

HPOS II series

All-in-One Point of Sales System



User Manual
Preliminary

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

How to Use This Manual

This manual contains information to set up and use the HPOS II series. 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 2nd display, and cash drawer.
- Chapter 4** PEB-973A and PEB-973D main board diagrams, locations of jumpers, and connectors.
- Chapter 5** I/O board diagrams, locations of jumpers, and connectors.
- Chapter 6** 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.

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Patents and Trademarks

AdvanPOS trademark

Certificate No.: 01328466 (ROC patent)

Patent pending (European Union, Mainland China 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.

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Patents and Trademarks

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Chapter 1 Introduction

Features

- 12-inch TFT touch screen
- Fanless operation with Intel® Atom™ processor D525/N270
- Aluminum Housing
- Versatile Customer Display Option
- Embedded Dual-Laser Omni Directional Scanner
- IP65 sealed front touch panel
- Convertible 2nd display options
- 5 x COM, 5 x USB, 1 x CF II
- Flexible options: MSR, Fingerprint, IC card reader, I-Button, RFID, WiFi, Bluetooth or Programmable Keyboard
- RoHS compliant

Specifications

HPOS series System Configuration

CPU	Intel® Atom™ processor D525/N270
System Chipset	PEB-973A (945GSE+ICH7M) PEB-973D w/o printer (D525+ICH8M)
System Memory	One SO-DIMM 1x200-pin DDR2 997/800
Video Memory	Intel® Chipset Integration
Compact Flash	Supports 1 x Type II Compact Flash slot
HDD	1 x internal 2.5-inch 160GB SATA hard disk drive (up to 250GB)
Power	External 60W 12VDC power adapter (100~240VAC,50~60Hz,5A)
OS Support	Windows® XP Pro Embedded /Windows® Embedded POS Ready 2009 / WEPOS® / Linux® / Windows® 7 Pro Embedded

LCD Touch Panel

Resolution Size	12-inch TFT LCD / 1024 x 768
Brightness	500 cd/m ² (adjustable)
Touch Screen Type	ELO resistive touch

I/O Ports

USB Ports	2 x External USB 3 x Internal USB(WiFi/ IC card reader, RFID)
Serial Ports	4 x external: COM1(scanner), COM2/5 (D-SUB)(Pin9 with+5V/12Vselectable) COM6 (RJ-45) 1 x internal: COM3 for touch screen

Parallel Port	1 x bi-directional parallel port (D-SUB25)
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, Plug ON Disable SPK, 1 x Mic-in
Speaker	2 x internal stereo 2W speakers

Mechanics and Environment

Construction	Aluminum housing
Dimensions	236(D) x 310(W) x 523(H) mm without keyboard and sign pad 236(D) x 612(W) x 523(H) mm with keyboard and sign pad
Housing Color	Black
Net Gross Weight	13 Kg
Operating Temperature	0 °C ~ 40 °C
EMI/Safety	CE, FCC, RoHS

Package Contents

The following items come standard with the HPOS II:

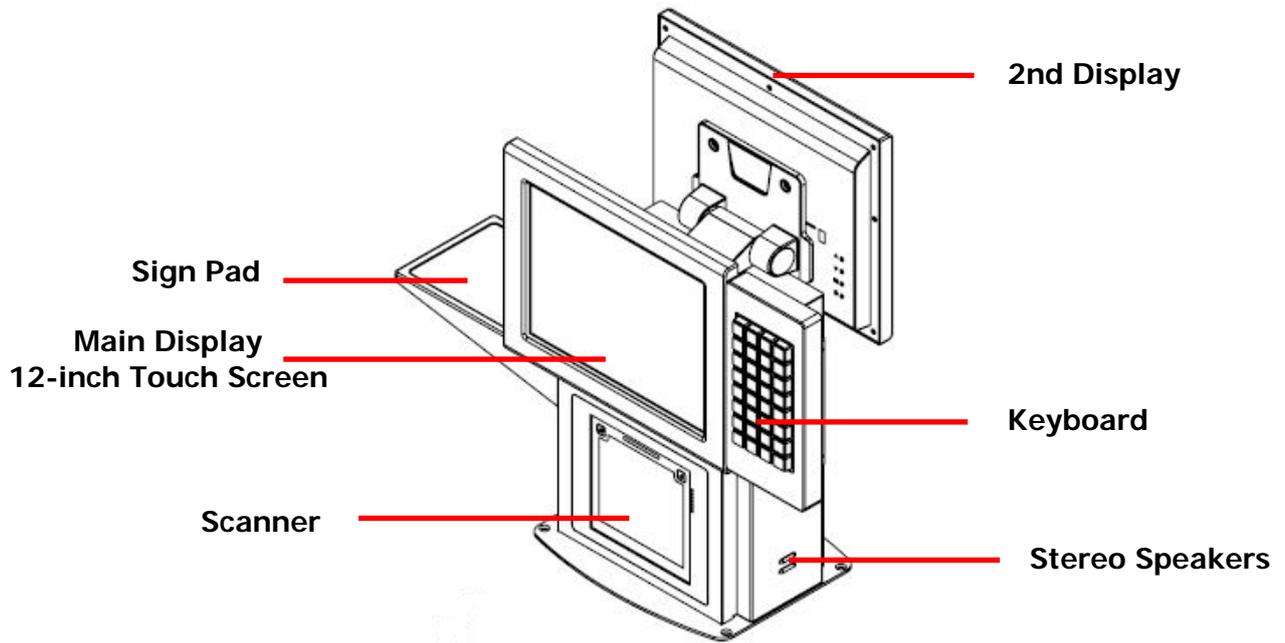
<p>POS System</p>		<p>Power Adaptor</p>	
<p>Utility and Main Board Chipset Driver CD</p>		<p>AC Power Cord</p>	

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 Reader)
- 2-in-1 Module (Magnetic Stripe Reader + IC Card Reader)
- 2-in-1 Module (Magnetic Stripe Reader + RFID)
- 2-in-1 Module (Magnetic Stripe Reader + Bluetooth)
- 3-in-1 Module (Magnetic Stripe Reader + I-Button Reader + IC Card Reader) *
- Wireless Module: WiFi 802.11b/g or Bluetooth 2.0
- Radio Frequency Identification (RFID) Module: internal 13.56MHz for with ISO 15693/14443A/14443B
- Dual-laser omni directional scanner
- Sign pad
- VFD Customer Display: 9 cm height, 2 lines 20 characters each
- 2nd Customer Display: 8.9-inch or 12-inch, tempered glass LCD or touch LCD

Base System

Before you begin, take a few moments to become familiar with the HPOS II.



Expandable Main Display

Three 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.

- WiFi or Bluetooth module (USB interface)
- RFID module (USB interface)
- 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)



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.



MSR Module Choices:

- MSR Only
- MSR+I-Button
- MSR+Fingerprint (shown)
- MSR+RFID
- MSR+WiFi
- MSR+I-Button+RFID
- MSR+I-Button+IC Card

Convertible Rear Mount 2nd Display (optional)

The rear mount 2nd display is for using with the POS system to display purchase prices and change amounts to customers. It is also capable of displaying advertising messages and announcements.

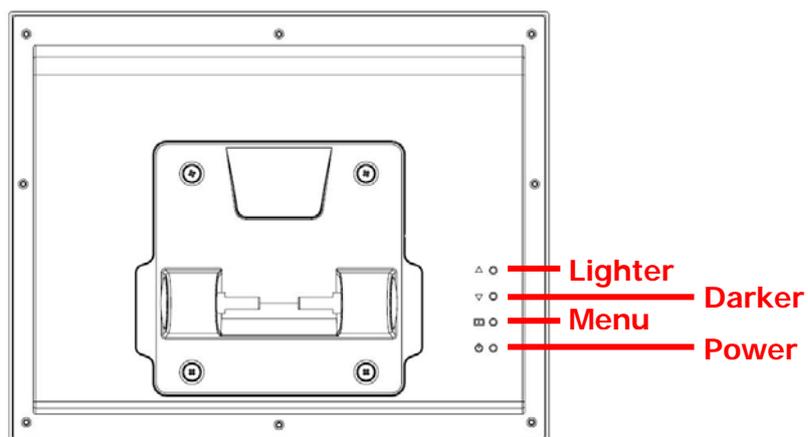
Three types of rear mount display choices are available: a 8.9-inch LCD monitor, a 12-inch LCD monitor, and a 9 cm high, 2 lines with 20 characters each VFD.

The rear mount is located at the opposite side of the base body and connects with the 2nd display port for operation. Whether installing a VFD, 8.9-inch LCD or 12-inch LCD, there is no need to change any settings on the main board or I/O board.



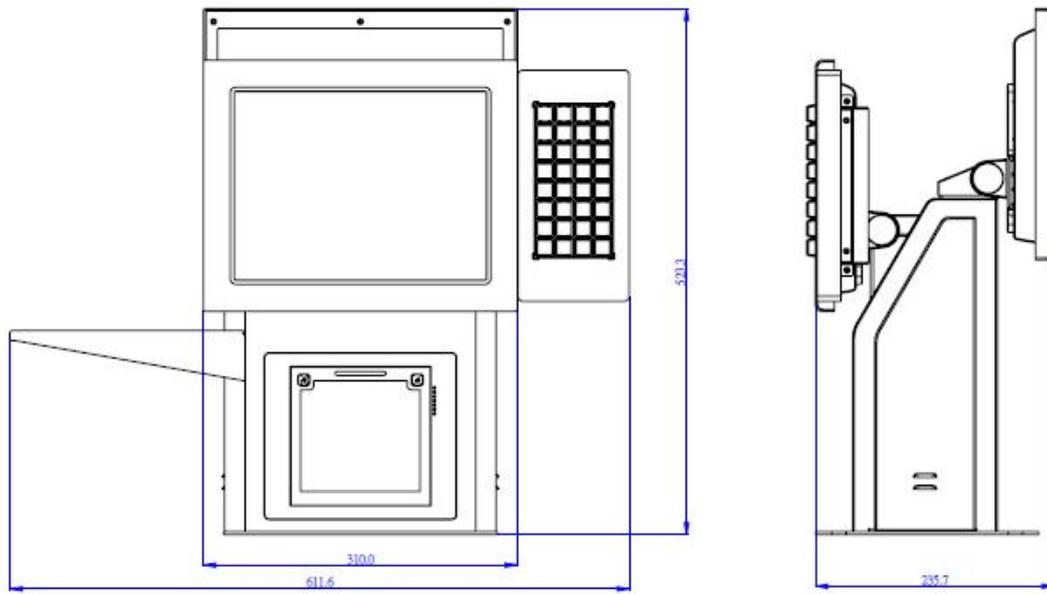
- Rear Mount 2nd display choices:**
- 12-inch LCD (shown)
 - 8.9-inch LCD
 - 9 cm VFD

2nd LCD OSD Control Buttons



HPOS II with 12-inch 2nd Display Dimensions

(Unit: mm)



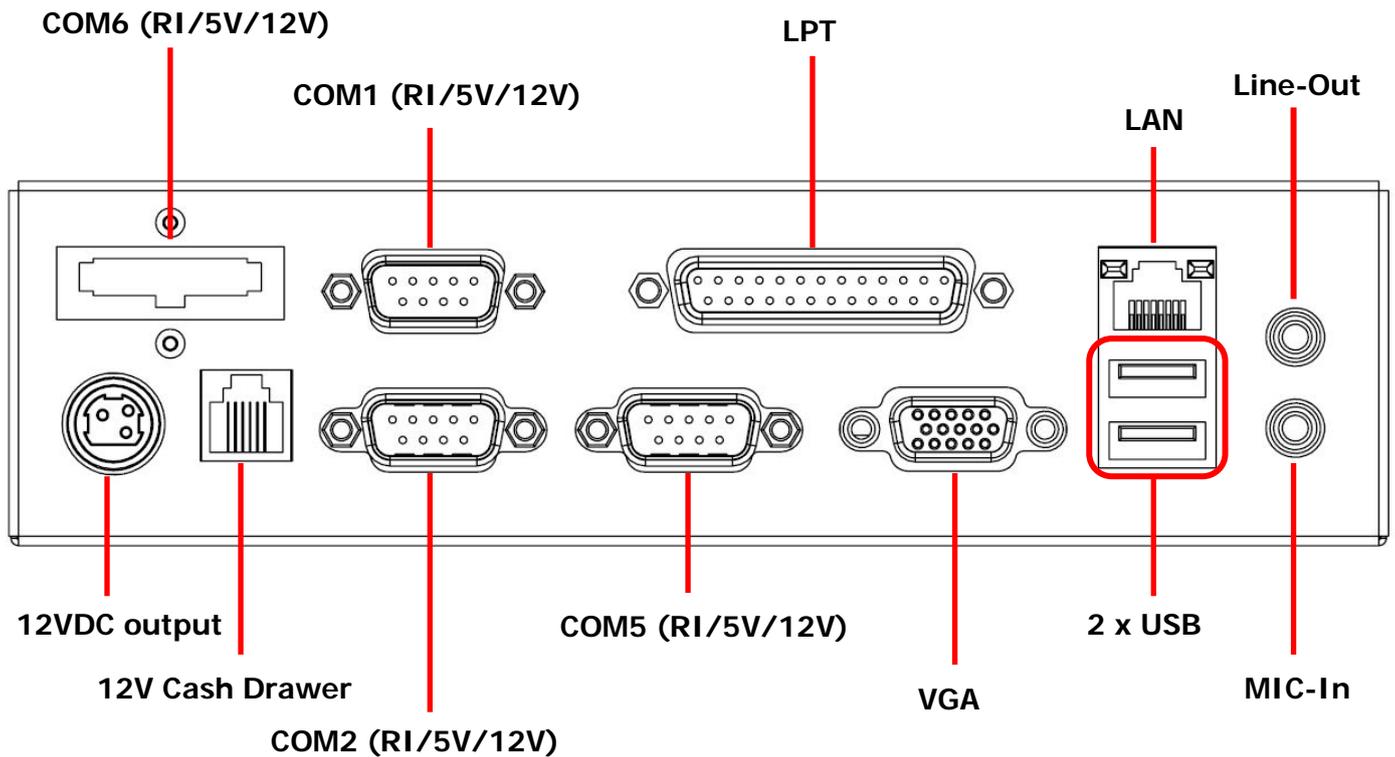
Connector Panel

The HPOS II's primary connector panel is located inside the system box. To clearly see the connector panel you must remove the cover of system box.



