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USER MANUAL

Elo Touch Solutions

ESY10i1 10.1" i-Series Interactive Signage
ESY15i1 15.6" i-Series Interactive Signage
ESY22i1 21.5" i-Series Interactive Signage

SW602242 Rev C

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Chapter 1: Introduction

Product Description

Your new i-Series Interactive Signage system 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 i-Series system.

This i-Series system incorporates an active matrix thin-film-transistor, and LCD panel to provide superior display performance. Features that enhance this systems performance are Projected Capacitive (PCAP) touchscreen, Plug & Play compatibility, Micro-HDMI Out, LAN/Wifi, built-in speakers, and headphone output capability. A general purpose input/output header is available and Bluetooth 4.0 is supported. Also 3G/4G LTE (Micro SIM card holder) support.
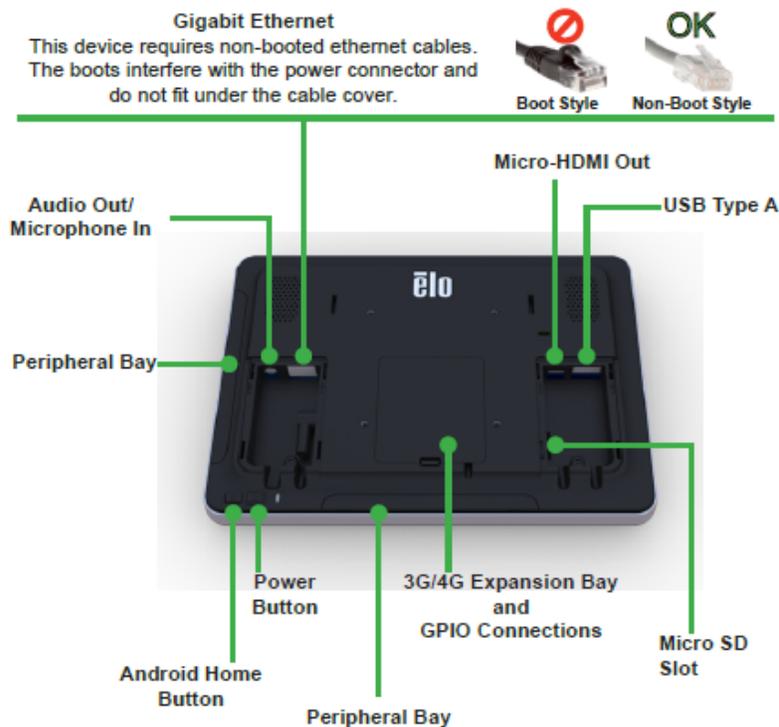
Precautions

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 i-Series system safety.

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

Chapter 2: Unpacking

Unpacking the i-Series Interactive Signage System

1. Carefully cut through the top piece of tape to open the top flaps.

2. Remove the top layer of the packaging pulp.

a. The accessory box and the covered monitor will now be visible.

3. Lift the accessory box out of the packaging box to provide access to the required cables.

4. Remove the monitor from the box and set it down.

Chapter 3: i-Series System Installation

Connector Panel & Interfaces

Check that the following items are present and in good condition:
- i-Series system
- Quick Install Guide
- Power Brick
- Cables
  - North America power cord
  - Europe power cord
- Two (2) cable strain reliefs
- Two (2) screws

The connectors are accessed by removing the cable security covers from the rear of the i-Series system.

i-Series System Connections to an External Monitor

Connect a Micro-HDMI cable between the system and the monitor.

Chapter 4: Mounting

General Mounting Information

The monitor following the VESA pattern described in the following section.

For optimal touch performance, ensure that the monitor is supported fully and is as flat as possible.

