# User Manual

## Breeze
## All-in-one
## Hardware System

Manual Version 1.0



**TRADEMARK**

# Safety

## IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrial 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

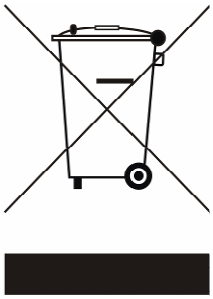
This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:
(1) This device may not cause harmful interference.
(2) This device must accept any interference received, including interference that may cause undesired operation.

## 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 | 2008 July |

# 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. Com port Cable (2)

c. Power Cable

d. Power Adapter

e. System

## 1.2 Optional Items

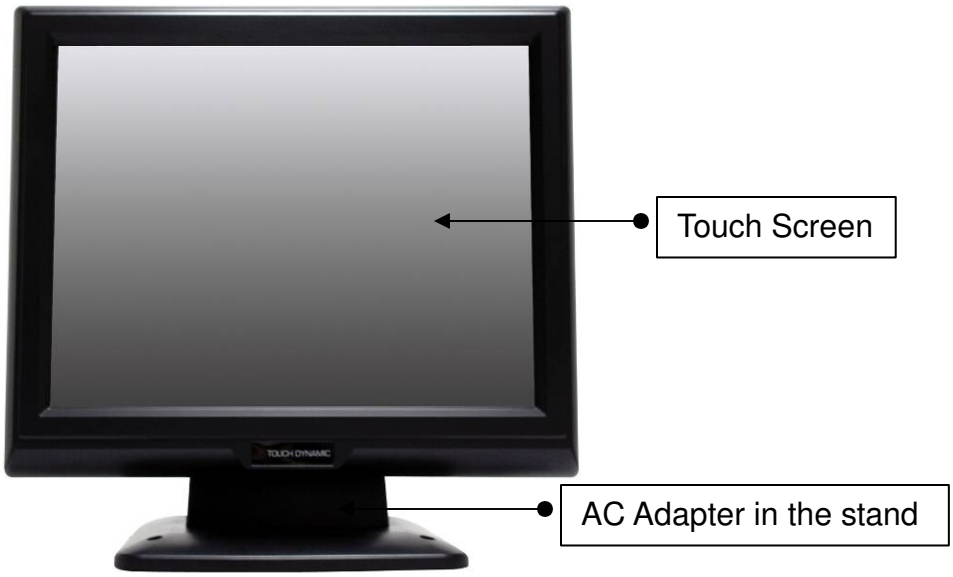
a. MSR + Finger Print Module

b. VFD Customer Display

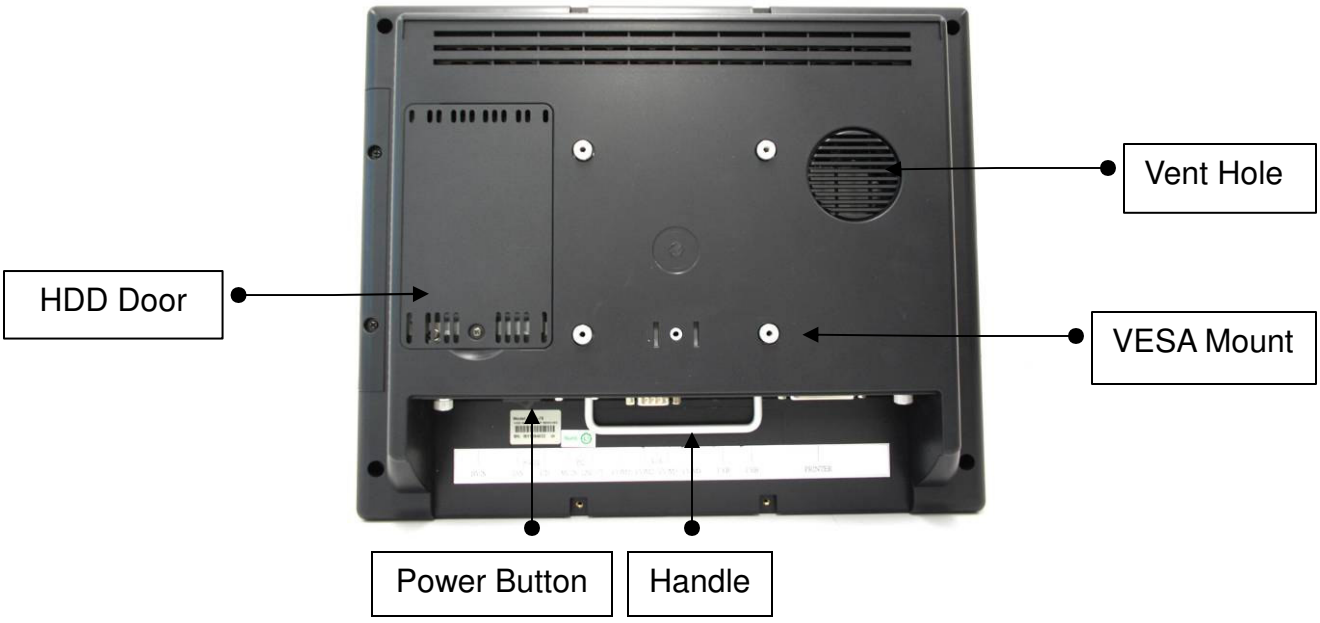
c. Wall mount kit

# 2. System View

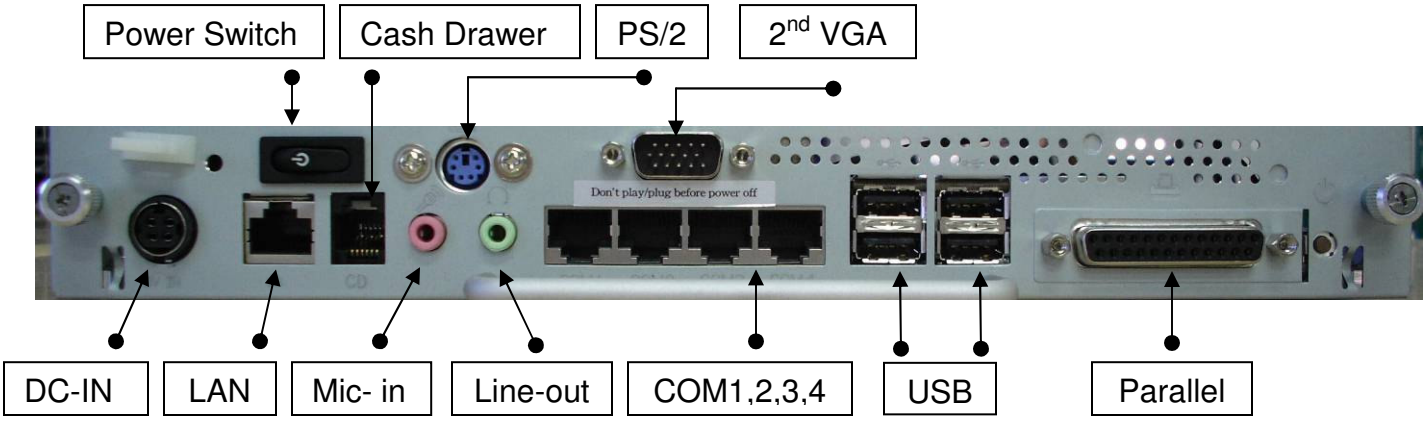
## 2.1 Front View




## 2.2 Rear View



## 2.3 I/O View


Power Switch
Cash Drawer
PS/2
2nd VGA
Don't play/plug before power off
DC-IN
LAN
Mic- in
Line-out
COM1,2,3,4
USB
Parallel

