APPENDIX H

: USER'S MANUAL

PLANAR

DRAFT

GX2MP Display
User's Guide

Contents

Product Information

The design of the GX2MP display takes into account every known measure to ensure your personal safety. Improper use of the display can result in electric shock, fire, or damage to components. Read all instructions before setting up the display, and observe the safety precautions listed.

Classification:

> Shock Protection: Class I.
>
> Degree of Protection Against Electric Shock: No applied part.
>
> Degree of Protection Against Harmful Ingress of Water: Ordinary equipment (IPX0).
>
> Degree of Safety in the Presence of Flammable Anaesthetic Mixture with Air or with Oxygen or Nitrous Oxide:
> Not suitable for use in the presence of a flammable anaesthetic mixture with air or with oxygen or nitrous oxide.
>
> Mode of Operation: Continuous.

.

Important recycle instruction:

> Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal laws. For more information, contact the Electronic Industries Alliance at WWW.EIAE.ORG. For lamp-specific disposal information, check WWW.LAMPRECYCLE.ORG.

Symbol explanations

DISPOSAL. Do not use household or municipal waste collection services for disposal of electrical and electronic equipment. EU countries require the use of separate recycling collection services.

CAUTION. Read the accompanying text carefully, for proper operation and maintenance of the display system.

DANGEROUS VOLTAGE. Important precautions about electric shock. Read the accompanying text carefully, to prevent damage to components of the display system and for your safety.

DIRECT CURRENT.

BAROMETRIC PRESSURE. Transport and storage 12,000 meters (39,400 feet), maximum in unpressurized container

RELATIVE HUMIDITY. Transport and storage 5% to 90% (non-condensing).

TEMPERATURE. Transport and storage -10° to 60° C.

Intended use

The GX2MP display is appropriate for use as a non-diagnostic device in the medical environment. This unit should not be used near patients and should be kept outside of 1.83 m perimeter and 2.29 m vertical.

Safety precautions

- Use only the power cord shipped with the unit. If the power cable is faulty in any way, speak with your account representative for resolution.

- The power supply cord serves as the primary disconnection device. Make sure a grounded AC outlet is within easy reach of the installation location.

- Operate the display only from a power source indicated by the display specifications. See page 18.

- Never open the display case, even when the power is off. Dangerous high voltage inside may cause electric shock or death.

- To avoid damage to the display, use the grounded power supply and video cable supplied by Planar, or use certified replacements.

- Be sure the display is electrically grounded. You must connect the third grounding pin on the US power cord to a grounded outlet. The European power cord does not have a third grounding pin, but it must be plugged into a grounded outlet.

- Avoid using overloaded AC outlets, extension cords, frayed power cords, or broken plugs.

- If you cannot insert the plug into the outlet you plan to use, have a licensed electrician replace the outlet with a properly grounded outlet. If the power cord connects directly into the computer, make sure the computer is grounded.

- Contact Planar technical support when the display is not operating properly.

- Keep the display dry in all instances. The display lacks protection against liquids or spills.

- **In locations where 240V outlets are used, connect the display only to a center-tapped, 240V, single-phase supply (for Canada and the United States).**

N OTE: GROUNDING RELIABILITY CAN ONLY BE ACHIEVED WHEN EQUIPMENT IS CONNECTED TO AN EQUIVALENT RECEPTABLE MARKED "HOSPITAL ONLY" OR "HOSPITAL GRADE."

External equipment intended for connection to signal input, signal output, or other connectors, must comply with the relevant IEC standard (EN/IEC 60601-1 series for medical electrical equipment). In addition, all such combinations (systems) must comply with the standard IEC 60601-1-1, Safety requirements for medical electrical systems.

Equipment not complying to IEC 60601 must be kept outside the patient environment, as defined in the standard as at least 1.5 meters from the patient or the patient support.

Any person who connects external equipment to signal input, signal output, or other connectors has formed a system and is therefore responsible for the system to comply with the requirements of IEC 60601-1-1. If in doubt, speak with a qualified technician.

Unpacking and handling tips

The GX2MP display requires proper care to maintain product operation and adherence to specification. Unpack the display and components carefully, then set up and handle the unit properly to avoid damage to the LCD panel.

- Use both hands to grasp the display case when lifting it from the shipping carton, but avoid touching the screen.

- Do not apply pressure to the screen or touch the screen with bare fingers or objects. Pressure can affect image quality. Cosmetics and oils on the skin are both detrimental to the screen and difficult to remove.

- Allow the display to warm up to room temperature before turning it on. Avoid sudden temperature changes in the environment, as this may cause condensation, which damages the display.

- Secure the display properly onto a standard VESA 100-mm mounting unit if you elect not to use the desk stand.

- Do not place the display on a sloping shelf unless it is properly secured.

- Do not set up the display near strong light or heat sources.

- Do not block the vents on the back of the display or install the display in a built-in enclosure. Blocked vents cause excessive heat to build up inside the display, increasing risk of fire.

- When installing components, turn off your computer, but leave it plugged into a grounded outlet.