The following three mounting orientations are supported: Landscape, portrait and table top mode. For optimal touch performance, ensure that the monitor is supported fully and is as flat as possible.
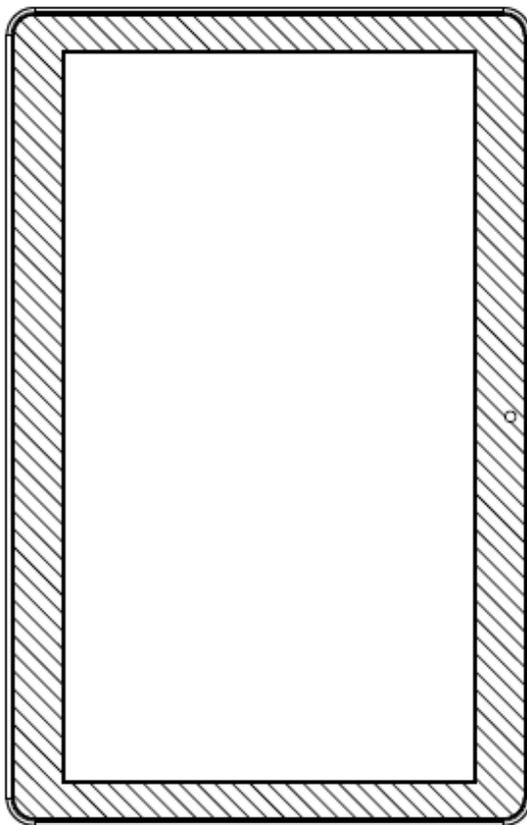
Portrait
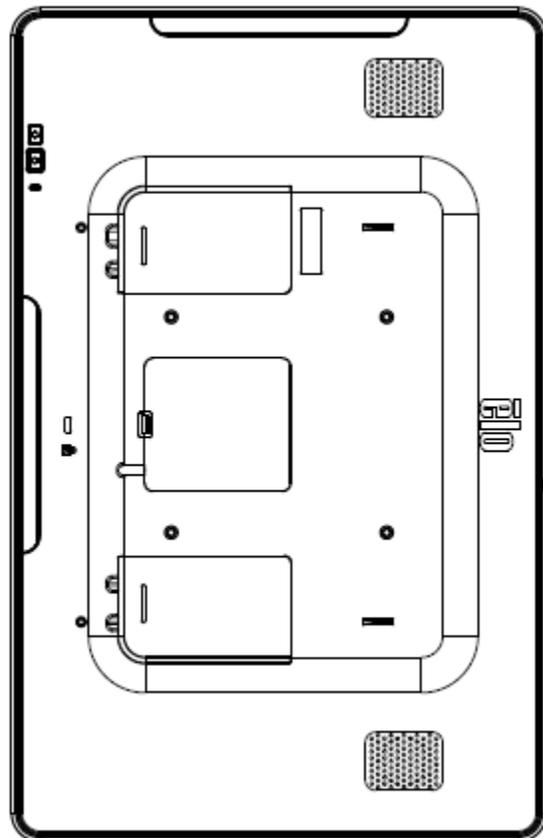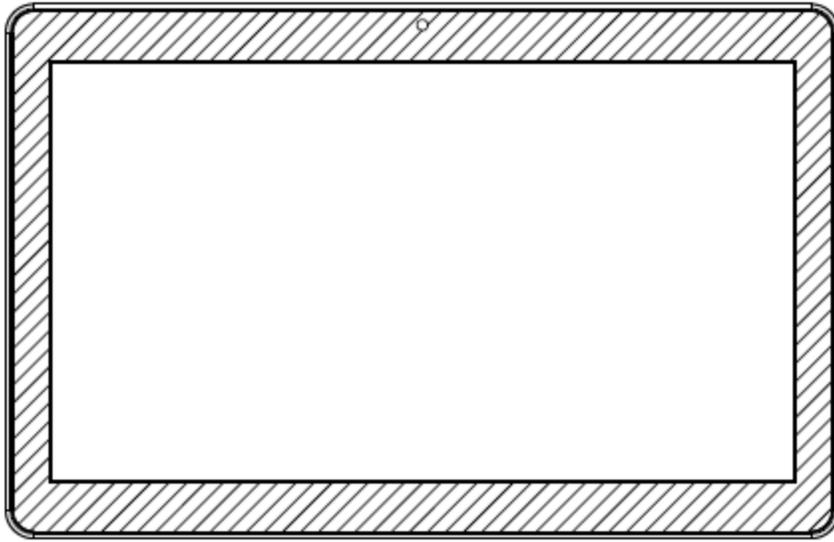
Landscape
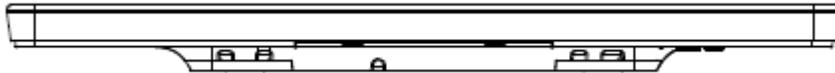
Table Top

Rear VESA Mount

A four-hole 75x75mm (for 10.1") and 100x100 (for 15.6"/21.5") mounting pattern for M4 screws is provided on the rear of the monitor. The VESA FDMI-compliant counting is coded: VESA MIS-B, 75, C.