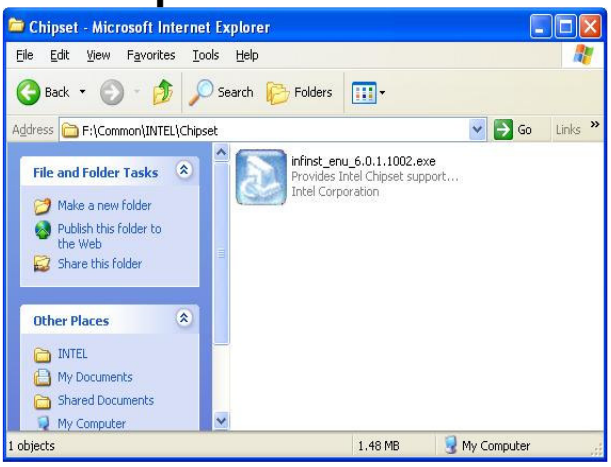
# 3. Drivers Installation

## 3.1 Driver List

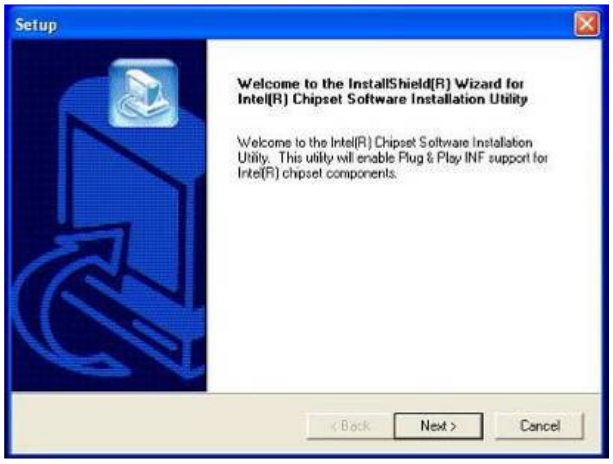
| Folder/File | File Description |
|---|---|
| <CD>:\Breeze.htm | Breeze Driver List |
| <CD>:\COMMON\INTEL\Chipset | Chipset Driver |
| <CD>:\COMMON\INTEL\USB 20 | USB 2.0 Driver |
| <CD>:\COMMON\INTEL\VGA\i85x | VGA Driver |
| <CD>:\COMMON\POS_Touch | POSTouch Driver |
| <CD>:\COMMON\ELO_Touch | ELO Touch Driver |
| <CD>:\COMMON\Lan_driver\Realtek_PCI | 10/100/1000MB LAN Driver |

-The following procedures are for Windows 2000/XP, other platforms are similar.

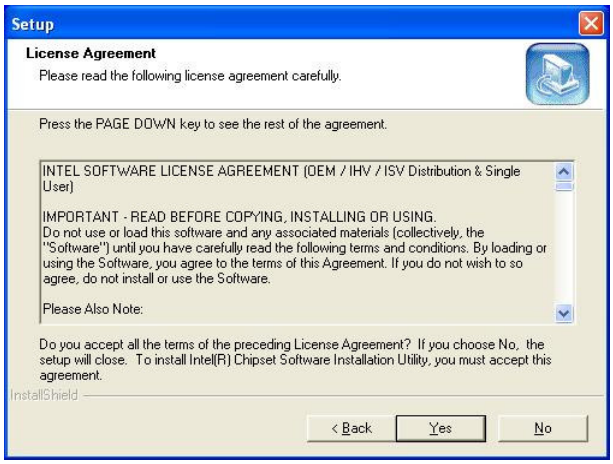
## 3.2 Chipset Driver Installation



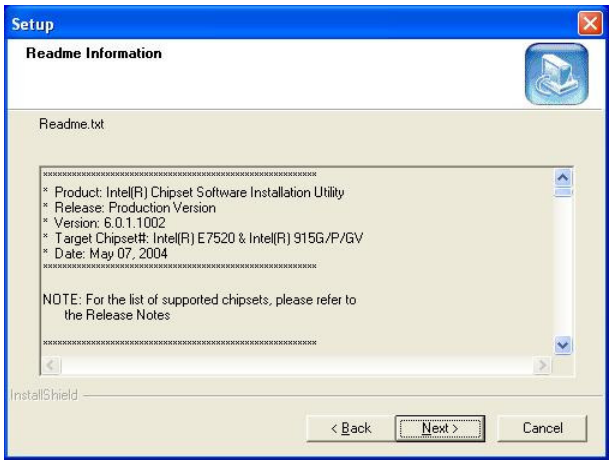

a. Double click “infinst_enu_6.0.1.1002” on the My computer window.



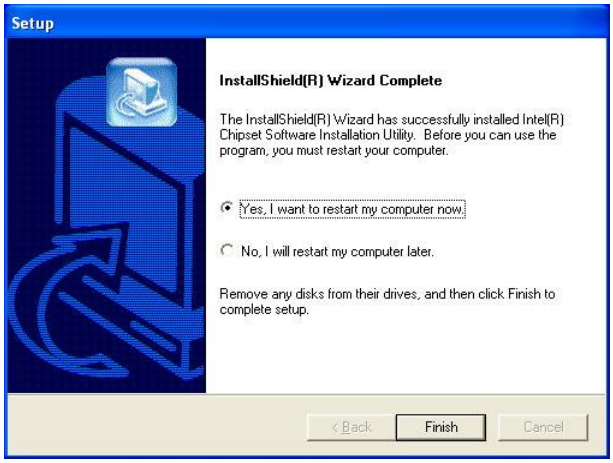

b. Click the “Next” button on the Welcome window.




c. Click the “Yes” button on the License Agreement window.




d. Click the ”Next” button on the Readme Information window.

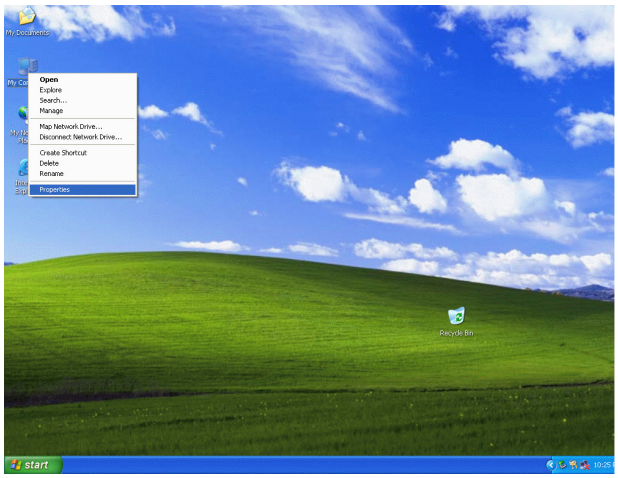



e. Click the “Finish” button and restart your system.

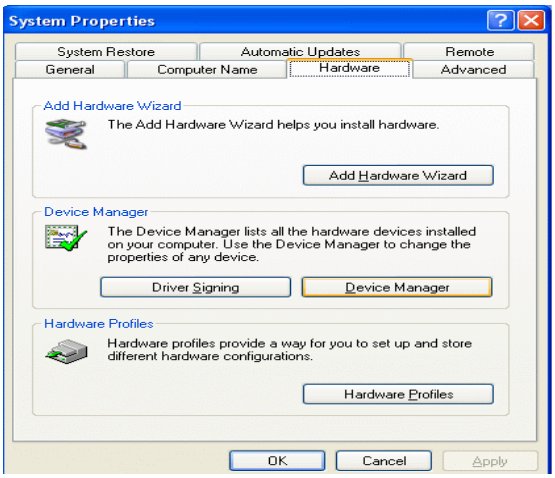
## 3.3 USB 2.0 Driver Installation

## OS Requirements

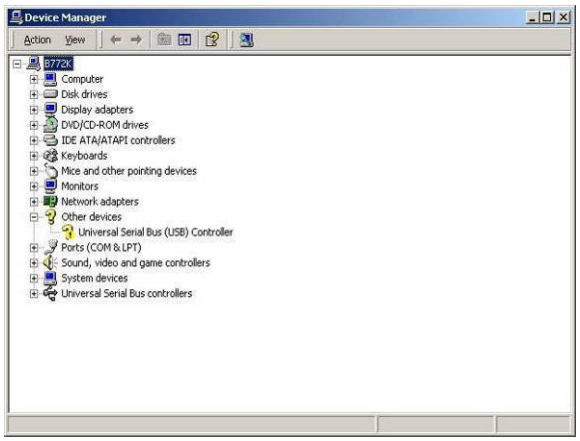
| OS | USB 2.0 requirements |
|---|---|
| Windows XP | USB 2.0 drivers are provided in Service Pack 1 (SP1) for Windows XP, which is available through Windows Update. |
| Windows 2000 | USB 2.0 drivers are available through Windows Update or Service Pack 4. |
| Windows 98SE/Me | USB 2.0 drivers are available on the Intel developer site. |
| Windows 98 (Retail) | Developers and OEMs should contact Orange Ware. For end-users, if your device does not ship with Windows 98 drivers, contact your device or system manufacturer. If USB 2.0 drivers are not available, your device will operate at USB 1.1 speeds |
| Linux | USB 2.0 support is available in kernel 2.4.19 or later development kernels, or in the 2.4.19 or later production kernel. More information. |

