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To find out more about Elo's extensive range of touch solutions, visit our Web site at www.elotouch.com or simply call the office nearest you:

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Fremont,CA 94555-3613

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Fax (650) 361-5579

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Elo Entuitive Touchmonitor User Guide

For 12" LCD Desktop Touchmonitors
Version 1.0
Revision B

1200L Series Models
ET1225L-7SWC-1
ET1225L-0NWC-1

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Usage Notice

⚠ **Warning-** To prevent the risk of fire or shock hazards, do not expose this product to rain or moisture.

⚠ **Warning-** Do not open or disassemble the product as this may cause electric shock.

Precautions

Follow all warnings, precautions and maintenance as recommended in this user's manual to maximize the life of your unit.

Do:

- Turn off the product before cleaning.
- Use only a dry soft cloth or clean wipe when cleaning the LCD panel surface.
- Use a soft cloth moistened with mild detergent to clean the display housing.
- Use only high quality and safety approved AC/DC power adapter.
- Disconnect the power plug from AC outlet if the product is not used for a long period of time.

Don't:

- Do not touch the LCD panel surface with sharp or hard objects.
- Do not use abrasive cleaners, waxes or solvents for your cleaning.
- Do not operate the product under the following conditions:
  - Extremely hot, cold or humid environment.
  - Areas susceptible to excessive dust and dirt.
  - Near any appliance generating a strong magnetic field.
  - Place in direct sunlight.

Introduction

About the Product

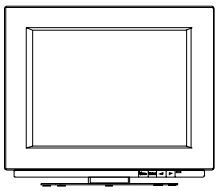
This product is a 12.1” SVGA TFT color LCD touchmonitor with the following features:

- Direct analog RGB input
- Active matrix TFT LCD technology
- 12.1” diagonal screen size
- 16.7 million displayable colors
- SVGA 800 x 600 addressable pixels
- Auto-adjustment
- Full screen re-scaling capability
- 31 ~ 54kHz horizontal scan
- 56 ~ 85Hz high refresh rate
- Multilingual OSD user controls
- VESA DPMS power saving
- Serial touch interface (RS232 cable)
- Built-in speakers
- Patented touch technology of Elo TouchSystems.

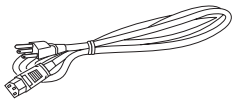
For full product specifications refer to *Touchmonitor Specifications*, page 16.

Package Overview

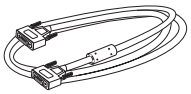
Check that the following 10 items are present and in good condition:



