User Manual

2MP LCD Monitor

C22SP+/G22SP+

Content

1. Safety Symbols & Precautions

1.1 Safety Symbols

This manual uses below safety symbols. They denote critical information. Please read them carefully.

⚠	**WARNING** Failure to abide by the information in a WARNING may result in serious injury and can be life threatening.
⚠	**CAUTION** Failure to abide by the information in a CAUTION may result in moderate injury and/or property or product damage.
⚡	Alert electrical hazard.
🚫	Indicates a prohibited action.
⏚	Indicates to ground for safety.

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

The design of this apparatus is safe to patient.

Do not connect this apparatus to household devices.

We will try the best to assure the newest information be shown in this manual, but the information in this document is subject to change without prior notice.

1.2 Precautions

To ensure personal safety and proper maintenance, please read this section and the caution statements on the unit.

⚠WARNING

If the unit begins to emit smoke, smells like something is burning, or makes strange noises, disconnect all power connections immediately and contact your dealer for advice. Attempting to use a malfunctioning unit may result in fire, electric shock, or equipment damage.
Do not open the cabinet or modify the unit. Opening the cabinet or modifying the unit may result in fire, electric shock, or burn.
Refer all servicing to qualified service personnel. Do not attempt to service this product yourself as opening or removing covers may result in fire, electric shock, or equipment damage.
Keep small objects or liquids away from the unit. Small objects accidentally falling through the ventilation slots into the cabinet or spillage into the cabinet may result in fire, electric shock, or equipment damage. If an object or liquid falls/spills into the cabinet, unplug the unit immediately. Have the unit checked by a qualified service engineer before using it again.

Set up the unit in an appropriate location.

Not doing so may result in fire, electric shock, or equipment damage.

- Do not place the unit outdoors.
- Do not install the unit in transportation systems (ship, aircraft, trains, automobiles, etc.)
- Do not place the unit in a dusty or humid environment.
- Do not place the unit in a location where the steam comes directly on the screen.
- Do not place the unit near heat generating devices or a humidifier.
- Do not place the unit in an inflammable gas environment.
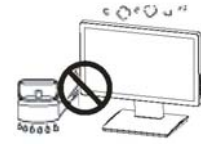
To avoid danger of suffocation, keep the plastic packing bags away from babies and children.

Use the enclosed power cord and connect to the standard power outlet of your country.

Be sure to remain within the rated voltage of the power cord. Not doing so may result in fire or electric shock.

To disconnect the power cord, grasp the plug firmly and pull.

Tugging on the cord may damage and result in fire or electric shock.

The equipment must be connected to a grounded main outlet.

Not doing so may result in fire or electric shock.

Use the correct voltage.

- The unit is designed for use with a specific voltage only. Connection to another voltage than specified in this User's Manual may cause fire, electric shock, or equipment damage.
- Do not overload your power circuit, as this may result in fire or electric shock.

Handle the power cord with care.

- Do not put the power cord under the unit or other heavy object.
- Do not pull up or twist the power cord.
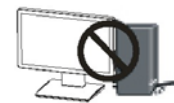
If the power cord is broken, stop to use it immediately. Using broken power cord may result in fire or electric shock.

Never touch the plug and power cord if it begins to thunder.

Touching them may result in electric shock.

Do not touch a damaged LCD panel directly with bare hands.

The liquid crystal that may leak from the panel is poisonous if it enters the eyes or mouth. If any part of the skin or body comes in direct contact with the panel, please wash thoroughly. If some physical symptoms result, please consult your doctor.

⚠CAUTION

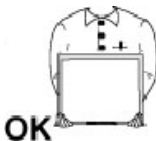| |
|---|
| **Handle with care when carrying the unit.** Disconnect the power cord and signal cables and remove the optional unit. Moving the unit with the cord or the option attached is dangerous. It may result in injury. |
| **When handling the unit, grip the bottom of the unit firmly with both hands ensuring the panel faces outward before lifting.** Dropping the unit may result in injury or equipment damage. |
| **Do not block the ventilation slots on the cabinet.** - Do not place any objects on the ventilation slots. - Do not install the unit in a closed space. - Do not use the unit laid down or upside down. - Blocking the ventilation slots prevents proper airflow and may result in fire, electric shock, or equipment damage. |
| **Do not touch the plug with wet hands.** Doing so may result in electric shock. |
| **Periodically clean the area around the plug.** Dust, water, or oil on the plug may result in fire. |
| **Unplug the unit before cleaning it.** Cleaning the unit while it is plugged into a power outlet may result in electric shock. |
| 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. |
| **If you plan to leave the unit unused for an extended period, disconnect the power cord from the wall socket after turning off the power switch for the safety and the power conservation.** |