10.1"
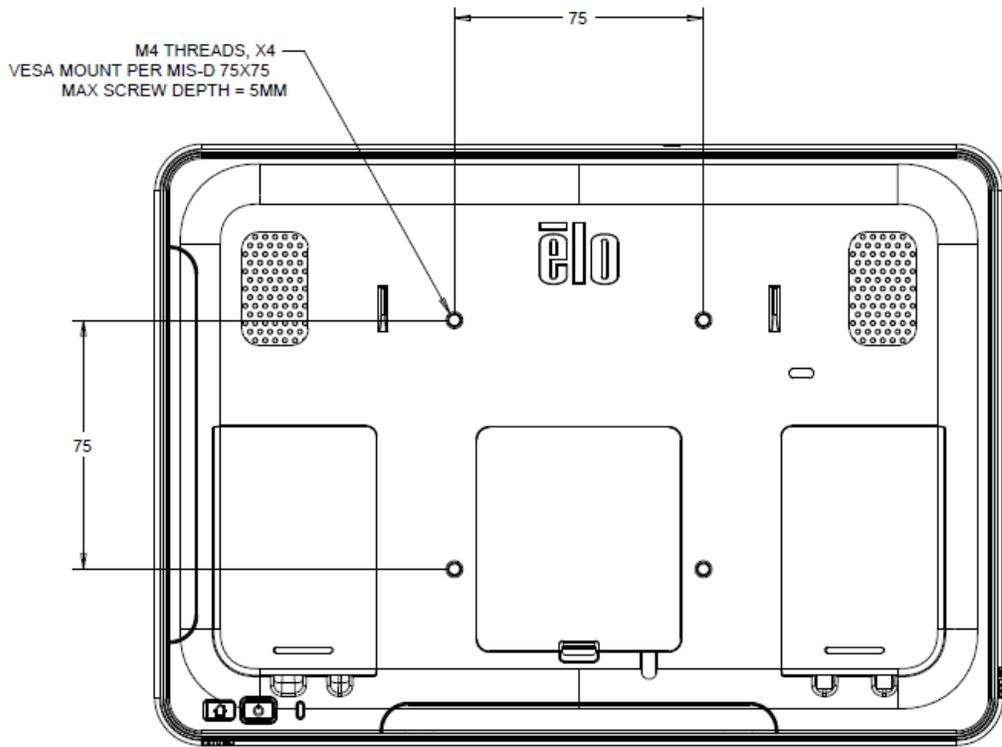
15.6" and 21.5"
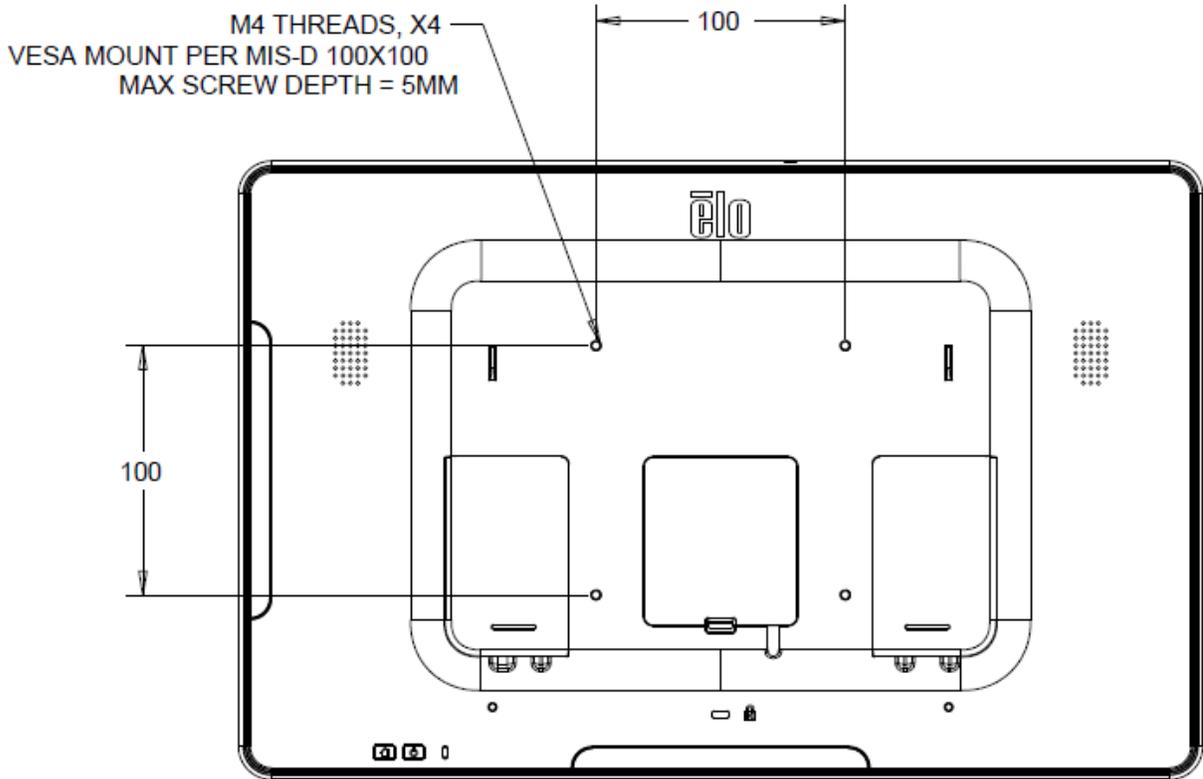
Chapter 5: Operation

Power

To turn the system on, press the power button once. If a power cable is plugged in to the i-Series system, then the i-Series system will turn on automatically.

A Power Status LED is provided on the OSD Remote that functions according to the following table:

i-Series System Status	Color	LED status
OFF	Orange	OFF
IDLE	White	BLINKING
ON	White	ON

The system consumes low power when in IDLE 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 IDLE mode.

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

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

Model	Operating Voltage Range	Operating Frequency Range	Operating Current Range
ESY10i1	100 - 240Vac	50/60 Hz	0.62A
ESY15i1	100 - 240Vac	50/60 Hz	0.72A
ESY22i1	100 - 240Vac	50/60 Hz	1.19A

Operating System

Android version 4.4 will be pre-loaded on the system.

Projective Capacitance Touchscreens Technology

Four (4) simultaneous touches can be reported at one time.

Gesturing Images:

For multi-touch monitors, the following gestures are possible:

Dual Touch Gestures and their Functions:
Swipe – The action of moving a finger across the screen.
- The ability to swipe through from one picture to another or drag an icon

Pinch-Zoom – Zoom into a picture
- Place two fingers on the screen and move them closer together to zoom in. Move your fingers away from each other to zoom out.