NOTE:

HPOS II'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 System Box

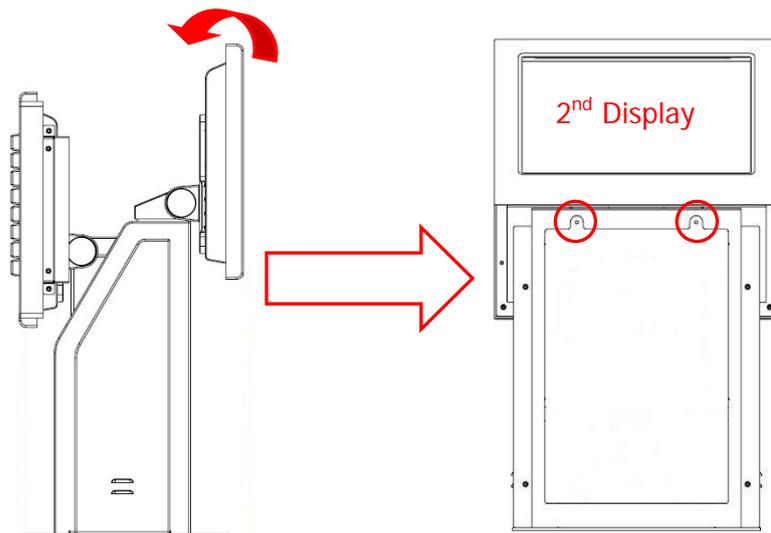


CAUTION: To prevent loss of work and damage to the system or drive:

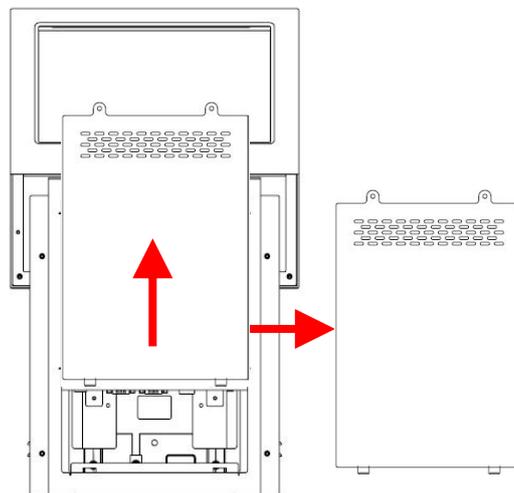
If you are inserting or removing a drive, shut down the operating system properly, turn off the system, and unplug the power cord. Do not remove a drive while the system is on or in standby mode.

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. For easier access, first tilt the 2nd screen backward. Next, unscrew the two attachment thumb screws used to hold the metal cover in place.



4. Lift the metal cover and remove it from system.



Opening Main Display Back Cover



NOTE:

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

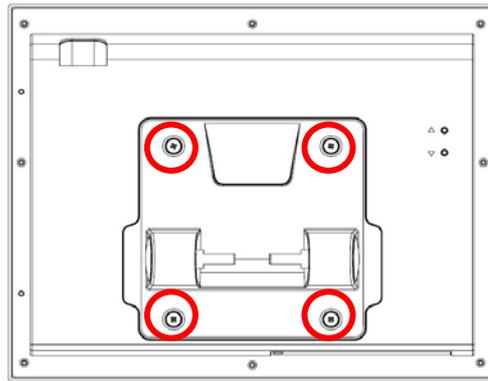
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.



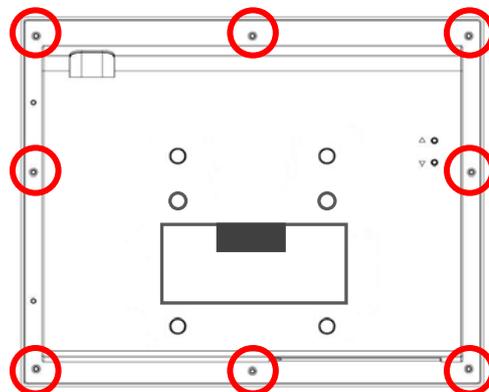
CAUTION:

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.

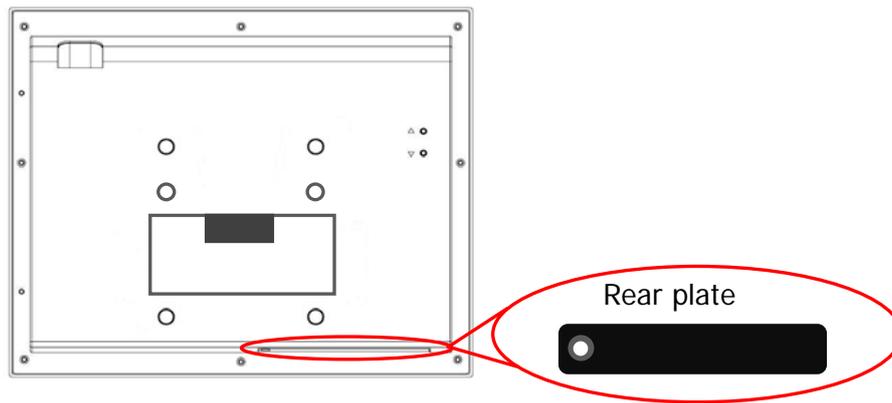
3. Unscrew four thumb screws on the hinged support as shown below to remove it. Next, slide main LCD display upward slowly from hinged support and remove it.



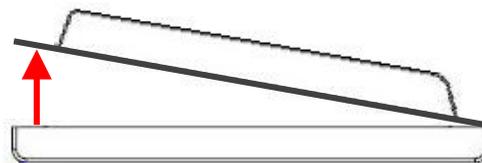
4. Place the main unit upside down. Then remove the eight screws indicated at the rear of the panel.



5. Remove a screw on the rear plate, and then lift the rear plate and remove it.



6. Open the panel back cover in the direction of the arrow.



Clearing CMOS

The HPOS II's configuration (CMOS) may occasionally be corrupted. If it is, it will be necessary to clear the CMOS memory using jumper JP1 for HPOS II. 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.

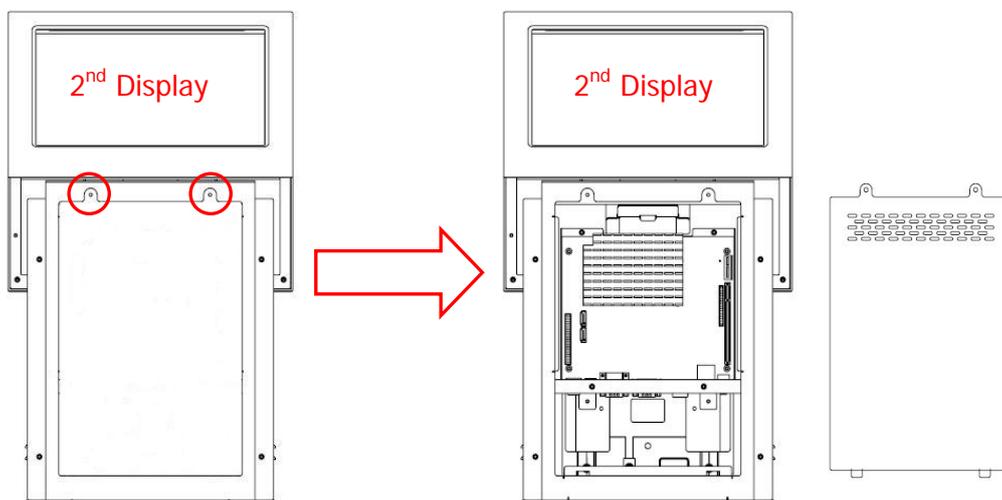
3. Remove the cover of system box.
4. Locate the JP1 jumper box on the main board for HPOS II.
5. Remove the jumper shunt from pins 1-2 and place over pins 2-3.
6. Wait 60 seconds to allow the CMOS to clear, then remove the jumper shunt and place it back in its original position over pins 2-3.
7. Replace the box cover and system box into the system.

Compact Flash Card Installation

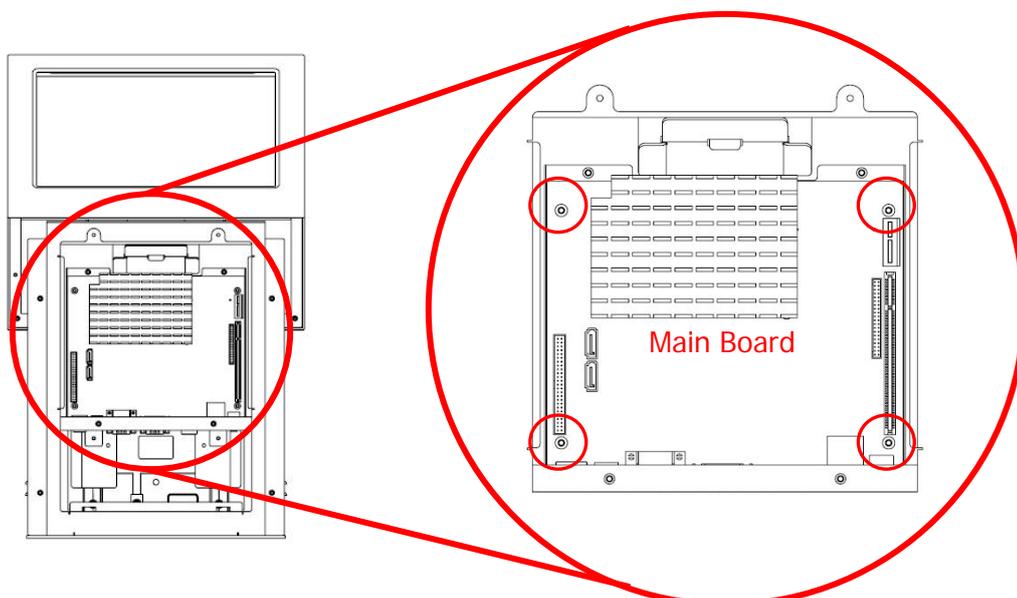
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.

 **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.

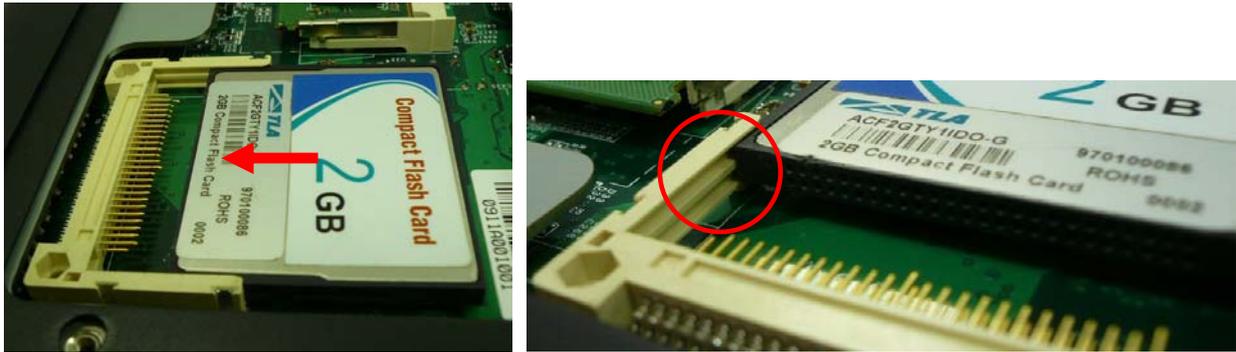
3. Unscrew the two attachment thumb screws. Next lift the metal cover and remove it from system.



4. Remove the four attachment screws, and take out the main board. Next, place the board upside down.



5. Insert the CF card into the CF socket.



6. Replace the cover of system box.
7. 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-inch 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-inch hard disk only is installed, the BIOS will automatically designate it as the 'master' drive and system boot device.

Additional Memory Installation

The memory sockets on the main board can be populated with up to two industry-standard DIMMs. The HPOS II comes standard with at least one preinstalled DIMM. To achieve maximum memory performance, up to 2GB of memory can be added.



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.

-
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.



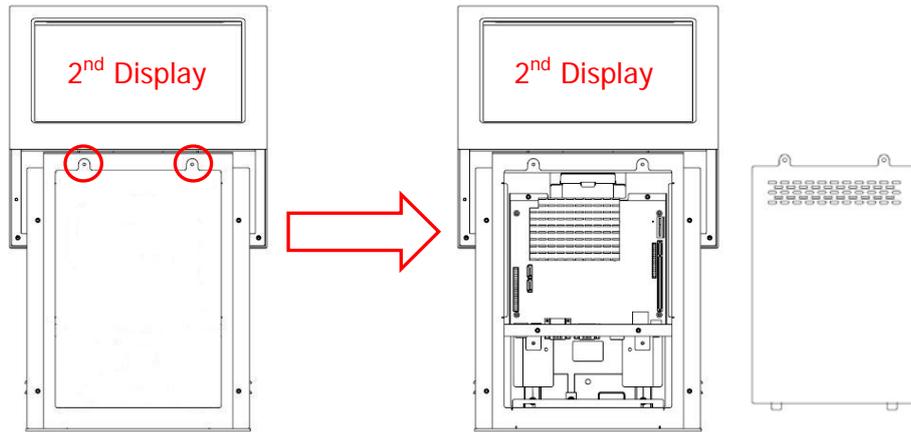
NOTE:

There are two DIMM sockets on the main board: U11 is located on the top side, while U23 is located on the bottom (below the RAM cover).

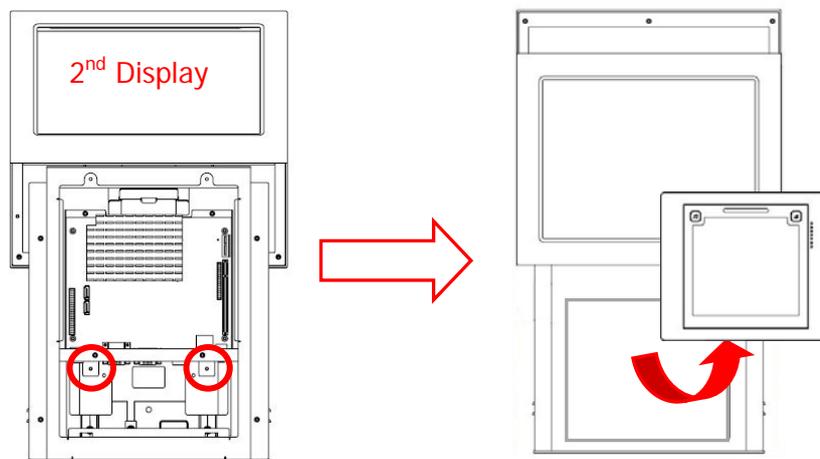
To replace the memory card on the main board's top side, the system box cover must be removed.

