

# User's Manual

## True Flat Touchscreen Monitor

**Model: T11-15**

**Version A0 2011.12**



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## Warnings and Cautions



### Warning

- *Danger — Explosion hazard. Do not use in the presence of flammable anesthetics.*
- *To prevent fire or shock hazards, do not immerse the unit in water or expose it to rain or moisture.*
- *Do not use the unit with an extension cord receptacle or other outlets unless the prongs of the power cord can be fully inserted.*
- *RISK OF ELECTRICAL SHOCK — DO NOT OPEN. To reduce the risk of electrical shock, DO NOT remove the back of the equipment or open the enclosure. No user-serviceable parts are inside. Refer servicing to qualified field service engineers only.*
- *Uninsulated voltage within the unit may have sufficient magnitude to cause electrical shock. Avoid contact with any part inside the unit.*

### Caution

- Before connecting the cables to your Elo TouchSystems touchmonitor, make sure all components are powered OFF.
- The use of ACCESSORY equipment not complying with the equivalent safety requirements of this equipment may lead to a reduced safety of the resulting system. Consideration relating to the choices of accessory equipment should include:
  - Use of accessory in the patient vicinity.
  - Evidence that the safety certification of the accessory has been performed in accordance to the appropriate IEC 60601-1 and/or IEC 60601-1-1 harmonized national standard.
- For continued safety —
  - This unit only complies to the above standards if used with a medical grade power cord.
  - A medical grade power adaptor, such as the one specified, is required for use in a medical application.



#### Note:

- *This symbol alerts the user to important information concerning the operation and maintenance of this unit, which should be read carefully to avoid problems.*



### CAUTION-Life Support

Care must be taken when this touchmonitor is a critical component of a Life support system or device. In case of failure of this touchmonitor, appropriate redundant systems should be incorporated into the system or device to prevent injury to the user or patient.

The following should be an integral part of the safety design of a Life support system or device using this touchmonitor for a critical function.

- ♦ An Alternate interface or fail-safe must be available should the touchscreen fail to operate.
- ♦ The touchscreen interface must not be the only means of control of a critical function.
- ♦ An Alternate video monitor should be incorporated into the safety design if used

to monitor a critical function.

- ◆ The internal speakers of this touchmonitor must not be the sole method of warning of a critical function.

Critical functions are:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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# INTRODUCTION

## Product Description

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The T11 true flat series touch screen monitors which use liquid crystal monitor (LCD) and true flat touch technology, designed to present information to the operator, care-giver and the patient. The T11 true flat series features both Serial and USB touch interfaces as standard configuration. The T11 series functionally consists of 15 inch LCD main monitor with a true flat touch screen. The monitor's element is a 15.0 inch diagonal XGA resolution (1024x768) LCD monitor. One type of touchscreen technology is offered for the T11 series as Resistive touch screen technology. The T11 series are powered by 110~240VAC from an internal power adapter or option 12V DC from an external industrial power adapter.

## LCD Monitor Performance Features

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### 15 inch TFT Touch Monitor

Touch panel	True flat 5 wires resistive touch panel
Monitor format	1024x768
Monitor area	304.1 mm (H) x 228 mm (V)
Pixel pitch	0.297 mm (H) x 0.297 mm (V)
Contrast ratio	600:1 typical
Brightness LCD	250 cd/m <sup>2</sup> (Typical)
Response time	14.2 msec typical
Monitor color	16.7 million colors, 6 Bit with dithering
Typical vertical viewing angle:	80 deg (looking down) / 80 deg (looking up)
Typical horizontal viewing angle:	80 deg (looking left) / 80 deg (looking right)

### USB Magnetic Stripe Card Reader (\*Option)

Interface	USB
Type	3-Track Magnetic Stripe
Standard	ISO 7811/7812
Power supply	DC3.0-5.5V
Operation speed	15-220 cm/sec
Headlife	>800,000 passes

### VFD Customer Display (\*Option)

Type	2 * 20 Characters VFD
------	-----------------------

Interface	RS232 (RJ45-RS232)
Power Supply	DC12V
Commands	EPSON ECS/POS

### **Internal Power Adapter**

The T11 series is powered by an internal input power adapter.

