User Manual

3MP Color LCD Display
C32SP+/C32S+

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.
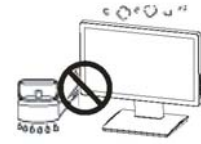
To avoid danger of suffocation, keep the plastic packing bags away from babies and children.

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.
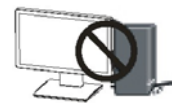
If the power cord is broken, stop to use it immediately. Using broken power cord may result in fire or electric shock.

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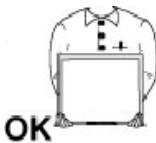
The liquid crystal that may leak from the panel is poisonous if it enters the eyes or mouth. If any part of the skin or body comes in direct contact with the panel, please wash thoroughly. If some physical symptoms result, please consult your doctor.

Follow local regulation or laws for safe disposal.

The lamp of LCD panel contains Hg, please follow the local regulation or laws for safe disposal.

LAMP CONTAINS MERCURY, DISPOSE ACCORDING TO STATE/LOCAL LAW. 灯泡含水银，请按当地法律处理。

⚠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. |
| **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

C32SP+/C32S+ 3MP Color LCD display, with high resolution 2048x1536, is intended to be used in displaying and viewing digital images, for review and analysis by trained medical practitioners. Each monitor has been precisely calibrated to comply with DICOM Part 14 at factory. With built-in brightness stabilization circuit, front sensor and ambient light sensor, stable brightness and persistent calibration can be guaranteed. The display can support both landscape and portrait mode. The anti-reflection coated protective screen can prevent display from damage under hard using conditions, make the clean and disinfect easier.

2.1. OSD and Interface

a. Front
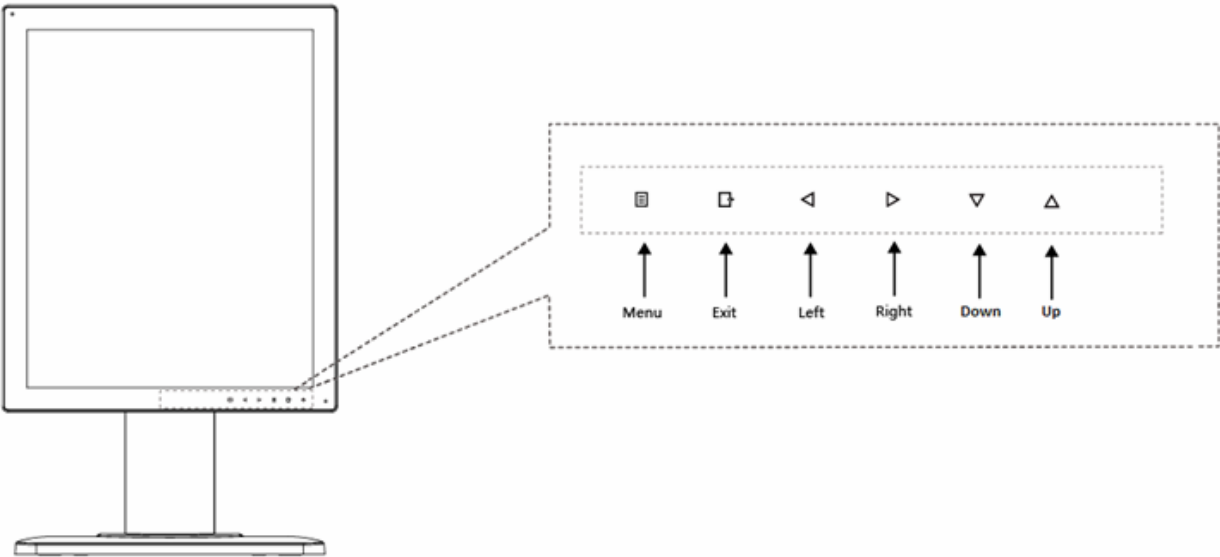
b. Back
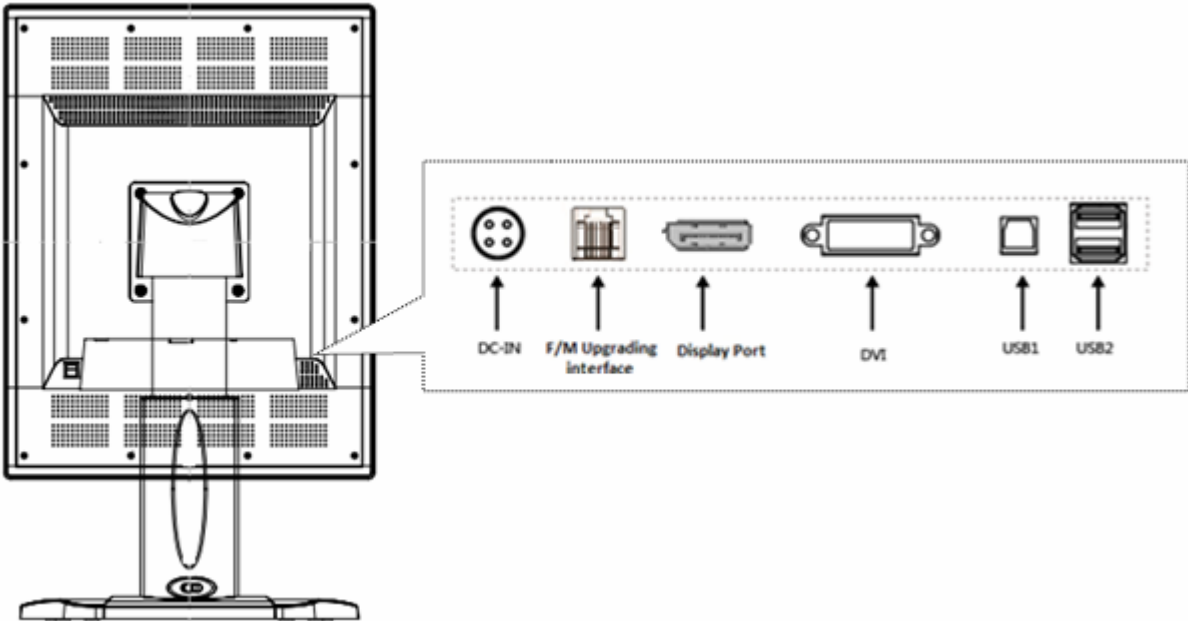
3. Quick start

