User Manual

January 2009 Revision 1.0

All-in-one Hardware System

Manual Version 1.0
Part Number: 3LMPP4750100

TRADEMARK

Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical Power Supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

CE MARK

CE This device complies with the requirements of the EEC directive 89/336/EEC with regard to “Electromagnetic compatibility” and 73/23/EEC “Low Voltage Directive”.

FCC

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.

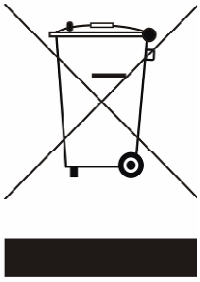
(2) This device must accept any interference received, including interference that may cause undesired operation

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

LEGISLATION AND WEEE SYMBOL

2002/96/EC Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.



The crossed dustbin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Revision Number	Description	Revision Date
1.0	Initial release	2009 January

Table of Contents

1. Item Checklist

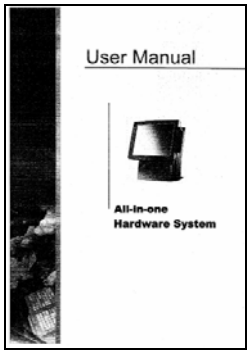
Take the system unit out of the carton. Remove the unit from the carton by holding it by the foam inserts. The following contents should be found in the carton:

1.1 Standard Items

a. Driver CD

b. Power Code

c. User's Manual



d. System

1.2 Optional Item

a. 3-in-1 MSR / Smart IC Card Reader/
iButton Reader

b. 2-in-1 MSR / Finger Print Module

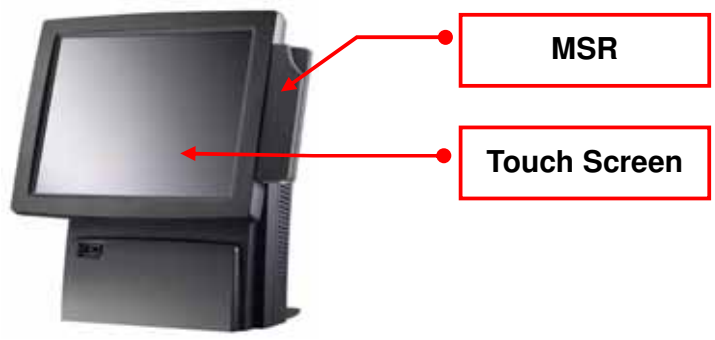
c. 2-in-1 MSR / iButton Reader

d. VFD Customer Display

e. Second Display

2. System View

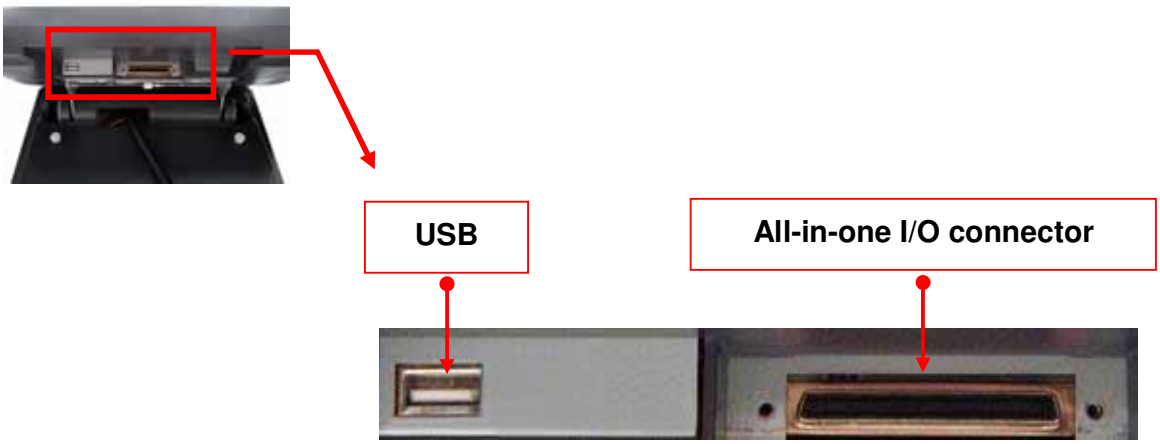
2.1 Front View



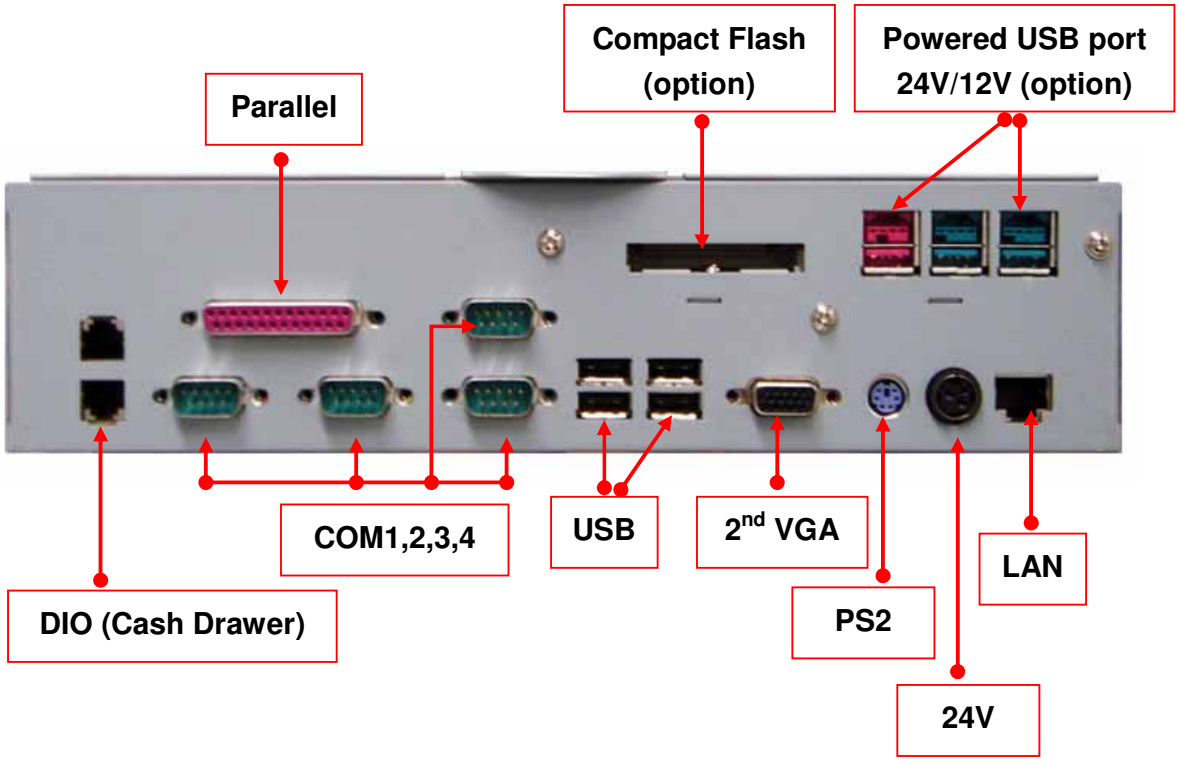
2.2 Rear View

2.3 I/O View

2.3.1 Front I/O



2.3.2 Rear I/O ports



3. Driver Installation

3.1 Driver List

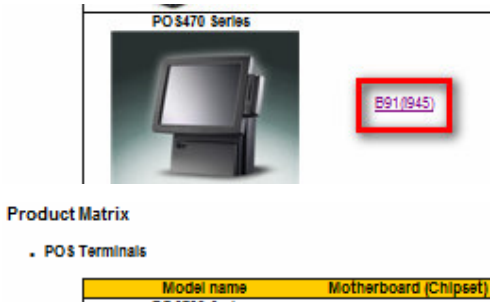
Folder/File	File Description
<CD>:\POS470_B91.htm	Driver List
<CD>:\COMMON\INTEL\Chipset\i9xx	Chipset Driver
<CD>:\COMMON\INTEL\VGA\i94x	VGA Driver
<CD>:\COMMON\INTEL\Raid\ICH7R	SATA RAID Driver
<CD>:\COMMON\POS_Touch	POSTouch Driver
<CD>:\COMMON\Elo_Touch	ELO Touch Driver
<CD>:\COMMON\Lan_driver\Realtek_PCIe	10/100/1000 Mb LAN Driver

The following procedures are for Windows 2000/XP. Installation on other platforms is similar.

3.2 Driver Bank CD

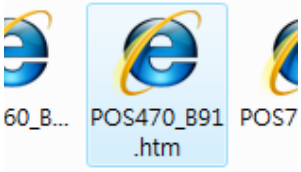
To install the drivers for your device, please follow these steps:

- Insert the Driver Bank CD in your CD drive.
  It should start automatically and you should see a screen as shown below.



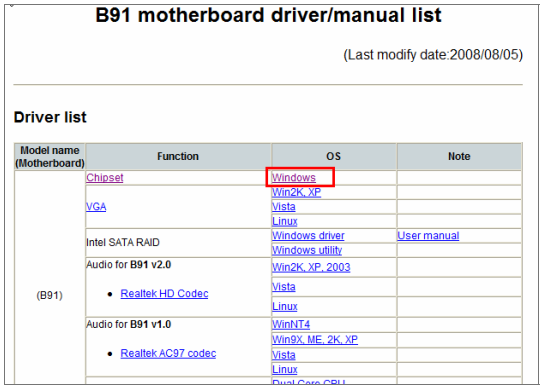
a. Click on the **POS470 Series' B91(i945)** link

b. The driver menu is displayed.
Continue with the driver installation instructions on the next page



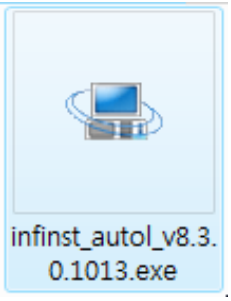
c. **Note:** If the CD does not start automatically, open the CD in Windows Explorer and double-click on the **POS470_B91.htm** icon to display the driver menu.

3.3 Chipset Driver Installation



a. In the **Chipset** section, click on **Windows**

b. Double-click **v8.3.0.1013**



c. Double-click **infinst_autol_V8.3.0.1013.exe**

d. Click **Next**

e. Click **Yes**.

