

JUSHA 1MP Medical Monitor



R193G

User Manual

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1. Manual instructions










1.1 About this manual

- This manual aims to guide users to install, configure and operate the professional medical monitor properly, so please read carefully before use.
- When transferring the monitor to a third-party, please deliver this manual along with the monitor.
- Our product is subject to change without further notice.
- For any further questions about this manual, you are welcome to contact Nanjing Jusha Display Technology Co., Ltd. (hereinafter referred to as JUSHA).

1.2 Explanation of symbols

This manual and product use the symbols below.

	<p>Note Extra information about the described subject.</p>
	<p>Warning Indicates general cautionary, warning, or danger level information.</p>
	<p>Electrical Shock Caution Indicates possibility of electric shock.</p>
	<p>Prohibition Indicates a general prohibition.</p>
	<p>Mandatory Ground Indicates that a ground that must be connected by the user for a device equipped with a ground terminal.</p>

	<p>*China Compulsory Certification (CCC) Indicates the product meets the requirements of CCC.</p>
	<p>*Conformite Europeenne Certification (CE) Indicates the product meets the requirements of CE Certification.</p>
	<p>*Societe Generale de Surveillance S.A. (SGS) Indicates the product has been certificated by SGS and qualified for North American market.</p>
	<p>European Authorized Representatives Gives information of the Authorized European representatives.</p>
	<p>Waste Electrical and Electronic Equipment Directive (WEEE) 2002/96/EC Waste disposal should comply with local regulations.</p>
	<p>Recommend to refer the User Manual</p>
	<p>Manufacturer information</p>
	<p>JUSHA trademark</p>
	<p>Product serial number</p>

*The display meets the appropriate certification standards only by using the medical-level power supply.

1.3 Safety information



Warning:

Read all the important safety information before installing and operating your 1MP monitor.

Installing environment

- The equipment should be installed near an easily accessible

outlet.

- Place the device on a flat, solid and stable surface that can support the weight of at least 3 devices. If you use an unstable cart or stand, the device may fall, causing damage to the device or even injury to people.
- Do not use the monitor in the presence of flammable anesthetics mixture with air, oxygen or nitrous oxide to avoid explosion.
- Do not expose the monitor to rain or damp. Never use the monitor near water - e.g. near a bathtub, washbasin, swimming pool, kitchen sink, laundry tub or in a wet basement.
- Please leave necessary space of at least 10cm between the monitor and the wall for heat dissipation. Do not cover or block any ventilation openings in the cover of the set.
- Keep small object or liquid away from the product. If small object or droplet gets into the monitor, please shut off power supply immediately and contact us for technical support.

About the powering and grounding

- Please use power cord provided with the monitor. Please insert the plug into the socket firmly.
- Don't touch power cord or plug/unplug it when thundering, or it may cause electric shock.
- Please hold the attaching plug when you unplug it. Don't unplug it by pulling power cord, otherwise the power cord may be injured and result in electric shock.
- Do not contact the power cord, plug or unplug during lightening, otherwise an electric shock may occur.
- To disconnect the power cord, grab the power plug and pull it out. Pull the power cord may damage the power cord and cause electric shock.
- Please use the appropriate power supply. Please use the

- power supply within the voltage range specified in this manual, otherwise it may cause fire, electric shock or product damage.
- To fully disengage the power to the device, please disconnect the power cord from the AC inlet.
 - Please make sure that this product connected with a qualified computer or other devices.
 - Make sure the monitor is grounded properly.

About the Maintenance and repairs

- Use of faulty equipment may cause fire, electric shock or equipment damage. If the product starts smoking with a burnt smell or abnormal noise, cut off the power immediately and contact Nanjing Jusha Display Technology Co. for help.
- The maintenance work must be carried out by qualified personnel. Do not repair or modify the equipment by yourself, otherwise it may cause damage to the equipment or personal injury.
- The liquid crystal material leaked from the LCD screen can have toxic and side effects. Do not contact the damaged LCD screen. If you have contacted with the liquid crystal, please conduct a thorough cleaning and consult your doctor immediately.