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.
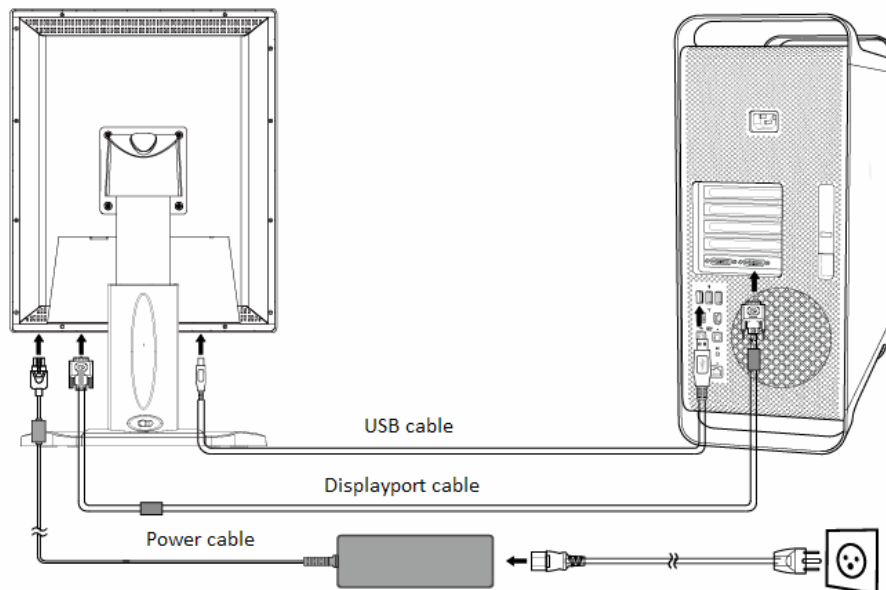
2. Adjust the height, position and angle of monitor.

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.
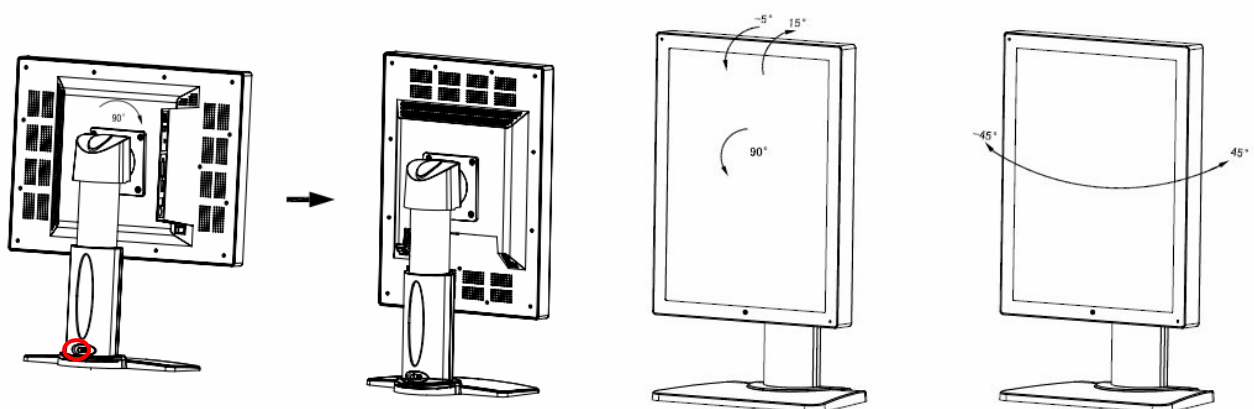
3. Turn on the monitor, the power indicator light will become green. Start the computer and set mode of monitor as below: 1536 x 2048 (in portrait mode) or 2048 x 1536 (in landscape mode).