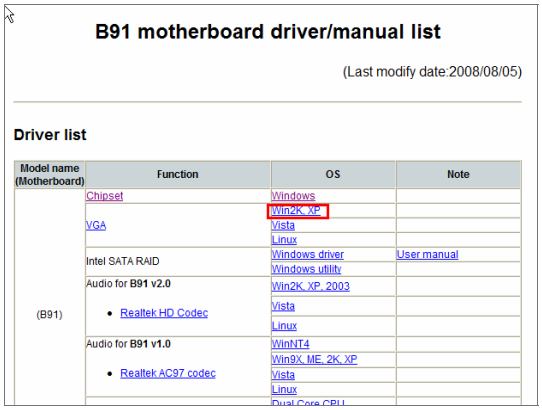
f. Click **Next**

g. The driver installation starts

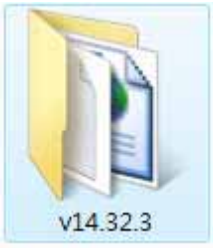
h. Click **Next**

i. Click **Finish** to restart the system

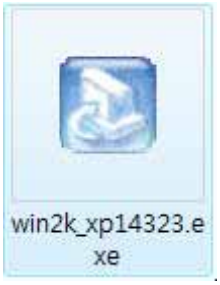
3.4 VGA Driver Installation



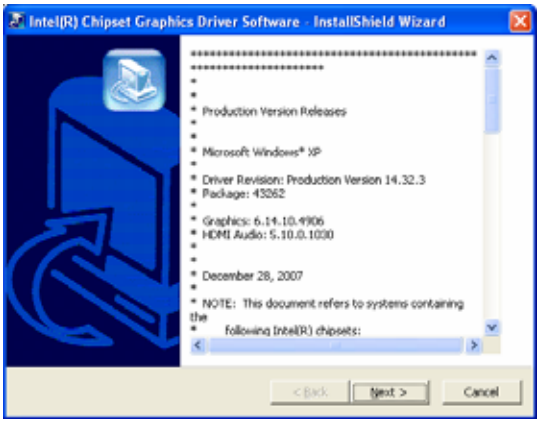
a. In the **VGA** section, click on **Win2K_XP**.



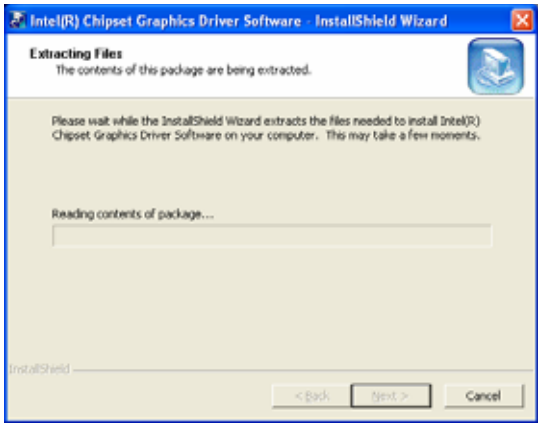
b. Double-click **v14.32.3**.



c. Double-click **win2k_xp14323.exe**



d. Click **Next**.



e. Extracting files…

f. Click **Next**.

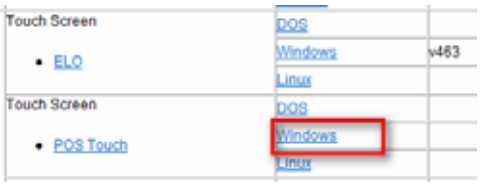
g. Click **YES** to accept the license agreement

h. Click **Next**.

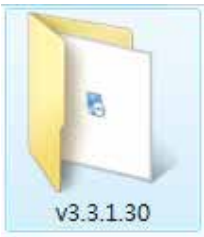
i. Click **Next**.

j. Select **Yes** and click Finish to restart the computer

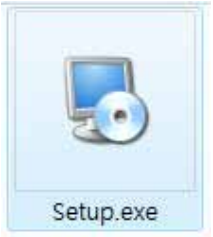
3.5 POSTouch Driver Installation



a. In the **POSTouch** section, click **Windows**.

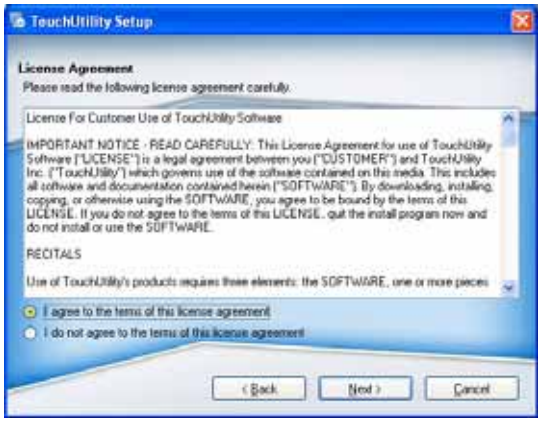


b. Double-click on **v3.3.1.30**.



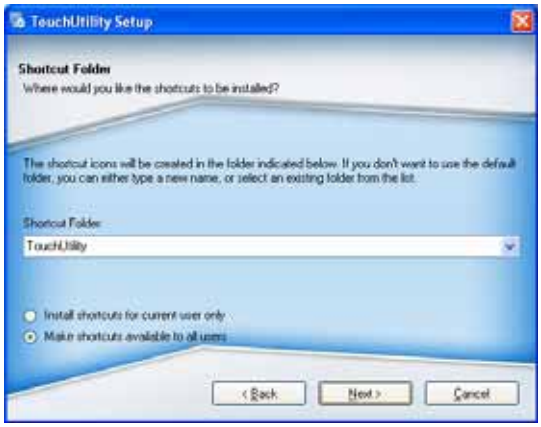
c. Double-click **Setup.exe**.

d. Click **Next**.



e. Select **I agree**… and click **Next**.

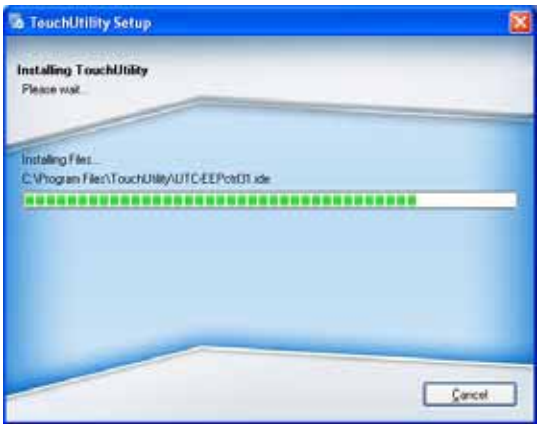
f. Select the installation folder for the touch utility driver and click **Next**.



g. Select the shortcut folder for the touch utility driver and click **Next**.

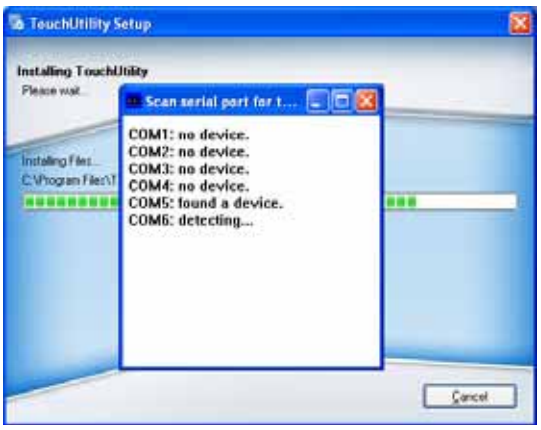
h. Click **Next**.

i. Click **Next**.

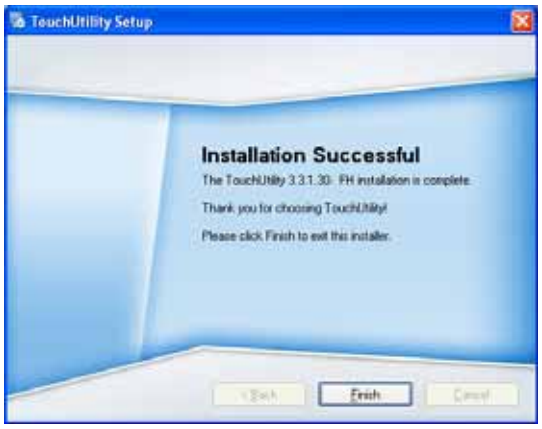


j. The computer is installing the touch driver

k. Click **Continue Anyway**.



l. The serial ports are scanned for a touch device. The Touch panel is on COM5.

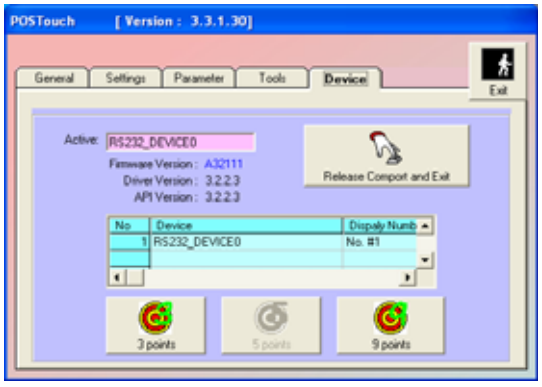


m. Click **Finish**.

n. Click **OK** to restart the computer and finish the touch utility installation.

o. The computer has restarted. Click on the **Start button**, select **Programs**, then select **Touch utility**.

p. Select the **Device** tab.



q. Click on the **3 points** or the **9 points** calibration button.

r. Follow the instructions on the screen to do the calibration of the touch panel

s. Touch the screen to save the calibration

3.6 ELO Touch Driver Installation

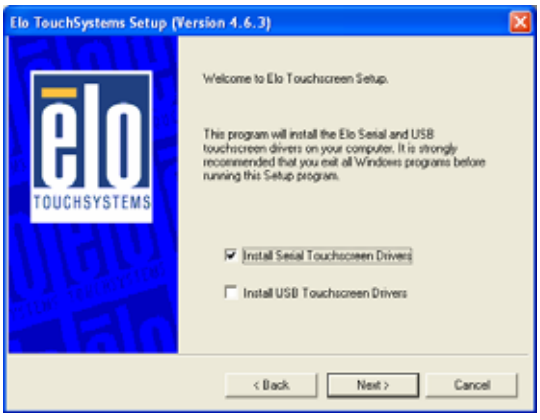
a. In the **ELO** section, click on **Windows**.

b. Click **OK**.