- Do not remove the back cover or disassemble the display. There are no user-serviceable parts inside.

Preventing fire and injury

- Replace the power supply cord or video cables if damaged.
- Use only the power source indicated in this guide or listed on the display.
- Do not plug the power supply into an overloaded AC outlet or extension cord. Overloaded AC outlets and cords can result in electric shock or fire.
- Do not drop or push objects into the display case. Internal components contain high voltage.
- Unplug the power cord from the wall outlet during thunderstorms.
- Do not place magnetic devices, such as motors, near the display.
- Always turn off the display when it will not be in use for more than a short period of time.
- Do not add accessories that have not been designed for use with this display.

Cleaning the display

- Unplug the power supply before cleaning the display or LCD screen.
- Use a slightly damp (not wet) clean, lint-free cloth to clean the display.
- Dampen a clean cloth with a small amount of isopropyl alcohol to remove glue or dust if the screen is still not clean. Do not saturate the cloth; otherwise, the liquid may seep into the display case and collect in the enclosure. Use a clean, dry cloth to completely remove wet residue.
- Do not use chemically treated dust cloths, acetone, toluene, or harsh solvents on the display case or the screen.
- Do not expose the display to water or excessive moisture. Do not allow water or other stains to stand on the unit. Wipe liquids off immediately to prevent damage to the display case and the screen.
- Do not use aerosol directly on the display screen. Overspraying may cause electric shock.

WARNING
DISCONNECT SUPPLY BEFORE SERVICING

AVERTISSEMENT
COUPER L'ALIMENTATION AVANT L'ENTRETIEN ET LE DEPANNAGE

Shipping/storing the display

Keep the display in its shipping container until installation. Return the display to its original container whenever you need to store the unit, move it to another location, or return it for repair. The packaging supplied by the manufacturer protects the display while it is in transit. See environment specifications for more information.

Before returning the display to the container, do the following:

1   Swivel the display panel to landscape mode.

2 Push the panel down to the lowest position.

3 Use the stand lock to anchor the panel.

Disposal information

Follow your local governing ordinance and recycling policy for proper disposal or recycling of display components.

GX2MP display mounted on desk stand

Display controller

DVI cable

Power cord

Quick reference

Display driver and calibration software

Also included: *D-sub cable*

About the Display

The GX2MP display system uses an Active Matrix Liquid Crystal Display, or AMLCD, for viewing medical images in referral settings. You can view images in portrait or landscape resolutions of up to 1600 x 1200 pixels (UXGA). The complete display system consists of the LCD panel, display controller, and display driver.

The thin film transistors of the display operate in a transmissive-type display, using an integrated cold cathode fluorescent tube (CCFT) backlight system. The display panel can show 8-bit color data per subpixel (24-bits per pixel) from a palette of 256 values, implementing gamma correction via the video card for a maximum presentation of 16.7 million colors.

Bundled with the display system, the Dome CXtra software enhances the functionality of the GX2MP display with a range of value-added services, such as DICal calibration, error reporting, and backlight saver. Network management of GX2MPdisplays running the Dome CXtra software requires the Enterprise Management Service for Dome CXtra. For more information, refer to Dome CXtra User's Guide.

System Requirements

- Intel Pentium 4/Xeon; AMD Athlon 64/K7/XP or compatible
- PCI Express x16 lane slot
- 50 MB hard disk space
- 256 MB RAM
- CD-ROM drive
- Windows XP Service Pack 2 or Windows 2000 Service Pack 4
- Power supply, 350 watts or greater

Display Components

The GX2MP display has a light-emitting diode, or LED, on the front panel to indicate display status.

- Blue. The display is connected and running properly.
- Amber. The video signal is not being received, or the display is in Sleep mode.

Improper cable connections could cause no image to appear on the display screen or the LED to glow amber. See "Troubleshooting" on page 18 for more information.

The onscreen menu allows you to make adjustments to display settings such as brightness, contrast, position, and language.See "Using Display Controls" on page 11 for more information.
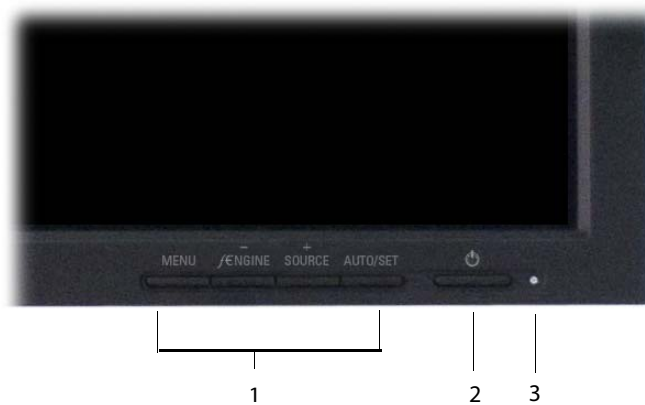
Legend	
1	Onscreen menu controls. Adjust display settings.
2	Power button. Powers display ON or OFF.
3	Power indicator. Reports display status.