Before zoom

After zoom

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 image resolution matches the LCD panels native resolution.

10.1" is 1280x800, 15.6" is 1920x1080, 21.5" is 1920x1080.

Physical Button Functionality

Parameter	Available Adjustment
Power Button	Turn on the system
Home Button	Returns to the Home page

Audio

Earphone output with microphone input is supported.

3G/4G LTE module Information (Optional)

For the units that have 3G/4G LTE built in, the following are the supported bands:
- LTE (FDD) B1/B2/B3/B4/B5/B7/B8/B13/B17/B20
- Penta-band DC-HSPA+/HSPA+/HSPA/UMTS B1/B2/B4/B5/B8

- Quad-band EDGE/ GPRS/GSM 1900/1800/900/850 MHz

Data Transfer Rate:
- WCDMA PS: UL (384 kbps)/ DL (384 kbps)
- DC-HSPA+ :UL (11 Mbps)/ DL (42 Mbps)
- LTE FDD: UL (50 Mbps)/ DL (100 Mbps) @Bandwidth 20M (CAT3)
- GPRS/EDGE: Multi-slot Class 12

Support country list
- US
- Germany

Wifi + Bluetooth

The following protocols are supported for Wifi and Bluetooth:
- Bluetooth 4.0+EDR Class 2, A2DP/ HID (Keyboard/Mouse), SPP (printer), Barcode scanner (HID/SPP) support.
- IEEE 802.11b/g/n; WEP/WPA/WPA2 capable

Near Field Communication (NFC) Functionality (Optional)

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)

Incorporates proximity detector to activate Bar Code Scanner.
Outstanding scanning performance 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	- Disable
‖‖‖‖‖ * UPC-A on	‖‖‖‖‖ UPC-A off
‖‖‖‖‖ * UPC-E on	‖‖‖‖‖ UPC-E off
‖‖‖‖‖ * EAN13 on	‖‖‖‖‖ EAN13 off
‖‖‖‖‖ * EAN8 on	‖‖‖‖‖ EAN8 off
‖‖‖‖‖ * Code39 on	‖‖‖‖‖ Code39 off
‖‖‖‖‖ *Codabar on	‖‖‖‖‖ Codabar off
‖‖‖‖‖ * Code93 on	‖‖‖‖‖ Code93 off
‖‖‖‖‖ * Code128 on	‖‖‖‖‖ Code128 off
‖‖‖‖‖ * Interleaved 2of 5 on	‖‖‖‖‖ Interleaved 2of 5 off
‖‖‖‖‖ * Industrial 2 of 5 on	‖‖‖‖‖ Industrial 2 of 5 off
‖‖‖‖‖ * Matrix 2 of 5 on	‖‖‖‖‖ Matrix 2 of 5 off
‖‖‖‖‖ * MSI/Plessey on	‖‖‖‖‖ MSI/Plessey off
‖‖‖‖‖ * Code32 on	‖‖‖‖‖ Code32 off
‖‖‖‖‖ * Code11 on	‖‖‖‖‖ Code11 off
‖‖‖‖‖ * Telepen on	‖‖‖‖‖ Telepen off
‖‖‖‖‖ * GS1 DataBar Omnidirectional on	‖‖‖‖‖ GS1 DataBar Omnidirectional off
‖‖‖‖‖ * GS1 DataBar Limited on	‖‖‖‖‖ GS1 DataBar Limited off
‖‖‖‖‖ * GS1 DataBar Expanded on	‖‖‖‖‖ GS1 DataBar Expanded off

Magnetic Stripe Reader (MSR) Functionality (Optional)

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

USB On The Go (OTG)

USB OTG is supported via the micro-USB connector located in the following position.

Note: Improper use of this connector can result in a broken connector.

HDMI Output

The HDMI(1920x1080P) output supports Elo monitor
ET7001L/ET4201L/ET3201L/ET4243L/ET3243L.

General Purpose Input/Output (GPIO) Support

The i-Series supports a GPIO which can be used under the following conditions:

Max Voltage: 5V
Max Current: 200mA

There are two input connections and one output connection.