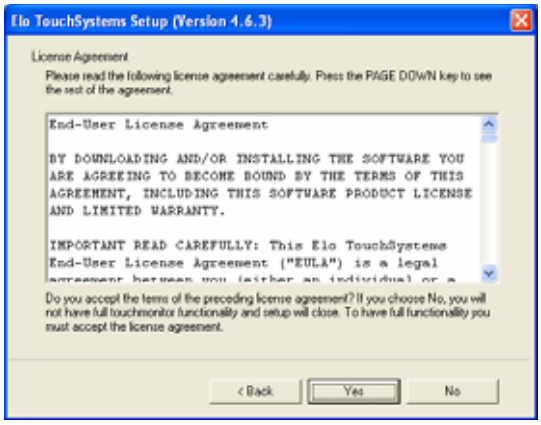
c. Click **Unzip** to extract the driver to the specified folder.

d. Finished unzipping. Click **OK**.

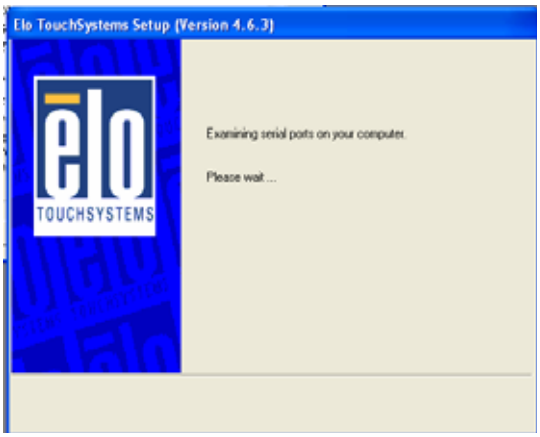
e. Click **Next**.



f. Check the box **Install Serial Touchscreen Drivers** and click **Next**.



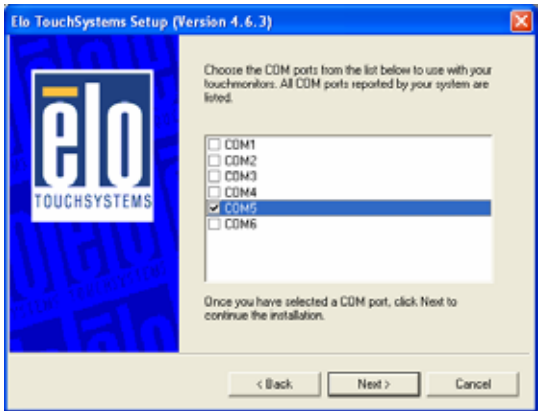
g. Click **Yes** to accept the End User License Agreement



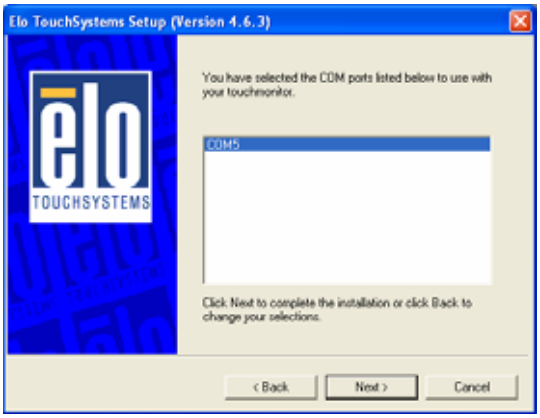
h. Examining serial ports on the computer…

i. Check the box **Auto-detect Elo devices** and click **Next**.

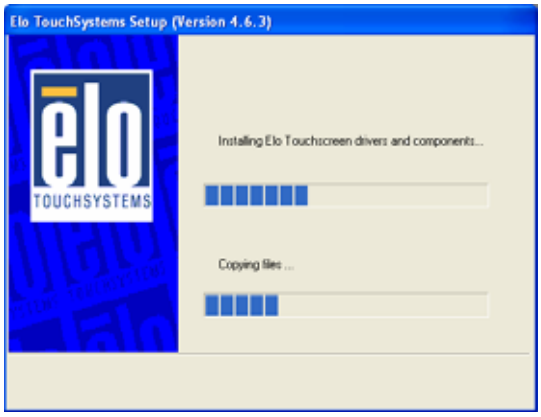
j. The computer is searching for a connected to Elo Touchscreen.



k. Touchscreen found on COM5. Click **Next**.

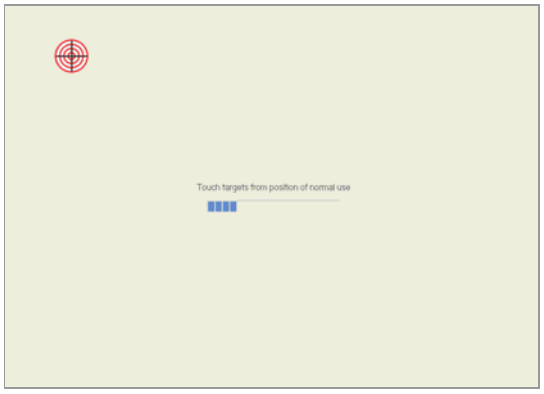


l. Click **Next** to complete the driver installation.

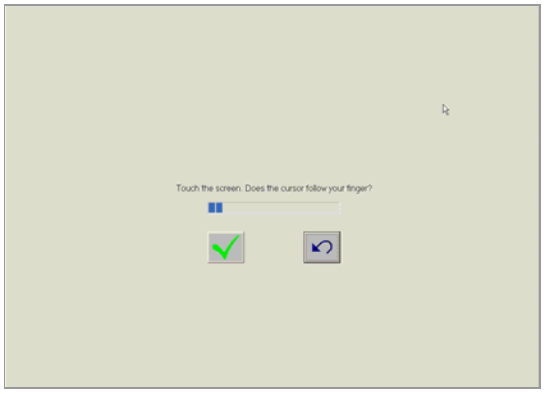


m. Driver is installing…

n. The driver installation and setup are now complete. Click **Finish** to start the touchscreen calibration.



o. Follow the instructions on the screen to calibrate the Touchscreen.



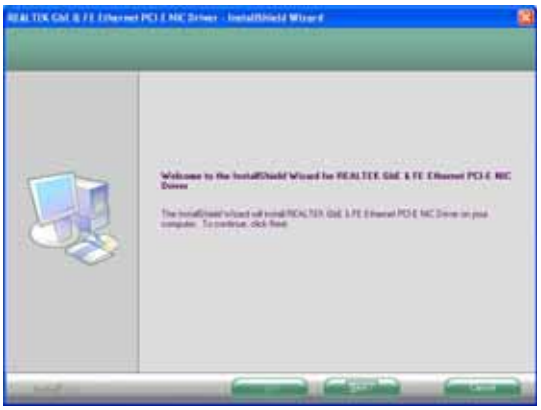
p. Verify that the touchscreen is working correctly by moving your finger on the screen. The mouse cursor should follow your finger. Finally, touch the green checkmark to save the calibration settings and exit the program.

3.7 10/100/1000Mb LAN Driver Installation

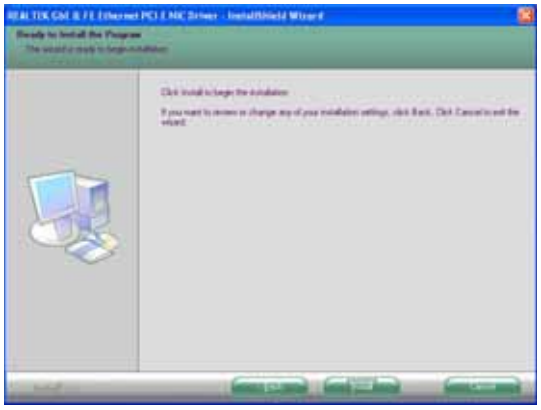
a. In the **Realtek RTL8111** section, click on **Win9X, ME, 2K, XP**

b. Double-click **v686**.

c. Double-click **Setup.exe**

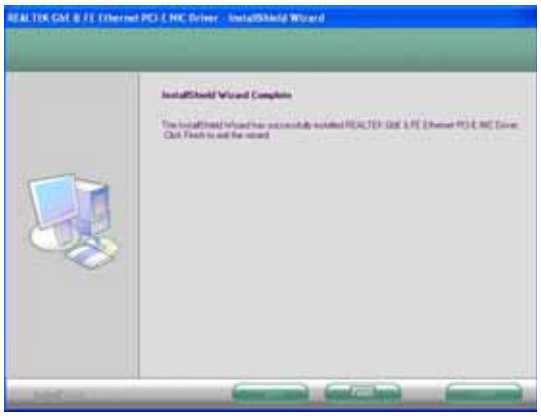


d. Click **Next**.



e. Click **Install** to begin the driver installation.

f. The driver is being installed…



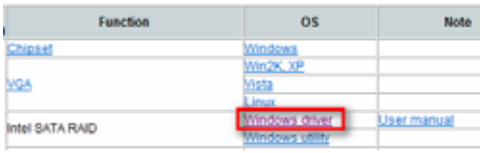
g. Click **Finish** to complete the installation.

3.8 SATA RAID Driver Installation

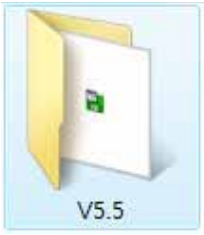
Before installing the SATA RAID driver, please refer to Chapter 8.2 ”Enabling RAID in the BIOS” and Chapter 8.3 “RAID Volume Creation”.

3.8.1 Create a RAID Driver Disk

The SATA RAID Driver is for users who plan to install Windows on SATA HDDs with RAID functions. To use RAID functions, you need to make a SATA RAID Driver floppy disk before you install the operation system, such as Windows XP. If you do not plan to use RAID functions, it is not necessary to make a SATA RAID Driver floppy disk. Connect a USB-FDD to the system, then follow below steps to make a SATA RAID Driver floppy disk.



