# Touchcomputer User Guide

15A2 15" LCD Multifunction Touchcomputer

[Model ESY15A2]

Tyco Electronics

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# Elo TouchSystems Touchcomputer User Guide

**15" LCD Multifunction Touchcomputer**

**15A2**

**Revision A**

**P/N E293646**

**Elo TouchSystems**

**1-800-557-1458**

**www.elotouch.com**

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# Table of Contents

**Chapter 6**

# 1

# **Setup**

This chapter discusses how to set up and test your touchcomputer and any included peripheral options.

## Unpacking Your Touchcomputer

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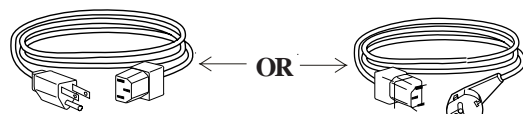


Touchcomputer      Power cable US/Canadian      European power cable
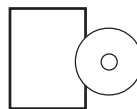
PS2/Y cable      CD and Quick Install Guide      Power Adapter
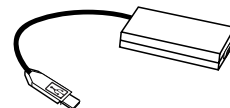
DB9 adapter cable

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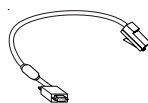
# Product Overview

## Front View
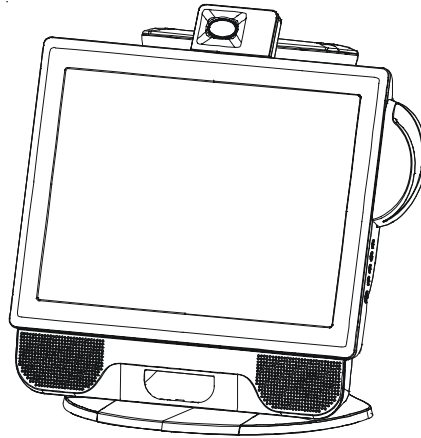
## Rear View
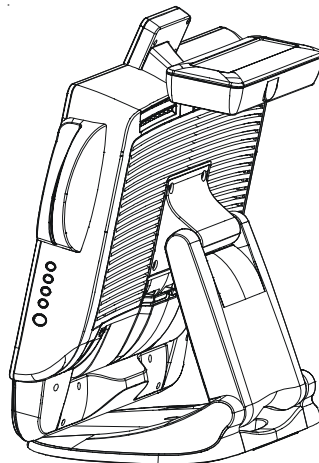
Note: Shown with optional peripherals

## Side View
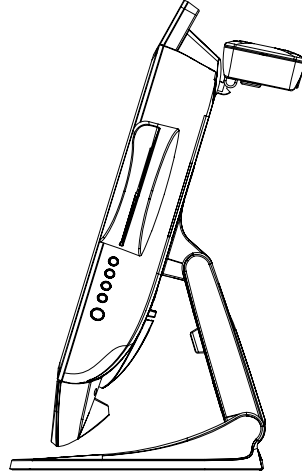
Note: Shown with optional peripherals

## Base Bottom View
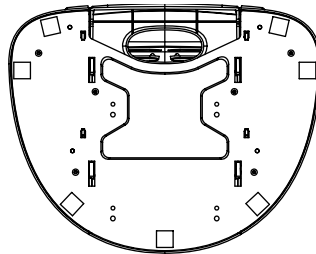
## Display Orientation
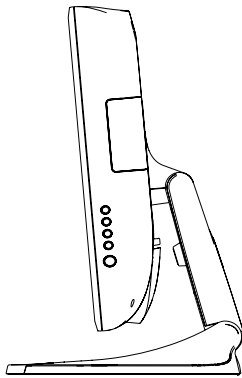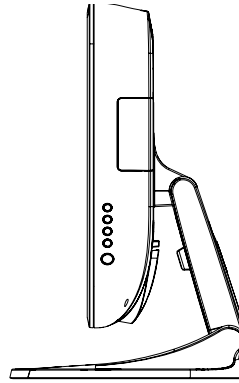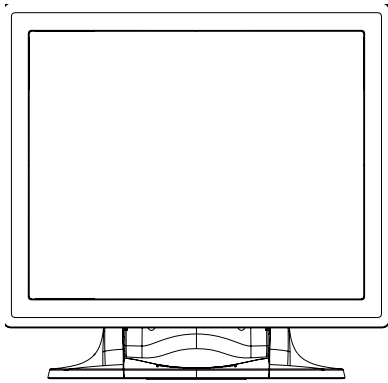
TILT -5° FROM VERTICAL
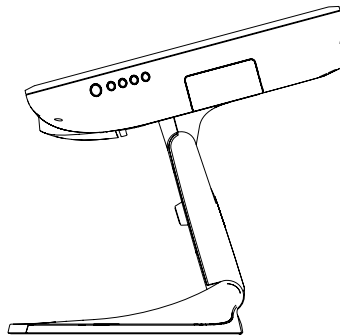
TILT 75° FROM VERTICAL
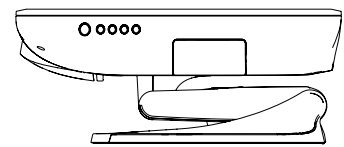
MONITOR FULLY COLLAPSED

# Display Orientation with Peripherals

CUSTOMER DISPLAY

BIOMETRIC SCANNER

MSR

SPEAKER BAR/BARCODE SCANNER

TILT 13° FROM VERTICAL
MINIMUM TILT WITH SPEAKER ACCESSORY)

TILT 75° FROM VERTICAL

MONITOR FULLY COLLAPSED
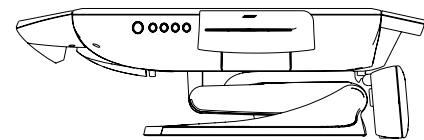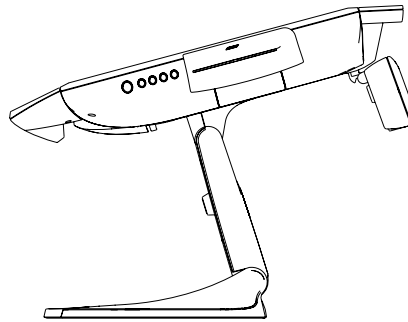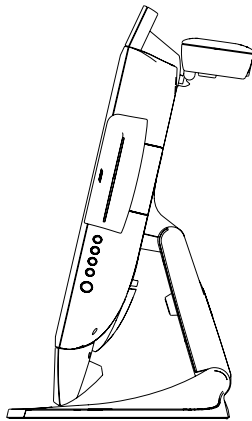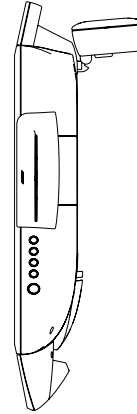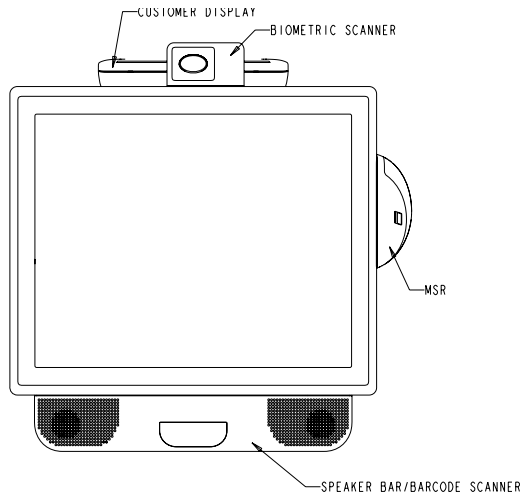
# Initial Turn-On

The initial setup of the operating system takes approximately 5-10 minutes. Additional time may be needed depending on touchcomputer hardware configuration and connected devices. To setup the Windows OS for the touchcomputer, turn on the touchcomputer and follow the instructions on the screen.