Pin 1→ 5 Volt output connection
Pin 2 → Input connection 1

Pin 3 → Input connection 2
Pin 4 and Pin 5 are tied to ground

Elo has a cable (PN # E086398) which extends this GPIO connection so that it is easy for users to connect their own peripherals. This cable can be found on the Elo website.
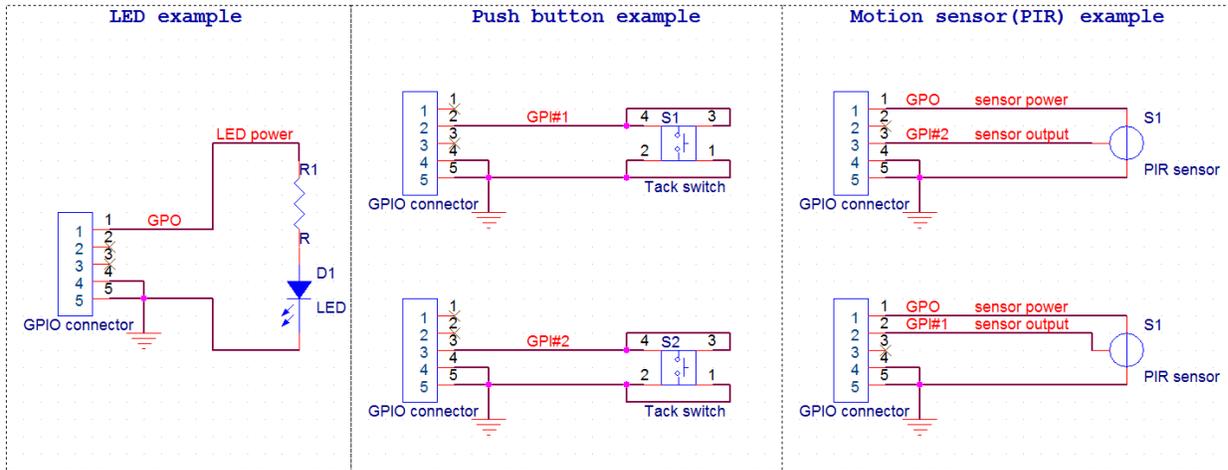
Example Circuit
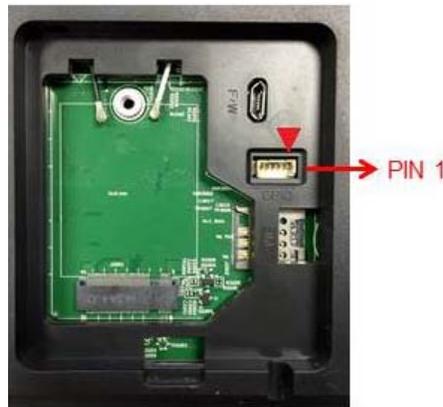

GPIO PIN1

i-Series expansion module (Optional)

The i-Series expansion module supports the following additions:
1. USB2.0 x2
2. Powered USB x1 (1.5A) / 24V power
3. Powered USB x1 (2.3A) /12V power
4. RS232 x1(RJ45 to DB9 cable kit).

12V POWER USB
24V POWER USB
DC IN   USB   RJ45 TO RS232
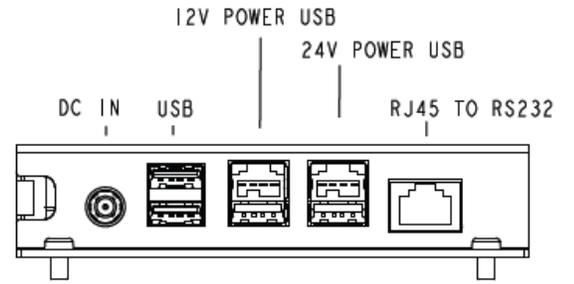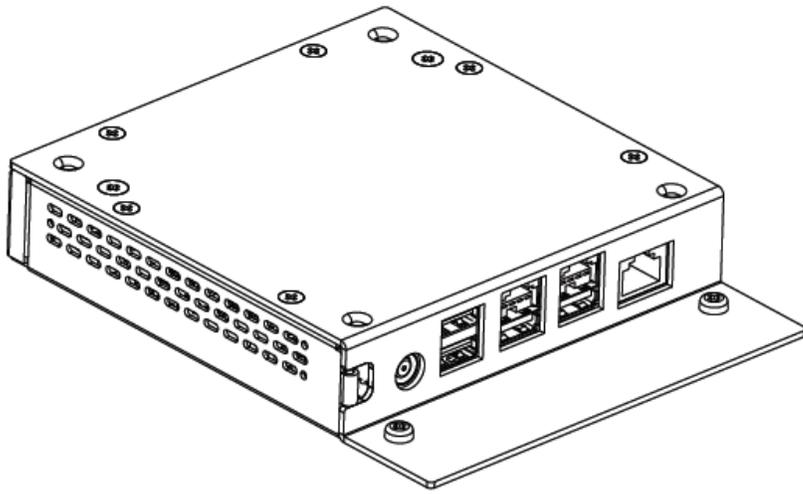
1. Installation with i-Series:

2. RS232 pin definition (DB-9 Male type)

Pin 1	NC
Pin 2	RXD
Pin 3	TXD
Pin 4	DTR
Pin 5	GND
Pin 6	DSR
Pin 7	RTS
Pin 8	CTS
Pin 9	NC
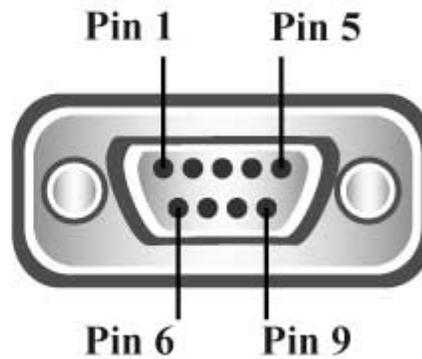
3. Please visit FTDI website and download the Android SDK for software implementation.
http://www.ftdichip.com/Support/SoftwareExamples/Android/J2xxHyperTerm.zip