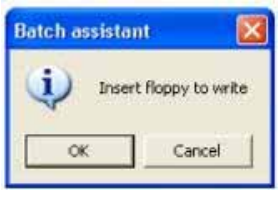
a. In the Intel **SATA RAID** section, click on **Windows driver**



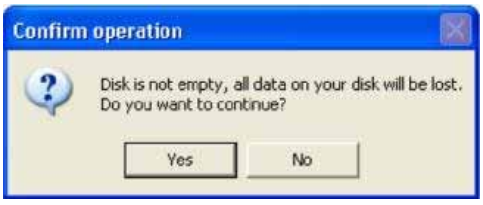
b. Double-click **v5.5**

c. Double-click **Driver**

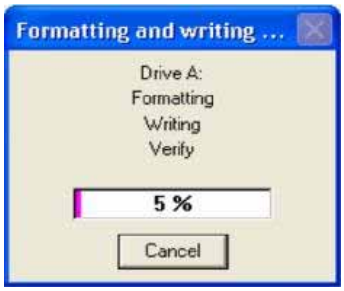
d. Double click **F6flpy32.exe**



e. Insert a blank floppy disk into the FDD, and click on the **OK** button



f. Click **Yes**



g. Wait for the driver disk to be written

3.8.2 RAID driver installation

1. Press the F6 key when prompted in the status line with the Press **F6** if you need to install a third party SCSI or RAID driver message. This message appears at the beginning of Windows XP setup (during the text-mode phase).
   Note: Nothing will happen immediately after pressing F6. Setup will temporarily continue loading drivers. You will then be prompted with a screen asking you to load support for mass storage device(s).

2. Press the **S** key to **Specify Additional Device**.

3. You will be prompted to ***Please insert the disk labeled Manufacturer-supplied hardware support disk into Drive A***: When prompted, insert the floppy disk containing the following files: IAAHCI.INF, IAAHCI.CAT, IASTOR.INF, IASTOR.CAT, IASTOR.SYS, and TXTSETUP.OEM and press the **Enter** key.

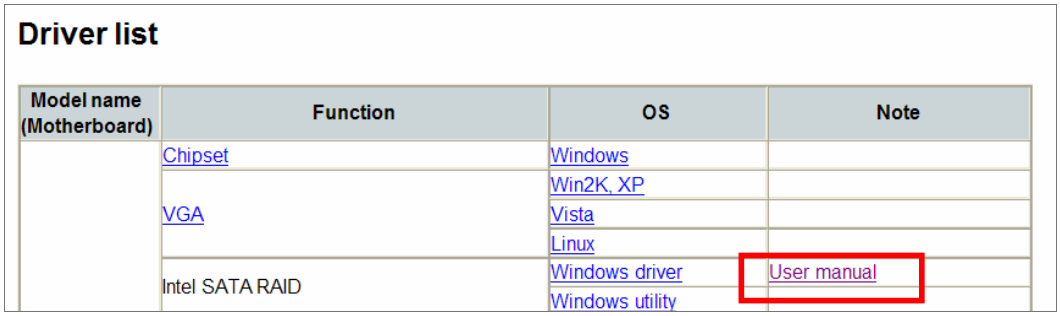
   After pressing Enter, you should be presented with a list of available SCSI Adapters. Select your controller from the list. The up and down arrow keys can be used to scroll through the list as all controllers may not be visible. The list may include:
   - Intel® 82801ER SATA RAID Controller
   - Intel® 82801FR SATA RAID Controller
   - Intel® 82801GR/GH SATA RAID Controller
   - Intel® 82801GHM SATA RAID Controller
   - Intel® 631xESB/632xESB SATA RAID Controller
   - Intel® 82801R/DO/DH SATA RAID Controller

4. The next screen should confirm your selected controller. Press the **Enter** key again to continue.

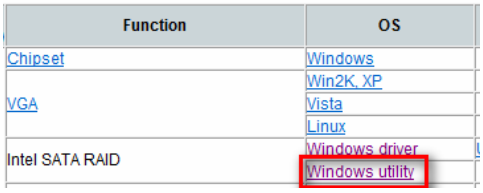
5. At this point, you have successfully F6'ed in the Intel® Matrix Storage Manager driver and Windows setup should continue. Leave the floppy disk in the floppy drive until the system reboots. Windows setup will need to copy the files from the floppy again to the Windows installation folders. Once Windows setup has copied these files again, you should then remove the floppy diskette so that Windows setup can reboot as needed.

6. During Windows setup, create a partition and file system on the RAID volume as you would on any physical disk.

   Note: Please also refer to the Driver Bank CD for a detailed F6 installation procedure.
   Link: Intel SATA RAID / User Manual
   Page 23, Chapter 5_ Loading Driver During OS Installation

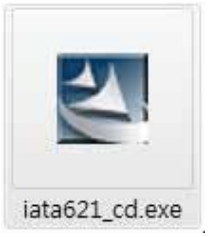


3.8.3 RAID Manager Utility installation

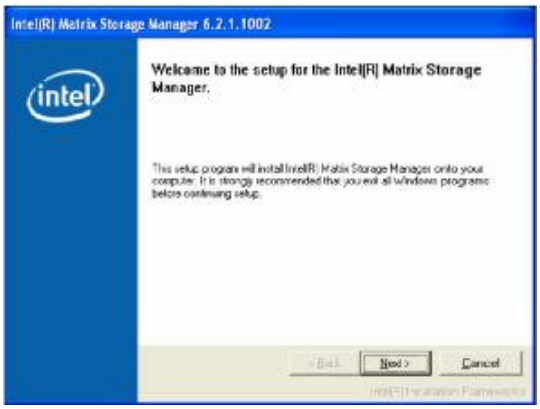


a. In the **Intel SATA RAID** section, click on **Windows utility**

b. Double-click **v6.2.1**



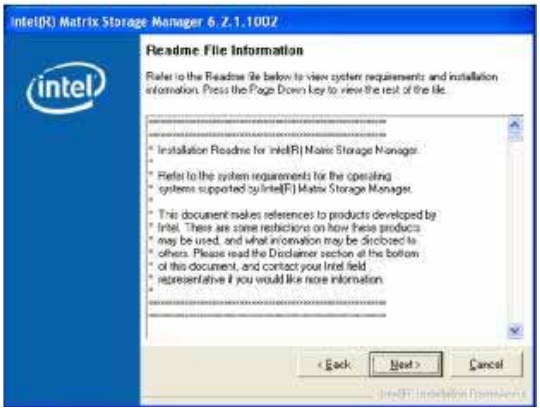
c. Double-click **iata621_cd.exe**



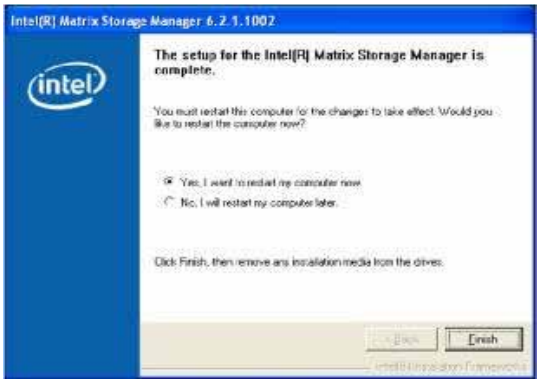
d. Click **Next**.

e. Click **Next**.

f. Click **Yes**.



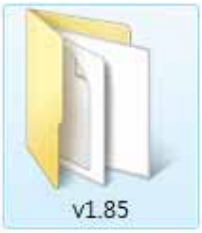
g. Click **Next**.



h. Select "**Yes, I want to restart my computer now**" and click **Finish** to complete the installation

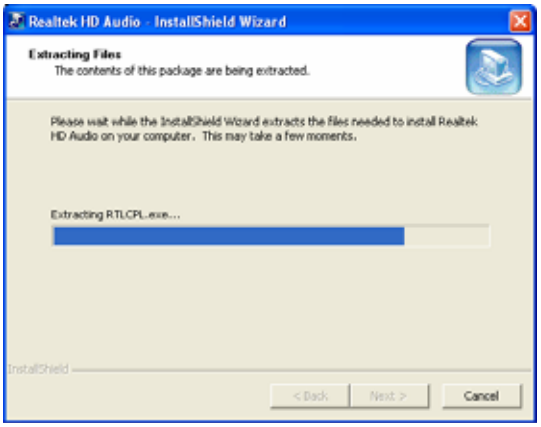
3.9 Audio Driver Installation

a. In the **Realtek HD Codec** section, click on **Win2K, XP, 2003**



b. Double click on **v1.85**

c. Double-click **WDM_R185.exe**



d. Driver files are extracted…

e. Click **Next**.

f. The computer is installing the Audio HD driver.

g. Select “**Yes, I want to restart my computer**” and click **Finish**.

4. System Installation

4.1 Magnetic (Smart) Card Reader / iButton Installation

The module unit can be supplied at your request. This module is removed during transportation and can be connected by the user.

a. Remove the screws (2) of the plastic cover on the right side of the display, and slide out the cover

b. Connect the MSR connector on the right side of the system.

c. Slide the MSR into position as shown in the picture, and fasten it to the display housing by tightening the screws (2)

.

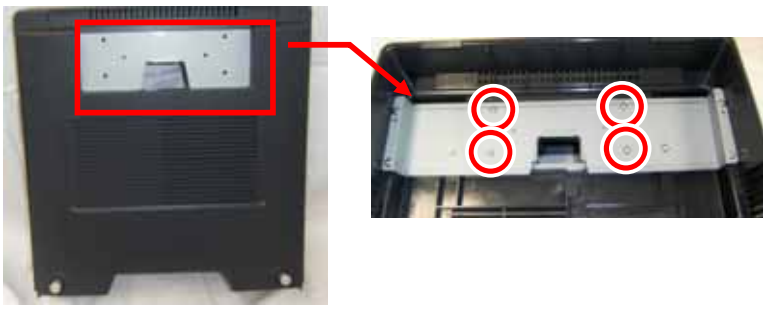
4.2 Customer Display installation

The Customer Display is a serial device and can be connected to any of the four COM ports (COM1, COM2, COM or COM4). The power for the Customer Display is provided by the COM port. Before following the installation steps below, choose the COM port to which you will connect the Customer Display, and set the jumper for that COM port to provide 12V to pin #1.