Power adapter:

- AC power: Input voltage 100 - 240 VAC
- Input frequency 50 / 60 Hz
- Line and load regulation:  $\pm 3 \%$

### **External Power Adapter (\*Option)**

The T11 series is powered by an external input power adapter.

Power adapter:

- AC power: Input voltage 100 - 240 Vac
- Input frequency 50 / 60 Hz
- DC output: 12 V DC
- Line and load regulation:  $\pm 3 \%$

## INSTALLATION AND SETUP

This chapter discusses how to install your T11 Touch Monitor and how to install touch screen driver software.

### Unpacking Your Touchmonitor

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Check that the following items are present and in good condition:



Accessories Box

T11-15 Unit

Stand Plate



RJ45-to-RS232 Cable



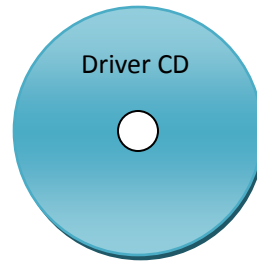
USB B-type Cable



Power Cord



VGA Cable



## Product Overview

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### Front View



T11-15

### Rear View

*\*Option* Magnetic  
Stripe Card Reader



## Side View



## Kensington™ Lock

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The Kensington™ lock is a security device that prevents theft. To find out more about this security device, go to <http://www.kensington.com>.

## USB Interface Connection

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Your touchmonitor comes with one **USB** cable. (For use with Windows 2000, ME, and XP, 7 systems only.)

To set up the monitor, please refer to the following figures and procedures:

### Install the Stand Base

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The cables are connected at the back of the monitor.

**CAUTION** Before connecting the cables to your touchmonitor and PC, be sure that the computer and touchmonitor are turned off.



To install the stand bottom plate.



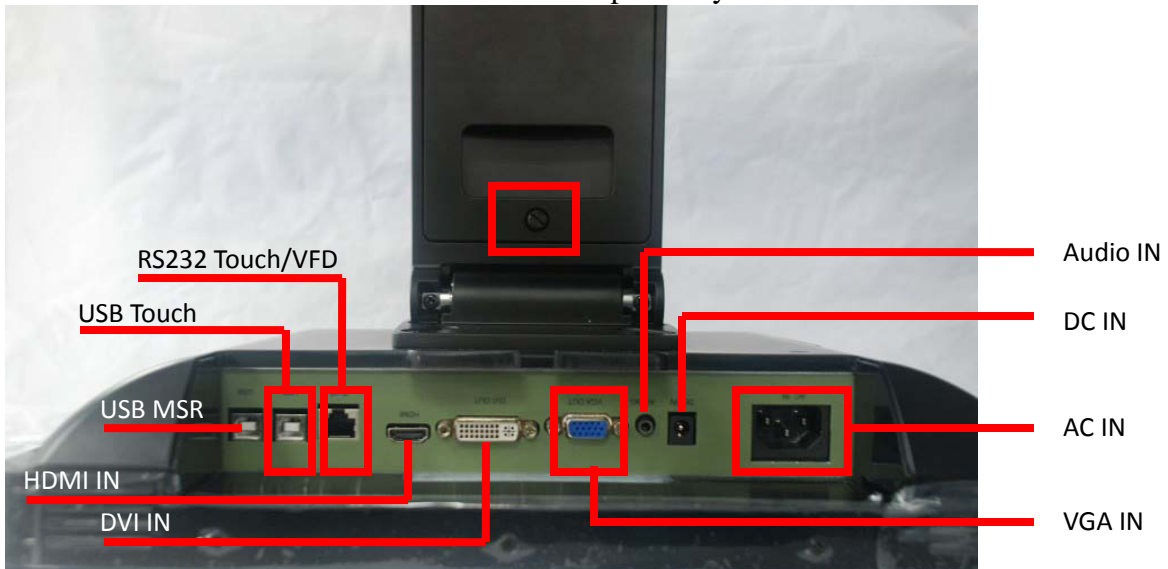
**NOTE** Before connecting the cables to the touchmonitor, route all the cables that you will be using through the hole in the base as shown in the picture above. Only use one of the following: Serial or USB touch cable and VGA video cable.