If the system has a UPS installed, the battery connector and battery pack must first be removed to gain access to the memory sockets. Please refer to the Uninterrupted Power Supply Installation section.

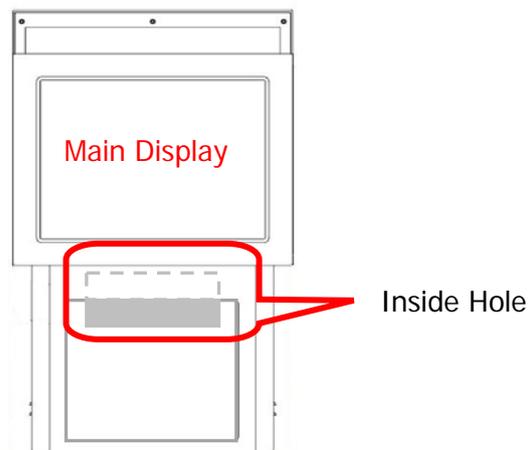
3. Unscrew the two attachment thumb screws. Next lift the metal cover and remove it from system.



4. Unscrew the scanner's two attachment screws, and then take out the scanner from system .



5. There is a rectangle hole on the inside of the system for easier inserting the additional or replacement memory card.



6. 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.

7. Insert the additional or replacement 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.



8. Reattach the scanner to the system with the two screws.
9. Replace the metal cover of system box and reattach two thumb screws.
10. 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



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.

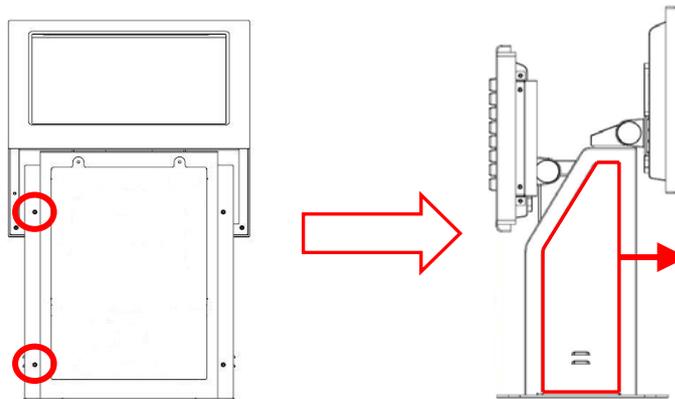
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.



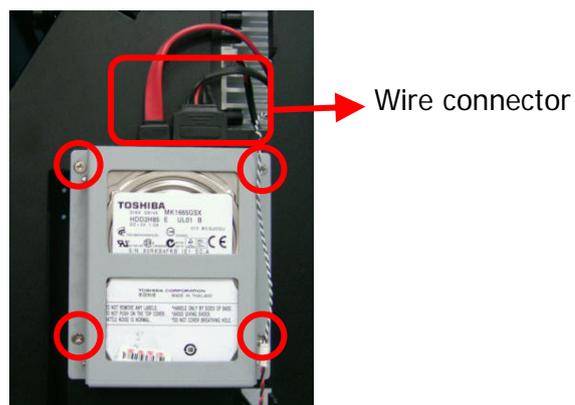
CAUTION:

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.

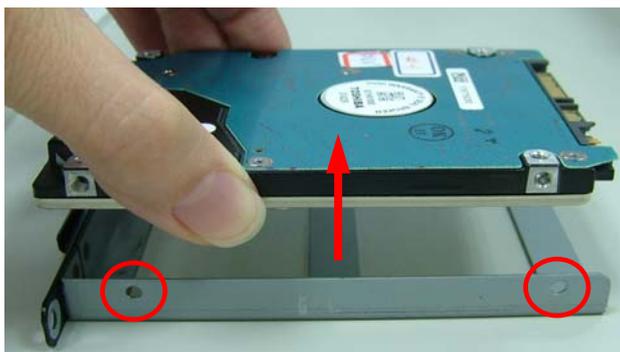
1. Unscrew two screws as shown below to remove it. Next, slide the side cover in the direction of the arrow and remove it from system.



2. Disconnect the two cable connectors from HDD, and then unscrew four HDD box's attachment screws and remove the HDD box from system.



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



4. Insert the replacement hard disk into the HDD box, and re-secure the screws.
5. Reattach the screws that secure the HDD box.
6. Place the HDD box onto the system box and secure the HDD box with four screws.
7. Replace the side cover of system box and secure the it with two screws.
8. Reconnect the power cord and any external devices, then turn on the system.

Chapter 3 Optional Components and Peripherals

MSR/Fingerprint/I-Button Module Installation



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.

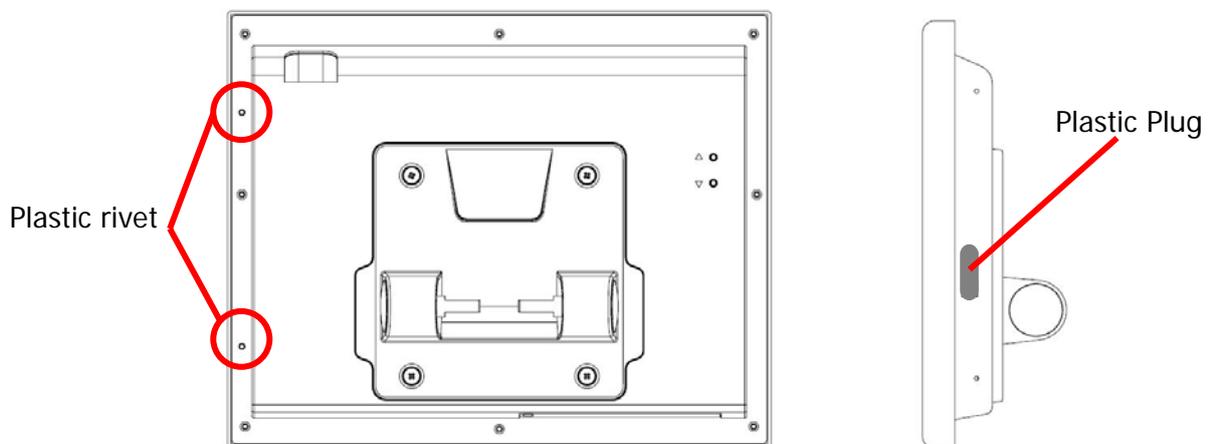
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.



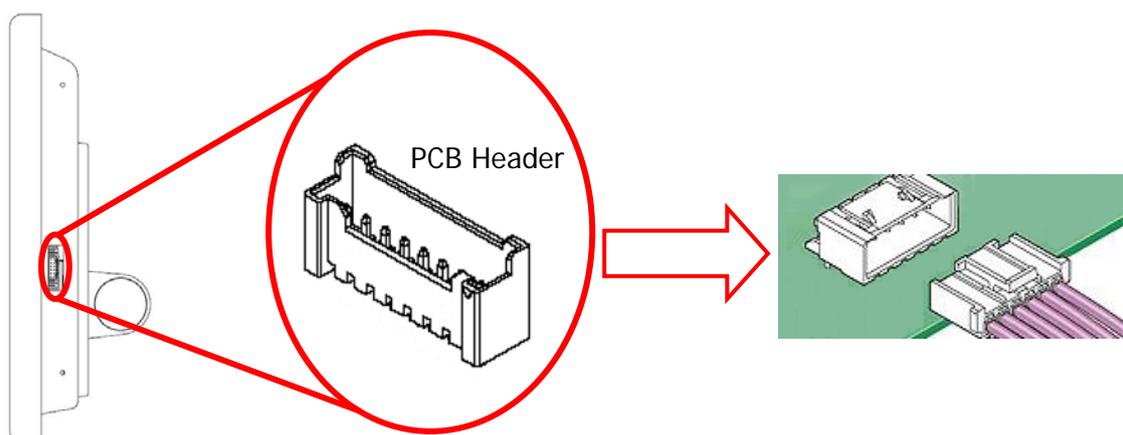
CAUTION:

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.

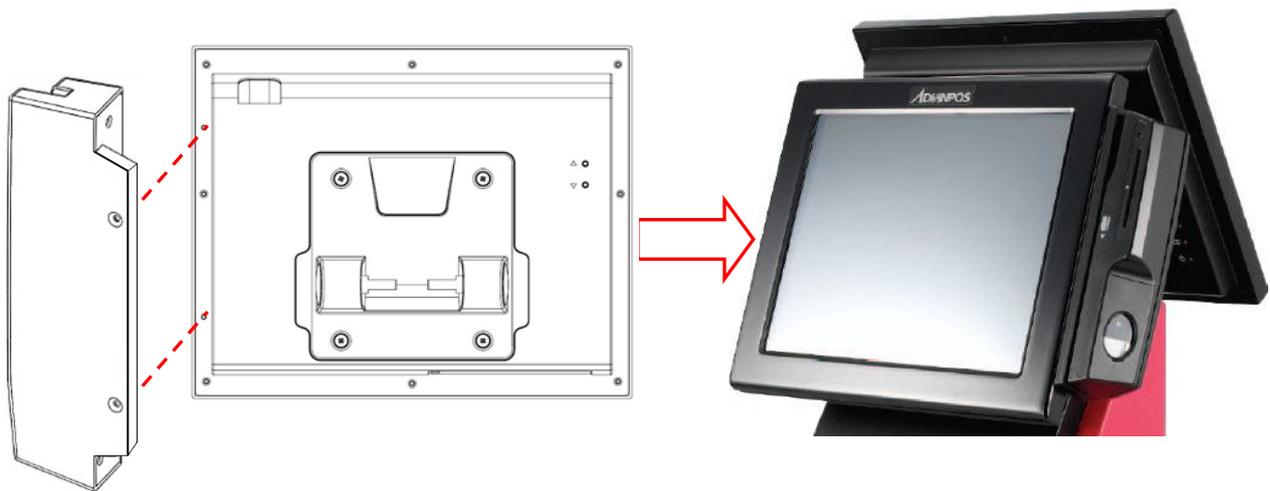
3. Remove the plastic plug and two plastic rivets on the right side of main display.



4. Connect the MSR module's cable into the header 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 under <CD>\Optional Module Data & Tool\MSR. If you need configure MSR module, please execute the utility under <CD>\Optional Module Data & Tool\MSR

Cash Drawer Installation



NOTE:

Before connecting a 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. Please refer to the Cash Drawer Power Select Connector section.

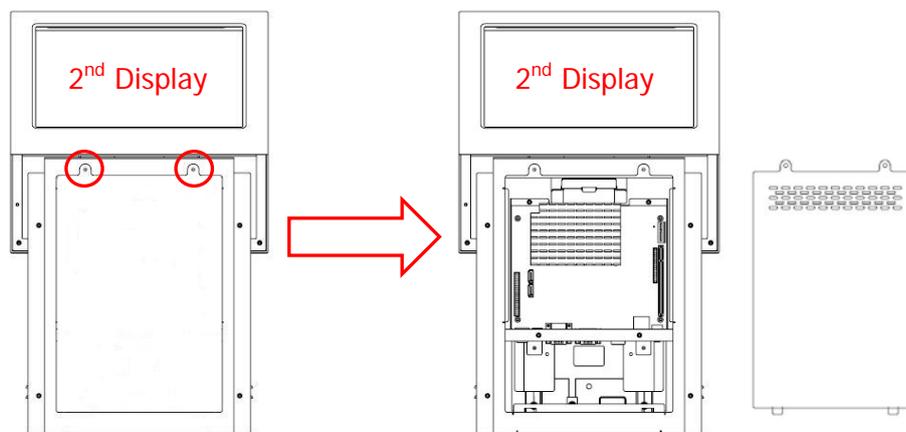
1. Remove all removable media, such as compact discs, from the system unit.
2. Turn off the system power properly through the operating system, then turn off any external devices.
3. Disconnect the power cord from the power outlet and disconnect any external devices.



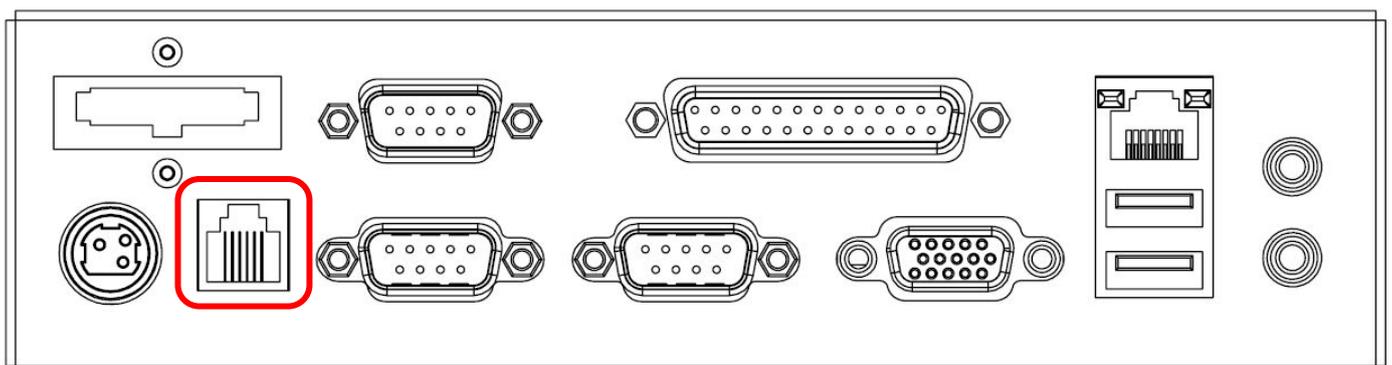
CAUTION:

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.