Review the following illustration of the back panel to identify ports on the display unit.
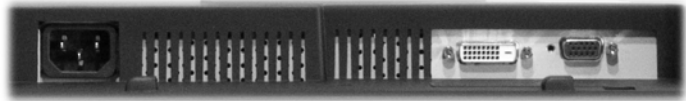
Legend
1   Power input port. Requires AC 100 - 240V 50/60Hz 1.2A.
2 DVI, digital video input port. Requires a DVI connector.
3 VGA, analog video input port. Requires a D-Sub connector.

Display Positions

You can adjust the tilt, height, viewing angle, and orientation of the display to maintain an ergonomic and comfortable viewing position. Select a suitable workspace for the display. You need a stable, level, and clean surface near a wall outlet.

Tilt range	Height range
Range: -5 to 20 degrees. Adjust the tilt angle by using a pulling or pushing movement.	Range: Up to 80 mm (3.15 in.) Unfasten the stand lock then adjust the height.
Viewing angle	Orientation mode
Range: 350 degrees. Swivel the panel from side to side to adjust the viewing angle.	Rotation: 90 degrees.Turn the panel clockwise to move from landscape to portrait mode.

Desk Stand Features

Unfasten the stand lock to adjust display height. Remove the stand cover to thread the power cord and video cable connections to the display. To activate the USB hub function, the display must be connected to a USB-compliant computer or another hub with a USB cable. Even if the display is in power-saving mode, the USB devices function when connected to the USB ports of the display.

Stand height lock	
	Move the stand lock lever to the left to adjust the height of the display.

Stand cable cover	
	Press the PUSH button at the bottom of the desk stand and pull the stand cable cover down and out to remove it.

USB hub	
	Use the integrated, bus-powered USB hub to attach USB devices to the display rather than to the computer.

Installing the Display

Before you install the display controller, remove any existing graphics card and its driver from your system. Also disable any onboard graphics capability on the motherboard.

Warning
In locations where 240V outlets are used, connect the display only to a center-tapped, 240V, single-phase supply (for Canada and the United States only).
If you leave the computer turned on, you could suffer electric shock or cause damage to system components.
Remove the display controller slowly from its package and static-shielding bag to prevent an electrostatic discharge.
Static electricity can damage the controller. When touching the board or parts of the motherboard, take these precautions: • Wear an antistatic wrist strap. • Discharge your body's static electricity repeatedly by touching the power supply or the metal surface of the computer chassis.

Install the Display Controller

Before you install the display controller, choose a well-ventilated location with an adequate amount of space. Excessive heat cannot dissipate when display vents are blocked. Make sure a grounded AC outlet is within easy reach.

Turn your computer off. Leave the power cord plugged into the grounded outlet.

To install the display controller

1 Remove the computer cover and then the blank bracket from the PCI Express slot.

2 Insert the display controller into the slot, align the connector pins, and press the board down until it is firmly seated.

3 Secure the mounting bracket, and reattach the computer cover.

Note
• If you are using the display with another graphics card and without the Dome CXtra software, use the instructions shipped with that card.
• Although the GX2MP display can be used with either a digital or analog video cable, the installation instructions in this manual relate to the use of the display with the DVI cable. Use of the display controller that shipped with the display, as well as the DICal calibration feature of the Dome CXtra software, can only be supported on the DVI-D interface.

Connect the Video and Power Cables

Turn your computer off. Leave the power cord plugged into the grounded outlet. Use the display with the video cable shipped.

To connect the cables

1 Plug one end of the video cable into the input port on the interface plate. Secure the connection.

2 Plug the power cord into the input port on the interface plate.

3 Plug the other end of the video cable into the video port on the installed display controller. (Connect the first display of a two-headed system, or a single display to the primary (DVI #1) port. See illustration below.) Secure the connection.

4 Plug the power cord into a grounded AC outlet.

5 Repeat steps 1 to 4 to connect a second display to the controller.

6 Power on the display first, then the computer.
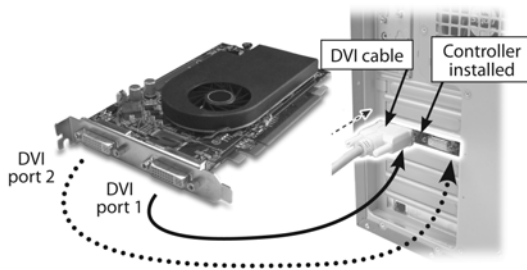
Tips

- Multiple displays. Connect all displays to the video board before you turn on the computer and install the driver.
- Access to ports. For displays mounted on a desk stand, rotate the LCD panel from landscape to portrait for access to the ports.
- Threading cables. Thread the video cable and power cord through the stand column. Make sure the cable and cord run through the notches. To reattach the stand cover, align the hooks with the slots on the stand. Press the cover into place. A click sound signals a secure connection.

Install the Display Driver

Before you install the driver, remove any previously installed display driver for the display controller from your system. After installation, use the Display Properties dialog to makes changes to the video settings or to set up a dual-display configuration.

To install the driver

1 Start the system. Click Cancel on the Found New Hardware Wizard. Click No when the system prompts you restart the computer.