The following illustrations guide you step by step in connecting your touchmonitor using a Serial or USB cable connection with VGA video cable..

a) Open the Plastic Cover



- b) Connect one end of the VGA cable to the rear side of computer and the other to the LCD. Tighten by turning the two thumb screws clockwise to ensure proper grounding. You can select VGA video cable shown respectively.



- c) Connect one end of the Serial or USB cable to the rear side of the computer and the other to the LCD monitor, shown respectively.



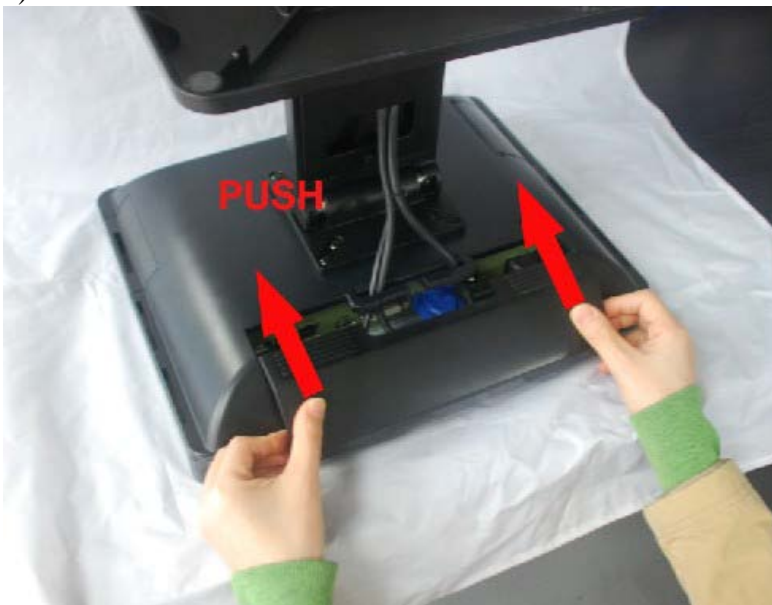
USB+VGA+Power Cord



RJ45(Serial)+VGA+Power Cord



- d) Connect the cylindrical connector from the power adaptor to the monitor. Connect the appropriate power cord to the power adaptor and to the appropriate power outlet.
- e) Close the Plastic Cover



## Connect Cables

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After you have attached all the cables to the monitor; gently bring all the cables toward the center so they fit under the cable cover lip. Snap the cable cover in place over the connections.

## Optimizing the LCD Monitor

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To ensure the LCD monitor works well with your computer, configure the monitor mode of your graphic card to make it less than or equal to default resolution, and make sure the timing of the monitor mode is compatible with the LCD monitor. Refer to Appendix A for more information about resolution. Compatible video modes for your touchmonitor are listed in Appendix C.

## Installing the Touch Driver Software

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Driver software that allows your T11 touch monitor to work with your computer comes with the Touch Driver. Drivers are located on the enclosed TouchTools CD-ROM for the following operating systems:

- Windows XP
- Windows 2000
- Windows Me
- Windows 98
- Windows 95
- Windows NT 4.0
- CE 2.x, 3.0, 4x
- Windows XP Embedded
- Windows 3.x

Additional drivers and driver information for other operating systems (including

Macintosh and Linux) are available on our Touch Systems web site at [www.lcdpc.com.cn](http://www.lcdpc.com.cn). Your USB touchmonitor is “plug-and-play” compliant. Information on the video capabilities of your touchmonitor is sent to your video monitor adapter when Windows starts. If Windows detects your touchmonitor, follow the instructions on the screen to install a generic plug-and-play monitor. Refer to the appropriate section below for driver installation instructions.