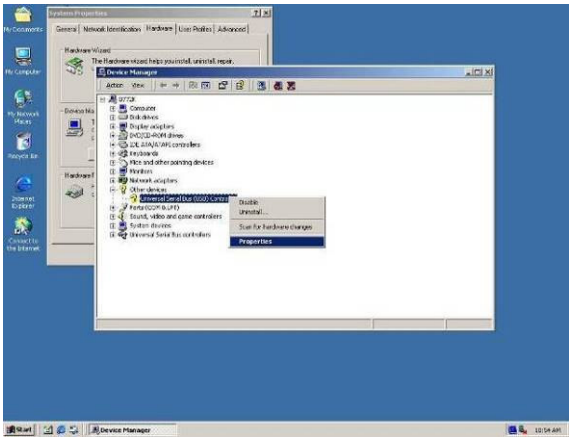



a. Right click My Computer on the desktop and select “properties”




b. Select “Hardware”→”Device Manager” on system properties.



c. Select ”Other Devices” → “Universal Serial Bus (USB) Controller” →”Properties” on Device Manager.

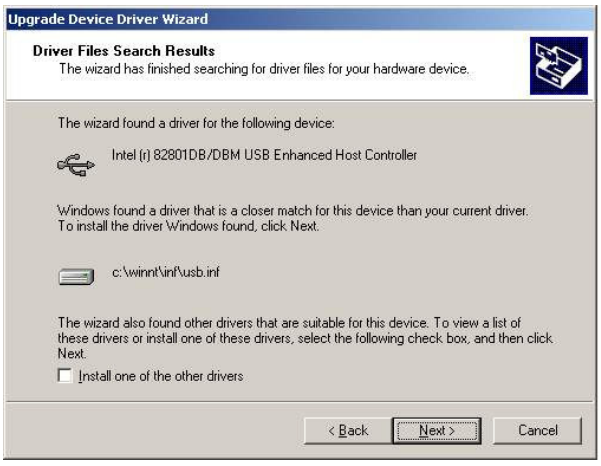

d. Select “Device”→ “Update Driver…”.


e. Click the ”Next” button on the welcome window.


f. Select “Search for a suitable…”and click the “Next” button on the Install Hardware Device Drivers window.

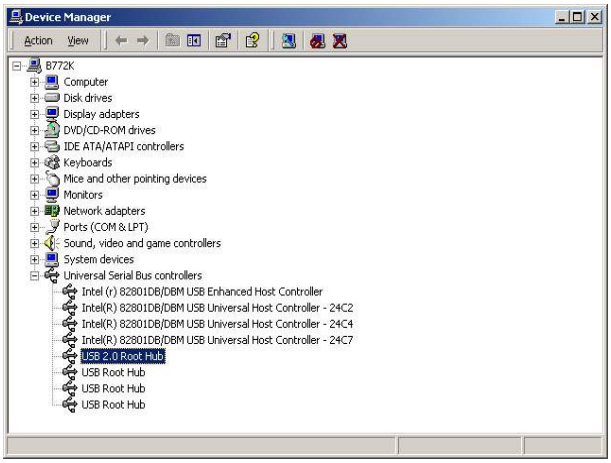

g. Select “Specify a location” and click the “Next” button on the Locate Driver Files window.


h. Press “Browse” to select the driver and then click the “OK” button to go to the next page.



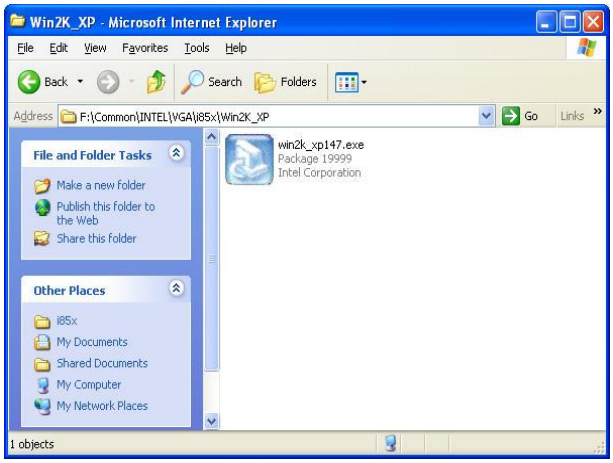

i. Click the “Next” button on the Driver Files Search Results window.


j. Click the “Finish” button to complete this process.

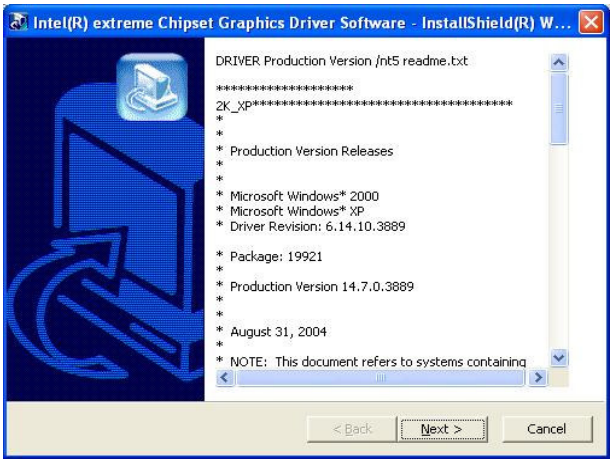



k. Finished.

## 3.4 VGA Driver Installation

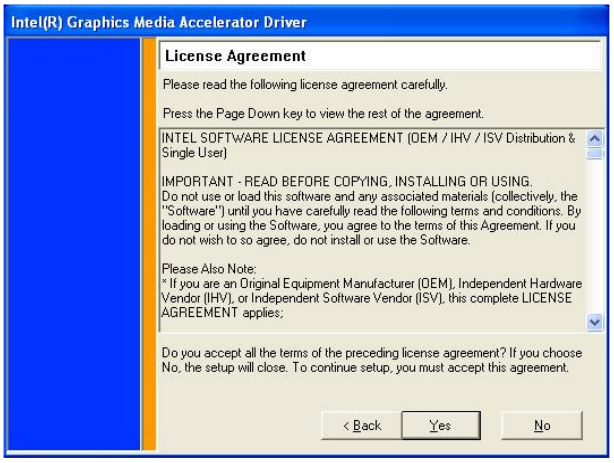



a. Double click “win2k_xp147” on the My Computer window.

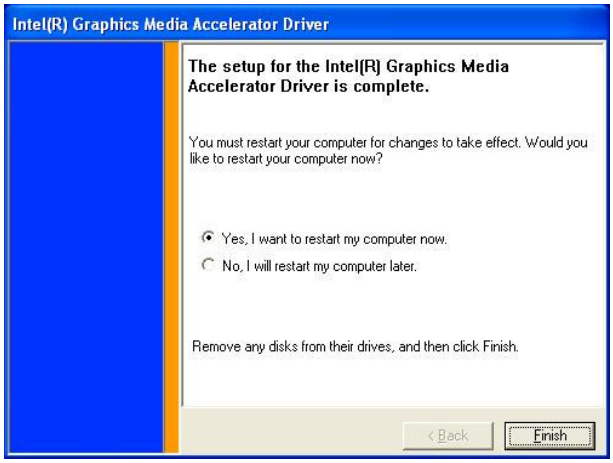



b. Click the “Next” button on the Welcome window.


c. Click the ”Next” button on the Welcome window.

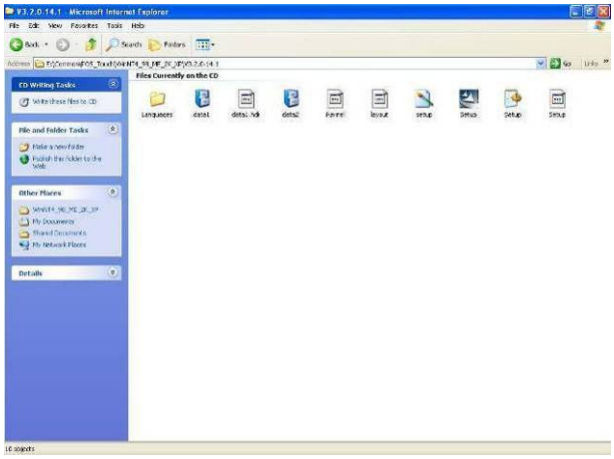



d. Click the ”Yes” button on the License Agreement window.