2 Insert the driver installation CD and run Setup.exe.

3 Click Next.

4 Click Yes to the license agreement. The installation starts.

5 Follow the onscreen instructions to complete the installation. Planar recommends that you select the Express installation option.

6 When the Setup complete message appears, select Yes, I want to restart my computer now, and click Finish.

7 If the Digital Signature Not Found message appears, click Yes or Continue to complete the driver installation.

To configure the display

1 Right-click the desktop and select Properties > Settings.

2 Use the native resolution of the display.

3 Click OK.

Adjust Display Properties

Use the Display Properties dialog to make changes to the video settings or to set up a dual-display configuration.

To set display orientation

1 Right-click the desktop and select Properties > Settings.

2 Select the monitor that you want to change. Then click Advanced.

3 Click the Monitor tab. Make sure that the check box for HIde modes that this monitor cannot display is empty (unchecked).

4 Click the Rotation tab.
   > Check Standard landscape for landscape mode.
   > Check Rotate 90 Left or Right for portrait mode.

5 Click Yes to save the setting.

6 Click OK until you return to the desktop.

To use a dual-display configuration

1 Right-click the desktop and select Properties > Settings.

2 Click the monitor icon 2. Then select Extend my Windows desktop onto this monitor.

3 Set the resolution and color quality for the second display.

4 Click Apply or OK.

Using Display Controls

Use the onscreen menu to make adjustments to display settings such as brightness, contrast, position, and language. (See the table on page 12 for the functions available by video mode.) You can access the menu whenever both the computer and display are on. If the computer is off or in power-saving mode, the menu is inaccessible.

IMPORTANT: Allow the display to stabilize for at least 30 minutes before making image adjustments.
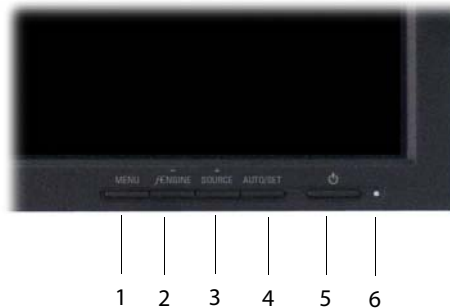
Legend
1 Menu. Entry to or exit from onscreen commands and functions.
2 Minus/*f*-Engine. Selection or adjustment of function.
3 Plus/Source. Selection or adjustment of function.
4 Auto/Set. Selection of command or function.
5 Power. ON/OFF function.
6 Power Indicator. Display status.

Control	Function
MENU	Use to enter or exit the menu.
	Menu locked/unlocked. Prevent the current control settings from being changed inadvertently. Press and hold the MENU button for several seconds. The message OSD LOCKED appears. Unlock the menu controls by pressing the MENU button for several seconds. The message OSD UNLOCKED appears.
MINUS and PLUS	Use the MINUS and PLUS buttons to select or adjust functions on the menu.
f-ENGINE	See page 17.
SOURCE	Toggle to make the D-Sub or DVI connector active.Use this feature when two computers are connected to the display. Default setting: D-Sub.
AUTO/SET	Use to enter a selection on the menu.
	Auto Image Adjustment. When adjusting your display settings, always press the AUTO/SET button before entering the menu. This automatically adjusts your display image to the ideal settings for the current screen resolution size (display mode). The best resolution: 1600 x 1200
POWER	Turns the display ON/OFF. (With analog video, the Self Image Setting function is executed automatically.)
POWER INDICATOR	Lights up blue when the display operates normally (ON mode). In Sleep (energy-saving) mode, the color changes to amber. In OFF mode, no color appears.

In the MENU row, two on-screen display messages are shown: **OSD LOCKED** and **OSD UNLOCKED**.

Screen Adjustment

IMPORTANT: Allow the display to stabilize for at least 30 minutes before making image adjustments.

This illustration shows the logic of the onscreen menu and relates to the following procedure.
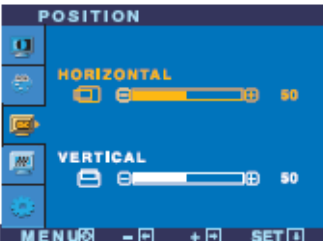
MENU → − + → AUTO/SET → − + → MENU

To make screen adjustments
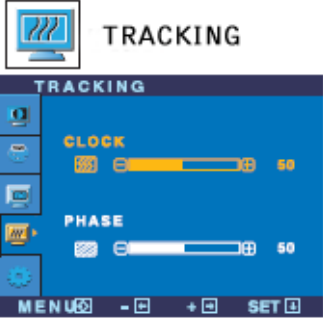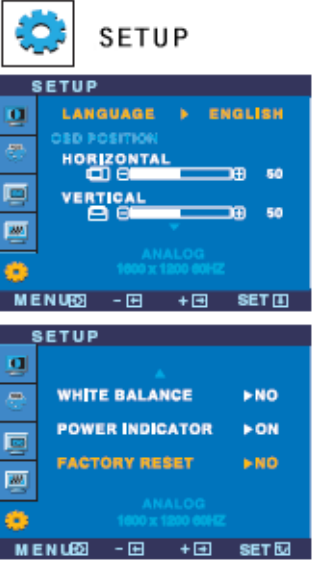
1 Press the MENU button. The main menu appears.