Recommendations for use

- For extremely important applications, we highly recommend preparing standby displays for ready replacement.
- Do not squeeze the display panel hard, which can cause screen damage.
- Do not stroke or press the display with sharp objects (such as a pencil or pen), which may cause damage to the display. Please clean the screen with a clean and soft cloth.
- Do not directly touch the signal port of the display, or it may

cause potential electrostatic hazards to the display.

- The LCD backlight has a certain service life. We strongly recommend using the recommended brightness and turn off the display when unused to maximize its life.
- Handling of waste equipment should comply with local regulations.
- If the display is not used correctly, the display may interfere with other devices when working. The following actions are recommended to remove the interference:

Move or adjust the disturbed device.

Set up a partition device between the devices.

Inserts two device plugs into different sockets.

2. Overview

Thank you for choosing JUSHA 1MP professional medical monitor! R193 is a LED Backlit color 1MP professional monitor.

Jusha 19" 1MP Professional Color Display is a product specifically designed to meet accurate performance standards for observation, diagnostic, interventional radiology, nuclear medicine and other medical applications, it has built in DICOM standard LUT.

Jusha monochrome monitor series is suitable for DR, digital gastrointestinal machine, DSA, MRI, dentistry and other equipment for observation or diagnosis.

2.1 Features

- **High resolution**

With up to 1 megapixels of resolution, it can fully display the details of medical images and meet the accurate diagnosis of medical institutions.

- **Wide perspective**

From the display edge, the gray scale offset is minimal due to the wide viewing angle.

- **DICOM compliance**

To ensure that the display always presents the most accurate image effect, JUSHA carefully measures and sets each of its gray scales during the display production, to ensure that the display produced conforms to the DICOM standards.

- **Brightness stability**

The display uses a medical LCD screen and has a brightness stability mechanism to ensure a stable brightness during the use time of the product.

2.2 Packing list

JUSHA 1MP LED monitor comes with:

NO.	Name	NO.	Remark
1	LED/LCD screen	1	
2	Graphics card	1	Optional
3	Power cable	1	
4	DP signal cable	1	Optional
5	HDMI signal cable	1	Optional
6	DVI signal cable	1	
7	VGA to DVI cable	1	Optional
8	BNC signal cable	1	Optional
11	CD	1	