## Language Selection

When the following window appears, you have the option of changing the language used in menus and dialogs.
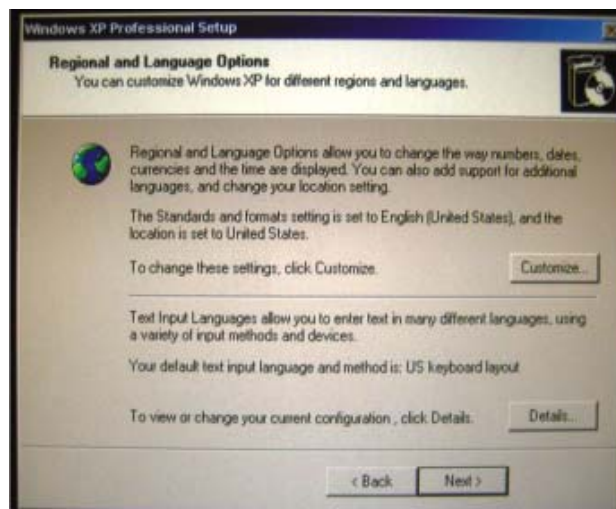


Click **Customize**. The Regional and Language window shown below will appear.
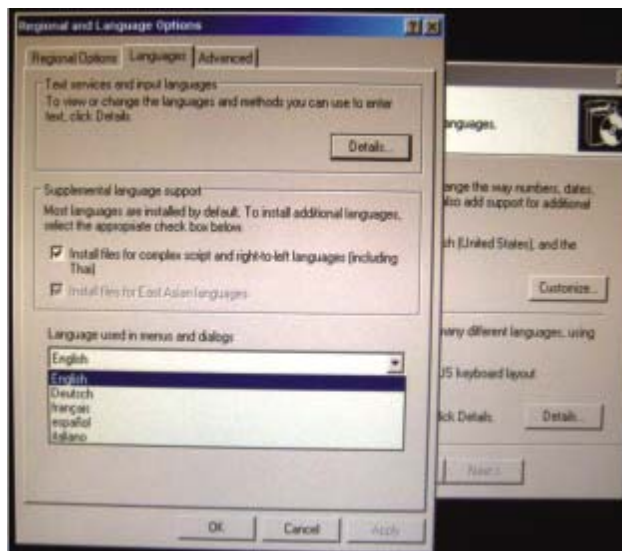
Select the **Language** tab. The window shown below will appear.
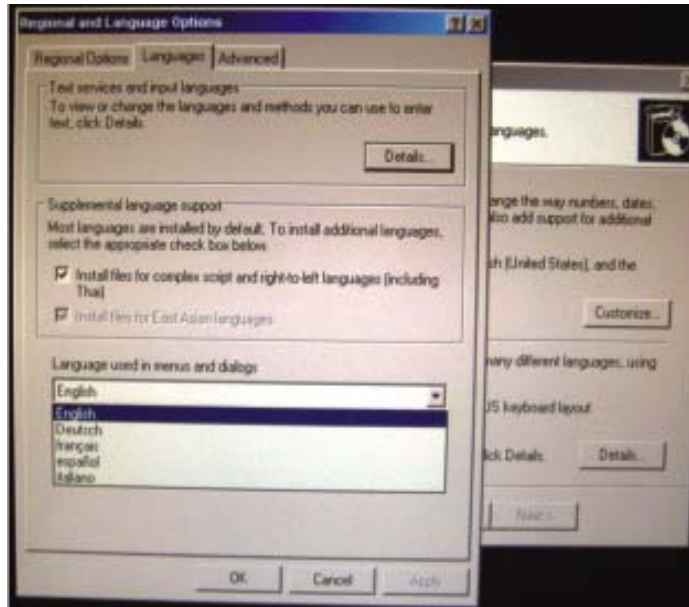


Select the desired language in the drop-down list labeled **Language used in menus and dialogs**.

## Time-zone selection

When the following window appears, you may change the time-zone, date, and/or time of the touchcomputer.



After making any changes, click **Next** to finish. Windows Setup will complete the initialization of the touchcomputer.

# Test Devices

The touchcomputer can be pre-installed with several different hardware options. To test an optional device that is installed on the touchcomputer, follow the instructions below.

**NOTE: Testing icons are located on the desktop. Testing of a particular device can only be done after the device is properly installed.**

## Testing the Touchscreen

The touchscreen is pre-calibrated for accurate touch response.

### Calibration*

If for any reason the touchscreen needs to be re-calibrated, double-click the **Touchscreen-Test** icon. The window shown below will open.



Click on the **Align** button. This launches the calibration program. The window shown below will open. Follow the instructions to calibrate the touchscreen.
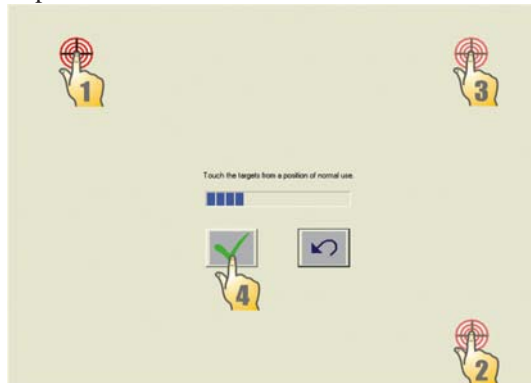


*Calibration may not be applicable for all touch technologies.

# Testing the Magnetic Stripe Reader (MSR) (optional)

### Testing in USB MSR Keyboard (KB) Emulation Mode

1. Double-click the **KB MSR Test** icon to open the Notepad application
2. Slide the card through the MSR and verify that the data is displayed in the application window.



### Testing in USB MSR Human Interface Device (HID) Mode

1. Double-click the **HID MSR Test** icon to start the test application.
2. Click the **Read Cards** button.
3. Slide the card through the MSR and verify that the data is displayed in the application window.

## Converting MSR from Keyboard Emulation to HID and vice versa

1. Double-click the **MSR Change Mode** icon to start the switch application.
2. Click on **HID Mode** to switch to HID mode OR click on **Keyboard Mode** to switch to Keyboard mode. The dimmed box will indicate the current setting.
3. Click Quit to close the window.
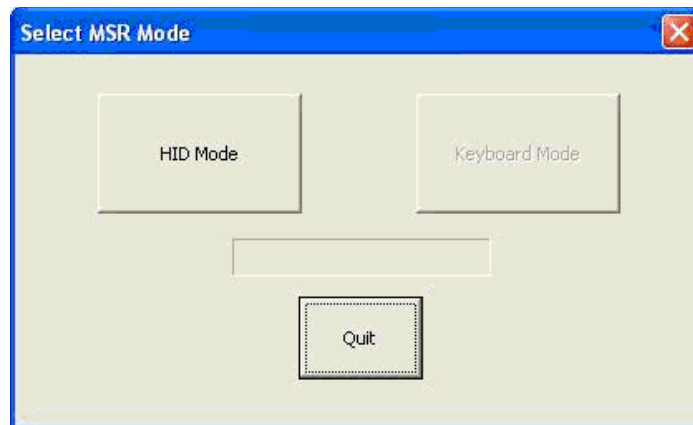
## Testing the Customer Display (optional)

1. Double-click the **CustDisplay Test** icon.
2. Verify that the device shows "EloTouch Systems Customer Display" on the display.

