



USER MANUAL

Elo Touch Solutions

ET3202L 32" Interactive Digital Signage Touchmonitor

ET4202L 42" Interactive Digital Signage Touchmonitor

ET4602L 46" Interactive Digital Signage Touchmonitor

SW602296 Rev A

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Chapter 1: Introduction

Product Description

Your new Interactive Digital Signage (IDS) touchmonitor combines Elo Touch Solutions reliable performance with the latest developments in touchscreen technology and display design. This combination of features creates a natural flow of information between a user and the touchmonitor.

This touchmonitor incorporates a 24-bit color, active matrix thin-film-transistor, and digital signage LCD panel to provide superior display performance. Its Full HD resolution of 1920x1080 is suitable for displaying graphics and images. Other features that enhance this LCD monitor's performance are Plug & Play compatibility, built-in speakers and headphone output capability, on screen display (OSD) controls, and a family of IDS computer modules.

With the addition of the Elo Power Module, Elo Computer modules can be installed to the back of the monitor. This will convert the digital signage touchmonitor into an IDS All-in-One touchcomputer.

Precautions

Follow all warnings, precautions and maintenance as recommended in this user manual to maximize the life of your unit and prevent risks to user safety. See Chapter 8 for more information on touchmonitor safety.

For your health and safety, it is strongly recommended that at least two people handle, lift, and/or move these touchmonitors.

This manual contains information that is important for the proper setup and maintenance of the IDS monitor. Before setting up and powering on your new touchmonitor, read through this manual, especially the Installation, Mounting, and Operation chapters.

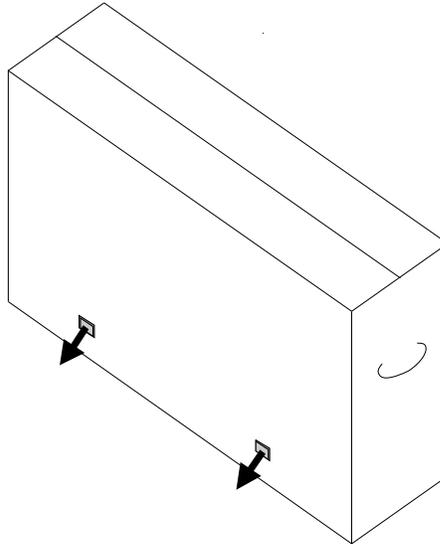
CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

Chapter 2: Unpacking

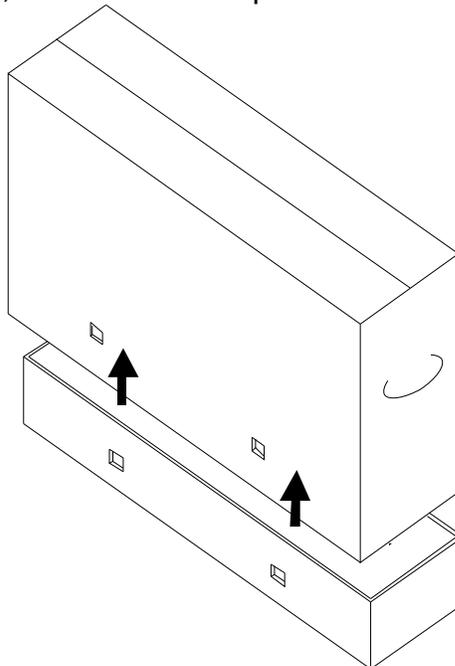
Unpacking the Interactive Digital Signage Touchmonitor

To unpack the IDS, follow these steps:

1. The carton should be oriented in the manner according to its labeling. The hinged plastic locks should be at the 'bottom'.
2. Open and remove all 4 hinged plastic locks.



3. Once the locks are removed, lift the cartons top lid off the bottom frame.



4. With the top lid removed, you now have access to the IDS touchmonitor and the included accessories.

Chapter 3: IDS Touchmonitor Installation

Connector Panel & Interfaces

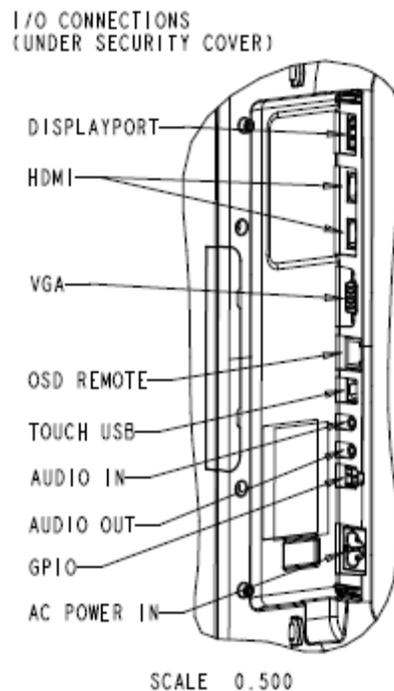
Note: For your health and safety, it is strongly recommended that at least two people handle, lift, or move these Touchmonitors. Elo recommends safe lifting techniques as described in OSHA/NIOSH Guidelines.

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

- IDS touchmonitor
- Quick Install Guide
- Cables
 - HDMI, USB (for Touch), North America power, Europe/Korea power, U.K. power

Remove the cable cover located on the back right side of the monitor (when viewed in landscape orientation) to access the touchmonitors connector panel.

Image of monitors available I/O ports



IDS Touchmonitor Connections to an External Computer

1. Connect the included HDMI cable (or your own VGA or DisplayPort cable) between the monitor and the video source.
2. Connect the USB touch cable between the monitor and your host PC.
3. Select the correct power cable for your region. Connect it between the AC power source and the touchmonitors POWER IN connector.
4. The touchmonitor ships in an ON state.
 - a. In order to access the OSD menu, press the Menu button located on the bottom right side on the back of the monitor.

Installing the IDS Touchscreen Technology Software Drivers

The Elo touch driver and the Elo Computer Module driver packs are available with the CD that ships with the touchmonitor.

Visit the Elo Touch Solutions website www.elotouch.com for:

- Updates to the Elo touch driver
- Additional touch driver information
- Detailed touch driver installation guides
- Touch drivers for other operating systems

IDS02 series monitors are HID compatible, but will require the Elo driver if Windows 8 or higher Charm bars are to be accessed.

Projective Capacitance and Infrared units are HID compatible and do not require an Elo touch driver. If an Elo touch driver has previously been installed on the host computer, remove this driver by opening Control Panel and selecting the option to remove the driver completely.

Chapter 4: Mounting

Note: For your health and safety, it is strongly recommended that at least two people handle, lift, or move these touchmonitors.