4. Unscrew the two attachment thumb screws. Next lift the metal cover and remove it from system.



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



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

Rear Mount 12-inch 2nd Display Module Installation

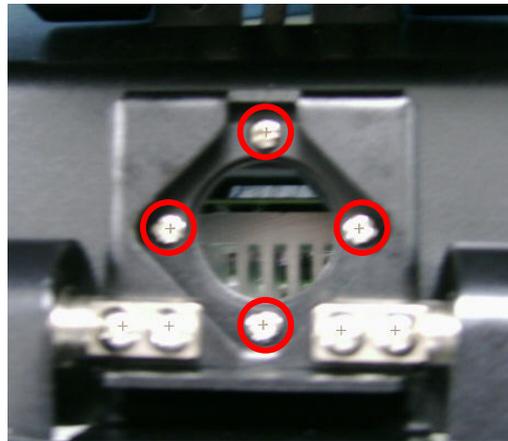
1. Turn off the system power properly through the operating system, then turn off any external devices.
2. Disconnect the power cord from the power outlet and disconnect any external devices.



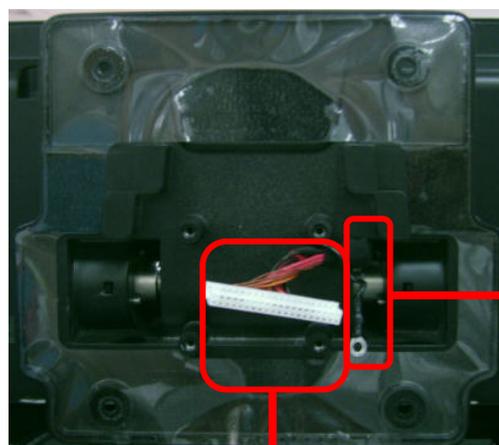
CAUTION:

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 two attachment thumb screws. Next lift the metal cover and remove it from system.
4. Screw the four screws used to hold the display's hinge module on the top of main unit.



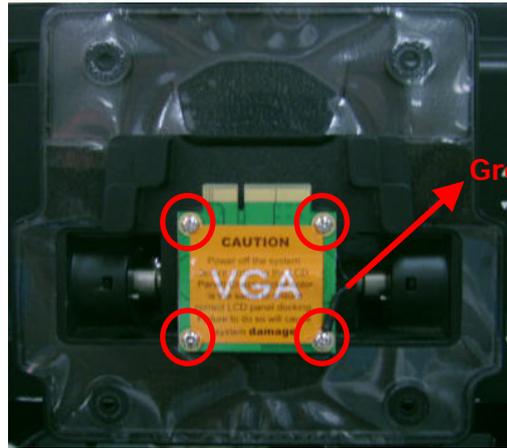
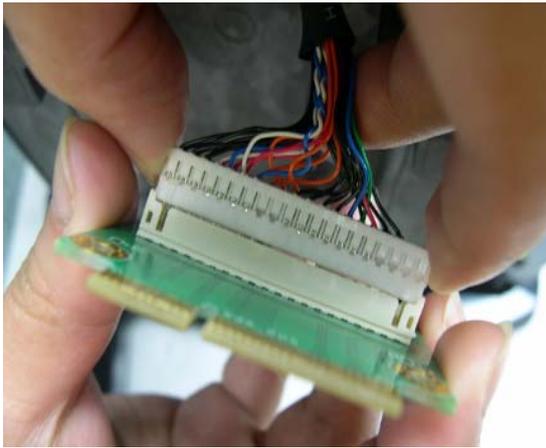
5. From the guide hole, pass the 2nd display signal cable through the display module's hinged support hole as shown below.



Hinged support hole

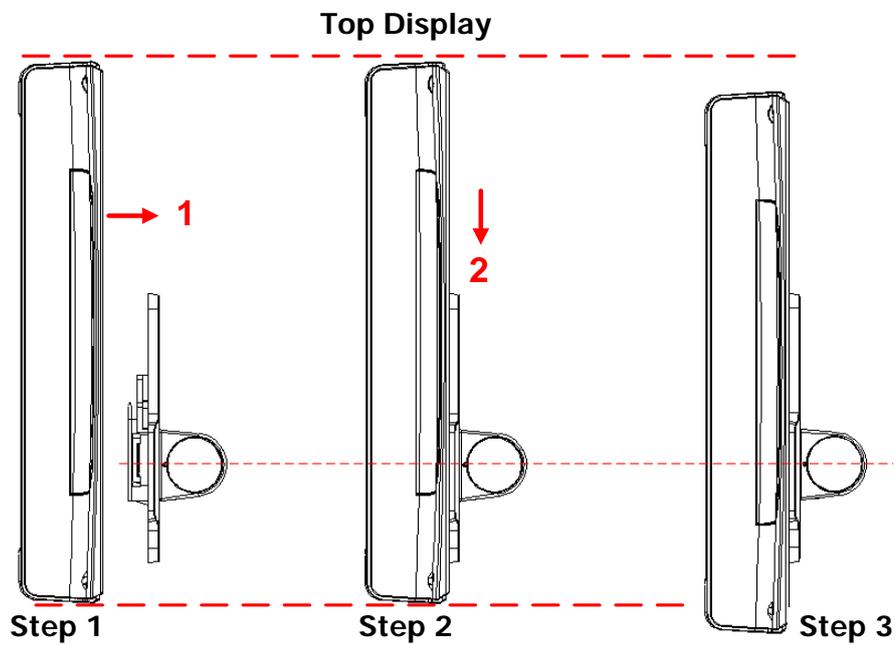
2nd display signal cable

6. Connect the signal cable to the VGA hinge board and secure the ground wire on the VGA hinge board. Next, secure the board to the hinged support with four screws.

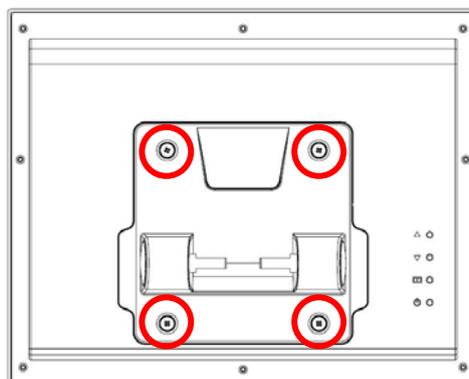


Ground wire

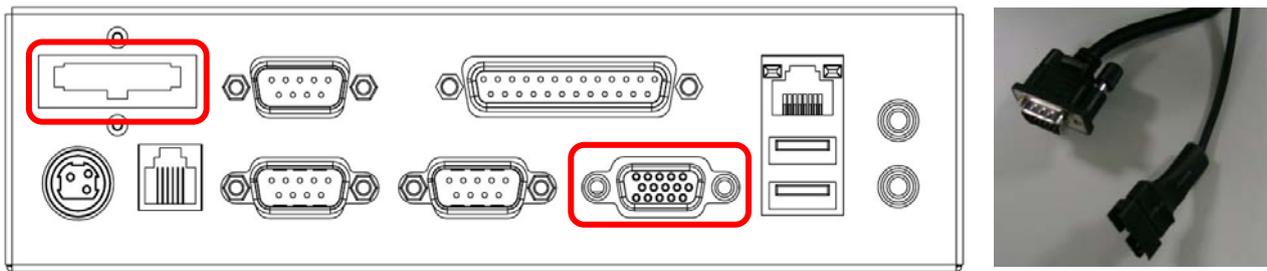
7. Slide the 2nd LCD display on to the hinged support as shown.



8. The four locking thumb screws should be installed to ensure that the 12-inch 2nd display is secure.



9. Plug the cable into COM6 port and VGA port.



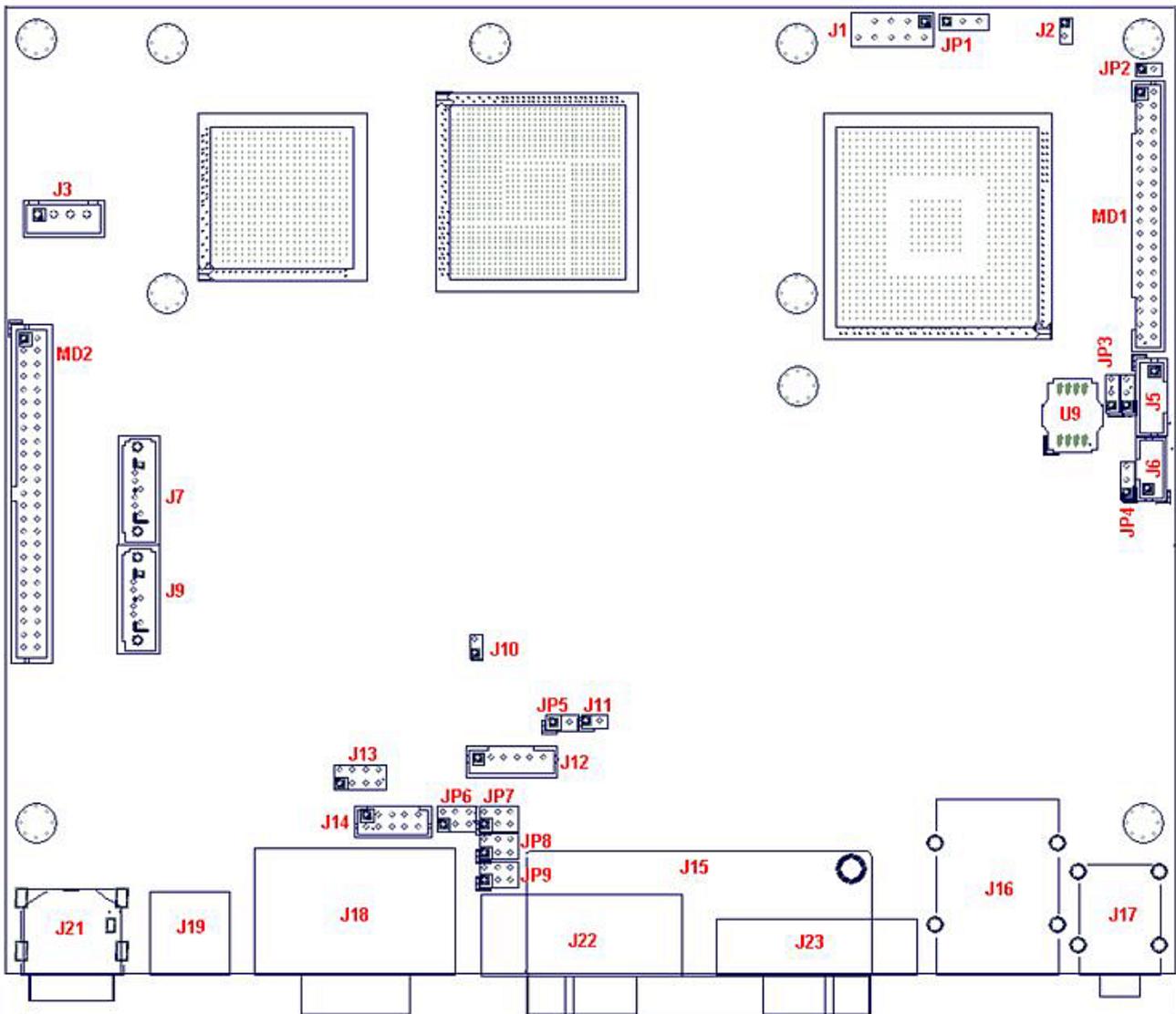
10. Place the hinge cover and secure the hinge cover with two screws.