## Installing the USB Touch Driver

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### Installing the USB Touch Driver for Windows 7, Windows XP

Insert the Touch Drivers CD-ROM in your computer’s CD-ROM drive.

If Windows XP, starts the **Add New Hardware Wizard**, then:

1. Choose **Next**. Select “Search for the best driver for your device (Recommended)” and choose **Next**.
2. When a list of search locations is monitored, place a checkmark on “Specify a location” and use Browse to select the directory on the Touch Drivers CD-ROM.
3. Choose **Next**. Once the Touch Drivers USB touchscreen driver has been detected, choose **Next** again.
4. You will see several files being copied. Insert your Windows OS CD if prompted. Choose **Finish**.

If Windows 7, XP, Windows 2000, Windows 98, or Windows Me does not start the Add New Hardware Wizard:

**NOTE:** *For Windows 7 and Windows XP/2000, you must have administrator access rights to install the driver.*

1. If the AutoStart feature for your CD-ROM drive is active, the system automatically detects the CD and starts the setup program.
2. Follow the directions on the screen to complete the driver setup for your version of Windows.

If the AutoStart feature is not active:

1. Click **Start > Run**.
2. Click the **Browse** button to locate the **autorun.exe** program on the CDROM.
3. Click **Open**, then **OK** to run **autorun.exe**
4. Follow the directions on the screen to complete the driver setup for your version of Windows. For T11 series you have to select Resistive Touch button.



## Installing the Serial Touch Driver

### Installing the Serial Touch Driver for Windows 7, Windows XP/2000

1. Insert the Touch Drivers CD-ROM in your computer's CD-ROM drive. please open the folder your \\CD-ROM\\Resistive Touch Drivers\\Serial\\Driver
2. Select the drivers folder to complete the driver setup for your version of Windows.



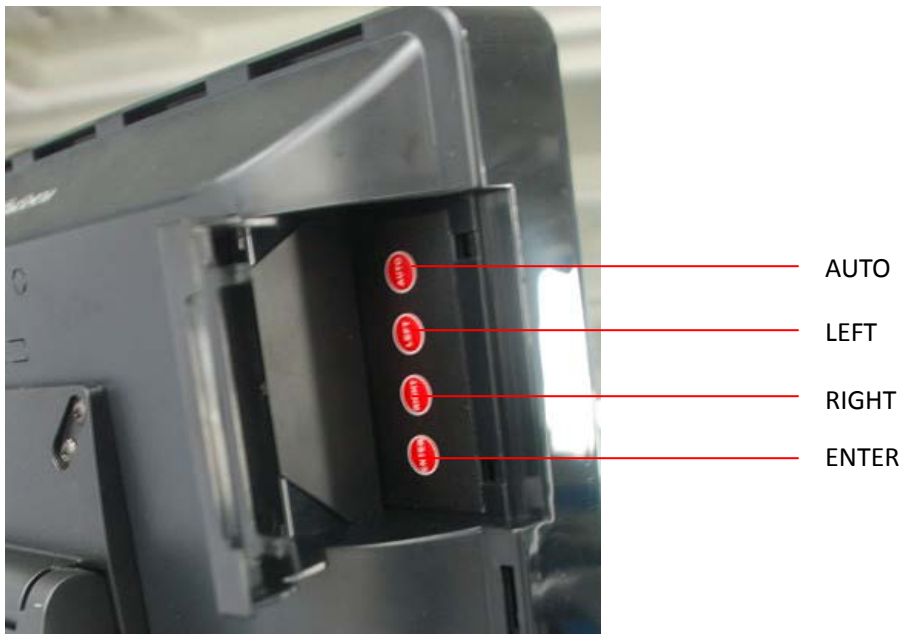
## OPERATION

### About Touchmonitor Adjustments

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Your touchmonitor will unlikely require adjustment. Variations in video output and application may require adjustments to your touchmonitor to optimize the quality of the display.