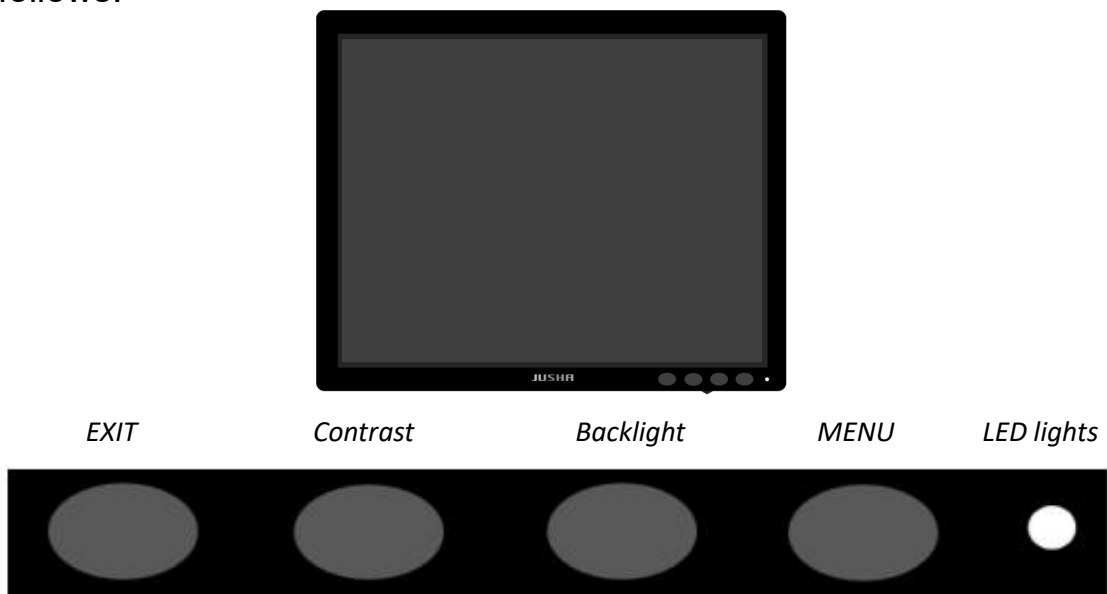


Note:

1. The above packing list is for reference only. The actual accessories are subject to the packing list in the package.
2. If there is any accessories damage or loss, please contact us.
3. Please only use the original accessories supplied with the monitor. Nanjing Jusha Display Technology Co., Ltd is not responsible for any technical problems caused by using third-party accessories.
4. Please keep the original package. If you need to transport the product, please use the original package.

2.3 Front view and keypad

Front schematic view of Jusha professional monitor series is as follows:



Keypad functions:

Items	Status	Functions
EXIT	User OSD is activated	Exit the menu
	Sub menu	Return to previous menu
Contrast	User OSD is not activated	Hotkey to activate the contrast menu
	Contrast menu is activated	Decrease the value
	User OSD is activated	Enter sub menus
	Sub menu	Decrease the value or adjust the parameter of the item cursor located
Backlight	User OSD is not activated	Hotkey to activate the backlight menu
	Backlight menu is activated	Increase the value
	Sub menu	Increase the value or adjust the parameter of the item cursor located
MENU	User OSD is not activated	Activate the main menu
	Backlight/contrast menu is activated	Activate the main menu
	User OSD is activated	Adjust the cursor to next item
LED lights	Not bright	Power off
	White	Power on and without signal
	Green	Power on and with signal