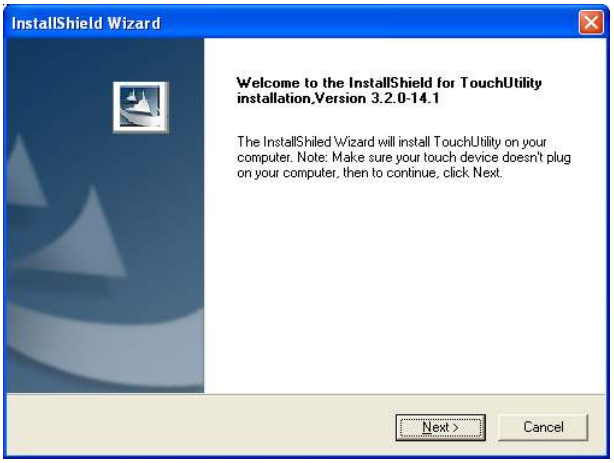



e. Click the ”Finish” button and restart your system.

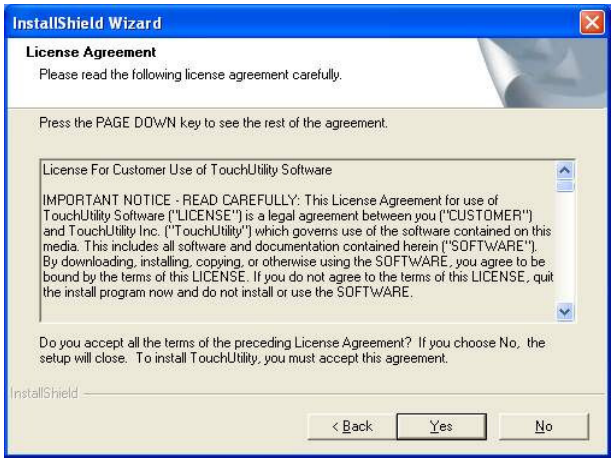
## 3.5 POSTouch Driver Installation



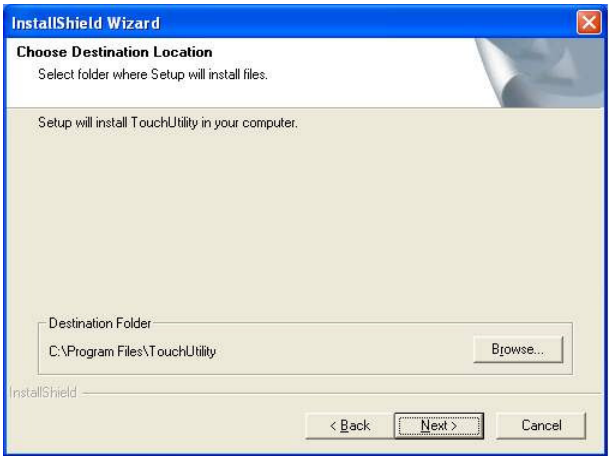
a. Double click the ”Setup” on the “My Computer” window.




b. Click the “Next“ button on the “Welcome window”.

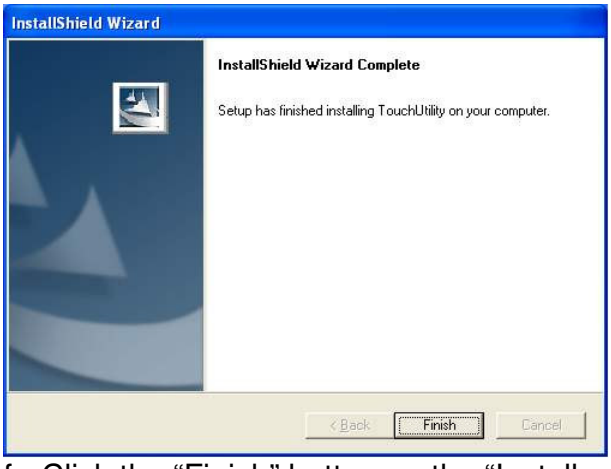



c. Click the ”Yes” button on the “License Agreement” window.



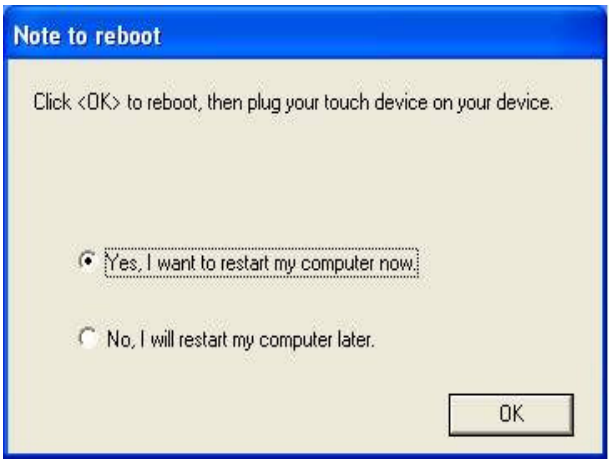

d. Click the ”Next” button on the “Choose Destination Location” window.


e. Click the “Next” button on the “Select Program Folder” window.

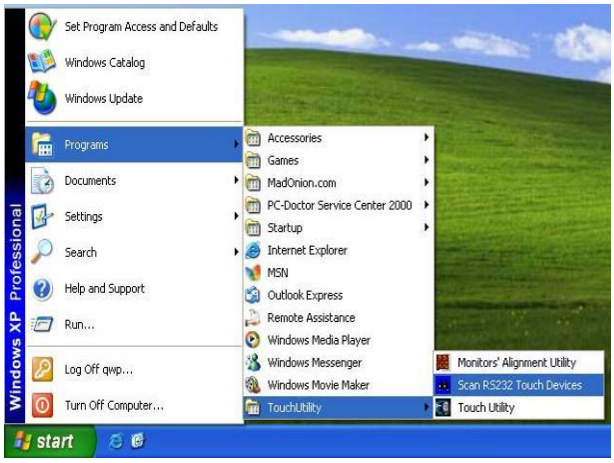



f. Click the “Finish” button on the “Install Shield Wizard Complete” window.


g. Click the “Continue Anyway “button on the “Hardware Installation” window.

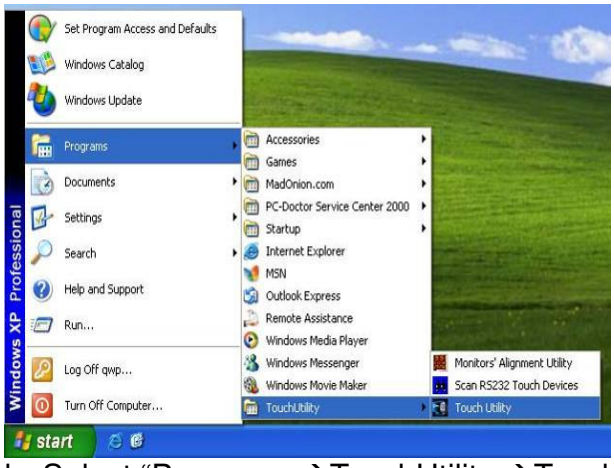



h. Select the “Yes” and click the”OK” button and restart your system.

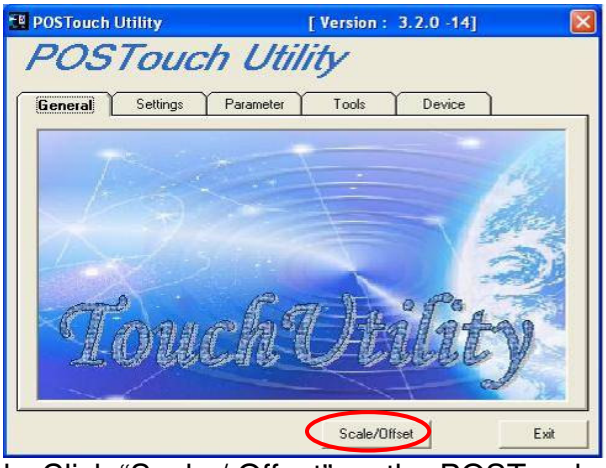



i. After the computer has restarted, select “Programs →TouchUtility →Scan RS232 Touch Device”.