  NOTE:

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

      The original screen deflection,turn on the video card control interface, alter the rotation angle to the required display effect.

⚠️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
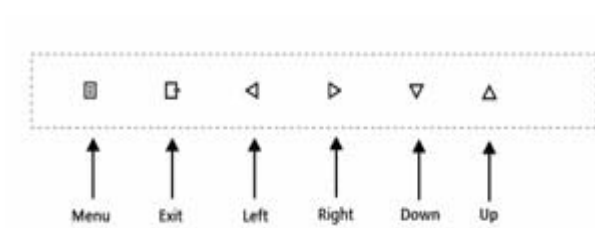
LED indicator

LED Color	The status of the monitor
Green.	Normal operation
Orange	Stand-by mode
None	Off mode

Key Functions in the OSD Menu

Key	Action
Menu	Activate OSD or "Enter Key"
Exit	Return to previous menu or exit menu
Left	"Left Key"
Right	"Right Key"
Down	"Down Key"
Up	"Up Key"

Hotkey Menu

Keys	Action
Menu	Show OSD menu
LEFT/RIGHT	Backlight control
UP/DOWN	Contrast control

Note: Press LEFT/RIGHT, UP/DOWN key to adjust backlight/Contrast while there is no menu displayed.

5. OSD MENU

Main Menu	Function	Option	Description
Input	Input	DP DVI	Select Input source
Image	Brightness	0-100	Adjust black level
	Contrast	0-100	Adjust Contrast
	Gamma	DICOM DSA DSI CT MRI 2.2 2.0 1.8	Select Gamma Curve
	Color Temp.	>>>	Go to Color Temp. sub menu
	Aspect Ratio	Full Screen Native	Select Aspect Ratio mode
Setup	Language	English 中文	Select OSD language
	OSD Position	Center Bottom	Select the position of OSD Menu
	OSD Rotation	OFF/90/ 180/270	Adjust the viewing angle of the OSD menu
	Auto Scan Input	Off On	Select the scan mode
	Amb Light Ctrl	ON/OFF	Backlight auto adaptation to ambient light Enable/Disable
	Factory Reset	>>>	Reset to factory default settings.
Status	Firmware version	Eg:V1.01	Firmware version imformation
	Main Input	DVI/DP	Input imformation
	Main Format	Eg:2048X1536/60Hz	Input Format imformation

6. 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.

7. 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.

8. Package and Accessory

C32SP+/C32S+ LCD Monitor

Graphics card

Displayport cable

USB cable

Power cable

Power adapter

User manual

Graphics card driver disk

9. Specification

9.1. Specification

|	
Panel	21.3", TFT Color LCD screen, antigalre
Brightness (typ.)	800 cd/m^2
CR (typ.)	1400:1
Viewing angle	R/L 176°，U/D 176°　Typ.（CR > 10）
Pixel Pitch	0.2115 mm
Native resolution	2048 x1536
Display area	433.152mm (H) x 324.864 mm (V)
Power	DC12V/10A
Power consumption	MAX.120W
Input signals	DVI-D,Display Port
Plug and play	VESA DDC 2B
Operating temperature and humidity:	Temperature: 5°C ~ 35°C Humidity: 15% ~85%
Storage temperature and humidity:	Temperature: -20°C ~ 60°C Humidity:10% ~90%

9.2. DVI-D Connector
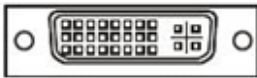
Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS Data 2-	9	TMDS Data 1-	17	TMDS Data 0-
2	TMDS Data 2+	10	TMDS Data 1+	18	TMDS Data 0+
3	TMDS Data 2/4 Shield	11	TMDS Data 1/3 Shield	19	TMDS Data 0/5 Shield
4	TMDS Data 4-	12	TMDS Data 3-	20	TMDS Data 5-
5	TMDS Data 4+	13	TMDS Data 3+	21	TMDS Data 5+
6	DDC Clock (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-

（*NC：no connection）

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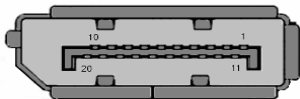
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	ML3(n)	6	ML2(p)	11	GND	16	GND
2	GND	7	ML1(n)	12	ML0(p)	17	AUX(n)
3	ML3(p)	8	GND	13	GND	18	HPD
4	ML2(n)	9	ML1(p)	14	GND	19	RTN
5	GND	10	ML0(n)	15	AUX(p)	20	PWR

10. FCC 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.

● This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

● Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

BEACON 巨烽

Shenzhen Beacon Display Technology Co.,Ltd

Room 201, Incubator Building, CASTD, High-tech South 1st Street, Nanshan District, Shenzhen
Tel: +86 755 26050699 26995355   Fax: +86 755 26995755
Website: www.beacon-display.cn