For best performance, your touchmonitor should be operating in native resolution, that is 1024x768 for T11-15. Use the Display control panel in Windows to choose standard resolution. Operating in other resolutions will degrade video performance. For further information, please refer to Appendix A. All adjustments you make to the controls are automatically memorized. This feature saves you from having to reset the choices every time the power is unplugged or the touchmonitor is turned off and on. If there is a power failure, your touchmonitor settings will not default to the factory specifications.



**Table 1 - User controls**

#	Control	Function
1	ENTER	Menu monitor and menu exit
2	LEFT	Adjusts the increasing value of the selected OSD control option.
3	RIGHT	Adjusts the decreasing value of the selected OSD control option
4	AUTO	Auto-Adjust

## Controls and Adjustment

### OSD Menu Functions

To monitor the OSD Menu, press **ENTER** the button.

1 Press the **LEFT** button or the **RIGHT** button to select the different OSD control option.

2 When the function you want to change is monitored, press the **ENTER** button.

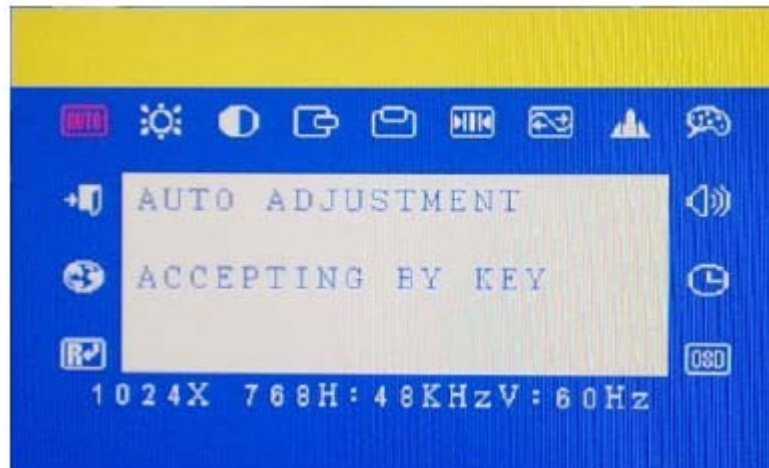
To adjust the Value of the function:

1 Press the **LEFT** button to increase the value of the selected OSD control option.

2 Press the **RIGHT** button to decrease the value of the selected OSD control option.

After adjusting the values, the monitor will automatically save the changes.

**NOTE:** The OSD screen will disappear if no input activities are detected for 45 seconds.



### OSD Control Options (Clockwise)

#### Contrast

- Adjusts the contrast or the values of color gain (RED, GREEN or BLUE).

#### Brightness

- Background luminance of the LCD panel is adjusted.

#### Vertical Position

- Adjusts vertical position of image.

#### Horizontal Position

- Adjusts horizontal position of image.

#### Recall Defaults

- Recalls the factory OSD default settings.

#### **RGB - Color Temperature**

- Select preset color temperature of 9300°K, 6500°K, 5500°K, 7500°K or select USER to customize Red, Green and Blue gain.

#### **Audio**

- Adjust audio volume of speakers internal to the 1528L monitor.

#### **Sharpness**

- Adjust image sharpness.

#### **Phase**

- Adjusts the phase of the dot clock. Adjust for best image.

#### **Clock**

- Adjusts the ratio of dividing frequency of the dot clock. Adjust to remove vertical dark bands in image.