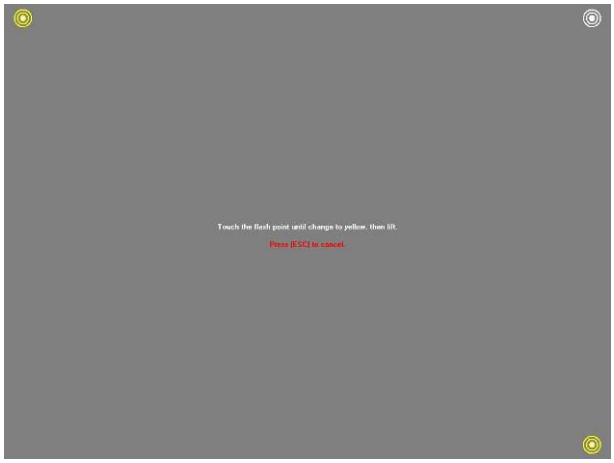

j. The serial ports are scanned for a touch device.



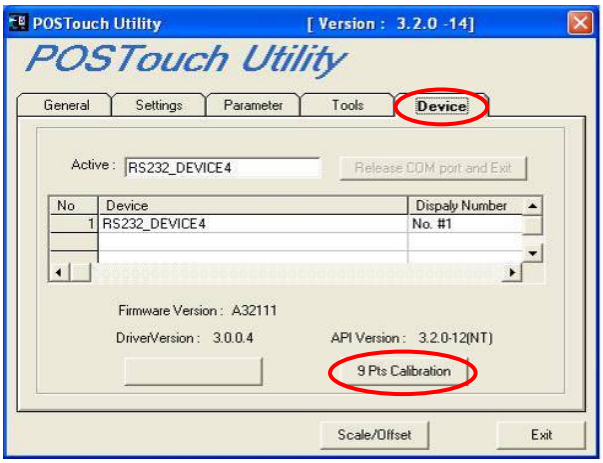

k. Select “Programs →TouchUtility →Touch Utility”.



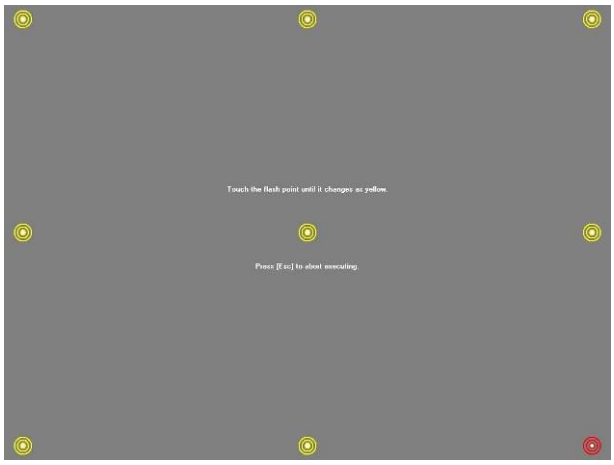

l. Click “Scale / Offset” on the POSTouch Utility window.




m. Follow the instructions on the screen to do a three point calibration of the touch panel.

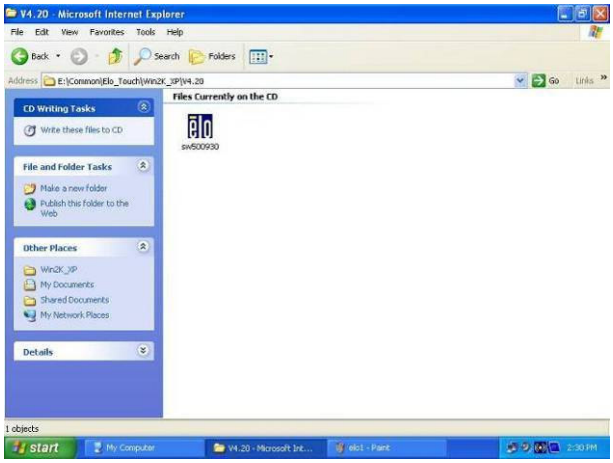



n. Select “Device →9Pts Calibration” on the POSTouch Utility window.




o. Follow the instructions on the screen to do a nine point calibration of the touch panel.

## 3.6 ELO Touch Driver Installation

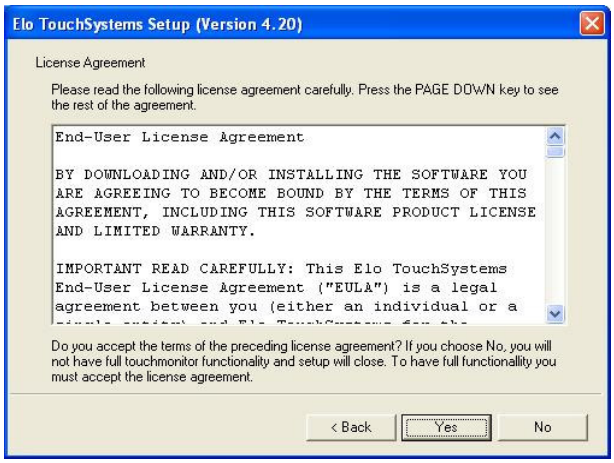



a. Click ”sw500930” on the My computer window.

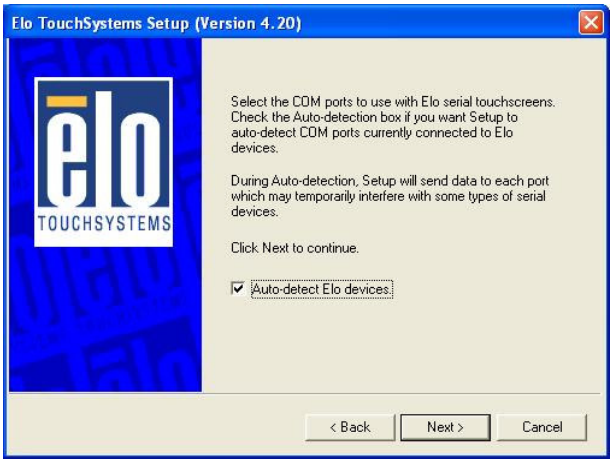

b. Click the “OK” button on the Welcome window.


c. Click the ”Unzip” button on the WinZip Self-Extractor window.

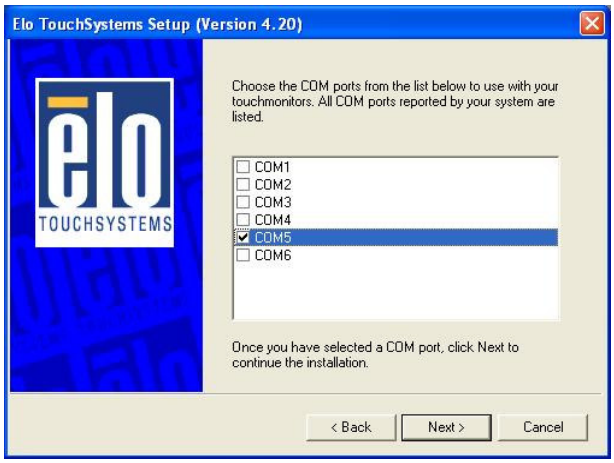

d. Select “Install Serial Touchscreen Drivers” and then click the “Next” button on the Welcome window.



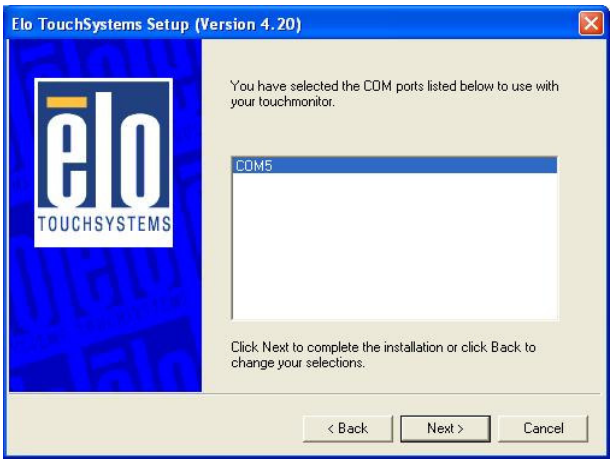

e. Click the “Yes” button on the License Agreement window.