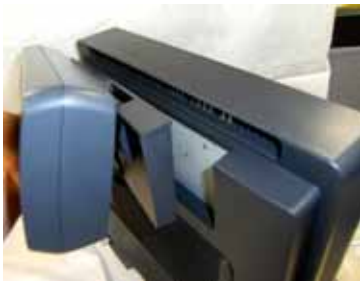
- The COM port jumpers are on the motherboard, near the COM port connectors. To find the jumpers on the motherboard, see Chapter 7.1
- The jumper settings are described in Chapter 7.2
- For instructions on how to open the system to access the motherboard, see Chapter 5.5, items a., b. and c.

  After you have set the jumper for the COM port, install the Customer Display on the system as described below.

a. Loosen the thumb screw (2) to release the base cover



b. Loosen the screws (4) to remove the display cover



c. Mount the Customer Display module onto base cover and tighten with screw *4

d. Route the cable as shown in the picture, connect the VFD cable to a COM port, and re-install the base cover.

4.3 Second Display installation

Before installing the second display, set jumper JP10 to (1-2) to provide 12V power to the VGA connector for the second display.
JP10 is behind the VGA connector on the motherboard (see Chapter 7.1).
See Chapter 7.2 for details of the jumper setting.
See Chapter 5.5, items a., b. and c. to access the jumpers on the motherboard.

To install the second display to POS475, please follow steps 4.2 a and b to remove the base cover and the dummy cover. Then following the steps below to install the second display on the system.

a. Mount the Second Display module onto the base cover

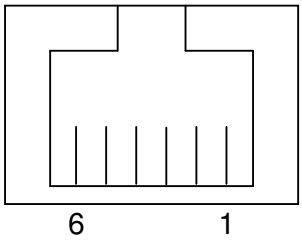
b. Tighten the screws (4), connect the VGA cable to the second display and route the VGA cable as shown in the picture.

c. Connect the cable to the system VGA port and put the base cover back on the system

4.4 Cash Drawer Installation

You can install a cash drawer through the cash drawer port. Please verify the pin assignment before installation.

Cash Drawer Pin Assignment



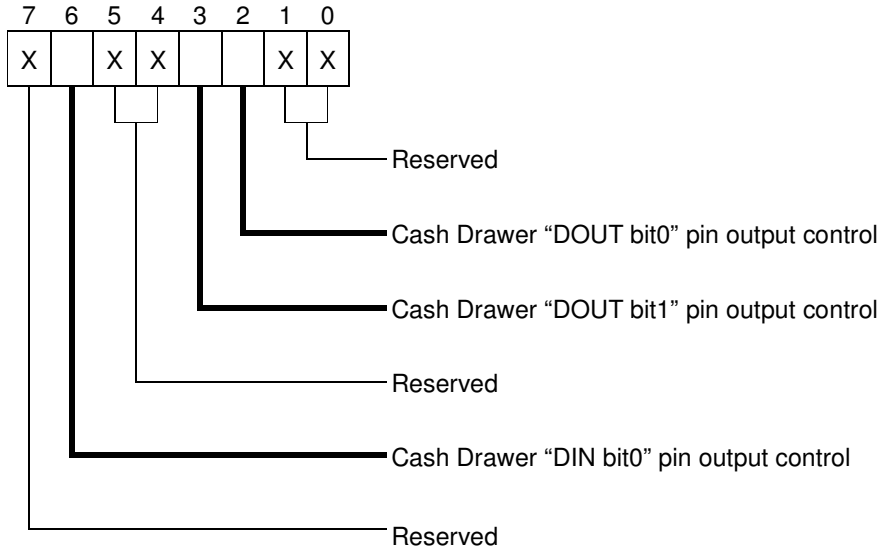
Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V / 19V
5	DOUT bit1
6	GND

Cash Drawer Controller Register

The Cash Drawer Controller use one I/O addresses to control the Cash Drawer.

Register Location: 48Ch
Attribute: Read / Write
Size: 8bit

BIT	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Attribute	Reserved		Read	Reserved	Write		Reserved	



Bit 7: Reserved

Bit 6: Cash Drawer “DIN bit0” pin input status.

= 1: the Cash Drawer closed or no Cash Drawer

= 0: the Cash Drawer opened

Bit 5: Reserved

Bit 4: Reserved

Bit 3: Cash Drawer “DOUT bit1” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 2: Cash Drawer “DOUT bit0” pin output control.

= 1: Opening the Cash Drawer

= 0: Allow close the Cash Drawer

Bit 1: Reserved

Bit 0: Reserved

Note: Please follow the Cash Drawer control signal design to control the Cash Drawer.

Cash Drawer Control Command Example

Use Debug.EXE program under DOS or Windows98

Command	Cash Drawer
O 48C 04	Opening
O 48C 00	Allow to close
➢ Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by “DOUT bit0” pin control. ➢ Set the I/O address 48Ch bit2 = 0 for allow close Cash Drawer.	

Command	Cash Drawer
I 48C	Check status
➢ The I/O address 48Ch bit6 =1 mean the Cash Drawer is opened or not exist. ➢ The I/O address 48Ch bit6 =0 mean the Cash Drawer is closed.	

5. System Disassembly

5.1 Removing the LCD Display module

a. Loosen the metal bracket thumbscrew (1)

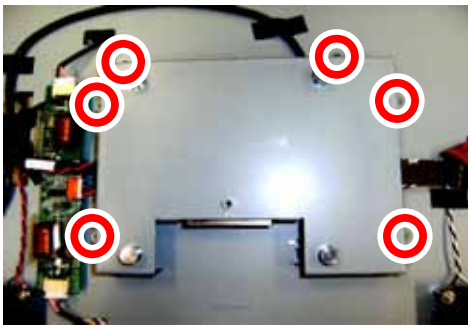
b. Loosen the I/O cable screws (2)

c. Remove the LCD Display module from the bracket.

5.2 Replacing the key parts of the LCD Display module

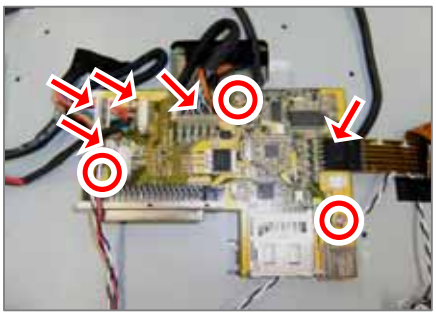
To replace the control board of the LCD Display module, please follow steps described in Chapter 5.1 to remove LCD Display module, then follow the steps below for key parts replacement.

a. Loosen the screws (4) to release the LCD cover



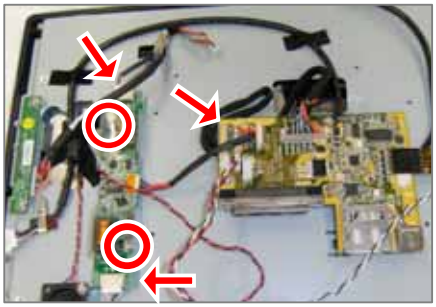
b. Loosen the screws (6) to release metal shielding cover

5.2.1 Replacing the Touch control board



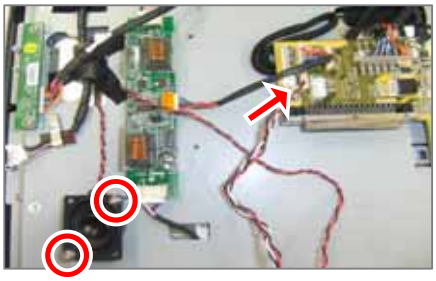
a. Disconnect the cables (5) and remove the screws (3) to replace the I/O touch control board.

5.2.2 Replacing the Inverter



a. Disconnect the cables (3) and loosen the screw (2) to replace the inverter board.

5.2.3 Replacing the Speakers



a. Disconnect the cable (1) and remove the speaker screws (2 for each speaker)

5.3 Replacing the HDD

a. Loosen the thumb screws (2) and release the front cover.

b. Loosen the thumb screw of the HDD bracket (1) and release the SATA cable to replace HDD kit.

5.4 Replacing the Power Supply

To replace the Power Supply, please follow the steps in the 5.3 a. to release the front cover.

a. Loosen the screw (1) and disconnect the power connector

.

5.5 Replacing the System Fan

a. Loosen the thumb screws (2) to remove the base cover

. 

b. Loosen the screws (2) to release the metal shielding cover.

c. Disconnect the fan cable

d. Loosen the screw (4) to replace the system fan

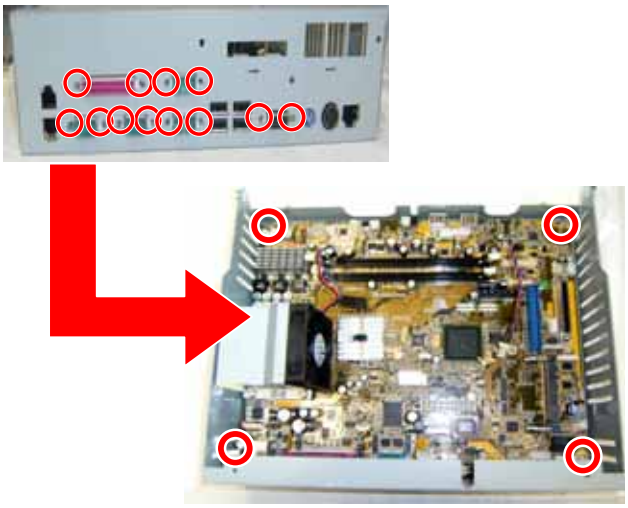
5.6 Replacing the Motherboard and Heatsink

To replace the parts of the Motherboard Control Unit, please first follow the steps 5.5 a., b., and c. to release the base cover and system fan cable.

a. Release the cables from the motherboard (LCD, CPU power, Touch, MSR, Inverter power, HDD)

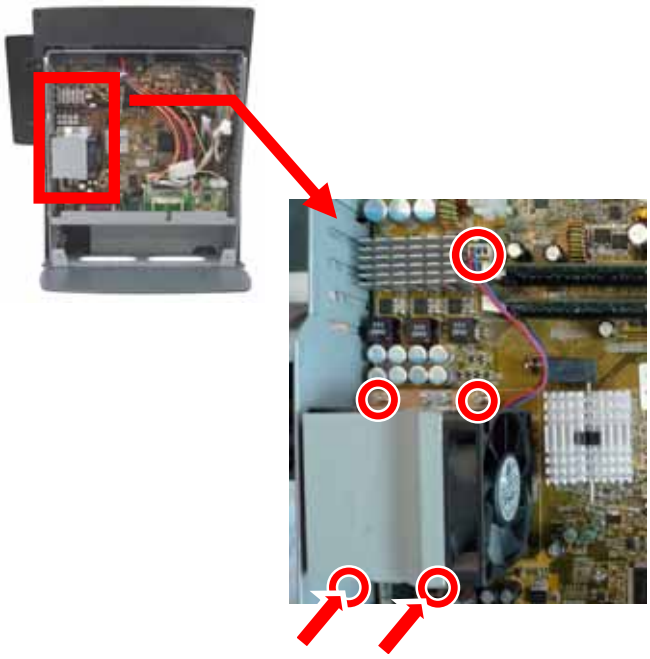
b. Loosen the thumb screws (2) to lift up the motherboard control box

5.6.1 Replacing the Motherboard



a. Loosen the screws (4) and hex nuts (6) to release the motherboard from the control box.