LCD PANEL

When the monitor is cold and brought into a room or the room temperature goes up quickly, dew condensation may occur inside and outside the monitor. In that case, do not turn the monitor on and wait until dew condensation disappears, otherwise it may cause some damages to it.
In order to suppress the luminosity change by long-term use and to maintain the stable luminosity, please use the monitor with the lower brightness.
The screen may have defective pixels. These pixels may appear as slightly light or dark area on the screen. This is due to the characteristics of the panel itself, and not the product.
The backlight of the LCD panel has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.
Do not press on the panel or edge of the frame strongly, as this may result in damage to the screen. There will be prints left on the screen if the pressed image is dark or black. If pressure is repeatedly applied to the screen, it may deteriorate or damage your LCD panel. Leave the screen white to decrease the prints.
Do not scratch or press on the panel with any sharp objects, such as a pencil or pen as this may result in damage to the panel. Do not attempt to brush with tissues as this may scratch the LCD panel.
When the screen image is changed after displaying the same image for extended periods of time, an afterimage may appear. Use the screen saver or timer to avoid displaying the same image for extended periods of time.

2. Introduction

The LCD Monitor is intended to be used in displaying and viewing digital images, for clinical review , analysis and diagnostics by trained medical practitioners. Each monitor has been precisely calibrated to comply with DICOM Part 14 at factory. It using the latest generation of LED-backlit panel, with high resolution 1600x1200. With built-in brightness stabilization circuit, the monitor can maintain brightness and stability throughout its life, make sure compliance with the accuracy requirements of medical images. The display can support both landscape and portrait mode. C22SP+,G22SP+ surface protection panel with anti- reflection coating,there are characteristics such as anti- reflection , esay cleanning , anti- scratch screen , etc. The monitor is designed in conformity with IEC60601-1, IEC60601-1-2 and CCC standard.

2.1. OSD and Interface

a. Front
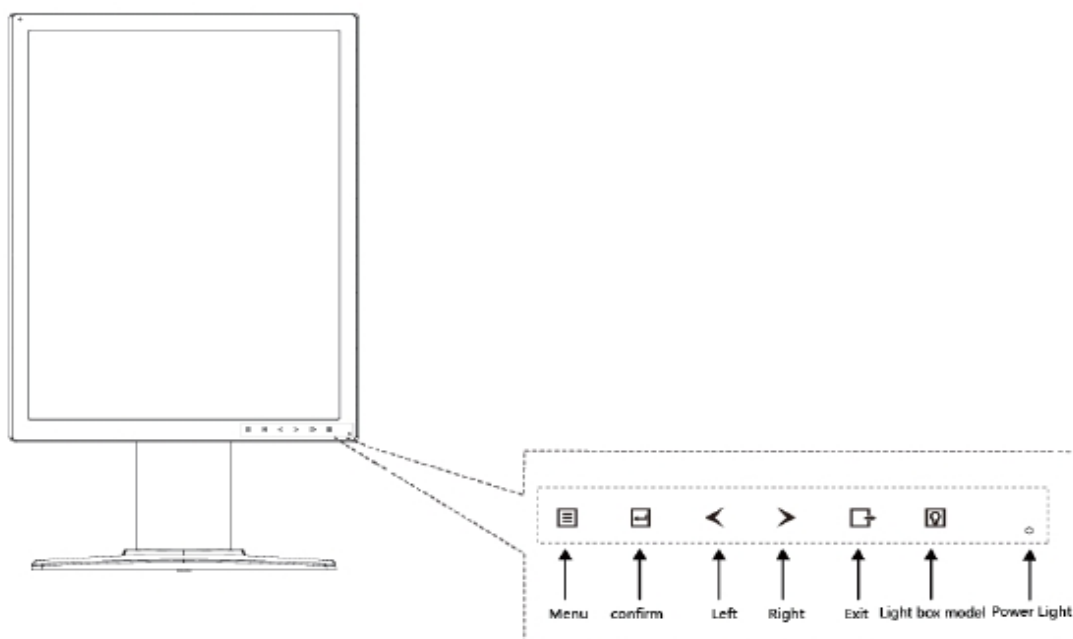
b. Back
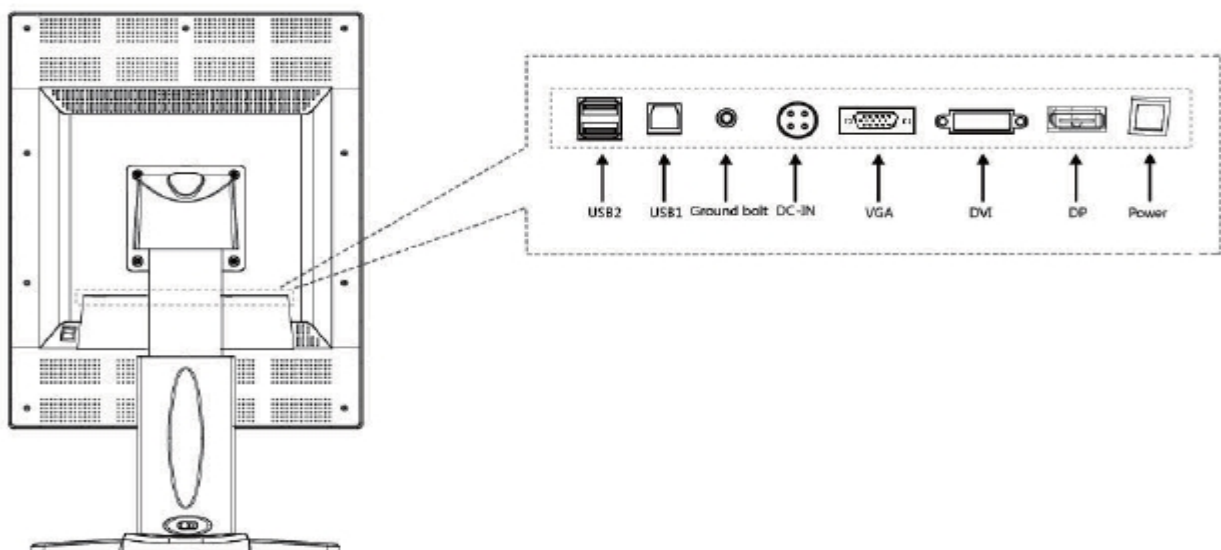
3. Quick start

