ADVANPOS www.advanpos.com

ZL-1521/1221

All-in-One Point of Sales System

ZL-1531/1551/1231

Bezel Free All-in-One Point of Sales System

User Manual

Before installing and operating the unit, please read this user manual thoroughly and retain for reference.

Ver. 3.0_2012/06/15

How to Use This Manual

This manual contains information to set up and use the ZL-15X1/12X1. In addition, instructions are included for added hardware, software, upgrades, and optional items.

Chapter 1 An introduction to what you find in the box and an overview of product specifications, appearance, and interface.

Chapter 2 Detailed installation information for the base unit and upgrades, including the HDD, main memory, and Compact Flash.

Chapter 3 Mounting procedures for optional devices, such as MSR, Fingerprint, I-Button, IC Card, WiFi, Bluetooth, RFID, rear mount VFD, pole-type 2nd display, and cash drawer.

Chapter 4 PEB-973A , PEB-973D and AMB-7910 main board diagrams, locations of jumpers, and connectors. Also shows the external COM6 port pin assignments.

Chapter 5 Installation instructions for the Intel chip set driver, video driver, touch screen tools, audio, LAN, RFID, Fingerprint, IC Card, AdvanPOS system and OPOS drivers.

WARNING! Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

NOTE: Text set off in this manner provides important supplemental information.

Federal Communications Commission (FCC) Notice

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 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. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: Shielded interconnect cables and shielded AC power cables must be employed with this equipment to insure compliance with pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

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.
2. This device must accept any interference received, including interference that may cause undesired operation.

Copyright

First Edition March 2010

Patents and Trademarks

AdvanPOS trademark
Certificate No.: 01328466 (ROC patent)
Patents pending (European Union, Mainland China and USA)

Z-POS Lite (ZL-15X1/12X1) Series documented list:

1. Detachable LCD Panel
   Certificate No.: M 342009 (ROC patent)
   Certificate No.: ZL 2008 2 0300411.2 (Mainland China patent)
   Patents pending (European Union and USA)

Precautions

1. Please read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from the AC outlet before cleaning. Do not use liquid or spray detergent for cleaning. Use only a moistened sheet or cloth.
4. For pluggable equipment, the socket outlet should be installed near the equipment and should be easily accessible.
5. Avoid humidity and moisture.
6. Install equipment on a stable surface.
7. Do not leave this equipment running in an enclosed or non-air-circulated environment, nor store in temperatures above 60°C. Such conditions may damage the equipment.
8. Ventilation openings on the unit are for air circulation and protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Check the voltage of the power source before connecting the equipment to the power outlet.
10. Place the power cord so that it will not be stepped on. Do not place anything over the power cord. The power cord must be rated for the product and for the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted.
12. If the equipment is not used for a long time, disconnect the equipment from the power outlet to avoid damage.
13. Never allow any liquid into ventilation openings. This could cause fire or electrical shock.
14. Never open the equipment. For safety reasons, qualified service personnel should only open the equipment.
15. If one of the following situations may arise, get the equipment checked by qualified service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well or you cannot get it work according to the user manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of damage.

⚠ **WARNING!** Not intended for outdoor use.

⚠ **CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with same type, and discard used batteries according to manufacturer's instructions.

Contents

Chapter 1 Introduction

Features

- 15” TFT touch Screen or 12” TFT touch Screen
- 15” Bezel Free TFT touch Screen or 12” Bezel Free TFT touch Screen
- aluminum die casting, magnesium-aluminum alloy shell or plastic for greater reliability
- Cable-less docking reduces clutter
- IP65 sealed front touch panel
- Convertible 2nd display options
- 5 x COM, 6 x USB, 1 x CF II
- Flexible options: MSR, I-Button, Fingerprint, IC card reader, RFID, WiFi and Bluetooth
- RoHS compliant

Specifications

ZL-15X1/12X1 System Configuration	
CPU	Intel® Atom™ D525/N270 Processor fanless AMD eOntario T56N Dual Core 1.65G(Default) or T44R Single Core 1.2G
System Chipset	Intel D525+ICH8M for Intel® D525 Intel 945GSE+ICH7M for Intel® N270 AMD Fusion Control A55E for AMD eOntario
System Memory	Supports One SO-DIMM 1x200pin DDR2 667/800 MHz for Intel® D525 Supports One SO-DIMM 1x200pin DDR2 533 MHz for Intel® N270 Supports One SO-DIMM 1x204pin DDR3 1033/1066 MHz for AMD eOntario
Video Memory	Supports Intel® DVMT share system memory for Intel® Atom™ Processor IGD support up to 512MB for AMD eOntario
SSD	Supports 1 x Compact Flash Card Type II
HDD	1 x internal 2.5” 160GB SATA hard disk drive (up to 250GB)
Power	1 x external 60W 12VDC power adapter (100~240VAC, 50~60Hz, 5.0A)
OS Support	Windows® XP Pro Embedded / WEPOS® / Windows® POS Ready 2009 / Linux® / Windows®7 Pro Embedded/POSReady7(only for AMD eOntario)
LCD Touch Panel	
Resolution Size	15” or 12” TFT LCD / 1024 x 768
Brightness	15”: 250 nits(Default) / 350 nits /500 nits(adjustable) 12”: 500 nits (adjustable)
Touch Screen Type	ZL-1521/1221 series : ELO or Abon 5-wire resistive ZL-1531/1551 series: Bezel Free ELO 5-wire resistive Touch or Bezel Free Projected Capacitive Touch ZL-1231 series: Bezel Free ELO 5-wire resistive Touch

I/O Ports	
Serial Ports	4 x external: COM1, COM2, COM5 (D-SUB); COM6 (8-Pin Wafer) 1 x internal: COM3 for primary touch screen,
USB Ports	Supports 6 USB 2.0 ports for future expansion (3 x external: arm x 1, rear side x 2) ZL-1521/1221: 3 x internal ZL-1531/1231: 2 x internal ZL-1551 w/P-Cap Touch: 2 x internal ZL-1551 w/ELO Touch: 3 x internal
Parallel Port	1 x Bi-directional parallel port (D-SUB25)
VGA Port	1 X external VGA Port (D-SUB15)
Cash Drawer Port	1 x 12V RJ11 connector (maximum 2 drawers)
LAN Port	1 x Giga LAN (10/100/1000Mbps Base-T), RJ45 connector
Audio Port	1 x Line-out, 1 x Mic-in
Speaker	2 x internal stereo 2W speakers
Mechanics and Environment	
Construction	aluminum die casting, magnesium-aluminum alloy shell or plastic housing
Dimensions	ZL-15X1: 300 (D) x 380 (W) x 350 (H)mm ZL-12X1: 300 (D) x 311 (W) x 315 (H)mm
Housing Color	ZL-15X1: Silver/Black, Black, Red/Black, Sliver ZL-12X1: Black
Net Gross Weight	ZL-15X1: 6.6 Kg ZL-12X1: 5.7 kg (with VFD & MSR)
Operating Temperature	0 °C ~ 40 °C
EMI/Safety	CE, FCC, RoHS

Package Contents

The following items come standard with the ZL-15X1/12X1:

POS System		**Power Adaptor**	
Utility and Main Board Chipset Driver CD		**AC Power Cord**	

Options
• Magnetic Stripe Reader (MSR) Module: triple track*
• 2-in-1 Module (Magnetic Stripe Reader + Fingerprint Reader) *
• 2-in-1 Module (Magnetic Stripe Reader + I-Button) *
• 3-in-1 Module (Magnetic Stripe Reader + I-Button + IC Card Reader) *
• Wireless Module: WiFi 802.11b/g or Bluetooth 2.0
• Radio Frequency Identification (RFID) Module: internal 13.56MHz with ISO 15693/14443A/14443B for ZL-1521 only, 14443A Mifare for ZL-1221
• VFD Customer Display: 9 mm height, 2 lines 20 characters each (rear mount type or pole type)
• LCM Customer Display: 4 lines 30 columns each (pole-type)
• 2nd Customer Display: 8.9”, 12” or 15” tempered glass LCD 15 cm set on a 15 cm tube pole

* Available in front or side swipe formats.

Base System

Before you begin, take a few moments to become familiar with the ZL-15X1/12X1 series.

For ZL-1521/1221

Brightness Control Buttons For ZL-1521

Brightness Control Buttons For ZL-1221

Arm left side

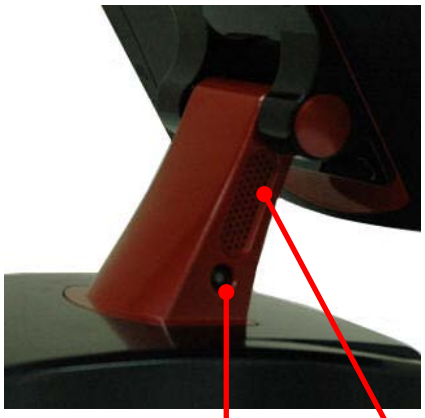
Power Button **Left Speaker**

Arm right side

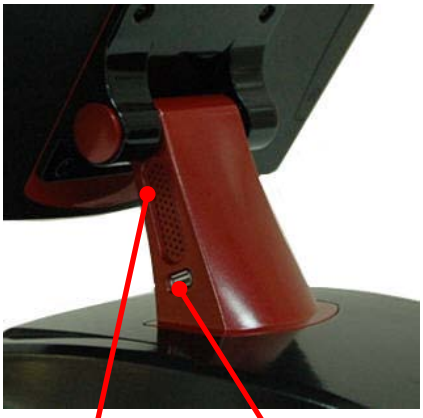
Right Speaker **USB Port**

For ZL-1531/1231

Arm left side



Arm right side



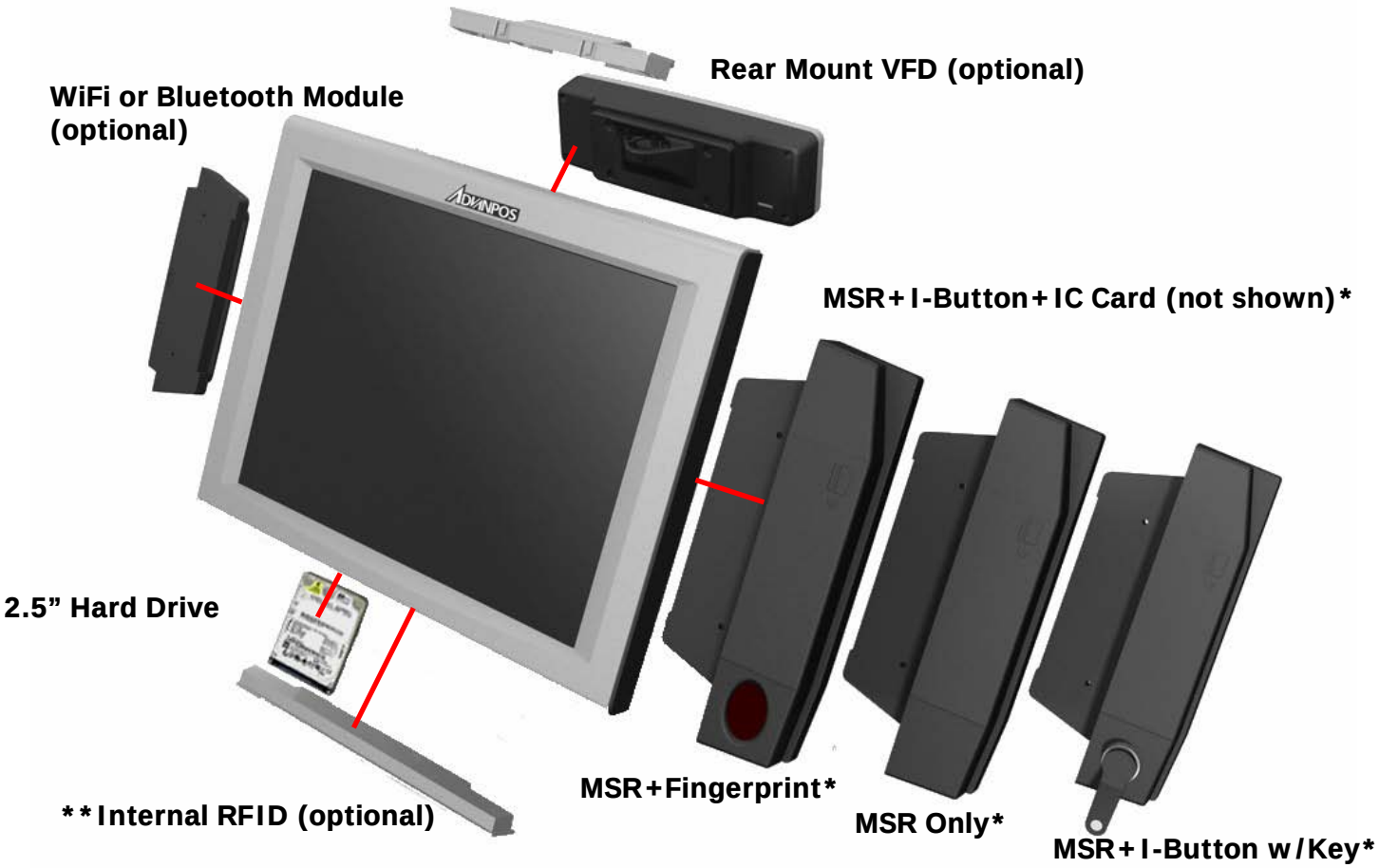
Expandable Main Display

The four sides of the main display are specially designed for expandable functions and connect with one of the available internal USB ports or PS/2 for operation. Optimized for simple installation, these interfaces do not require any voltage setting adjustments.

- Rear Mount VFD (USB interface) for ZL-1521 only
- WiFi or Bluetooth module (USB interface)
- Front side RFID module (USB interface) for ZL-1521 only
- MSR (PS/2 interface)
- MSR+I-Button (PS/2 interface)
- MSR+Fingerprint (MSR for PS/2 interface, Fingerprint for USB interface)
- MSR+I-Button+IC Card Reader (MSR and I-Button for PS/2 interface, IC Card Reader for USB interface)
- MSR+RFID (MSR for PS/2 interface, 13.56 MHZ ISO 14443A Mifare RFID for USB interface)

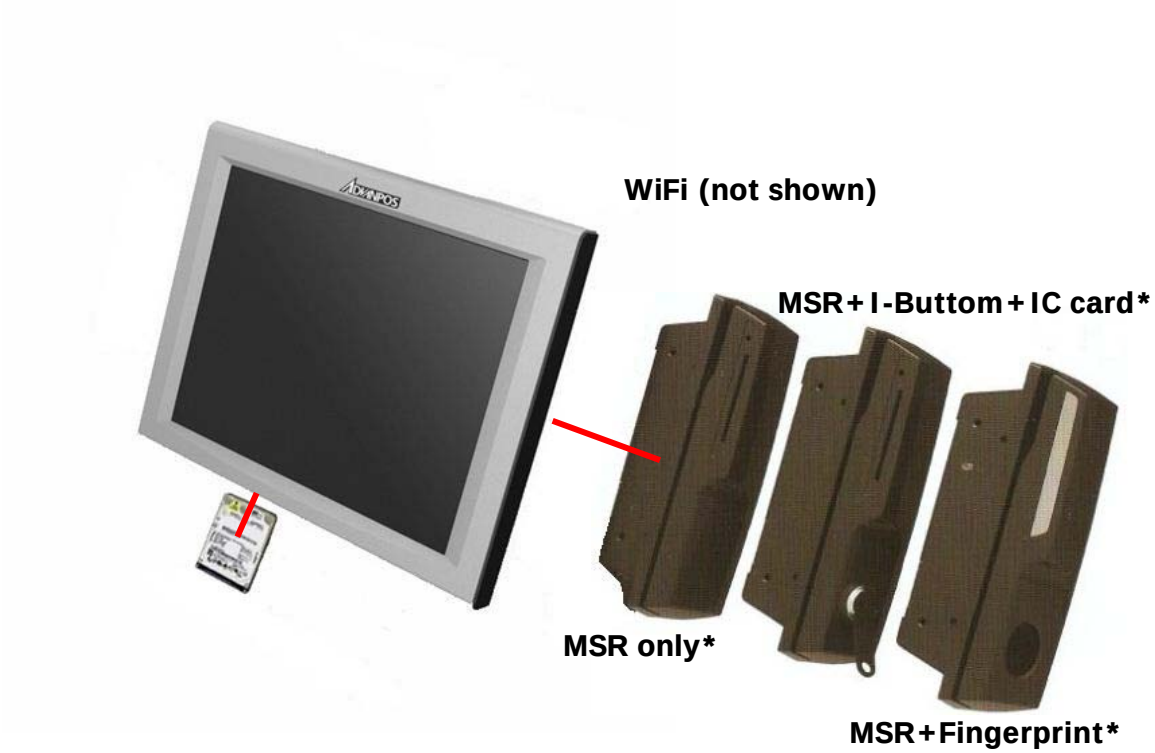
NOTE: The Magnetic Stripe Reader module can only be installed to the right side of the front panel. The wireless module can only be installed to the left side of the front panel. The locations are not interchangeable.

For ZL-1521 (magnesium-aluminum alloy shell)



* MSR Modules available in side or front swipe formats.
** RFID Module available in bottom or front contact format

For ZL-1221

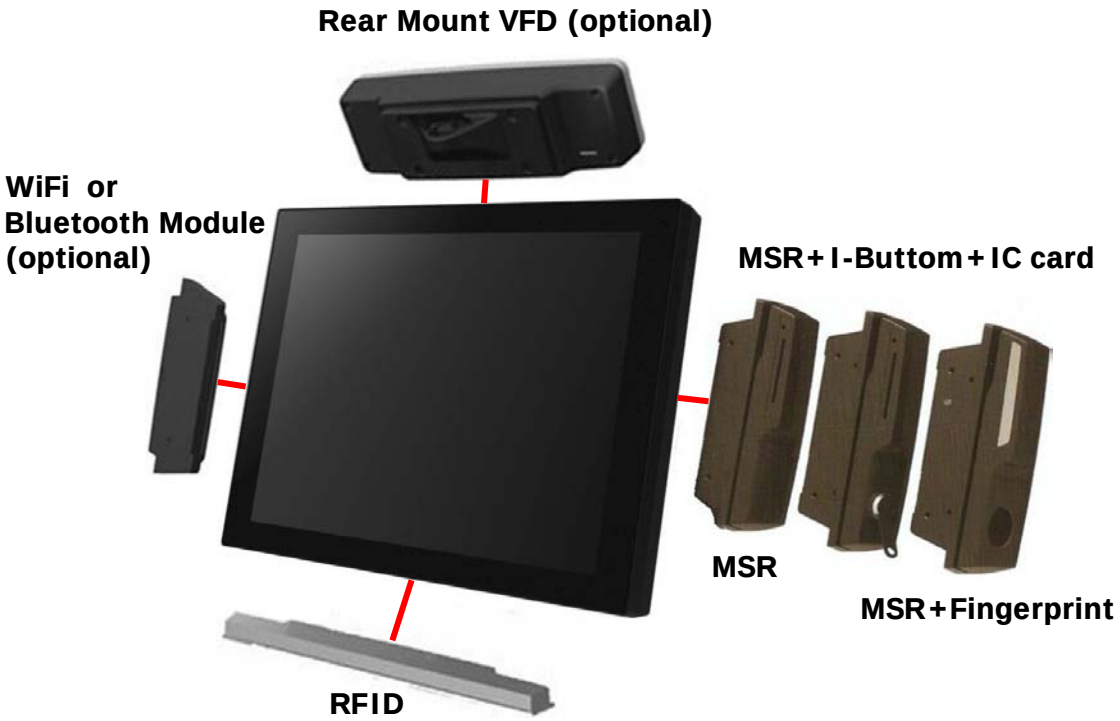


MSR Module choices:

- **MSR Only**
- **MSR+I-Button**
- **MSR+Fingerprint**
- **MSR+IC Card Reader (shown)**
- **MSR+I-Button+IC Card Reader**
- **MSR+FingerPrint+IC Card Reader**
- **MSR+RFID**

* MSR Modules available in side or front swipe formats.

For ZL-1551



MSR Module choices:

- **MSR Only**
- **MSR+I-Button**
- **MSR+Fingerprint**
- **MSR+IC Card Reader**
- **MSR+I-Button+IC Card Reader**
- **MSR+FingerPrint+IC Card Reader**
- **MSR+RFID**

For ZL-1531

MSR+IC Card Reader

MSR+Fingerprint

MSR+I-Button w/Key

MSR Module choices:

- Single MSR
- MSR+I-Button
- MSR+Fingerprint
- MSR+IC Card Reader
- MSR+I-Button+IC Card Reader
- MSR+FingerPrint+IC Card Reader
- MSR+RFID

Single MSR

Convertible Pole-Type 2nd Display (optional)

The pole-type 2nd display is for use with the POS system to display purchase prices and change amounts to customers. It is also capable of displaying advertising messages and announcements.

Five types of pole mount display choices are available: a 8.9” LCD monitor, a 12” LCD monitor, a 12” bezel free LCD monitor, a 15” LCD monitor and a 15” bezel free LCD monitor. A type of rear mount display is available for ZL-15X1: 9 mm high, 2 lines with 20 characters each VFD.

The pole mount is located at the rear of the system and connects with the COM6 port or VGA port for operation. Whether installing a VFD, 8.9” LCD, 12” LCD or 15” LCD, there is no need to change any settings on the main board.