## Testing the Finger Print Reader (optional)

1. Double-click the **Fingerprint Reader Test** icon to start the test application.
2. Place your finger on the fingerprint reader sensor and verify that the image of your fingerprint is displayed on the application window.
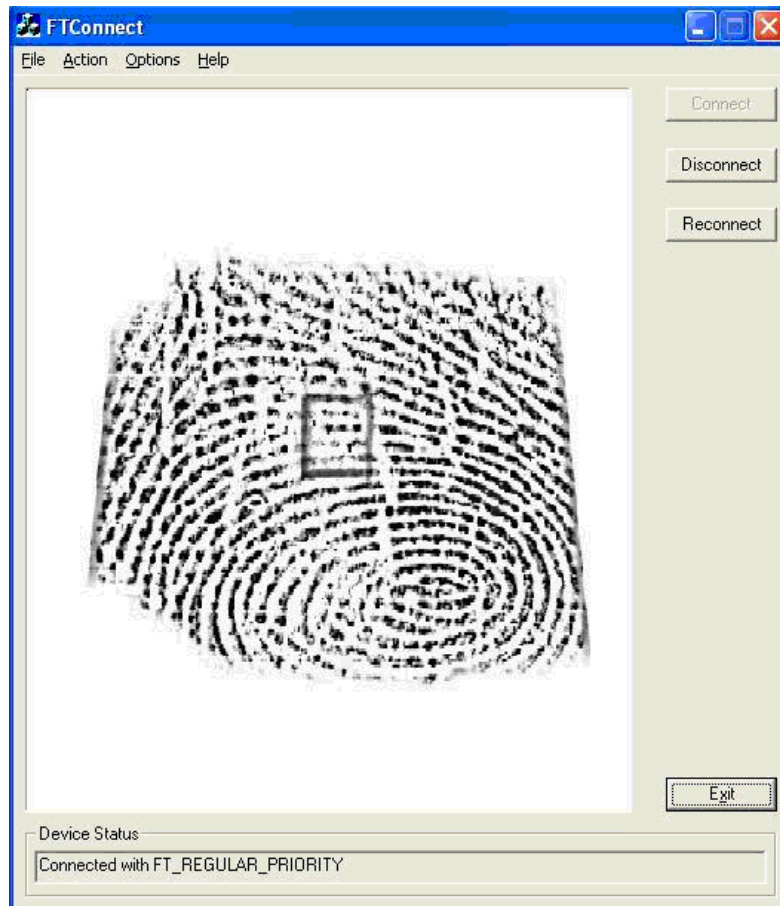
## Testing the Barcode Scanner (optional)

1. Determine which port the barcode scanner is using:
   a. In Windows Control Panel, start the Computer Management application
   b. In Computer Management, select Device Manager. In the Right pane, look under the Ports section, and note the COM value of the USB -Serial Port object.
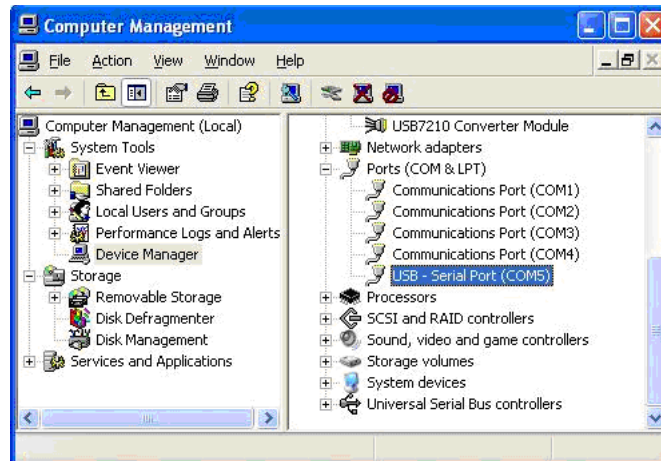


2. Double-click on the **Barcode Scanner Test** icon to start the following application:
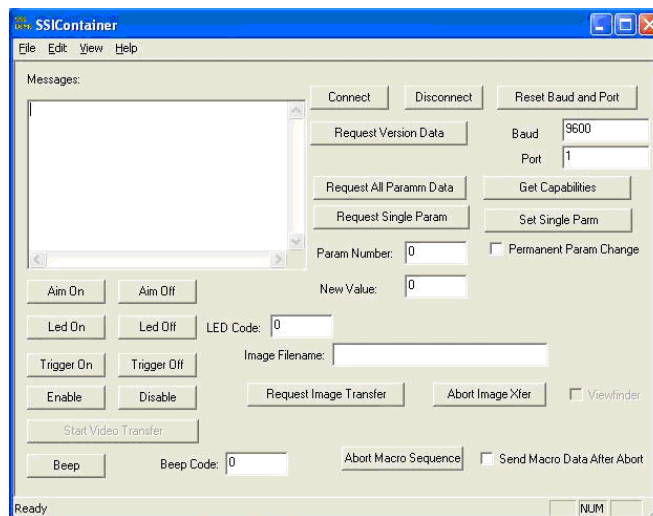
1. Change the port value to match the value you retrieved from the Device Manager.

2. Click **Connect**. You should see the text Connected in the Messages field.

3. In the box labeled **Param Number**, enter the value **238**.

4. In the box labeled "New Value" enter the value 1.

5. Check the box labeled **Permanent Param Change**.

6. Scan a barcode. The result should look similar to the following image:
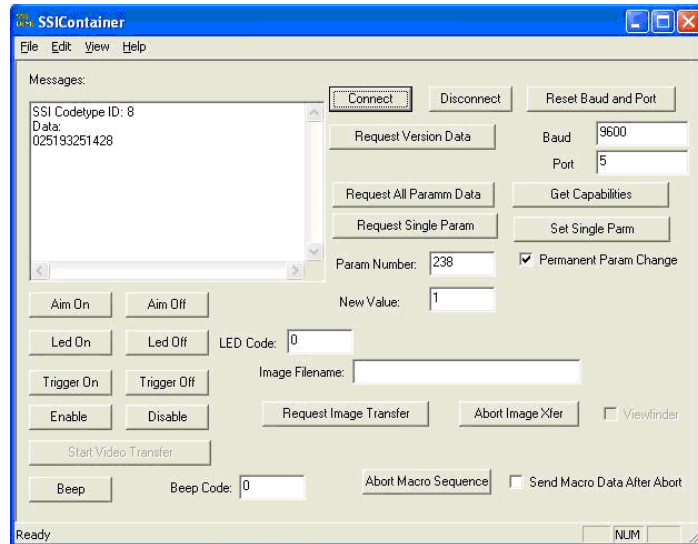
## Enabling 2-D Scanning:

The scanner default settings do not enable 2-D barcode reading ability.  In order to enable this option, follow these steps:

• Scan the barcodes below to enable PDF417 and MicroPDF417.  These are both types of 2-D barcodes.

Enable PDF417

(01h)

Enable MicroPDF417

(01h)

• Now scan the barcode below to change the scanning pattern. Using this scanning pattern will allow you to read 2-D barcodes (you can still read 1-D barcodes also).

Always Raster
(02h)

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## Testing the Speaker Bar (optional)

To test the speaker bar, play any audio file on the touchcomputer and verify the sound emitting from the speakers.

**NOTE: If the speaker bar is connected to the touchcomputer, the internal speakers will be disabled. If there is an audio cable plugged into the audio output port on the I/O panel, both internal and speaker bar speakers will be disabled.**

## Testing the Wireless Card (optional)

To test the wireless card:

1. From the desktop, click Start->Control Panel->Network Connections
2. Double-click the Wireless Network Connections icon to display available networks and verify that the wireless network is detected.

