USER MANUAL

For Touch Monitor

Please read this manual carefully and keep it in a safe place before use.

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The images in this manual (including but not limited to their models, appearance, colors, dimensions, screen display content, etc.) are for illustrative purposes only. Please refer to the actual product for accuracy.

READING TIPS

Symbol Key

	Note or Information		Warning		Caution

USAGE RECOMMENDATIONS

CTT provides you with the following documentation:

- "Sales Diagram"
- "Specification Sheet"
- "User Manual"

We recommend starting with the "Specification Sheet" to learn about the touch display's specifications and structural dimensions. For more information, refer to the "Sales Diagram." To fully understand the product, please read the "User Manual."

The introductory page of each chapter in the user manual provides an overview of the chapter's content.

This manual is intended for closed frame and related touch monitor

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PRECAUTIONS BEFORE USE

This section primarily covers some important points to note when using the product.

1. Precautions Before Use

1.1. Safety Precautions



Here are some safety precautions to be followed when using our product. Please read and adhere to them carefully.

Before cleaning the product, make sure to unplug the power cord, and wipe the product with a soft, dry cloth.

Do not use components other than those recommended by the manufacturer, as it may cause damage.

Do not attempt to drag the monitor by its power cord, and do not touch the plug with wet hands.

Avoid excessive bending of the plug and power cord, and do not place heavy objects on them to prevent damage.

Place the product in an area away from oil, smoke, or moisture to avoid malfunction, electric shock, or fire. Particularly, avoid operating the monitor near water or outdoors where it may be exposed to rain or snow.

Do not block the ventilation openings on the monitor casing, and do not place the monitor or power adaptor on a bed, sofa, carpet, etc., as poor ventilation may cause malfunctions or fire.

When installing the product, ensure that it is positioned at least 76 mm away from the wall for proper ventilation.

Use only the power source type listed on the product label. If you have any doubts about the power source, please contact local dealer or power supply department.

Use only properly grounded plugs and sockets, as improper grounding may result in electric shock or device damage. If plug cannot be inserted into the socket, please replace the socket.

Ensure that the socket can handle the total electrical load of the connected product. Do not connect too many extension cords or plugs to a single socket, as it may cause a fire.

Do not place the product on an unstable or narrow surface. Place it on a flat and stable surface to prevent the product from falling and causing harm to passersby, especially children.
Do not attempt to extend the power cord, as it may cause a fire.

Do not the monitor cabinet by yourself. If the monitor needs inspection or repair, please contact a professional service technician.

In case of the following situations, unplug the power cord first and then contact a professional service technician:

- Do not attempt to extend the power cord, as it may cause a fire.
- Do not attempt to extend the power cord, as it may cause a fire.
- Do not attempt to extend the power cord, as it may cause a fire.

When not using the monitor, unplug the power cord from the power outlet.

Do not install the product in poorly ventilated, high-light, high-temperature, or humid areas.

1.2. Delivery Status

According to the product specifications, all components are delivered with specific hardware or software configurations, including firmware versions. It is important to note that any modifications or changes made to the hardware or software configurations (including firmware versions) beyond the specified limits are not allowed for this product. In such cases, CTT (the company) will not be held responsible for any consequences or liabilities that may arise.

1.3. Delivery Status

Number	Name	Quantity	Remarks
1	Touch monitor	1	
2	Power cable	1	
3	Power adaptor	1	
4	USB cable (Type-B to Type-A)	1	For Touch Monitor
5	Video Cable	1	VGA, HDMI, etc.
6	Specification sheet	1	Electronic version
7	Sales diagram	1	Electronic version
8	User manual	1	Electronic version

Note: Due to variations in specific models within this product series, please refer to the actual provided model for accuracy.

1.4. Preparation

This manual is designed for closed frame touch monitors and covers basic information such as product introduction, installation and usage instructions, troubleshooting, and more.

For our touch monitor, it is important that the operators have a certain level of professional knowledge and experience.

Here are some essential elements to ensure the proper functioning of the touch monitor:



The power supply that matches the specifications of the touch monitor.

Before preparing to use the touch monitor, please make sure to determine the power supply that matches its specifications.

When installing and disassembling, it is necessary to turn off the power and then power on the monitor after assembly or installation is complete.



The touch monitor is compatible with certain operating systems for the host computer and supports specific video sources. It is important to use a compatible operating system for the host computer when using the touch monitor to ensure the touch functionality works properly. Using an incompatible operating system may result in the touch function not working or performing poorly.

Additionally, it is recommended to use a video source that has a resolution that is consistent with or supported by the touch monitor. Using a video source with an incompatible resolution may result in the inability to display content or poor display quality.

OVERVIEW

This section primarily focuses on introducing the features and applicable scenarios of this product series.

2. Overview

2.1 Product Definition

The closed frame series models are designed as touch-enabled monitors specifically for desktop and wall-mounted applications. They support various installation methods, including base installation, wall mounting, and some models even support cabinet-style installation.

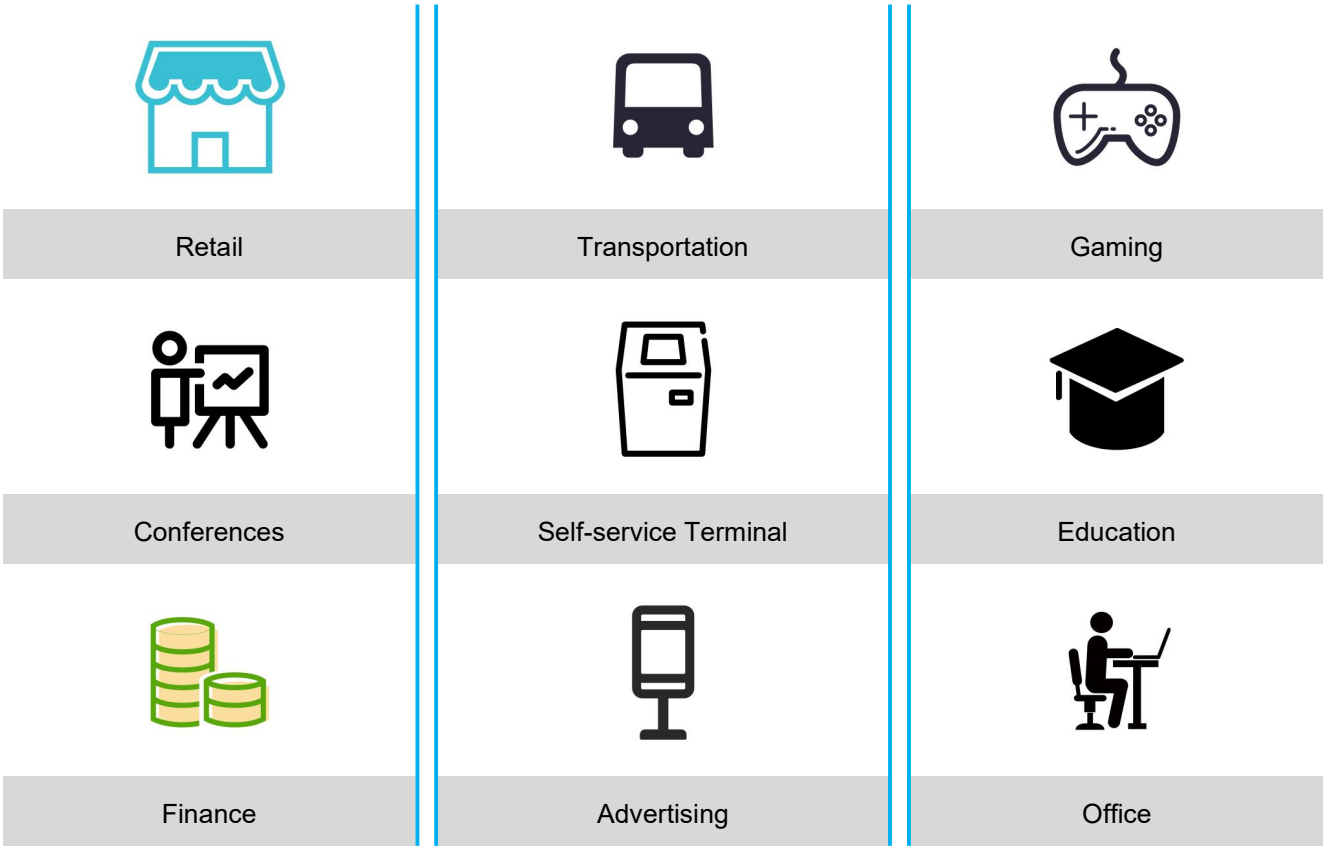
2.2 Key Features

The models in this series feature a stylish and exquisite design, utilizing industrial-grade display panels. They are equipped with low power consumption, ultra-thin body design, high resolution, and durable, fast, smooth, and precise touch interaction experience.