4. Accessory box

Software Section (Download SDK from www.elotouch.com)

1. Glossary

1.1. Abbreviation

- SoC: System on a chip

1.2. Terms

- IDLE_MODE: ELO specification for device interaction with POWER_KEY action

- MSR: Magnetic Stripe Reader

- BCR: Barcode Reader

- NFC: Near Field Communication

- ELOPeripheralService: The fundamental class to provide different functions for ELO application developmentEx

2. System Overview

Fig 3-1 shows the software stack of Android system. This implementation based on Android design and extends the framework functionality at java services layer to fulfill customer requirement. The extended functionality at java service is named as "ELOPeripheralService" which provides the interfaces for application development.
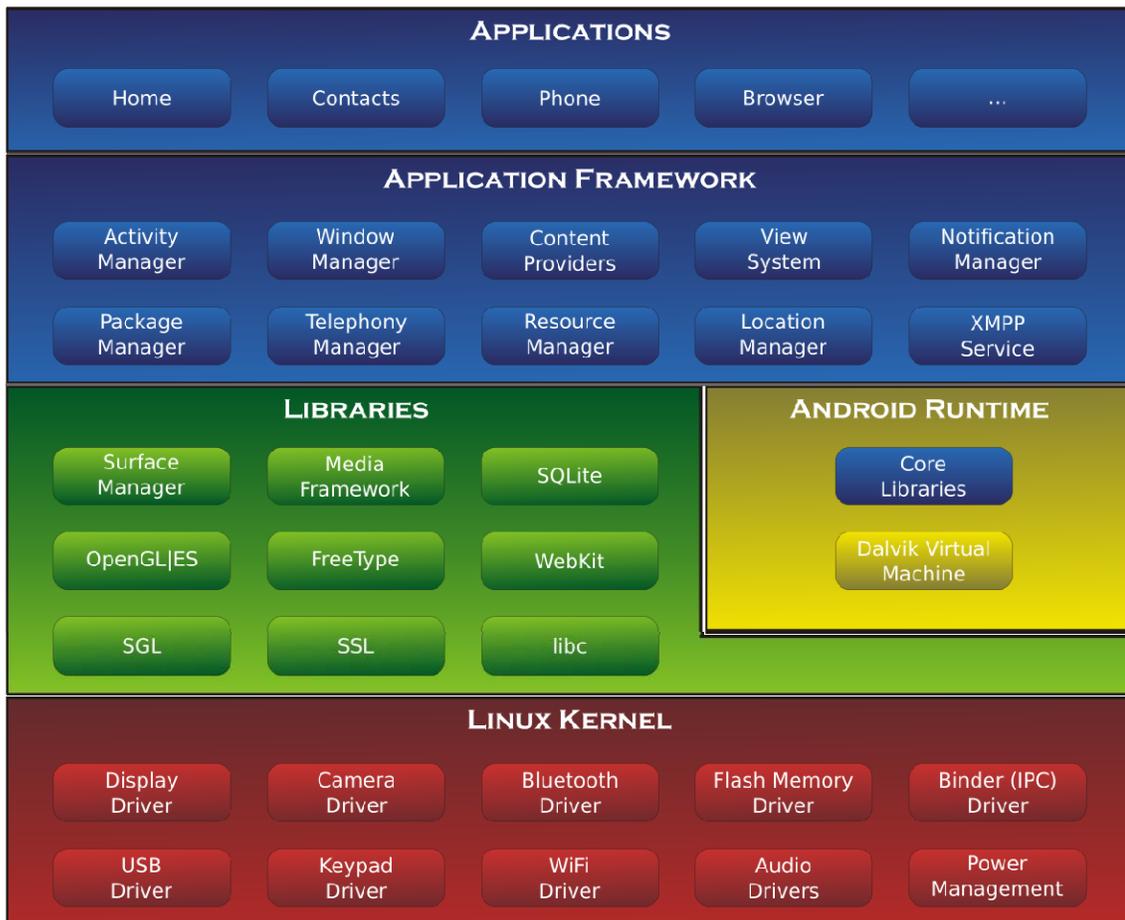
Fig 2-1. Android System Structure

2.1. Android Framework Java Service

Based on developed programming language, Android services can be divided into native (C base) and java service. Android services are a kind of server-client structure where the server side can receive a request from the client and output the result to client. Also, the server-client structure can deal with synchronization issues from multi-client requests. Therefore, this framework ability, which forms the fundamental class "ELOPeripheralService," is based on this kind of server-client design feature from Android.