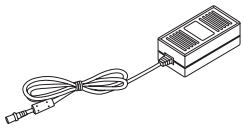
LCD Touchmonitor



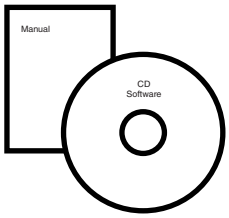
US/Canada
Power Cord



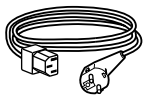
VGA Signal Cable



Power Adapter

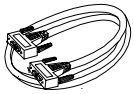


User's Guide and
software CD



European power cable

Mac Video Adapter



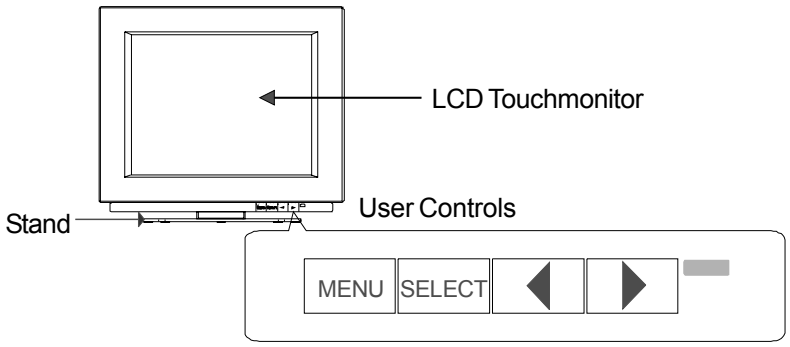
RS-232 Touchscreen
Interface Cable

Audio-In Cable

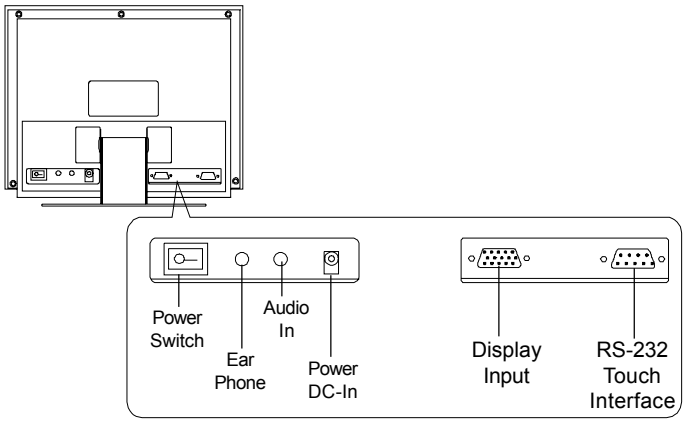
Installation

Product Overview

◆ Main Unit



◆ Rear View



Start Your Installation

◆ Connecting the Touchmonitor (Figure 7.1)

To setup this touchmonitor, please refer to the following figure and procedures.

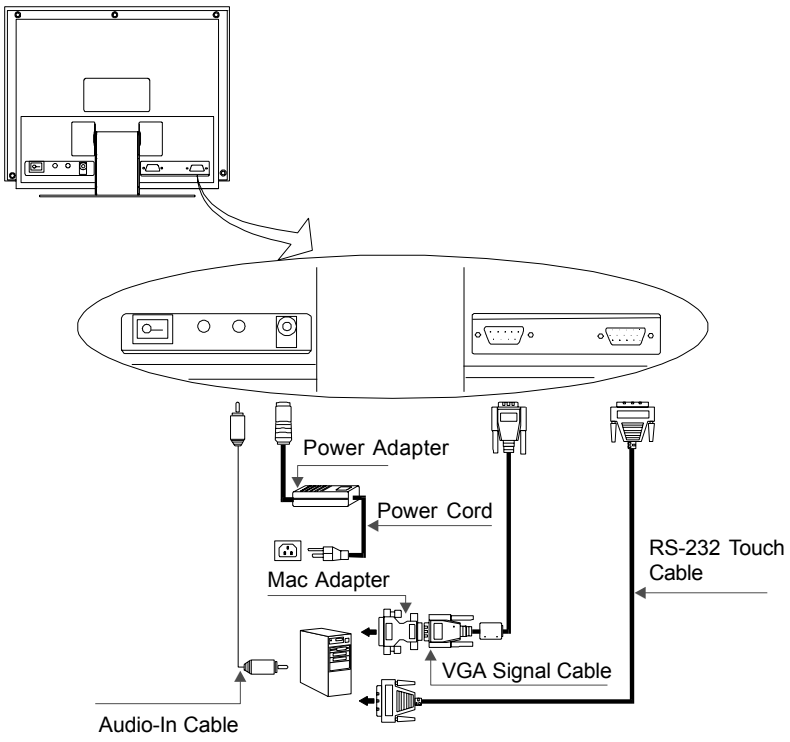
1. Be sure all equipment is off.
2. Connect the VGA signal cable from display input connector to the 15-pin connector of your host computer and tighten the screws.
3. Connect the female end of the touchscreen cable to the serial port on the back of your PC, and the male end of the cable to your touchmonitor.
4. Connect the DC power cord to the power connector; plug one end of the AC power cord into the power adapter, and then the other end into an electrical outlet.
5. Connect the Audio-In cable from audio input port of your touchmonitor to the Audio-out port of your computer. If you need to use earphone, connect your earphone cable to the earphone port of your display.
6. Turn on both your computer and touchmonitor.