#### **OSD Left/Right**

- The OSD screen is moved vertically right and left.

#### **OSD Up/Down**

- The OSD screen is moved vertically up and down.

#### **OSD Timeout**

- Adjusts the amount of time in which the OSD will disappear (45 to 255 seconds).

#### **Auto Adjust**

- Horizontal and vertical frequencies are monitored. Press select to automatically adjust image (under 5 seconds).

#### **Language**

- Selects the languages used for OSD menu monitor.

#### **Input Select**

- Use to select analog or digital input.

## **Power LED Monitor & Power Saving**

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### **General Power Saving Mode**

When the power is on and video is present, this LED lights in **green**.

The LED indicates the different power status with altered LED colors when monitor operates in different modes (see following table).

**Table 2 - Power Saving Indicator**

Mode	Power Consumption	Indicator
On	30 w max	Green
Sleep	6 w max	Orange
Off	5 w	NO

*Note: If the monitor is not to be used for an extended period of time, it is recommended that the monitor be turned off.*

### **Monitor Angle (desktop only)**

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For viewing clarity, you can tilt the LCD forward or back for the best viewing angle and

minimum glare.



**CAUTION**

- *In order to protect the LCD, be sure to hold the base when adjusting the LCD.*
- *For models without a touchscreen take care not to touch the screen.*

## TROUBLESHOOTING

If you are experiencing trouble with your touchmonitor, refer to the following table. If the problem persists, please contact your local dealer or our service center. Sinocan Technical Support numbers are listed on page 28.

### Solutions to Common Problems

Problem	Suggestion(s)
The monitor does not respond	<ul style="list-style-type: none"> <li>• Check that the monitor's Power Switch is on.</li> <li>• Turn off the power and check the monitor's power cord and signal cable for proper connection.</li> </ul>
Characters on the screen are dim	<ul style="list-style-type: none"> <li>• Refer to the Controls and Adjustments section to adjust the brightness.</li> </ul>
The screen is blank	<ul style="list-style-type: none"> <li>• During operation, the monitor screen may automatically turn off as a result of the Power Saving feature. Press any key to see if the screen reappears.</li> <li>• Refer to the Controls and Adjustments section to adjust the brightness.</li> </ul>
"Out of Range" monitor	<ul style="list-style-type: none"> <li>• Check to see if the resolution or vertical frequency of your computer is higher than that of the LCD monitor.</li> <li>• Reconfigure the resolution of your computer to make it less than or equal to 1024x768. 1024x768 is optimal. See Appendix A for more information on resolution.</li> </ul>
Touch doesn't work	<ul style="list-style-type: none"> <li>• Make sure cable is securely attached at both ends.</li> </ul>

# A

## NATIVE RESOLUTION

The native resolution of a monitor is the resolution level at which the LCD panel is designed to perform best. For the True flat touchmonitor, the native resolution is 1024 x 768 for the 15.0 inch size. In almost all cases, screen images look best when viewed at their native resolution. You can lower the resolution setting of a monitor but not increase it.

For example:

<b>Input Video</b>	<b>15.0" LCD</b>
640x480 (VGA)	Transforms input format to 1024x768
800x600 (SVGA)	Transforms input format to 1024x768
1024x768(XGA)	Monitor in Native Resolution

The native resolution of an LCD is the actual number of pixels horizontally in the LCD by the number of pixels vertically in the LCD. LCD resolution is usually represented by the following symbols:

<b>VGA</b>	<b>640x480</b>
<b>SVGA</b>	<b>800x600</b>
<b>XGA</b>	<b>1024x768</b>

As an example, a SVGA resolution LCD panel has 800 pixels horizontally by 600 pixels vertically. Input video is also represented by the same terms. XGA input video has a format of 1024 pixels horizontally by 768 pixels vertically. When the input pixels contained in the video input format match the native resolution of the panel, there is a one to one correspondence of mapping of input video pixels to LCD pixels. As an example, the pixel in column 45 and row 26 of the input video is in column 45 and row 26 of the LCD. For the case when the input video is at a lower or higher resolution than the native resolution of the LCD, the direct correspondence between the video pixels and the LCD pixels is lost. The LCD controller can compute the correspondence between video pixels and LCD pixels using algorithms contained on its controller. The accuracy of the algorithms determines the fidelity of conversion of video pixels to LCD pixels. Poor fidelity conversion can result in artifacts in the LCD displayed image such as varying width characters.