Single Pole 2nd display choices:

- **15” LCD (shown)**
- **15” bezel free LCD**
- **12” LCD**
- **12” bezel free LCD**
- **8.9” LCD**
- **9 mm VFD**
  (for ZL-15X1 rear mount only)

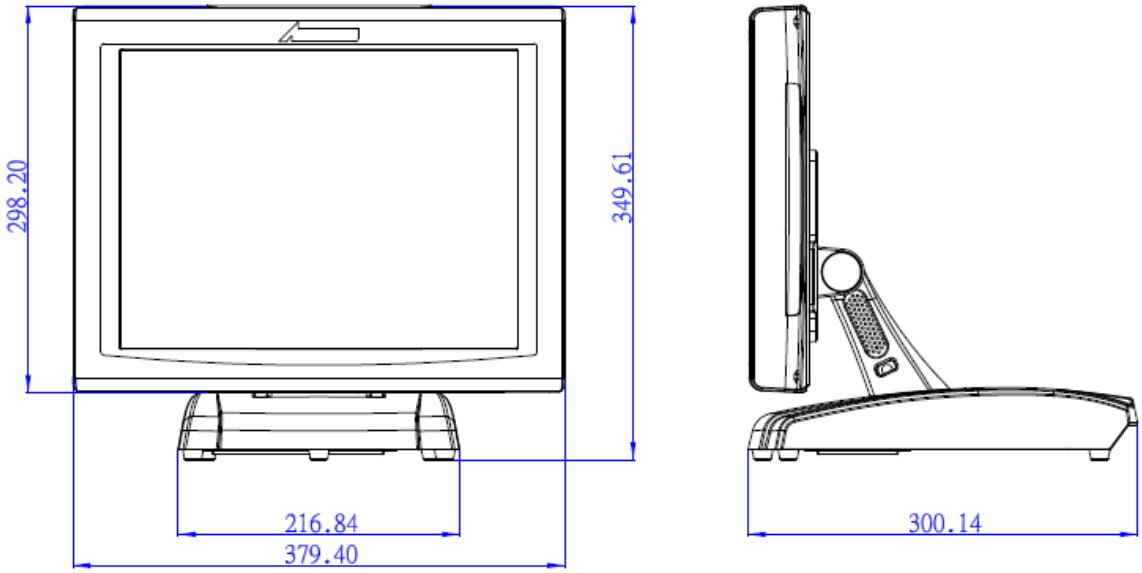
15 cm Tube extendable to 30 cm

8.9” LCD OSD Control Buttons

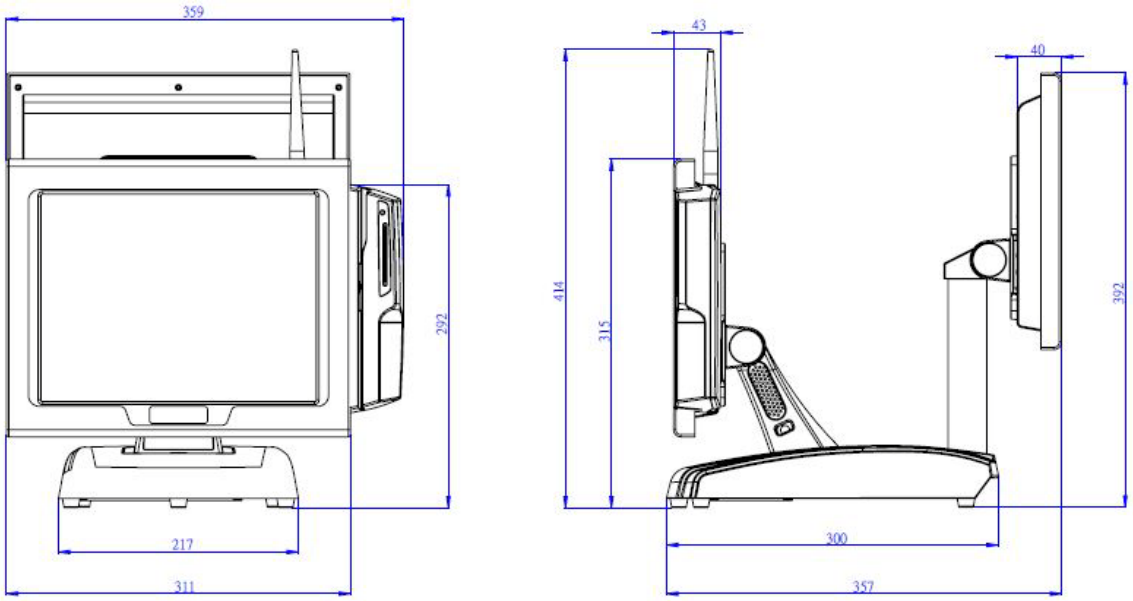
Dimensions

(Unit: mm)

For ZL-15X1



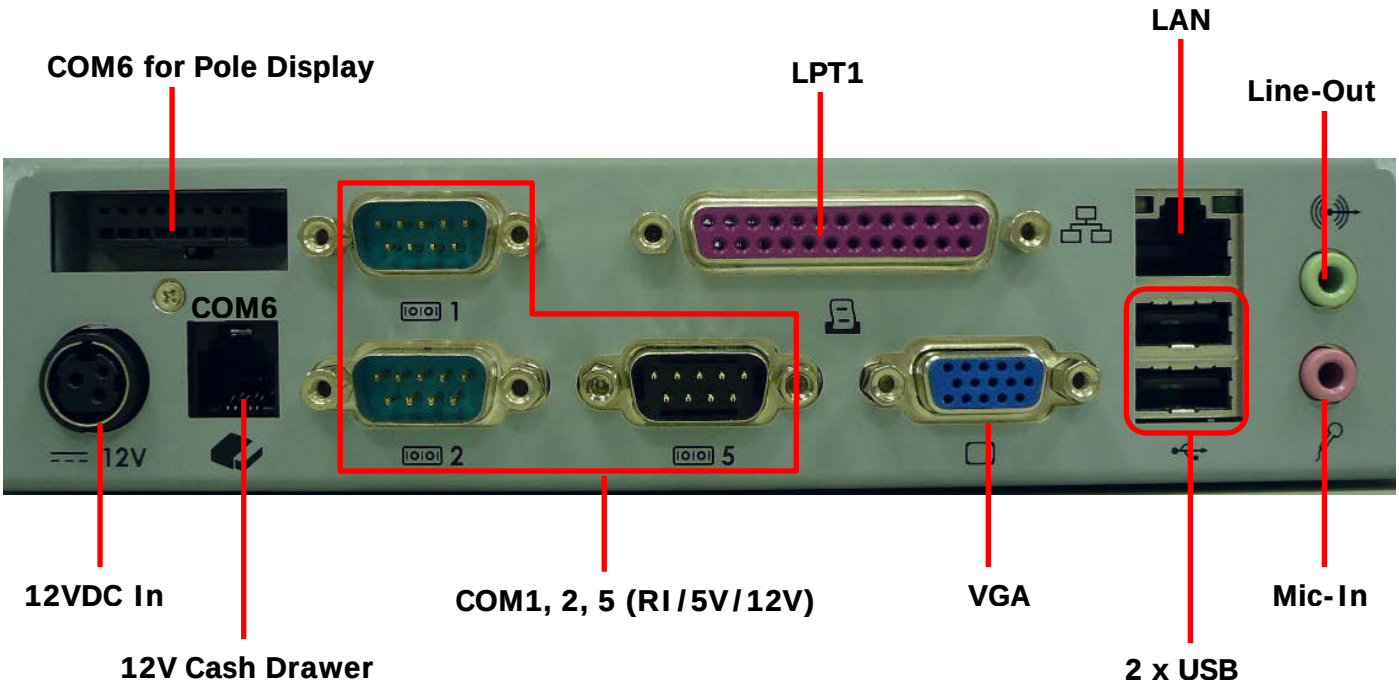
For ZL-12X1



Connector Panel

The ZL-15X1/12X1's primary connector panel is located at the rear. To clearly see the connector panel you must remove the I/O cover.

NOTE: ZL-15X1/12X1's COM6 port is a specialized port, not a standard COM port, and can not transmit the full range of RS-232C signals. Refer to Chapter 4 for COM6 pin assignments.



Chapter 2 Standard Hardware and Upgrades

Precautions

Before performing hardware changes, be sure to carefully read all of the applicable instructions, cautions, and warnings in this guide.

WARNING! To reduce the risk of personal injury from electrical shock, hot surfaces, or fire:

Disconnect the power cord from the wall outlet and allow the internal system components to cool before touching.

Do not plug telecommunications or telephone connectors into the network interface controller receptacles.

Do not disable the power cord grounding plug. The grounding plug is an important safety feature.

Plug the power cord in a grounded (earthed) outlet that is easily accessible at all times.

CAUTION: Static electricity can damage the electrical components of the computer and/or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

When the computer is plugged into an AC power source, voltage is always applied to the main board. You must disconnect the power cord from the power source before opening the unit to prevent damage to internal components.

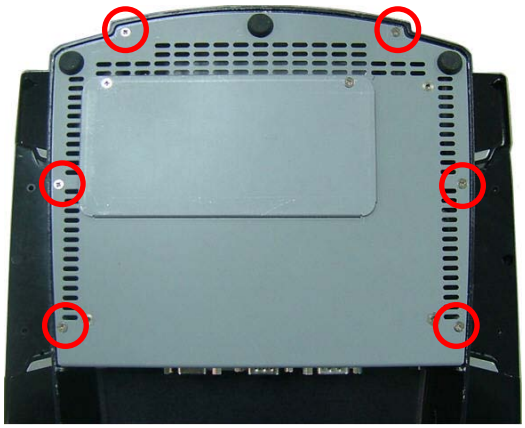
Opening Base Cover

CAUTION: To prevent loss of work and damage to the system or drive:

If you are inserting or removing a drive, shut down the operating system properly, turn off the system, and unplug the power cord. Do not remove a drive while the system is on or in standby mode.

Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector.

1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.
3. Place the main unit upside down. Then remove the six screws indicated at the bottom of the base.



CAUTION: To avoid scratching the panel, before doing dismantling, put a piece of cloth or cushion under the main unit.

4. Replace the main unit to an upright position, then open the base cover in the direction of the arrow.

Clearing CMOS

The ZL-15X1/12X1's configuration (CMOS) may occasionally be corrupted. If it is, it will be necessary to clear the CMOS memory using jumper JP1. Please refer to Chapter 4 for the exact JP1 pin positions.

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. The power cord must be disconnected from the power source before clearing the CMOS.

NOTE: All LEDs on the board should be OFF. Failure to ensure there is no power in the system may damage the main board. You must disconnect the power cord to avoid damage to the internal components of the system.

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3. Open the base cover.

4. Locate the JP1 jumper box on the main board.

5. Remove the jumper shunt from pins 1-2 and place over pins 2-3.

6. Wait 60 seconds to allow the CMOS to clear, then remove the jumper shunt and place it back in its original position over pins 1-2.

7. Replace the base cover and replace the main unit to an upright position.

Compact Flash Card Installation

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

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3. Place the main unit upside down. Remove the two screws indicated at the bottom of the base and slide off the CF cover.

CAUTION: To avoid scratching the panel, before doing dismantling, put a piece of cloth or cushion under the main unit.

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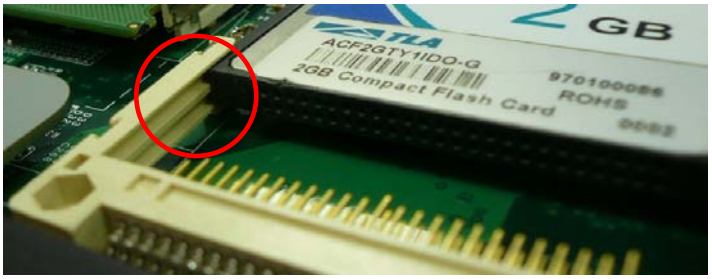
4. Insert the CF card into the socket.



NOTE: Grooves on both sides of the CF card will need to match the socket can be easily inserted.

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5. Replace the CF cover and replace the main unit to an upright position.

6. Reconnect the power cord and any external devices, then turn on the system. The system should automatically recognize the CF card when the system power is turned on.

NOTE: CF card and 2.5” HDD master/slave setting:

The system allows the use of both the CF card and hard disk at the same time, however the user will need to set the system BIOS for the preferred boot order. When either a CF card only or 2.5” hard disk only is installed, the BIOS will automatically designate it as the 'master' drive and system boot device.

Memory Installation

The memory socket on the main board can be populated with an industry-standard DIMM. The ZL-15X1/12X1 comes standard with one preinstalled DIMM. To achieve maximum memory performance, up to 2GB of memory can be changed.

CAUTION: You must disconnect the power cord and wait approximately 30 seconds for the power to drain before adding or removing memory cards. Regardless of the power-on state, voltage is always supplied to the memory modules as long as the system is plugged into an active AC outlet. Adding or removing memory modules while voltage is present may cause irreparable damage to the memory modules or main board. If you see an LED light on the main board, voltage is still present.

The memory module sockets have gold-plated metal contacts. When upgrading the memory, it is important to use memory modules with gold-plated metal contacts to prevent corrosion and/or oxidation resulting from having incompatible metals in contact with each other.

Static electricity can damage the electronic components of the system or optional cards. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object.

When handling a memory module, be careful not to touch any of the contacts. Doing so may damage the module.

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1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

WARNING! To reduce risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

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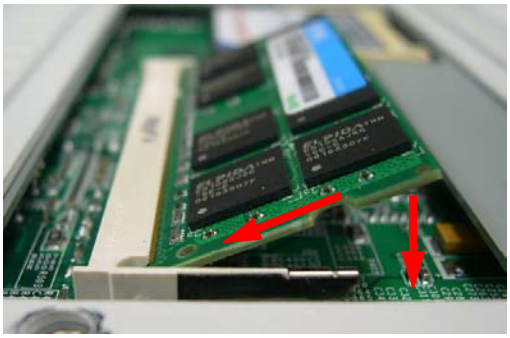
3. Place the main unit upside down. Remove the two screws indicated at the bottom of the base and slide off the CF cover.

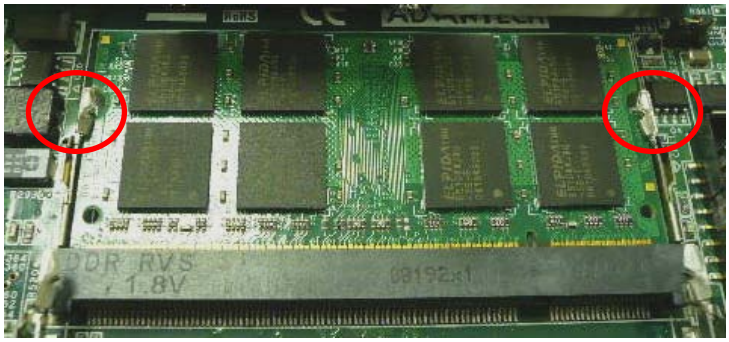
CAUTION: To avoid scratching the panel, before doing dismantling, put a piece of cloth or cushion under the main unit.

4. If an existing memory card or cards need to be replaced, pull the ends of both metal latches away from the card to release it.

NOTE: A memory card can be installed in only one way. Match the notch on the card with the tab in the memory socket.

5. Insert memory card into the socket, almost covering the gold contacts completely, then push the card down. If the card is fully inserted and properly seated, the metal latches will be in the closed position indicated.





6. Replace the CF cover, then replace the main unit to an upright position.

7. Reconnect the power cord and any external devices, then turn on the system. The system should automatically recognize the additional memory when powered up.

Removing and Replacing the SATA Hard Disk (For ZL-1531/1551)

NOTE: This system does not support Parallel ATA (PATA) hard drives.

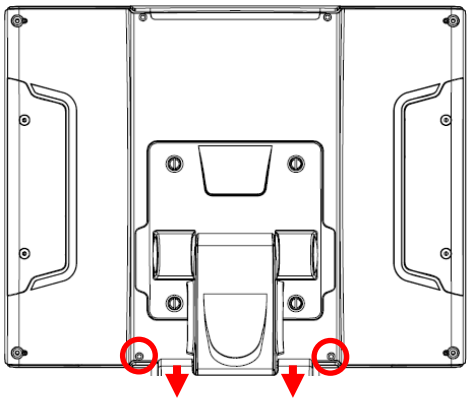
Before removing the original hard drive, be sure to back up its data so that you can transfer the data to the replacement hard drive. Also, if you are replacing the primary hard drive, make sure you have a recovery disc set to restore the operating system, software drivers, and any software applications that were preinstalled on the system.

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

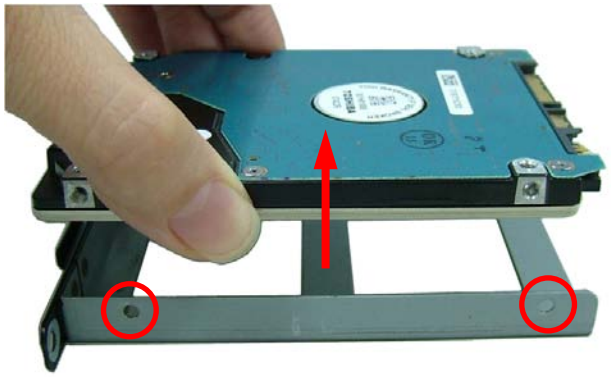
CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. From the bottom of the flat panel's rear side, remove two screws and detach the cover.



4. For easier access, tilt the panel back on its upper hinge. Remove the 2 screws that secure the HDD box, and carefully slide it out.

5. From the sides of the HDD box, remove all four screws and lift out the hard disk.



6. Insert the replacement hard disk into the HDD box, and re-secure the screws.

7. Slide the HDD box back into the panel, ensuring that it is pressed all the way in and properly seated.

8. Reattach the two screws that secure the HDD box.

9. Reattach the cover and two screws.

10. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The capacity of a sector is 4096 bytes for 320GB HDD of WD. They are only suitable for Win7 or OS developed later than Win7. To use Microsoft earlier OS such as XP, POS Ready2009 , You should install support tools offered by original supplier to align the performence of HDD. Otherwise HDD life will be reduced about 48%. You can get the alignment tool from following website or driver CD included in the package.

WD Alignment tool: http://support.wdc.com/product/downloadsw.asp?sid=128

Removing and Replacing the SATA Hard Disk (For ZL-1531)

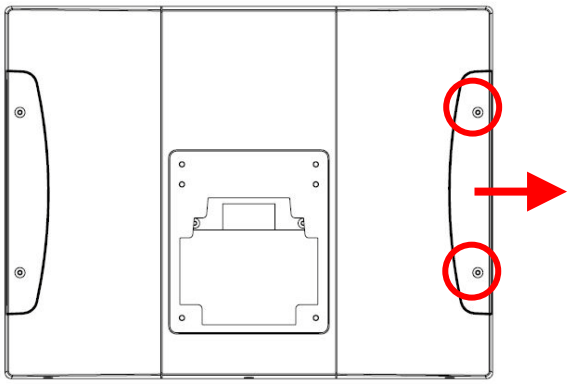
NOTE: This system does not support Parallel ATA (PATA) hard drives.

Before removing the original hard drive, be sure to back up its data so that you can transfer the data to the replacement hard drive. Also, if you are replacing the primary hard drive, make sure you have a recovery disc set to restore the operating system, software drivers, and any software applications that were preinstalled on the system.

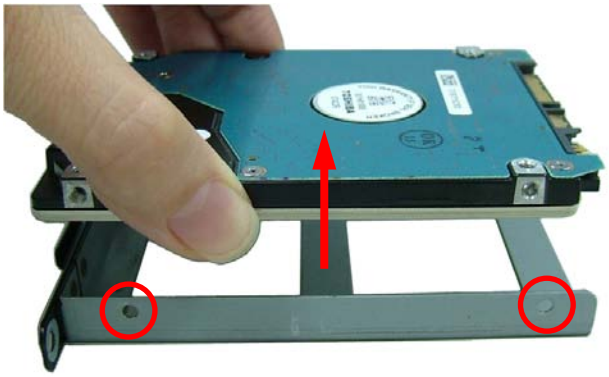
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Remove the two screws and slide the expansion cover in the direction of the arrow.



4. Slide the HDD out.
5. From the sides of the HDD box, remove all four screws and lift out the hard disk.



6. Insert the replacement hard disk into the HDD box, and re-secure the screws.
7. Slide the HDD box back into the panel, ensuring that it is pressed all the way in and properly seated.
8. Reattach the two screws that secure the HDD box.
9. Reattach the cover and two screws.
10. Reconnect the power cord and any external devices, then turn on the system.

NOTE:

The capacity of a sector is 4096 bytes for 320GB HDD of WD. They are only suitable for Win7 or OS developed later than Win7. To use Microsoft earlier OS such as XP, POS Ready2009 , You should install support tools offered by original supplier to align the performence of HDD. Otherwise HDD life will be reduced about 48%. You can get the alignment tool from following website or driver CD included in the package.

WD Alignment tool: http://support.wdc.com/product/downloadsw.asp?sid=128

Removing and Replacing the SATA Hard Disk (For ZL-1231)

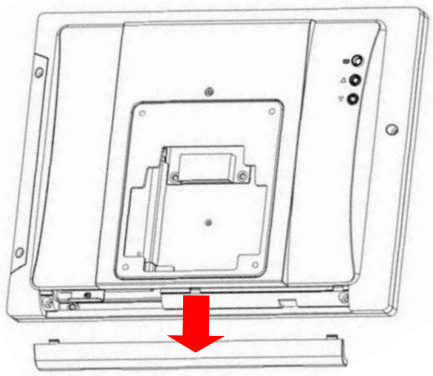
NOTE: This system does not support Parallel ATA (PATA) hard drives.

Before removing the original hard drive, be sure to back up its data so that you can transfer the data to the replacement hard drive. Also, if you are replacing the primary hard drive, make sure you have a recovery disc set to restore the operating system, software drivers, and any software applications that were preinstalled on the system.

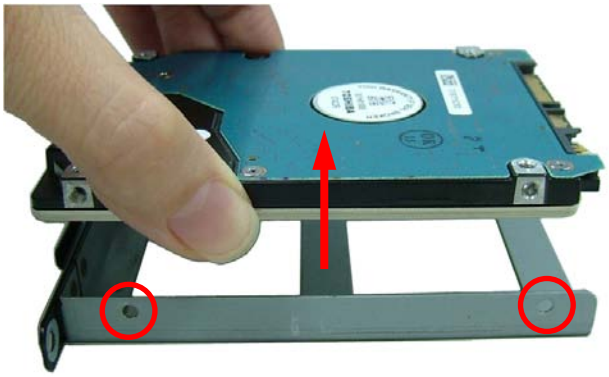
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. From the bottom of the flat panel's rear side, detach the rear cover.