**Note: If a wireless network needs to be initialized, please see your system administrator.**
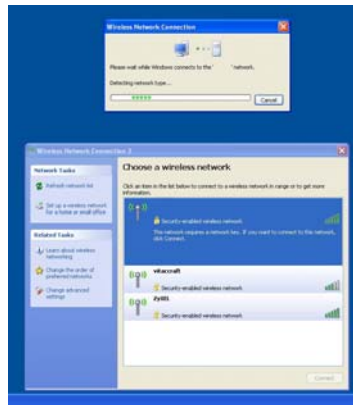


## Testing the TV tuner (optional)

To test the TV tuner, first ensure that the TV Tuner driver and software application accompanying the card has been installed on the touchcomputer. Also, ensure that a TV source is properly connected to the TV input connector on the I/O panel.

• To test the TV tuner, run the TV Tuner software application and verify that the video source is displayed in the application window and audio is emitting from the speakers.

**Note: Concurrent use of wireless and TV Tuner is not feasible.**

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## Testing the Cash Drawer Port

To test the cash drawer port, first ensure that a cash drawer port is attached to the touchcomputer using a cable with the correct wiring definition. For additional information, see **Cash Drawer Port Signal Definition and Control** section on page 44.

Note: The test program for the cash drawer port can only be performed in a DOS only environment.

1. At the DOS command prompt, type C:\EloTouchSystems\SetupFiles\CashDrawer\ Cash Drawer Test.exe and press **ENTER** to start the application.
2. Press **SPACE BAR** to open the cash drawer. The application will display the current status of the cash drawer.

## Testing the Modem Card(optional)

To test the modem daughter card, first ensure that the BIOS settings have been set to the MODEM setting per the installation procedure. Also, ensure that the drivers for the card have been installed on the touchcomputer and a live telephone line is connected to the RJ11 port.

1. From the windows desktop, go to **Start->All Programs->Accessories-> Communications->Hyperterminal.**
   a. If you have not previously configured your computer, fill out the in formation requested in the window titled ¡§Location Information¡¨ and click **OK**.
   b. In the window titled ¡§Phone and Modem Options¡¨, ensure that the proper location is selected and click **OK**.
2. In the window titled ¡§Connection Description¡¨as shown below, enter a name and click **OK**.
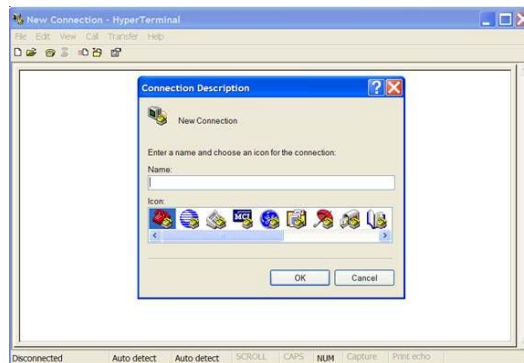
3. In the window titled ¡§Connect To¡¨ as shown below, enter a phone number to dial. The phone number should connect to a phone in which you have immediate access. Make sure the device selected under the **Connect using** field is the Agere modem. When you have entered the correct information, click **OK**.



4. In the window titled ¡§Connect¡¨ as shown below, click **Dial**. The program should dial the number, and you should detect the phone ring as shown below.
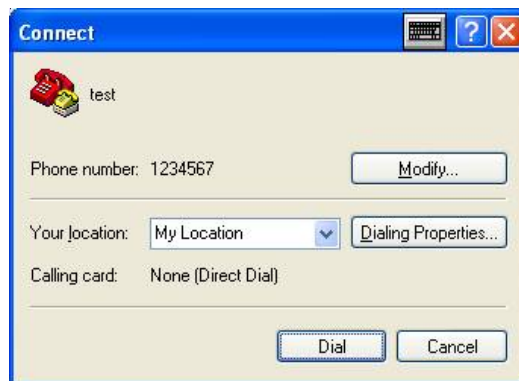


Note: Concurrent use of the cash drawer port and the modem port is not feasible.

*2*

# Operation

This chapter shows the user how to control the On-Screen Display (OSD) and Power buttons, use the I/O panel, securely mount the touchcomputer and adjust the display head.

All adjustments made to the OSD and Power controls are automatically saved. User settings will remain unchanged after powering off/on or in the case of a power failure.



User Control
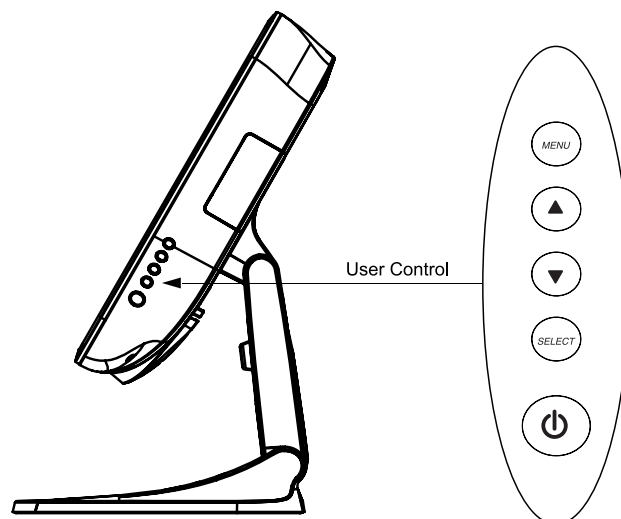
# OSD Control

## OSD Menu

To display the OSD Menu, press the Menu button.

1. Press the **UP** button or **DOWN** button to toggle and the **SELECT** button to select among the different OSD sub-menus and functions.
2. When the function you want to change is shown, press the **SELECT** button.

To adjust the value of the function:

1. Pressing the **UP** button increases the value of the selected OSD control option.
2. Pressing the **DOWN** button decreases the value of the selected OSD control option.

The OSD provides the following adjustments:

**Audio**

Adjusts the audio volume level and provides muting function.

**Brightness**

Adjusts the background luminance of the LCD panel.

**Contrast**

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

**Color Control**

Sets color temperature values of 5500K, 6500K, 7500K, 9300K, or user defined.

**Information**

Displays the OSD version and current resolution setting.

**OSD Language**

Adjusts the language selection of the OSD among English, French, Italian, German, or Spanish

**OSD Time-Out**

Adjusts the time the OSD remains on the screen after no activity.

**OSD Vertical Position**

Adjusts the OSD position up or down.

**OSD Horizontal Position**

Adjusts the OSD position left or right.

**Sharpness**

Adjusts the sharpness of the display.

**Recall Defaults**

Restores OSD factory settings.

**Shortcut keys**

There are two shortcut buttons allowing the user to make quick adjustments. These shortcuts are available only when the OSD menu is NOT displayed.

- To adjust brightness, press the UP button
- To adjust volume, press the DOWN button

## OSD Lockout

You are able to lock and unlock the four OSD buttons. The touchcomputer is defaulted in the unlocked position.

**To lock the OSD:**

While the OSD is not displayed, press the Menu button and UP simultaneously for 2 seconds. A window will appear displaying "OSD Unlocked". Continue to hold the buttons down for another 2 seconds and when the window toggles to "OSD Locked", release both buttons to lock the OSD.

**To unlock the OSD:**

Press the Menu button and UP simultaneously for 2 seconds. A window will appear displaying "OSD locked". Continue to hold the buttons down for another 2 seconds and when the window toggles to "OSD Unlocked", release both buttons to unlock the OSD.