2.3 Application Scenarios

Compared to regular consumer-grade monitors, the desktop series models, with their industrial-grade high performance and professional design, are better suited for applications in industries such as retail, gaming, self-service terminals, finance, transportation, office, conferences, education, and advertising.

Based on the specific needs of customers, we offer specialized customization and modification for different usage scenarios, aiming to meet their diverse requirements for various environments.



PRODUCT DESCRIPTION

This chapter primarily covers the components, installations, usage, and routine maintenance of the product.

3. Product Description

3.1. Exterior

The front of the touch monitor is covered by a high-strength tempered glass, which ensures the overall protection of the device without compromising its display quality and touch experience.

Front View of a Touchscreen Display (Using 21.5" as an Example)



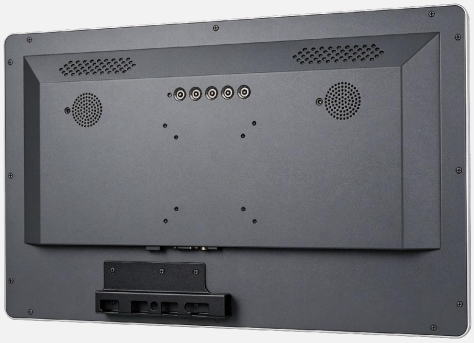


The slanted side of the touch monitor is the bezel.

Slanted Rear Side of the Touchscreen Display (Using21.5" as an Example)

The back of the touchscreen display is the rear casing (or shield), reflecting CTT's consistent minimalist design philosophy. The rear casing, interface design, OSD side buttons, and heat dissipation are all perfectly balanced.

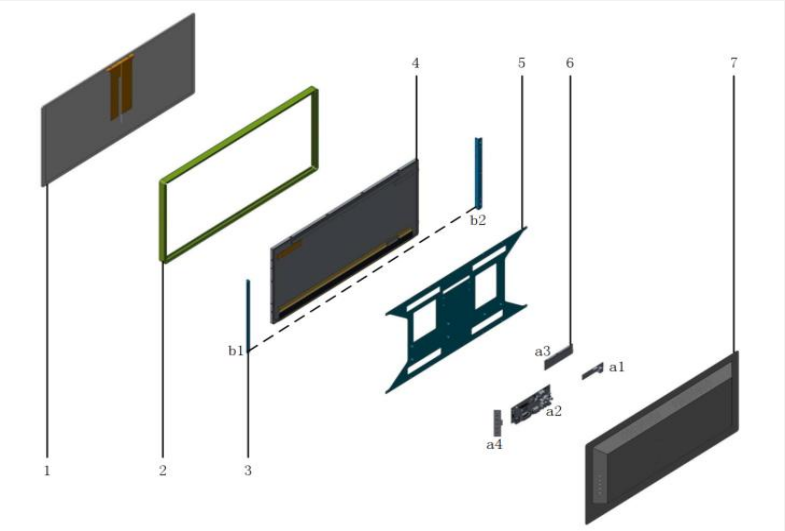
Back Side of the Touchscreen Display (Using21.5" as an Example)



3.2. Components

3.2.1. Structure

The back of the touchscreen display is the rear casing (or shield), reflecting CTT's consistent minimalist design philosophy. The rear casing, interface design, OSD side buttons, and heat dissipation are all perfectly balanced.



Touch Monitor Component

④ **Touch Screen (include cover glass)**
Used for touch interaction

④ **Locking Bracket (b1+b2)**
Used to secure and fix the panel, providing mounting holes for the metal plate.

③ **Metal Plate**
Provides fixation, limitation, and space for electronic components.

② **Back Cover (Shield Cover)**
Connects and secures the entire device, mainly used for heat dissipation and protecting the electronic components from damage.

In different models, some components with the same function may be referred to as a shield cover.

③ **Middle Frame (Front Frame)**
Provides fixation and connects the screen body to the back cover

② **Panel**
Display the visual content.

① **Electronic Components**
Mainly include A/D board (a2), touch controller (a3), wire board (a1), OSD button board (a4), high-voltage board (if applicable), and their corresponding connecting cables.

3.2.2. Interfaces

3.2.2.1. External Interfaces

Typically, we offer multiple interface combinations to accommodate different customer host interface types. For example, VGA+HDMI, VGA+DP, VGA+DVI+DP etc. Users can choose the corresponding model based on their needs.



Bottom View of Touch monitor (Example 21.5”)

Touch Monitor Interface Description(From Left to right)

USB Type B (Touch Port)
Touch interface

VGA (Video Graphics Array)
Used for video signal

HDMI (High-Definition Multimedia Interface)
Used for video signal

Audio-in Jack
Microphone

Power Supply
DC input, DC plug 2.0mm, 2.1mm, 2.5mm optional

3.2.2.2. OSD Button

The OSD (On-Screen Display) buttons are usually located on the back or side of the touch monitor to facilitate user operation.

Bottom View of Touch monitor (Example21.5”)



Touch Monitor OSD Button Description

POWER
Power button, Turn ON/ OFF

AUTO
Auto-adjust screen parameters, Exit/Return

Menu
Menu Button, confirm the selection

UP+
Adjustment button, Adjust Up/Right

DOWN-
Adjustment button, Adjust Down/Left

Off, not connected to power	Green, normal operation	Red, connected to power but in a non-working state

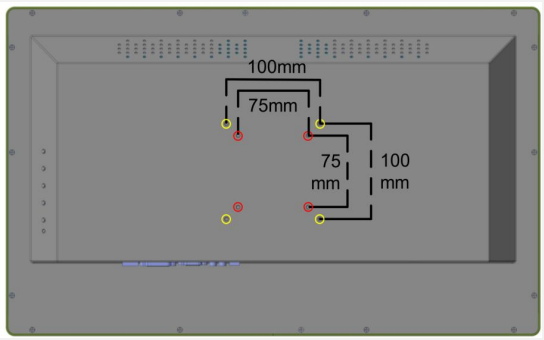


Illustration of Touch Monitor VESA Mounting Interface

3.2.2.3 VESA Installation Interface

The VESA interface is primarily used for customer installation and comes in different specifications. touch monitor to facilitate user operation.

Explanation of Touch Monitor VESA

75mm * 75mm

100mm * 100mm

3.2.3. Power Supply

We typically choose DC12V or DC24V power supply based on its power requirements and the user's power conditions.

3.2.4. Craftsmanship

For craftsmanship selection, we adhere to the principle of simple and refined design, suitable for users and application scenarios in different fields.

3.3. Accessories

We provide various types of accessories, such as cables (DP, HDMI video cables, etc.), mounting brackets, stands, etc. The accessory images listed below are for display and illustration purposes only. Please refer to the actual product for accuracy.