4. For easier access, tilt the panel back on its upper hinge. Remove a screw that secure the HDD box, and carefully slide it out.
5. From the sides of the HDD box, remove all four screws and lift out the hard disk.



6. Insert the replacement hard disk into the HDD box, and re-secure the screws.

7. Slide the HDD box back into the panel, ensuring that it is pressed all the way in and properly seated.

8. Reattach a screw that secure the HDD box and then reattach the rear cover.

9. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The capacity of a sector is 4096 bytes for 320GB HDD of WD. They are only suitable for Win7 or OS developed later than Win7. To use Microsoft earlier OS such as XP, POS Ready2009 , You should install support tools offered by original supplier to align the performence of HDD. Otherwise HDD life will be reduced about 48%. You can get the alignment tool from following website or driver CD included in the package.

WD Alignment tool: http://support.wdc.com/product/downloadsw.asp?sid=128

Chapter 3 Optional Components and Peripherals

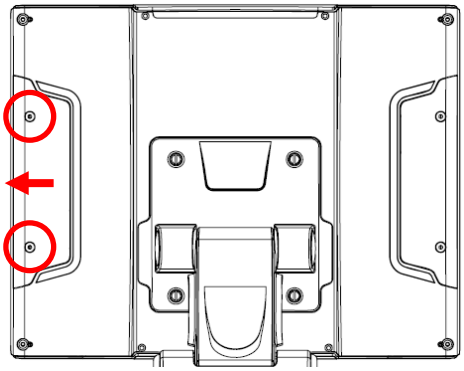
MSR Module Installation (For ZL-1521/1551)

NOTE: The MSR module can only be installed to its designated position and socket; the same with the wireless module. Their locations are not interchangeable.

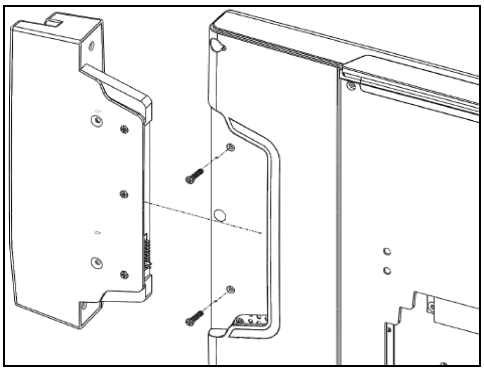
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Remove the two screws and slide the expansion cover in the direction of the arrow. Note the location of the attachment socket.



4. Slide the MSR into the panel, ensuring it is plugged securely into the socket.
5. Reattach the two screws that secure the MSR to the main unit.



6. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The MSR module configuration tool is put on driver CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

MSR/Fingerprint/I-Button/RFID/Wireless Module Installation (For ZL-1531)

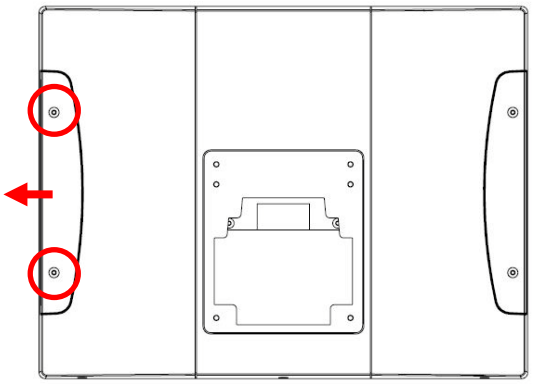
NOTE: The MSR module can only be installed to its designated position and socket; the same with the wireless module. Their locations are not interchangeable.

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

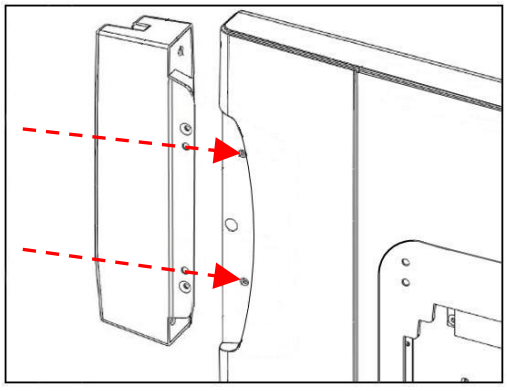
CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Remove the two screws and slide the expansion cover in the direction of the arrow. Note the location of the attachment socket.



4. Connect the MSR module's cable into the MSR connector of MSR board on the right side of main display.

5. Reattach the two screws that secure the MSR to the main display. Next, screw the MSR cover in position.



6. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The MSR module configuration tool is put under driver CD.Should you need it, please execute the utility according to the procedure specified in Chapter 5.

MSR/Fingerprint/I-Button Module Installation (For ZL-1221)

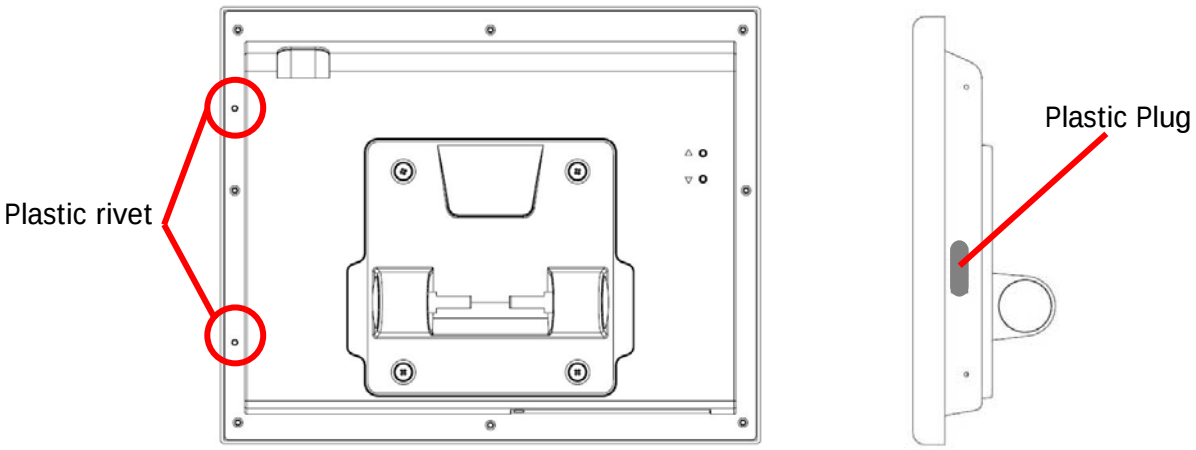
NOTE: The MSR module can only be installed to its designated position and socket; the same with the wireless module. Their locations are not interchangeable.

1. Turn off the system power properly through the operating system, then turn off any external devices.

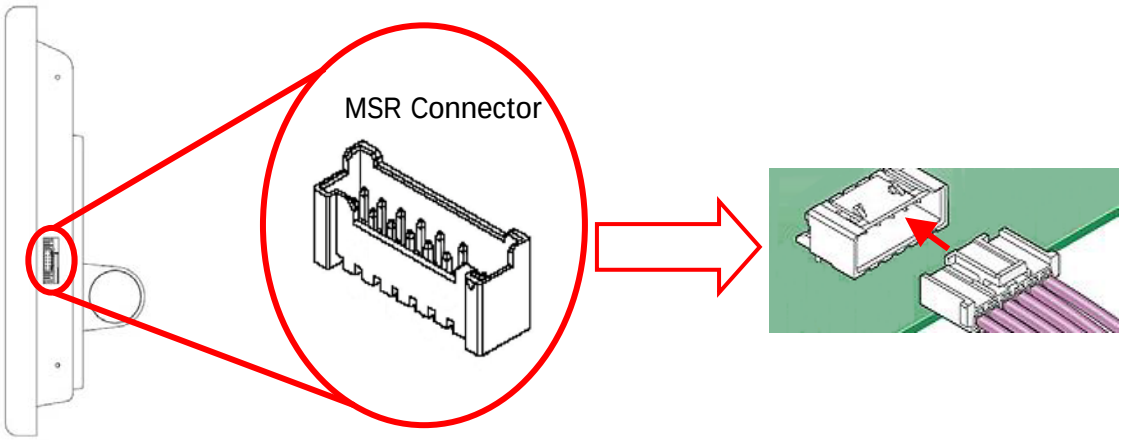
2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

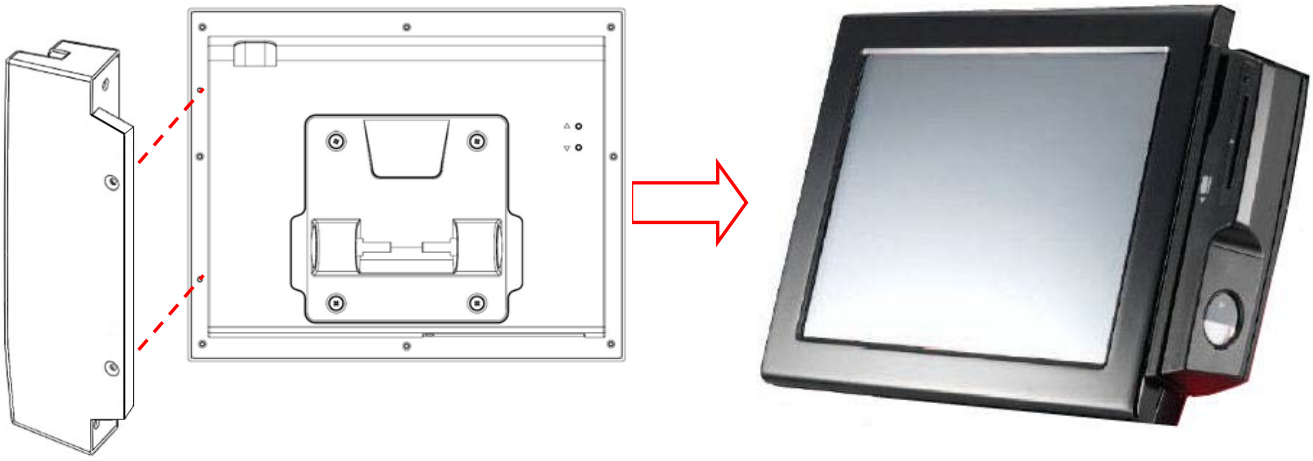
3. Remove the plastic plug and two plastic rivets on the right side of main display.



4. Connect the MSR module's cable into the MSR connector of MSR board on the right side of main display.



5. Place the MSR module onto the panel, and secure the MSR module with two screws.



6. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The MSR module configuration tool is put on driver CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

MSR/Fingerprint/I-Button/RFID/Wireless Module Installation (For ZL-1231)

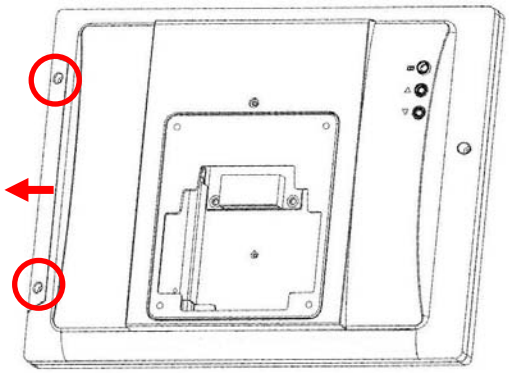
NOTE: The MSR module can only be installed to its designated position and socket; the same with the wireless module. Their locations are not interchangeable.

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

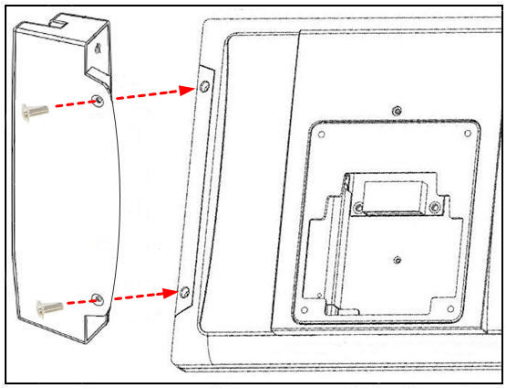
CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Remove the two screws and slide the expansion cover in the direction of the arrow. Note the location of the attachment socket.



4. Connect the MSR module's cable into the MSR connector of MSR board on the right side of main display.

5. Reattach the two screws that secure the MSR to the main display. Next, screw the MSR cover in position.



6. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The MSR module configuration tool is put on driver CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

Wireless Module Installation (For ZL-1521 /1551)

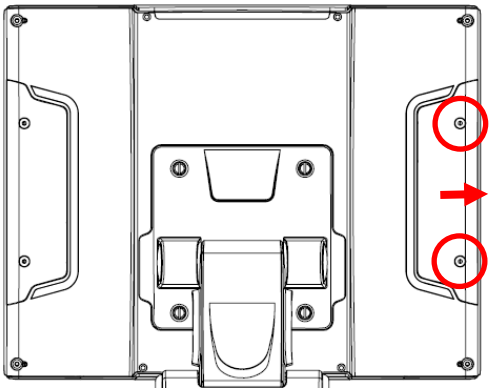
NOTE: The Wireless module can only be installed to its designated position and socket; the same with the MSR module. Their locations are not interchangeable.

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

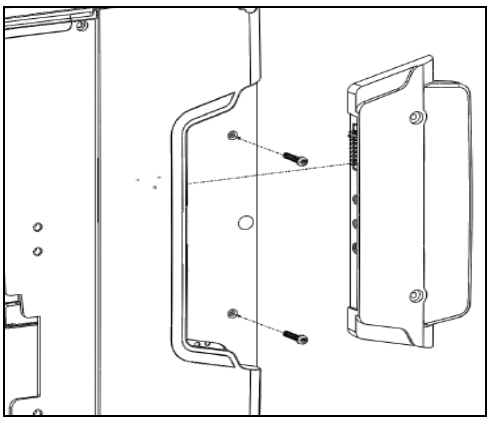
CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Remove the two screws and slide the expansion cover in the direction of the arrow. Note the location of the attachment socket.



4. Slide the wireless module into the panel, ensuring it is plugged securely into the socket.

5. Reattach the two screws that secure the wireless module to the main unit.



6. Reconnect the power cord and any external devices, then turn on the system.

Rear Mount VFD Installation (For ZL-1521/1551)

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

△ **CAUTION:** Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

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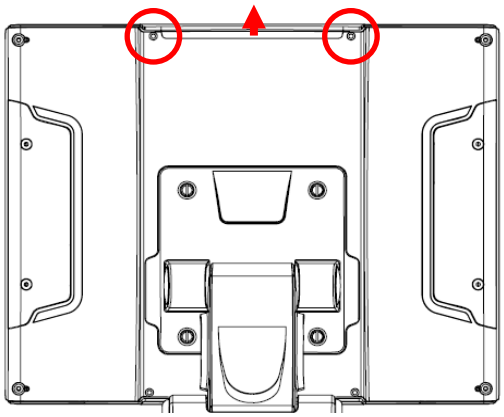
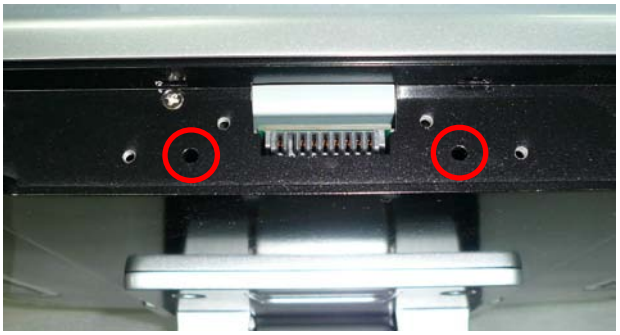
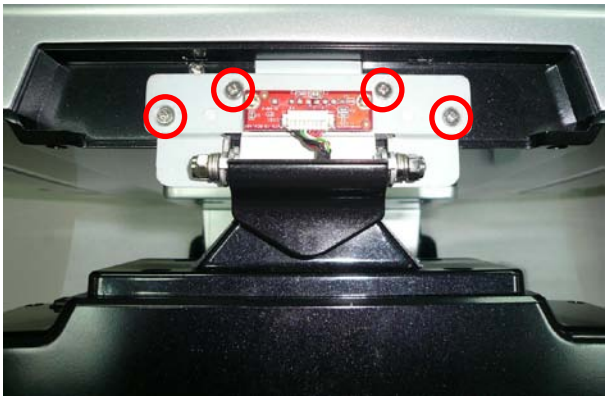
3. From the top of the flat panel's rear side, remove two screws and detach the cover.



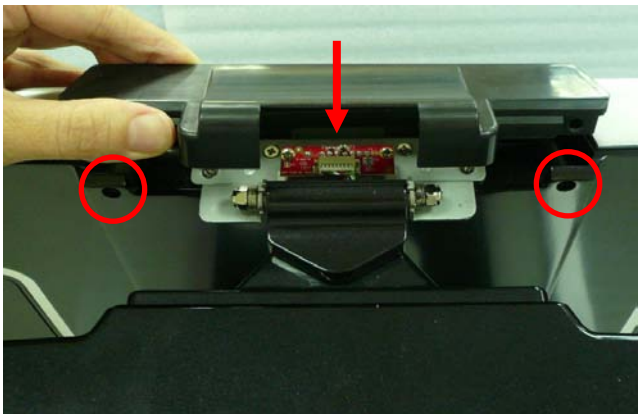
4. Align the VFD hinge guide posts to the two indicated holes and insert the VFD module.



5. Secure the VFD module with four screws.



6. Attach the hinge cover with two screws.



7. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The rear mount VFD module's configuration utility is in the included CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

RFID Module Installation (For ZL-1521/1551)

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

△ **CAUTION:** Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

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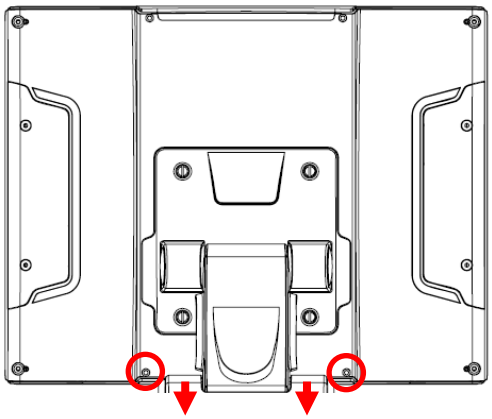
3. From the bottom of the flat panel's rear side, remove two screws and detach the cover.



4. If the RFID components are already assembled in the custom cover module, then skip to step 6.

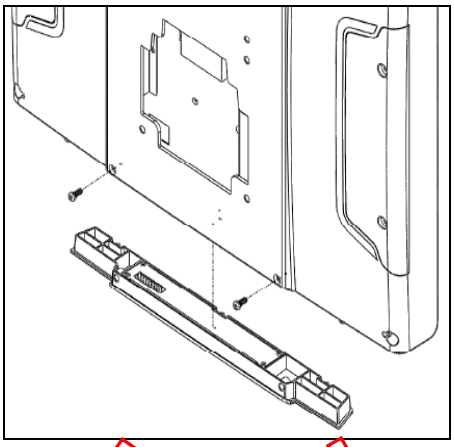
5. If the module is disassembled, set the RFID circuit board into the custom cover. Top it with the flat metal piece and secure with four screws.

Support ISO 15693 only

Or

Support ISO 15693/14443A/14443B

6. Attach the cover module into the panel, ensuring it is plugged securely into the socket. Secure with two screws.



OR

Bottom RFID Module
Support ISO 15693 only

Front RFID Module
Support ISO 15693/14443A/14443B only

7. Reconnect the power cord and any external devices, then turn on the system.

NOTE: The RFID test utility is in the included CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

Cash Drawer Installation

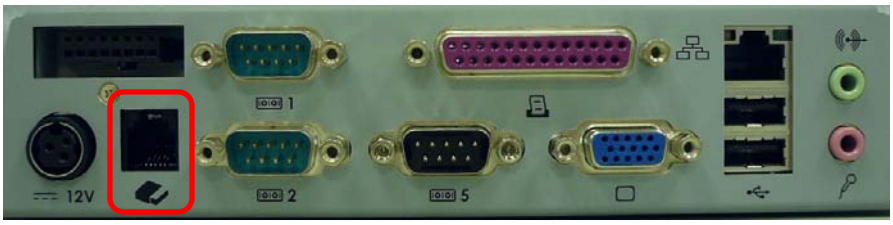
NOTE: Before connecting cash drawer to the system, please make sure the driver voltage and cable pin assignment of the cash drawer matches the definition of the system's cash drawer port.

Before installing the cash drawer to the system, please make sure the system driver has been installed.

1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Plug the cash drawer cable into the cash drawer port.



4. Reconnect the power cord and any external devices, then turn on the system.

Pole-Type 2nd Display Module Installation

1. Turn off the system power properly through the operating system, then turn off any external devices.

2. Disconnect the power cord from the power outlet and disconnect any external devices.

CAUTION: Regardless of the power-on state, voltage is always present on the main board as long as the system is plugged into an active AC outlet. You must disconnect the power cord to avoid damage to the internal components of the system.

3. Unscrew the I/O cover, slide it out, and store in a secure location for possible future use.

4. Connect the pole-type 2nd display module's connectors to the ZL-15X1/12X1's COM6 port and VGA port respectively. If you are installing the pole-type VFD, it has only a single VFD cable that needs to be connected to the ZL-15X1/12X1's COM6 port. Then the plastic clip on the I/O cover shall be lock over the end of the base.