Note: turn off the power to your computer and monitor.

1. Cable Connection

Connect all cables to the appropriate connectors, as shown in below picture.
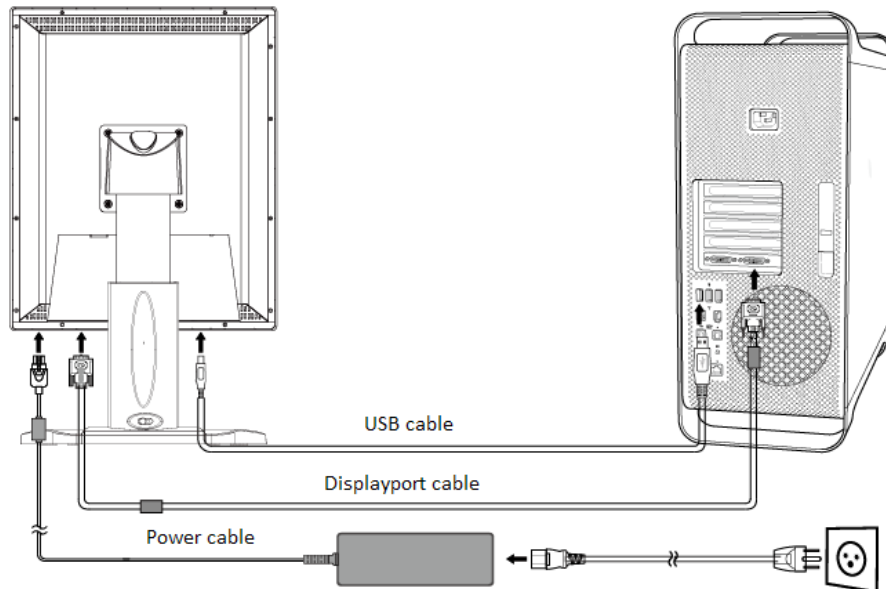
2. Adjust the height, position and angle of monitor.

Screen Rotation

Before rotating, the screen must be raised to the highest level to avoid knocking the screen on the desk or pinching with your fingers. To raise the screen, push the button rightward (marked with red circle in below picture) to unlock the lift firstly and place hands on each side of the monitor and lift up to the highest position. To rotate screen, place hands on each side of the monitor screen and turn counter-clockwise from Landscape to Portrait or clockwise from Portrait to Landscape.