		
Power Cable (Optional)	Power Adapter (Optional)	USB Cable (Type A to Type B)
		
VGA Cable (Optional)	DVI Cable (Optional)	HDMI Cable (Optional)

3.4. Operation Instructions

3.4.1. Unboxing

After taking our product out of the packaging box, first inspect the appearance, and then read the specifications and user manual one by one. Once confirmed, connect the touch monitor to the host and power it on. The steps to open the device packaging are as follows:

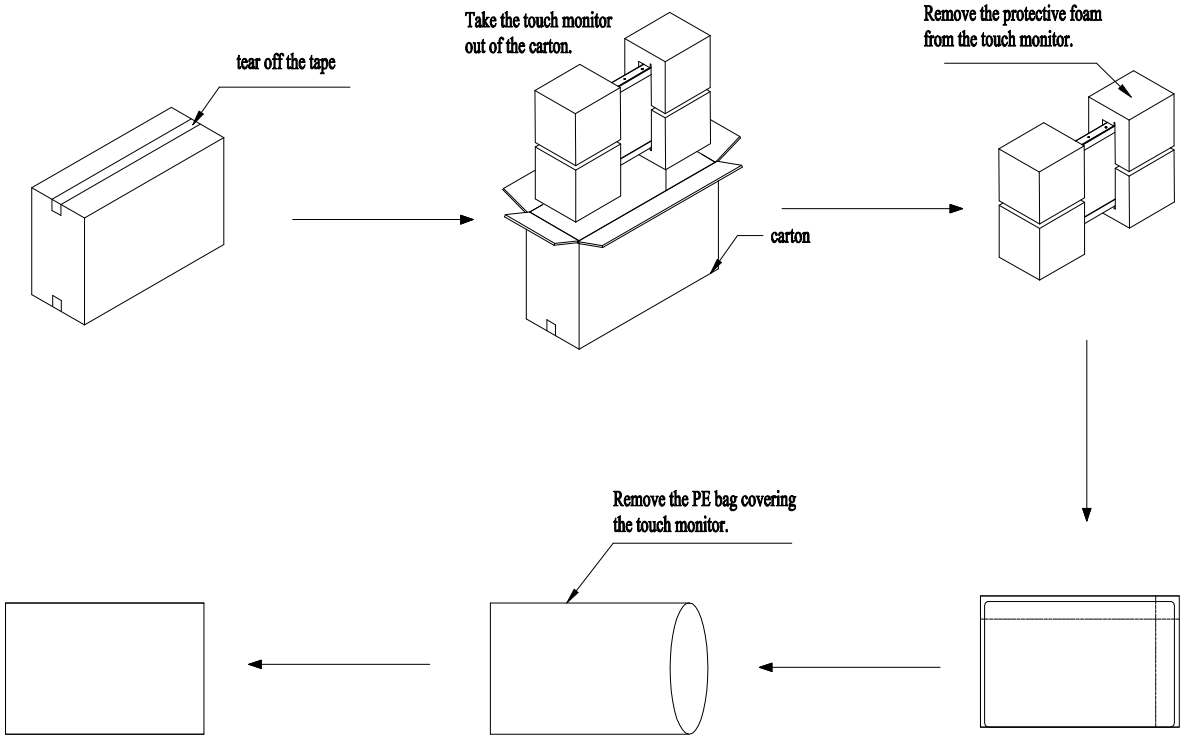


Fig. 1 Standard Unboxing Process

Unboxing precautions:

- Do not discard the original packaging box.
- Check the goods list against your order to ensure completeness.
- Keep the documents that come with the device, as they contain important information about the device and how to use it.
- Check for any obvious transportation damage inside the packaging.
- If you find any transportation damage or discrepancies between the packaging and the order, please inform CTT's sales or after-sales department.

3.4.2. Installation

For our closed frame touch monitors, we utilize the VESA interface of the display for desktop and wall mounting installations. Additionally, we support other installation methods, such as integrating the device into a cabinet by combining it with a mounting bracket and the VESA interface.

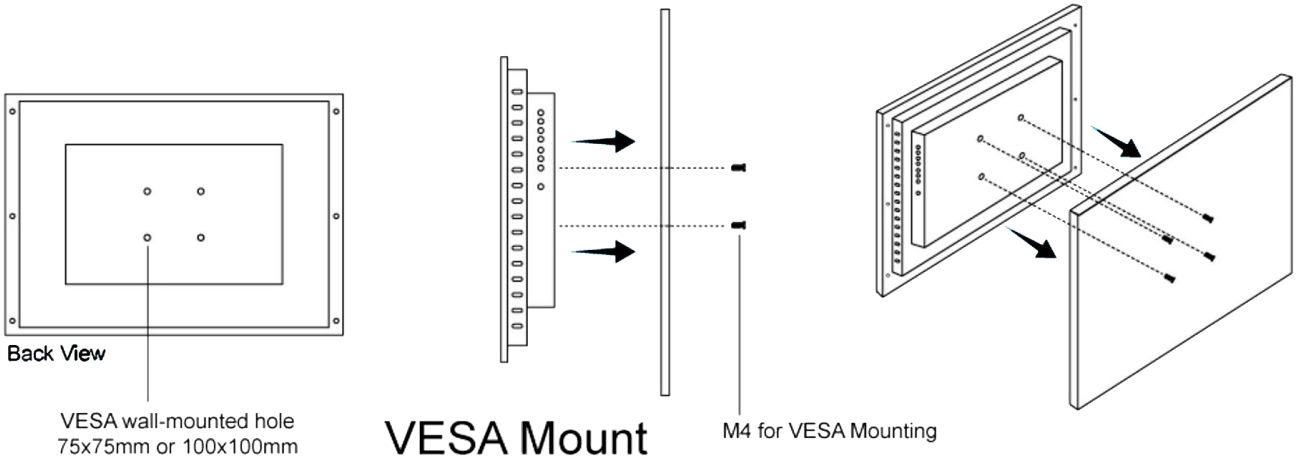
3.4.2.1. VESA Interface Installation

The VESA interface installation primarily supports desktop and wall mounting.

3.4.2.1.1. Desktop Installation

For desktop installation, you need to select a suitable stand and secure it with screws. The specific product models and stands involved in this installation method are for illustrative

purposes only and should be based on the actual product.



- Choose a suitable stand/base.
- Place the touchscreen display on a smooth desktop.
- Match the VESA holes on the touchscreen display with the stand/base.
- Secure the stand/base and the touchscreen display using appropriate screws.
- Once properly fixed, place the touchscreen display on the desktop.

3.4.2.1.2. Wall Mount Installation

Wall mount installation is typically done using a wall mount bracket that has locking tabs and screw holes that comply with VESA standards. After locking the display onto the bracket, it is securely mounted on the wall. When choosing a mounting bracket, it is important to consider the weight, size, and VESA mounting interface specifications of the touchscreen display as the primary criteria for compatibility. The images shown below for the installation methods are for illustrative purposes only. Please refer to the actual instructions for accurate installation guidance.

3.4.2.2. Other Installation Methods

Cabinet Installation

The VESA interface of the touchscreen display can be used for cabinet installation.

3.4.3. Usage

3.4.3.1. Connecting to the Host and Power

After installing the display, for the initial use, please connect the video cable first, then plug in the power and turn it on. During regular use, simply connect the power according to your habit.

The external interfaces are located at the back of the touchscreen display, as detailed in section "3.2.2.1". To power on the device, use the provided power cable and adapter to connect it to the power source. Refer to the respective product label for all power-related information.