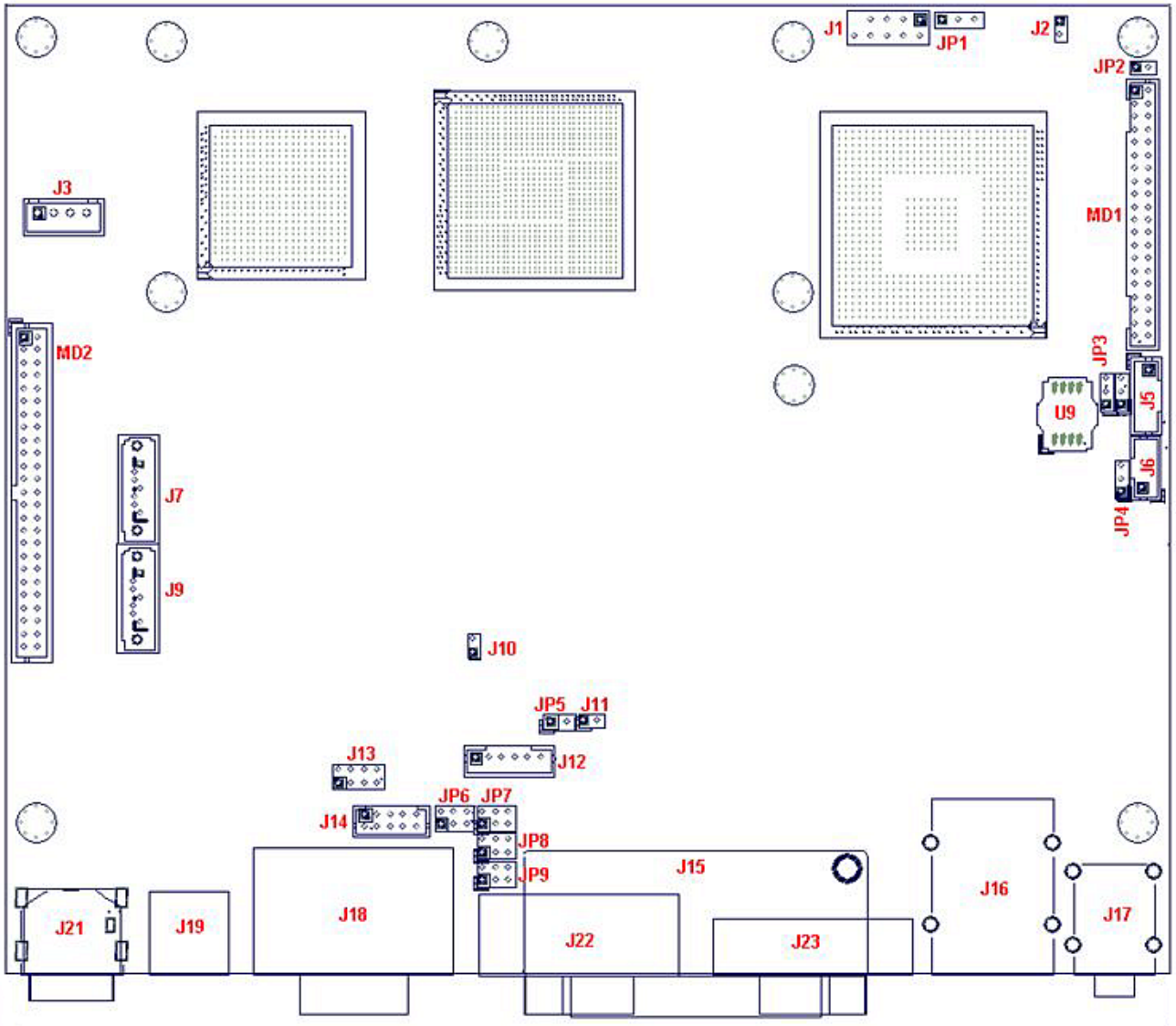
5. Secure the two screws under the I/O cover and one screw above the I/O cover.

6. Reconnect the power cord and any external devices, then turn on VFD/LCD power. Finally, turn on the system power.

NOTE: The pole mount VFD module's configuration utility is in the included CD. Should you need it, please execute the utility according to the procedure specified in Chapter 5.

Chapter 4 Main Board Configuration

Jumper and Connector Locations For PEB-973A



Connector Allocations

Connector	Function
J1	LPC port 80 daughter card connector
J2	SATA and IDE active LED
J3	SATA drive power connector
J4	Reserved
J5	LVDS back light inverter connector
J6	USB port 2
J7	SATA port 0
J8	Battery socket
J9	SATA port 2
J10	Suspend LED connector
J11	Case open connector
J12	PS/2 KB and MS connector

J13	Front panel connector
J14	COM6 connector
J15	Printer port
J16	USB port 1, USB port 4 and GIGA LAN RJ-45 connector
J17	Speaker out and MIC connector
J18	COM1, COM2 connector. Upper is COM1; Lower is COM2
J19	RJ-11 connector
J21	+12V DC power input
J22	COM5 connector
J23	VGA connector
J24	CF card socket (on the solder side)

Connector Pin Assignments For PEB-973A

J21

+12V DC Input DIN Connector

PIN No.	Description
1	GND
2	VIN
3	VIN
CG1	GND

J19

Cash Drawer Port RJ-11 Connector

PIN No.	Description	PIN No.	Description
1	GND	2	12V for drawer A
3	GPI	4	+12V
5	12V for drawer B	6	GND

J18/J22

RS-232 Port COM1, COM2, COM5 D-Sub9 Connector

PIN No.	Description
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

J15

Parallel Port LPT1 SCSI Connector

PIN No.	Description	PIN No.	Description
1	STBX	2	D0
3	D1	4	D2
5	D3	6	D4
7	D5	8	D6
9	D7	10	ACKX
11	BUSY	12	PE
13	SLCT	14	AFDX
15	ERX	16	INITX
17	SLINX	18	GND
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND		

J23

VGA Port D-Sub15 Connector

PIN No.	Description	PIN No.	Description
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	Reserved
7	GND	8	GND
9	NC	10	GND
11	NC	12	DDC DATA
13	HSYNC	14	VSYNC
15	DDC CLK		

J16

LAN Port RJ-45 and USB Port1/Port4 Connector

PIN No.	Description	PIN No.	Description
T1	LAN0+	B1	+5V
T2	LAN0-	B2	USBD1-
T3	LAN1+	B3	USBD1+
T4	LAN2+	B4	GND
T5	LAN2-	B5	+5V
T6	LAN1-	B6	USBD4-
T7	LAN3+	B7	USBD4+
T8	LAN3-	B8	GND

J17

Speaker out and MIC Connector

PIN No.	Description
Top	Stereo line out
Bottom	Microphone input

Jumper Settings For PEB-973A

To set jumper positions, place the jumper shunt over the pins designated in the table (SHORT) or remove (NC) it from the jumper pins and store for future use. Default settings are indicated with a star symbol (★).

JP1

Clear CMOS Selection

PIN No.	Function
1-2 Short	Charge ★
2-3 Short	Clear CMOS

JP2

CF Card Master Slave Selection

PIN No.	Function
1-2 Short	Master
1-2 Open	Slave ★

JP3

LVDS Panel VDD Selection

PIN No.	Function
1-2 Short	3.3V ★
2-3 Short	5V

JP4

LVDS Back Light Enable Level Selection

PIN No.	Function
1-2 Short	3.3V ★
2-3 Short	5V

JP5

PS/2 KB and Mouse Interface Enable Selection

PIN No.	Function
1-2 Short	Enable ★
1-2 Open	Disable

JP6

COM6 RI Function Selection (reserved for Pole Display)

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output ★
	Short		RI function
		Short	+12V output

JP7

COM1 RI Function Selection

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

JP8

COM2 RI Function Selection

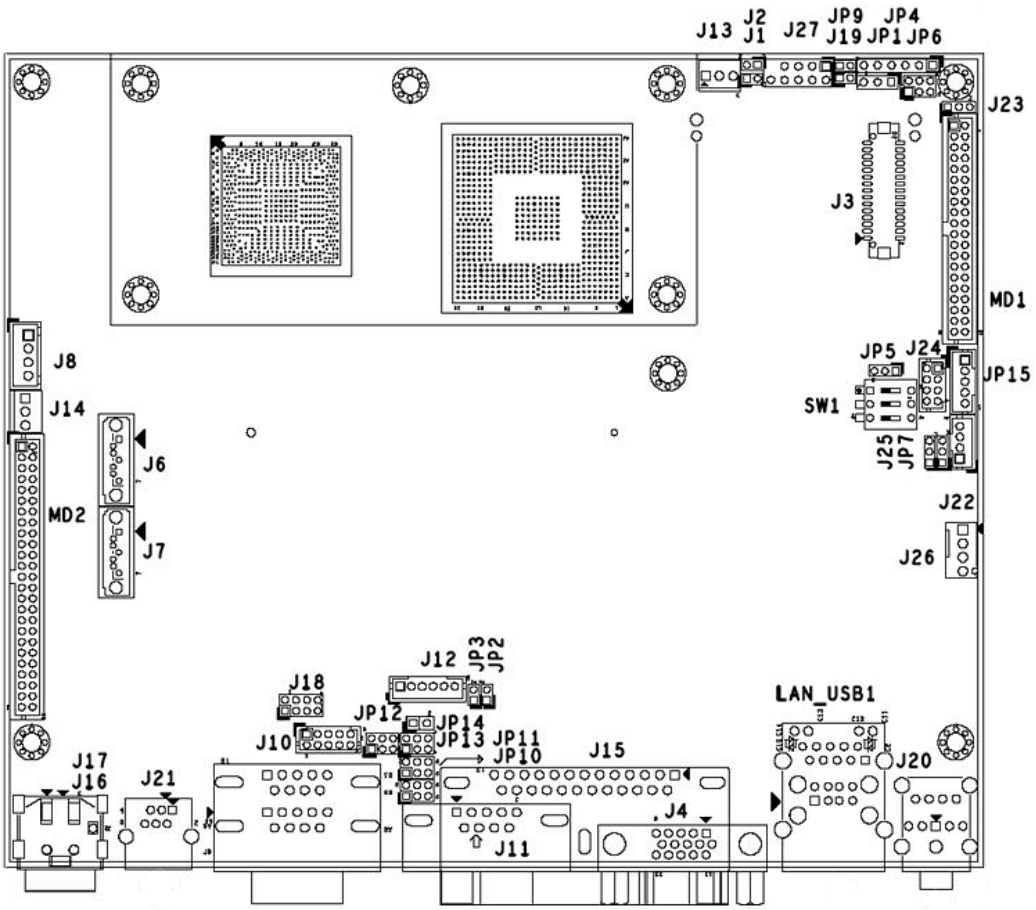
PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

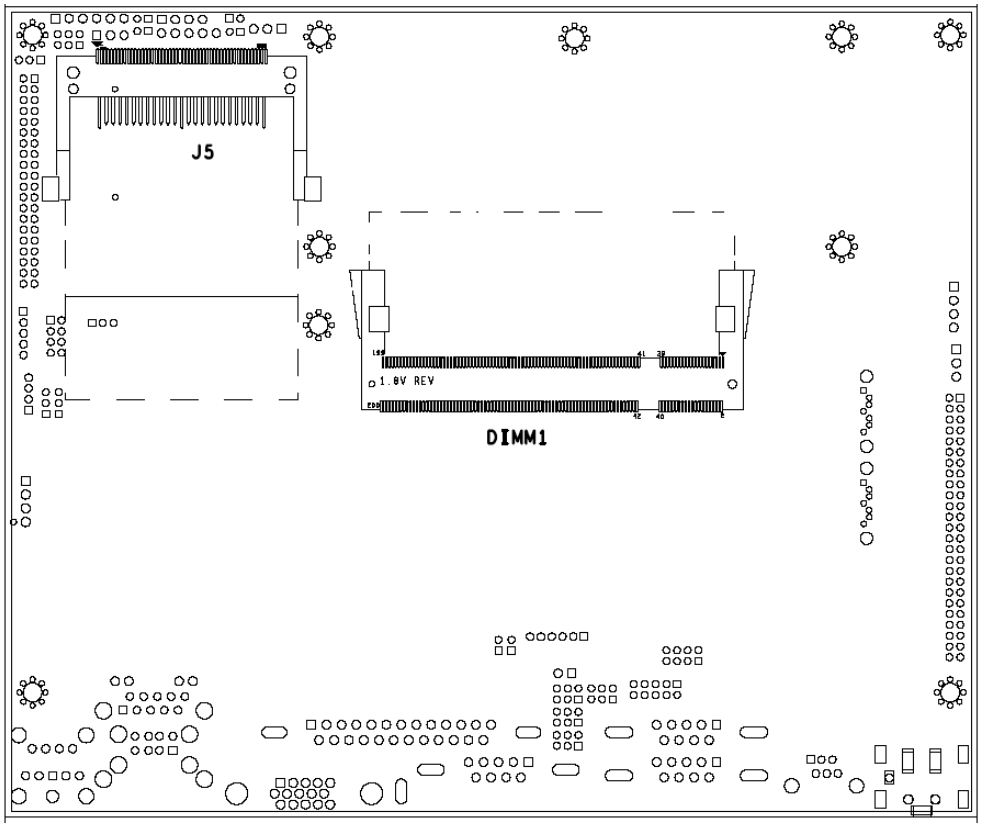
JP9

COM5 RI Function Selection

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

Jumper and Connector Locations For PEB-973D





Connector Allocations

Connector	Function
J3	LVDS Connector
J4	VGA Connector
J5	Compact Flash Connector
J6,J7	SATA Connector
J8	SATA Power Connector
J9	COM1 & COM2 Connector
J10	COM6 Port Pin Header
J11	COM5 Port Connector
J12	PS/2 Keyboard/Mouse Connector
J13	CPU FAN
J14	SYS FAN
J15	Print Port Connector
J16	POWER DC +12V Connector
J17	POWER DC +12V Connector
J18	Front panel pin header
J19	HDD LED Pin header
J20	AUDIO JACK Connector
J21	CASH DRAWER Interface Connector
J22	External USB Pin Header
J24	External USB Pin Header
J26	12V Output Connector
J27	Port 80 Connector (2x5-1(Pin 9) Pin Header/2.54mm)
JP2	CASE OPNE Pin Header
JP3	SUS LED Pin Header
JP4	XC3S200A JTAG
JP15	BACK LIGHT PWR Connector

Connectors Pin Assignments For PEB-973D

J9/J11

RS-232 Port COM1, COM2, COM5 D-Sub9 Connector

PIN No.	Description
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

J14

VGA Port D-Sub15 Connector

PIN No.	Description	PIN No.	Description
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	Reserved
7	GND	8	GND
9	NC	10	GND
11	NC	12	DDC DATA
13	HSYNC	14	VSYNC
15	DDC CLK		

J15

Parallel Port LPT1 SCSI Connector

PIN No.	Description	PIN No.	Description
1	STBX	2	D0
3	D1	4	D2
5	D3	6	D4
7	D5	8	D6
9	D7	10	ACKX
11	BUSY	12	PE
13	SLCT	14	AFDX
15	ERX	16	INITX
17	SLINX	18	GND
19	GND	20	GND
21	GND	22	GND
23	GND	24	GND
25	GND		

J16

+12V DC Input DIN Connector

PIN No.	Description
1	+12V
2	GND
3	+12V

J21

Cash Drawer Port RJ-11 Connector

PIN No.	Description	PIN No.	Description
1	GND	2	12V for drawer A
3	GPI	4	+12V
5	12V for drawer B	6	GND

LAN_USB1

LAN Port RJ-45 and USB Port1/Port4 Connector

PIN No.	Description	PIN No.	Description
T1	LAN0+	B1	+5V
T2	LAN0-	B2	USBD1-
T3	LAN1+	B3	USBD1+
T4	LAN2+	B4	GND
T5	LAN2-	B5	+5V
T6	LAN1-	B6	USBD4-
T7	LAN3+	B7	USBD4+
T8	LAN3-	B8	GND

J20

Speaker out and MIC Connector

PIN No.	Description
Top	Stereo line out
Bottom	Microphone input

Jumper Settings For PEB-973D

To set jumper positions, place the jumper shunt over the pins designated in the table (SHORT) or remove (NC) it from the jumper pins and store for future use. Default settings are indicated with a star symbol (★).

JP1

Clear CMOS Selection

PIN No.	Function
1-2 Short	Charge ★
2-3 Short	Clear CMOS

JP9

CF Card Master Slave Selection

PIN No.	Function
1-2 Short	Master
1-2 Open	Slave ★

JP6

LVDS Panel VDD Selection

PIN No.	Function
1-2 Short	3.3V ★
2-3 Short	5V

JP7

LVDS Back Light Enable Level Selection

PIN No.	Function
1-2 Short	3.3V ★
2-3 Short	5V

JP14

PS/2 KB and Mouse Interface Enable Selection

PIN No.	Function
1-2 Short	VCC ★
1-2 Open	No VCC

JP13

COM6 RI Function Selection (reserved for Pole Display)

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output ★
	Short		RI function
		Short	+12V output

JP10

COM1 RI Function Selection

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

JP11

COM2 RI Function Selection

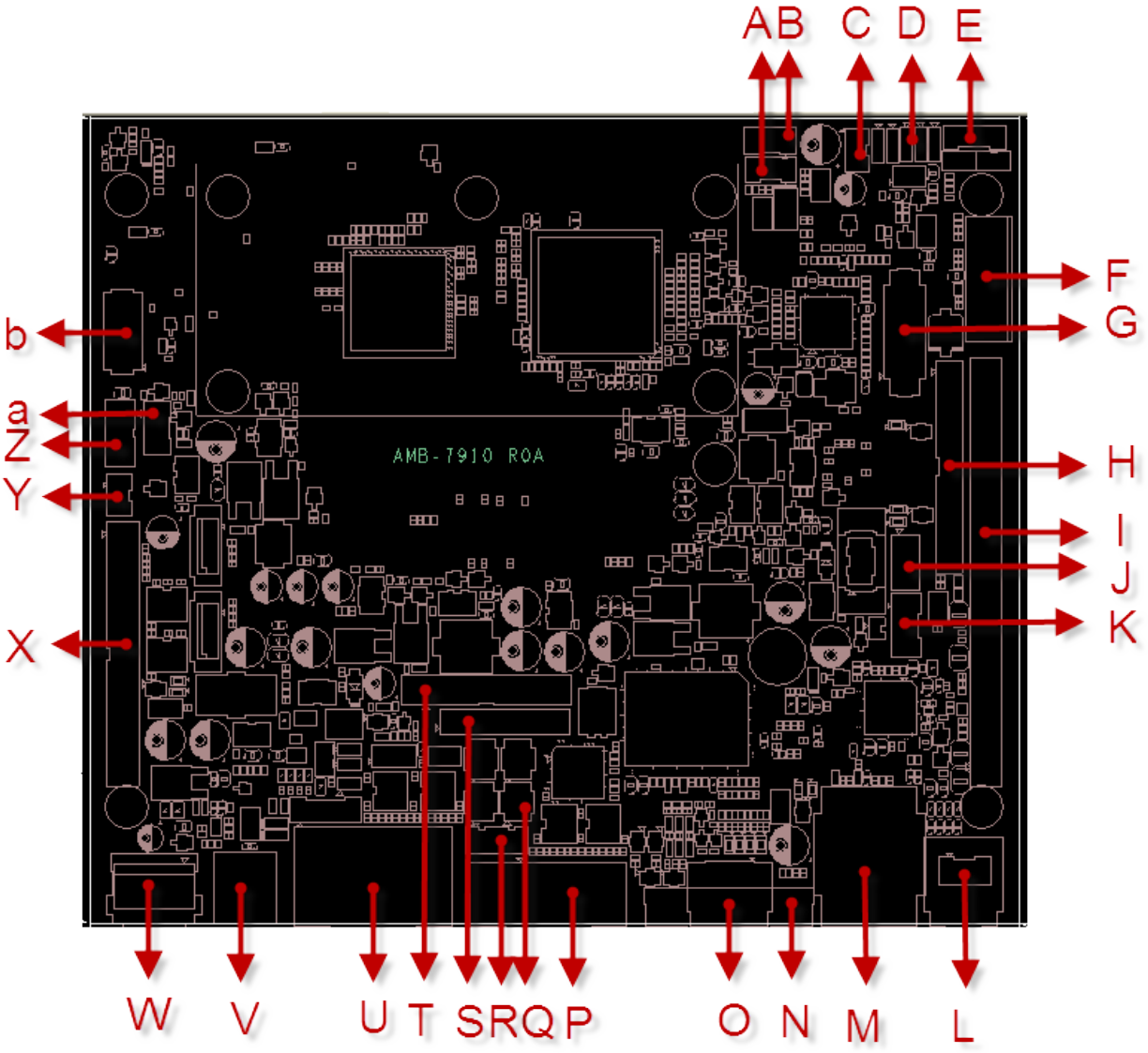
PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

JP12

COM5 RI Function Selection

PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

Jumper and Connector Locations For AMB-7910



Connector Allocations

Connector	Function
A,B	J22,J24 USB Pin Header
C	SYSTEM FAN
D	J23, LVDS panel Backlight Control Select
E	Jp15,Back Light Select
G	LVDS Data Connector – 30-pin
F	PCI-E X1 Solt
H	MD1 Pin Header
I	PCI SOLT
J	SPI Pin Header
K	J26, 12V Output Pin Header
L	Audio Jack
M	RJ45+USB Back IO
N	D-SUB VGA Connector
O	HDMI CONNETOR
P	Com5 Connector
Q	JP10,JP11,JP12,JP13 Com Port RI Voltage Selecion
R	J10 COM6 Pin Header
S	TMP Pin Header
T	Printer Pin Header
U	Com1,Com2 Connector Back IO
V	Cash Drawer
W	DC-IN 12V Connector
X	MD2 Pin Header
Y	Cpu Fan
Z	SATA Power Connector
a	Raid Error LED

Connectors Pin Assignments For AMB-7910

J3

J3 LVDS Connector

PIN No.	Signal Description	PIN No.	Signal Description
1	LVDS VDD	2	LVDS VDD
3	LCD1DO0+	4	LCD1DO0-
5	LCD1DO1+	6	LCD1DO1-
7	LCD1DO2+	8	LCD1DO2-
9	LCD1DO3+	10	LCD1DO3-
11	LCD1CLK+	12	LCD1CLK-
13	LDDC_CLK	14	LDDC_DATA
15	GND	16	GND
17	LCD2DO0+	18	LCD2DO0-
19	LCD2DO1+	20	LCD2DO1-
21	LCD2DO2+	22	LCD2DO2-
23	LCD2DO3+	24	LCD2DO3-
25	LCD2CLK+	26	LCD2CLK-
27	NC	28	NC
29	GND	30	GND