◆ Tilt

Grasp both sides of the monitor screen with your hands and adjust the tilt as desired.

◆ Install Driver Software

Please refer to page 20 for driver software instructions.

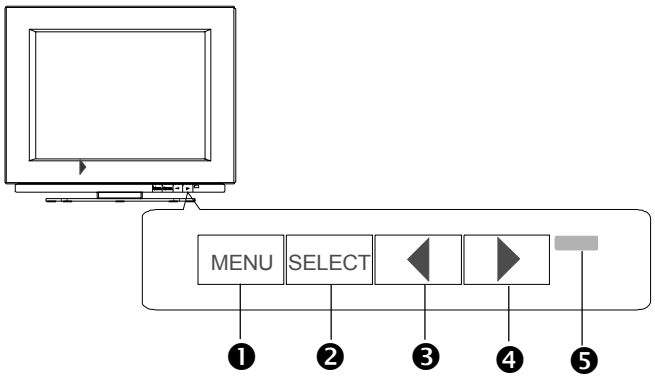


(Figure 7.1)

Notice: *To ensure the LCD display works well with your computer, please configure the display mode of your graphic card to less than or equal to 800 x 600 resolution. Make sure the timing of the display mode is compatible with the LCD display. We have listed the Compatibility Modes of this LCD display in the appendices for your reference.*

User Controls

Front Panel Controls



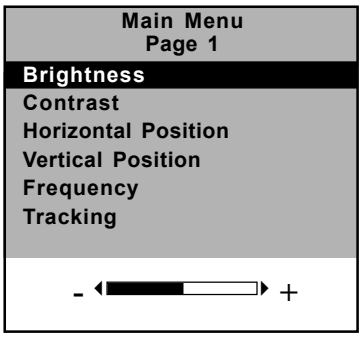
No. / Icon	Control	Function
❶ MENU	Menu button	Displays the OSD menus
❷ SELECT	Select	Selects the adjustment items from OSD menus.
❸ ◀	Decrease / Select	Decreases value of the adjustment items or selects the functions.
❹ ▶	Increase / Select	Increases value of the adjustment items or selects the functions.
❺	Power LED	1. Green indicates the display is turned on. 2. Amber indicates the display in power-saving mode.

How to Use the OSD Menus

1. Press the “MENU” button to pop up the on-screen menu and to toggle between Main Menu Page 1 to Page 3.
2. Choose the adjustment items by pressing the “ SELECT” button.
3. Adjust the value of adjustment items by pressing the “ ◂ ”& “ ▸ ” buttons.
4. Press the “ MENU” button again to turn off the OSD menu. If you don’t operate the OSD menu in a pre-set time, the OSD will automatically disappear.

On-Screen Display Menus

First OSD Menu:



- **Brightness**
  Adjusts the brightness of the image.

- **Contrast**
  Adjusts the contrast of the display image.

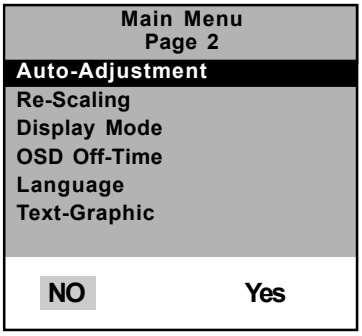
- **Horizontal Position**
  Adjusts the horizontal position of the image.

- **Vertical Position**
  Adjusts the vertical position of the image.

- **Tracking**
  Synchronizes the signal timing of the display to that of the graphic card. When you are experiencing an unstable or flickering image, use this function to make an adjustment.

- **Frequency**
  Changes the display data frequency to match the frequency of your graphic card. When you are experiencing a vertical flickering bar, use this function to make an adjustment.