# Power Control

## Power Button

The power button function can be set by the operating system under:
Control Panel->Display Properties->Screen Saver->Power->Advanced->Power Buttons
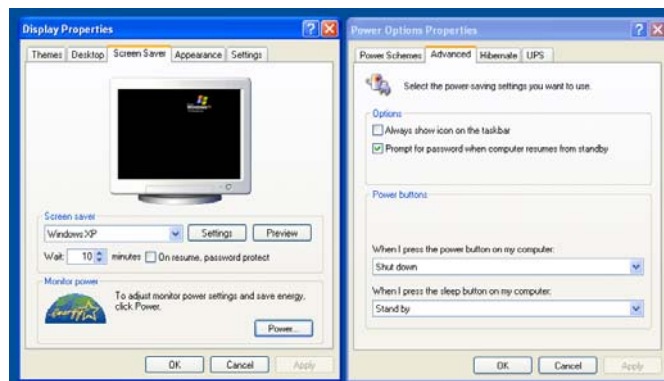


To override all Operating System settings and shut down the touchcomputer, press and hold the power button for 7 seconds.

Note: This function will not work if the power button is locked as described in the section below.

## Power Lockout

You are able to lock and unlock the Power button. The touchcomputer is defaulted in the unlocked position.

**To lock the Power:**

While the OSD is not displayed, press the Menu button and DOWN simultaneously for 2 seconds. A window will appear displaying "Power Unlocked". Continue to hold the buttons down for another 2 seconds. When the window toggles to "Power Locked" release both buttons to lock the Power button.

**To unlock the Power:**

Press the Menu button and DOWN simultaneously for 2 seconds. A window will appear displaying "Power locked". Continue to hold the buttons down for another 2 seconds. When the window toggles to "Power Unlocked" release both buttons to unlock the Power button.

# Using the I/O panel

The touchcomputer provides the following I/O interfaces for connecting a wide variety of compliant devices.
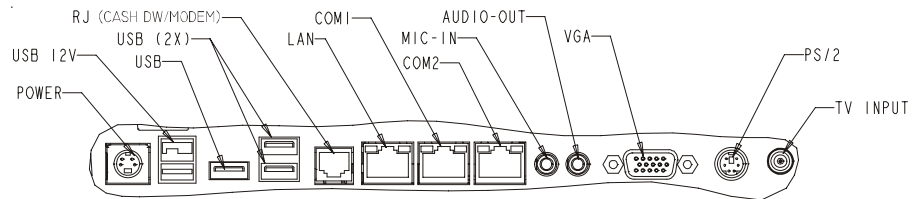


### USB and Powered USB

There are four USB 2.0 type A ports, including one 12V powered USB 2.0 port.

### Cash Drawer

When the registered jack (RJ) is set as a cash drawer port via the touchcomputer BIOS control, it provides a 12V cash drawer interface. For additional information, see the **Cash Drawer Port Signal Definition and Control** section on page 44.

### Modem

When the registered jack (RJ) is set as a modem port via the touchcomputer BIOS control, it provides an RJ11 interface for when the optional modem daughter card is installed in the touchcomputer.

### Ethernet

There is one RJ45 Ethernet port providing LAN capabilities

### Serial

There are two serial ports with an 8 position registered jack connector interface. COM1 is set to RS232 mode. COM2 is selectable in the BIOS to RS232, RS422 or RS485 modes. Use the supplied DB9 adapter cable to change the interface to DB9.

### Microphone Input

There is one 3.5mm microphone input jack for connecting an external microphone

### Audio Output

There is one 3.5mm stereo audio output jack for connecting headphones or external powered speakers.

### VGA

There is one D-SUB VGA output port for connecting a secondary display.

### PS/2 Universal

There is one PS/2 Universal port for connecting a keyboard and mouse simultaneously with the supplied Y-cable. A PS/2 keyboard is functional when connected directly to the PS/2 universal port. A PS/2 mouse should NOT be connected directly to the PS/2 universal port without the Y-cable.

### TV Tuner (optional)

There is one TV Tuner input for use when the TV Tuner option is selected.

### Kensington™ Lock



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

# Securing the Touchcomputer Base

## Mounting Option 1
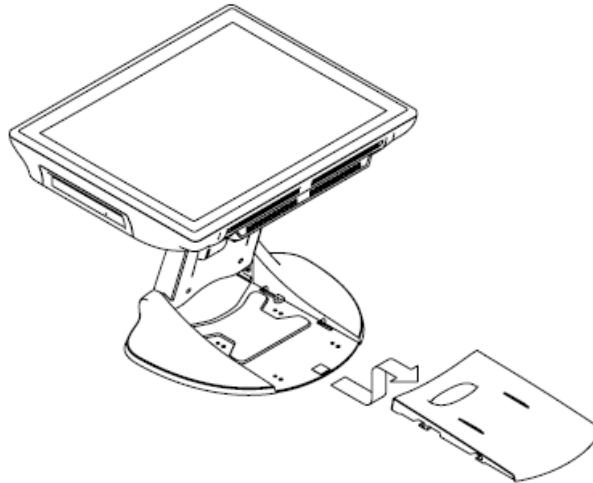


**1 Snap off stand cover**
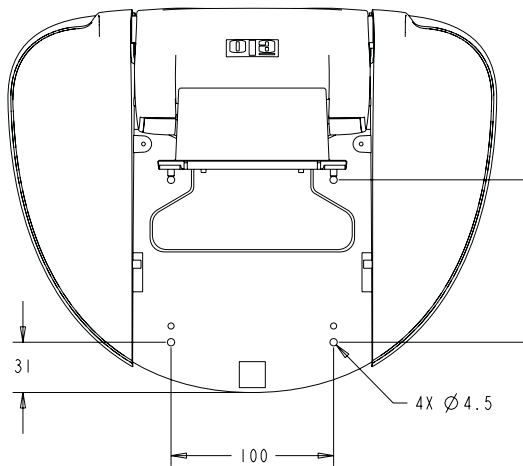


TOP VIEW

**2 Mount as shown**

Note: Dimensions are in millimeters

## Mounting Option 2
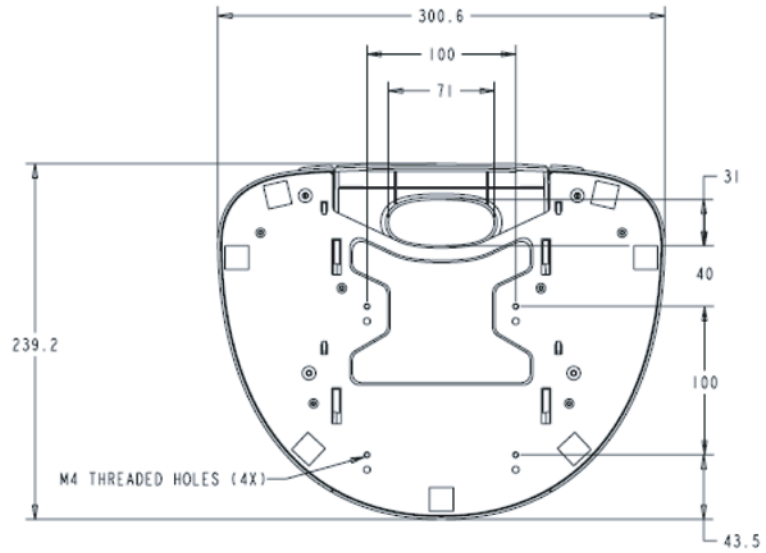


**Bottom View**

**Mount as shown**

Note: Dimensions are in millimeters

# Display Angle

For viewing clarity, you can tilt the LCD forward up 67 to 90 degrees.