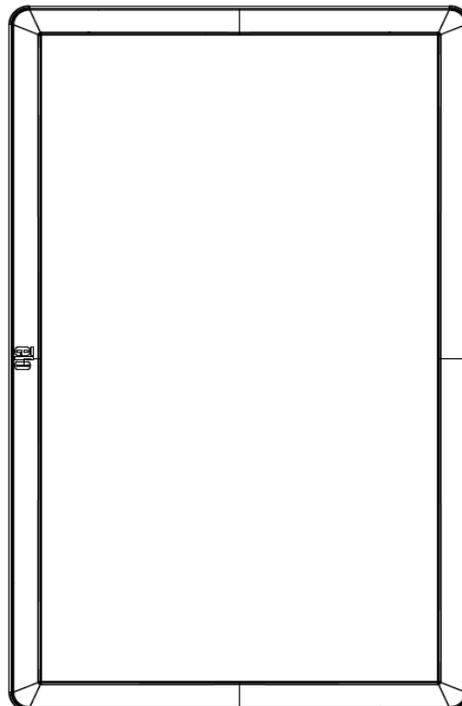
Note: Do NOT lay the display face-down as this can cause damage to the monitor.

General Mounting Information

The following three mounting orientations are supported: Landscape, portrait and table-top mode.

Portrait Mode

When rotating the monitor to portrait mode, ensure that the Elo logo appears in the same location as the pictures below.



Landscape

When rotating the monitor to landscape mode, ensure that the Elo logo appears in the same location as the pictures below

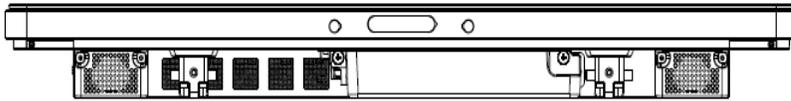
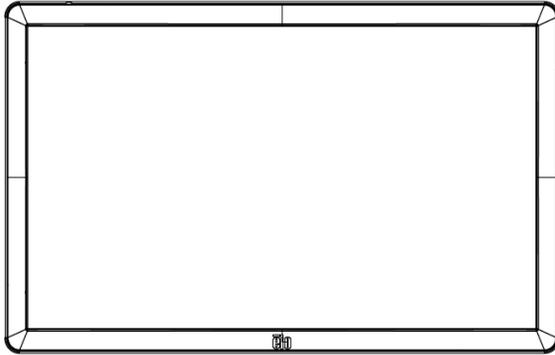


Table Top –Refer to the Temperature Control section for table top mode requirements.

Rear VESA Mount

A four-hole, 400x400mm mounting pattern is provided on the rear of the monitor.
The VESA FDMI-compliant mounting is coded: VESA MOUNT PER MIS-F, 400,400,6MM

Refer to www.elotouch.com for dimensional drawings.

Optional Mounting Methods

Stand Kit PN: E275623

Wall Mount Kit PN: E275050

Optional Stand Kits and Wall Mount kits are available for the IDS02 Series monitors. Detailed information is available on the marketing specification drawing MS601603 at www.elotouch.com.

Consult the wall mount user guide for detailed installation information.

Chapter 5: Operation

Power

To turn the touchmonitor on or off, press the touchmonitor power button once. If a computer module is installed, then the computer module will also turn on with the monitor.

To gracefully shut down the computer module, follow the computer modules operating systems normal power off procedure.

The system consumes low power when in SLEEP and OFF modes. For detailed power consumption specifications, refer to technical specifications available on the Elo website www.elotouch.com.

Touching the screen will bring the system out of MONITOR SLEEP mode.

If long periods of disuse are planned, unplug the AC power cable to save power.

The maximum voltage, frequency and current for the touchmonitor are provided in the power ratings table below:

Operating Voltage Range	Operating Frequency Range	Operating Current Rating
100 - 240Vac	50/60 Hz	1.8 A

For 3202L monitors:

To keep the product operating at an optimum level please limit the product usage cycle to 18 hours for every 24 hours:

Usage duty cycle:
18 hours on per 24 hours

Elo recommends using the Content Management System or O/S scheduling settings and/or EloView commands to manage duty cycle. This will enable power savings and trouble free operation throughout the life of the monitor.

Touch Technology

InfraRed (IR) Touchscreens Technology

When connected to Windows 7 or Windows 8.1 computer, the touchmonitor can report ten simultaneous touches.

Projective Capacitance Touchscreens Technology

When connected to Windows 7 or Windows 8.1 computers, the touchmonitor can report ten simultaneous touches.

Video

An LCD panels native resolution is its width and height measured in number of pixels.

In almost all cases, an image displayed on an LCD monitor will look best when your computers output resolution matches the LCD panels native resolution. See the display specifications on the Elo website www.elotouch.com to find your touchmonitors native resolution. Operating in other resolutions will degrade video performance and is not recommended.

For computer output resolutions at non-native resolutions, the monitor will scale the video to panel's native resolution. For smaller input video resolutions, this involves "stretching" the input image in the X- and Y-dimensions to fit the panel. For larger input video resolutions, this involves "compressing" the input image in the X- and Y-dimensions to fit the panel. An unavoidable byproduct of the scaling algorithms is a loss of fidelity when the computers output video image is scaled by the monitor to fit the display. This loss of fidelity is most apparent when viewing feature-rich images at close distances (for example images containing small-font text).

Your touchmonitor will likely not require video adjustments. However, for analog VGA video, variations in video graphic card outputs may require touchmonitor adjustments through the OSD to optimize the quality of the touchmonitors displayed image. To reduce the need for adjustments for different video mode timings, the monitor correctly scales and displays some of the video industries most common video timing modes.

Touch On-Screen Display (OSD)

This monitor uses an easy-to-navigate Touch OSD interface. Use the settings menu in the green sidebar to make adjustments to the monitor display settings.

Example of the Popup OSD Menu:

The screenshot shows the OSD interface. On the left is a green sidebar menu with the following items: Video Settings, Color Settings, Audio Settings, General Settings, OSD Settings, Information, Power Settings, RTC Settings, and VGA Settings. The 'elo' logo is at the bottom of the sidebar. An arrow points from the text 'Select the desired OSD Setting Menu from here' to the 'OSD Settings' item in the sidebar. At the top of the main panel, there are 'Model Number' and 'Energy Use' indicators. The main panel contains several settings: 'Video Source Auto Scan' (ON/OFF), 'Video Port Discovery' (ON/OFF), 'Black Level' (Standard, 5% Offset, 10% Offset, 15% Offset), 'Brightness' (slider from - to + 45%), 'Brightness Sensor' (ON/OFF), and 'Contrast' (slider from - to + 75%). Below these is an 'Auto Adjustment' button. A text box states: 'From here you can make adjustments to your video settings, as well as enable/disable source auto scan'. At the bottom, there are video source options: HDMI, VGA, DP, and ECM. An arrow points from the text 'Change Brightness by sliding this green bar.' to the 'Brightness' slider. Another arrow points from the text 'Select the desired Video Source from here' to the 'HDMI' button. The current display resolution is shown as '1920x1080 @ 60hz'.