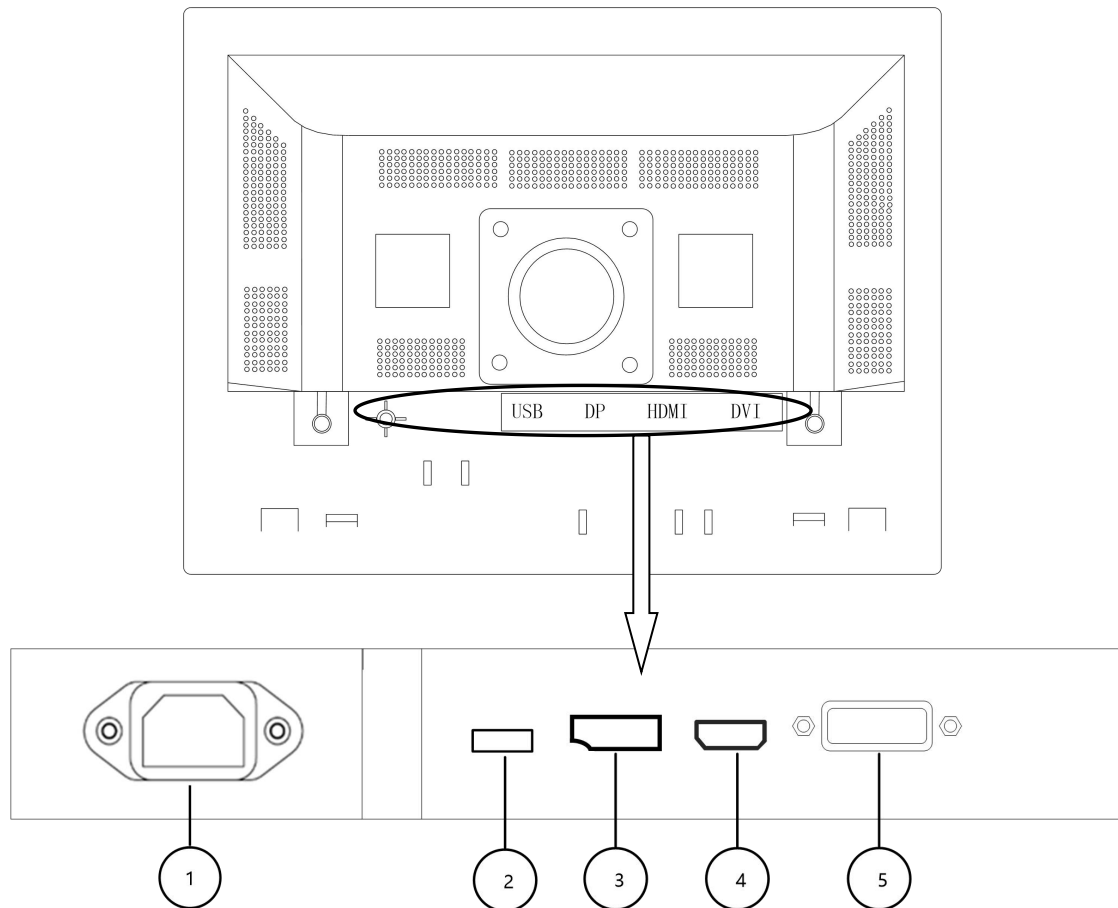


Note:

There is each key logo on the key board. See "4. Display Settings" for specific operation methods and functions.

2.4 Rear view and connection panel

Rear schematic view of Jusha professional monitor series is as follows:



1	AC Power input	2	USB port
3	DP port	4	HDMI port
5	DVI-I port		



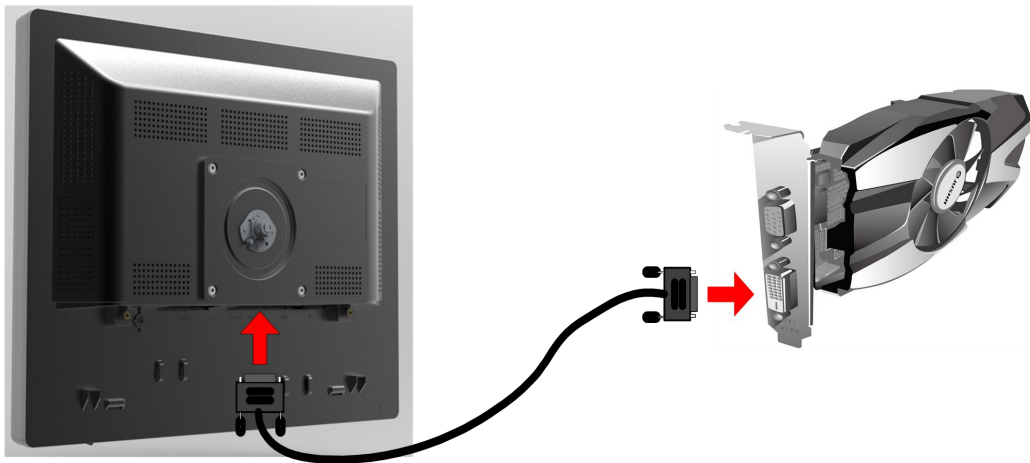
Note:

The USB port is only used for internal UART.