Tilt: Grasp both sides of the monitor screen with your hands and adjust the tilt as desired.
Swivel: Grasp both sides of the monitor screen with your hands and adjust the swivel as desired.
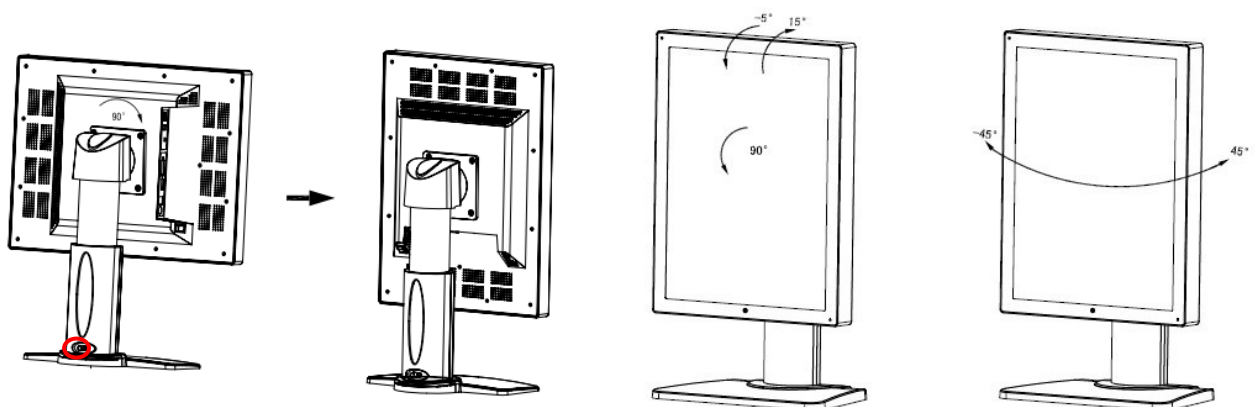
3.Boot

3. Turn on the monitor, the power indicator light will become green. Start the computer and set mode of monitor as below: 1200 x 1600 (in portrait mode)

If no picture, please refer to the Troubleshooting section of this manual.

⚠️**Warning**

Please use the attached power cable and connect it to the standard power socket. Make sure the power connector be fully connected to the power socket. To prevent fire or electric shock, the power cable should be used at specified electric voltage.
This apparatus should be connected to well grounded power socket.

4. Adjustment
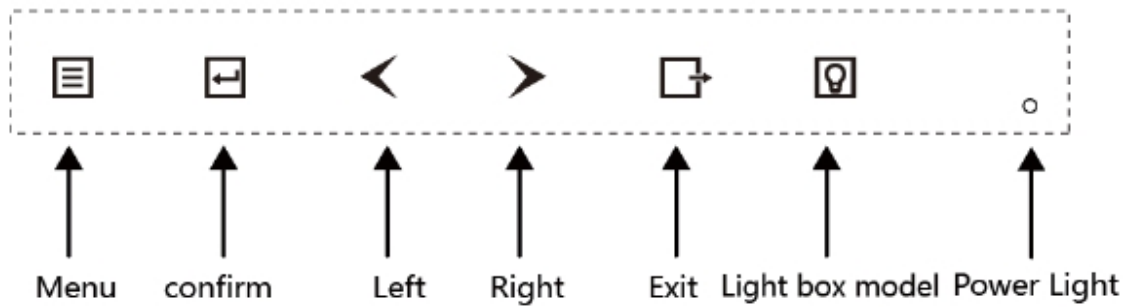
1. Signal Light

Color	Display Mode
Green	Working Mode
Orange	Standby Mode
No	Shutdown Mode

2.Shortcuts

Key	Function
Left	Adjust the brightness
Right	Adjust the contrast
Light box model	Press twice enter the light box model

3. Key Function

Keys	Function
Menu	Start menu and move next
Confirm	Confirm
Left	Decrease value
Right	Increase Value
Exit	Exit the whole OSD menu
LED light mode	Enter LED light mode

4. Menu Introduction

First Menu	Second Menu	Third Menu	Introduction
Input	Source	VGA, DVI, DP	Select the input signal source
Image	Brightness	0-100	Adjust brightness
	Contrast	0-100	Adjust contrast
	Sharpness	0-8	Adjust sharpness
	Saturation	0-100	Adjust saturation
	Color Temp	5500K, 6500K, 7500K, 8500K,9300K,11000K,USER	Select the preset color temperature
	Gamma	DICOM650 ,DICOM600 DICOM550,DICOM500, DICOM450,DICOM400, DICOM350 ,DSA, DSI, CT MRI ,2.2, 2.0, 1.8	Select the preset gamma curve
Setup	OSD Language	English,	Select the OSD language
	OSD Position	Btm Right, Btm Left, Center, Top Left, Top Right	Select the OSD position
	OSD Rotation	0°, 90°, 180°, 270°	Select the OSD rotation
	Auto Scan Input	On, Off	Select the scan mode
	ALC	On Off	Select the ALC
	Factory Reset	>>>	Default setting
VGA	Auto Adjust	>>>	Automatically set the screen
	H Position	0-100	Adjust horizontal position of the screen
	V Position	0-100	Adjust vertical position of the screen
	Clock	0-100	Adjust the clock
	Phase	0-63	Adjust the phase
Sound			Not Available for this product
Status	FW Version	eg:V1.00	Software version information
	Source	eg: DVI	Information about the active source
	Format	eg:1600x1200 60Hz	Information about the resolution