# B

## TOUCHMONITOR SAFETY

This manual contains information that is important for the proper setup and maintenance of your touchmonitor. Before setting up and powering on your new touchmonitor, read through this manual, especially Chapter 2 (Installation), and Chapter 3 (Operation).

1. To reduce the risk of electric shock, follow all safety notices and never open the touchmonitor case.
2. Turn off the product before cleaning. (See page 19 for Cleaning Instructions.)
3. Your touchmonitor is equipped with a 3-wire, grounding power cord. The power cord plug will only fit into a grounded outlet. Do not attempt to fit the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Use only the power cord that comes with your Touch touchmonitor. Use of an unauthorized power cord may invalidate your warranty.
4. The slots located on the sides and top of the touchmonitor case are for ventilation. Do not block or insert anything inside the ventilation slots.
5. It is important that your touchmonitor remains dry. Do not pour liquid into or onto your touchmonitor. If your touchmonitor becomes wet do not attempt to repair it yourself.

### Care and Handling of Your Touch Monitor

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The following tips will help keep your touchmonitor functioning at the optimal level.

- To avoid risk of electric shock, do not disassemble the power adaptor or monitor cabinet. The monitor is not user serviceable. Remember to unplug the monitor from the power outlet before cleaning.
- Do not use alcohol (methyl, ethyl or isopropyl) or any strong dissolvent on the monitor. Do not use thinner or benzene, abrasive cleaners or compressed air on the monitor.
- To clean the monitor cabinet, use a soft cloth lightly dampened with a mild detergent.
- Avoid getting liquids inside your touchmonitor. If liquid does get inside, have a qualified service technician check it before you power it on again.
- Do not wipe the screen with a cloth or sponge that could scratch the surface.

- To clean the touchscreen, use window or glass cleaner. Put the cleaner on a soft cloth and wipe the touchscreen. **Never** apply the cleaner directly on the touchscreen.



## C

## TECHNICAL SPECIFICATION

## T11-15 Touch Monitor Specification

<b>Model</b>	T11-15
<b>Form factor</b>	Desktop
<b>Enclosure color</b>	Black
<b>Diagonal size</b>	15.0"
<b>Aspect ratio</b>	4:3
<b>Useful screen area</b>	Horizontal: 12.0" (304 mm)
	Vertical: 9.0" (228 mm)
<b>Monitor dimensions (with stand)</b>	Width: 13.8" (350 mm) Height: 12.2" (310 mm) Depth: 6.9" (175 mm)
	Dimensions vary with stand position and options selected
<b>Native (optimal) resolution</b>	1024 x 768 @ 60 Hz
<b>Colors</b>	16.7 million
<b>Brightness(typical)</b>	LCD panel: 250 nits
	ResistiveTouch: 230 nits
<b>Response time - total (typical)</b>	14.2 msec
<b>Viewing angle (typical)</b>	Horizontal: $\pm 80^\circ$ or $160^\circ$ total
<b>Contrast ratio (typical)</b>	600:1
<b>Input video format</b>	Analog VGA/DVI/HDMI
<b>Input video signal connector</b>	D-Sub 15-Pin VGA type/DVI/HDMI
<b>Input frequency</b>	Horizontal: 31.5-60.2 kHz
	Vertical: 56.3-75 Hz
<b>Power supply</b>	Internal AC, Optional external DC (power brick)
<b>Input voltage</b>	AC: 100-240 VAC, 50/60 Hz
	DC: +12VDC $\pm 5\%$
<b>Input connector</b>	AC: IEC 60320 C6
	DC: Coaxial power jack (2 mm pin diameter, 6.4 mm barrel diameter, 8.8 mm barrel length)
<b>Power consumption (typical)</b>	30 W
<b>Options</b>	3-Tracks Magnetic Stripe Reader, USB interface
	VFD Customer Display, 2 lines with 20 characters per line, Serial interface
	Wall mount or ceiling mount brackets
<b>Temperature</b>	Operating: 0°C to 40°C (32°F to 104°F)

