



# ÚÝŠGGÊY LCD Monitor

## USER'S GUIDE

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## **FOR YOUR SAFETY**

Before operating the monitor, please read this manual thoroughly. This manual should be retained for future reference.

### **FCC Class B Radio Frequency Interference Statement WARNING:**

#### **(FOR FCCCERTIFIED MODELS)**

**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:

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

#### **NOTICE:**

- 1 . The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- 2 . Shielded interface cables and AC power cord, if any, must be used in order to comply with the emission limits.
- 3 . The manufacturer is not responsible for any radio or TV interference caused by unauthorized modification to this equipment. It is the responsibilities of the user to correct such interference.

#### **WARNING:**

To prevent fire or shock hazard, do not expose the monitor to rain or moisture. Dangerously high voltages are present inside the monitor. Do not open the cabinet. Refer servicing to qualified personnel only.

## PRECAUTIONS

- Do not use the monitor near water, e.g. near a bathtub, washbowl, kitchen sink, laundry tub, swimming pool or in a wet basement.
- Do not place the monitor on an unstable cart, stand, or table. If the monitor falls, it can injure a person and cause serious damage to the appliance. Use only a cart or stand recommended by the manufacturer or sold with the monitor. If you mount the monitor on a wall or shelf, use a mounting kit approved by the manufacturer and follow the kit instructions.
- Slots and openings in the back and bottom of the cabinet are provided for ventilation. To ensure reliable operation of the monitor and to protect it from overheating, be sure these openings are not blocked or covered. Do not place the monitor on a bed, sofa, rug, or similar surface. Do not place the monitor near or over a radiator or heat register. Do not place the monitor in a bookcase or cabinet unless proper ventilation is provided.
- The monitor should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company.
- The monitor is equipped with a three-pronged grounded plug, a plug with a third (grounding) pin. This plug will fit only into a grounded power outlet as a safety feature. If your outlet does not accommodate the three-wire plug, have an electrician install the correct outlet, or use an adapter to ground the appliance safely. Do not defeat the safety purpose of the grounded plug.
- Unplug the unit during a lightning storm or when it will not be used for long period of time. This will protect the monitor from damage due to power surges.
- Do not overload power strips and extension cords. Overloading can result in fire or electric shock. Never push any object into the slot on the monitor cabinet. It could short circuit parts causing a fire or electric shock. Never spill liquids on the monitor.
- Do not attempt to service the monitor by yourself; opening or removing covers can expose you to dangerous voltages and other hazards. Please refer all servicing to qualified service personnel.
- To ensure satisfactory operation, use the monitor only with UL listed computers which have appropriate configured receptacles marked between 100 - 240V AC, Min. 5A.
- The wall socket shall be installed near the equipment and shall be easily accessible.

## **SPECIAL NOTES ON LCD MONITORS**

The following symptoms are normal with LCD monitor and do not indicate a problem.

### **NOTES**

- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image when the same image has been displayed for a long time. The monitor will slowly recover from this.
- When the screen becomes black or flashing, or cannot illuminate any more, contact your dealer or service center to replace parts. Don't repair the screen by yourself!

## **BEFORE YOU OPERATE THE MONITOR**

### **FEATURES**

- 21.5" ( 55cm ) TFT Color LCD Monitor
- Crisp, Clear Display for Windows
- Recommended Resolutions: 1920X 1080@60Hz
- Space Saving, Compact Case Design

### **CHECKING THE CONTENTS OF THE PACKAGE**

**The product package should include the following items:**

1. LCD monitor
2. Base
3. User's Guide
4. Power Cord
5. D-sub Cable
6. DP Cable
7. Audio Cable



## INSTALLATION INSTRUCTIONS

### BASE

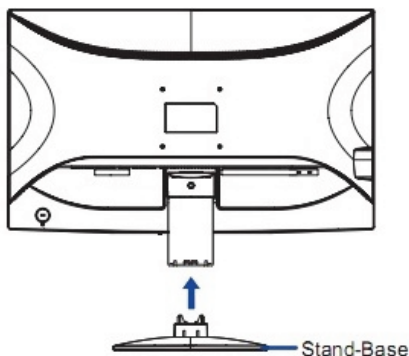
The monitor is supplied complete with a stand. If you prefer to wall mount the monitor, please follow the instructions below to remove the stand. Be sure to include the stand with the monitor if it is necessary to return the unit.

#### CAUTION

- Put the monitor on a stable surface. The monitor may cause injury or damage if it falls or is dropped.
- Do not give a strong impact to the monitor. It may cause damage.
- Unplug the monitor before removal or installation to avoid electric shock or damage.