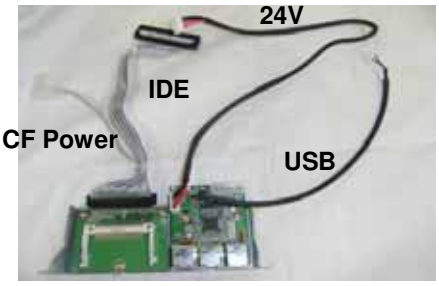
5.6.2 Replacing the CPU Heatsink



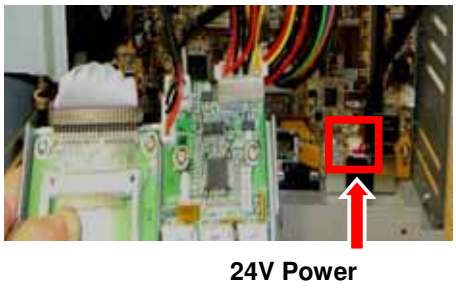
a. Loosen screws (4) and disconnect the fan cable to replace the CPU heatsink.

5.7 Installing the Compact Flash and Powered USB kit

To install the Compact Flash and powered USB kit, please refer to the steps of Chapter 5.5 to remove the base cover and EMI shielding cover. Refer to the steps of Chapter 5.6 to remove the motherboard control box.

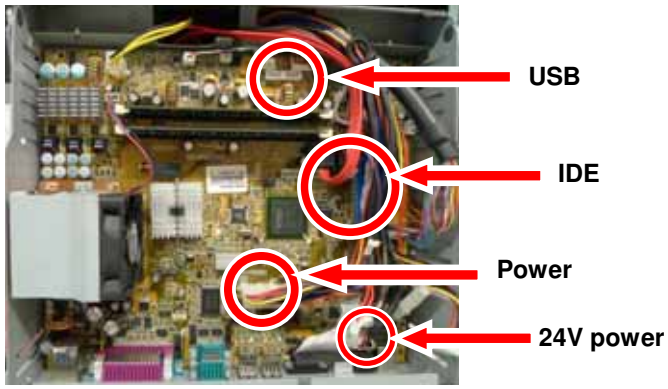


a. Take the Compact Flash or powered USB kit (option).



b. Connect the cables (24V) to the 24V power connector

c. Mount the Compact Flash /USB kit on the I/O bracket and tighten it with the supplied screws (3)



d. Connect the cables (IDE and power for Compact Flash, USB Power for Powered USB), and then close with EMI shielding cover and base cover to finish the installation.

6. Specification

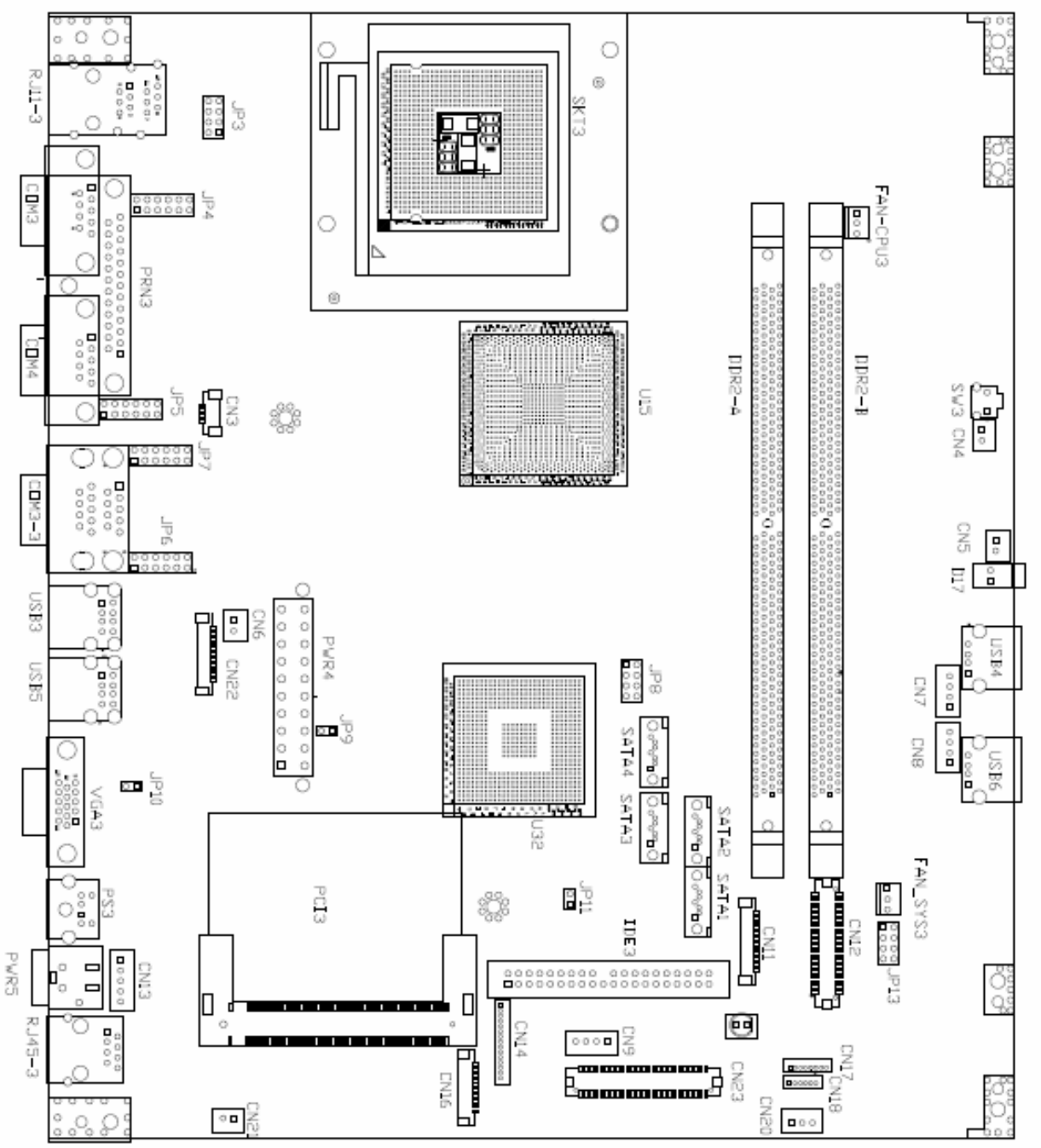
Model Name	POS Terminal
Motherboard	**B91**
CPU Support	Intel LGA775-pin CPU processors FSB 533/ 800/1066Mhz Core 2 Duo, Pentium D, Celeron
Chipset	Intel 945G, ICH 7 R
System Memory	2 x 240-pin DIMM Socket support DDR2 RAM up to 4GB FSB 667 / 800Mhz
Graphic Memory	Shared memory up to 224MB
BIOS	AWARD BIOS
LCD Touch Panel	
LCD Size	15” TFT LCD
Brightness	250nits
Maximal Resolution	1024 x 768
Touch Screen Type	Resistive touch
Storage	
HDD	3.5” HDD
RAID	Supports RAID for two 2.5” HDDs
Expansion	
Mini-PCI Slot	802.11 b/g wireless LAN card (optional)
External I/O Ports	
USB	5 ports (1 under the LCD Display, 4 at the rear I/O)
Power USB	2 x 24V, 1x12V (optional)
PS2	1
Serial / COM	4 powered COM ports (5V/12V, pin 1 or pin 9)
Parallel	1
LAN (10/100/1000Mb)	1 x RJ45
Receipt print port	1 (24V)
2nd VGA	1 (female, with 12V power selectable by jumper)
Cash Drawer Port	2 x RJ11 (12V /24V)
Power	
Power Supply	250W ATX power

Control	
Power Button	1
Peripherals	
MSR	MSR (PS/2)
2-in-1 MSR	MSR (PS/2) , Finger Print (USB)
3-in-1 MSR	MSR (PS2), iButton (PS2 /COM), Smart IC Card (USB)
Second Display	7”W, 10.4” or 12.1”
Customer Display	VFD 2x20
Environment	
EMC & Safety	FCC Class A, CE, LVD
Operating Temperature	5℃ ~ 35℃ (41℉ ~ 95℉)
Storage Temperature	-20℃ ~ 55℃ (-4℉ ~ 140℉)
Operating Humidity	20% ~ 80% RH non condensing
Storage Humidity	20% ~ 85% RH non condensing
Dust & Water Proof	IP 54 (Front bezel)
Dimensions (W x D x H)	LCD 0 degree : 378 x346 x 395.6mm
	LCD 85 degree : 378 x254x419.5mm
Weight (N.W./G.W.)	14 kgs / 15 kgs
OS Support	Windows Vista, Windows XP, WEPOS, Windows XP Embedded, Windows XP Professional for Embedded Systems, Windows 2000 Professional for Embedded Systems, Linux

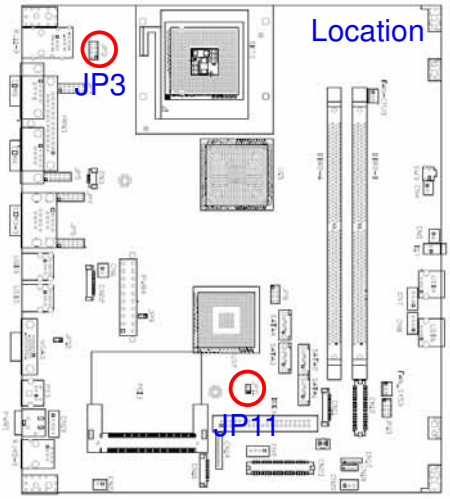
* This specification is subject to change without prior notice.

