<ul style="list-style-type: none"> ● "BACKLIGHT TIME" allows for user to check used time. It is time of monitor turn on and displayed time
	RESET	<ul style="list-style-type: none"> ● "RESET" allows for user to initialize adjusted value except backlight time. When some value of menu is differently displayed press select this menu.

When you select some menu which becomes highlighting and press **select** button go into sub menu .At the sub-menu, **select** button is selecting key.

Pin Assignment(D-sub)

Pin	Name
1	Red
2	Green
3	Blue
4	GND
5	DDC GND
6	Red GND
7	Green GND
8	Blue GND
9	No Connection
10	Sync GND
11	GND
12	DDC-SDA
13	H-Sync
14	V-Sync
15	DDC-SCL
Shell	GND

Pin Assignment of 15 Pin D-sub Connector

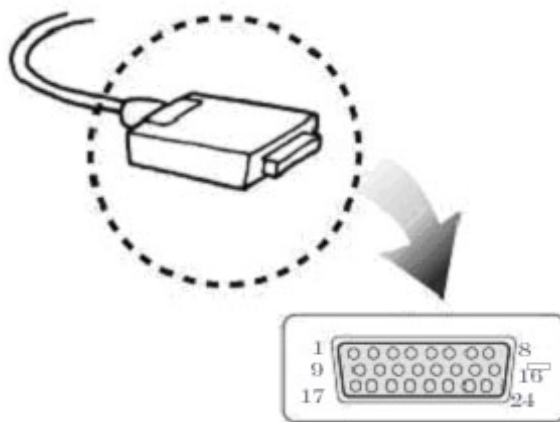


Pin Assignment(DVI-D)

Pin	Name
1	TMDS DATA2-
3	TMDS DATA2+/Shield
5	NC
7	DDC SDA
9	TMDS DATA1-
11	TMDS DATA1/Shield
13	NC
15	GND(for +5V)
17	TMDS DATA0-
19	TMDS DATA0/Shield
21	NC
23	TMDS Clock

Pin	Name
2	TMDS DATA2+
4	NC
6	DDC SCL
8	NC
10	TMDS DATA1+
12	NC
14	+5V Power
16	Hot Plug Detection
18	TMDS DATA0+
20	NC
22	TMDS Clock/ Shield
24	TMDS Clock
Shell	GND

Pin Assignment of DVI-D Connector



Appendix

Display Modes

No	Mode	Resolution	Sync	Polarity	Pixel Frequency	Sync
1	VGA	640 x 350	H(Pixels)	+	25.175 MHz	31.468 KHz
			V(Lines)	-		70.0 Hz
2		720 x 400	H(Pixels)	-	28.322 MHz	31.468 KHz
			V(Lines)	+		70.0 Hz
3		640 x 480	H(Pixels)	-	25.175 MHz	31.469 KHz
			V(Lines)	-		60.0 Hz
4		640 x 480	H(Pixels)	-	30.24 MHz	35.00 KHz
			V(Lines)	-		66.67 Hz
5		640 x 480	H(Pixels)	-	31.5 MHz	37.50 KHz
			V(Lines)	-		75.0 Hz
6	SVGA	800 x 600	H(Pixels)	+	36.0 MHz	35.156 KHz
			V(Lines)	+		56.25 Hz
7		800 x 600	H(Pixels)	+	40.0 MHz	37.879 KHz
			V(Lines)	+		60.3 Hz
8		800 x 600	H(Pixels)	+	50.0 MHz	48.077 KHz
			V(Lines)	+		72.188 Hz
9		800 x 600	H(Pixels)	+	49.5 MHz	46.875 KHz
			V(Lines)	+		75.0 Hz
10	MAC	832 x 624	H(Pixels)	-	57.283 MHz	49.725 KHz
			V(Lines)	-		74.55 Hz
11	XGA	1024 x 768	H(Pixels)	-	65 MHz	48.363 KHz
			V(Lines)	-		60.0 Hz
12		1024 x 768	H(Pixels)	-	75 MHz	56.476 KHz
			V(Lines)	-		70.0 Hz
13		1024 x 768	H(Pixels)	+	78.75 MHz	60.023 KHz
			V(Lines)	+		75.0 Hz
14	SXGA	1280 x 1024	H(Pixels)	+	108.0 MHz	63.98 KHz
			V(Lines)	+		60.02 Hz
15		1280 x 1024	H(Pixels)	+	135 MHz	79.976 KHz
			V(Lines)	+		75.035 Hz

Appendix

Specifications

Category	Items	Descriptions
Image	Display Type Diagonal Size Pixel Pitch	Active Matrix Color TFT LCD 17.0" (H: 33.79cm, V: 27.03 cm) 0.264 mm * 0.264 mm
Optical	Luminance(Center) Color Temperature Viewing Angle Contrast Ratio Color Depth	250 cd/m ² (typ.) Color 1 Color 2 User 150 Deg.(H),125 Deg.(V) <Typ.> 350 : 1 (Typ.) 16, 777,216 Colors (24Bits)
Electrical	Input Frequency Max. Resolution Connector Control type User control Power Input Volts/Freq Power Consumption	Horizontal : 31~80kHz, Vertical : 56~75Hz SXGA (1280 * 1024) @75Hz 15Pin D-SUB, DVI-D,S-video(4pin),C-video(RCA) Digital OSD Control 6 key buttons 100 ~ 240 VAC(Power Free) 50/60Hz Max. [45W], Power Saving Mode [5W]
Plug & Play	DDC EDID USB	2B 1.3 1Up/2Down
Mechanical	Dimension Set Size Box Size Weight Net Gross	445 * 425 * 190mm [W * H * D] 520 * 505 * 270mm [W * H * D] 6.1Kg 7.5Kg
Environment	Operation Temperature Humidity Storage Temperature Humidity	50°F to 104 °F(10 °C to 40 °C) 10% to 80% 18°F to 133 °F(-20 °C to 65 °C) 5% to 90% (Relative Humidity < 90 %RH)
Regulatory	Safety EMI VCCI MIC	UL 1950, CSA C22.2 No. 950, EN60950 FCC Class B, EN55022 Class B Class B

Appendix

Trouble Shooting

If you have a problem to set up or to use your LCD monitor, you may be able to solve it yourself. Before contacting customer service, try the suggested actions that are appropriate to your problem.

Symptoms	Corrective Action	Reference
Blank Screen Power Indication is off	Make sure that the power cord is firmly connected	Connecting your LCD monitor, - page 7.
Power indicator is Amber “POWER SAVING MODE”	Make sure that the signal cable is firmly connected to PC Make sure that PC is turned on.	Connecting your LCD monitor, - page 7.
Power indication is Green “INPUT NOT SUPPORTED”	Make sure max. resolution and frequency of Video adapter of PC and check your video card support DDC and Plug and Play.	Display modes – page 19 Specification – page 20
Too dark or high Image	Control Brightness or Contrast	OSD functions and adjustment - page 14~16
Horizontal vertical noise or jitter	Execute the Auto Configuration Control the Phase and Clock	OSD functions and adjustment - page 14~16
Horizontal or vertical position is not to center	Execute the Auto Configuration Control the Position	OSD functions and adjustment - page 14~16
USB device is not operate	Make sure your USB devices working properly as connecting it to your computer directly	USB device Owner’s manual - page 7
Blank Screen	Control the Input Selection Key ; and make sure that the signal cable is firmly connected.	Owner’s manual for your TV or VCR. - page 7~9



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