5. Trouble Shooting

If a problem persists even after applying the suggested remedies, contact a dealer.

Problems	Points to check with Possible Solutions
1. No picture Indicator status: Off	Check if the power cord is correctly connected. If the problem persists, turn off the monitor for a few minutes, then turn it on and try again.
Indicator status: Orange	Press the keyboard of computer or click the mouse, turn off the monitor and then restart.
2. The screen is too bright or too dark.	Adjust the <Brightness> (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your dealer.)
3.Image sticking issue appears.	- Please check if you use the screen saver or timer when displaying the same image for long time. - Image sticking is inherent characteristic of the panel. Avoid displaying the same image for long time.
4. The screen has defective pixels (e.g. slightly light or dark).	This is due to the characteristics of the panel itself, not the LCD monitor.

6. Cleaning

Periodic cleaning is recommended to keep the monitor clean and to prolong its operation lifetime.

Note: Never use thinner, benzene, alcohol (ethanol, methanol, or isopropyl alcohol), abrasive cleaners, or other strong solvents, as these may cause damage to the cabinet or LCD panel.

Cabinet

To remove stains, wipe the cabinet with a soft, lightly moistened cloth using a mild detergent. Do not spray wax or cleaner directly into the cabinet.

LCD Panel

The LCD surface can be cleaned with a soft cloth, such as cotton or lens paper.

If necessary, stubborn stains can be removed by moistening part of a cloth with water to enhance its cleaning power.

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7. Package and Accessory

C22SP+/G22SP+ LCD Monitor   (Optional)
Graphics card   (Optional)

Displayport cable

USB cable

Power cable

Power adapter

User manual

Warranty card
Certificate of quality

8. Specification

8.1. Specification

|	
Panel	21.3", TFT Color LED screen, anti-glare, hard coating
Brightness (typ.)	900 cd/m^2
CR (typ.)	1400:1
Viewing angle	Horizontal 176°, vertical 176° CR > 10
Pixel Pitch	0.270 mm
Native resolution	1600 x 1200
Display area	432 mm (H) x 324 mm (V)
Power	DC 12V/6.67A
Power consumption	Max.60 W
Input Connector	DVI-D, Display Port, VGA
Plug and play	VESA DDC 2B
Dimension	369 mm (W) x 483 mm (H) x 65 mm (D) without Stand 369 mm (W) x 506 ~ 626mm (H) x 235 mm (D) with Stand
Weight	6.0 kg without Stand 9.2 with Stand 11.0kg after packing
Operating temperature and humidity:	Temperature: 5°C ~ 35°C Humidity: 15% ~85%
Storage temperature and humidity:	Temperature: -20°C ~ 60°C Humidity:10% ~90%
Certification	UL60601 FCC CE CCC

8.2. D-Sub Connector

Pin	Signal	Pin	Signal	Pin	Signal
1	Red Video	2	Green Video	3	Blue Video
4	NC	5	VGA_PLUG	6	Red GND
7	Green GND	8	Blue GND	9	VGA 5V
10	GND	11	NC	12	DDC SDA
13	H-Sync	14	V-Sync	15	DDC SCL

（*NC：no connection）

8.3. DVI-D Connector

Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock (SCL)	14	+5V Power	22	TMDS Clock shield
7	DDC Data (SDA)	15	Ground (For +5V)	23	TMDS Clock+
8	NC	16	Hot Plug Detect	24	TMDS Clock-

8.4 Displayport Connector
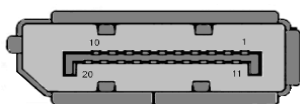
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	ML3(n)	6	ML2(p)	11	GND	16	GND
2	GND	7	ML1(n)	12	ML0(p)	17	AUX(n)
3	ML3(p)	8	GND	13	GND	18	HPD
4	ML2(n)	9	ML1(p)	14	GND	19	RTN
5	GND	10	ML0(n)	15	AUX(p)	20	PWR