Once the power adapter is connected to the power source, the indicator light on the touchscreen display will turn on and display red. After the host is powered on, the touchscreen display will receive the video signal and display content, and the indicator light will turn green. The connection diagram is shown below:

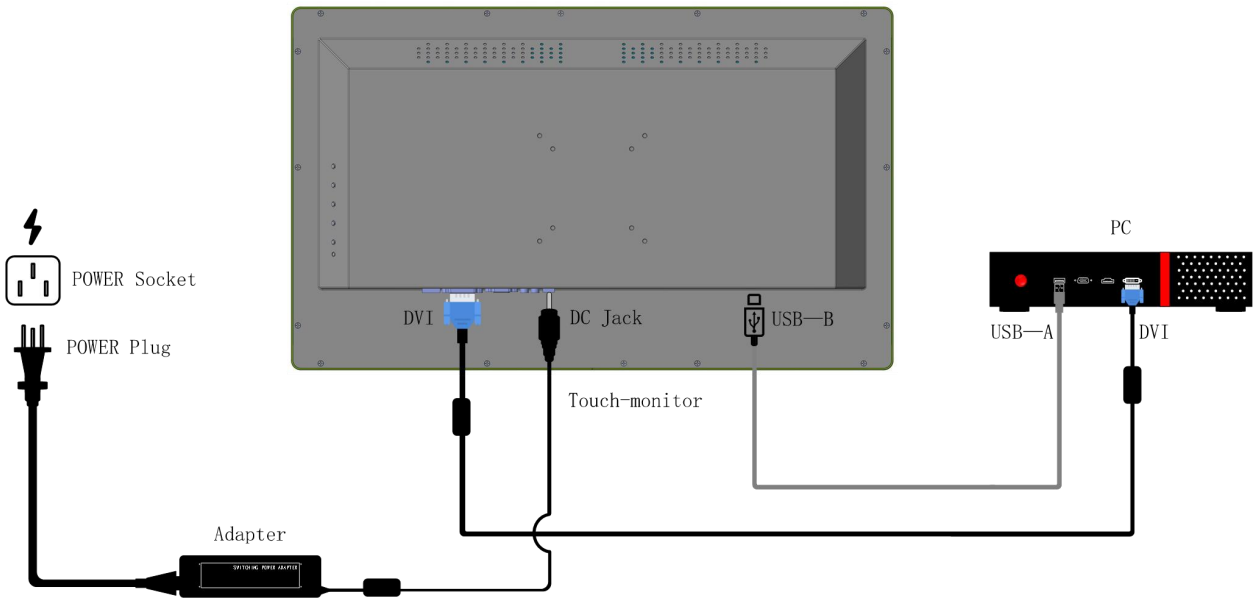


Fig. 1 Touchscreen Display Connection Diagram

Please note: In order to achieve optimal performance, it is generally recommended to match the computer's output resolution with the native resolution of the touchscreen display for the best image quality. The product images shown in the connection diagram above are for illustrative purposes only. Please refer to the actual products for accurate representation. The host computer and power socket are not provided by our company.

3.4.3.2. Touch

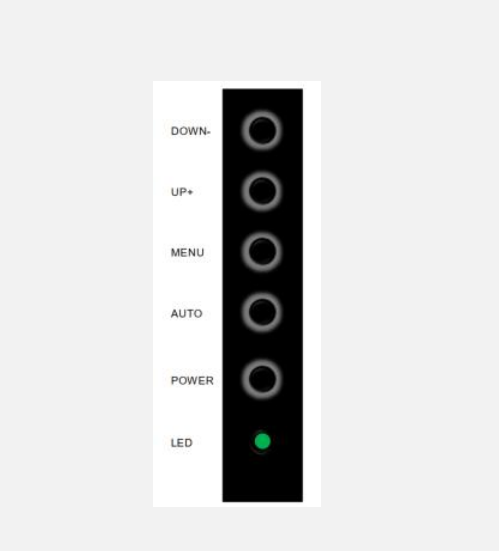
Our touchscreen display supports various gesture operations such as tapping and swiping. Please refer to the following gesture table for more details:

Table 1 Touch Gesture Descriptions

Gestures	Name	Type	Descriptions
	Tap	Static Gestures	Single Finger (Pads) to Touch and Swipe the Screen
	Multi Tap	Gesture Operations	Multiple Fingers (Pads) to Touch and Swipe the Screen
	Swipe	Gesture Operations	Moving a finger (Pads) across the screen
	Other	Gesture Operations	Supports Touch Operations on Different Platforms

Note: The above gestures are based on the Windows Universal Platform for the host operating system, as well as support from certain applications. The icons are for reference only, and the actual display on the touchscreen may vary depending on the specific model.

3.4.3.3. OSD Settings



OSD Button Diagram

To adjust the screen and parameters of the touchscreen display, it is necessary to understand the options and functions provided in the OSD menu (On-Screen Display), as well as how to use them. You can operate the OSD menu using the buttons located on the back of the touchscreen display.

Note: It is important to familiarize yourself with the functions of each button, as described in section 3.2.2.2 regarding the explanation of OSD button functions, in order to successfully complete the OSD parameter settings. The following illustrations are for reference only. Different models may have slight differences in their display interface and operational methods (workflow), so please refer to the actual device for accurate information.



OSD Main menu

3.4.3.3.1. Brightness and Contrast Adjustment

After pressing the menu button (MENU), the OSD menu will open. In this menu, you can use the buttons on the back, such as (UP+) or (DOWN-), to navigate horizontally and vertically. Press the menu button (MENU) again to select the highlighted menu item and enter the "PICTURE" menu.

The "PICTURE" menu provides the following settings: BRIGHTNESS, CONTRAST, GAMMA

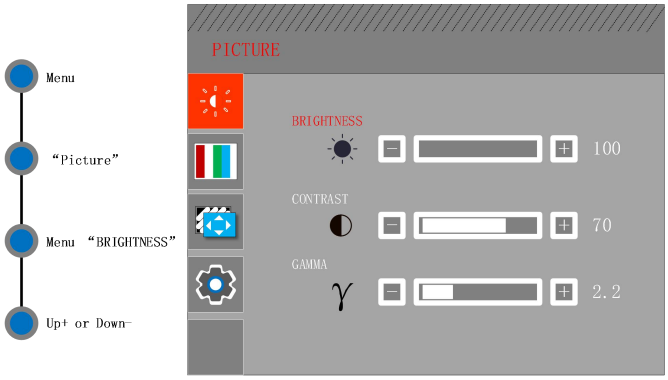
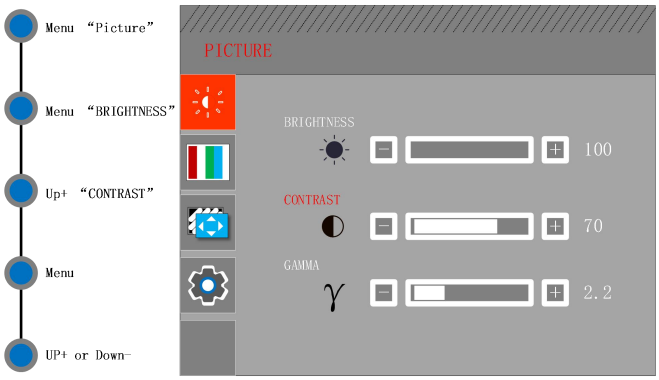
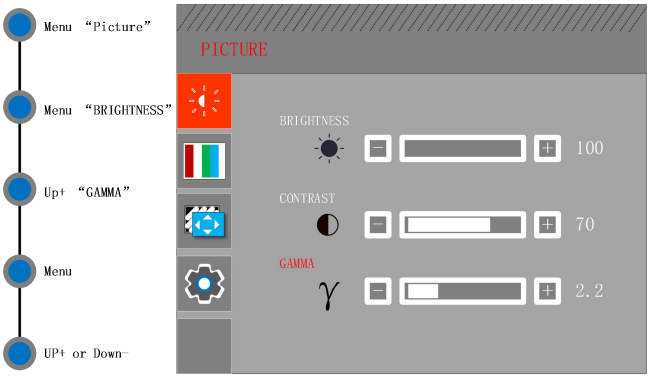
The adjustment range for brightness (BRIGHTNESS): 0~100	 Fig. 2 Brightness in the "Picture" Menu
The adjustment range for Contrast (Contrast): 0~100	 Fig. 3 Contrast in the "Picture" Menu
The adjustment range for GAMMA (GAMMA): 2.0, 2.2, 2.4	

	Fig. 4 GAMMA in the "Picture" Menu

3.4.3.3.2. Color Adjustment

After pressing the menu button (MENU) mentioned above, the OSD menu will open. In this menu, you can use the buttons on the back, such as (UP+) or (DOWN-), to navigate horizontally. Press the menu button (MENU) again to select the highlighted menu item and enter the "COLOR" menu.