Second OSD Menu:



Auto-Adjustment
Choose this function to obtain an optimum image.

Re-Scaling
If the input resolution is less than 800 x 600, you can select this function to obtain the full screen image.

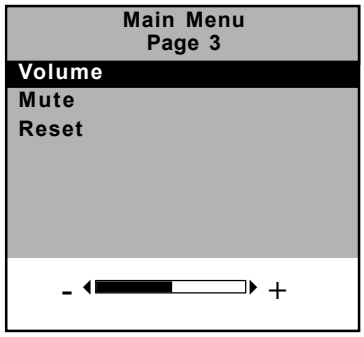
Display Mode
Select this function to demonstrate the display resolution, vertical refresh, and horizontal scan of the current mode.

OSD Off-Time
Adjusts the time period in which the OSD menu will disappear.

Language
Choose the language you need; English, French, German, Spanish and Japanese.

Text-Graphic
Toggles between VGA text mode (mode M03H) and graphic mode (mode M13H).

Third OSD Menu:



- **Volume**
  Allows you to control the volume of sound,

- **Mute**
  Allows you to disable the sound immediately.

- **Reset**
  Returns the display parameters of the current mode to the factory defaults.

Appendices

Troubleshooting

If you are experiencing trouble with the LCD display, refer to the following. If the problem persists, please contact your local dealer or our service center. Please refer to the back cover of this manual for the phone number of the Elo TouchSystems office nearest you.

Problem: No image appears on screen.

- Check that all the I/O and power connectors are correctly and well connected as described in the " Installation " section.
- Make sure the pins of the connectors are not crooked or broken.

Problem: Partial image or incorrectly displayed image.

- Check to see if the resolution of your computer is higher than that of the LCD display.
- Reconfigure the resolution of your computer to less than or equal to 800 x 600.

Problem: Image has vertical flickering line bars.

- Use " Frequency " to make an adjustment.
- Check and reconfigure the display mode of the vertical refresh rate of your graphic card to make it compatible with the LCD display.

Problem: Image is unstable and flickering

- Use " Tracking " to make an adjustment.

Problem: Image is scrolling

- Make sure the VGA signal cable (or adapter) is well connected.
- Check and reconfigure the display mode of the vertical refresh rate of your graphic card to make it compatible with the LCD display.

Problem: Touch doesn't work

- Make sure the touchscreen cable is securely attached at both ends.

Warning Signal

Sometimes you will see warning messages from the LCD screen. This means that the LCD display cannot receive the signal from the computer graphic card.

There are three situations where this may happen. Please check the connected cables or contact your local dealer for more information.

No Signal

This message means that the LCD display has been powered on but it cannot receive any signal from the computer graphic card. Check all the power switches, power cables, and VGA signal cable.

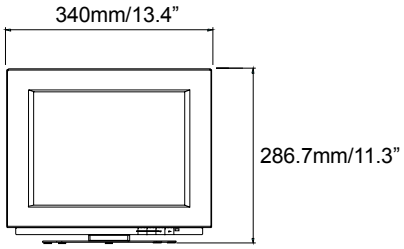
Going to Sleep

This message means that the LCD display is in power saving mode. In addition, the LCD display will go to the sleep mode when experiencing a sudden signal disconnecting problem.

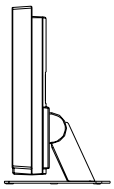
Unsupport Mode

This message means that the signal of the computer graphic card is not compatible with the LCD display. When the signal is not included in the compatibility mode we have listed in the Appendices of this manual, the LCD display will show this message.