J10

COM6 Port Pin Header

PIN No.	Signal Name	PIN No.	Signal Name
1	DCD	2	RXD#
3	TXD#	4	DTR
5	Ground	6	DSR
7	RTS	8	CTS
9	RI	10	gnd

J12

PS/2 Keyboard/Mouse Pin Header

PIN No.	Signal Description
1	L_KCLK
2	L_MDAT
3	L_KDAT
4	KBVCC
5	L_MCLK
6	GND

J13,J14

CPU & SYS 12V DC Fan Connector

PIN No.	Signal Description
1	GND
2	+12V
3	FAN Control

J15

Parallel Port Header

PIN No.	Signal Name	PIN No.	Signal Name
1	STB#	2	AFD#
3	DATA0	4	ERR#
5	DATA1	6	INIT#
7	DATA2	8	SLIN#
9	DATA3	10	GND
11	DATA4	12	GND
13	DATA5	14	GND
15	DATA6	16	GND
17	DATA7	18	GND
19	ACK#	20	GND
21	BUSY	22	GND
23	PE	24	GND
25	SLCT	26	NC

J16

POWER DC +12V Connector

PIN No.	Signal Description
1	+12V
2	GND
3	+12V

J18

Front panel pin header

PIN No.	Signal Description	PIN No.	Signal Description
1	SUS_LED+	2	SUS_LED-
3	Power _LED+	4	Power _LED-
5	GND	6	SYS_ Reset
7	Power Switch	8	GND

J19

HDD LED Pin header

PIN No.	Signal Description
1	HDD LED+
2	HDD_LED-

J21

CASH DRAWER Interface Connector

PIN No.	Signal Description	PIN No.	Signal Description
1	GND	2	KICK-OUT1
3	IN-SENSE	4	+12V
5	KICK-OUT2	6	GND

J22

External USB Pin Header

PIN No.	Signal Description
1	USB power (5VSB)
2	USB DATA A-
3	USB DATA A+
4	GND

J24

External USB Pin Header

PIN No.	Signal Description	PIN No.	Signal Description
1	USB power	2	USB power
3	USB DATA A-	4	USB DATA B-
5	USB DATA A+	6	USB DATA B+
7	Ground	8	Ground

J26

12V Output Connector

PIN No.	Signal Description
1	+12V
2	+12V
3	GND
4	GND

J28

Power DC +12V Power Header

PIN No.	Signal Description
1	GND
2	GND
3	+12V
4	+12V

J29

PCI SLOT Slim TYPE

PIN No.	Signal Description	PIN No.	Signal Description
B1	NC	A1	TRST#
B2	TCK	A2	+12V
B3	GND	A3	TMS
B4	NC	A4	TDI
B5	5V	A5	5V
B6	5V	A6	INTA#
B7	INTB#	A7	INTC#
B8	INTD#	A8	5V
B9	PRSNT1#	A9	GNT1#
B10	RSV	A10	5V
B11	PRSNT2#	A11	NC

B12	GND	A12	GND
B13	GND	A13	GND
B14	CLOCK1	A14	3V_DUAL
B15	GND	A15	PCI_RESET#
B16	CLOCK0	A16	5V
B17	GND	A17	GNT0#
B18	REQ0#	A18	GND
B19	5V	A19	ICH_PME#
B20	AD31	A20	AD30
B21	AD29	A21	3.3V
B22	GND	A22	AD28
B23	AD27	A23	AD26
B24	AD25	A24	GND
B25	3.3V	A25	AD24
B26	C/BE3#	A26	IDSEL
B27	AD23	A27	3.3V
B28	GND	A28	AD22
B29	AD21	A29	AD20
B30	AD19	A30	GND
B31	3.3V	A31	AD18
B32	AD17	A32	AD16
B33	C/BE2#	A33	3.3V
B34	GND	A34	FRAME#
B35	IRDY#	A35	GND
B36	3.3V	A36	TRDY#
B37	DEVSEL#	A37	GND
B38	GND	A38	STOP#
B39	PLOCK#	A39	3.3V
B40	PERR#	A40	SMBCLK
B41	3.3V	A41	SMBDAT
B42	SERR#	A42	GND
B43	3.3V	A43	PAR
B44	C/BE1#	A44	AD15
B45	AD14	A45	3.3V
B46	GND	A46	AD13
B47	AD12	A47	AD11
B48	AD10	A48	GND
B49	GND	A49	AD9
B52	AD8	A52	C/BE0#
B53	AD7	A53	3.3V
B54	3.3V	A54	AD6
B55	AD5	A55	AD4
B56	AD3	A56	GND
B57	GND	A57	AD2
B58	AD1	A58	AD0
B59	5V	A59	5V
B60	ACK64#	A60	REQ64#

B61	5V	A61	5V
B62	5V	A62	5V

J32

AUDIO Pin Header

PIN No.	Signal Description	PIN No.	Signal Description
1	Line out-R	2	MIC –R
3	NC	4	Ground -
5	Ground	6	MIC –L
7	Line out-R	8	Ground

JP2

Case Open Pin Header

PIN No.	Signal Description
1	CASE OPEN#
2	GND

J30

PCI-E x1 SLOT

PIN No.	Signal Description	PIN No.	Signal Description
B1	+12V	A1	PRSNT#
B2	+12V	A2	+12V
B3	NC	A3	+12V
B4	GND	A4	GND
B5	SMB_CLK_MAIN	A5	NC
B6	SMB_DATA_MAIN	A6	NC
B7	GND	A7	NC
B8	+3.3V	A8	NC
B9	NC	A9	+3.3V
B10	+3.3VAUX	A10	+3.3V
B11	WAKE#	A11	RESET#
B12	NC	A12	GND
B13	GND	A13	PCIE_CLK+
B14	PCIE_TX+	A14	PCIE_CLK-
B15	PCIE_TX-	A15	GND
B16	GND	A16	PCIE_RX+
B17	NC	A17	PCIE_RX-
B18	GND	A18	GND

JP15

BACK LIGHT PWR Connector

PIN No.	Signal Description
1	VCC
2	GND
3	+12V
4	GND
5	ENABLE

MD1

Multi Purpose Port1 Connector

PIN No.	Signal Description	PIN No.	Signal Description
1	AMP_L+	2	LVDS BKLTEN
3	AMP_L-	4	+12V
5	GND	6	+12V
7	GND	8	+12V
9	VDD_LVDS	10	LVDS Adjust
11	VDD_LVDS	12	GND
13	LVDS DATAP0	14	GND
15	LVDS DATAN0	16	GND
17	LVDS DATAP1	18	USB DATA5P
19	LVDS DATAN1	20	USB DATA5N
21	LVDS DATAP2	22	GND
23	LVDS DATAN2	24	USB DATA6P
25	LVDS DATAP3	26	USB DATA6N
27	LVDS DATAN3	28	GND
29	LVDS CLKP	30	USB DATA4P
31	LVDS CLKN	32	USB DATA4N
33	GND	34	+5V
35	GND	36	+5V
37	GND	38	K/B DATA
39	GND	40	K/B CLK

MD2

Multi Purpose Port2 Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	AMP_R+	2	+5V
3	AMP_R-	4	+5V
5	SATA TXP0	6	+5V
7	SATA TXN0	8	+5V
9	GND	10	+5V
11	SATA RXP0	12	+5V
13	SATA RXN0	14	+12V
15	GND	16	+12V
17	TXD#3	18	CTS#3

19	RXD#3	20	DSR#3
21	RTS#3	22	DTR#3
23	Power On Switch	24	GND
25	GND	26	SATA TXP1
27	USB DATA7P	28	SATA TXN1
29	USB DATA7N	30	GND
31	GND	32	SATA RXP1
33	Power LED+	34	SATA RXN1
35	Power LED-	36	GND
37	GND	38	USB3 VCC
39	GND	40	USB DATA3N
41	GND	42	USB DATA3P
43	GND	44	USB3 GND
45	TXD#4	46	RXD#4
47	RTS#4	48	CTS#4
49	DSR#4	50	DTR#4

CN3

SPI Headers

PIN No.	Signal Name	PIN No.	Signal Name
1	VCC3	2	GND
3	SPI_CS#	4	SPI_CLK
5	SPI_MISO	6	SPI_MOSI
7	HOLD#	8	Key

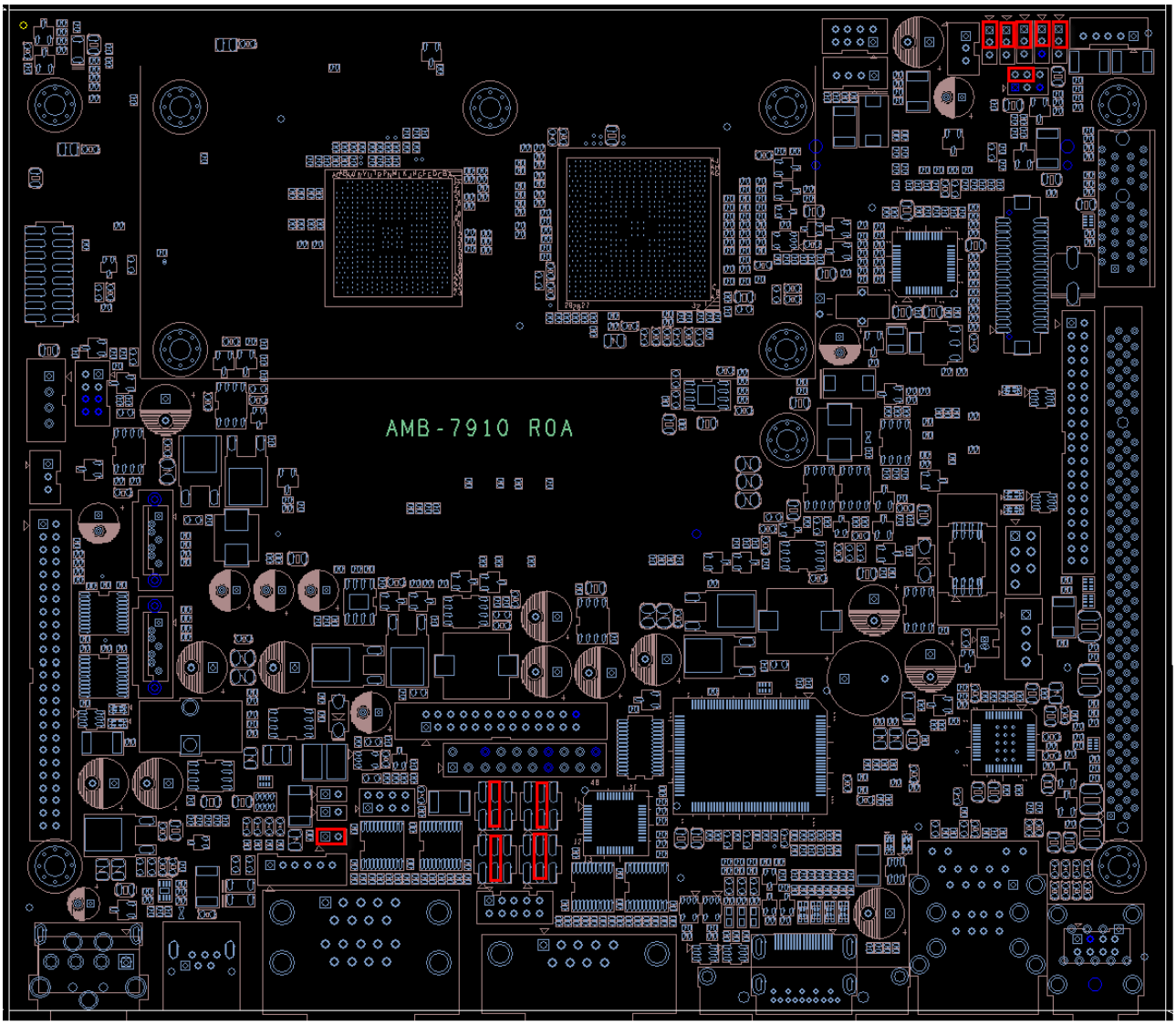
TPM1

TPM 1 header

PIN No.	Signal Name	PIN No.	Signal Name
1	CLK33M	2	GND
3	LPC_FRAME#	4	KEY
5	PLTRST#	6	NC
7	LPC_AD3	8	LPC_AD2
9	+3.3V	10	LPC_AD1
11	LPC_AD0	12	GND
13	NC	14	NC
15	+3.3V_DUAL	16	SERIRQ
17	GND	18	GND
19	LPCPD#	20	NC

Jumper Settings For AMB-7910

To set jumper positions, place the jumper shunt over the pins designated in the table (SHORT) or remove (NC) it from the jumper pins and store for future use.



JP1

CMOS RAM charge / discharge setup

JP1	Function
1-2 short	Charge (Default)
2-3 short	Clear CMOS

JP6

LVDS Panel VDD input voltage selection

JP6	Function
2-4 short	VDD=3.3V (Default)
3-4 short	VDD=12V
4-6 short	VDD=5V

JP7

LVDS Panel Backlight enable voltage selection

JP7	Function
1-2 short	VDD=3.3V (Default)
2-3 short	VDD=5V

J23

LVDS Panel Backlight Control selection

J23	Function
1-2 short	ACTIVE -HIGH (Default)
2-3 short	ACTIVE -LOW

JP10, JP11, JP12, JP13

COM Port RI Voltage selection

JP10 ;JP11 ; JP12 ;JP13	Function
1-2 short	VDD=5V
3-4 short	RI# (Default)
5-6 short	VDD=12V

JP14

key board & mouse Voltage

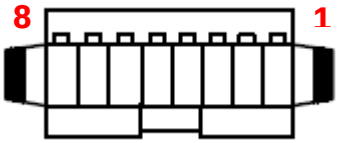
JP14	Function
1-2 short	VCC (Default)
1-2 open	NO VCC

J25

USB Port (J24) Voltage Selection

J25	Function
1-2 short	+5V (Default)
2-3 short	5VSB

External COM6 Port: Connector Pin Definitions



PIN No.	Description
1	VIN
2	GND
3	CTS
4	RTS
5	RXD
6	TXD
7	+12V
8	GND

Chapter 5 Software Setup

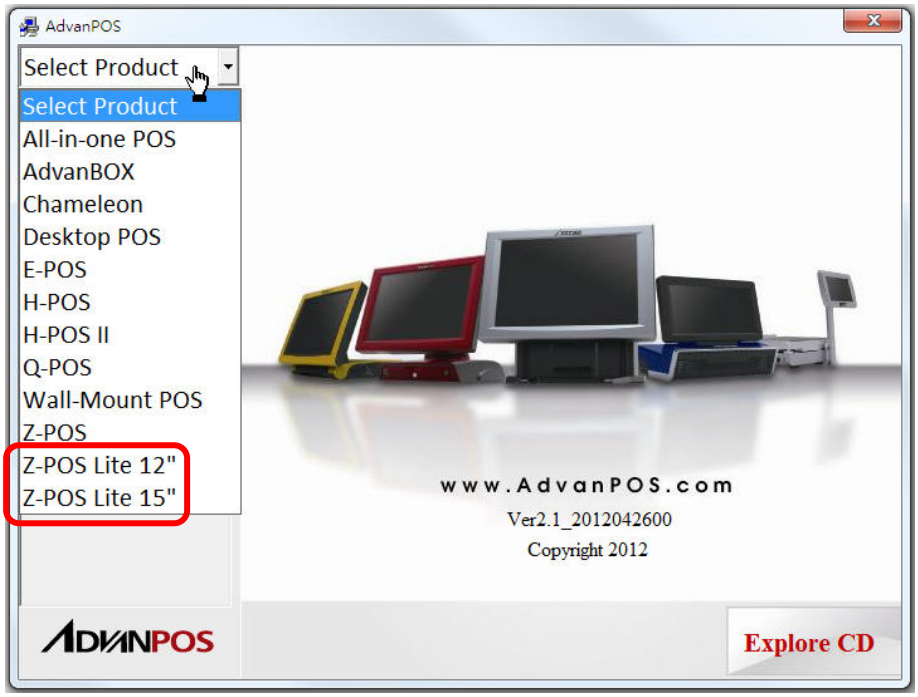
Pre-Installation Requirements

This system comes with a variety of drivers for different operating systems. A software CD is included in the package contents. The following section documents the procedures used to install the peripheral.

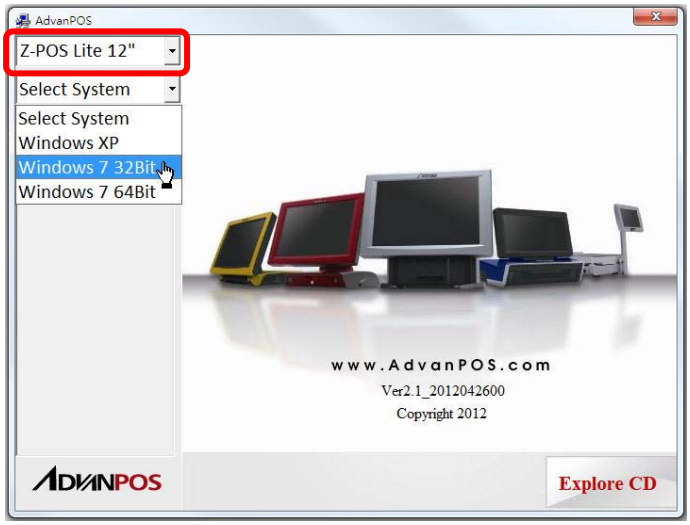
1. Insert sofeware CD into a system.

2. Run the setup.exe file on the CD.

3. Click **【Select Product】** to select your POS model.



4. Click **【Select System】** to select your operating system.



For Z-POS 12” model

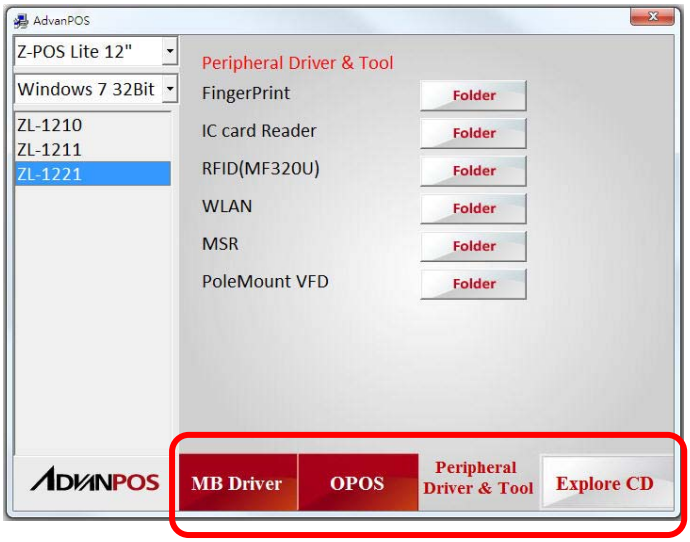
For Z-POS 15” model

5. Select your POS model Number.

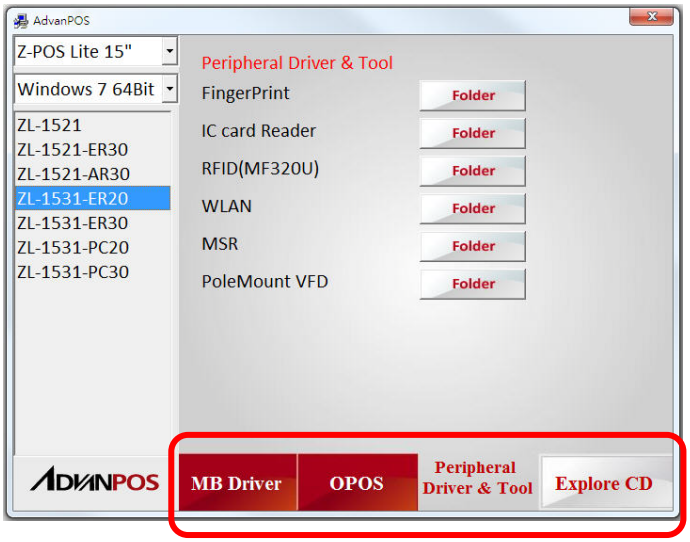
For Z-POS 12” model

For Z-POS 15” model

6. Select the peripheral driver that you want to install and then follow on-screen instructions to install your driver or refer to following procedures specifying how every driver is to be installed.



For Z-POS 12” model

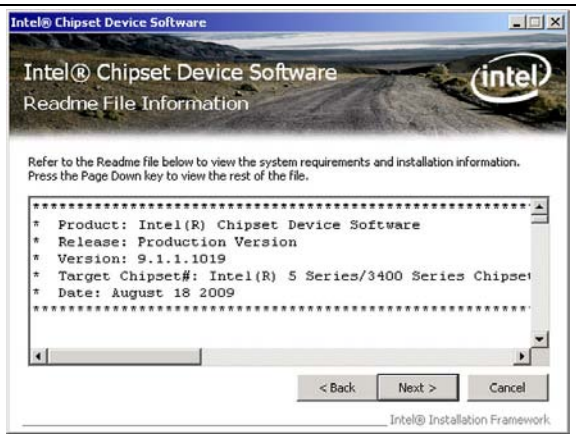


For Z-POS 15” model

Intel Chipset Driver Installation

1. Click the Next button on the Welcome screen.

2. Click Yes on the License Agreement screen.

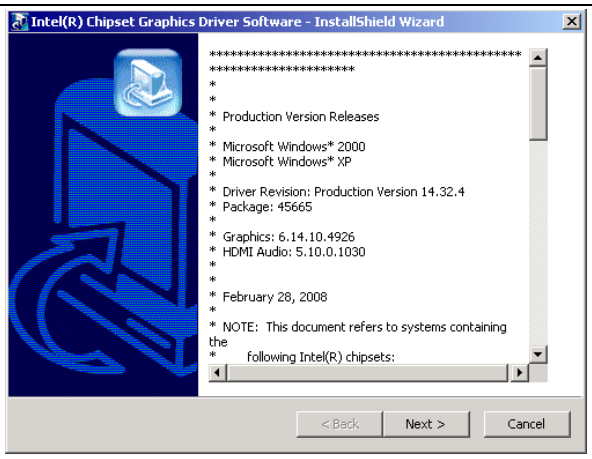


3. Click Next on the Information screen.

4. Click Next on the Information screen.

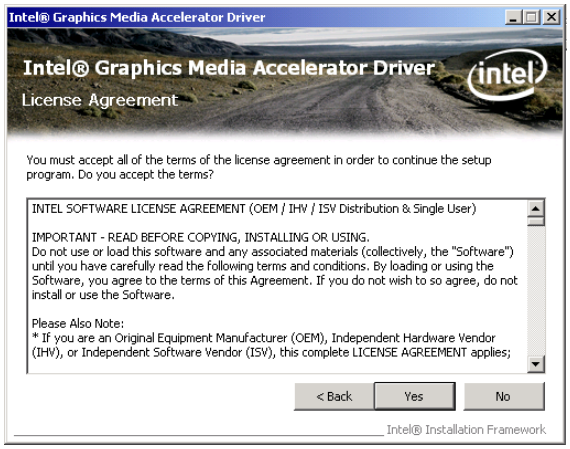
5. When installation is complete, click Finish.