The "COLOR" menu provides the following settings: PRESET, RED, GREEN, BLUE

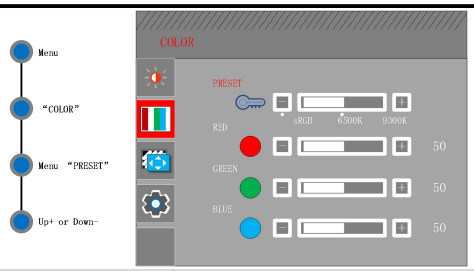
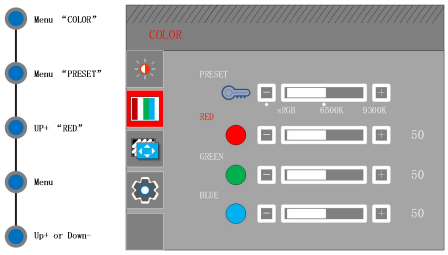
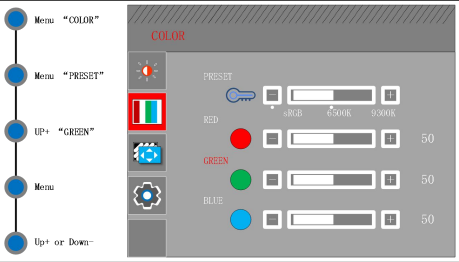
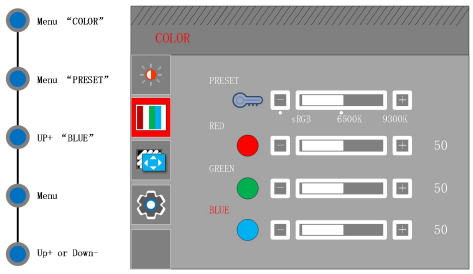
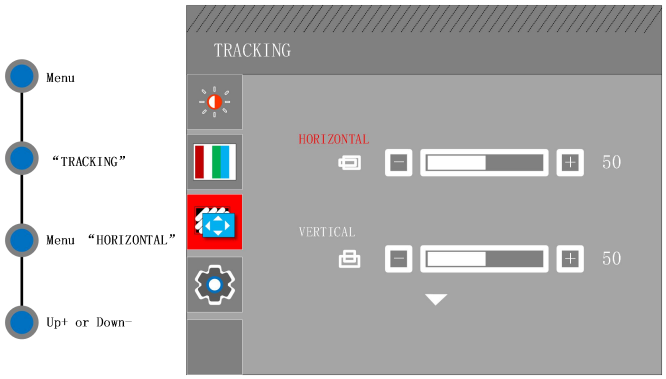
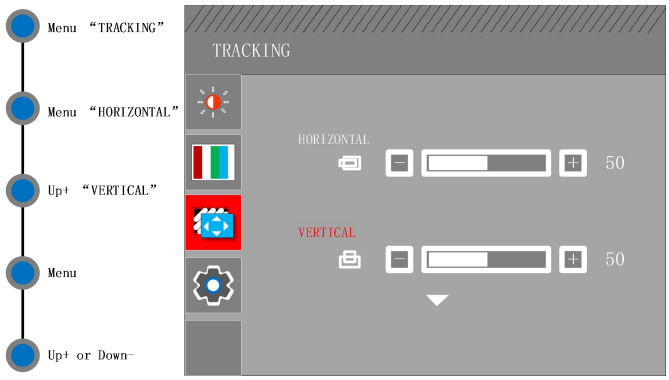
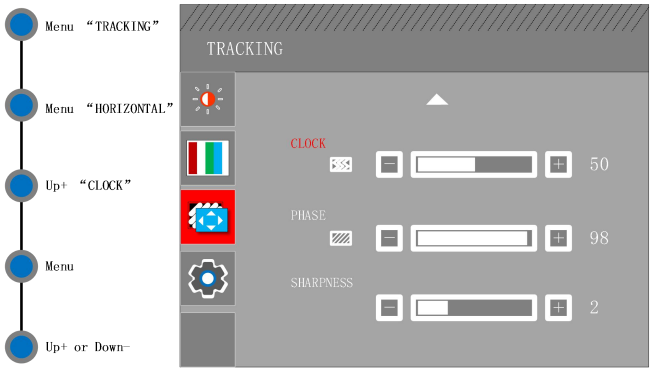
The adjustment range for preset (PRESET): SRGB, 6500K, 9300K	 Fig. 5 PRESET in the "COLOR" Menu
The adjustment range for red (RED): 0~100	 Fig. 6 RED in the "COLOR" Menu
The adjustment range for green (GREEN): 0~100	 Fig. 7 GREEN in the "COLOR" Menu
The adjustment range for blue (BLUE): 0~100	

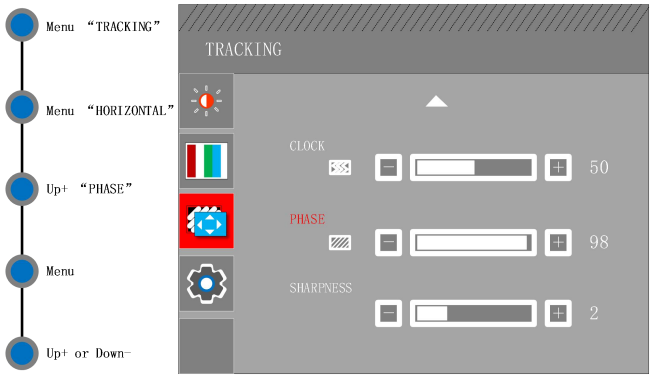
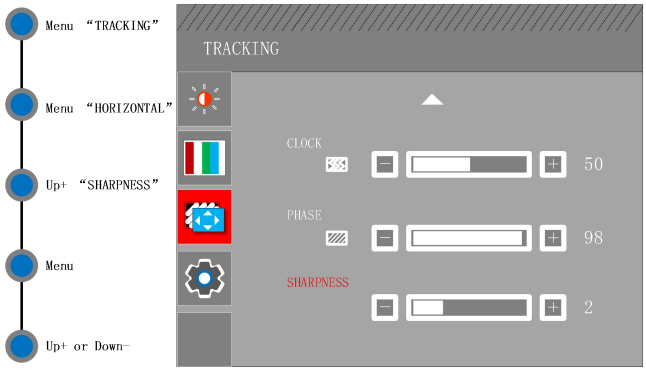
	Fig. 8 BLUE in the "COLOR" Menu

3.4.3.3.3. Picture Adjustment

After pressing the menu button (MENU) mentioned above, the OSD menu will open. In this menu, you can use the buttons on the back, such as (UP+) or (DOWN-), to navigate horizontally. Press the menu button (MENU) again to select the highlighted menu item and enter the "TRACKING" menu.

The "TRACKING" menu provides the following settings: HORIZONTAL、VERTICAL、CLOCK、PHASE、SHARPNESS

The adjustment range for horizontal (HORIZONTAL): 0~100	 Horizontal in the "TRACKING"
The adjustment range for vertical (VERTICAL): 0~100	 Vertical in the "TRACKING"
The adjustment range for clock (CLOCK): 0~100	

	Clock in the “TRACKING”
The adjustment range for phase (PHASE): 0~100	
	Phase in the “TRACKING”
The adjustment range for sharpness (SHARPNESS): 0~100	
	Fig. 9 Sharpness in the “TRACKING”

3.4.3.3.4. Setup

After pressing the menu button (MENU) mentioned above, the OSD menu will open. In this menu, you can use the buttons on the back, such as (UP+) or (DOWN-), to navigate horizontally. Press the menu button (MENU) again to select the highlighted menu item and enter the "SETUP" menu.

The "SETUP" menu provides the following settings: Language, OSD Position, White Balance, Brightness Sensor, Input Signal, Factory Reset.