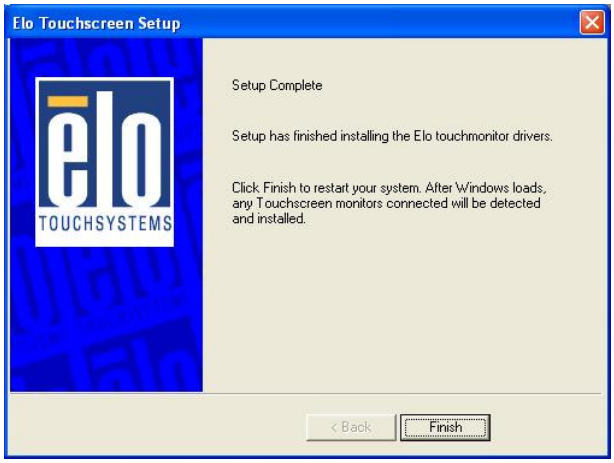

f. Click the “Next” button on the on the “Select the COM ports…” window.




g. Select “COM5” and click the “Next” button on the Choose the COM ports… window.



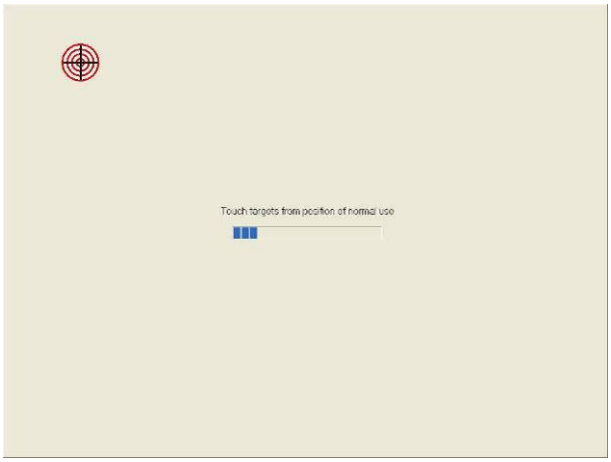

h. Click the “Next” button on the You have selected the COM ports…window.




i. Click the “Finish” button on the Setup Complete window

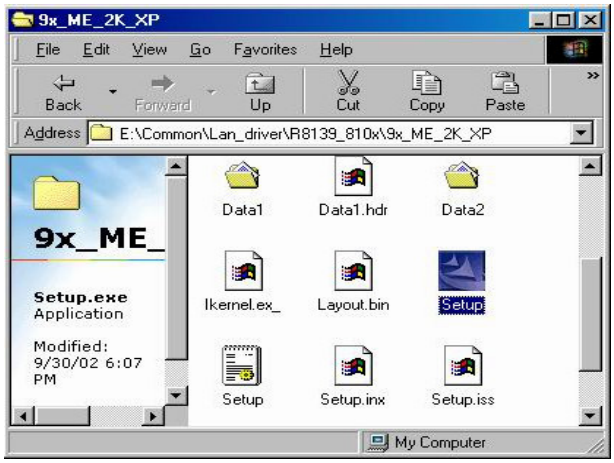

j. Click the “Yes” button and restart your system.


k. After the computer has restarted, click “Align” on the Elo Touchscreen Properties window.

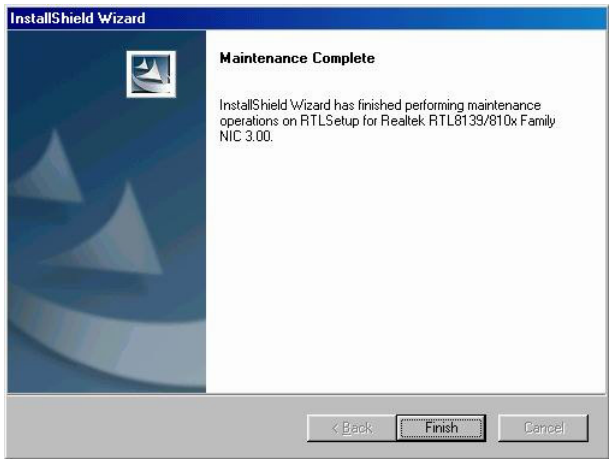



l. Follow the instructions on the screen to calibrate the touch panel.

## 3.7 10/100/1000MB LAN Driver Installation




a. Double click ”Setup” on the My Computer window.

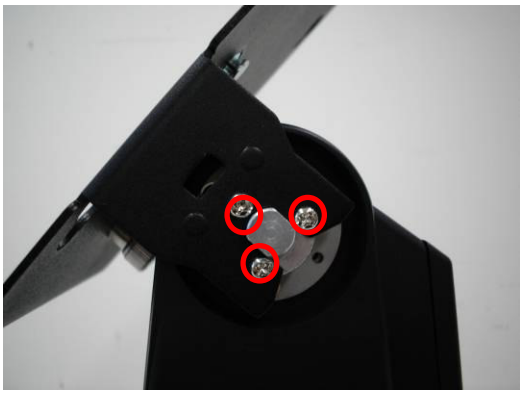



b. Click the “Finish” button on the Maintenance Complete window.


c. Click the ”OK” button and restart your system.

# 4. System Installation
## 4.1 Stand Holder Installation

a. Slide the stand bracket into the position



b. Fix VESA and stand with screws (6) 3 on each side

c. Attach the panel to the stand bracket

d. Tighten the thumbscrew (1)

e. Attach the hinge covers(2) to the side of each hinge

## 4.2 VFD Installation

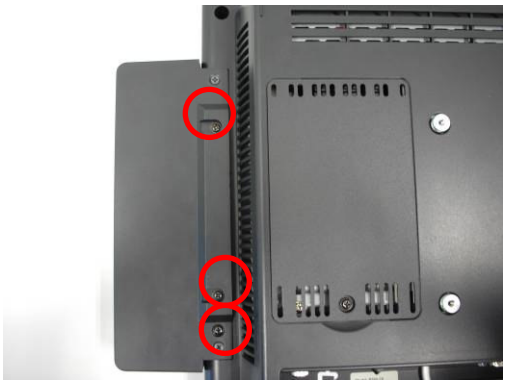
a. Slide the VFD module to the system VESA bracket and tighten it with the thumb screw

b. Connect the VFD cable to the COM port and the VFD module

## 4.3 MSR Installation

a. Loosen the screws (2) on the MSR dummy cover

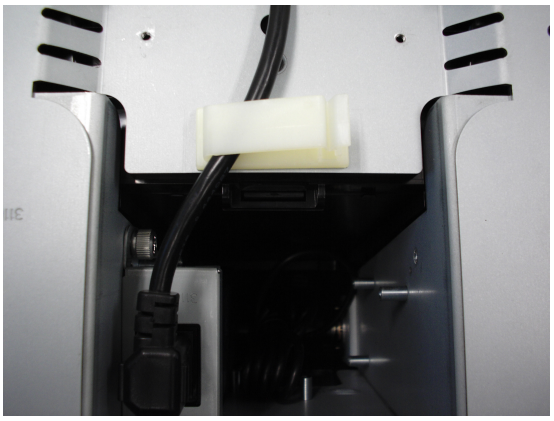
b. Connect the MSR cable and slide the MSR into position



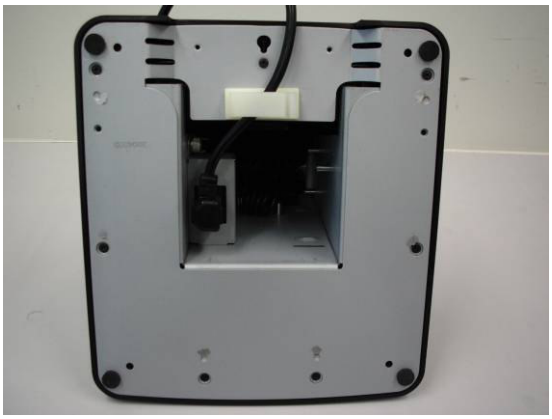
c. Connect the MSR module to the system and tighten the screws (3)

## 4.4 Power Cord Installation

a. Connect the power cord to the AC adaptor



b. Fasten the cable withb the clip tom ensure the cable is in the proper location.