7. Jumper Settings

7.1 B91 Motherboard Layout



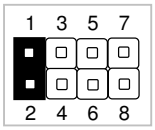
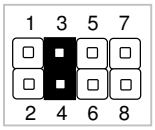
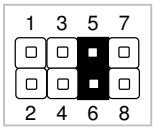
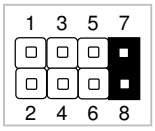
7.2 Connectors & Jumper settings



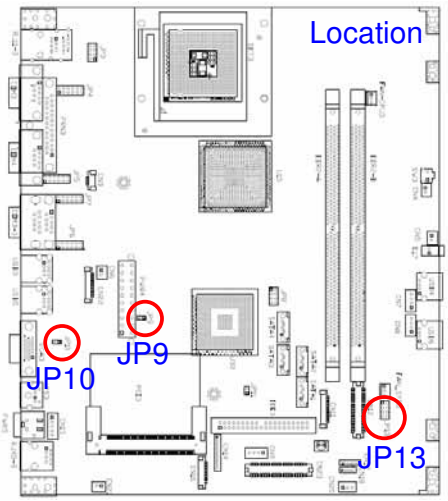
CMOS Operation Mode

Function	JP11 (1-2)
◎CMOS Normal	
CMOS Reset	

Cash Drawer Power Setting

Function	JP3 (1-2) (3-4) (5-6) (7-8)
◎CDR1_+12V	
CDR1_+24V	
◎CDR2_+12V	
CDR2_+24V	

◎ = Default Setting



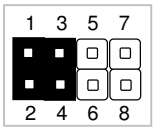
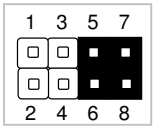
2nd Display Power Setting

Function	JP10 (1-2)
+12V	
◎NC	

Power Mode Setting

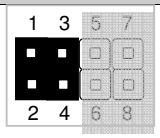
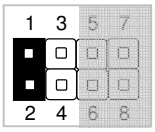
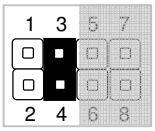
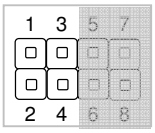
Function	JP9 (1-2)
◎ATX Power	
AT Power	

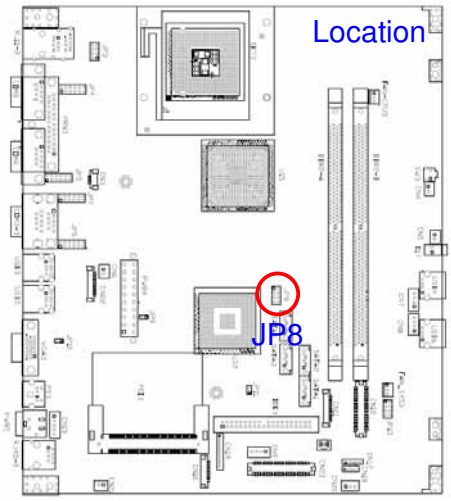
System Indicator

Function	JP13 (1-2) (3-4) (5-6) (7-8)
◎Disable	
Enable	

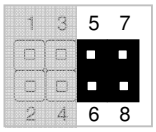
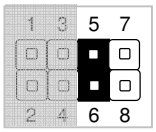
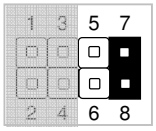
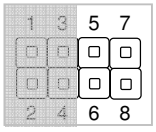
◎ = Default Setting

Boot Display Device Setting

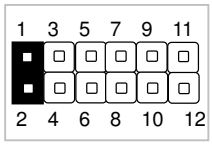
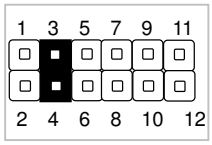
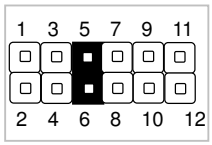
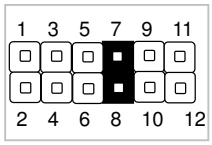
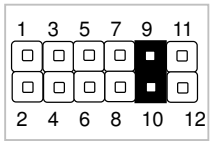
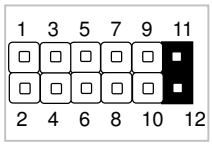
Function	JP8 (1-2) (3-4)
By BIOS Setup	
Force CRT only	
Force LCD only	
Force CRT+LCD	

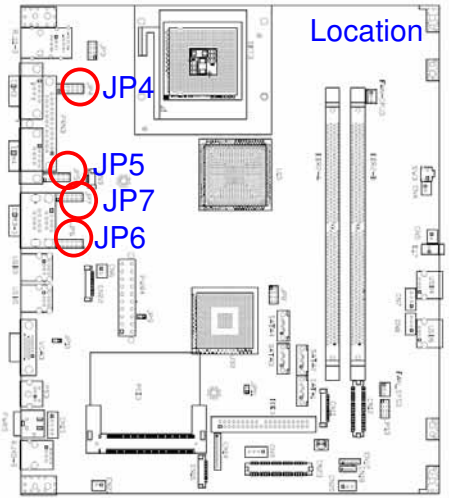


LCD ID Setting

Panel Number	Resolution	LVDS		JP8 (5-6) (7-8)
		Bits	Channel	
1	1024 x 768	24	Single	
2	1280 x 1024	24	Dual	
3	800 x 600	24	Single	
4	1024 x 768	18	Single	

COM1/COM2/COM3/COM4 Power Setting

Function	COM1	COM2	COM3	COM4
	JP4	JP5	JP7	JP6
	(1-2) (3-4)	(5-6)	(7-8)	(9-10) (11-12)
◎PIN1_DCD				
PIN1_+5V				
PIN1_+12V				
◎PIN9_RI				
PIN9_+5V				
PIN9_+12V				



◎ = Default Setting

Note:

OPEN

SHORT

8. BIOS Settings

8.1 BIOS Setup Utility

The BIOS setup defines how the system is configured. You need to run this program the first time you configure this product. You may need to run it again if you change the configuration.
You need to connect a PC keyboard to the keyboard connector to run the BIOS setup utility.

8.1.1 Starting the BIOS Setup

1. Turn on or reboot this product.
2. Press the DEL key immediately after the product is turned on, or press the DEL key when the following message is displayed during POST (the Power on Self-Test).

   Press DEL to enter SETUP.
3. The main menu of the BIOS setup is displayed.
4. If the supervisor password is set, you must enter it here.

8.1.2 When a Problem Occurs

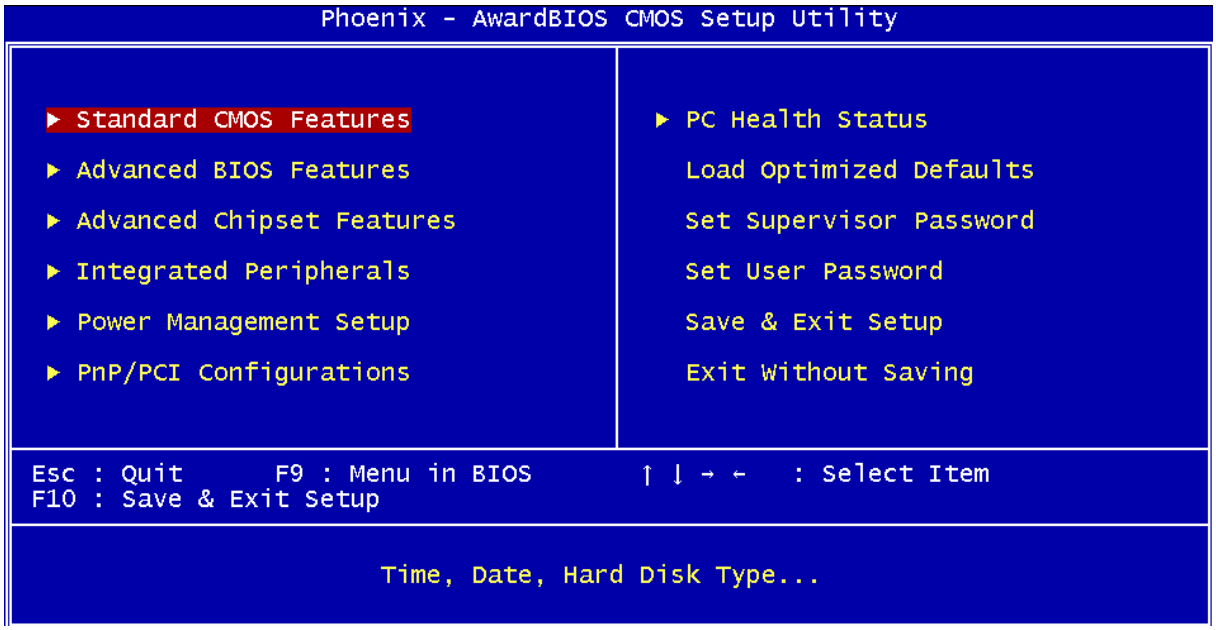
If, after making and saving system changes with the Setup utility, you find that this product no longer boots, start the BIOS setup and execute the following.

Load Optimized Defaults

8.1.3 BIOS Main Menu

When the BIOS Main Menu is displayed, the following items can be selected. Use the arrow keys to select items and the Enter key to accept and enter the sub-menu.

Note: The BIOS setup menus shown in this section are for reference only and may not exactly match the items of your BIOS version.



Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on the system.

Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize the system's performance.

Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

Power Management setup

Use this menu to specify your settings for power management.

PnP/PCI Configurations

This entry appears if your system supports Plug and Play and PCI Configuration.

PC health status

Displays CPU, System Temperature, Fan Speed, and System Voltages Value.