Refer to table below for OSD details.

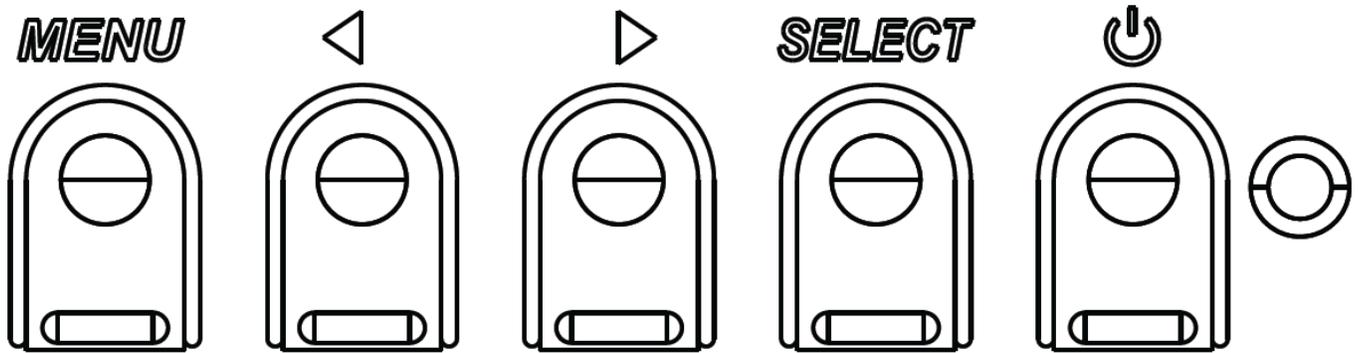
Parameter	Available Adjustment
Video Port Discovery	When enabled, the monitor will automatically switch if a new video port is connected.
Black Level	The user can choose between Standard, 5%, 10% or 15% black level offset. The saturation level of the colors change according to the chosen black level offset. Not available when the video source is from VGA.
Brightness Sensor	The light sensor can be toggled on or off. When the light sensor is enabled, the brightness cannot be changed manually.
Sharpness	Adjusts sharpness of the displayed images. Default: no sharpness adjustment Sharpness function is disabled when the input source ratio is the same as the panels native ratio
Auto Adjust	Automatically adjusts the system clock to the input analog VGA video signal, affecting the H-position, V-position, Clock, and Phase menu items. <i>Not applicable when using HDMI, DisplayPort video or the Computer Module.</i>
Color Temperature	Selects the displays color temperature. The available color temperatures are 9300K, 7500K, 6500K, 5500K, 3200K and User Defined. Default: User Defined with R, G, and B all set to 100.
User Preset	If the User Preset option is selected, the user can change the color temperature by changing individual R, G, and B gains on a scale from 0 to 100. If the color space is YUV mode, then Hue and Saturation can be varied in this menu.
Dynamic Color Modes	Preset color modes that change the color parameters to enhance color definitions. Available modes are: Standard, Movie, Gaming, Photo, Line mode, Legacy HDMI Default: Standard <i>Legacy HDMI is only available when the video input is the HDMI source.</i>
Audio Select	Allows the user to choose the audio source. The choices are From Video Source, Line in and ECM Line-in (available only if an ECM is detected) If there is no Computer Module plugged in, and the video source is HDMI, the options are: Line In and HDMI. Default: Video Source.
Recalling Settings	Selecting "Recall Defaults" restores all factory default settings for OSD-adjustable parameters (except OSD Language and OSD Position) and for Preset Video Mode timings.
Serial Protocol	This menu allows the user to switch between the serial protocol and the DDC/CI protocol. DDC/CI protocol is used to communicate to a host computer via the video signal. Default: IIC
Tabletop	Enables or disables the Tabletop Thermal Protection Mode settings
OSD Timer	Adjusts how long a period of OSD button inactivity the Touchmonitor will wait before closing the OSD. The adjustable range is between 5 and 60 seconds. Default: 15 seconds
OSD Language	Selects which language the OSD information is displayed in. The available languages are: English, French, Italian, German, Spanish and Russian. Default: English.

OSD Lock	When selected, the OSD will not popup when the Menu button is pressed. If the OSD needs to be unlocked, press and hold the Menu button for five (5) seconds. This will cause the monitor to unlock the OSD menu.
Power Lock	When enabled, the monitor will remain ON even if the power button is pressed. If this feature is enabled and power to the monitor is lost, when power is regained, pressing the power button will turn on the monitor.
Monitor Information	Displays the touchmonitor model and the monitor and touchscreen serial # information
System Temperature	Displays the real-time temperature of the Video Board <i>Note: CPU Sensor temperature is only available if the feature is supported by the computer module.</i>
Help & Support	Display information regarding Elo Touch Solutions contact information.
Power Behavior	When power to the monitor is lost and regained, the behavior that is chosen will be executed. Always On Always Off Last State Default: Last State
RTC Settings	See page 19 for details
H-position	Moves the image horizontally on the display in single-pixel increments. Default: centered. <i>Not applicable when using HDMI/DisplayPort video or the Computer Module.</i>
V-position	Moves the image vertically on the display in single-pixel increments. Default: centered. <i>Not applicable when using HDMI/DisplayPort video or the Computer Module.</i>
Clock	Allows fine adjustments of the panels pixel dot clock. <i>Not applicable when using HDMI/DisplayPort video or the Computer Module.</i>
Phase	Allows fine adjustments of the panels pixel dot clock phase. <i>Not applicable when using HDMI/DisplayPort video or the Computer Module.</i>

All touchmonitor adjustments made through the OSD are automatically memorized as soon as they are entered. This feature saves you from having to reset your choices every time the touchmonitor is unplugged or powered off and on or if there is a power failure.

On-Screen Display (OSD) Connected Through the RJ45 Connection (Optional)

Five OSD buttons can be found on the OSD remote. There is an LED light which shows the current state of the monitor. The following are the functions that relate to the designated button.