11. Replace the metal cover of system box and reattach two thumb screws.

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

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

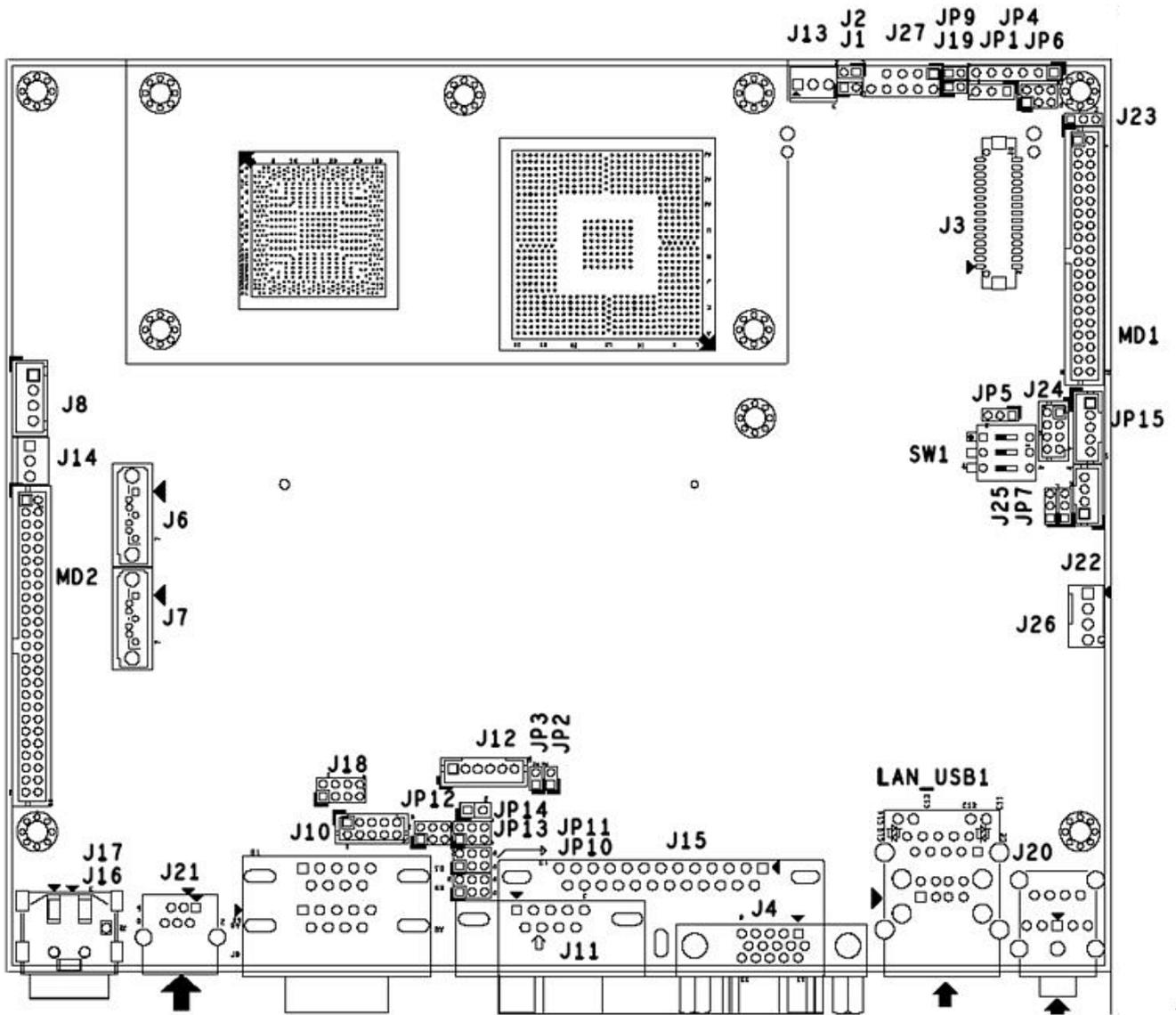
JP8**COM2 RI Function Selection**

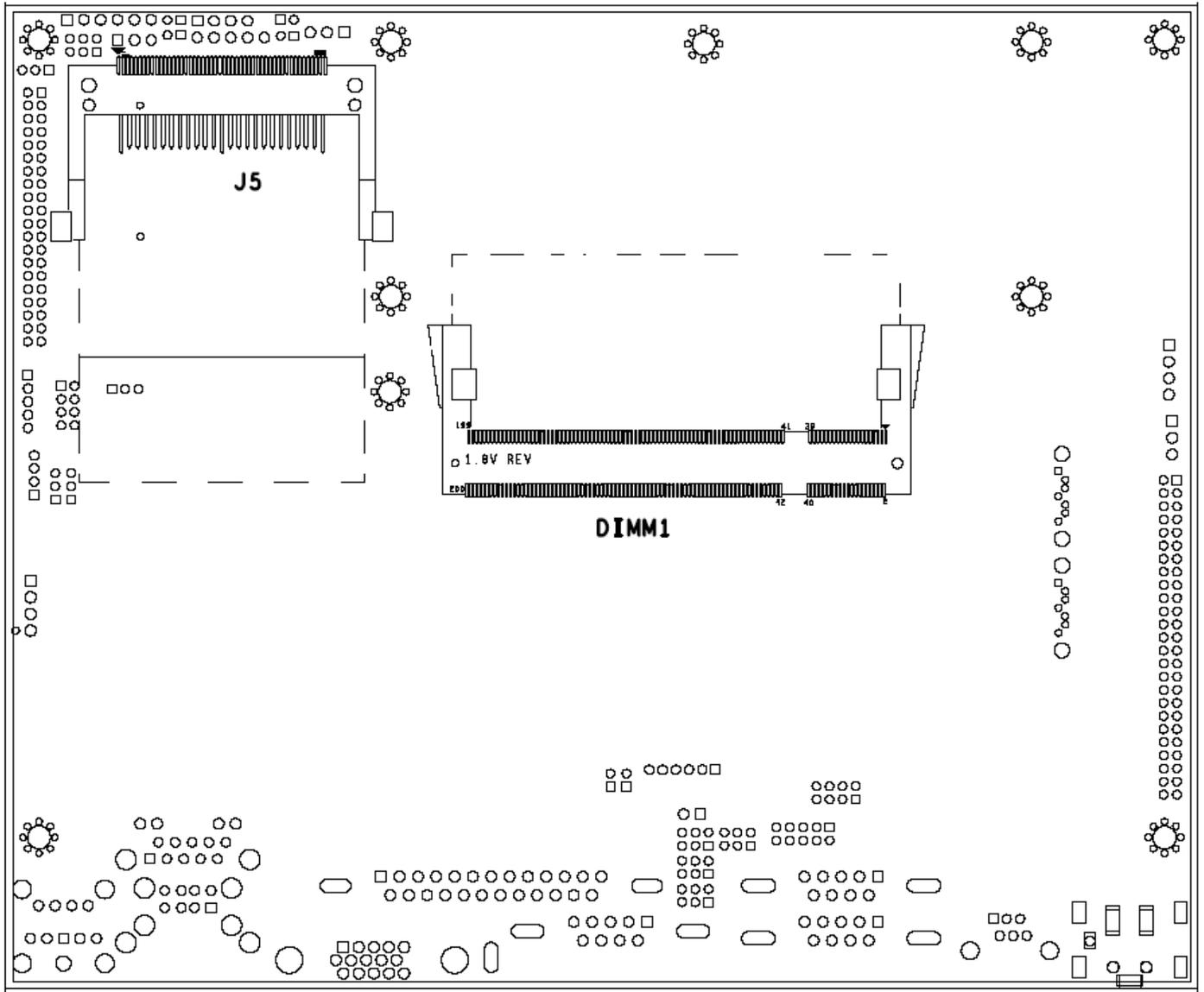
PIN No.			Function
1-2	3-4	5-6	
Short			+5V output
	Short		RI function ★
		Short	+12V output

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)

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	KICK-OUT1
3	IN-SENSE	4	+12V
5	KICK-OUT2	6	GND

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

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		

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		

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

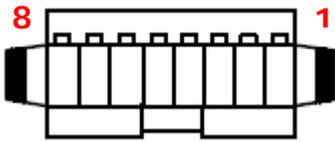
JP11**COM2 RI Function Selection**

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

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

This system comes with a variety of drivers for different operating systems. A software CD is included in the package contents.

Driver Software List

Driver	Driver Setup Location
Intel Chipset	<CD>:\Driver\MB\Navy Pier\Intel INF <CD>:\Driver\MB\Luna Pier\Intel INF
Intel Graphics	<CD>:\Driver\MB\Navy Pier\VGA <CD>:\Driver\MB\Luna Pier\VGA
ELO Touch Screen	<CD>:\Driver\Peripheral\Touch\ELO
Abon Touch Screen	<CD>:\Driver\Peripheral\Touch\Abon
RealTek Audio	<CD>:\Driver\MB\Navy Pier\Audio <CD>:\Driver\MB\Luna Pier\Audio
PCI-E Ethernet	<CD>:\Driver\MB\Navy Pier\GLAN <CD>:\Driver\MB\Luna Pier\GLAN
802.11b/g/n Wireless	<CD>:\Driver\Peripheral\WLAN\LR802UKN3_802.11bgn
USB RFID	<CD>:\Driver\Peripheral\RFID\USB driver
Fingerprint Reader	<CD>:\Driver\Peripheral\FingerPrint\URU4000B\DP Plat frsw 3.2
IC Card Reader	<CD>:\Driver\Peripheral\IC Card Reader\EZ100PU Driver
Cash Drawer and UPS	<CD>:\Driver\ MB\Navy Pier\System Driver <CD>:\Driver\ MB\Luna Pier\System Driver
OPOS CCOs	<CD>:\Driver\OPOS\CCOs
AdvanPOS OPOS Driver	<CD>:\Driver\OPOS\OPOS Driver
VFD Configure tool	<CD>:\Optional Module Data & Tool\VFD\ RearMount VFD\LD220SetupAP_V2.3
MSR Configure tool	<CD>:\Optional Module Data & Tool\MSR
RFID Configure tool	<CD>:\Optional Module Data & Tool\RFID\C type

Intel Chipset Driver Installation

1. Run the setup.exe file on the CD in folder <CD>:\Driver\MB\Navy Pier\Intel INF or <CD>:\Driver\MB\Luna Pier\Intel INF



2. Click the Next button on the Welcome screen.

3. Click Yes on the License Agreement screen.

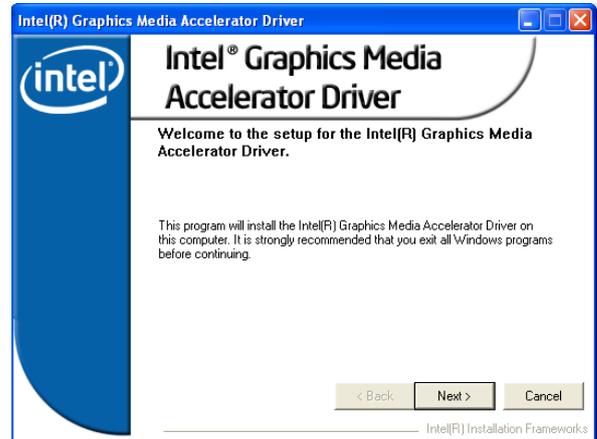
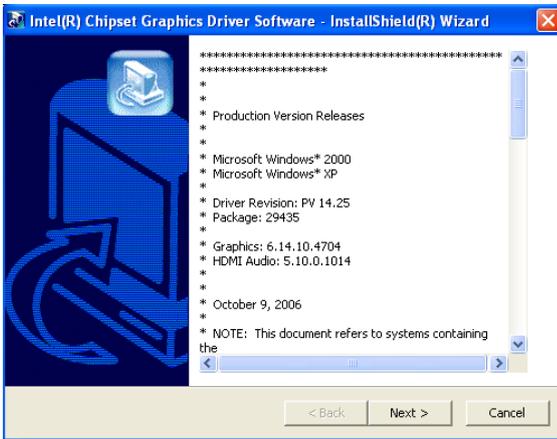


4. Click Next on the Information screen.

5. When installation is complete, click Finish.

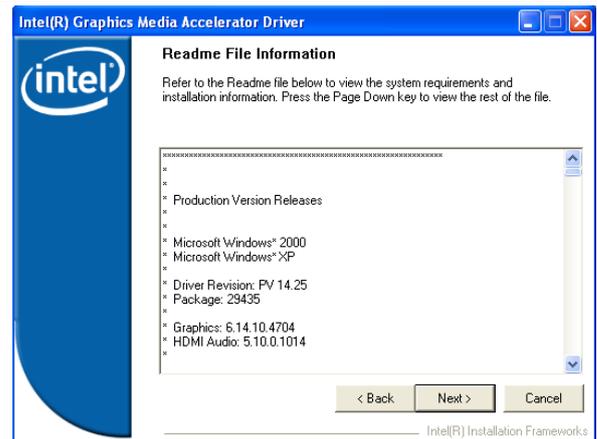
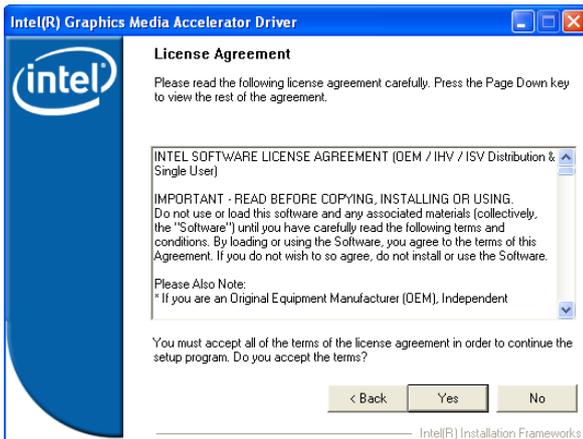
Intel Graphics Driver Installation

1. Locate and Run the win2k_xp1425.exe file on the CD in folder
<CD>:\Driver\MB\Navy Pier\VGA or
<CD>:\Driver\MB\Luna Pier\VGA



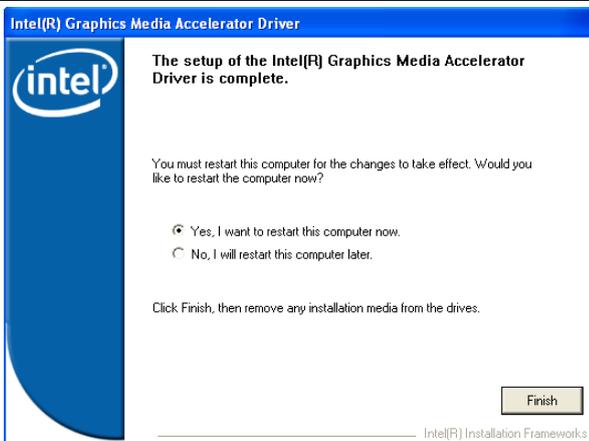
2. Click Next on the Wizard screen.

3. Click Next on the Welcome screen.



4. Click Yes on the License Agreement screen.

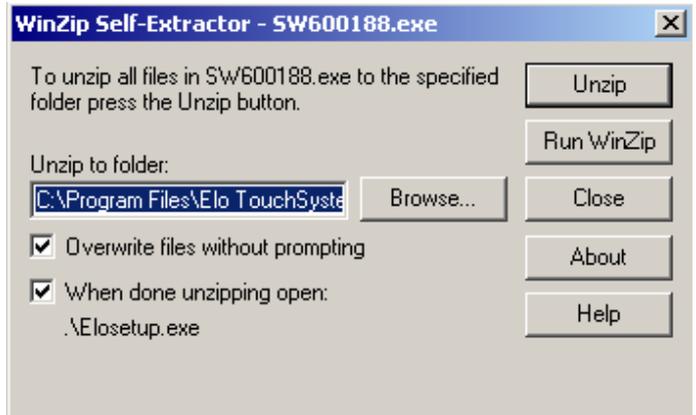
5. Click Next on the Information screen.



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

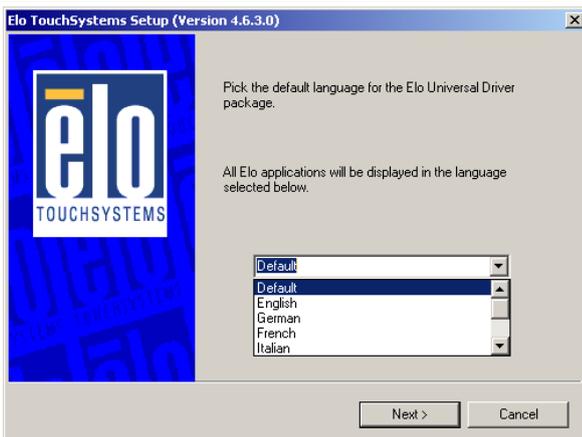
ELO Touch Screen Driver Installation

1. Locate and Run the sw600188.exe file on the CD in folder <CD>:\Driver\Peripheral\Touch\ELO



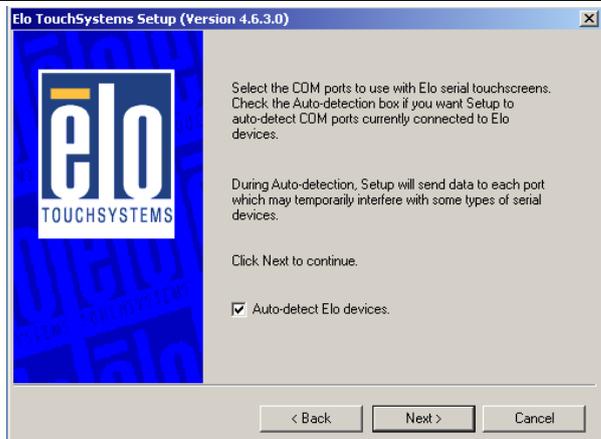
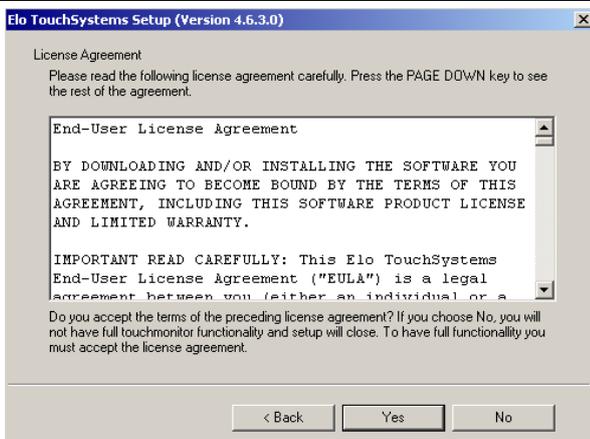
2. Click OK on the Welcome screen.