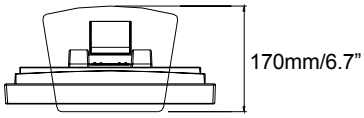
Product Dimensions



Front View



Side View



Top View

12” LCD Touchmonitor (ET12-XXWC-1) Specifications

Display Type	Active matrix, thin film transistor (TFT), liquid crystal display	
Size	12-inch diagonal 246 x 185 mm useful screen area	
Native Resolution	800 x 600	
Touchscreen	AccuTouch, anti-glare	
Colors	16 million with dithering	
Display Brightness	AccuTouch: 188 cd/m² typical	
Back-light Lamp Life	30,000 hours at full brightness typical	
Viewing Angle	Horizontal Vertical	+/-30 or 120 degrees total +/10/-20 or 30 degrees total
Contrast Ratio	100:1 typical	
Display Response Time	50 ms rise, 50 ms delay typical	
Environmental	Operating Temp Storage Temp Humidity	10°C to 40°C -20°C to +60°C 80% non-condensing
Mechanical	Weight Size	actual 10 lbs. (5 kg) shipping 17 lbs. (8.5 kg) approx. weight. See drawings on page 15.
Electrical	Input Video Input Power Input	VGA/SVGA/XGA analog video 100-240 VAC, 50/60 Hz. Universal
Speakers	8 ohms, 1 watt per speaker	
Agencies	Safety & EMC	UL, cUL and TUV FCC, CE, C-Tick, VCCI

AccuTouch Touchmonitor Specifications

Mechanical	
Construction	Top: Polyester with outside hard-surface coating with clear or antiglare finish. Inside: Transparent conductive coating. Bottom: Glass substrate with uniform resistive coating. Top and bottom layers separated by Elo-patented separator dots.
Positional Accuracy	Standard deviation of error is less than 0.080 in. (2.03 mm). This equates to less than ±1%.
Touchpoint Density	More than 100,000 touchpoints/in² (15,500 touchpoints/cm²).
Touch Activation Force	Typically less than 4 ounces (113 grams).
Surface Durability	Meets Taber Abrasion Test (ASTM D1044), CS-10F wheel, 500 g. Meets pencil hardness 3H.
Expected Life Performance	AccuTouch technology has been operationally tested to greater than 35 million touches in one location without failure, using a stylus similar to a finger.
Optical	
Light Transmission (per ASTM D1003	Typically 75% at 550-nm wavelength (visible light spectrum).
Visual Resolution	All measurements made using USAF 1951 Resolution Chart, under 30 X magnification, with test unit located approximately 1.5 in. (38 mm) from surface of resolution chart. Clear surface: N/A Antiglare surface: 6:1 minimum.
Haze (per ASTM D1003	Clear surface: Less than 1.5%. Antiglare surface: Less than 15%.
Gloss (per ASTM D2457)	Clear surface: N/A Antiglare surface: 90 ± 20 gloss units tested on a hard-coated front surface.

Compatibility Modes

Mode	Resolution	V. Frequency (Hz)	H. Frequency (kHz)
IBM VGA	640 x 350	70	31.5
IBM VGA	640 x 400	70	31.5
IBM VGA	640 x 480	60	31.5
IBM VGA	720 x 400	70	31.5
VESA VGA	640 x 480	72	37.9
VESA VGA	640 x 480	75	37.5
VESA VGA	640 x 480	85	43.3
VESA SVGA	800 x 600	56	35.2
VESA SVGA	800 x 600	60	37.9
VESA SVGA	800 x 600	72	48.1
VESA SVGA	800 x 600	75	46.9
VESA SVGA	800 x 600	85	53.7
Apple Mac LC	640 x 480	67	34.9
Apple Mac II	640 x 480	67	35.0

Installing the Driver Software

Elo TouchSystems provides driver software that allows your touchmonitor to work with your computer. Drivers are located on the enclosed CD-ROM for the following operating systems:

Windows 2000
Windows 98
Windows 95
Windows NT 4.0
Windows 3.*x*
MS-DOS 2.*x* or later

Additional drivers and driver information for other operating systems (including OS/2, Macintosh and Linux) are available on the Elo TouchSystems web site at www.elotouch.com.