Intel Graphics Driver Installation

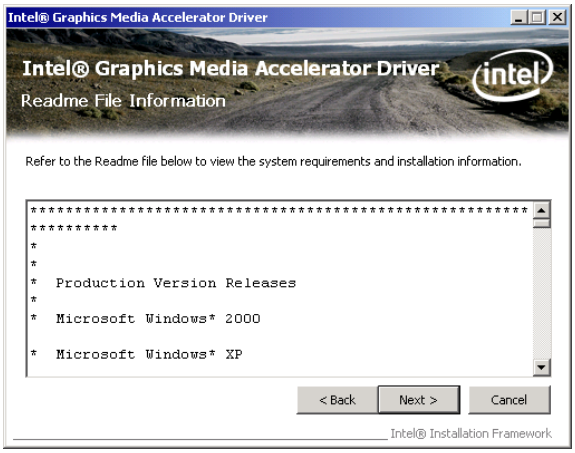


1. Click Next on the Starup screen.

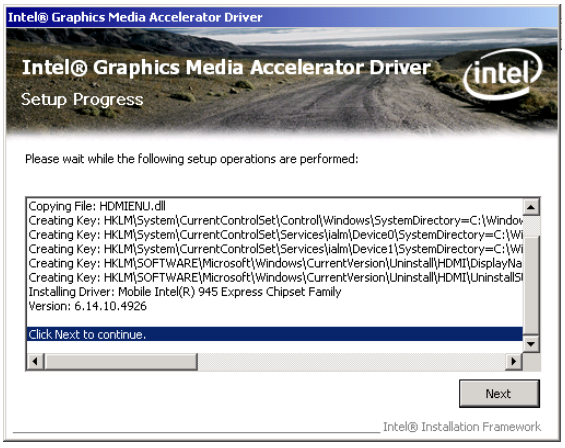
2. Click Next on the Welcome screen.



3. Click Yes on the License Agreement screen.



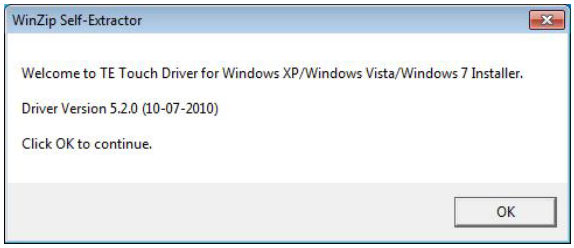
4. Click Next on the Information screen.



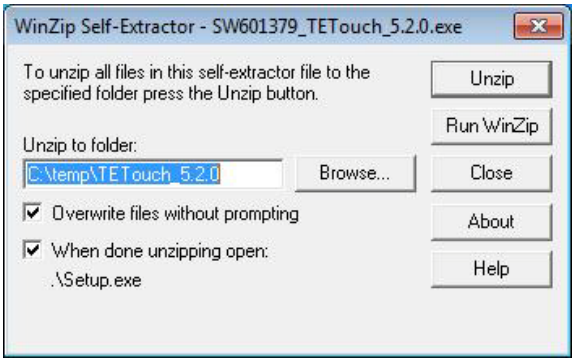
5. Click Next on the Setup Progress screen.

6. When installation is complete, click Finish and restart the system.

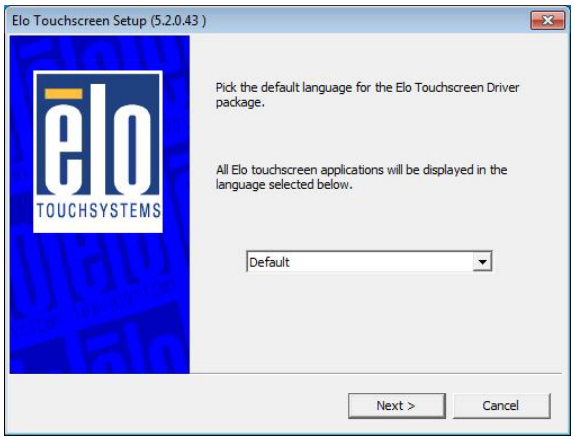
ELO Touch Screen Driver Installation



1. Click OK on the Welcome screen.

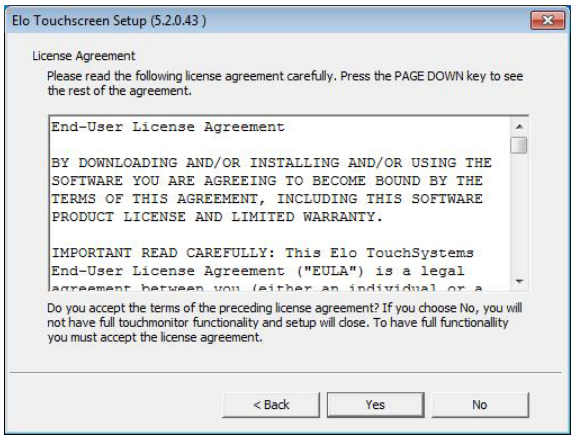


2. Click Unzip on the WinZip Self-Extractor screen.

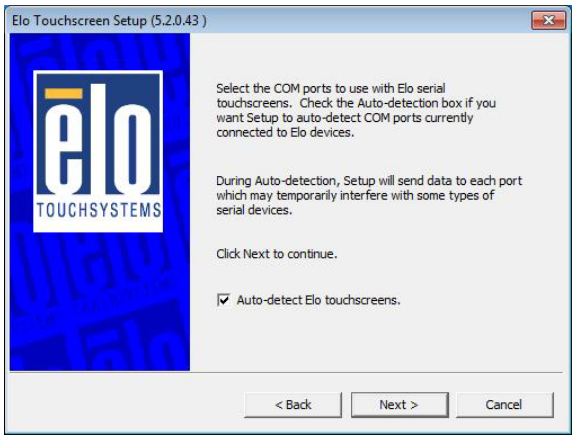


3. Select Default installation language, click Next.

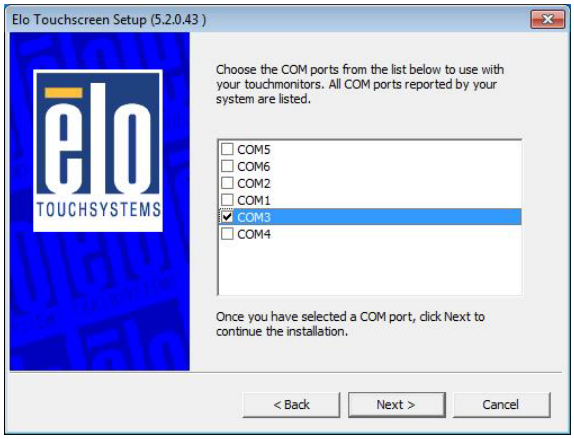
4. Select Install Serial Touchscreen Drivers, click Next.



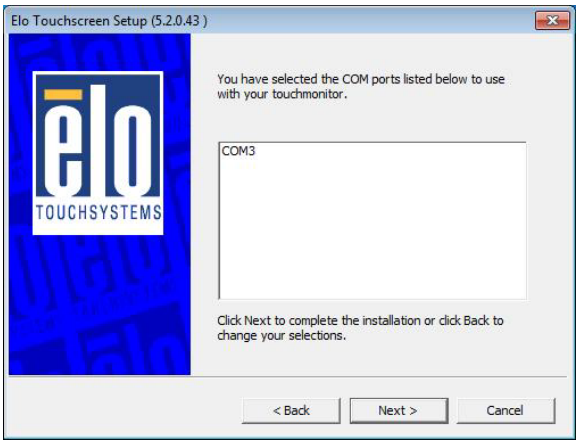
5. Click Yes on the License Agreement screen.



6. Select Auto-detect Elo devices, click Next.

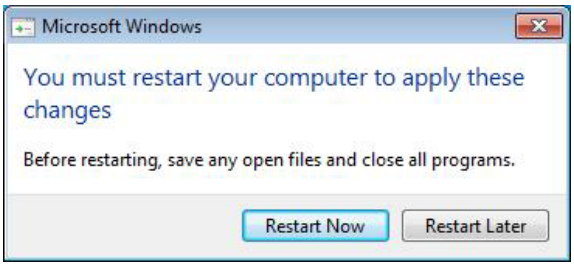


7. Select COM3, click Next.



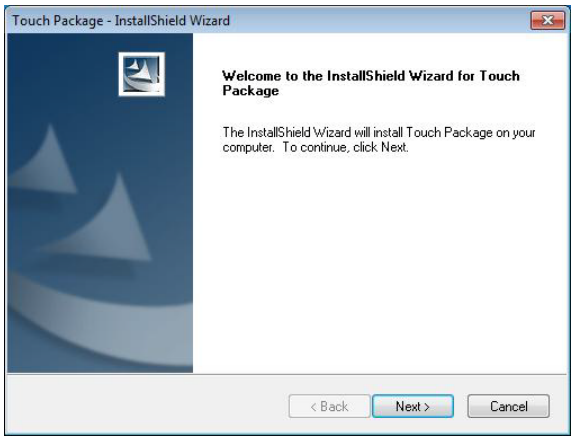
8. Click Next to confirm COM port selection.

9. Click Finish.

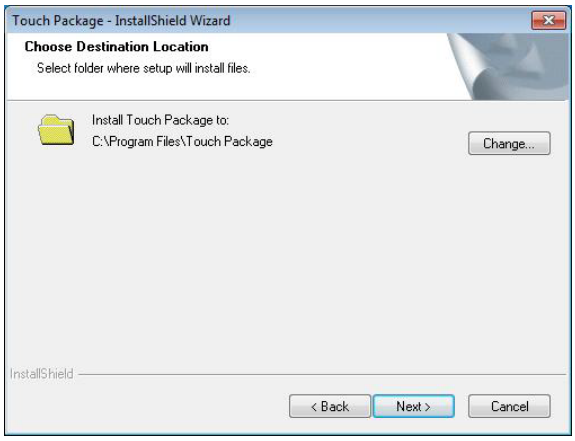


10. Click Restart Now to apply these change.

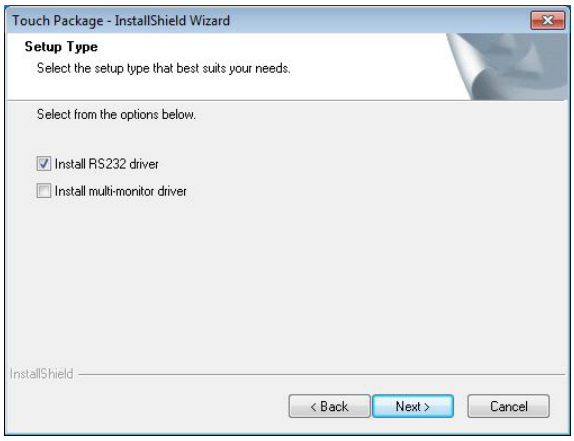
Abon Touch Screen Driver Installation



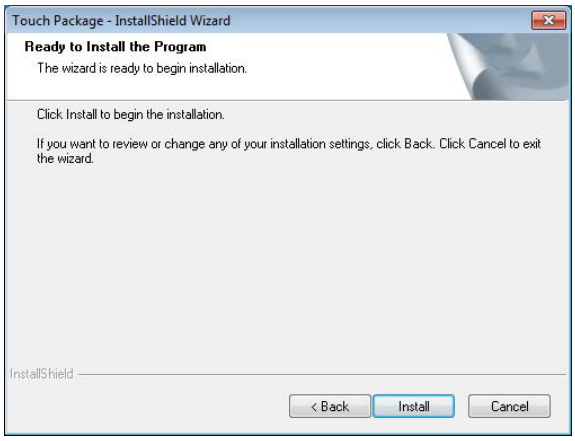
1. Click Next on the Welcome screen.



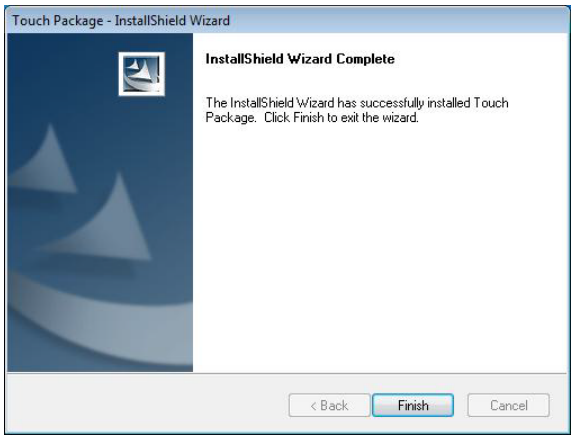
2. Click Next to confirm destination location.



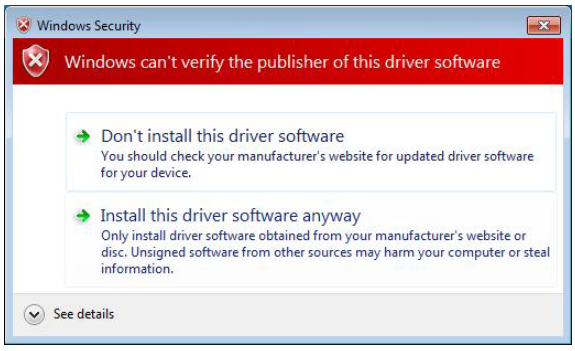
3. Select Install RS232 driver and click Next.



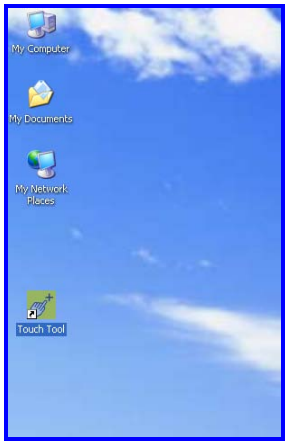
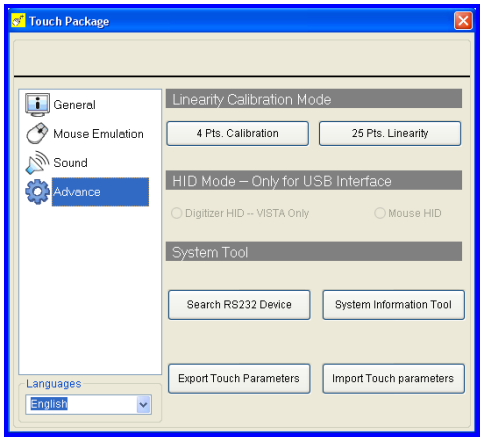
4. Click Install to begin installation.



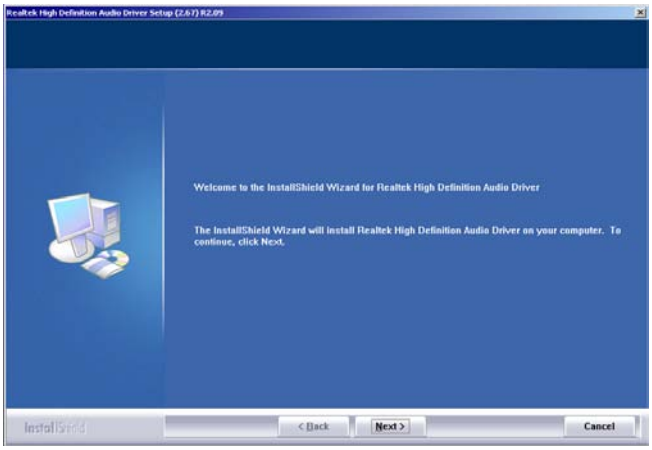
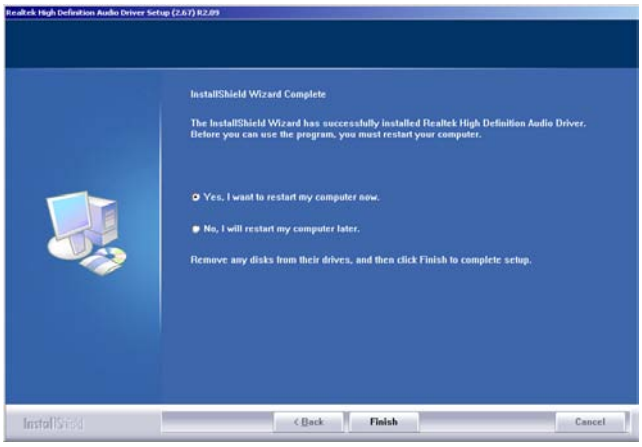
5. Click Finish to complete.



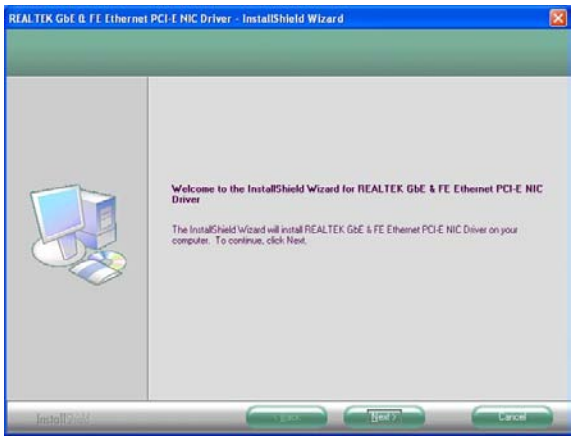
6. For Windows 7 operating system, click Install this driver software anyway.

<table>
<tr>
<td> 
</td>
<td> 
</td>
</tr>
<tr>
<td>7. For Windows XP operating system, click Continue anyway.</td>
<td>8. Click OK to reboot the system.</td>
</tr>
<tr>
<td> 
</td>
<td> 
</td>
</tr>
<tr>
<td>9. Run the Touch Tool on the desktop.</td>
<td>10. Select Advance and click on the 4 Pts. Calibration button.</td>
</tr>
</table>

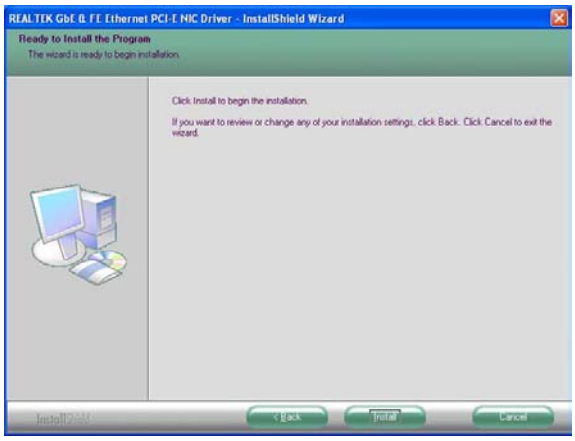
Audio Driver Installation

	
1. Click Next on the Welcome screen.	2. When installation is complete, click Finish to restart the system.

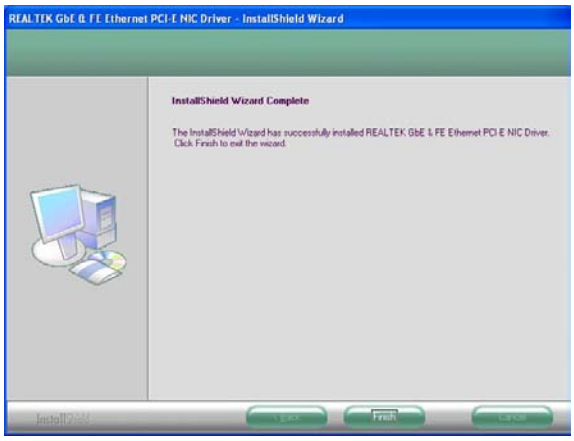
Ethernet Driver Installation for Windows XP



1. Click Next.

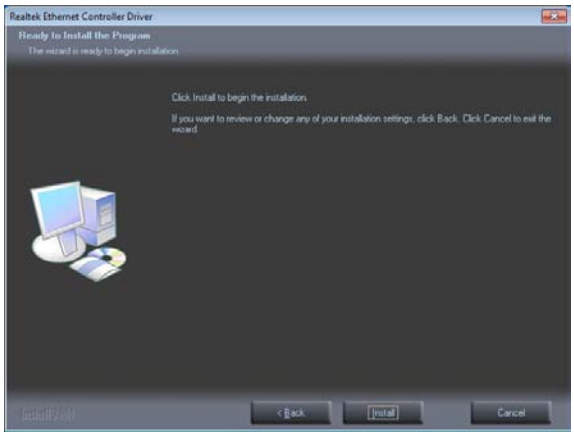


2. Click Install.

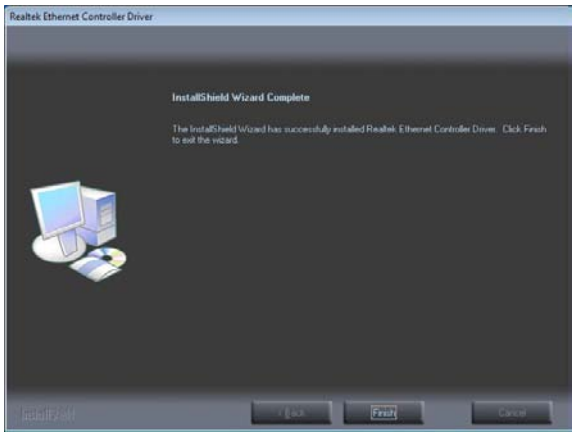


3. Click Finish.

Ethernet Driver Installation for Windows 7



1. Click Install.

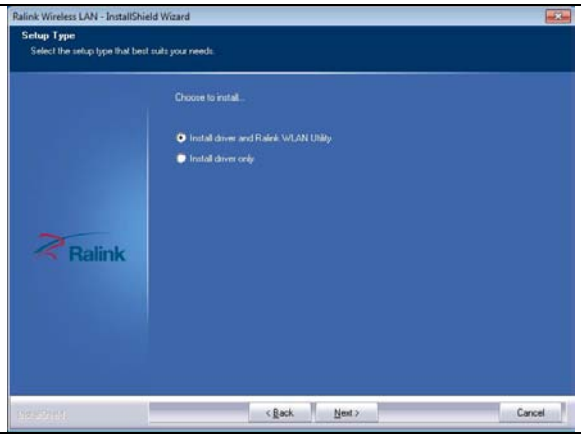


2. Click Finish.

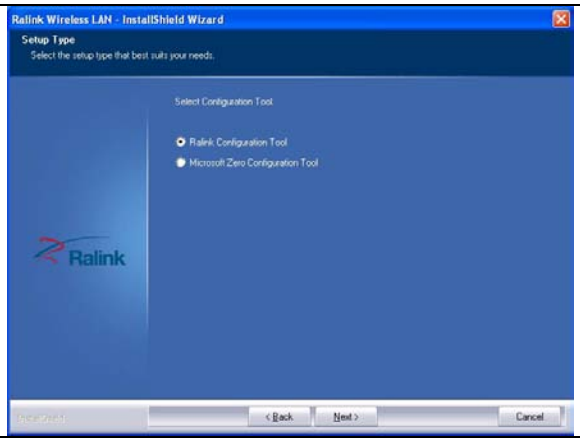
Wireless LAN Driver Installation (optional)

1. Enter the **LR802UKN3_802.11bgn** folder and then run the IS_AP_STA_RT2870_D.exe.

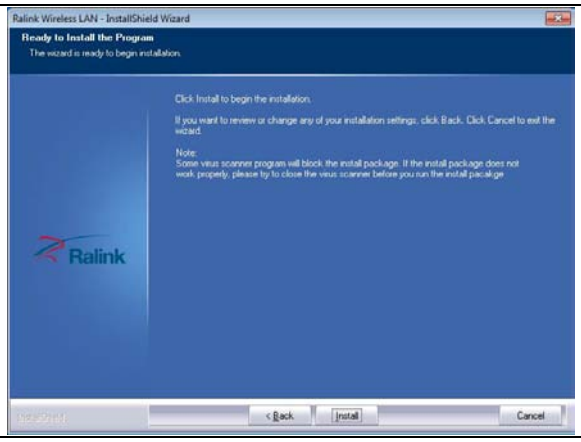
2. Click Accept on the License Agreement screen.