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



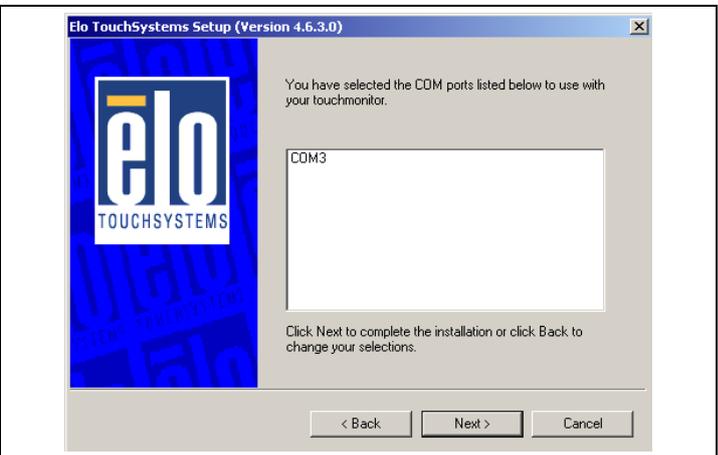
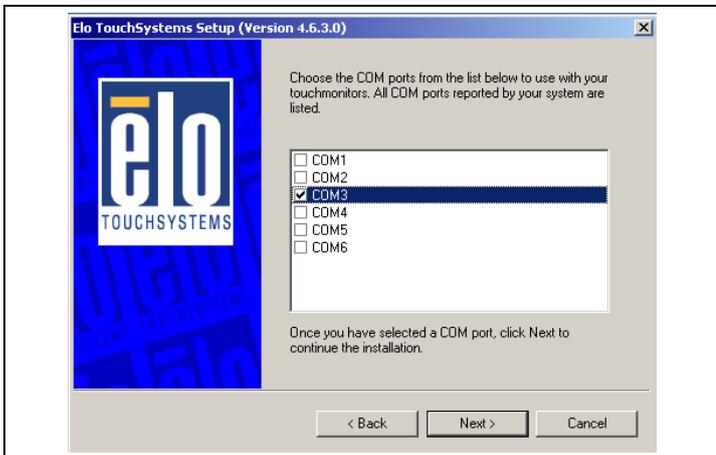
4. Select Default installation language, click Next.

5. Select Install Serial Touchscreen Drivers, click Next.



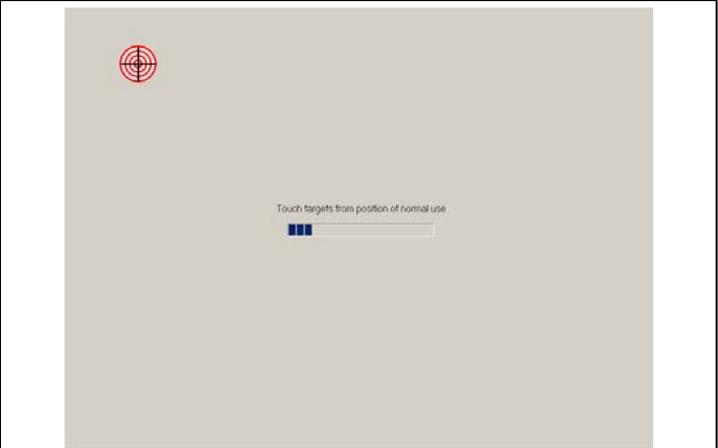
6. Click Yes on the License Agreement screen.

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



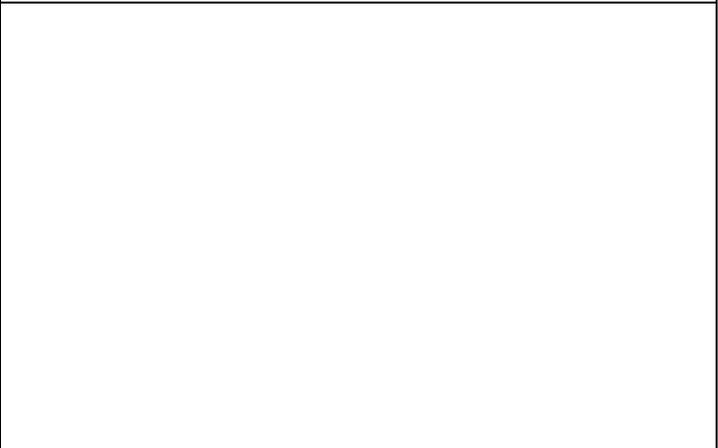
8. Select COM3, click Next.

9. Click Next to confirm COM port selection.



10. Select Calibrate Elo Touchscreen monitors, click Finish.

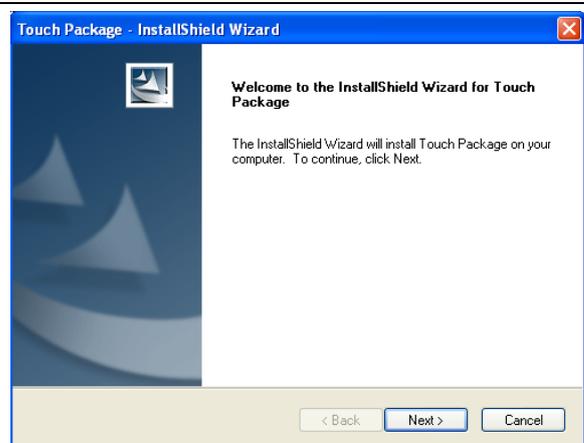
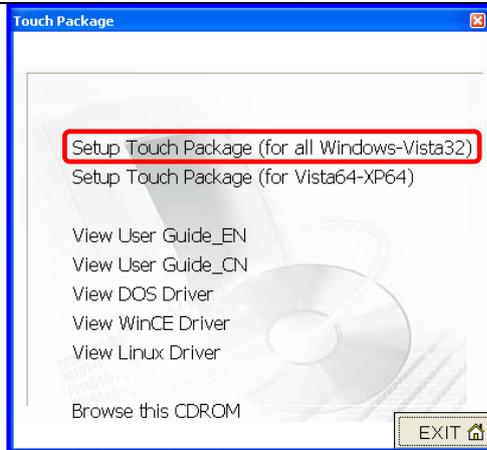
11. Calibrate the three red points as instructed.



12. Click the green checkmark button to complete Elo Touch installation.

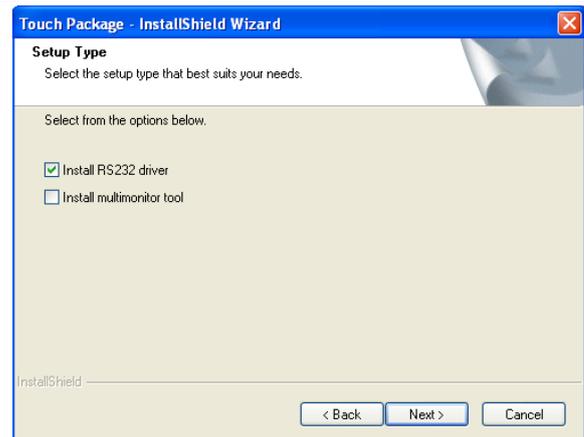
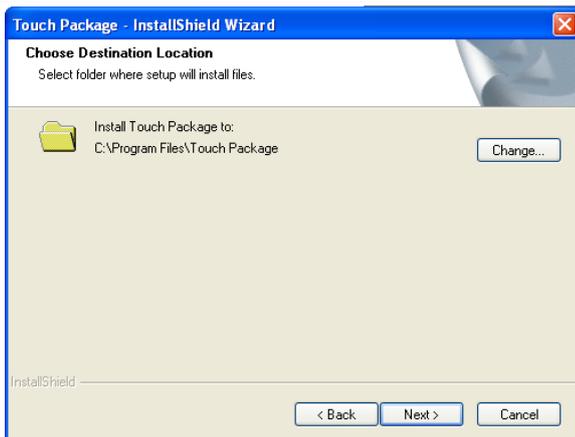
Abon Touch Screen Driver Installation

1. Locate and Run the autorun.exe file on the CD in folder <CD>:\Driver\Peripheral\Touch\Abon



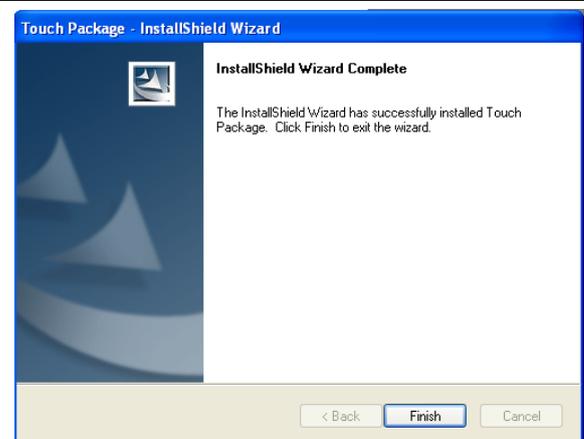
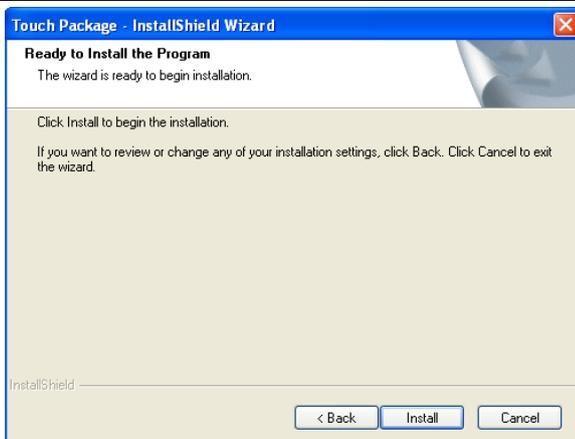
2. Select Setup Touch Package (for all Windows-Vista32).

3. Click Next on the Welcome screen.



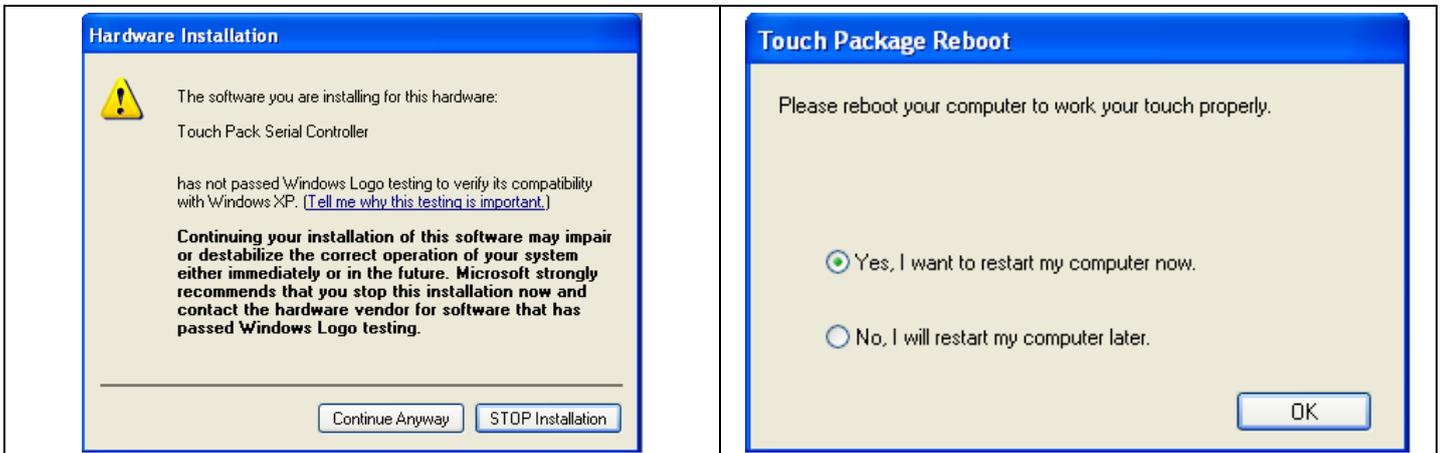
4. Click Next to confirm destination location.