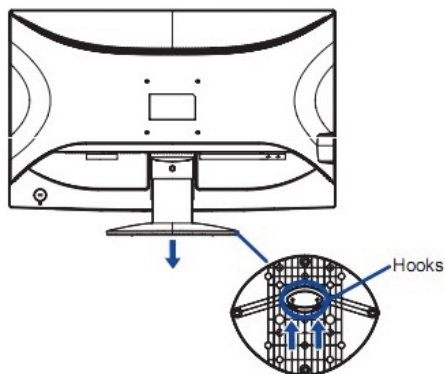
#### <Installation>

- ① Put a piece of soft cloth on the table beforehand to prevent the monitor from being scratched. Lay the monitor flat on a table with front face down.
- ② Hold the monitor and push the stand-base.



#### < Remove >

- ① Put a piece of soft cloth on the table beforehand to prevent the monitor from being scratched. Lay the monitor flat on a table with front face down.
- ② Press and hold the hooks inside, and pull the stand-base.



# CONTROLS AND CONNECTORS

## Power Source:

1. Make sure that the power cord is the correct type required in your area.

## CABLE CONNECTIONS

**Connecting the Signal Cable:** Plug one end of the signal cable to the LCD monitor and the other end to a computer or a video source.

**Connecting the Power Cord:** Plug the AC-power cord one end to LCD monitor's AC input socket , the other end to Wall outlet.

**Connecting the Audio Cable:** Connect the audio cable between the monitor's audio input and the PC's audio output.

**Caution:** If the AC outlet is not grounded (with three holes), install the proper grounding adapter (not supplied).

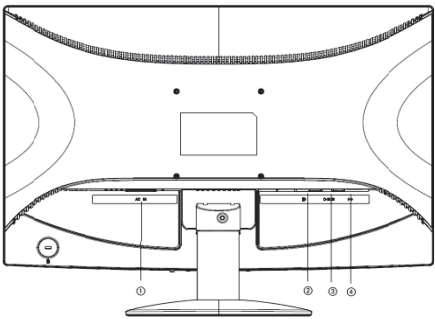


Figure 1 Connecting Cables

1.	AC Power Cord
2.	DP Cable
3.	D-Sub Cable
4.	Audio Cable

## ADJUSTING THE VIEWING ANGLE

- For optimal viewing it is recommended to look at the full face of the monitor, then adjust the monitor's angle to your own preference.
- Hold the stand so you do not topple the monitor when you change the monitor's angle.
- You are able to adjust the monitor's angle from  $-5^{\circ}$  to  $19^{\circ}$ .

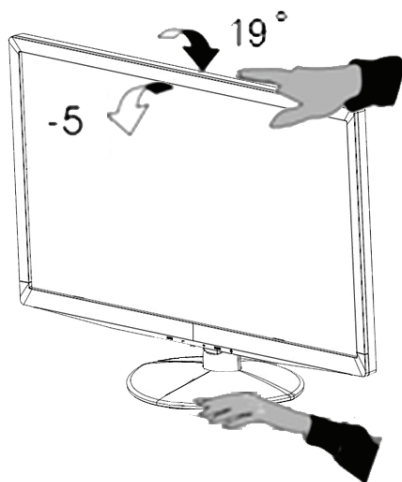


Figure 2

## NOTES

- Do not touch the LCD screen when you change the angle. It may cause damage or break the LCD screen.
- Careful attention is required not to catch your fingers or hands when you change the angle.

# OPERATING INSTRUCTIONS

## GENERAL INSTRUCTIONS

Press the power button to turn the monitor on or off. The other control buttons are located at front panel of the monitor (See Figure 4). By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor. The power indicator will light up.

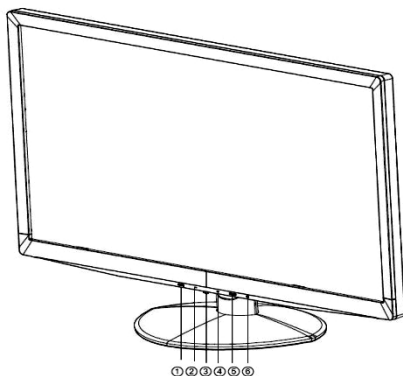


Figure 3 External Control Button

## EXTERNAL CONTROLS

1.	Source/Auto Adjust/EXIT
2.	ECO (-)
3.	Power Indicator
4.	Volume Hotkey(+)
5.	MENU/ENTER
6.	Power Button

## FRONT PANEL CONTROL

- **Power Button:**

Press this button to switch ON/OFF monitor's power.

- **Power Indicator :**

Blue --- Power On mode.