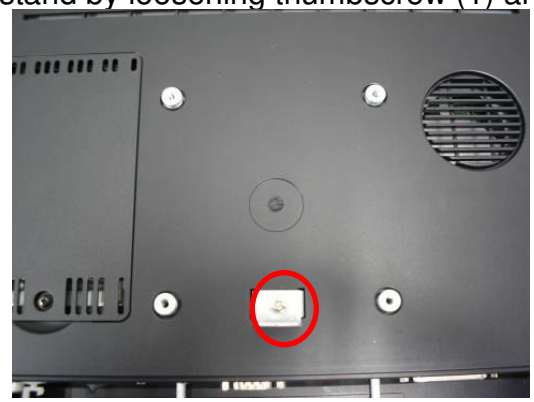


c. Route through the base gap for cable management

## 4.5 VESA Installation for Panel display

If you wish to wall mount the POS Terminal, please order the wall mount kit from your supplier and follow the steps below to install the wall mount display unit..

a. Remove stand by loosening thumbscrew (1) and remove the stand



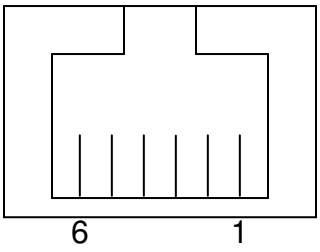
b. Place the wall mount kit on the panel bracket and tighten the screw (1)

c. Attach the wall mount bracket and tighten it with the thumbscrew (1)

## 4.6 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



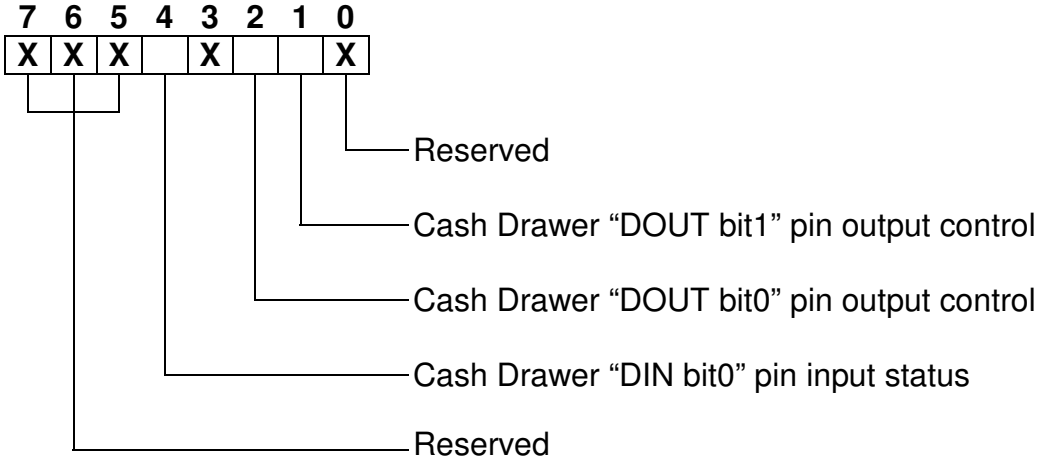

| Pin | Signal |
|---|---|
| 1 | GND |
| 2 | DOUT bit0 |
| 3 | DIN bit0 |
| 4 | 12V / 19V |
| 5 | DOUT bit1 |
| 6 | GND |

### Cash Drawer Controller Register

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

**Register Location:** 4B8h
**Attribute:** Read / Write
**Size:** 8bit

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




Bit 7: Reserved.
Bit 6: Reserved.
Bit 5: Reserved.
Bit 4: Cash Drawer “DIN bit0” pin input status.
= 1: the Cash Drawer closed or no Cash Drawer.
= 0: the Cash Drawer opened.
Bit 3: Reserved.

Bit 2: Cash Drawer “DOUT bit0” pin output control.
= 1: Opening the Cash Drawer
= 0: Allow closing the Cash Drawer
Bit 1: Cash Drawer “DOUT bit1” pin output control.
= 1: Opening the Cash Drawer
= 0: Allow closing the Cash Drawer
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 4B8 04 | Opening |
| O 4B8 00 | Allow to closing |
| ➢ Set the I/O address 4B8h bit2 =1 for opening the Cash Drawer by “DOUT bit0” pin control.<br>➢ Set the I/O address 4B8h bit2 = 0 to allow closing Cash Drawer. | |

| Command | Cash Drawer |
|---|---|
| I 4B8 | Check status |
| ➢ The I/O address 4B8h bit4 =1 means the Cash Drawer is closed or no Cash Drawer.<br>➢ The I/O address 4B8h bit4 =0 means the Cash Drawer is open. | |

# 5. System Disassembly
## 5.1 Removing the Stand

a. Loosen the thumbscrew (1)

b. Lift the panel up and separate it from the stand

## 5.2 Replacing the HDD

a. Loosen the screw * 1

b. Open the HDD door

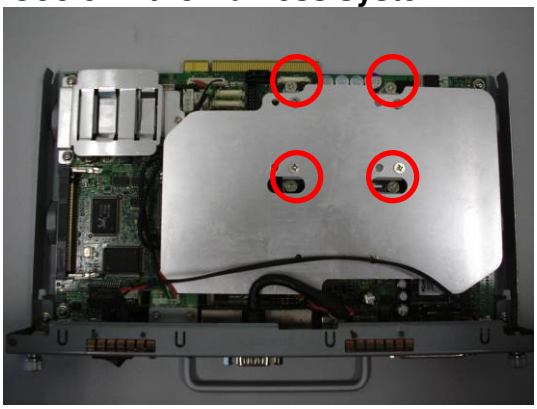
c. Lift the HDD up from the holder

## 5.3 Replacing the Heat sink / Fan

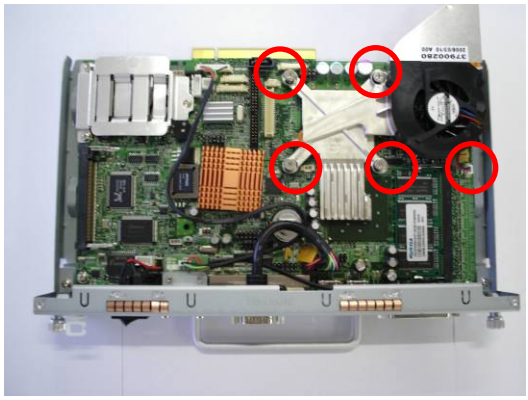
a. Loosen the thumbscrews *2

b. Pull the handle in the direction shown by the arrow in order to release the mainboard tray from the system

**Cooler kit for fanless system**



**Cooler kit for socket type CPU**



c. Loosen the screw *4 and disconnect the cable *1 to replace the heat sink / fan

## 5.4 Replacing the SDRAM

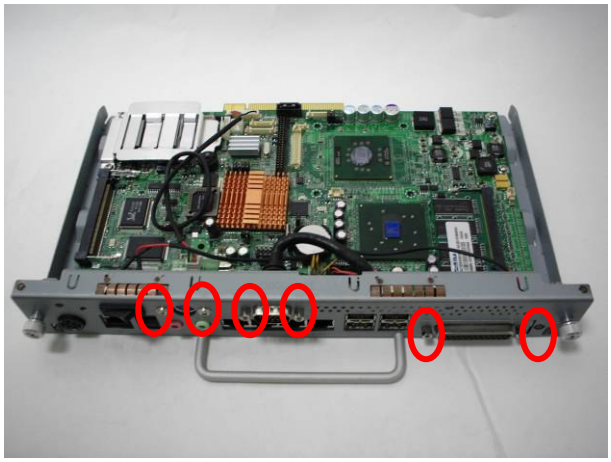
To replace the main board, please first follow the steps in chapter 5.3 a / b.

a. Use your finger to push the DIMM slot ejector clips into the down position.