2 Use the MINUS or PLUS button to access a control.

3 Press the AUTO/SET button when the icon you want is highlighted.

4 Use the MINUS or PLUS buttons to adjust the value. (Use the AUTO/SET button to select other submenu items, then use the MINUS or PLUS button to adjust.)

5 Press the MENU button once to return to the main menu. Press the button twice to exit the menu.

The following table shows all the menu control, adjustment, and setting menus. NOTE: A - Analog; D - Digital; X- Adjustable.
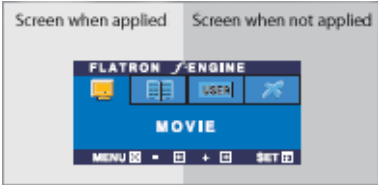
Main Menu	Submenu		A	D	Reference
PICTURE	Brightness		X	X	Adjusts the brightness, contrast, and gamma of the screen.
	Contrast		X	X	
	Gamma		X	X	
COLOR	Preset	6500K	X	X	Customizes the color of the screen.
		9300K	X	X	
	Red		X	X	
	Green		X	X	
	Blue		X	X	
POSITION	Horizontal		X		Adjusts the position of the screen
	Vertical				
TRACKING	Clock		X		Improves the clarity and stability of the screen.
SETUP	Language		X	X	Customizes the screen status for the operating environment.
	OSD Position	Horizontal	X	X	
		Vertical	X	X	
	White Balance		X		
	Power Indicator		X	X	
	Factory Reset		X	X	
f-ENGINE	Movie/Test		X	X	Selects or customizes desired image settings
	User		X	X	
	Normal		X	X	
A - Analog; D - Digital; X- Adjustable					

Main Menu	Submenu	Description
PICTURE	Brightness	Adjust the brightness of the screen. Adjust the brightness of the screen.
	Contrast	Adjust the contrast of the screen.
	Gamma	Set gamma value: -50/0/50. On the display, high gamma values display whitish images and low gamma values display high contrast images.
COLOR	Preset	sRGB: Set the screen color to fit the SRGB standard color specification. 6500K: Slightly reddish white. 9300K: Slightly bluish white.
	Red	Set red color level.
	Green	Set green color level.
	Blue	Set blue color level.
POSITION	Horizontal	Move image left or right.
	Vertical	Move image up or down.

Main Menu	Submenu	Description
	Clock	Minimize any vertical bars or stripes visible on the screen background.The horizontal screen size will also change.
	Phase	Adjust the focus of the display. Use this function to remove any horizontal noise and clear or sharpen the image of characters.
	Language	Choose the language in which the control names are displayed.
	OSD Position	Adjust position of the menu window on the screen.
	White Balance	Activate function when white and black colors are present on the screen. If the output of the video card is different from the required specifications, the color level may deteriorate due to video signal distortion. Using this function, the signal level is adjusted to fit into the standard output level of the video card to provide the optimal image.
	Power Indicator	Set indicator to ON or OFF. If you set OFF, it will go off. If you set ON at any time, the power indicator automatically turns on.
	Factory Reset	Restore all factory default settings except LANGUAGE. Press PLUS to reset immediately.

This table shows the additional commands available via the *f*-Engine menu.

Main Menu	Submenu	Description
	f-ENGINE	When you execute F-ENGINE, two tones appear on the screen. The applied screen appears on the left side; the non-applied screen appears on the right side. Press SET to use the adjusted screen.
	MOVIE/TEXT	Select the best image condition optimized to the environment (such as ambient illumination, image types). Text: word processing. Movie: animation images in videos or movies.

	USER	Manually adjust brightness, ACE (adaptive Clarity Enhancer) or RCM (Real Color Management). Save or restore the adjusted value for setting of a different environment.
		> Adjust screen brightness.
		> Select clarity mode.
		> Select color mode.
		   0 - Not applied
		   1 - Green enhance
		   2 - Flesh tone
		   3 - Color Enhance
		> Use SET to select SAVE submenu and store the YES value using the buttons.

	NORMAL	Normal operating conditions.

Appendix

Troubleshooting

Problem	Possible Cause	Solution
No image on the screen.	Computer or display is not powered on.	Turn on computer or display.
	Power cord is not securely connected.	Tighten power cord connection and turn on computer.
	Improper video cable connection.	Make sure the video cable is properly connected to the computer and to the display, to prevent the "Check Signal Cable" message.
	Signal from the video card is out of horizontal or vertical frequency range of the display.	Check the Video Modes table on page and configure the display again.
	Erroneous settings.	When the power indicator is blue, adjust the brightness and the contrast.
	Display is in power-saving mode.	Move the mouse or strike a key on the keyboard to activate the screen. Make sure the computer is turned on.
OSD LOCKED message on the screen.	MENU is locked.	Press MENU for several seconds. The OSD UNLOCKED message appears.
Display is not functioning.	Display driver has not been installed.	Install the display driver that ships with the video card you have installed.
"Unrecognized monitor, Plug & Play (VESA DDC) monitor found" message on the screen.	Video card does not support Plug and Play function.	Check the specification of your video card. Replace the card if it does not support the Plug and Play function.