Orange ---Off mode.

- **MENU/ENTER:**

Activates OSD menu or function adjust confirm.

- **ECO/(-)**

Activates the ECO control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **Volume/+:**

Activates the volume control when the OSD is OFF or navigate through adjustment icons when OSD is ON or adjust a function when function is activated.

- **Source/Auto Adjust/Exit:**

When the OSD is OFF, pressing Auto/Source button will toggle between sources. Press continuously to select the input source indicated in the message bar. Press Menu/Enter button to change to the selected source. Auto configure hot key :(VGA input only) When the OSD is OFF, press and hold down the button for 2 seconds to auto configure.

When OSD menu is ON, this button will act as a Exit Key (Exit OSD menu).

**OSD Lock Function:** To lock the OSD, press and hold the MENU button while the monitor is off and then press power button to turn the monitor on. To un-lock the OSD - press and hold the MENU button while the monitor is off and then press power button to turn the monitor on.

## NOTES

- Do not install the monitor in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, or excessive dust or mechanical vibration or shock.
- Save the original shipping carton and packing materials, as they will come in handy if you ever have to ship your monitor.
- For maximum protection, repackage your monitor as it was originally packed at the factory.
- To keep the monitor looking new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents such as thinner, benzene, or abrasive cleaners, since these will damage the cabinet. As a safety precaution, always unplug the monitor before cleaning it.
- Do not scratch the screen with hard things, it may cause permanent damage.
- Don't leak liquid into monitor which will result in the damage of component.

## HOW TO ADJUST A SETTING

- 1 . Press the MENU-button to activate the OSD window.
- 2 . Press + or - to navigate through the functions. Once the desired function is highlighted, press the MENU-button to activate it. If the function selected has a sub-menu, press + or - again to navigate through the sub-menu functions. Once the desired function is highlighted, press MENU-button to activate it.
- 3 . Press + or - to change the settings of the selected function.
- 4 . To exit and save, select the exit function. If you want to adjust any other function, repeat steps 2-3.

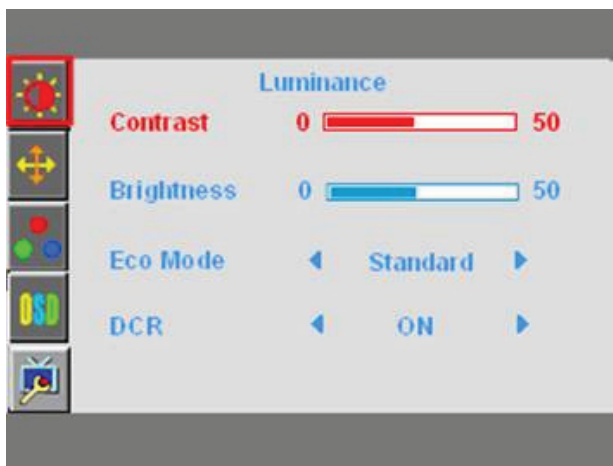







Figure 4 The OSD Message

**ADJUSTING THE PICTURE**

Main Menu Item	Main Menu Icon	Sub Menu	Description
Luminance		Contrast	Adjust image brightness in relation to the background
		Brightness	Adjust overall image brightness
		ECO mode	Choose one of the following ECO mode settings: Standard: Brightness=90,Contrast=50(adjustable) Text: Brightness=20,Contrast=50(nonadjustable) Internet: Brightness=40,Contrast=50(nonadjustable) Game: Brightness=60,Contrast=50(nonadjustable) Movie: Brightness=80,Contrast=50(nonadjustable) Sports: Brightness=100,Contrast=50(nonadjustable)
		DCR	Enhances Contrast Ratio Note: When this Function is turned "On" you cannot adjust the current settings for Contrast, Brightness, ECO mode.
Image Setup		Clock (VGA input only)	Adjust picture Clock to reduce Vertical-Line noise
		Phase (VGA input only)	Adjust picture Phase to reduce Horizontal-Line noise
		H.Position (VGA input only)	Adjust the horizontal position of the picture
		V.Position (VGA input only)	Adjust the vertical position of the picture

Main Menu Item	Main Menu Icon	Sub Menu	Description
Color Temp		Normal	Normal Color Temperature (RGB value is nonadjustable)
		Warm	Warm Color Temperature (RGB value is nonadjustable)
		Cool	Cool Color Temperature (RGB value is nonadjustable)
		sRGB	sRGB Color Temperature (RGB value is nonadjustable)
		User	Adjust R.G.B. levels as desired User-R: Adjust Red Gain User-G: Adjust Green Gain User-B: Adjust Blue Gain  Note: When Color Temp. is set to "User" Color Temp., DCR, Color Boost, Picture Boost can be adjusted. When Color Temp. is set to "Normal" Color Temp., DCR, Color Boost, Picture Boost are reset to factory presets
OSD Setup		H.Position	Adjust the horizontal position of the OSD
		V.Position	Adjust the vertical position of the OSD
		Timeout	Adjust the OSD timeout
		Language	Set OSD display language (English is default setting)