Your Elo touchmonitor is plug-and-play compliant. Information on the video capabilities of your touchmonitor is sent to your video display adapter when Windows starts. If Windows detects your touchmonitor, follow the instructions on the screen to install a generic plug-and-play monitor.

Installing the Touch Driver for Windows 2000, 95/98 and NT 4.0

Refer to the appropriate following section for driver installation instructions.

Note: For Windows 2000 and NT 4.0 you must have administrator access rights to install the driver.

1. Insert the Elo CD-ROM in your computer's CD-ROM drive.

   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 touch.exe program on the CD-ROM.
   3. Click **Open**, then **OK** to run touch.exe.
   4. Follow the directions on the screen to complete the driver setup for your version of Windows.

Installing the Touch Driver for MS-DOS and Windows 3.1

You must have a DOS mouse driver (MOUSE.COM) installed for your mouse if you wish to continue using your mouse along with your touchmonitor in DOS.

To install Windows 3.*x* and MS-DOS from Windows 95/98, follow the directions below:

1. Insert the Elo CD-ROM in your computer's CD-ROM drive.
2. From DOS, type d:\EloDW to change to the correct directory on the CD-ROM (your CD-ROM drive may be mapped to a different drive letter).
3. Type install and press **Enter** to start the installation.
4. Align the touchscreen.

Refer to Chapter 2 of the Elo DOS and Windows Driver Guide as necessary for additional installation information. The driver guide can be found on Elo's web site at www.elotouch.com.

To run the INSTALL program:

1. Type INSTALL at the DOS prompt in the directory containing the driver install files.
2. INSTALL asks you to select the software to install. Then choose d:\EloDW from the displayed list.
3. INSTALL also asks you for the paths to use during installation, or you may use its defaults. INSTALL creates directories as necessary, and warns you if they exist.

If you are updating your software, you may wish to specify the paths containing the earlier versions, and overwrite the obsolete files. All executable programs are upward compatible. For a list of differences from each previous version of the drivers, be sure to select “Differences from Previous Versions” during the installation process.

INSTALL updates your AUTOEXEC.BAT file with the drivers you select. INSTALL makes a copy of your original AUTOEXEC.BAT called AUTOEXEC.OLD. If you already have Elo driver commands in your AUTOEXEC.BAT file, they will be commented out.

When INSTALL is finished, it leaves a file called GO.BAT in the subdirectory you specified. GO loads the touchscreen driver, runs the calibration program ELOCALIB, and gives you some final instructions.

If you are using Windows 3.1, you will also calibrate the touchscreen within Windows 3.1 with the Touchscreen Control Panel.

I. Electrical Safety Information:

A) Compliance is required with respect to the voltage, frequency, and current requirements indicated on the manufacturer's label. Connection to a different power source than those specified herein will likely result in improper operation, damage to the equipment or pose a fire hazard if the limitations are not followed.

B) There are no operator serviceable parts inside this equipment. There are hazardous voltages generated by this equipment which constitute a safety hazard. Service should be provided only by a qualified service technician.

C) This equipment is provided with a detachable power cord which has an integral safety ground wire and 3-prong connector intended for connection to a grounded safety outlet.

1) Do not substitute the cord with other than the provided approved type. Under no circumstances use an adapter plug to connect to a 2-wire outlet as this will defeat the continuity of the grounding wire.

2) The equipment requires the use of the ground wire as a part of the safety certification, modification or misuse can provide a shock hazard that can result in serious injury or death.

3) Contact a qualified electrician or the manufacturer if there are questions about the installation prior to connecting the equipment to mains power.

II. Emissions and Immunity Information

A) Notice to Users in the United States: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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.

B) Notice to Users in Canada: This equipment complies with the Class B limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industrie Canada.