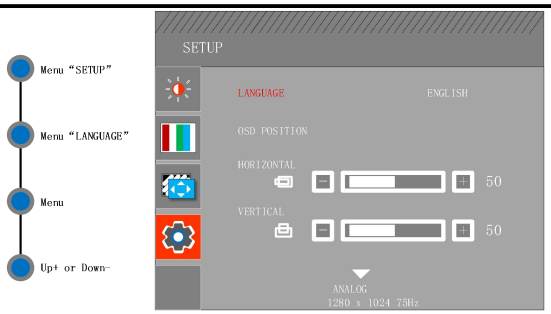
(LANGUAGE) Language selections: ENGLISH, CHINESE, Français, etc…	

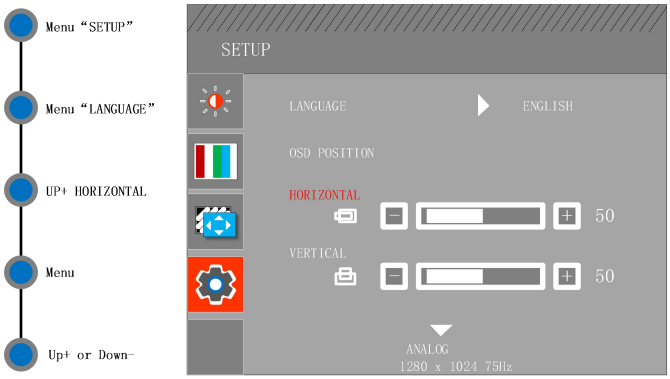
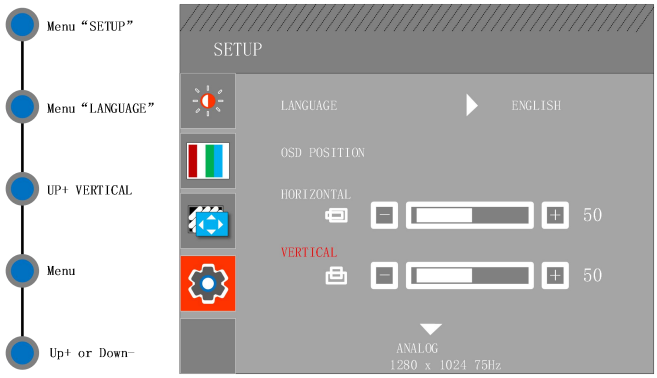
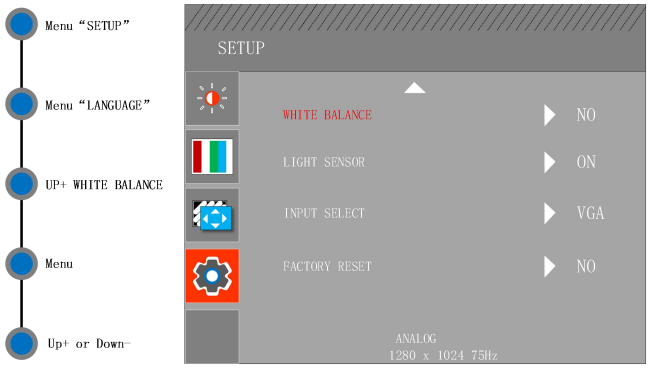
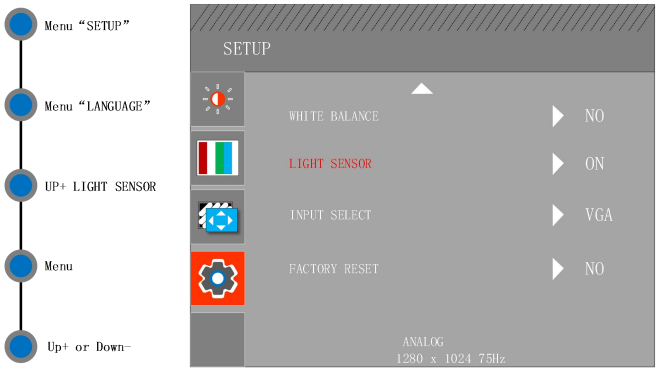
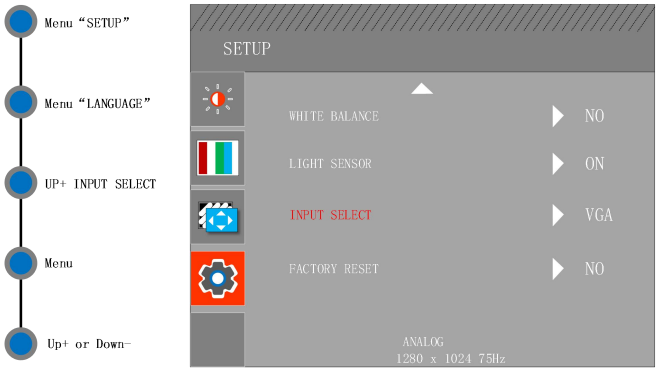
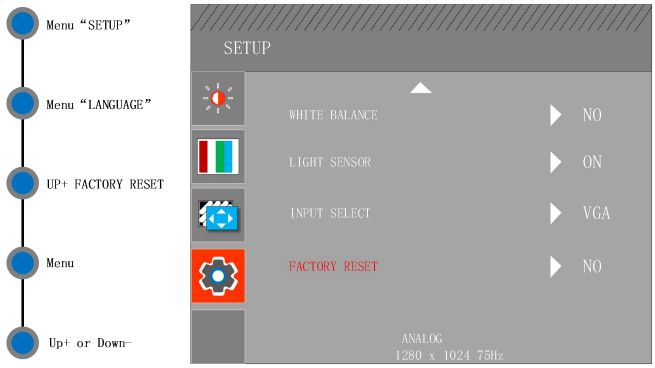
	Fig. 10 Language in the “SETUP”
The adjustment range for horizontal (HORIZONTAL): 0~100	 Fig. 11 Horizontal in the “SETUP”
The adjustment range for horizontal (VERTICAL): 0~100	 Fig. 12 Vertical in the “SETUP”
White Balance (WHITE BALANCE) Status: NO, YES	 Fig. 13 White balance in the “SETUP”
Light Sensor Status: ON, OFF For models without a light sensor, this option may be unavailable or displayed in gray.	

	Fig. 14 Light sensor in the “SETUP”
Note: The specific model and actual connected signal source determine the available options. Generally, there is no need for separate configuration as it is automatically detected.	 Fig. 15 Input signal in the “SETUP”
Factory Reset (FACTORY RESET) Status: NO, YES	 Fig. 16 Factory reset in the “SETUP”

3.4.4. Cleaning, Maintenance, and Repair

3.4.4.1. Cleaning

Please keep the surface of the monitor clean to avoid affecting touch sensitivity. When cleaning the screen, gently wipe the surface with a specialized monitor cleaner and a soft cleaning cloth. Avoid using cleaners that contain alcohol, ammonia, or strong chemical ingredients as they may damage the screen.

Use a damp cloth with water to wipe the casing, without using any cleaning agents, to maintain the original glossy appearance from the factory.

3.4.4.2. Maintenance

Avoid prolonged static displays. Continuous display of unchanged images or pages may cause "image persistence" or "screen burn-in" on the screen.

If the monitor is not used for a long time (more than a week continuously), please unplug the power.

Excessive brightness and contrast settings can result in overly bright or dark screen display, affecting visual performance and potentially reducing the lifespan of the monitor. Adjust brightness and contrast reasonably according to ambient lighting and personal preferences.

Avoid placing the monitor in direct sunlight to prevent damage to the screen and reduce display effectiveness.

Extended usage is not beneficial for LCD monitors. When not in use, it is advisable to turn off the monitor's power.

Avoid collisions and vibrations when moving, handling, or cleaning the monitor to prevent damage to internal components.

Keep a distance from objects with strong magnetic fields as they can generate additional voltage within the monitor, affecting voltage stability. Prolonged exposure to strong magnetic fields can also cause color distortion, affecting LCD display performance and lifespan.