388.98
328.59
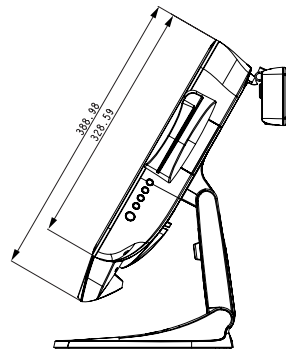
Tilt 30° from vertical

388.98
328.59
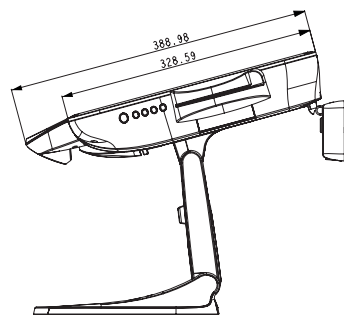
Tilt 75° from vertical

**CAUTION**   In order to protect the LCD, be sure to hold the base when adjusting the LCD, and take care to not touch the screen.

# 3

# Upgrades

## Adding Peripherals

When adding a peripheral, complete installation and setup instructions are provided with the user-installable kits. The following peripherals are available in user-installable kits.

- MSR
- Customer Display
- Fingerprint reader
- Barcode scanner
- Speaker Bar
- Wireless MiniPCI card
- TV Tuner MiniPCI card (ATSC and DVB-T versions available)
- RAM upgrade module
- Modem Daughter Card

4

# Maintenance

# Care and Handling of Your Touchcomputer

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

- To avoid risk of electric shock, do not disassemble the power adapter or display unit cabinet. The unit is not user serviceable. Remember to unplug the display unit from the power outlet before cleaning.
- Do not use alcohol (methyl, ethyl or isopropyl) or any strong dissolvent. Do not use thinner or benzene, abrasive cleaners or compressed air.
- To clean the display unit cabinet, use a cloth lightly dampened with a mild detergent.
- Avoid getting liquids inside your touchcomputer. 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 the rag and wipe the touchscreen. Never apply the cleaner directly on the touchscreen.

## Warning

This product consists of devices that may contain mercury, which must be recycled or disposed of in accordance with local, state, or federal laws. (Within this system, the backlight lamps in the monitor display contain mercury.)

## Waste Electrical and Electronic Equipment (WEEE) Directive

In the European Union, this label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

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# Servicing the Hard Disk Drive and Compact Flash Card

When removing or installing a hard disk drive, first turn the touchcomputer off and remove the power supply connection.

## To Install the Hard Disk Drive

1.  Place the unit face down and remove the back grill. Then remove the 6 screws as shown below and remove the back cover insert.
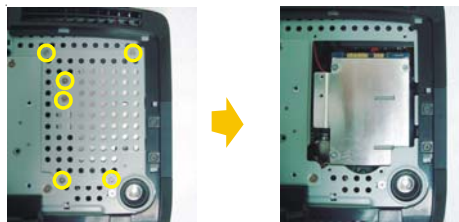
    

2.  If you have an existing hard drive, remove the existing hard drive by pulling down and to the left.

    

3.  Remove the the hard drive caddy from the old hard drive and mount it into the new hard drive:
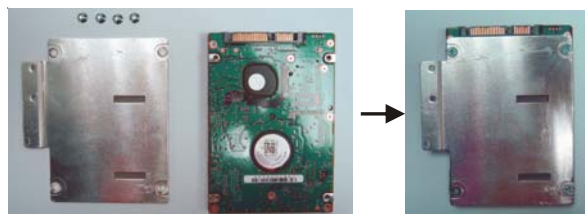
    

4.  Grasp the handle of the caddy with the new hard drive and slide the hard drive into the hard drive space. Push the hard drive up until it snap locks into the connector.
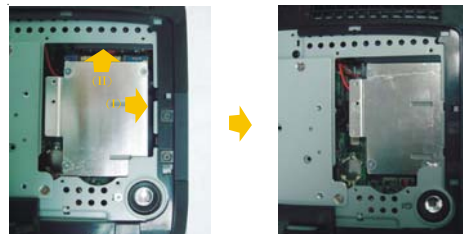
    

5.  Replace the back cover insert, 6 screws and back grill.

## To Install the Compact Flash Card

When removing or installing a compact flash card, first turn the touchcomputer off and remove the power supply connection.

1. Place the unit face down and remove the back grill. Remove the screw closing the CF card flap and remove the back grill. Remove the two screws closing the CF card flap and remove the flap to expose the CF card slot.
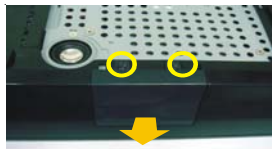
2. Insert the CF card into the the metal guide rails and press the card firmly into the slot.

3. Close the flap, replace the screw, and replace the back cover insert.
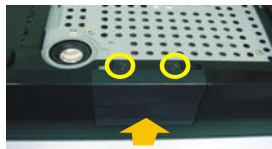
4. Replace the flap, 2 screws, back cover insert and back grill.

# Recovering the Operating System

If for any reason the touchcomputer's operating system and software needs to be recovered, insert the included recovery disk into an external DVD-ROM drive or internal DVD drive (if available) and reboot the touchcomputer. Follow the on-screen instructions to complete recovery.

NOTE: All data will be deleted during the recovery process. User must back up files when necessary. Elo TouchSystems does not accept liability for lost data or software.

5

# Technical Specifications

# Touchcomputer Specifications

**Note: Not all operating systems or options are supported in all regions. Please contact your local Elo TouchSystems representative for details.**

| | |
|---|---|
| Processor | Intel Celeron M 1.0GHz CPU w/400MHz Front-Side Bus |
| RAM | 1GB DDR2 RAM standard. Up to 2GB max. |
| Northbridge | Intel 915GME |
| Southbridge | Intel ICH6 |
| Video | Intel GMA 900 Up to 128MB shared w/ DVMT |
| Operating systems | Microsoft Windows XP Professional<br>Microsoft Windows XP Embedded<br>Microsoft Windows Embedded for Point of Service (WEPOS)<br>Microsoft Windows Vista Business |
| Ports | 4 x  USB 2.0 ports<br>1 x 12V powered USB 2.0 port<br>1 x 12V cash drawer port OR 1 x RJ11 modem port (BIOS selectable)<br>1 x 10/100 Base-T ethernet port<br>2 x Serial ports (RJ connector)<br>   COM1, RS232, COM2 selectable RS232/RS422/RS485<br>1 x Microphone input 3.5mm<br>1 x Audio Output 3.5mm<br>1 x VGA output<br>1 x PS/2 Universal |
| Expansion | 1 x MiniPCI for type IIIA/B MiniPCI cards |
| Compact Flash | One socket, internal user accessible |
| Wireless networking | Wireless ready w/ antennas pre-installed for miniPCI wireless card. |
| BIOS | ACPI 2.0, APM 1.2, SMBIOS 2.4, PXE, WOL |
| Real Time clock | Replaceable lithium-ion battery for clock |
| Storage | XP/WEPOS/VISTA: 40 GB HDD(minimum)<br>XP Embedded 1 GB Compact Flash |
| Power supply | Type: External brick<br>Input (line) voltage: 100-240 VAC, 50-60 Hz<br>Output voltage/current: 12 V at 10 amps max.<br>                120 watts minimum |
| Power dissipation | 100 W Typical |
| Temperature | Operating: $0^{\circ}$C to $35^{\circ}$C<br>Storage: $-20^{\circ}$C to $60^{\circ}$C |
| Humidity | Operating: 20%-80%<br>Storage: 5%-95%<br>noncondensing |

| | |
|---|---|
| Weight | Actual: 17 lb (7.9kg) |
| | Shipping: 24 lb(11kg) |
| | Shipping box dimensions (530mmx380mmx240mm) |
| Backlight lamp life | Min 50,000 hours to half brightness |
| Agency approvals | UL/cUL (*recognized component), FCC, CE, VCCI, |
| | C-Tick, EN60950 |
| Speakers (internal) | One-watt/channel speakers in display head |
| User controls | Side: Power and user controls with lockout function for public |
| | use |
| Mounting options | 100 mm VESA mount |
| Other features | Removable base |
| | Adjustable Base |
| | Fanless |
| | User accessible hard drive |
| | Touchscreen sealed to bezel and LCD |
| | Security lock receptacle |
| Peripheral Options and Upgrades | Magnetic Stripe Reader 3 tracks |
| | Customer Display 2 x 20 |
| | Fingerprint reader biometric |
| | External speaker bar 1.5 watt |
| | Barcode scanner (Omnidirectional or 1 Dimensional) |
| | Wireless Card MiniPCI |
| | TV Tuner MiniPCI (ATSC or DVB-T) |
| | Modem Daughter Card |