Load Optimized Defaults

Use this menu to load the BIOS default values, i.e., factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the option to change these defaults to meet their needs.

Set Supervisor Password

Enables you to change, set, or disable the supervisor or user password.

Set Password

Change, set, or disable the password. It allows you to limit access to the system and to the setup, or just to the setup.

Save & exit setup

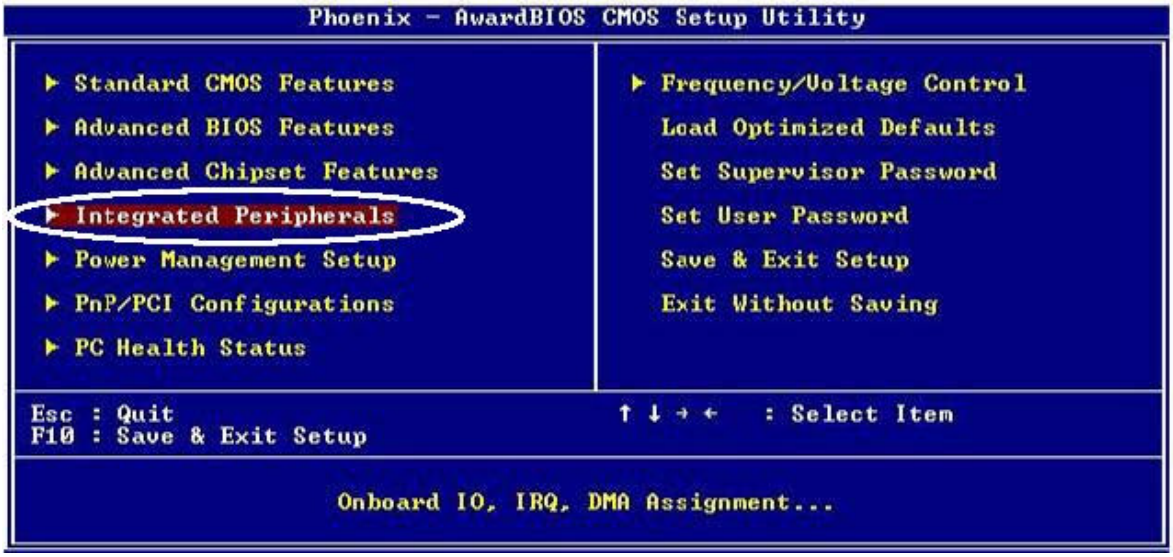
Save CMOS value changes to CMOS and exits setup.

Exit without saving

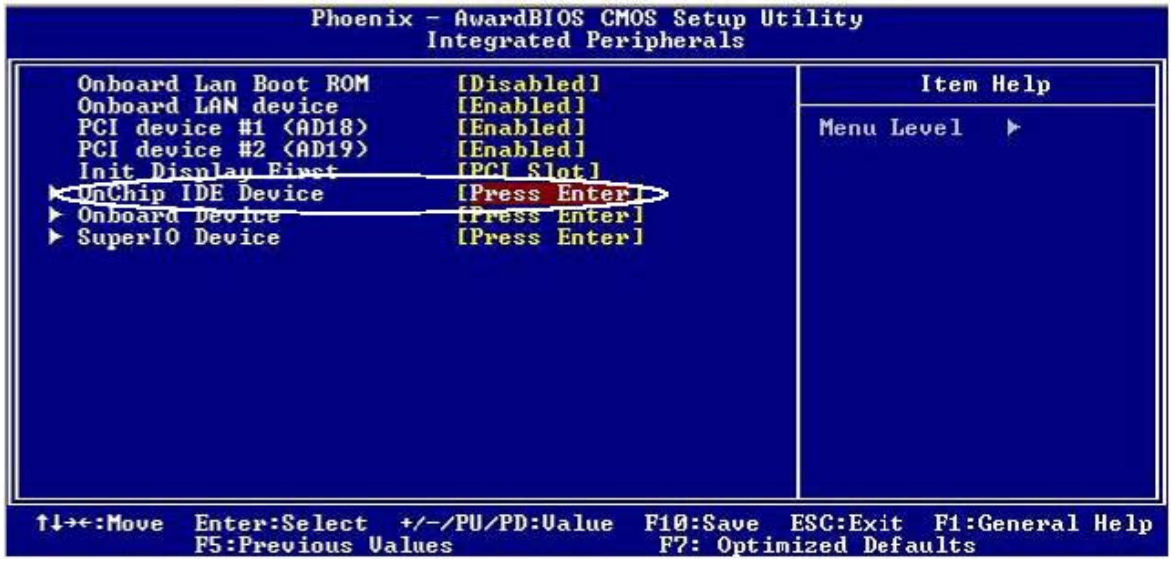
Ignores all CMOS value changes and exits setup.

8.2 Enabling RAID in the BIOS

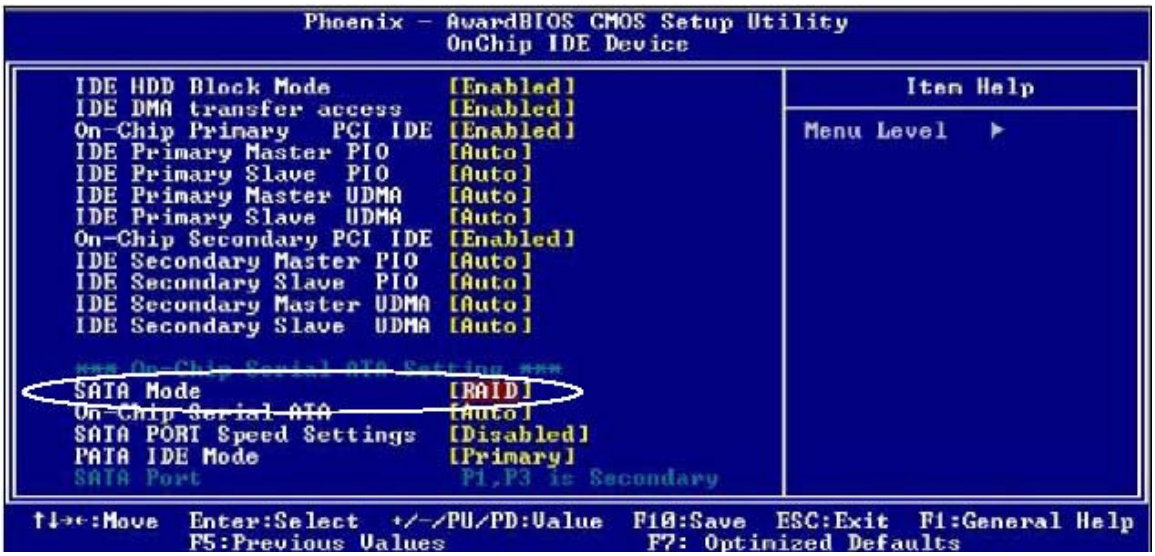
Enter the BIOS Setup program by pressing the DEL key.



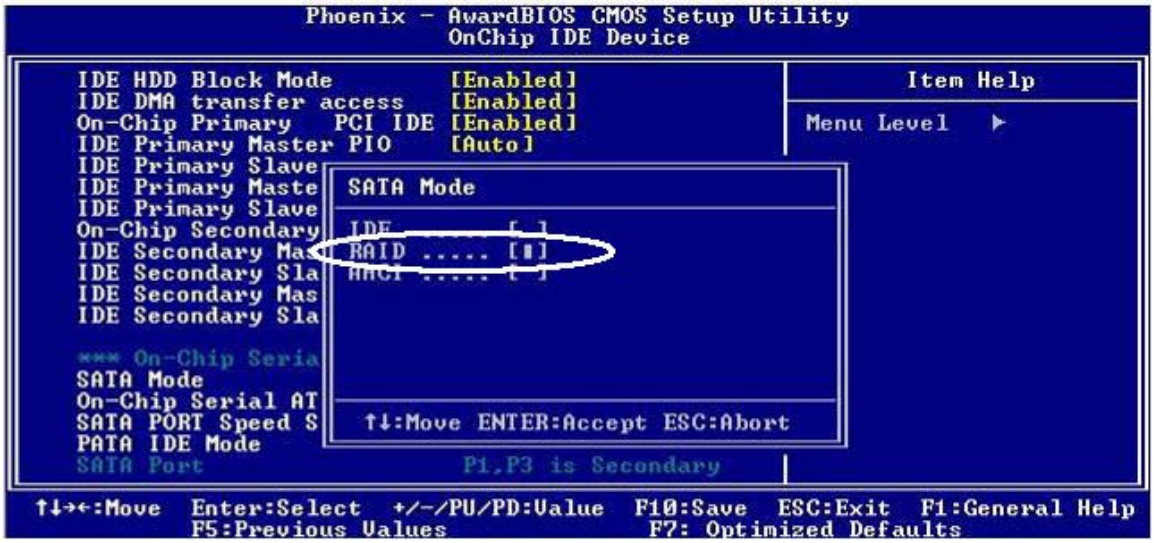
Select **Integrated Peripherals**, and then press "**Enter**"



Select **OnChip IDE Device**, and then press "**Enter**"



Select **SATA Mode**, and then press "**Enter**"



Select **RAID**, and then press "**Enter**"

Press the **F10** key to save the BIOS settings and exit the BIOS Setup program.

8.3 RAID Volume Creation

1. When the Intel® Matrix Storage Manager option ROM status screen appears during POST, press the **Ctrl** and **i** keys at the same time to enter the Intel Matrix Storage Manager option ROM user interface.

2. Select Option 1: Create **RAID Volume** and press the **Enter** key.

3. Use the up or down array keys to select the **RAID level** and press the **Enter** key.

4. Unless you have selected RAID 1, use the up or down arrow keys to select the **strip size** and press the **Enter** key.

5. Press the **Enter** key to select the physical disks.

6. Select the appropriate number of hard drives by using the up or down arrow keys to scroll through the list of hard drives and pressing the **Space** key to select the drive. When finished, press the **Enter** key.

7. Select the **volume size** and press the **Enter** key.

8. Press the **Enter** key to create the volume. At the prompt, press the **Y** key to confirm volume creation.

9. Select Option 4: Exit and press the Enter key. Press the **Y** key to confirm exit.