Main Menu Item	Main Menu Icon	Sub Menu	Description
Extra		Input Select	Select input source (VGA or DP)
		DDC/CI	Turns on or off the two-way communication between the graphics card and the monitor. With DDC/CI turned on, some monitor settings can be adjusted through the graphics card using a computer.
		Reset	Reset OSD Settings
		Information	Show the resolution, H/V Frequency, and input port of current input signal.

## **PLUG AND PLAY**

### **Plug & Play DDC 2B Feature**

This monitor is equipped with VESA DDC 2B capabilities according to the VESA DDC STANDARD. It allows the monitor to inform the host system of its identity and, depending on the level of DDC used, communicate additional information about its display capabilities. The DDC 2B is a bidirectional data channel based on the I2C protocol. The host can request EDID information over the DDC 2B channel.

**THIS MONITOR WILL APPEAR TO BE NON-FUNCTIONAL IF THERE IS NO VIDEO INPUT SIGNAL . IN ORDER FOR THIS MONITOR TO OPERATE PROPERLY, THERE MUST BE A VIDEO INPUT SIGNAL.**

This monitor meets the Green monitor standards as set by the Video Electronics Standards Association (VESA) and The Swedish Confederation Employees (NUTEK). This feature is designed to conserve electrical energy by reducing power consumption when there is no video-input signal present. When there is no video input signal this monitor, following a time-out period, will automatically switch to an OFF mode. This reduces the monitor's internal power supply consumption. After the video input signal is restored, full power is restored and the display is automatically redrawn. The appearance is similar to a "Screen Saver" feature except the display is completely off. The display is restored by pressing a key on the keyboard, or clicking the mouse.

## TECHNICAL SUPPORT (FAQ)

Problem & Question	Possible Solution
Power LED is not on	*Check if the Power Switch is in the ON position *Power Cord should be connected
No Plug & Play	*Check if the PC system is Plug & Play compatible *Check if the Video Card is Plug & Play compatible *Check if the D-15 plug pin of Video Cable is bent
Picture is fuzzy	*Adjust the Contrast and Brightness Controls.
Picture bounces or a wave pattern is present in the picture	*Move electrical devices that may cause electrical interference
The power LED is ON but there's no video or no picture.	*Computer Power Switch should be in the ON position *Computer Video Card should be snugly seated in its slot *Make sure monitor's video cable is properly connected to the computer *Inspect monitor's video cable and make sure none of the pins are bent *Make sure computer is operational by hitting the CAPS LOCK key on the keyboard while observing the CAPS LOCK LED. The LED should either turn ON or OFF after hitting the CAPS LOCK key.
Missing one of the primary colors (RED, GREEN, or BLUE)	*Inspect the monitor's video cable and make sure that none of the pins are bent
Screen image is not centered or sized properly.	*Adjust pixel frequency (CLOCK) and FOCUS or press hot-key (AUTO)
Picture has color defects (white does not look white)	*Adjust RGB color or select color temperature
Horizontal or vertical disturbances on the screen	*Use win 95/98 shut-down mode Adjust CLOCK and FOCUS or perform hot- key (AUTO-key)

CLOCK (pixel frequency) controls the number of pixels scanned by one horizontal sweep. If the frequency is not correct, the screen shows vertical stripes and the picture has not correct width.

FOCUS adjusts the phase of the pixel clock signal. With a wrong phase adjustment the picture has horizontal disturbances in light picture.

For FOCUS and CLOCK adjustment use “dot-pattern” or win 95/98 shut-down mode pattern.

**ERROR MESSAGE & POSSIBLE SOLUTION**

**NO SIGNAL :**

- 1. Check that the signal-cable is properly connected, If the connector is loose, tighten the connector’s screws.
- 2. Check the signal-cable’s connection pins for damage.

**INPUT NOT SUPPORT :**

Your computer has been set to unsuitable display mode, set the computer to display mode given in the following table.