The buttons and their functionality are:

Button	Function when OSD is not displayed:	Function when OSD is displayed:
Menu	Display OSD main menu	Return to previous OSD menu
◀	Display OSD Audio source submenu	Decrease value of selected parameter / select previous menu item
▶	Hot key for changing video source*	Increase value of selected parameter / select next menu item
Select	Display Audio and Video Parameters Menu	Select parameter for adjustment / select submenu to enter
⏻	Power for the monitor	Toggles the power status of the monitor

*The hot key allows the user to quickly change the input video source. If the user accidentally presses this key, they can quickly press the Menu button to cancel a video source change.

Using the OSD buttons controls an on-screen graphical user interface which displays on top of your input video, allowing intuitive adjustment of the following display parameters:

Audio

Audio from the touchmonitor Line In, touchmonitor HDMI, touchmonitor DisplayPort, computer module Line In, or computer module HDMI or DisplayPort ports can be played over the touchmonitors internal speakers. See the “Audio Source” OSD parameter for details. When headphones are plugged into the headphone output jack, the internal speakers turn off and audio is played over the headphones.

Volume and muting of the speaker and headphone outputs are controlled by the OSD.

MDC or DDC/CI Functionality (For Remote Monitor Applications)

The touchmonitor has the ability to allow remote access from a host application. This is done through the use of either the VESA Display Data Channel Command Interface (DDC/CI) or the Multiple Display Control command sets. Users can communicate with the monitor through either of these protocols. The host application can send a variety of different commands which will be executed on the IDS 02 touchmonitor. For detailed information regarding the command set, refer to the application note available [here](#).

GPIO Functionality (General Purpose Input Output)

The touchmonitor has the ability to accommodate GPIO functionality. The connector is located near the AC power socket on the IO port of the monitor. There are four pins and they are configured in the following set up:

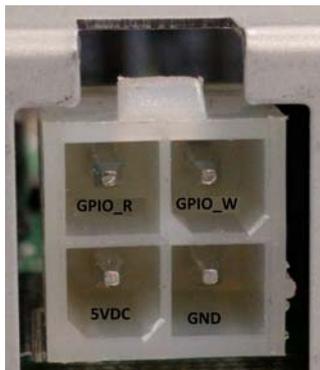
Electrical Ratings:

Max Voltage: 5V

Max Current: 200mA

1x input (TTL), 1x output (TTL)

1. GND
2. 5VDC →Power output
3. GPIO1 input
4. GPIO2 output



Mating connectors can be found at: www.molex.com
Mates with the 5557 Mini-Fit Jr. Receptacle Housing

Note: Monitor firmware must be specifically written to accommodate the specific use case of the GPIO port.

Please contact Elo customer service for firmware information.

Near Field Communication Functionality (Optional Peripheral)

The following NFC protocols are supported:

- ISO-14443-A
- ISO-14443-B

1.1 Interfaces

1.1.1 RS232 and USB2.0 interfaces by use of corresponding cables.

1.1.2 USB 2.0 compliant interface configurable to support USB HID: Keyboard, or USB Virtual COM.

1.1.3 RS232 data output baud rate up to 115.2K BPS

1.2 Payment Applications

1.2.1 American Express ExpressPay

1.2.2 Discover ZIP

1.2.3 MasterCard PayPass/MCHIP

1.2.4 Visa MSD/qVSDC

1.2.5 Google wallet

1.2.6 ISIS wallet

1.3 MIFARE Applications

1.3.1 Read/Write of MIFARE Plus/Classic/Ultralight/DESFire cards

1.3.2 Support MIFARE higher baud rate up to 424KHz

Barcode Scanner Functionality (Optional Peripheral)

This barcode incorporates a proximity detector to activate the Bar Code Scanner. It features an outstanding scanning performance of up to 270 scans per second.

Below are the supported Bar Code types and settings.

Note: Telepen symbology only supports ASCII code.

Factory standard default settings

Items	Default setting
Interface	HID USB
Language (Keyboard)	English
Reading mode	Presentation Mode
Terminator	CR
Code ID	Off
Accuracy	Read 1 time
Enable 1D symbologies	
UPC-A , UPC-E , EAN13 , ENA8 , CODE39 , CODE93 CODABAR , CODE128 , MSI/Plessey , CODE32 CODE11 , TELEPEN , GS1 DataBar Omnidirectional GS1 DataBar Limited , GS1 DataBar Expanded Interleaved 2 of 5 , Industrial 2 of 5 , Matrix 2 of 5	

Check version



Symbologies setting

- Enable



* UPC-A on



* UPC-E on



* EAN13 on



* EAN8 on



* Code39 on



* Codabar on



* Code93 on



* Code128 on



* Interleaved 2 of 5 on



* Industrial 2 of 5 on



* Matrix 2 of 5 on



* MSI/Plessey on



* Code32 on



* Code11 on



* Telepen on



* GS1 DataBar Omnidirectional on



* GS1 DataBar Limited on



* GS1 DataBar Expanded on

- Disable



UPC-A off



UPC-E off



EAN13 off



EAN8 off



Code39 off



Codabar off



Code93 off



Code128 off



Interleaved 2 of 5 off



Industrial 2 of 5 off



Matrix 2 of 5 off



MSI/Plessey off



Code32 off



Code11 off



Telepen off



GS1 DataBar Omnidirectional off



GS1 DataBar Limited off



GS1 DataBar Expanded off

Magnetic Stripe Reader (MSR) Functionality (Optional Peripheral)

The MSR shall operate in keyboard mode.
Capable of reading 3 tracks simultaneously.
Security level and Encryption function: OFF

CEC Functionality (Consumer Electronic Control)

The touchmonitor is equipped with CEC capability. If a host device (with CEC built in) is connected to the monitor through HDMI, the monitor can be turned on by only turning the host device on.

Real Time Clock (RTC) Functionality

This touchmonitor has real time clock functionality which will help to prolong the lifetime of the touchmonitor. In the OSD menu, there is a sub-menu called RTC Settings.

To utilize the RTC functionality:

The user must set up the Time setting for their specific time zone.