## COM1, COM2 Connector(RS232 Mode)
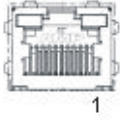
| Pin # | Signal Name |
|-------|-------------|
| 1 | Ground |
| 2 | Receive Data (RD) |
| 3 | Clear to send (CTS) |
| 4 | Signal ground |
| 5 | Transmit Data (TD) |
| 6 | Request to Send (RTS) |
| 7 | +5 vdc |
| 8 | +5 vdc return |

## RS422 Mode Pin Definition(for COM2 only)
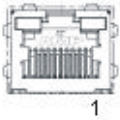
| Pin # | Signal Name |
|-------|-------------|
| 1 | Ground |
| 2 | TX+ |
| 3 | TX- |
| 4 | Signal ground |
| 5 | RX+ |
| 6 | RX- |
| 7 | +5 vdc |
| 8 | +5 vdc return |

## RS485 Mode Pin Definition(for COM2 only)
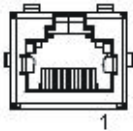
| Pin # | Signal Name |
|-------|-------------|
| 1 | Ground |
| 2 | DATA+ |
| 3 | DATA- |
| 4 | Signal ground |
| 5 | |
| 6 | |
| 7 | +5 vdc |
| 8 | +5 vdc return |
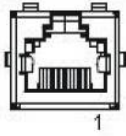
## RJ45 connector Pin Definition

| Pin # | Signal Name |
|-------|-------------|
| 1 | |
| 2 | Receive Data (RD) |
| 3 | Clear to Send (CTS) |
| 4 | Signal Ground |
| 5 | Transmit Data (TD) |
| 6 | Request to send |
| 7 | |
| 8 | |

## DB9 connector Pin Definition

| Pin # | Signal Name |
|-------|-------------|
| 1 | |
| 2 | Receive Data (RD) |
| 3 | Transmit Data (TD) |
| 4 | |
| 5 | Signal Ground |
| 6 | |
| 7 | Request to send |
| 8 | Clear to Send (CTS) |
| 9 | |

## Power Input Pin Definition

| Pin # | Signal Name |
|-------|-------------|
| 1 | +12V |
| 2 | Ground |
| 3 | Ground |
| 4 | +12V |

**Cash Drawer Port Signal Definition and Control**
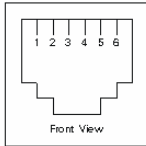
| Pin # | Signal Name |
|---|---|
| 1 | Frame Ground |
| 2 | CD 1 Drawer kick-out drive signal 1 |
| 3 | SW ( + ) connected on the side of the open/closed detection switch on the drawer |
| 4 | L ( + ) +12V DC for drawer kick-out supplied |
| 5 | CD 2 Drawer kick-out drive signal 2 |
| 6 | ( - ) Ground |

**Control**

For driver development, the cash drawer port hardware is implemented as below.

Cash drawer kick-out drive signal 1: Generated by ICH6's GPIO24 (normally high). To kick-out drawer 1, GPIO24 sends out an active low pulse.

Cash drawer kick-out drive signal 2; Generated by ICH6's GPIO25 (normally high). To kick-out drawer 2, GPIO25 sends out an active low pulse.

Status detect: Read by ICH6'S GPIO33 (normally high). When cash drawer is OPEN, GPIO33 status is active high.

# Display Specifications

| Model | ESY15A2 |
|---|---|
| LCD Display | 15.0" TFT Active Matrix Panel |
| Display Size | 304.1(H) x 228.1(V) mm |
| Pixel Pitch | 0.297(H) x 0.297(V) mm |
| Display Mode | VGA 640 x 350 (70 Hz) |
| | VGA 720 x 400 (70 Hz) |
| | VGA 640 x 480 (60 / 72 / 75 Hz) |
| | SVGA 800 x 600 (56 / 60 / 72 / 75Hz) |
| | XGA 1024 x 768 (60 / 70 / 75Hz) |
| Contrast Ratio | 500 : 1 (typical) |
| Brightness | |
| LCD | 250 cd/m$^2$ (Typical) |
| AccuTouch | 200 cd/m$^2$ (Typical) |
| IntelliTouch | 230 cd/m$^2$ (Typical) |
| CarrollTouch | 230 cd/m$^2$ (Typical) |
| Acoustic Pulse Recognition | 230 cd/m$^2$ (Typical) |
| Response Time | Tr= 2 msec, Tf= 6 mesc typical |
| Display Color | 16.2 million color |
| Viewing Angle | (L/R)= -70$^o$/+70$^o$ (typical), (U/D) -60$^o$/+65$^o$ (typical) |
| Plug & Play | DDC1 / 2B |
| Touch Panel (optional) | AccuTouch, IntelliTouch and CarrollTouch, Acoustic Pulse Recognition |

# Power Supply Specifications

The touchcomputer shall be powered by 12VDC from a universal type power supply brick with the following characteristics:

| | |
|---|---|
| **Input voltage** | 100 to 240 V~ |
| **Input frequency** | 50/60 Hz |
| **Output voltage** | 12 V |
| **Output line and load regulation** | +/- 5% |
| **Output current** | 10 Amps minimum |

# Touchscreen Specifications

Available with AccuTouch five-wire resistive (AT), Acoustic Pulse Recognition (APR), and IntelliTouch (IT) surface-wave technology. For detailed specifications, please visit our website at www.elotouch.com. Note: Touch options may vary depending on region.

# Peripheral Specifications

## Magnetic Stripe Reader (MSR)

The MSR is a USB 1.1 device which reads all three data stripes on standard credit cards or driver's licenses conforming to ISO/ANSI standards. The MSR has foreign language capability. The credit card is read by sliding the credit card through the MSR, stripe side toward the display, forward or backward. The MSR is powered from the USB port; no external power is needed. The specifications are:

- Power source: from USB port
- Message format: ASCII
- Card speed: 3 to 50 IPS
- Electronics MTBF: 125,000 hours
- Mechanical MTBF: 1,000,000 passes
- Operating current: 30 mA maximum
- Non-operating current: 300u maximum

## Customer Display

The Customer Display is a twenty character two line vacuum fluorescent display (VFD). It consists of a VFD and VFD controller.

### USB Version

**Optional Parameters**

| | |
|---|---|
| Characters per row | 20 |
| Number of rows | 2 |
| Character configuration | 5x7 dot matrix |
| Character Height | 9.5mm |
| Character width | 6.2mm |
| Character configuration | ASCII |
| Character color | Blue green |
| MTBF | 300,000 hours |

## Fingerprint Reader

The fingerprint reader is ELO part number E728123 (DigitalPersona U.are.U 4000B).  The fingerprint reader is powered by the USB bus. The reader optically scans the fingerprint when the user touches the glowing window. Optical technology gives the highest quality fingerprint scans and reliability.