## APPENDIX

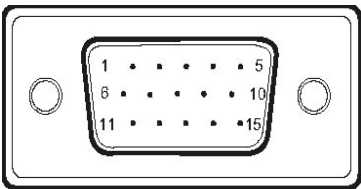
### SPECIFICATIONS

LCD Panel	Driving system	TFT Color LCD
	Size	55cm(21.5")
	Pixel pitch	0.248mm( H ) × 0.248mm( V )
Input	Video	R,G,B Analog Interface, Display Port
	Separate Sync.	H/V TTL
	H-Frequency	24kHz – 83kHz (Analog)
	V-Frequency	50-75Hz (Analog)
Display Colors		16.7M Colors
Dot Clock		165MHz (Analog)
Max. Resolution		1920 × 1080 @60Hz
Plug & Play		VESA DDC2B™
Power Consumption	ON Mode	≤40W
	OFF Mode	≤1W
Input Connector		15-pin D-Sub ,DP
Input Video Signal		Analog:0.7Vp-p(standard), 75 OHM, Positive Digital: Display port
Power Source		100~240VAC,50/60Hz
Environmental Considerations		Operating Temp: 0° to 40°C Storage Temp.: -20° to 60°C Operating Humidity : 15% to 90%
Dimension		505.6×365.8×179.8(W×H×D)mm
Weight (N. W.)		3.5kg Unit (net)
Regulatory Compliance		UL, FCC B, CE

**FACTORY PRESET TIMING TABLE**

STANDARD	RESOLUTION	HORIZONTAL FREQUENCY	VERTICAL FREQUENCY
PC MODES			
VGA	640x480	31.469kHz	60 Hz
	640x480	37.861kHz	72 Hz
	640x480	37.500kHz	75 Hz
SVGA	800x600	35.156kHz	56 Hz
	800x600	37.879kHz	60 Hz
	800x600	48.077kHz	72 Hz
	800x600	46.875kHz	75 Hz
XGA	1024x768	48.363kHz	60 Hz
	1024x768	56.476kHz	70 Hz
	1024x768	57.700kHz	72 Hz
	1024x768	60.023kHz	75 Hz
SXGA	1280x1024	63.981kHz	60 Hz
	1280x1024	74.40kHz	70 Hz
	1280x1024	77.900kHz	72 Hz
	1280x1024	79.976kHz	75 Hz
	1280x960	60.000kHz	60 Hz
WXGA+	1440x900	55.930kHz	60 Hz
WSXGA	1680x1050	65.290kHz	60Hz
1080P	1920x1080	67.43kHz	60Hz

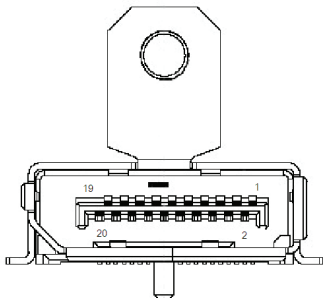
CONNECTOR PINASSIGNMENT



15 - Pin Color Display Signal Cable

PINNO.	DESCRIPTION	PINNO.	DESCRIPTION
1.	Red	9.	+5V
2.	Green	10.	Detect Cable
3.	Blue	11.	Ground
4.	Ground	12.	DDC-Serial Data
5.	Ground	13.	H-Sync
6.	R-Ground	14.	V-Sync
7.	G-Ground	15.	DDC-Serial Clock
8.	B-Ground		

**Display port connector (CN500)**



Pin – Assignment of 20-pin Display Port

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1.	ML_Lane 3(n)	11.	Ground
2	Ground	12.	ML_Lane 0(p)
3.	ML_Lane 3(p)	13.	Ground
4.	ML_Lane 2(n)	14.	Ground
5.	Ground	15.	AUX_CH (P)
6.	ML_Lane 2(p)	16.	Ground
7.	ML_Lane 1(n)	17.	AUX_CH (N)
8.	Ground	18 ·	Hot Plug Detect
9	ML_Lane 1(p)	19 ·	Return DP_PWR
10	ML_Lane 0(n)	20 ·	DP_PWR



## **Product Registration and Technical Support**

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### **Cables, Replacement Lamps, Accessories**

To find cables, replacement lamps and accessories for your Planar projector, LCD monitor, touch screen or other Planar products visit our online store at [www.PlanarOnline.com](http://www.PlanarOnline.com) or find other stores who carry Planar products at <http://www.planar.com/howtobuy>

### **Technical Support**

Visit Planar at <http://www.planar.com/support> for product registration, operations manuals, touch screen drivers, warranty information and access to Planar's Technical Library for online troubleshooting.

To speak with Planar Customer Support please have you model and serial number available and dial:

### **Planar Support**

Tel: 1-866-PLANAR1 (866-752-6271) or +1 503-748-5799 outside the US. Hours: 24 hours a day, 7 days a week.

Toll or long distance charges may apply.

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