LCD monitors generate considerable heat, and prolonged usage can result in excessive internal temperatures, which can impact the lifespan of the LCD. Therefore, avoid placing LCD monitors in overheated areas.

Minimize the impact of static electricity on the monitor by using an anti-static wristband or touching a metal part to discharge static electricity.

Keep cables away from magnetic fields and avoid twisting or folding them to prevent monitor malfunctions.

Keep the power cord away from water sources, open flames, and high temperatures to prevent aging or damage that may cause safety hazards.

3.4.4.3. Repair

Please leave repair services to qualified, knowledgeable, and experienced repair engineers.

Do not attempt to repair or modify the equipment without prior authorization from the manufacturer.

Always use original components for replacements.

When reassembling, ensure that other intact components are placed back in their appropriate positions.

When disconnecting cables from electronic devices, take care not to damage the wire sections to avoid poor contact.

Use a screwdriver that matches the size of the screws when installing or removing screws.

TROUBLESHOOTING GUIDE

This section provides an overview of common types of product malfunctions and troubleshooting methods.

4. Troubleshooting

4.1 Types of Malfunctions

For our touch display monitors, the common types of malfunctions can be categorized into touch-related issues and display-related issues.

4.2 Troubleshooting Process

If you encounter any abnormalities while using our touch display monitor, please first determine the type of malfunction, and then refer to the "Common Malfunction Reference Table" for preliminary analysis and assessment. If you are unable to troubleshoot the issue and restore normal operation, please follow our After-sales Process to request assistance.

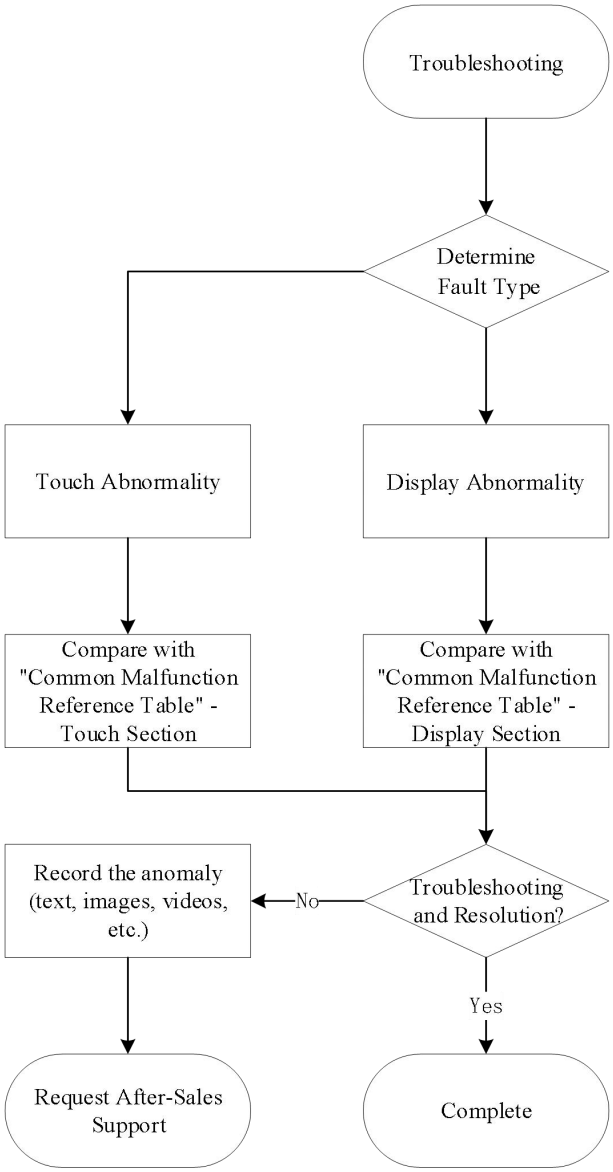


Fig. 17 Common Troubleshooting Process

Fig. 18

4.3 Common Malfunction Reference Table

If you encounter any malfunctions or abnormalities while using the touch display monitor, please refer to the following suggestions. If the issue persists, please contact your local dealer or reach out to CTT's after-sales support.

Table 2 Common Malfunction Reference Table

Fault Code	Fault Category	Common Issues	Possible Causes	Troubleshooting Methods	Fault Severity
TP-1	Capacitive Touch	Erratic touch input	Program configuration error	Reconfigure parameters	I
TP-2			External environmental interference	Measure static sensitivity through signal testing	
TP-3			Controller damage	Measure voltage or perform information testing	
TP-4		Broken lines at the edges or incomplete lines	Resolution mismatch	Specifically for some irregular screens, specialized resolutions need to be matched	II
TP-5			Resolution mismatch	Observe edge signal values through signal testing	
TP-6			Damaged edge channels	Visual observation or continuity testing Continuity testing	
TP-7			Damaged FPC ribbon cable or sensor	Continuity testing	
TP-8		Touch lock points	Abnormal screen panel	Perform signal testing and observe if the screen panel meets flatness standards	II
TP-9			Electromagnetic interference	Observe CDC static changes	
TP-10			Controller malfunction	Perform cross-testing by replacing the screen panel	
TP-11				Test CDC static changes of the controller	

Fault Code	Fault Category	Common Issues	Possible Causes	Troubleshooting Methods	Fault Severity
TP-12		Unresponsive touch (delayed or broken lines when drawing)	Decreased signal sensitivity	Read information values using information testing tools	II
TP-13			Outdated motherboard driver version	Reload driver software, mainly for Android or Linux	
TP-14			Abnormal firmware parameter	Reconfigure firmware parameters	
TP-15			Using fingertips instead of finger pad during touch testing	Perform touch testing using finger pad	
TP-16		Touch non-responsive	Touch display not connected to the host	Check if the host is connected or use the system "Device Manager" to see if devices are connected, and reconnect and reinsert signal cables	II
TP-17			Damaged signal cable	Replace signal cable (Type-B to Type-A)	
TP-18			Poor contact between touch screen and controller	Disassemble and reinsert FPC ribbon cables	
TP-19			Incorrect firmware or program writing	Reflash firmware	
TP-10			Other issues	Read screen panel signal waveform	
TP-21		Loose or disconnected screen wires	Abnormal sensor channels	Test channels through signal testing	II
TP-22			Damaged sensor	Visual observation	
TP-23			Damaged FPC ribbon cable	Visual observation	
TP-24			Incorrect firmware parameter configuration	Update firmware	

Fault Code	Fault Category	Common Issues	Possible Causes	Troubleshooting Methods	Fault Severity
D-1	Display	Black screen	Power not connected	Check if the power is properly connected and check the indicator light status (refer to section 3.2.2.2 for indicator light	II
D-2			Video cable not connected	Connect and reconnect	
D-3			Other issues	Contact us	
D-4		Inverted display image	Incorrect OSD settings	Adjust in the OSD menu (refer to section 3.4.3.3.3 for "Picture" adjustment)	I
D-5		Screen distortion	Loose video cable	Connect and reconnect	II
D-6		Other issues	Any other display-related abnormalities	Contact us	II

SERVICE AND SUPPORT

This chapter mainly introduces our after-sales service and technical support.

5. Service and Support

5.1 Pre-sales Consultation

We provide professional pre-sales consultation services to our users. You can obtain timely and comprehensive information about our products and corresponding services through various channels such as our official website, email, and telephone.

5.2 After-sales Service

If you have any questions about the product or need assistance with equipment malfunctions, you can first refer to the user manual and frequently asked questions available on our website. If the issue persists, please contact us directly.

To provide global support, we collaborate with local representatives/service providers to assist customers with support and services. For more information, you can contact us or leave a message using the following methods, and we will respond promptly and provide assistance as soon as possible!