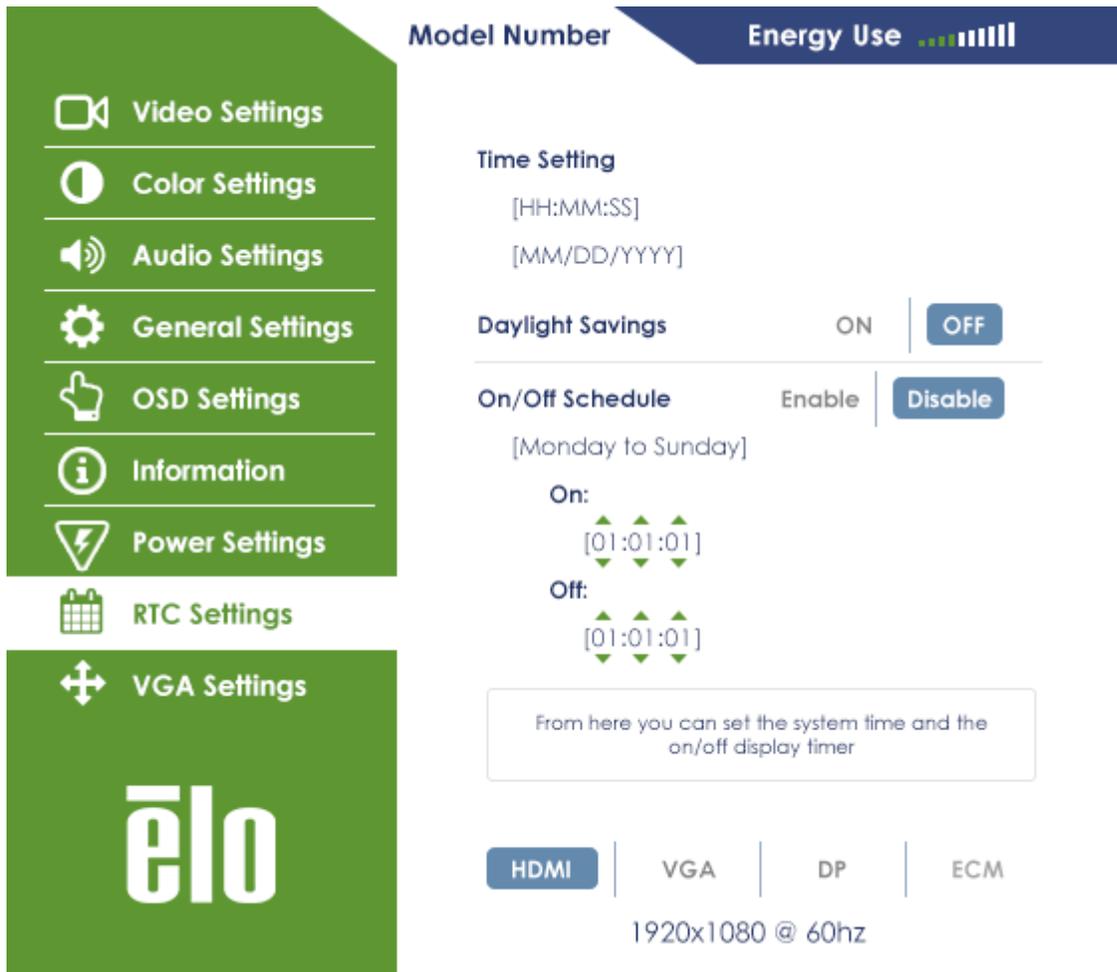
When the On/Off Schedule is Enabled, the user can choose when to leave the monitor on and when it should be off. Individual or multiple days can be chosen.

Example:

Have the monitor ON for Monday, Wednesday and Friday between 9:00AM and 5:00PM. All other days and time, the monitor shall be OFF.

- *Enable the On/Off Schedule*
- *Select M W F*
- *Set the ON time for 09:00:00 and the OFF time for 17:00:00*

Note that all of time settings operate on the 24-hour clock.



Driver Installation

Elo Computer Modules (Windows 7 and Windows 8.1 models), have all required drivers preinstalled.

All required drivers are available online at www.elotouch.com.

For No Operating System (OS) units, the drivers are available online at www.elotouch.com.

For Windows Operating Systems

After the computer finishes booting up, follow these instructions to install the drivers:

- After the OS has booted, right click on “My Computer”
- Click on Manage
- Click on Device Manager
- Highlight one of the devices that has a warning label and click “Update Driver”
- Click the option “Browse My Computer for Driver Software”
- Choose the path for the driver package and click “Next”
- Let the device software component be installed and then proceed to the next device.
- Do this for all of the devices that have the warning label.

For Mac OS X higher, these drivers are automatically installed when the system is connected to the monitor. To find information on the drivers, do the following:

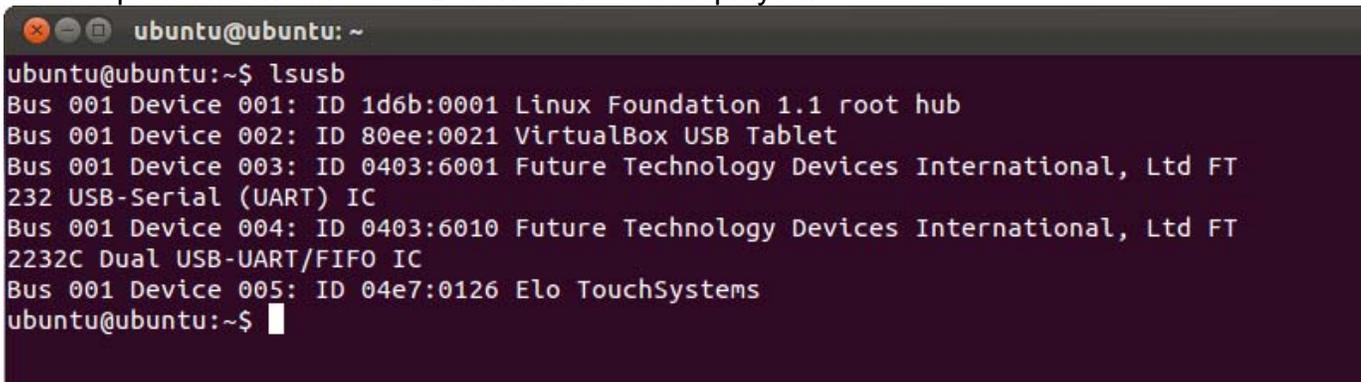
NOTE: The Elo Touch Solutions Touchmonitor ID will be different per touch technology.

In Mac OS X:

- Open the Terminal window and under Hardware, select USB. The available USB devices will be displayed.

In Ubuntu versions that support touch:

- Open a Terminal window and type "lsusb" as the command. A screen that looks like below will open. The available USB devices will be displayed.