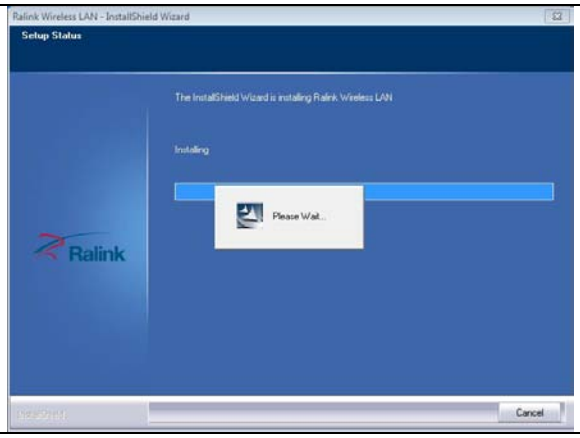
3. Alternative, and then click Next.



4. For Windows XP operating system, select Configuration Tool.

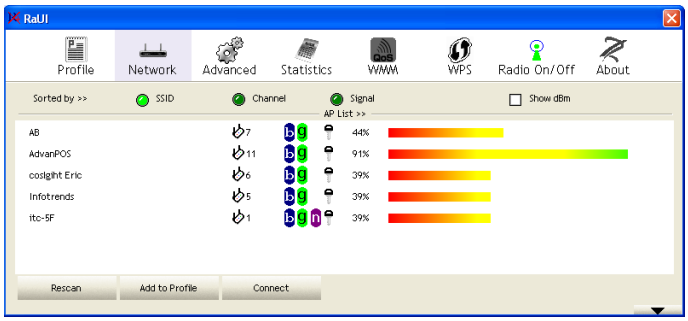


5. Click Install.



6. Wait as the WLAN driver is installed.

7. Click Finish.

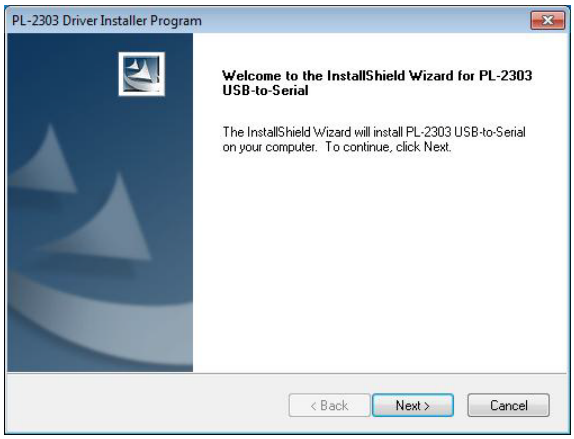


8. When installation is complete, the WLAN utility will automatically appear on the desktop.

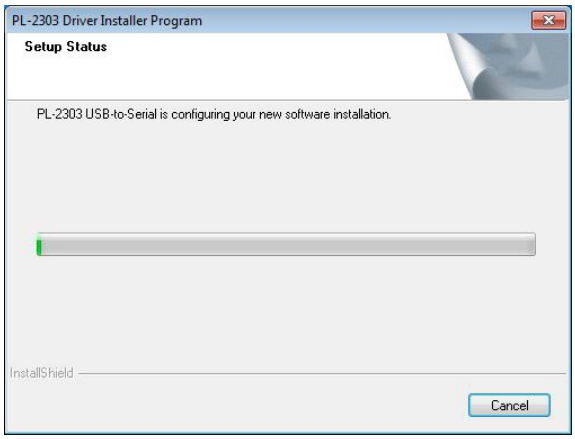
Rear Mount VFD Driver Installation (optional)

The ZL-15X1/12X1 rear mount VFD port is a USB interface. The rear mount VFD uses a Serial interface, so in order to enable it you must install the included USB-to-Serial interface driver.

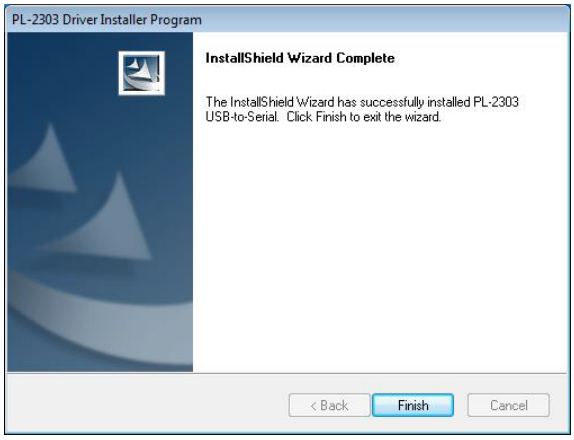
1. First, plug in the VFD Module.
2. Enter the **USB To COM Driver** folder and then run utility program PL2303_Prolific_driverInstaller_v130.



3. Click Next on the Welcome screen.



4. Wait as the driver is installed.

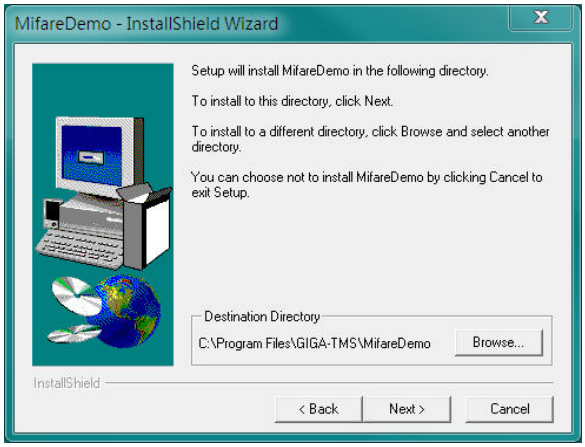


5. Click Finish.

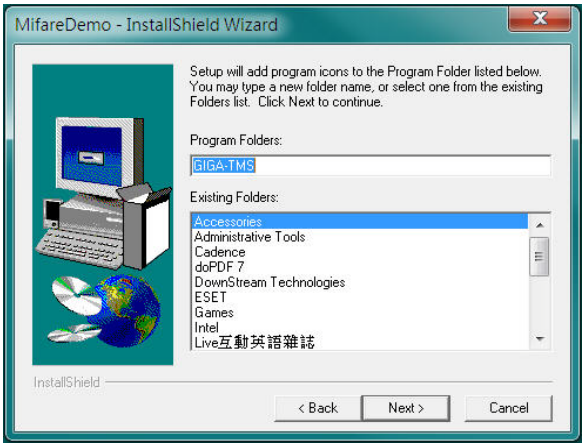
RFID Driver Installation (optional)

1. First, plug in the RFID Module.
2. Enter the **MF320U** folder and then run the MifareDemoSetup_PSW00020.exe.

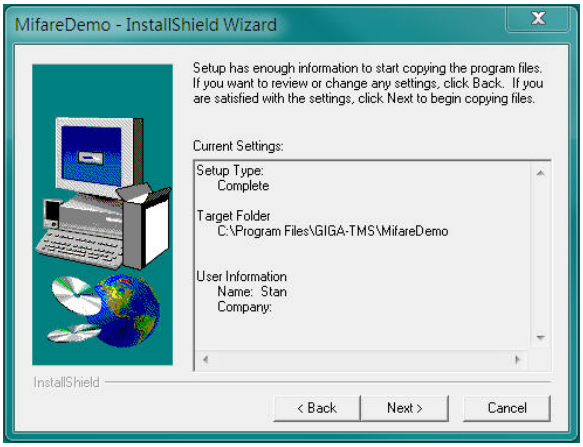
3. Click Next.



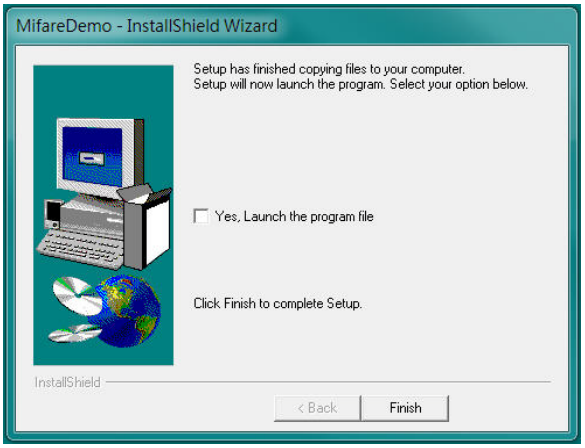
4. Click Next to accept the Destination Directory.



5. Click Next after making sure the folder.



6. Click Next to begin copy files.



7. Click Finish.

MSR Driver Installation (optional)

1. Plug in MSR module.

2. Select your MSR interface PS2 or USB.

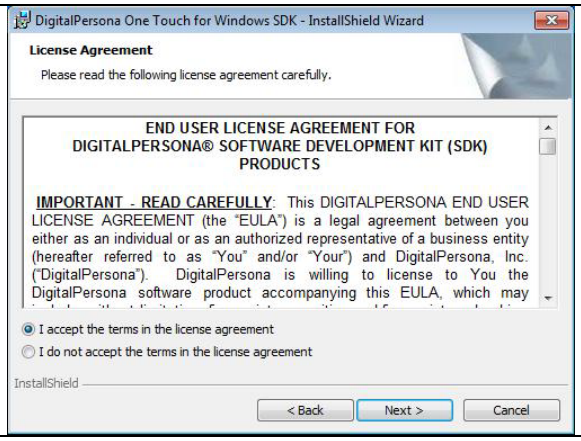
3. For PS2 interface: Run the MSRfgSetup_V1_4R7_PSW00025.exe.
   For USB interface: Enter the **Software** folder and then run the HISD_MSR_PSW00003.exe.

4. Follow on-screen instructions to install your MSR driver.

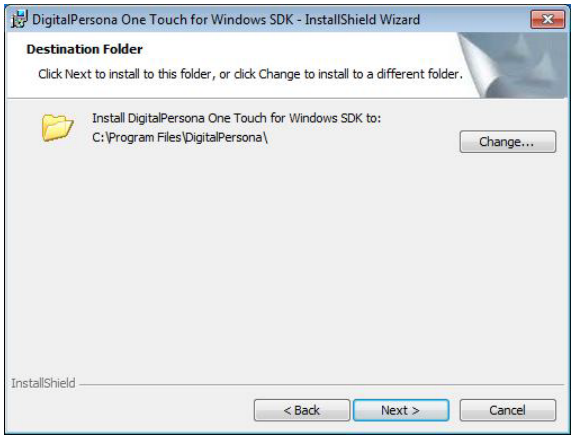
Fingerprint Reader Driver Installation (optional)

1. Plug in the 2-in-1 Fingerprint Reader and MSR module.
2. Enter the **SDK** folder and then run the setup.exe.

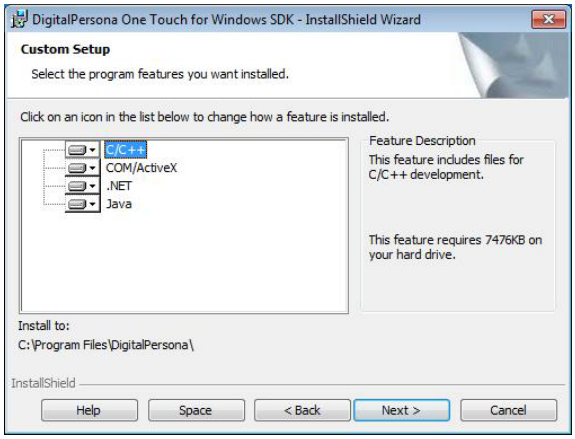
3. Click Next on the Welcome screen.



4. Click Next on the License Agreement screen.

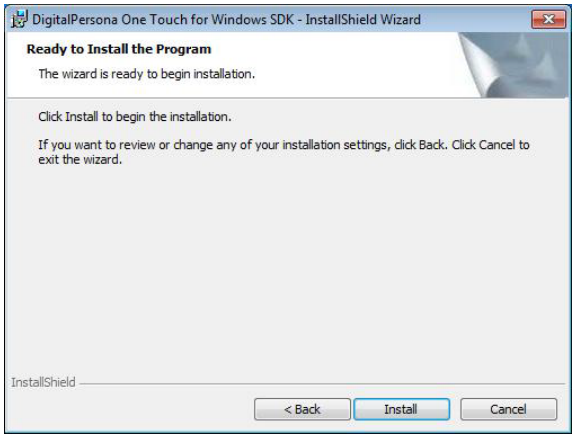


5. Click Next to accept the destination folder.

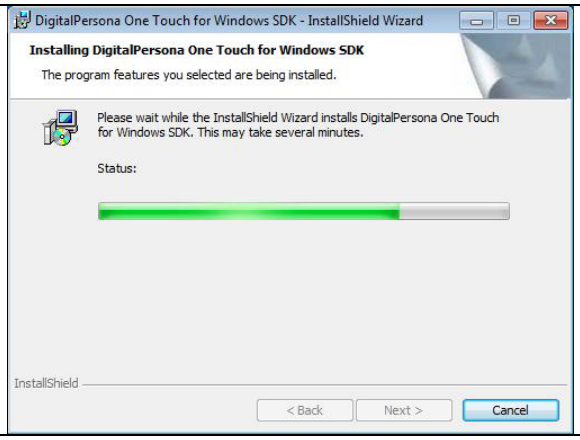
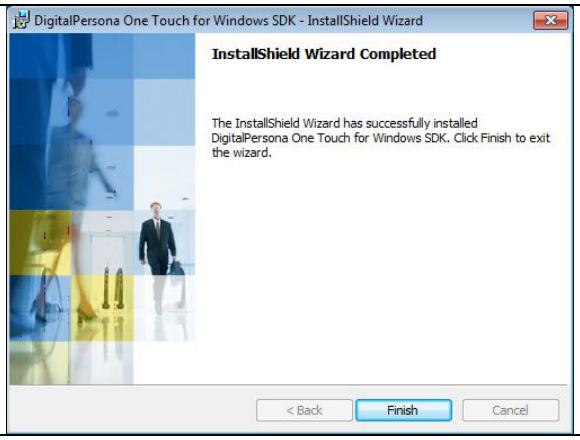
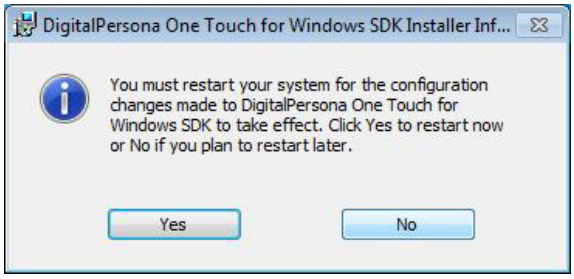


6. Click Next to begin installation.

7. To proceed with the installation, click Next.



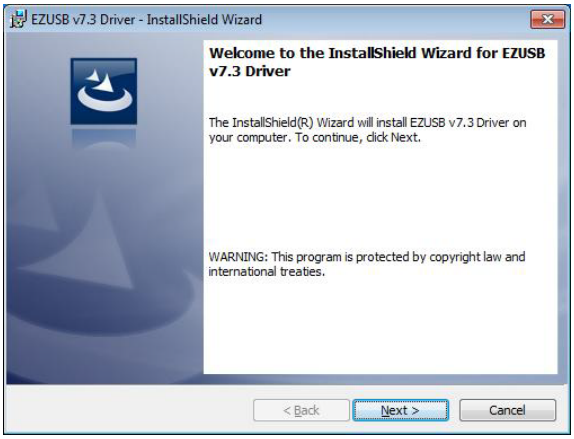
8. Click Install to begin the installation.

<table>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>9. Wait as the driver is installed.</td><td>10. Click Finish.</td></tr>
<tr><td> 
</td><td></td></tr>
<tr><td>11. Click Yes to restart the system (required).</td><td></td></tr>
</table>

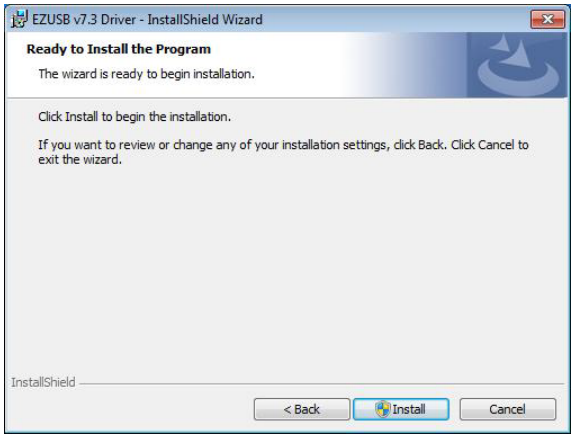
IC Card Reader Driver Installation (optional)

1. Plug in the 3-in-1 MSR/I-Button/IC Card Reader module.
2. Enter the **EZ100PU Driver** folder.
3. Select your POS operating system and then run the setup.exe.

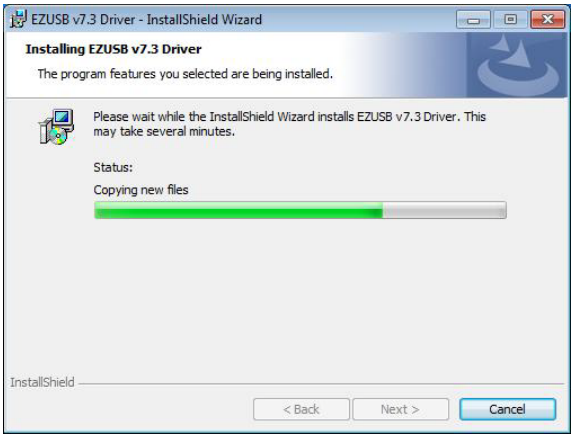
4. Select language, click OK.



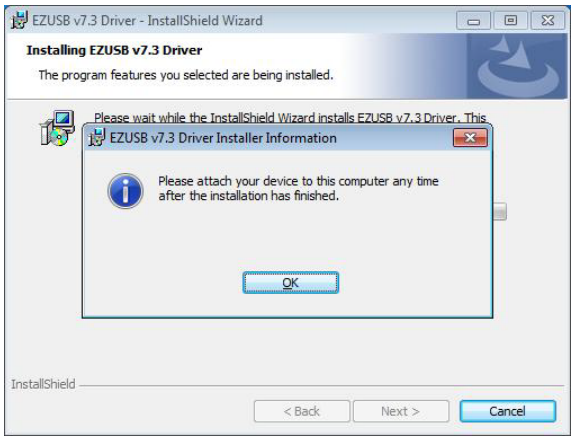
5. Click Next on the Welcome screen.



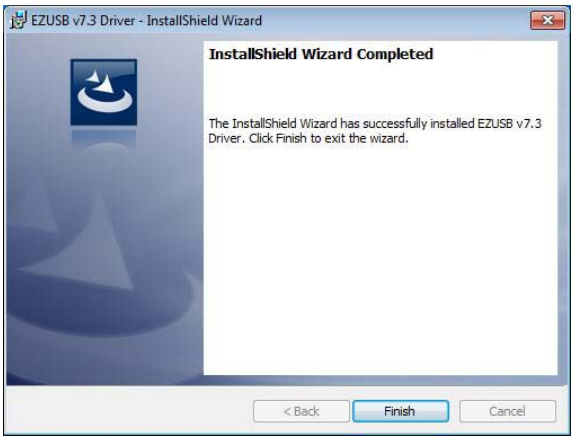
6. Click Install to begin the installation.