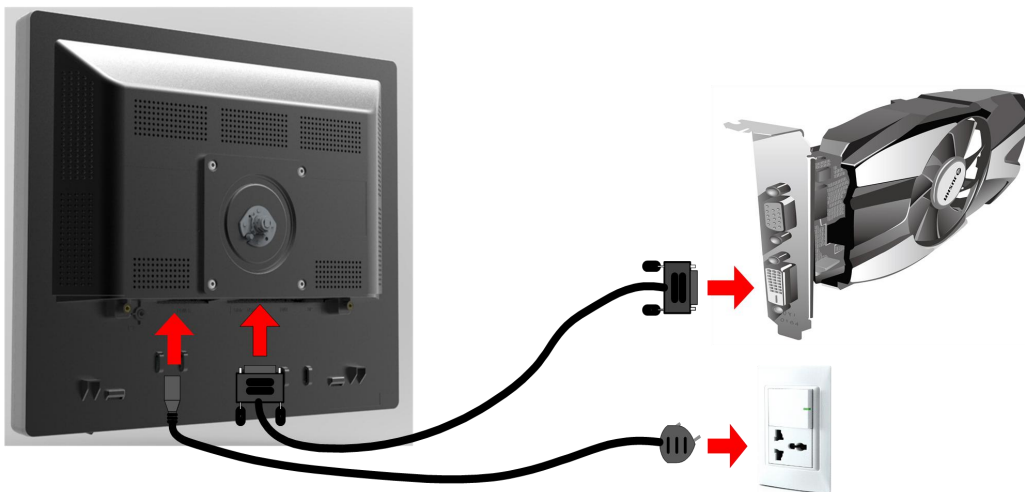
3. Monitor installation

3.1 Connect the video signal cable and the power supply

1. Uses video signal lines to connect the display to the computer host graphics card. Take the DVI signal, for example.



Connect the DVI on the graphics card to the DVI interface corresponding to the display via the video signal lines



Warning:

Please read the 1.3 Safety Information section carefully before access to the power supply, otherwise it may cause shocks or permanent damage to the display.

3.2 Adjust the display screen position

Adjust the position of the display screen, including height and angle, to provide the most comfortable viewing angle. Specific operation is as follows:

3.2.1 Adjust the display height and angle using the foldable base



3.3 VESA installation

The display is compatible with the base installation with VESA 100mm standards. It can be hung on the wall or the arm rack according to VESA 100mm standards, the base needs to be removed before suspension, and note that the support arm used shall be able to support the weight of the display.



Warning:

- 1、 Contact a technician for the installation. JUSHA is not responsible for any damages to the product or harm when the installation is done by the customer.
- 2、 When mounting with the support arm, the screw entry into the display cannot be greater than 8mm.

4. Monitor settings

4.1 Turn on the monitor

Turn on the host connected to the display. If the display and the graphics card and the graphics card drive are being correctly installed, open the display by pressing the boat type switch on the bottom right side of the display.

4.2 Turn off the monitor

When the display is on, turn the display off by pressing the boat type switch on the bottom right side of the display.

4.3 Menu Introduction

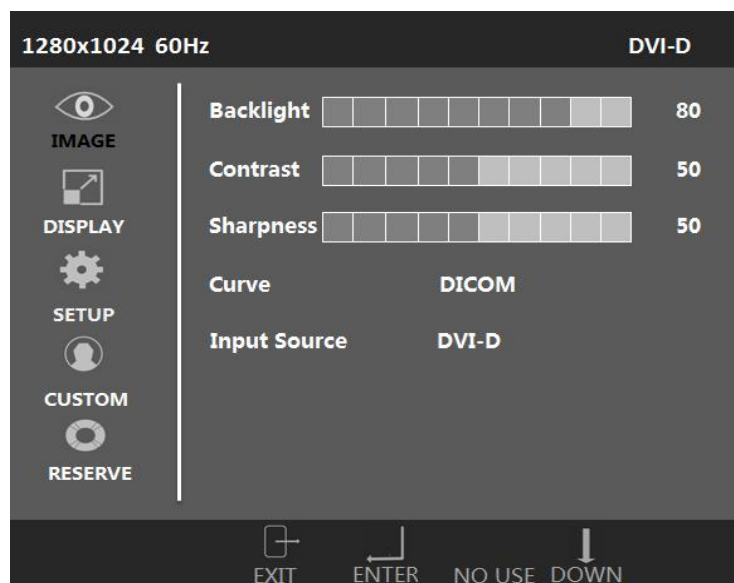
Users can use the keys and menu options to set different parameters of the monitor, so as to meet the users' needs of work environment. Similarly, users can also view the basic information and the current set about the monitor via menu.