5. Select Install RS232 driver and click Next.



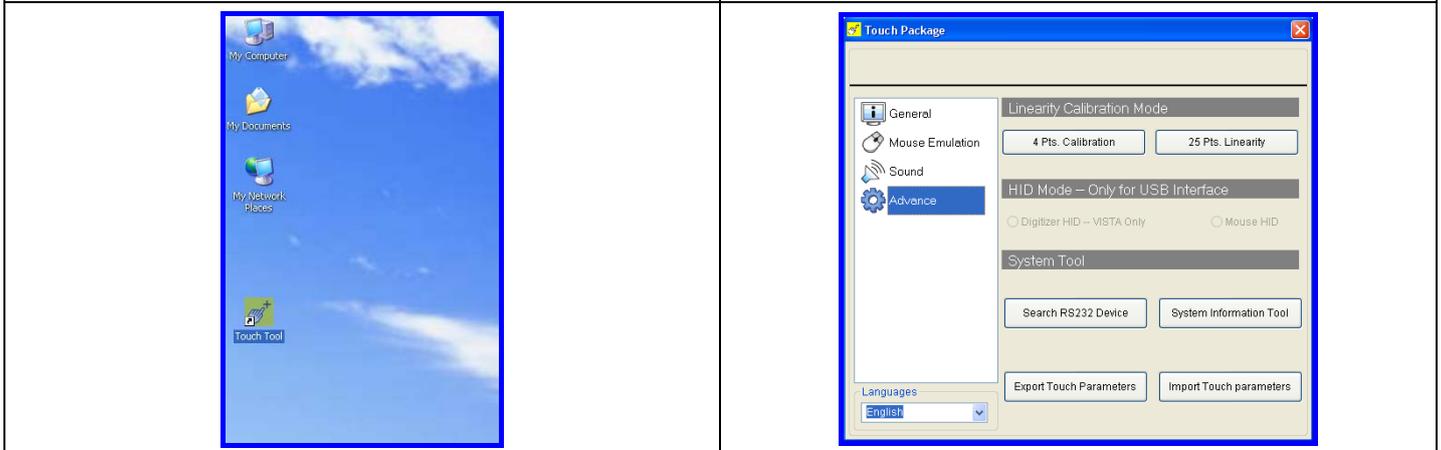
6. Click Install to begin installation.

7. Click Finish to complete.



8. Click Continue Anyway.

9. Click OK to reboot the system.

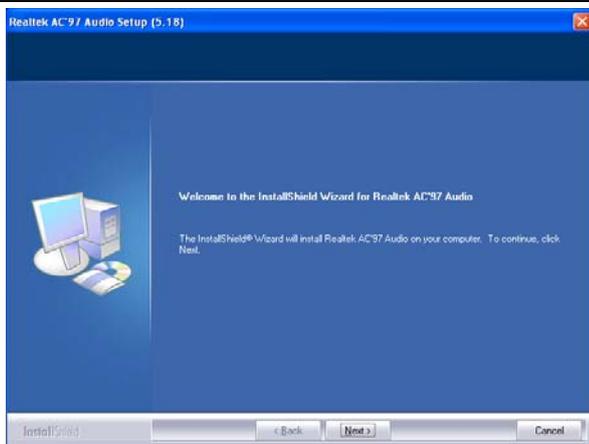


10. Run the Touch Tool on the desktop.

11. Select Advance and click on the 4 Pts. Calibration button.

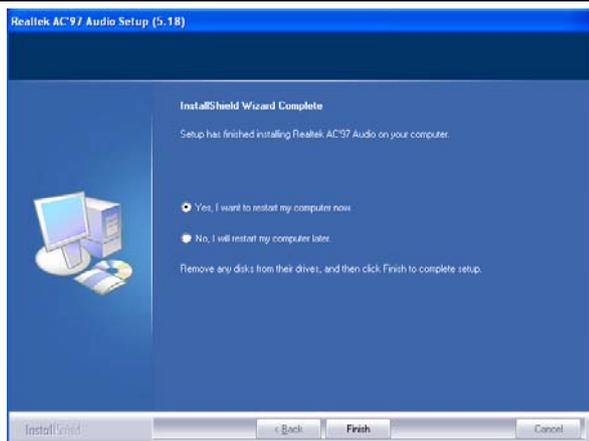
Audio Driver Installation

1. Locate and Run the WDM_A381.exe file on the CD in folder
<CD>:\Driver\MB\Navy Pier\Audio or
<CD>:\Driver\MB\Luna Pier\Audio



2. Click Next on the Welcome screen.

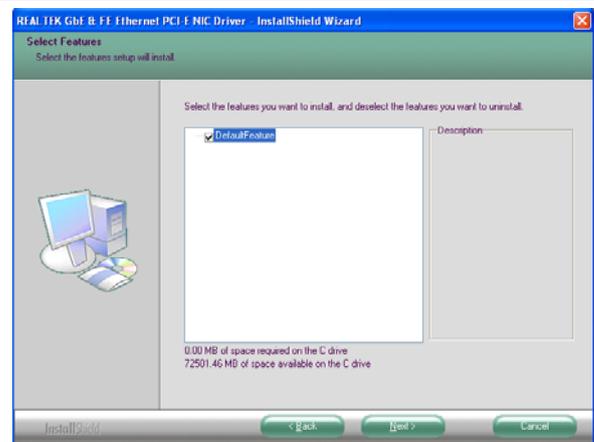
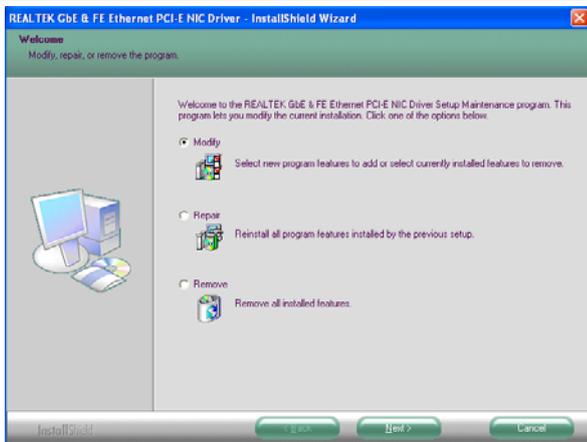
3. Click Continue Anyway on the Hardware Installation screen.



4. When installation is complete, click Finish to restart the system.

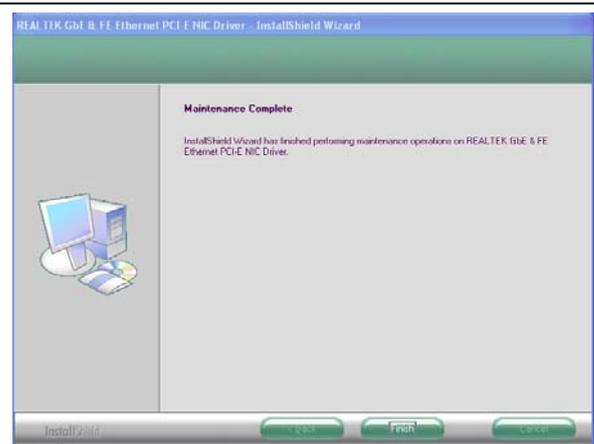
Ethernet Driver Installation

1. Locate and Run the setup.exe file on the CD in folder
<CD>:\Driver\MB\Navy Pier\GLAN or
<CD>:\Driver\MB\Luna Pier\GLAN



2. Select Modify, click Next.

3. Select Default Feature and click Next.

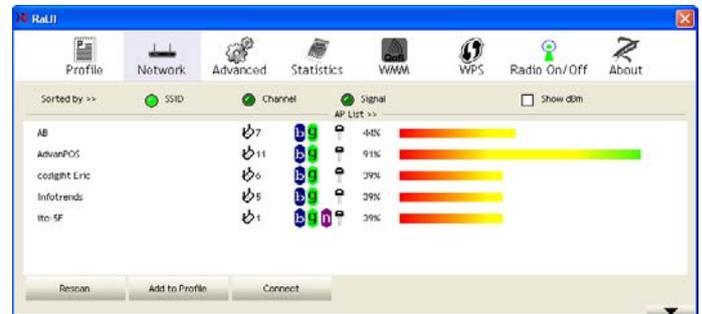
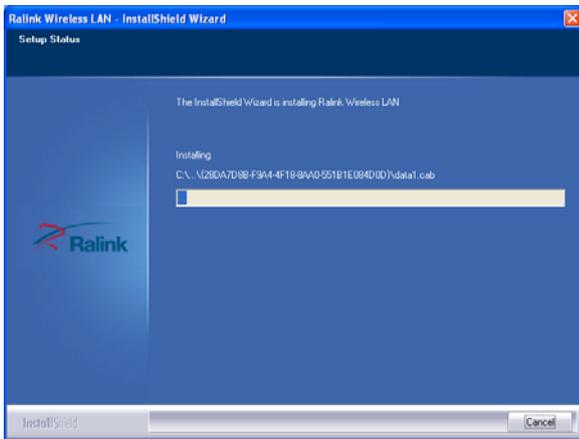


4. Click Continue Anyway on the Hardware Installation screen.

5. When installation is complete, click Finish.

Wireless LAN Driver Installation (optional)

1. First, plug in the USB WLAN Interface module. Locate and Run the setup.exe file on the CD in folder <CD>:\Driver\Peripheral\WLAN\LR802UKN3_802.11bgn

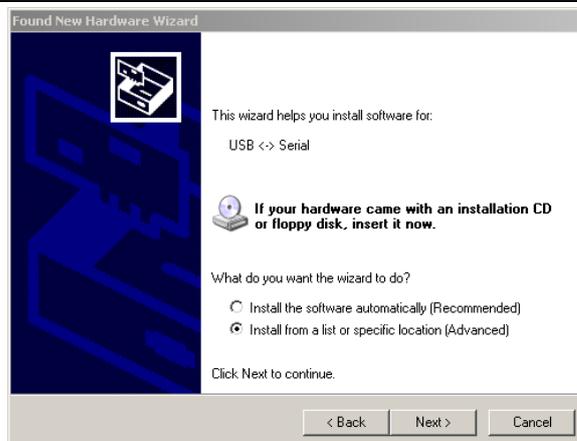


2. Wait as the WLAN driver is installed.

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

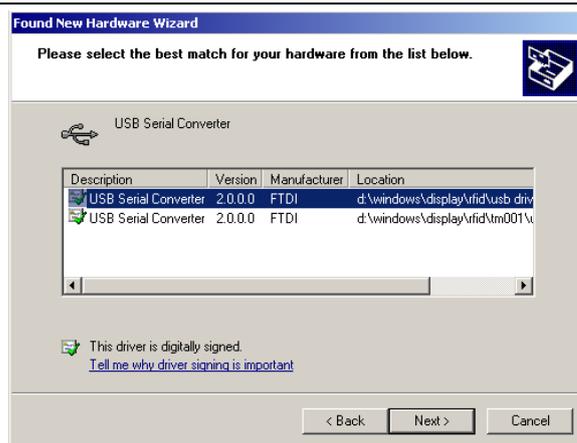
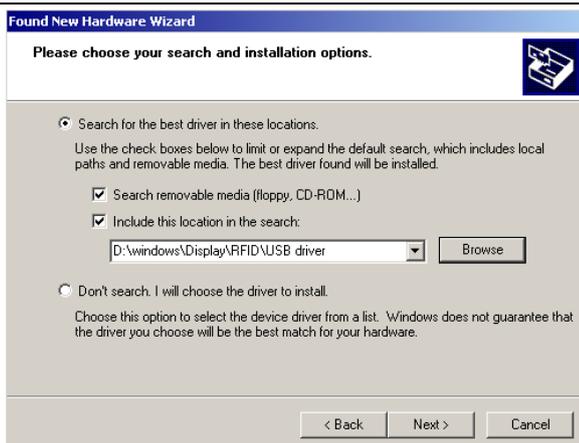
RFID Driver Installation (optional)

1. Plug in the USB RFID Module and wait for the following screen.



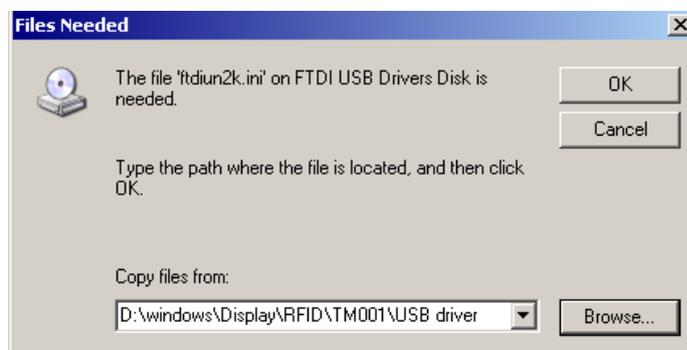
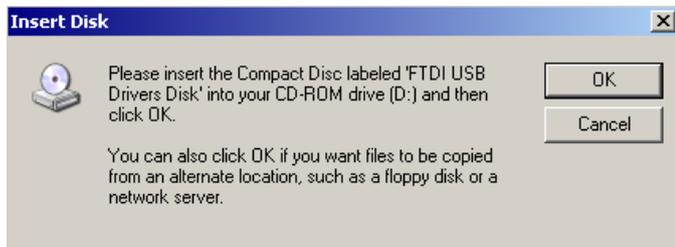
2. Select Yes, this time only and then click Next.

3. Select Install from a list specific location (Advanced), click Next.



4. Click Next after making sure the check boxes shown are marked.

5. Click Next to accept the selection.



6. Click OK.

7. Locate or confirm the driver directory, click OK.



8. Click Finish to complete the USB Serial Converter installation.

9. Repeat for the USB Serial Port installation.



10. Click Yes to restart the system.

11. There are RFID test tool under <CD>:\Optional Module Data & Tool\RFID\C Type

MSR Driver Installation (optional)

1. First, install the MSR module.
2. Reboot system to automatically complete MSR driver installation.
3. Please execute MSRCfgSetup_V1.36.exe under <CD>:\Optional Module Data\MSR for MSR testing.

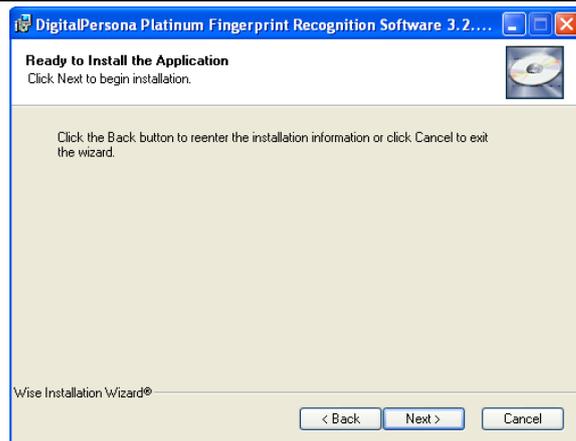
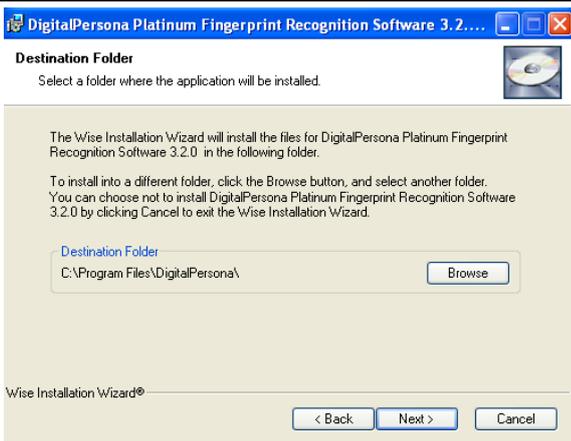
Fingerprint Reader Driver Installation (optional)

1. Plug in the 2-in-1 Fingerprint Reader and MSR module.
2. Locate and Run the setup.exe file in folder <CD>:\Driver\Peripheral\FingerPrint\URU4000B\DP Plat frsw 3.2



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. Click Finish.