A terminal window screenshot with a dark background. The title bar shows 'ubuntu@ubuntu: ~'. The prompt is 'ubuntu@ubuntu:~\$'. The command 'lsusb' has been entered and executed. The output lists five USB devices on Bus 001: a Linux Foundation 1.1 root hub, a VirtualBox USB Tablet, a Future Technology Devices International, Ltd FT 232 USB-Serial (UART) IC, a Future Technology Devices International, Ltd FT 2232C Dual USB-UART/FIFO IC, and an Elo TouchSystems device with ID 04e7:0126. The prompt 'ubuntu@ubuntu:~\$' is visible again at the bottom.

```
ubuntu@ubuntu:~$ lsusb
Bus 001 Device 001: ID 1d6b:0001 Linux Foundation 1.1 root hub
Bus 001 Device 002: ID 80ee:0021 VirtualBox USB Tablet
Bus 001 Device 003: ID 0403:6001 Future Technology Devices International, Ltd FT
232 USB-Serial (UART) IC
Bus 001 Device 004: ID 0403:6010 Future Technology Devices International, Ltd FT
2232C Dual USB-UART/FIFO IC
Bus 001 Device 005: ID 04e7:0126 Elo TouchSystems
ubuntu@ubuntu:~$
```

For Android:

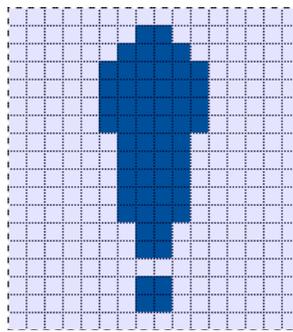
- The monitor support HID protocols, so touch will work on most android devices.
- If your specific device does not support touch out of box, please contact Elo customer service for device configuration.

Temperature Control

The IDS monitor contain a temperature sensor that provides the user with real-time temperature readings. This reading can be found on the OSD menu by opening the OSD menu: Information ► System Temperature. If the monitor senses temperatures higher than the operating range, the monitor will go into “Thermal Protection Mode.” This mode allows the monitor to remain operational during brief periods of use outside of its operating range.

In Thermal Protection Mode, the monitor will reduce the backlight brightness to bring the internal temperature back within operating range. While in this mode, brightness cannot be increased beyond the set value. If the internal temperature decreases below the Thermal Protection Mode temperature for at least five minutes, normal operation is resumed. The OSD temperature at which the monitor will enter the Thermal Protection Mode is in the table below.

When the Thermal Protection Mode is enabled, the following icon will appear in the Main Menu. This will indicate that the Thermal Protection Mode is active.



Icon showing that Thermal Protection Mode is active

The user will be prompted to shut off the monitor within sixty seconds if the temperature continues to rise after Thermal Protection Mode Step 2 has been enabled. If the system is not manually turned off in sixty seconds, the touchmonitor will automatically turn off to prevent permanent damage to the monitor. The table below shows the Auto Shut Off temperature.

Monitor Orientation	Thermal Protection Mode (°C) Step 1	Thermal Protection Mode (°C) Step 2	Auto Shut Off Temperature (°C)
ET3202L			
Portrait	58	60	65
Landscape			
Tabletop			
ET4202L			
Portrait	57	59	64
Landscape	51	53	58
Tabletop	50	52	57
ET4602L			
Portrait	60	62	67
Landscape	58	60	65
Tabletop	62	64	69

In the event that a Thermal Protection Mode becomes activated, the monitor will resume full operational capabilities only after the OSD temperature decreases below the threshold values stated above and that temperature is retained for at least five minutes.

If Thermal Protection Mode Step 2 is reached, the internal temperature needs to first decrease back to the Step 1 temperature and then decrease further to the value required to disable Thermal Protection Mode 1.

Example of Thermal Protection Mode for an ET3202L Monitor with 100% Brightness in landscape mode:

At Step 1: OSD = 58, Max Brightness = 80%

Normal operation returns if OSD can maintain 54°C or lower temperature for five minutes.

At Step 2: OSD = 60, Brightness = 72%

Return to Step 1 if OSD can maintain 58°C or lower temperature for five minutes.

If the monitor's internal temperature continues to rise, the monitor will shut off at OSD = 65°C

Table Top Mode

Requirements:

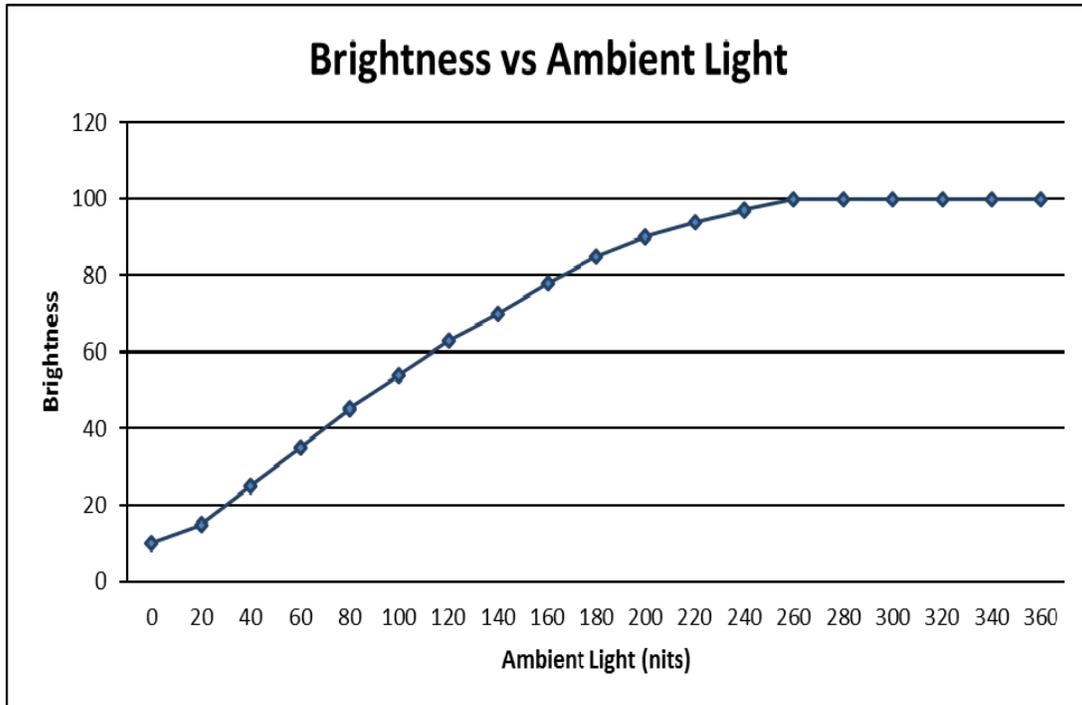
1. The Table Top Mode function on the OSD must be enabled if the unit is placed in table top orientation.
2. Cooling methods must be put in place to ensure that the air temperature beneath the monitor does not exceed the operating specifications. Consult chapter 7 for operating temperature specifications.

Note: The warranty will be void if failure occurs to the monitor in table top mode orientation and the Table Top Mode function is not enabled without adequate cooling methods installed.