Problem	Possible Cause	Solution
Display image is incorrect.	Display position is incorrect.	Press AUTO/SET to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, adjust the image position using the H position and V position icon in the on screen display. Check Control Panel > Display > Settings to see if the frequency or the resolution were changed. If yes, readjust the video card to the recommend resolution.
	On the screen background, the vertical bars or stripes are visible.	Press AUTO/SET to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, decrease the vertical bars or stripes using the CLOCK icon in the on screen display.
	Horizontal noise that appears in any image or characters is not clearly portrayed.	Press AUTO/SET to automatically adjust the display image to the ideal setting. If the results are unsatisfactory, decrease the horizontal bars using the PHASE icon in the menu. Check Control Panel > Display > Settings to adjust the display to the recommended resolution or adjust the display image to the ideal setting. Set the color setting higher than 24 bits (true color).
	The screen color is mono or abnormal.	Check if the signal cable is properly connected. Make sure the video card is properly inserted in the slot. Set the color setting higher than 24 bits (true color) at Control Panel > Settings.
	The screen blinks.	Check if the screen is set to interlace mode. If yes, change it to the recommend resolution. Make sure the power voltage is high enough. It must be higher than AC100-240V 50/60Hz.

Specification

In locations where 240V outlets are used, connect the display to only a center-tapped, 240V, single-phase supply (for Canada and the United States only).

Category	Characteristic Item	Specification
Screen	Screen size diagonal	510 mm (20.1 in.)
	Resolution	1600 x 1200 pixels (landscape) 1200 x 1600 pixels (portrait)
	Pixel pitch	0.255 mm
Sync Input	Horizontal frequency	AnAlog: 28 - 83 kHZ (automatic) Digital: 28 - 83 kHz (automatic)
	Vertical frequency	56 - 86 Hz (automatic)
	Input form	Separate TTL, Positive/Negative Composite TTL Positive/Negative Sync on Green Digital
Video Input	Signal Input	60 Hz
	Input Form	600:1 (typical)
Resolution	Max	D-Sub: Analog - VESA 1600 x 1200 @ 60 Hz DVI: Digital - VESA 1600 x 1200 @ 60 Hz
		Recommend VESA 1600 x 1200 @ 60 Hz
Plug & Play	DDC 2B	
Power Consumption	On Mode	58 W
	Sleep Mode	1 W
	Off Mode	1 W
Dimensions & Weight (with stand)	Width	446 mm (17.56 in.)
	Height	448 mm (17.62 in.) 528 mm (20.76 in.)
	Depth	243 mm (9.55 in.)
	Net	7.6 kg (lb)
Tilt/Swivel Range	Tilt Range	-5 to 20 degrees
	Swivel Range	350 degrees
	Height Range	80 mm (3.15 in.)
	Rotate	90 degrees clockwise (landscape to portrait)
Power	Input	AC 100 - 240V 50/60Hz 1.2A
	Cord	Wall-outlet or PC-outlet type

Environment

Characteristic item		Specification
Temperature	operating	0° C to 40° C
	storage	-10° to 60° C
Humidity	operating	10% to 80% Relative Humidity (non-condensing)
	storage	5% to 90% Relative Humidity (non-condensing)

Power Indicator

Mode	LEC Color
ON	Blue
Sleep	Amber
OFF	None

Preset Video Modes

Resolutions expressed in pixels (W x H).

Item	Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)
1	640x350	31.47	70
2	640x480	31.47	60
3	640x480	37.50	75
4	640x480	43.27	85
5	720x400	31.47	70
6	800x600	37.88	60
7	800x600	46.88	75
8	800x600	53.67	85
9	832x624	49.72	75
10	1024x768	48.36	60
11	1024x768	60.02	75
12	1024x768	68.68	85
13	1152x870	68.68	75
14	1152x900	61.80	65.96
15	1280x1024	63.98	60.02
16	1280x1024	79.98	75.02
17	1600x1024	62.11	60
18*	1600x1200	75.00	60
19**	1600x1200	73.53	60

 * – Recommended mode (analog)

** – Digital mode

DVI Connector Port

The video signal connector is a standard DVI connector.
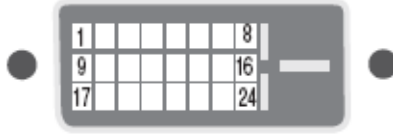
Pin	Signal (DVI-D)	Pin	Signal (DVI-D)
1	T.M.D.S.*Data2-	13	T.M.D.S. Data3+
2	T.M.D.S. Data2+	14	+5V Power
3	T.M.D.S. Data2/4 Shield	15	Ground**
4	T.M.D.S. Data4-	16	Hot Plug Detect
5	T.M.D.S. Data4+	17	T.M.D.S. Data0-
6	DDC Clock	18	T.M.D.S. Data0+
7	DDC Data	19	T.M.D.S. Data0/5 Shield
8	Analog/Vertical Sync.	20	T.M.D.S. Data5-
9	T.M.D.S. Data1-	21	T.M.D.S. Data5+
10	T.M.D.S. Data1+	22	T.M.D.S. Clock Shield
11	T.M.D.S. Data1/3 Shield	23	T.M.D.S. Clock+
12	T.M.D.S. Data3-	24	T.M.D.S. Clock-

  * – T.M.D.S. Transition Minimized Differential Signaling
** – Return for +5V, H. Sync., and V. Sync.