2.2. ELOPeripheralService

ELOPeripheralService is the major module to act client request from application layer. In order to complete the Android framework system design for service then below classes is added into system:
- ELOPeripheralNative
- Execution of some native-C function flows for ELOPeripheralService
- ELOPeripheralManager

■ Provides the interface to the application layer, which is the client component relative to ELOPeripheralService

● EloPeripheralEventListener

■ Application extends abstract class to receive the driven event from EloPeripheralManager

■ Uses event driven notification method to notify the application program about the status change

● IELOPeripheralService.aidl

■ Android programming language for java layer IPC communication

■ Used for Client-Server (ELOPeripheralManager-ELOPeripheralService) IPC communication where sending the application's request to server side

● IELOPeripheralServiceListener.aidl

■ Android programming language for java layer IPC communication

■ Used for server to notify the event driven status change to ELOPeripheralManager then ELOPeripheralManager will notify to application layer
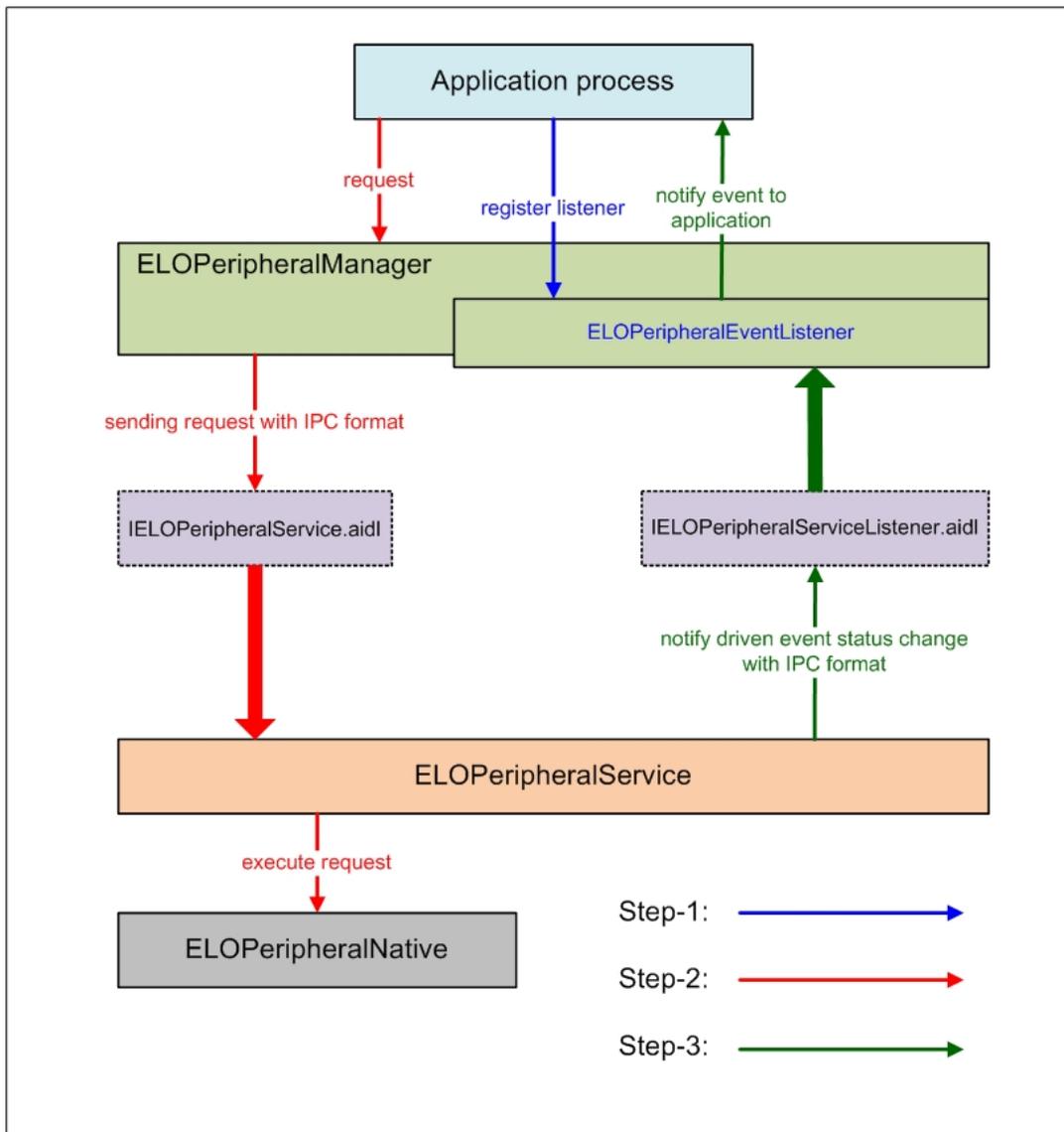
Figure 2-2. ELOPeripheralService

3. ELOPeripheralManager and ELOPeripheralEventListener

As we mentioned at last section, ELOPeripheralManager and ELOPeripheralEventListener will be the component to provide interface for application development. Therefore, we provide the inner member data of ELOPeripheralManager and ELOPeripheralEventListener as below.

3.1. ELOPeripheralManager

Inside this manager contains some inner class member as below and for each inner class provides specific functionality to peripheral equipment or defined action flow.