5.2.1 After-sales Process

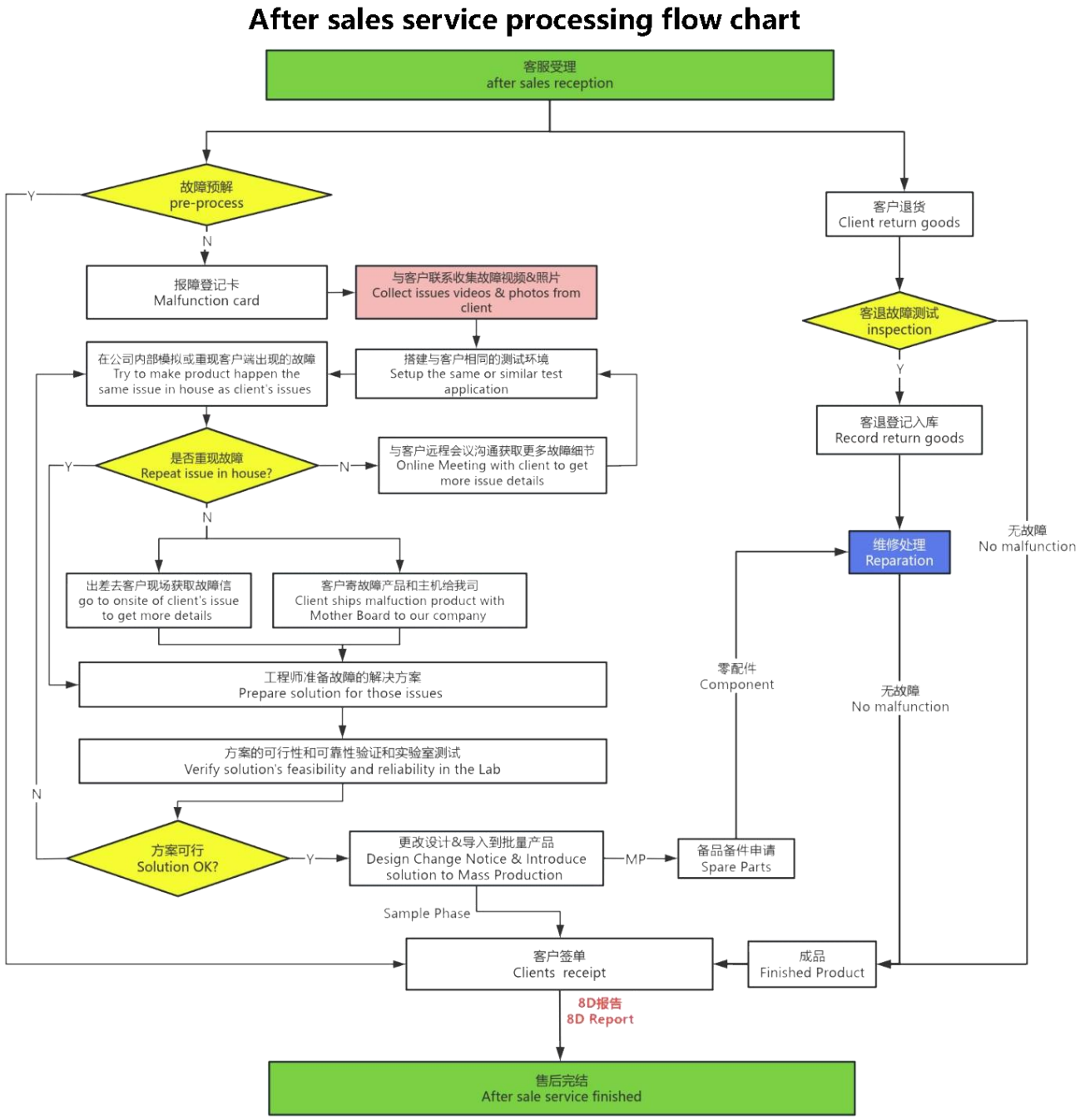


Fig. 19 After-sales Process

5.2.2 Warranty Policy

The following is our product warranty commitment. During the warranty period, we provide free product repairs and replacement services for key components. For products that have exceeded the warranty period, we may charge a certain fee. For more details, please refer to our warranty policy on the official website under the "Warranty Services" section. Throughout the entire life cycle of the product, you can expect comprehensive service from our company.

The warranty policy provided below is for reference only. In case of any inconsistencies, the contract or specification sheet shall prevail.

Table 3 Warranty Policy

Touchscreen Components	PCAP		3 Years
	IR		1.5 Years
	Resistive		1 Year
Touch Monitor	Flat	Not High TNI & High Brightness	1 Years
		High TNI & High Brightness	1 Year
	Curved		1 Year
Touch Computer (All-In-One)	With or without touch function		1 Years
Touch & Display Kits	Touchscreen and LCD panel bonding together		1 Year

5.2.3 Service Assurance

We are based in Chengdu, China, and have established after-sales repair centers in Europe. We also work with local agents and partners in the Americas, India, and other regions to provide diverse after-sales services.

We have dedicated departments and professionals to promptly and efficiently respond to customer needs. For common issues, we provide online consultation and support. For severe faults that require factory repairs, we offer return-to-factory repairs and the option of sending spare parts, based on our warranty policy.

5.3 Customization Services

We specialize in providing professional customized solutions for users. Based on your needs, we can offer complete product customization, such as touchscreens, touch displays, and all-in-one touch systems. You can learn about our customization service policies and options on the official website under "Customer Customization", or you can directly consult with us.

5.4 Debugging and Firmware Upgrades

Our closed frame touch displays usually do not require additional debugging and can be used directly. However, if you have specific requirements for touch experience, we also provide corresponding services, including touch calibration, touch signal testing, and firmware upgrades.

5.4.1 Debugging

5.4.1.1 Touch Calibration

Our touch displays are calibrated before leaving the factory and do not require manual calibration. However, for specific user requirements, we can provide calibration tools for you to choose from during the use of our products to adapt to different usage scenarios.

5.4.1.2 Touch Signal Testing

This is mainly provided when needed for maintenance or troubleshooting purposes, to assist you in identifying the source of faults.

5.4.2 Firmware Upgrades

For touch displays, our firmware includes touch-related firmware and display-related firmware. They are already adapted and debugged during the production process and do not require separate or additional firmware writing.

Our products support firmware upgrades for both functional improvements and fault troubleshooting. You can obtain firmware through official channels and use our dedicated tools. Please note that we reserve the right to refuse after-sales support for any damage or faults caused by the use of non-official firmware provided by other companies.

5.4.2.1 Touch Firmware

Touch firmware upgrades can be directly written using software and can adjust touch sensitivity, sensing levels, etc.

5.4.2.2 Display Firmware

Display firmware needs to be written using separate tools and can preset features such as startup screen logo and display ratios.

APPENDIX

This chapter primarily introduces the product models within this series, as well as some terms and annotations.

6. appendix

6.1 Specifications

6.1.1 Dimensions

For detailed dimensions and specifications, please refer to the sales drawings.

6.1.2 Technical Indicators

6.1.2.1 Display Parameters

For detailed specifications, please refer to the specification sheet.

6.1.2.2 Touch Performance

For conventional capacitive touch displays, they support up to 10-point touch with touch gestures including tapping and multi-point drawing. For acoustic touch displays, they support single-point touch with touch gestures including tapping and single-point drawing.

6.1.3 Environmental Adaptability

The general working environment for conventional models is as follows:

Operating temperature: 0 ~ 40°C.

Storage temperature: -20 ~ 60°C.

Operating humidity: 20% ~ 80%.

Storage humidity: 10% ~ 90%.

The above working environment requirements are based on common and general usage scenarios for conventional models. We can also provide special design improvements to meet stricter environmental requirements for specific working environments.

6.2 Terms

OSD: On-Screen Display

PCAP: Projected Capacitive Touch

VESA: Video Electronics Standards Association

6.3 Contact Us

Address: No. 4699, 4th South Road, Economic Development Zone, Chengdu, Sichuan, China

This manual may be subject to updates without prior notice.

You can check the latest version on the CTT official website or contact us directly.

https://www.curvedtouch.com/

If you have any questions or suggestions regarding the user manual, please contact us via the following email: **info@curvedtouch.com.**

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