7. Wait as the driver is installed.



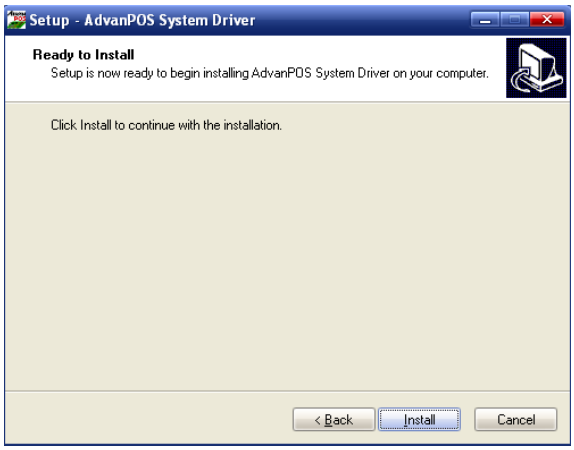
8. Click OK on the Note screen.



9. Click Finish.

AdvanPOS System Driver Installation (Required for Cash Drawer)

1. Click Next on the Welcome screen.

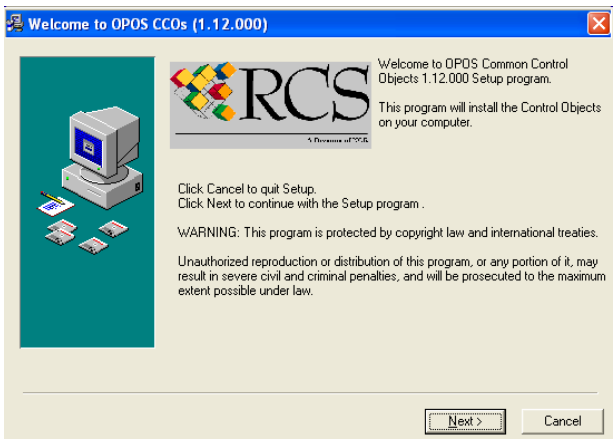


2. Click Install on the Ready to Install screen.

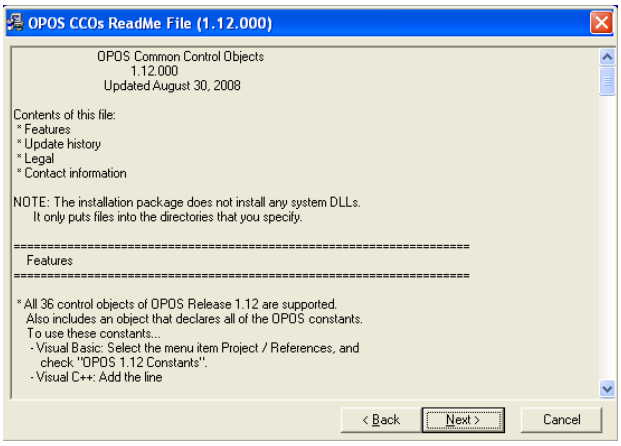
3. Click Finish on the Completing installation screen. A system restart is required to complete the installation.

OPOS CCO Driver Installation

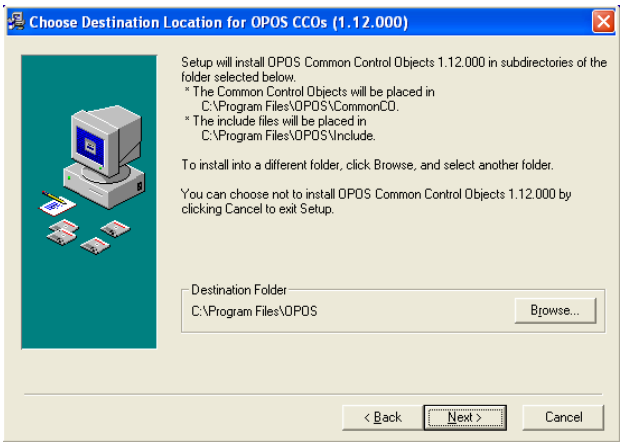
Before installing the OPOS driver, please make sure the AdvanPOS System Driver has been installed. The OPOS driver for the ZL-15X1/12X1 supports the Cash Drawer, MSR, I-Button, RFID and VFD (Line- Display).



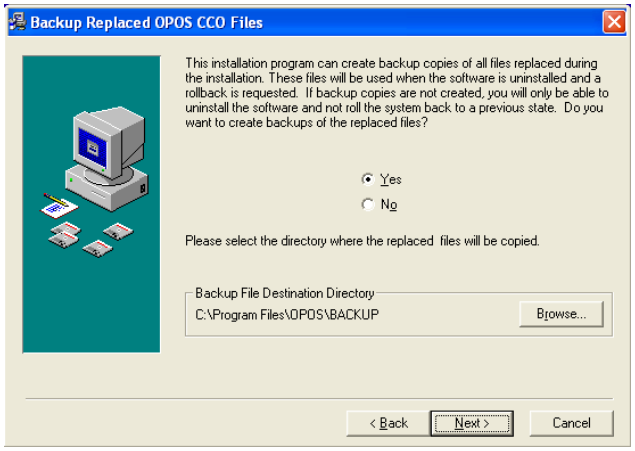
1. Click Next on the Welcome screen.



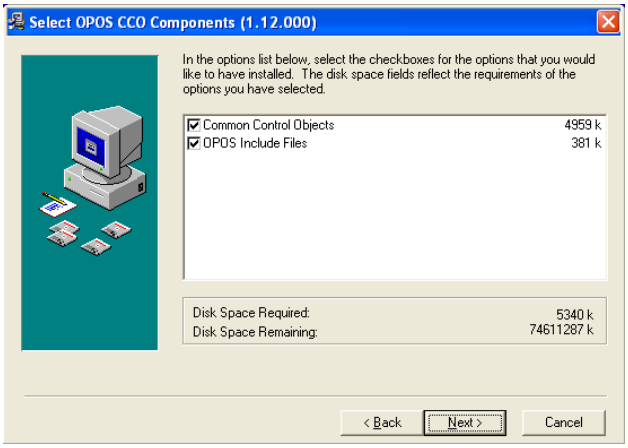
2. Click Next on the ReadMe screen.



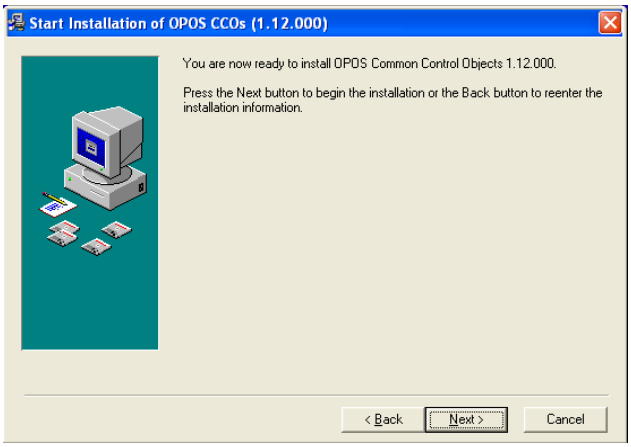
3. Click Next to confirm the Destination Location.



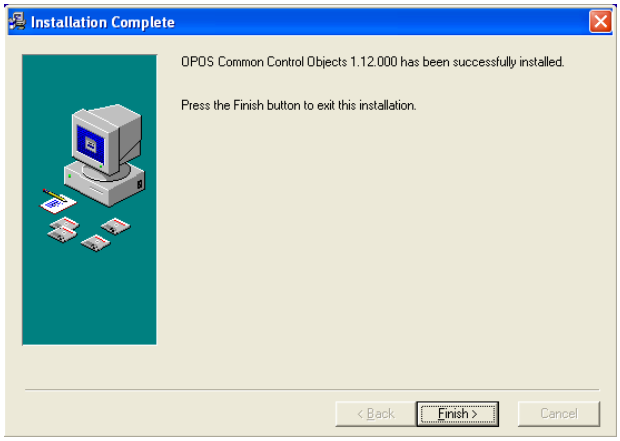
4. Click Yes to backup the CCO files and select backup file destination directory, then click Next.



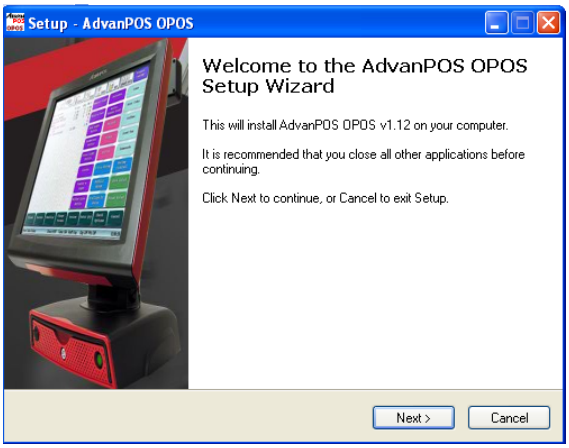
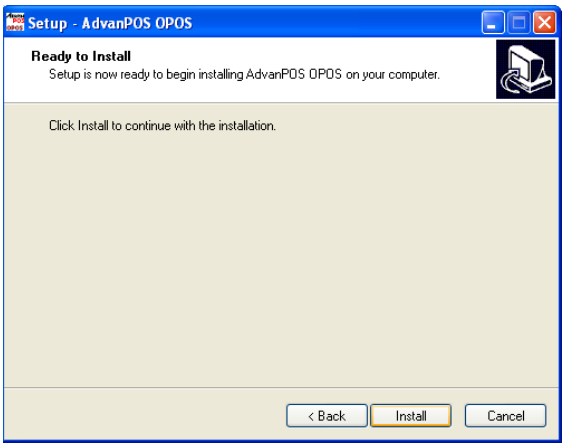
5. Select Common Control Objects and OPOS Include Files, click Next.



6. Click Next on the Start Installation screen.

	
7. Click Finish on the Installation Complete screen.	

AdvanPOS OPOS Driver Installation

<table>
<tr><td> 
</td><td> 
</td></tr>
<tr><td>1. Click Next on the Welcome screen.</td><td>2. Click Install on the Setup screen.</td></tr>
<tr><td> 
</td><td></td></tr>
<tr><td>3. Click Finish on the Completing installation screen.</td><td></td></tr>
</table>

Appendix A. Sample C++ Cash Drawer Code for Windows

NOTE: Requires installation of System Driver. Refer to the System Driver Installation section for instructions.

1. Open Cash Drawer

```
// IOCTL Codes
#define GPD_TYPE 56053
#define ADV_OPEN_CTL_CODE CTL_CODE(GPD_TYPE, 0x900, METHOD_BUFFERED, FILE_ANY_ACCESS)
#define ADV_STATUS_CTL_CODE CTL_CODE(GPD_TYPE, 0x901, METHOD_BUFFERED, FILE_ANY_ACCESS)

void OpenDrawer(UCHAR uWhichDrawer)
{
   // uWhichDrawer = 1 => CD#1, uWhichDrawer = 2 => CD#2
   HANDLE hFile;
   BOOL bRet;
   UCHAR uDrawer = uWhichDrawer;

   // Open the driver
   hFile = CreateFile("\\\\.\\ADVSYS",
                      GENERIC_WRITE | GENERIC_READ,
                      FILE_SHARE_READ | FILE_SHARE_WRITE, NULL,
                      OPEN_EXISTING, FILE_ATTRIBUTE_NORMAL, 0);

   if (m_hFile == INVALID_HANDLE_VALUE)
   {
      AfxMessageBox("Unable to open Cash Drawer Device Driver!");
      return;
   }

   // Turn on the Cash Drawer Output (Fire the required solenoid)
   bRet = DeviceIoControl(hFile, ADV_CD_OPEN_CTL_CODE,
                &uDrawer, sizeof(uDrawer),
                NULL, 0,
                &ulBytesReturned, NULL);

   if (bRet == FALSE || ulBytesReturned != 1)
   {
      AfxMessageBox("Failed to write to cash drawer driver");
      CloseHandle(hFile);
      return;
   }

   CloseHandle(hFile);
}
```

2. Get Cash Drawer Status

```
void GetDrawerState()
{
   HANDLE hFile;
   BOOL bRet;

   // Open the driver
   hFile = CreateFile(TEXT("\\\\.\\ADVSYS"),
                  GENERIC_WRITE | GENERIC_READ,
                  FILE_SHARE_READ | FILE_SHARE_WRITE, NULL,
                  OPEN_EXISTING, FILE_ATTRIBUTE_NORMAL, 0);

   if (m_hFile == INVALID_HANDLE_VALUE)
```

```
   {
      AfxMessageBox("Unable to open Cash Drawer Device Driver!");
      return;
   }

   // Read the CD status
   bRet = DeviceIoControl(hFile, ADV_CD_STATUS_CTL_CODE,
                NULL, 0
                &ReadByte, sizeof(ReadByte),
                &ulBytesReturned, NULL);

   if (bRet == FALSE || ulBytesReturned != 1)
   {
      AfxMessageBox("Failed to Read from cash drawer driver");
      CloseHandle(hFile);
      return;
   }
   else
   {
      AfxMessageBox(ReadByte ? “Drawer Open” : “Drawer Closed”);
   }

   CloseHandle(hFile);
}
```

Appendix B. Sample VB.NET Cash Drawer Code for Windows

NOTE: Requires installation of System Driver. Refer to the System Driver Installation section for instructions.

```
    Private Declare Function CreateFile Lib "kernel32" Alias "CreateFileA" (ByVal lpFileName As String, ByVal
dwDesiredAccess As Integer, ByVal dwShareMode As Integer, ByVal lpSecurityAttributes As IntPtr, ByVal
dwCreationDisposition As Integer, ByVal dwFlagsAndAttributes As Integer, ByVal hTemplateFile As IntPtr) As Integer
    Private Declare Function DeviceIoControl Lib "kernel32" (ByVal hDevice As IntPtr, ByVal dwIoControlCode As
Integer, ByRef lpInBuffer As Byte, ByVal nInBufferSize As Integer, ByRef lpOutBuffer As Byte, ByVal nOutBufferSize
As Integer, ByRef lpBytesReturned As Long, ByVal lpOverlapped As Integer) As Integer
    Private Declare Function CloseHandle Lib "kernel32" (ByVal hObject As Long) As Integer

    Public Shared Function CTL_CODE(ByVal DeviceType As Integer, ByVal func As Integer, ByVal Method As Integer,
ByVal Access As Integer) As Integer
        Return (DeviceType << 16) Or (Access << 14) Or (func << 2) Or Method
    End Function

    Dim DeviceHandle As Integer
    Const GENERIC_READ As Long = &H80000000, GENERIC_WRITE As Long = &H40000000
    Const FILE_SHARE_READ As Long = &H1, FILE_SHARE_WRITE As Long = &H2
    Const OPEN_EXISTING As Long = &H3, FILE_ATTRIBUTE_NORMAL As Long = &H80
    Const INVALID_HANDLE_VALUE As Long = &HFFFFFFFF

    Const ADVPORT_TYPE As Long = 40000, METHOD_BUFFERED As Long = 0, FILE_ANY_ACCESS As Long = 0
    Dim ADV_OPEN_CTL_CODE As Long = CTL_CODE(ADVPORT_TYPE, &H900, METHOD_BUFFERED, FILE_ANY_ACCESS)
    Dim ADV_STATUS_CTL_CODE As Long = CTL_CODE(ADVPORT_TYPE, &H901, METHOD_BUFFERED, FILE_ANY_ACCESS)

    Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles MyBase.Load
        DeviceHandle = CreateFile("\\.\ADVSYS", GENERIC_READ Or GENERIC_WRITE, FILE_SHARE_READ Or FILE_SHARE_WRITE,
0, OPEN_EXISTING, FILE_ATTRIBUTE_NORMAL, 0)
        If DeviceHandle = INVALID_HANDLE_VALUE Then
            'Failed to Open Cash Drawer Driver
            Timer1.Enabled = False
            MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
        End If
    End Sub

    Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click
        Dim iBytesRtn As Integer
        Dim iRet As Integer, iDrawer As Integer

        ' Open Drawer #1
        iDrawer = &H1
        iRet = DeviceIoControl(DeviceHandle, ADV_OPEN_CTL_CODE, iDrawer, 4, 0, 0, iBytesRtn, 0)
        If (iRet = 0 Or iBytesRtn <> 1) Then
            MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
        End If
    End Sub

    Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button2.Click
        Dim iBytesRtn As Integer
        Dim iRet As Integer, iDrawer As Integer

        ' Open Drawer #2
        iDrawer = &H2
        iRet = DeviceIoControl(DeviceHandle, ADV_OPEN_CTL_CODE, iDrawer, 4, 0, 0, iBytesRtn, 0)
```

```
    If (iRet = 0 Or iBytesRtn <> 1) Then
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
End Sub

Private Sub Timer1_Tick(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Timer1.Tick
    Dim iBytesRtn As Integer
    Dim iRet As Integer, iStatus As Integer

    ' Get Drawer Status
    iRet = DeviceIoControl(DeviceHandle, ADV_STATUS_CTL_CODE, 0, 0, iStatus, 4, iBytesRtn, 0)
    If (iRet = 0 Or iBytesRtn <> 1) Then
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
    If (iStatus = 0) Then
        StatusText.Text = "Cash Drawer(s) Closed"
    Else
        StatusText.Text = "Cash Drawer(s) Open"
    End If
End Sub
```

Appendix C. Sample VB6.0 Cash Drawer Code for Windows

NOTE: Requires installation of System Driver. Refer to the System Driver Installation section for instructions.

```
Option Explicit On
Private Declare Function CreateFile Lib "kernel32" Alias "CreateFileA" (ByVal lpFileName As String, ByVal
dwDesiredAccess As Long, ByVal dwShareMode As Long, ByVal lpSecurityAttributes As
SECURITY_ATTRIBUTES, ByVal dwCreationDisposition As Long, ByVal dwFlagsAndAttributes As Long, ByVal
hTemplateFile As Long) As Long
Private Declare Function DeviceIoControl Lib "kernel32" (ByVal hDevice As Long, ByVal dwIoControlCode
As Long, ByVal lpInBuffer As Any, ByVal nInBufferSize As Long, ByVal lpOutBuffer As Any, ByVal
nOutBufferSize As Long, ByVal lpBytesReturned As Long, ByVal lpOverlapped As OVERLAPPED) As Long
Private Declare Function CloseHandle Lib "kernel32.dll" (ByVal hObject As Long) As Long

'CreateFile Custom Variables
Private Type SECURITY_ATTRIBUTES
        nLength As Long
        lpSecurityDescriptor As Long
        bInheritHandle As Long
End Type

'DeviceIoControl Custom Variables
Private Type OVERLAPPED
Internal As Long
InternalHigh As Long
offset As Long
OffsetHigh As Long
hEvent As Long
End Type

Dim DeviceHandle As Integer
Dim SA As SECURITY_ATTRIBUTES
Dim SA1 As OVERLAPPED
Dim ADV_OPEN_CTL_CODE As Long
Dim ADV_STATUS_CTL_CODE As Long

Private Const GENERIC_READ As Long = &H80000000
Private Const GENERIC_WRITE As Long = &H40000000
Private Const FILE_SHARE_READ As Long = &H1
Private Const FILE_SHARE_WRITE As Long = &H2
Private Const OPEN_EXISTING As Long = &H3
Private Const FILE_ATTRIBUTE_NORMAL As Long = &H80
Private Const INVALID_HANDLE_VALUE As Long = &HFFFFFFFF

Private Const METHOD_BUFFERED As Long = 0, FILE_ANY_ACCESS As Long = 0

Private Function CTL_CODE(ByVal lngDevFileSys As Long, ByVal lngFunction As Long, ByVal lngMethod As
Long, ByVal lngAccess As Long) As Long
    CTL_CODE = (lngDevFileSys) Or (lngAccess * (2 ^ 14)) Or (lngFunction * (2 ^ 2)) Or lngMethod
End Function
```

```
Private Sub Form_Load()
    '-1673527296 Come from c code (40000 <<16)
    ADV_OPEN_CTL_CODE = CTL_CODE(-1673527296, &H900, METHOD_BUFFERED, FILE_ANY_ACCESS)
    ADV_STATUS_CTL_CODE = CTL_CODE(-1673527296, &H901, METHOD_BUFFERED, FILE_ANY_ACCESS)

    DeviceHandle = CreateFile("\\.\ADVSYS", GENERIC_READ Or GENERIC_WRITE, FILE_SHARE_READ Or
FILE_SHARE_WRITE, SA, OPEN_EXISTING, FILE_ATTRIBUTE_NORMAL, 0)
    If DeviceHandle = INVALID_HANDLE_VALUE Then
        'Failed to Open Cash Drawer Driver
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
End Sub

Private Sub Command1_Click()
    Dim iBytesRtn As Long
    Dim iRet As Integer, iDrawer As Integer

    ' Open Drawer #1
    iDrawer = &H1
    iRet = DeviceIoControl(DeviceHandle, ADV_OPEN_CTL_CODE, iDrawer, 4, 0, 0, iBytesRtn, SA1)
    If (iRet = 0 Or iBytesRtn <> 1) Then
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
End Sub

Private Sub Command2_Click()
    Dim iBytesRtn As Long
    Dim iRet As Integer, iDrawer As Integer

    ' Open Drawer #2
    iDrawer = &H2
    iRet = DeviceIoControl(DeviceHandle, ADV_OPEN_CTL_CODE, iDrawer, 4, 0, 0, iBytesRtn, SA1)
    If (iRet = 0 Or iBytesRtn <> 1) Then
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
End Sub

Private Sub Timer1_Timer()
    Dim iBytesRtn As Long
    Dim iRet As Integer, iStatus As Integer

    ' Get Drawer Status
    iRet = DeviceIoControl(DeviceHandle, ADV_STATUS_CTL_CODE, 0, 0, iStatus, 4, iBytesRtn, SA1)
    If (iRet = 0 Or iBytesRtn <> 1) Then
        Timer1.Enabled = False
        MsgBox("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    End If
    If (iStatus = 0) Then
        Label1.Caption = "Cash Drawer(s) Closed"
    Else
        Label1.Caption = "Cash Drawer(s) Open"
    End If
End Sub
```