1、 Backlight menu/contrast menu:





2、 OSD MENU:



Note:

The menu here is just a schematic diagram. Different monitors' OSD menus are different. Please take the actual menu as standard.

The following table shows structure of the OSD menu.

Main Menu	Sub-menu	Remark	Default
IMAGE	Backlight	0-100, step 10	80
	Contrast	0-100, step 1	50
	Sharpness	0-100, step 10	50
	Curve	DICOM, DSI	DICOM
	Input Source	DVI-D, HDMI, DP, DVI-A(VGA) (R190)	DVI-D
	DVI-D, HDMI, DP, SOG		

		(R191)	
monitor	Aspect Ratio	Full, ASPECT	Full
	Auto Adjust	Selectable when source is DVI-A (VGA), SOG	
SETUP	OSD Language	Chinese, English	English
	Factory Reset		
CUSTOM			
RESERVE			



Note:

This product menu options and specifications are subject to change without notice.

4.4 Operation button and OSD menu

4.4.1 Adjust backlight/contrast menu

1. When the display is on, press the Backlight shortcut key/ Contrast shortcut key to adjust the shortcut backlight adjustment menu / shortcut contrast adjustment menu. If the next action is not taken in the next 15s, the menu disappears again.
2. Press the left and right keys to adjust the brightness / contrast value according to the prompts under the menu.
3. Press EXIT to exit the shortcut adjustment menu and press MENU to call out the OSD menu.

4.4.2 Adjust OSD menu

1. When the display opens, press MENU, and the OSD menu appears on the display screen. If the next action is not taken in the next 15s, the menu disappears again.
2. Press the DOWN key to adjust the cursor in the Level 1 menu, according to the prompts under the menu.
3. Press ENTER key to enter the second menu level when current cursor is at the first level menu.

4. Press DOWN key to adjust cursor to next item in the second level menu.
5. Press left/right key to adjust the parameter of the item cursor located in the second level menu.
6. In the secondary menu, press EXIT to return to the first level menu; in the first level menu, press EXIT to exit the OSD menu

5. Important Information

5.2 Technical specifications

Model	R190
Input voltage	AC 100-240V~1.5-0.75A 50-60Hz
Standby power consumption	<0.5W
Consumption(nominal)	<25W
LCD Panel	19.0 inch (479.96mm) , TFT Colour Liquid Crystal monitor
Viewing angle	Horizontal 178°, Vertical 178° (CR > 10)
Pixels distance	0.2928 (H)x0.2928 (W) mm
Resolution	1280x1024
Visual Size	374.7840(H) x 299.8272 (V) mm
Input signal	DP/HDMI/DVI-D/DVI-A
Operation environment	Temperature: 0°C to 40°C Humidity: 20% - 85% no condensation Air pressure: 700hPa~1060hPa Prevent water from leaking
Environment for transportation and storage	Temperature: -20°C to 60°C Humidity: 10% - 90% no condensation Air pressure: 200hPa~1060hPa
Certification standards	CCC, CE



Note:

The specifications of JUSHA products are subject to change without notice.

5.2 Environmental protection specifications

The raw materials used in this product meet RoHS and does not contain harmful substances such as lead and mercury.