ELOPeripheralManager	public void registerListener(ELOPeripheralEventListener listener)
	public void unregisterListener(ELOPeripheralEventListener listener)

mBCR_APIs
mMSR_APIs
mNFC_APIs
mGPIO_APIs
mIDLE_APIs

● public void registerListener(ELOPeripheralEventListener listener)

■ Provide interface for application to register the feedback structure instance

■ Needs to register before request (Activity life cycle: onResume)

● public void unregisterListener(ELOPeripheralEventListener listener)

■ Provide interface for application to unregister the feedback structure instance

■ Needs to unregister before leave the application (Activity life cycle: onPause)

3.1.1. BCR

```java
public class BCR {
    public boolean activeBCR() throws RemoteException {}

    public boolean disactiveBCR() throws RemoteException {}

    public boolean isBCRDeviceConnected() throws RemoteException {}
}
```

● activeBCR

■ Activate the BCR device to reading the barcode data

■ BCR is active and successful reading the barcode sequence data then system by "ELOPeripheralEventListener" to notify application about the receiving data

● disactiveBCR

■ Deactivate the BCR device reading action

● isBCRDeviceConnected

■ Check the BCR device is connection with Android device or not

3.1.2. GPIOs

```
public class GPIOs {
    public void pullHighGPIO(String iface) throws RemoteException {}

    public void pullLowGPIO(String iface) throws RemoteException {}

    public String[] getGPIOInterafces() throws RemoteException {}
}
```

- pullHighGPIO
  - Pull high the state of GPIO-iface
- PullLowGPIO
  - Pull low the state of GPIO-iface disactiveBCR
- getGPIOInterfaces
  - Get the list string data of interest GPIOs at designed system.
  - Refer to Table 3-1 GPIOs list
- Note:
  - The pull action only workable with output pin defined GPIO
  - The input pin defined GPIO can notify the application about the status change by "ELOPeripheralEventListener" also

GPIOs	PIN define
gpio80	Output
gpio81	Input
gpio82	Input

Table 3-1 GPIOs List

3.1.3. IDLE

```
public class IDLE {
    public boolean activeIdleMode() {}

    public boolean disactiveIdleMode() {}
}
```

- activeIdleMode
  - Force system to enter IDLE_MODE (IDLE_MODE on)
- disactiveIdleMode
  - Force system to leave IDLE_MODE (IDLE_MODE off)

3.2. ELOPeripheralEventListener

```java
public abstract class ELOPeripheralEventListener {
    /**
     * Active barcode scanner reading function by USB-ID-PIN
     */
    void onBCR_StateChange(int state, String data) {
    }

    void onGPIO_StateChange(int state, String data) {
    }
}
```

- onBCR_StateChange

- Refer to Table 3-2

- Notify the application about the BCR status change data

- onGPIO_StateChange

- Refer to Table 3-2

- Notify the application about the GPIOs status change data

BCR state	value
ELOPeripheralManager.BCR_STATE_DEVICE_CONNECTION	1 << 0
ELOPeripheralManager.BCR_STATE_DEVICE_DISCONNECTION	1 << 1
ELOPeripheralManager.BCR_STATE_DATA_RECEIVIED	1 << 2
ELOPeripheralManager.BCR_STATE_PIN_AUTO_DISABLE	1 << 3

GPIO state	value
ELOPeripheralManager.GPIO_STATE_HIGH	1 << 4
ELOPeripheralManager.GPIO_STATE_LOW	1 << 5

GPIO data
gpio81
gpio82

Table 3-2

Chapter 6: Technical Support

If you are experiencing trouble with your i-Series system, 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 i-Series system does not respond when turning on the system.	Disconnect the AC power cable and verify that the i-Series system is properly installed. Reconnect the AC power cable.
Monitor display is blank.	If the Power Status LED is blinking, the monitor or i-Series system may be in SLEEP mode. Press any key / move the mouse / touch the touchscreen to see if the image reappears.

To keep the system performing at an optimum level, follow the steps below:

Usage duty cycle:
18 hours on per 24 hours

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

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.

For the latest version of this user manual, please visit to www.elotouch.com

Chapter 7: Safety & Maintenance

Safety

To avoid risk of electric shock, follow all safety notices and do not disassemble the i-Series system. They are not user-serviceable.

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

The i-Series system 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 i-Series system. 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

Humidity (non-condensing) :

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

Altitude:

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

Caution

RISK OF EXPLOSION IF BATTERY IS REPLACED WITH AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Care and Handling

The following tips will help maintain optimal performance of the i-Series system:
- 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 liquid 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 the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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. CAN ICES-3(A)/NMB-3(A)

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference, and

(2) this device must accept any interference, including interference that may cause undesired

operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

FCC RF Exposure Compliance: This equipment complies with radio frequency (RF) exposure limits adopted by the Federal Communications Commission for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

IC RF Exposure Compliance: This equipment complies with IC RSS-102 RF exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Déclaration d'exposition aux radiations: Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

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:

CE RF Exposure Compliance: This device meets the EU requirements (1999/519/EC) and the International Commission on Non-Ionizing Radiation Protection (ICNIRP) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.

General Information to all Users: This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

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:
United States FCC, UL
CB (International)
Canada CUL, IC
Europe CE
China CCC, SRRC
Russia EAC
Japan VCCI, MIC

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.
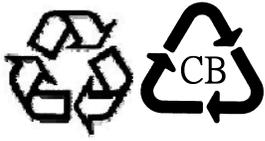
Chapter 9: Warranty Information

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

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