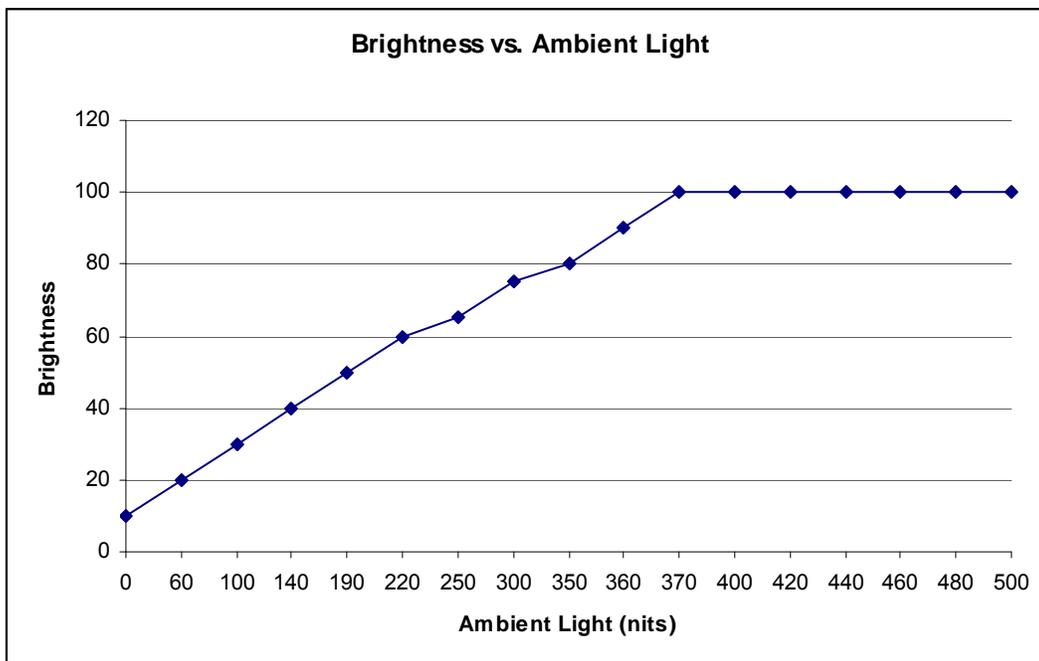
Intelligent Brightness Control and Color Sensor Functionality

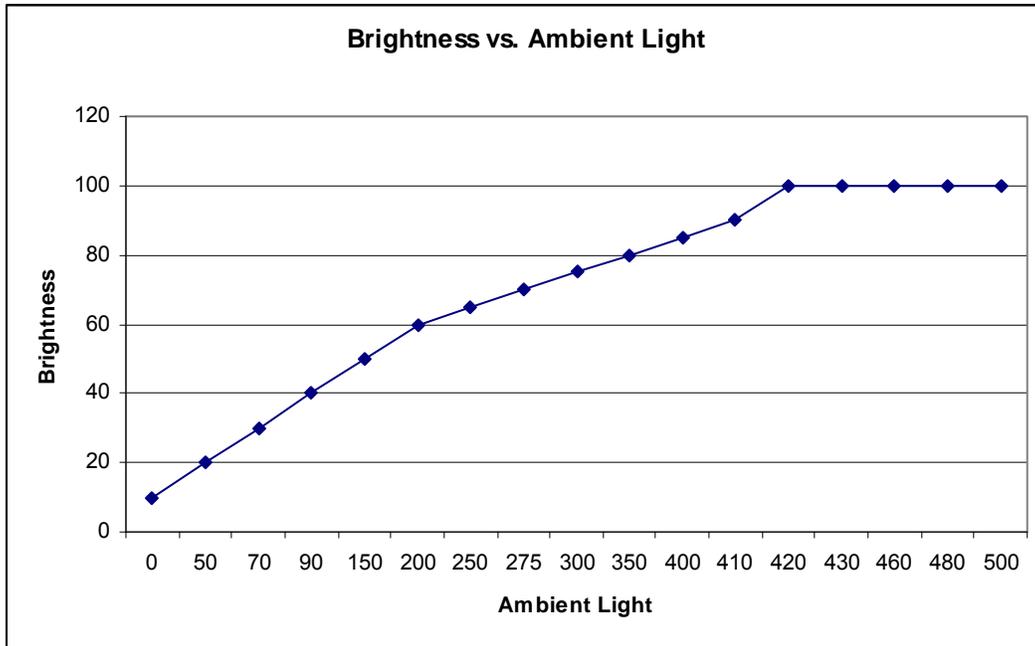
This touchmonitor includes a light and color sensor that can adjust the brightness of the screen and the color of the display to meet the ambient light and color levels. The Intelligent Brightness Control functions based on the following curve:

ET3201L:



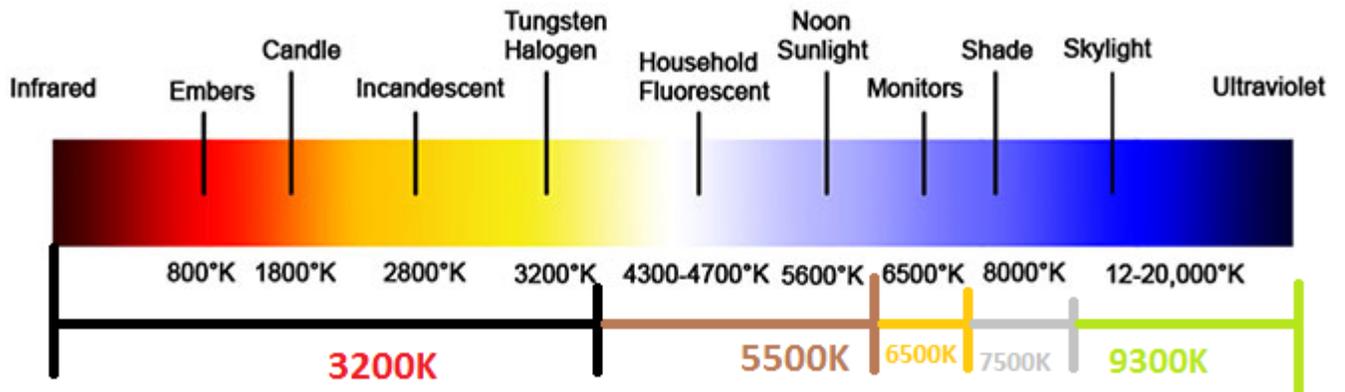
ET4201L:





Note: If the Thermal Protection Mode is activated, the Intelligent Brightness Control feature will act within the limits set forth in the Temperature Control section.

The color sensor functions according to the following chart:



Default: Disabled

Video Firmware Upgrade

This touchmonitor contain the ability to update the video firmware with the use of an external computer. Contact Elo customer service for information on how to upgrade the video firmware.