8. Click Yes to restart the system (required).

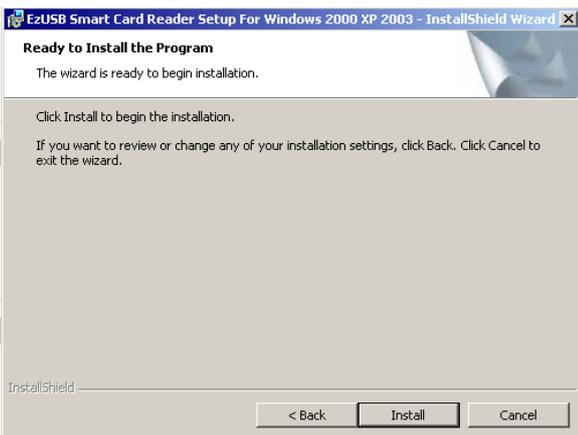
IC Card Reader Driver Installation (optional)

1. Plug in the 3-in-1 MSR/I-Button/IC Card Reader module.
2. Locate and Run the setup.exe file in folder <CD>:\Driver\Peripheral\IC Card Reader\EZ100PU Driver



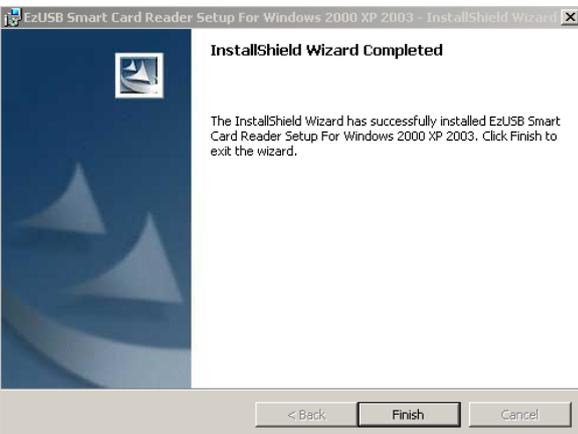
3. Select language, click OK.

4. Click Next on the Welcome screen.



5. Click Install to begin installation.

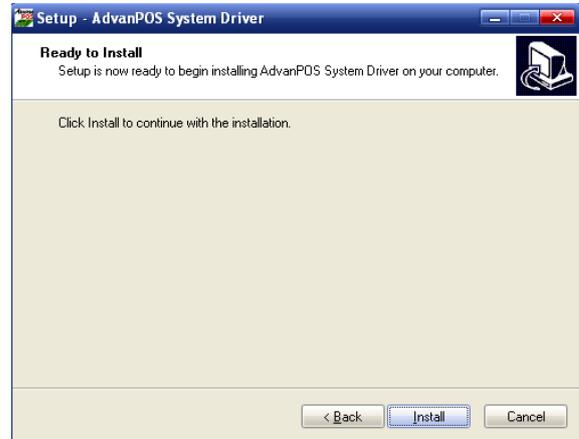
6. Click OK on the Note screen.



7. Click Finish.

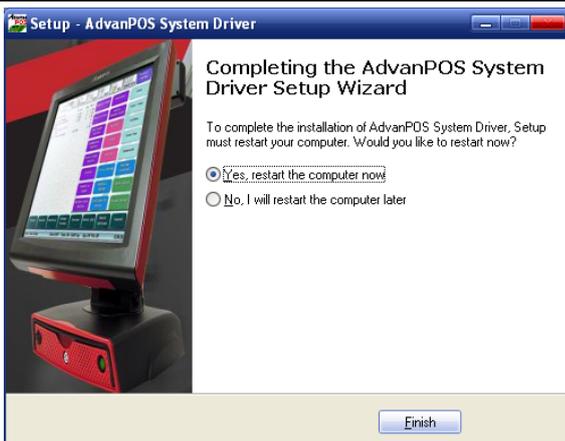
AdvanPOS System Driver Installation (required for Cash Drawer)

1. Locate and Run the setup.exe file in folder
<CD>:\Driver\MB\Navy Pier\System Driver or
<CD>:\Driver\MB\Luna Pier\System Driver



2. Click Next on the Welcome screen.

3. Click Install on the Ready to Install screen.

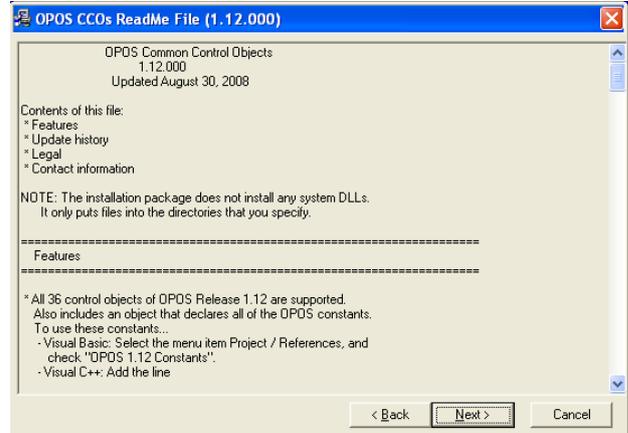
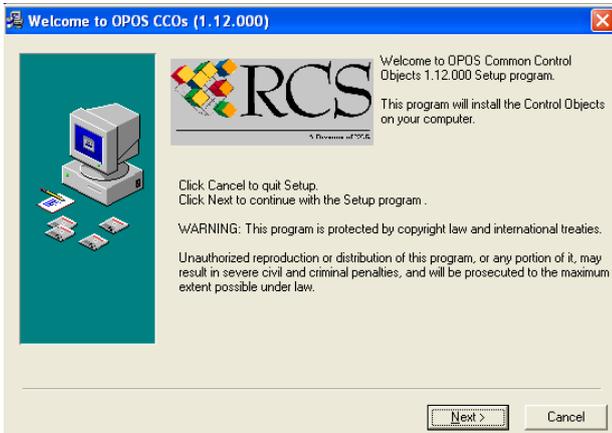


4. Click Finish on the Completing installation screen. A system restart is required to complete the installation.

OPOS CCO Driver Installation

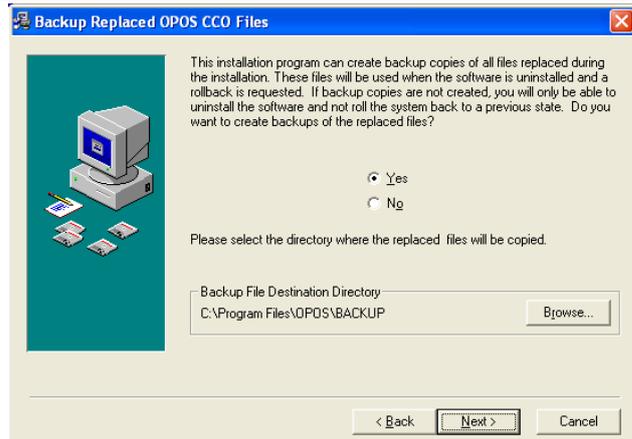
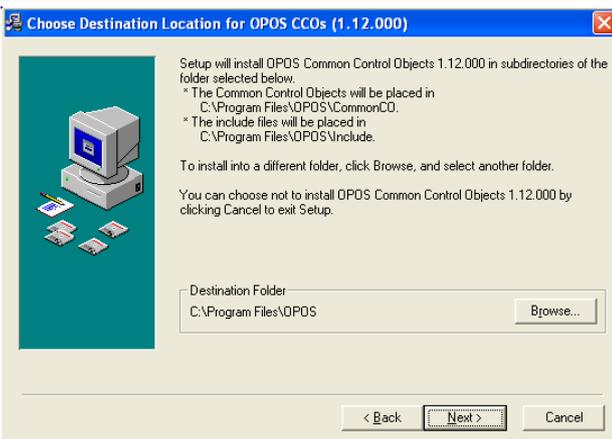
Before installing the OPOS driver, please make sure the AdvanPOS System Driver has been installed. The OPOS driver for the HPOS II supports the Cash Drawer, MSR, I-Button (KeyLock) and RFID.

1. Locate and Run the OposCCOs-1_12_000.exe file in folder <CD>:\Driver\OPOS\CCOs



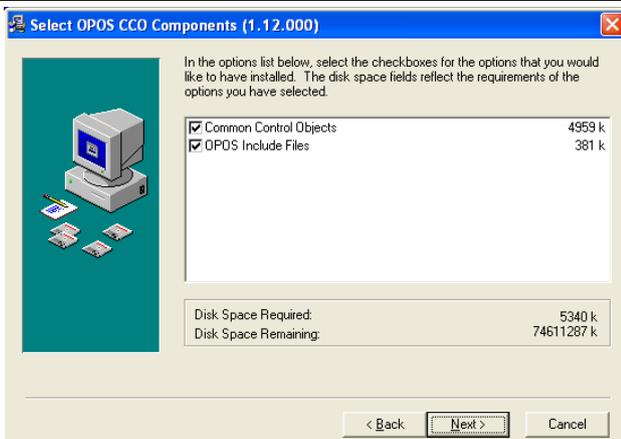
2. Click Next on the Welcome screen.

3. Click Next on the ReadMe screen.



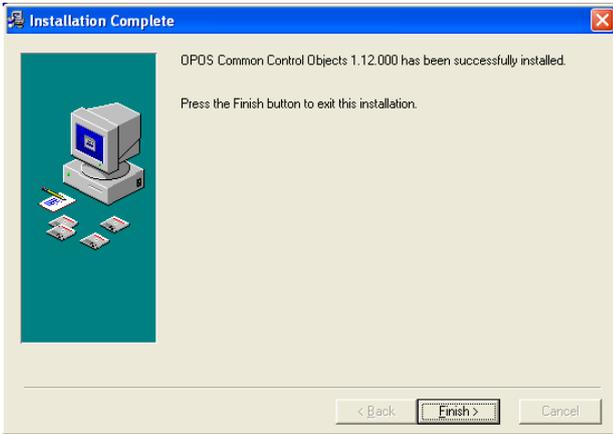
4. Click Next to confirm the Destination Location.

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



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

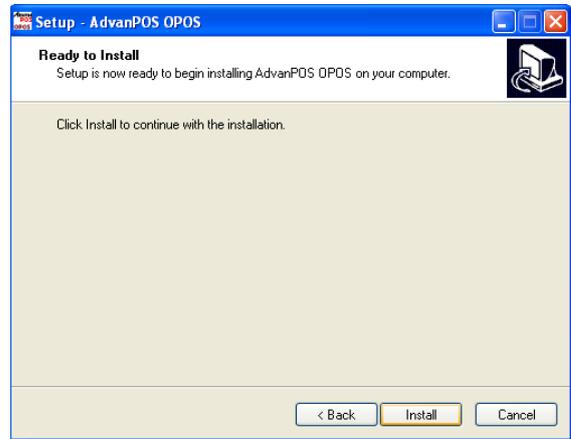
7. Click Next on the Start Installation screen.



8. Click Finish on the Installation Complete screen.

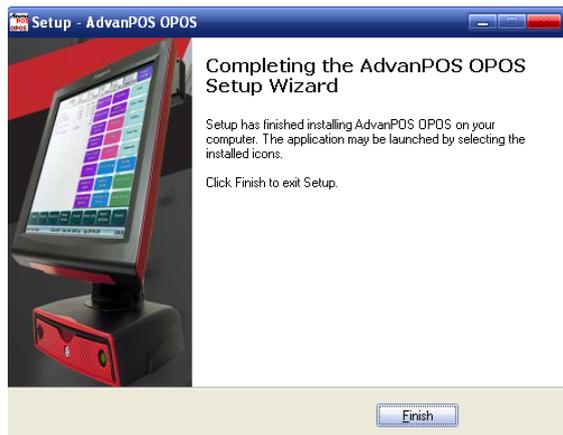
AdvanPOS OPOS Driver Installation

1. Locate and Run the setup.exe file in folder <CD>:\Driver\OPOS\OPOS Driver



2. Click Next on the Welcome screen.

3. Click Install on the Setup screen.



4. Click Finish on the Completing installation screen.

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 Visual Basic Cash Drawer Code for Windows



NOTE:

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

```
' Use inside a form's code section and use Option Explicit
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

' A Form with a single button and one static text box
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As System.EventArgs) Handles Button1.Click

    Dim DeviceHandle As Integer = 0, iBytesRtn As Integer
    Dim iRet As Integer, iDrawer As Integer, iStatus 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 ADV_OPEN_CTL_CODE As Long = &HDAF52400
    Const ADV_STATUS_CTL_CODE As Long = &HDAF52480

    Err.Clear()

    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
        Debug.Print("Error opening ADVSYS.sys. Error = " & Err.LastDllError)
    Else
        ' Open Drawer #1
        iDrawer = 1
        iRet = DeviceIoControl(DeviceHandle, ADV_OPEN_CTL_CODE, iDrawer, 4, 0, 0, iBytesRtn, 0)

        If (iRet = 0 Or iBytesRtn <> 1) Then
            Debug.Print("Error writing to Cash Drawer Driver. Error" & Err.LastDllError)
        End If

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

        If (iRet = 0 Or iBytesRtn <> 1) Then
            Debug.Print("Error writing to Cash Drawer Driver. Error" & Err.LastDllError)
        End If
    End If
End Sub
```

```
' Get Drawer Status
iRet = DeviceIoControl(DeviceHandle, ADV_STATUS_CTL_CODE, 0, 0, iStatus, 4, iBytesRtn, 0)

If (iRet = 0 Or iBytesRtn <> 1) Then
    Debug.Print("Error writing to Cash Drawer Driver. Error" & Err.LastDllError)
End If

If (iStatus = 0) Then
    StatusText.Text = "Cash Drawer(s) Closed"
Else
    StatusText.Text = "Cash Drawer(s) Open"
End If

CloseHandle(DeviceHandle)
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

```