Display Driver Removal

Follow the appropriate procedure below to remove the display driver from your system.

To remove the driver

1 Close all applications that are running.

2 Navigate to the Control Panel and select Add/Remove Programs.

3 Select your current graphics card drivers and select Add/Remove. Follow the wizard to remove your current display drivers.

4 Restart your system.

Power Management

You have two ways to lower energy usage when the display is idle:

• Dome CXtra Backlight Saver service (preferred)

• Screen Saver (set via Windows operating system)

Activate the power saver when you anticipate periods of inactivity, such as at the end of the work day. Once activated, Backlight Saver (or Screen Saver) automatically turns the backlight off during the period of inactivity. Backlight Saver and Screen Saver both extend the life of the backlight and reduce burn-in of images.

Do not use the Backlight Saver and Screen Saver concurrently.

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Regulatory Compliance

Canada, European Union, United States

This display has been tested and found to comply with IEC/EN 60601-1 and IEC/EN 60601-1-2 standards, and is certified to meet medical standard C22.2 No. 601.1-M1990 (C US Mark).

The medical display, in addition to meeting medical requirements, has been tested and found to comply with the limits for Federal Communications Commission (FCC) Class B computing devices in a typically configured system since many medical offices are located in residential areas. It is the system integrator's responsibility to test and ensure that the entire system complies with applicable electromagnetic compatibility (EMC) laws.

Planar Systems, Inc. has made great efforts to support the medical device industry, in particular, medical device manufacturers and medical device system integrators. We offer state-of-the-art color displays that are compliant with worldwide accepted medical device safety standards, and for the European market, CE-marked displays based on compliance with counsel directive 93/42/EEC—commonly referred to as the Medical Device Directive (MDD). The following summarizes our qualification of these displays as it relates to compliance with the MDD.

The European Medical Device Directive requires that the intended use of the device be defined. The intended use of these displays is "to display alphanumeric, graphic, and image data as inputted from any type of medical device." These displays do not provide a measurement function in any way, and it is the device and systems manufacturer's responsibility to verify its function in the integrated device or system.

The display was classified as required by the MDD according to Annex IX of the directive and the medical device (MEDDEV) guidance available at the time of classification. Because the display uses electrical energy and has no direct patient connections and—by itself—no medical utility, the display is classified according to Rule 12 as an MDD Class I device, component, or accessory. The MDD states that manufacturers of Class I medical devices or accessories shall satisfy the requirements in regard to design and manufacturing controls, that is, the applicable assessment route to be used for CE-marking under the MDD, and it shall carry the CE mark according to Annex XII of the directive, with no notified body annotation.

The applicable safety standards for an MDD Class I display are IEC/EN 60601-1:1990 along with Amendments 1 and 2. To help the medical device designer evaluate the suitability of these displays, Planar has also conducted EMC testing to IEC 60601-1-2 as it can be applied. The display with its power supply alone does not represent a functional medical device. Hence, Planar configured a minimal operating system to exercise the display. The resulting data are made available to interested parties.

This is informative data, not certification data. Certification data must be obtained by the device or system integrator according to Article 12 of the MDD titled "Particular procedure for systems and procedure packs." Paragraph 2 clearly outlines the device or system integrator's responsibility in this matter.

In summary, Planar Systems, Inc. is CE-marking these displays under the Medical Device Directive, which establishes compliance to the basic medical safety standards. However, EMC compliance can only be accomplished in the configured medical device or system and is the responsibility of the device or system manufacturer. Planar has the necessary documentation such as IEC 60601-1 notified body and other third-party test reports and certifications, a risk/hazard analysis, an essential requirements checklist, and the Planar International Electrotechnical Commission (IEC) declaration of conformity.

Planar Systems, Inc., located in Beaverton, Oregon, USA, is the manufacturer of these displays in the meaning of the directive. As required by the MDD in Article 14, Planar Systems, Inc., not residing in the European Economic Area (EEA), has a European representative, Planar Systems, Inc.—Olarinluoma 9, P. O. Box 46, FIN-02201 Espoo, Finland (phone + 358 9 420 01; fax + 358 9 420 0200).

In the opinion of Planar Systems, Inc. registration required to put this device into commerce is the responsibility of the medical device/system manufacturer, and Planar supports this requirement by providing a European Commission (EC) declaration of conformity. If Planar supplies a display to an end user, rather than a device manufacturer, it is the end user's responsibility to ensure continued compliance with the MDD of the system in which the display is integrated.