Chapter 6: Technical Support

If you are experiencing trouble with your touchmonitor, refer to the following suggestions. If the problem persists, please contact your local dealer or contact Elo Touch Solutions Customer Service.

Solutions to Common Problems

Problem	Suggested Troubleshooting
The Touchmonitor does not respond when turning on the system.	Check that the AC power cable is properly connected. Verify the AC power source is functioning.
The Computer Module does not respond when turning on the system.	Disconnect the AC power cable and verify that the Computer Module is properly installed. Reconnect the AC power cable.
Monitor display is dim.	Use the OSD to increase the brightness. Use the OSD to increase the contrast.
Monitor display is blank.	If the Power Status LED is blinking, the monitor or Computer Module may be in SLEEP mode. Press any key / move the mouse / touch the touchscreen to see if the image reappears.
Monitor displays an “Out Of Range” message.	Adjust your computers resolution/timing mode such that it is within the allowable timing ranges specified for your Touchmonitor on the Elo website www.elotouch.com .

Technical Assistance

Visit www.elotouch.com/go/websupport for online self-help.
Visit www.elotouch.com/go/contactsupport for technical support.
See this user manuals last page for worldwide technical support phone numbers.

Chapter 7: Safety & Maintenance

Safety

To avoid risk of electric shock, follow all safety notices and do not disassemble the touchmonitor or Computer Module. They are not user-serviceable.

Do not block or insert anything inside any of the ventilation slots.

The touchmonitor is equipped with a 3-wire, grounding power cord. The power cord plug only fits into a grounded outlet. Do not fit or modify the plug into an outlet that has not been configured for this purpose. Do not use a damaged power cord. Only use the power cord that came with your Elo Touchmonitor. Use of an unauthorized power cord may invalidate your warranty.

Ensure that the system is maintained and runs within the specified environmental conditions listed in the products specifications available on the Elo Touch Solutions website www.elotouch.com.

Environmental conditions for transportation and storage

Temperature:

Portrait and Landscape Mode:

Operating	0°C to 40°C
Storage/Transportation	-20°C to 50°C

Table Top Mode

Operating Temperature (Independent of altitude):	0°C to 35°C
Non-Operating Temperature (Independent of altitude):	-20°C to 50°C

With OPS module:

Operating Temperature (Independent of altitude):	0°C to 35°C
Non-Operating Temperature (Independent of altitude):	-20°C to 50°C

Humidity (non-condensing) :

Operating	20% to 80%
Storage/Transportation	10% to 95%

Altitude:

Operating	0 to 3,658m
Storage/Transportation	0 to 12,192m

Care and Handling

The following tips will help maintain optimal performance of your touchmonitor:

- Disconnect the AC power cable before cleaning.
- To clean the display, use a cloth lightly dampened with a mild detergent.
- It is important that your unit remains dry. Do not get liquids on or inside the unit. In the event that liquid does get inside, have a qualified service technician inspect the unit before you power it on again.
- Do not wipe the screen with a cloth or sponge that could scratch the surface.
- When cleaning the touchscreen, use window or glass cleaner applied to a clean cloth or sponge. Never apply the cleaner directly on the touchscreen. Do not use alcohol (methyl, ethyl or isopropyl), thinner, benzene, or other abrasive cleaners.



Waste Electrical & Electronic Equipment Directive (WEEE)



This product should not be disposed of with household waste. It should be deposited at a facility that enables recovery and recycling.

Elo has put in place recycling arrangements in certain parts of the world. For information on how you can access these arrangements, please visit <http://www.elotouch.com/AboutElo/ewaste-program/>.

Chapter 8: Regulatory Information

I. Electrical Safety Information:

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.

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.

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

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.

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 Industrial Canada.

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 2004/108/EC as indicated in European Standard EN 55022 Class A and the Low Voltage Directive 2006/95/EC as indicated in European Standard EN 60950-1.

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.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

- 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.

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.

III. Agency Certifications

The following certifications and marks have been issued or declared for this monitor:

Canada CUL, IC
 China CCC
 Europe CE

Russia EAC
 United States FCC, UL

IV. China RoHS

In accordance to Chinese law (Administration on the Control of Pollution Caused by Electronic Information Products), the section below lists out the name and amount of the toxic and/or hazardous materials that this product may contain.

Component Name	Toxic or Hazardous Substances and Elements					
	Lead(Pb)	Mercury(Hg)	Cadmium(Cd)	Hexavalent Chromium (Cr6+)	Polybrominated Biphenyls (PBB)	Polybrominated Diphenyl Ethers (PBDE)
Plastic Parts	O	O	O	O	O	O
Metal Parts	X	O	O	O	O	O
Wire and Cable Assembly	X	O	O	O	O	O
LCD Panel	X	O	O	O	O	O
Touch Screen Panel	X	O	O	O	O	O
PCBA	X	O	O	O	O	O
Software (CD, etc.)	O	O	O	O	O	O

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this component is below the limit requirement in SJ/T11363-2006.
 X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this component is above the limit requirement in SJ/T11363-2006. For items marked with X, exemptions were taken according to EU RoHS.

Explanation of Markings

(1). In accordance with the SJ/T11364-2006 requirement, the electronic information products are marked with the following pollution control logo. The Environment-Friendly Use Period for this product is 10 years. The product will not leak or mutate under normal operating conditions listed below, so that the use of this electronic information product will not result in any severe environmental pollution, any bodily injury, or damage to any assets.

Operating Temperature: 0-40 / Humidity: 20%-80% (non-condensing).

Storage Temperature:-20~60 / Humidity: 10%~90% (non-condensing).



(2). It is encouraged and recommended that this product be recycled and reused according to local laws. The product should not be thrown away casually.



Chapter 9: Warranty Information

For warranty information, go to <http://www.elotouch.com/Support/warranty.asp>

Check out our website

www.elotouch.com

Get the latest...

- Product Information
- Specifications
- Upcoming events
- Press releases
- Software drivers

Getting in Touch with Us

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

North America		Europe	Asia-Pacific	Latin America
Elo Touch Solutions	Tel 800-ELO-TOUCH Tel + 1 408 597 8000	Tel +32 (0) 16 70 45 00	Tel +86 (21) 3329 1385	Tel 786-923-0251
1033 McCarthy Blvd	Fax +1 408 597 8001	Fax +32 (0)16 70 45 49	Fax +86 (21) 3329 1400	Fax 305-931-0124
Milpitas, CA 95035	customerservice@elotouch.com	elosales@elotouch.com	www.elotouch.cn	www.elotouch.com.ar

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