	Storage: -20°C to 60°C (-4°F to 140°F)
<b>Humidity(noncondensing)</b>	Operating: 20%-80%
	Storage: 10%-90%
<b>Backlight lamp life</b>	Typical 30,000 hours to half brightness
<b>MTBF</b>	50,000 hours demonstrated
<b>On-screen display (OSD)</b>	Controls (side): menu, up, down, select, power
	Settings: contrast, brightness, H/V position, RGB (color temp), clock, phase, recall
	Languages: English, German, Spanish, Japanese, French
	Lockouts: power, user controls
<b>Stand options</b>	Removable
<b>Mounting options</b>	75 mm, 100mm VESA mount
	Threaded-through mounting holes, under stand

## APPENDIX



## CONTACT US

### Contact Us

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sinocan\_rma@lcdpc.com.cn (RMA Dept)  
marketing@lcdpc.com.cn(Marketing&Sales Dept.)  
<http://www.lcdpc.com.cn>

### Replacement Parts

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Item	Part Number
Power Adapter	PW-0100001
Power Cord	PW-0100002
VGA Cable	CB-10100001
Serial Cable	CB-10100003
USB Cable	CB-10100003
Audio Cable	CB-10100004
AD Board	PCB-10100002
Inverter	PCB-10100002
Touch Controller	PCB-10100003
Touch Panel	TP-10100002
LCD Panel	LCD-10100001

## WARRANTY

Except as otherwise stated herein or in an order acknowledgment delivered to Buyer, Seller warrants to Buyer that the Product shall be free of defects in materials and workmanship. The warranty for the LCD panel and touch panel is 1 year, for components of the product is 2 years.

Seller makes no warranty regarding the model life of components. Seller's suppliers may at any time and from time to time make changes in the components delivered as Products or components.

Buyer shall notify Seller in writing promptly (and in no case later than thirty (30) days after discovery) of the failure of any Product to conform to the warranty set forth above; shall describe in commercially reasonable detail in such notice the symptoms associated with such failure; and shall provide to Seller the opportunity to inspect such Products as installed, if possible. The notice must be received by Seller during the Warranty Period for such product, unless otherwise directed in writing by the Seller. Within thirty (30) days after submitting such notice, Buyer shall package the allegedly defective Product in its original shipping carton(s) or a functional equivalent and shall ship to Seller at Buyer's expense and risk.

Within a reasonable time after receipt of the allegedly defective Product and verification by Seller that the Product fails to meet the warranty set forth above, Seller shall correct such failure by, at Seller's options, either (i) modifying or repairing the Product or (ii) replacing the Product. Such modification, repair, or replacement and the return shipment of the Product with minimum insurance to Buyer shall be at Seller's expense. Buyer shall bear the risk of loss or damage in transit, and may insure the Product. Buyer shall reimburse Seller for transportation cost incurred for Product returned but not found by Seller to be defective. Modification or repair, of Products may, at Seller's option, take place either at Seller's facilities or at Buyer's premises. If Seller is unable to modify, repair, or replace a Product to conform to the warranty set forth above, then Seller shall, at Seller's option, either refund to Buyer or credit to Buyer's account the purchase price of the Product less depreciation calculated on a straight-line basis over Seller's stated Warranty Period.

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