The supplier will make available on request, circuit diagrams, component part lists, etc.

For vigilance reporting as required under Article 10 of the MDD, Planar Systems, Inc. will provide any information requested by competent authority to support any reported incident investigation by such an authority.

EU Declaration of Conformity for Medical Application

A Declaration of Conformity has been filed for this product. For additional copies of the Declaration of Conformity document, contact Planar Systems.

The GX2MP display meets the essential health and safety requirements, is in conformity with, and the CE marking has been applied according to the relevant EU Directives listed below, using the relevant section of the following EU standards and other normative documents;

EU EMC Directive 89/336/EEC

EU Electromagnetic Compatibility Directive

EN 60601-1-2 (2001) Medical Electrical Equipment	Section 1.2. Collateral standard electromagnetic compatibility requirements
EN 55011	Limits and methods of measurements for radio interference characteristics of industrial, scientific, and medical equipment
IEC 1000-3-2	Harmonic emissions
IEC 1000-3-3	Voltage fluctuations/flicker emissions
IEC 1000-4-2	Electrostatic discharge requirements for industrial process measurement and control equipment
IEC 1000-4-3	Radiated electromagnetic field requirements for industrial process measurement and control equipment
IEC 1000-4-4	Electrically fast transients for industrial process measurement and control equipment
IEC 1000-4-5	Surge requirements
IEC 1000-4-11	Voltage variations/dips/interrupts
IEC 1000-4-6	Conducted immunity
IEC 1000-4-8	Magnetic field immunity
CE	Conformance to the Medical Device Directive 93/42/EEC
EN 60601-1 Medical Electrical Equipment	Part 1: General requirements for safety

U.S. FCC Compliance Statement

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.

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 instruction, 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 technical for help.

CAUTION: Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

China

China Compulsory Certification regulating safety and EMC.
GB4943-2001
GB9254-1998 (Class A)
CB17625.1-2003

Japan

Voluntary Control Council for Interference by information technology equipment sold in Japan.

Korea

Ministry of Information and Communications.

Voluntary Test Mark

TÜV Rheinland GS Mark.

Standard Warranty

Summary

- Standard 3-year "repair and return" warranty
- Typical repair turnaround time of 10 business days

Standard Warranty Return Procedure

As a Planar Standard Warranty customer, you must follow the procedure below if you have a non-functioning GX2MP display. The Planar customer service staff will attempt to correct any minor issues that may be causing the problem. Once Planar has determined that you have a non-functioning product, Planar will arrange for return and repair of the non-functioning product.

1 Contact Planar via the web at http://www.planar.com/support. In North America, call (866) PLANAR1 (866.752.6271). In Europe, call +358 9 420 01 or send your info by fax to +358 9 420 0200. Have the model number, serial number, and proof-of-purchase available.

2 Planar customer service staff will attempt to correct any minor issues that may be causing the problem. If we are unable to correct the problem to your satisfaction, we will issue a Return Material Authorization (RMA).

3 You must return the product, as specified, to Planar Systems. Planar will validate the defect, repair the unit, and return the unit to you. The typical turnaround time is 10 business days.

Summary Limitations and Exclusions of Planar Displays

1. Customer must provide original proof of purchase of the display system.
2. Warranty is void on any product with a defaced, modified, or removed serial number.
3. Warranty is void on any product with damage, deterioration, or malfunction resulting from the following:
   a) Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
   b) Repair or attempted repair by anyone not authorized by Planar.
   c) Any damage of the product due to shipment.
   d) Removal or installation of the product.
   e) Causes external to the product, such as electric power fluctuations or failure.
   f) Use of supplies or parts not meeting Planar's specifications.
   g) Normal wear and tear.
   h) Any other cause, which does not relate to a product defect.
4. Warranty excludes removal, installation, and setup service charges.

Limitation of Implied Warranties

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION CONTAINED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Exclusion of Damages

THE LIABILITY OF PLANAR IS LIMITED TO THE COST OF REPAIR OR REPLACEMENT OF THE PRODUCT. PLANAR SHALL NOT BE LIABLE FOR THE FOLLOWING:

1. DAMAGE TO OTHER PROPERTY CAUSED BY ANY DEFECTS IN THE PRODUCT, DAMAGES BASED UPON INCONVENIENCE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, LOSS OF PROFITS, LOSS OF BUSINESS OPPORTUNITY, LOSS OF GOODWILL, INTERFERENCE WITH BUSINESS RELATIONSHIPS, OR OTHER COMMERCIAL LOSS, EVEN IF ADVISED OF THEIR POSSIBILITY OF SUCH DAMAGES.
2. ANY OTHER DAMAGES, WHETHER INCIDENTAL, INDIRECT, CONSEQUENTIAL OR OTHERWISE.
3. ANY CLAIM AGAINST THE CUSTOMER BY ANY OTHER PARTY.

Effect of Local Law

This warranty gives you specific legal rights, and you may have other rights, which vary from locality to locality. Some localities do not allow limitations on implied warranties and/or do not allow the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

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