5.3 Safety standards

Safety standards	In Accordance with GB4943.1-2011
Authentication	CCC

5.3 Electromagnetic compatibility

The electromagnetic compatibility of this product meets the following standards:

Electromagnetic compatibility	GB/T9254-2008; GB17625.1-2012
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6.Declarations

6.1 Legal notice

The auxiliary equipment that is connected with Jusha Monitor should meet the corresponding IEC Standard (data processing equipment should meet IEC 60950-1 Standard and the medical equipment should meet IEC60601-1 Standard). In addition, anyone connecting other equipment to a signal output or input interface for system configuration must ensure that the system meets the IEC 60601-1-1 standard.

Staffs responsible for connecting the monitor with a system should make sure that installed devices meet IEC 60601-1-1 Standard. If there is any question, please contact with JUSHA Engineering Technology Service Department or local marketing representatives.

JUSHA sells its products through medical equipment manufacturers, distributors and franchisers. Therefore, please consult your seller whether he/she provides relevant maintenance service.

JUSHA will neither take any responsibility nor authorize anyone to take any responsibility for product distribution and its use. Please read carefully the related documents, operation instruction and labels on package before you apply the product so that you can use and maintain the product properly.

Please note that its performance will be affected by system configuration, software, application program and client's data and client's operating control. Though JUSHA product is compatible with many systems, client's specific function might be implemented differently. Whether the product is suitable for a specific purpose or application program depends on clients , for which JUSHA should not guarantee.

JUSHA expressly disclaims all warranties of any kind, whether statutory, expressed or implied, including, but not limited to, implied warranties of merchantability, applicability for a particular purpose and non-infringement. JUSHA hereby explicitly rejects all warranties and statement of any kind, any property or extent whether statutory, expressed or it leads to any laws, rules, commercial practice, conventions or trade disputes etc.

In no event shall JUSHA and its suppliers/franchisers be liable for any special, incidental, punitive, indirect or consequential damages (including, but not limited to, delay deliver, non-delivery, fault items, product design or production manufacture, being unable to use the product and service, loss of

business or profits or other reasons, and any responsibility caused by buy or sell, lease, install or use related products, these constitute terms and conditions and related articles of agreement.

The limits in this article and/or exclusions are not necessarily suitable for some inadmissible exclusion clause, warranties or limited judicial districts. The maximum extent is permitted by applicable law in named jurisdiction under the circumstance.

All information in this user's manual, including all design and related materials is owned by Nanjing JUSHA Display Technology Co., Ltd., who reserves all patents, copyrights, and other exclusive rights in this user manual. Without the clear authorization of Nanjing JUSHA Display Technology Co., Ltd., no one shall copy the design of the product, copy, use and sell the product.

6.2 After-sale service declaration

The after-sale warranty is three years from the date of purchase, only if the product has been used with the recommended brightness. We are responsible for the quality problems caused by non-artificial factors and the maintenance are free of charge. Nanjing JUSHA Display Technology Co., Ltd. guarantees free repair for parts damaged and any eligible problems caused by production technology within three years from the date of purchase.



Note:

The user must contact and get permission from JUSHA before sending back the product for repairs.

Please keep the original package. If you need to send this product again, be sure to use the original package. Do not put weight on the goods during transportation.

Users shall not be allowed to repair by themselves or repair outside the after-sales service offices of Nanjing JUSHA Display Technology Co., Ltd., and the original serial number shall not be modified or removed. In order to obtain this quality assurance, the users shall not violate the requirements of this specification, which will lead to quality assurance failure.

This product provides a limited liability quality assurance. Nanjing JUSHA Display Technology Co., Ltd. is not responsible for the direct, indirect or accidental damage caused by the user's own reasons. Users should pay attention to the system setting, software, application, user data and operation

control of the product. The above factors will affect the performance of the product. The product can be compatible with a number of systems, and it is up to users to choose the characteristics and functions of the product according to their own needs.

6.3 Proprietary rights

Nanjing Jusha Display Technology Co., Ltd keeps the copyright of this manual and other related ownership. It is not allowed to copy, use or sell this product without authorization of Nanjing JUSHA Display Technology Co., Ltd