Table of Partial Fingerprint Reader Specifications:

| Fingerprint Reader | DigitalPersona U.are.U 4000B |
|---|---|
| Power Supply | 5.0Vdc +/- 0.25V |
| Current Draw - scanning mode | 190 mA (typical) |
| Current Draw - idle mode | 140 mA (typical) |
| Current Draw - suspend mode | 1.5 mA (typical) |
| Image Resolution | 512 dpi |
| Image Color | 8-bit gray level |
| Scan capture size | 14.6mm (nominal width) x 18.1mm (nominal length) |
| Image capture speed | 100 ms |
| USB type | 1.0, 1.1, or 2.0 |
| Operating Temperature | $0^\circ$C to $40^\circ$C |
| ESD (Electrostatic Discharge) | up to 15kV mounted in case |

## Barcode Scanner

There are two optional USB barcode scanners (1-D or omni-directional). The barcode scanner is only an option if the speaker bar is present.

When a scanner is chosen, a USB-SSI (Simple Serial Interface) converter board is included. Both barcode scanners are powered with the USB interface.

**1. One-Dimensional scanner specifications:**
- Ability to generate 1-D scanning pattern
- Low cost solution
- USB powered
- Easy communication between host and scanner
- Visible laser diode operating at 650nm
- 100+ scans/sec
- RoHS-compliant

**2. Omni-directional scanner (Elo P/N E787026) specifications.**
- Ability to generate omni-directional scanning pattern
- Maximum performance
- 2-D scanning ability (PDF417, MicroPDF)
- USB powered
- Easy communication between host and scanner
- Visible laser diode operating at 650nm
- 600+ scans/sec
- RoHS-compliant

**3. USB-SSI converter board (Elo P/N E580321) specifications**
- Ability to convert from serial interface to USB interface and vice versa.
- Compact size
- Input Voltage: 5V
- Buzzer

## Speaker Bar

The speaker bar contains two speakers and an audio amplifier. The speakers in the speaker bar provide improved sound quality and higher volumes over the internal speakers. The circuitry is designed such that when the speaker bar is connected to the touchcomputer, the two internal speakers will be disabled.

- Front facing speaker for on-axis sound
- Aluminum cone
- 35mm diameter
- 4w max power handling
- 120-20KHz Frequency Response (-10db)
- 80db -/+3db SPL

## Wireless Card

The wireless card can be selected to provide wireless capabilities. All touchcomputers are "Wireless Ready" and pre-wired with wireless antennas inside the chassis. Typical specifications for the wireless card are:

- MiniPCI interface
- Compliant to MiniPCI industry standard sizing
- 802.11b/g compliant
- Two (2) UFL connectors
- Support for Windows 2000, Windows XP and Windows Vista 32
- RoHS Compliant

## TV Tuner Card

A TV tuner card can be installed in the touchcomputer to provide digital TV tuner capabilities. All touchcomputers are "TV Ready" and pre-wired with coaxial connectors inside the chassis.  The minimum specifications for the TV tuner card are:

- MiniPCI interface
- Compliant to MiniPCI industry standard sizing
- ATSC version supports ATSC/NTSC/PAL/SECAM with F connector input
- DVB-T version supports DVT-B/NTSC/PAL/SECAM with TV aerial connector input
- RF input
- Support for Windows 2000, Windows XP and Windows Vista
- RoHS compliant

**Note: Only one MiniPCI interface is available. Concurrent use of wireless and TV-Tuner is not feasible.**

## Modem Card

The modem card can be installed on the touchcomputer to provide modem capabilities. All touchcomputers are "Modem ready" and are pre-wired with the RJ11 internal cable. The minimum specifications for the modem card are:

- MDC 1.5 compliant
- Supports V.92, V.90, V.34 data
- Supports 14.4 Kbits/s fax
- 12 pin interface with Tyco 1-179397-2
- 2 pin interface with Hirose TM18R-62 (RJ11 port)
- Support for Windows 2000, Windows XP and Windows Vista
- RoHS compliant

Note: Concurrent use of the cash drawer port and the modem port is not feasible

# Environmental Specifications

**Temperature Ranges**

| | |
|---|---|
| Operating (independent of altitude) | $0^{\circ}$C to $35^{\circ}$C |
| Non-Operating (independent of altitude) | $-30^{\circ}$C to $60^{\circ}$C |

**Humidity**

| | |
|---|---|
| Operating (non-condensing) | 20% to 80% |
| Non-Operating (38.7 $^{\circ}$C maximum wet bulb temperature) | 5% to 95% |

**Altitude**

| | |
|---|---|
| Operating | 0 to + 12,000 feet [3,658m]. Equivalent to 14.7 to 10.1 psia. |
| Non-Operating | 0 to + 40,000 feet [12,192m]. Equivalent to 14.7 to 4.4 psia. |

# 6

# Technical Support

## Technical Assistance

There are three methods to obtain contact information for technical assistance on the touchcomputer:

- The touchcomputer
- The web
- The phone

### Using the Touchcomputer

You can access the support information from System Properties and clicking on the **Support Information** button. You can get to System Properties by either of the following methods:

- Right click "**My Computer**" and choose "**Properties**"

*or*

- Click on the "**Start Button**" and select "**control panel**" and Double click on the "**System**" icon .

### Using the Web

www.elotouch.com/go/contactsupport

### Using the Phone

Call toll-free 1-800-557-1458

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# Regulatory Information

## 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 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 A 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 A limits for radio noise emissions from digital apparatus as established by the Radio Interference Regulations of Industry 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.)

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

## III. Safety Label

The following marks have been issued for the unit and appear on the safety label as shown in the illustration below:
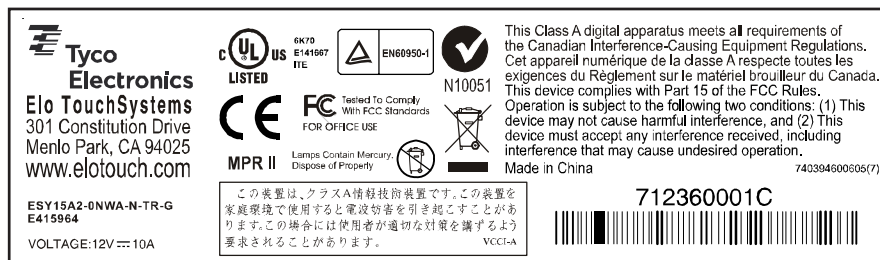
# Warranty

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 touchcomputer and components of the product is regional; please contact your regional office. For contact information, see page 62 or go to www.elotouch.com.

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.

## Check out Elo's Website!

# www.elotouch.com

*Get the latest...*

- *Product information*

- *Specifications*

- *News on upcoming events*

- *Press release*

- *Software drivers*

- *Touchmonitor Newsletter*

### Getting in Touch with Elo
*To find out more about Elo's extensive range of touch solutions, visit our Website at www.elotouch.com or simply call the office nearest you:*

**North America**
Elo TouchSystems
301 Constitution Drive
Menlo Park, CA 94025
USA

(800) ELO-TOUCH
(800) 356-8682
Tel 650-361-4800
Fax 650-361-4722
customerservice@elotouch.com

**Germany**
Tyco Electronics Raychem GmbH
(Elo TouchSystems Division)
Finsinger Feld 1
D-85521 Ottobrunn
Germany

Tel +49 (0)(89) 60822-0
Fax +49(0)(89) 60822-180
elosales@elotouch.com

**Belgium**
Tyco Electronics Raychem N.V.
(Elo TouchSystems Division)
Diestsesteenweg 692
B-3010 Kessel-Lo
Belgium

Tel +32(0)(16)35 21 00
Fax +32(0)(16)35 21 01
elosales@elotouch.com

**Asia-Pacific**
Sun Hamada Bldg. 2F
1-19-20 ShinYokohama
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[http://aubethermostatmanual.com](http://aubethermostatmanual.com)

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