C) Notice to Users in the European Union: Use only the provided power cords and interconnecting cabling provided with the equipment. Substitution of provided cords and cabling may compromise electrical safety or CE Mark Certification for emissions or immunity as required by the following standards:

This Information Technology Equipment (ITE) is required to have a CE Mark on the manufacturer's label which means that the equipment has been tested to the following Directives and Standards:

This equipment has been tested to the requirements for the CE Mark as required by EMC Directive 89/336/EEC indicated in European Standard EN 55 022 Class B and the Low Voltage Directive 73/23/EEC as indicated in European Standard EN 60 950.

D) General Information to all Users: This equipment generates, uses and can radiate radio frequency energy. If not installed and used according to this manual the equipment may cause interference with radio and television communications. There is, however, no guarantee that interference will not occur in any particular installation due to site-specific factors.

1) In order to meet emission and immunity requirements, the user must observe the following:

a) Use only the provided I/O cables to connect this digital device with any computer.

b) To ensure compliance, use only the provided manufacturer's approved line cord.

c) The user is cautioned that changes or modifications to the equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2) If this equipment appears to cause interference with radio or television reception, or any other device:

a) Verify as an emission source by turning the equipment off and on.

b) If you determine that this equipment is causing the interference, try to correct the interference by using one or more of the following measures:

i) Move the digital device away from the affected receiver.

ii) Reposition (turn) the digital device with respect to the affected receiver.

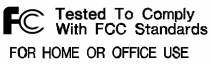
iii) Reorient the affected receiver's antenna.

iv) Plug the digital device into a different AC outlet so the digital device and the receiver are on different branch circuits.

v) Disconnect and remove any I/O cables that the digital device does not use. (Unterminated I/O cables are a potential source of high RF emission levels.)

vi) Plug the digital device into only a grounded outlet receptacle. Do not use AC adapter plugs. (Removing or cutting the line cord ground may increase RF emission levels and may also present a lethal shock hazard to the user.)

If you need additional help, consult your dealer, manufacturer, or an experienced radio or television technician.



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 touchmonitors and components of the product are: 3 years monitor, 10 years IntelliTouch screen, 5 years AccuTouch screen, 5 years Controller.

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.

THESE REMEDIES SHALL BE THE BUYER'S EXCLUSIVE REMEDIES FOR BREACH OF WARRANTY. EXCEPT FOR THE EXPRESS WARRANTY SET FORTH ABOVE, SELLER GRANTS NO OTHER WARRANTIES, EXPRESS OR IMPLIED BY STATUTE OR OTHERWISE, REGARDING THE PRODUCTS, THEIR FITNESS FOR ANY PURPOSE, THEIR QUALITY, THEIR MERCHANTABILITY, THEIR NONINFRINGEMENT, OR OTHERWISE. NO EMPLOYEE OF SELLER OR ANY OTHER PARTY IS AUTHORIZED TO MAKE ANY WARRANTY FOR THE GOODS OTHER THAN THE WARRANTY SET FORTH HEREIN.

SELLER'S LIABILITY UNDER THE WARRANTY SHALL BE LIMITED TO A REFUND OF THE PURCHASE PRICE OF THE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR THE COST OF PROCUREMENT OR INSTALLATION OF SUBSTITUTE GOODS BY BUYER OR FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT, OR INCIDENTAL DAMAGES.

Buyer assumes the risk and agrees to indemnify Seller against and hold Seller harmless from all liability relating to (i) assessing the suitability for Buyer's intended use of the Products and of any system design or drawing and (ii) determining the compliance of Buyer's use of the Products with applicable laws, regulations, codes, and standards. Buyer retains and accepts full responsibility for all warranty and other claims relating to or arising from Buyer's products, which include or incorporate Products or components manufactured or supplied by Seller. Buyer is solely responsible for any and all representations and warranties regarding the Products made or authorized by Buyer. Buyer will indemnify Seller and hold Seller harmless from any liability, claims, loss, cost, or expenses (including reasonable attorney's fees) attributable to Buyer's products or representations or warranties concerning same.