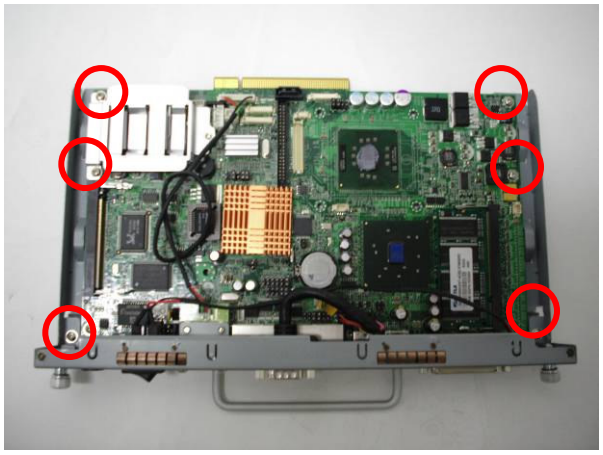
b. Remove the SDRAM from the slot in the direction as shown by the arrow to replace it

## 5.5 Replacing the Main Board and PS2 board

To replace the main board, please first follow the steps in chapter 5.3 a / b.



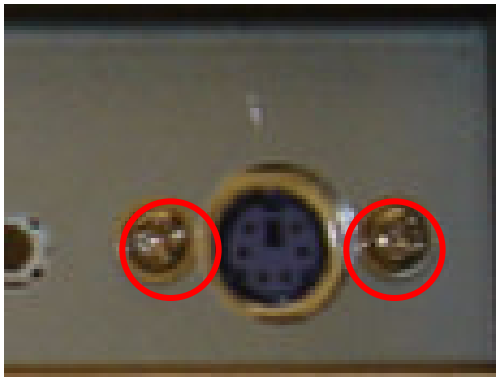
a. Remove the hex nuts *6



b. Remove the screws (6) from the holder bracket of both sides

**Remove the PS2 board**

a. Disconnect the cable (1)

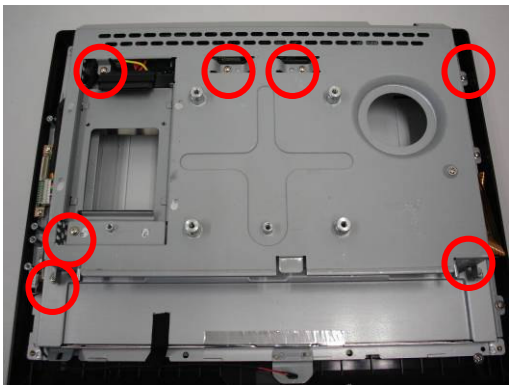


b. Remove the screws(2) from the I/O bracket then remove the PS/2 board.

## 5.6 Replacing the Touch Board and inverter board

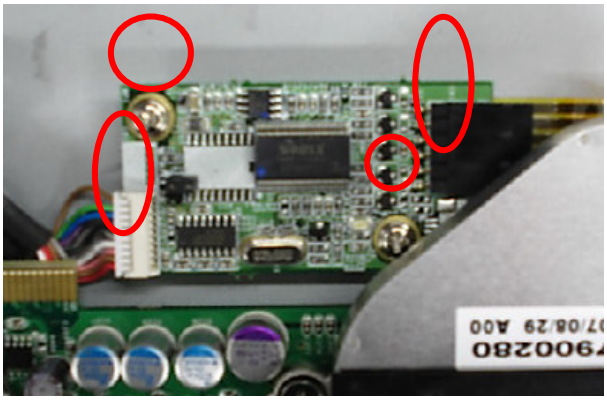
To replace the touch board and inverter board, please follow the step in chapter 5.1 to remove the LCD display module from the stand chapter 5.2 to replace HDD.

a. Remove LCD cover by loosening the screws (6)



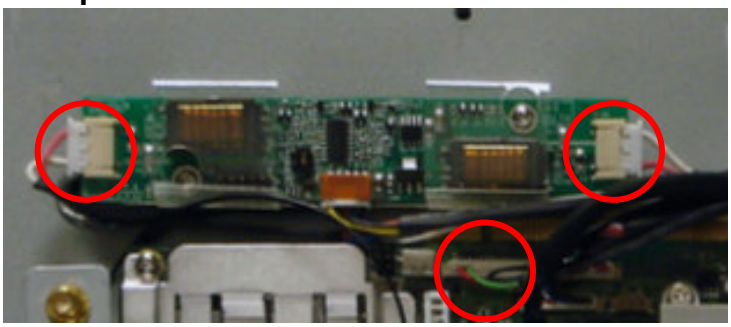
b. Loosen the screw (7) to remove the EMI shielding cover

**To replace the touch board**

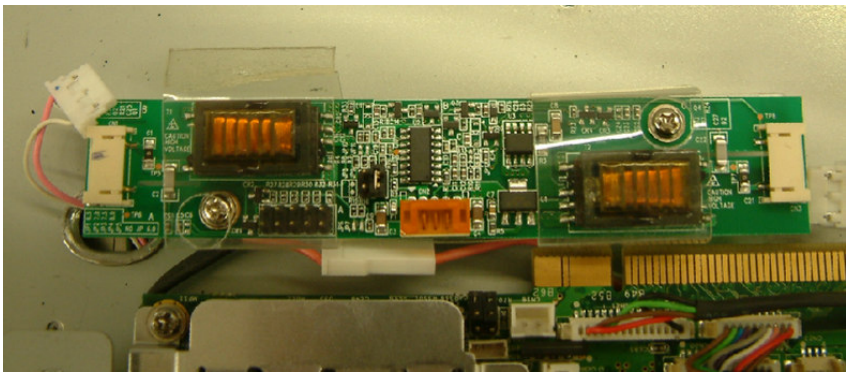


a. Disconnect the cables (2) and remove the screws (2) to replace the touch board

**To replace the inverter board**



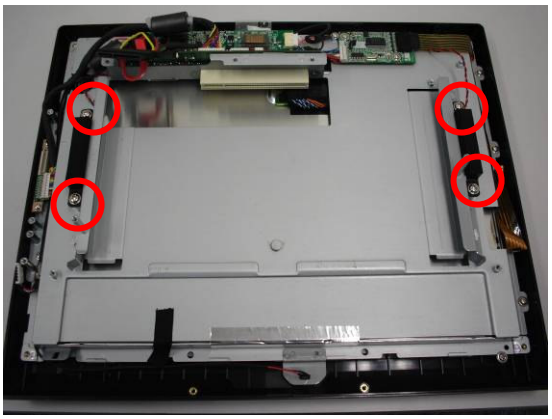
c. Disconnect the cables (3)



d. remove the screws (2) to move the inverter board

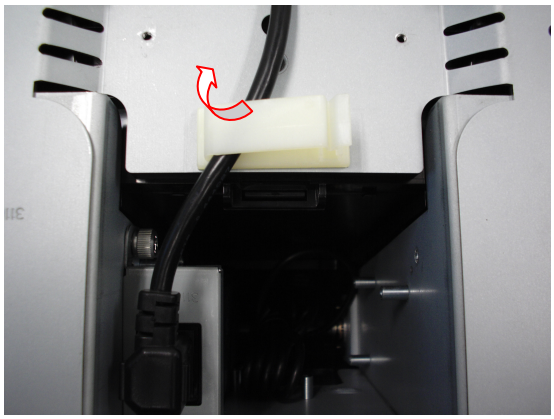
## 5.7 Replacing the Speaker

To replace the speakers, please first follow the steps 5.1 and 5.6 step a.

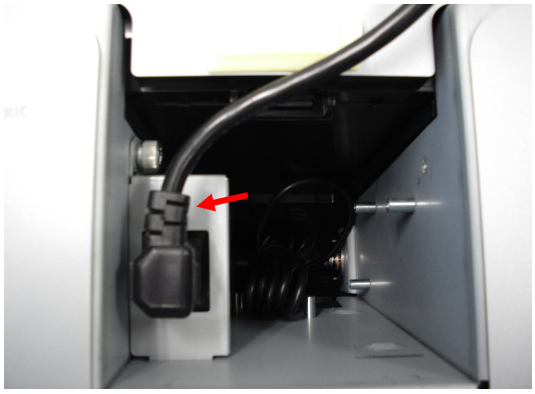


Disconnect the cable (1) and remove the screws 4) to remove the speakers (2)

## 5.8 Replacing the Adapter



a. Unclip the cable holder



b. Disconnect the power cord from the adaptor

c. Loosen the thumbscrew to release the adaptor bracket

d. Remove the adaptor from the stand

# 6. Specification

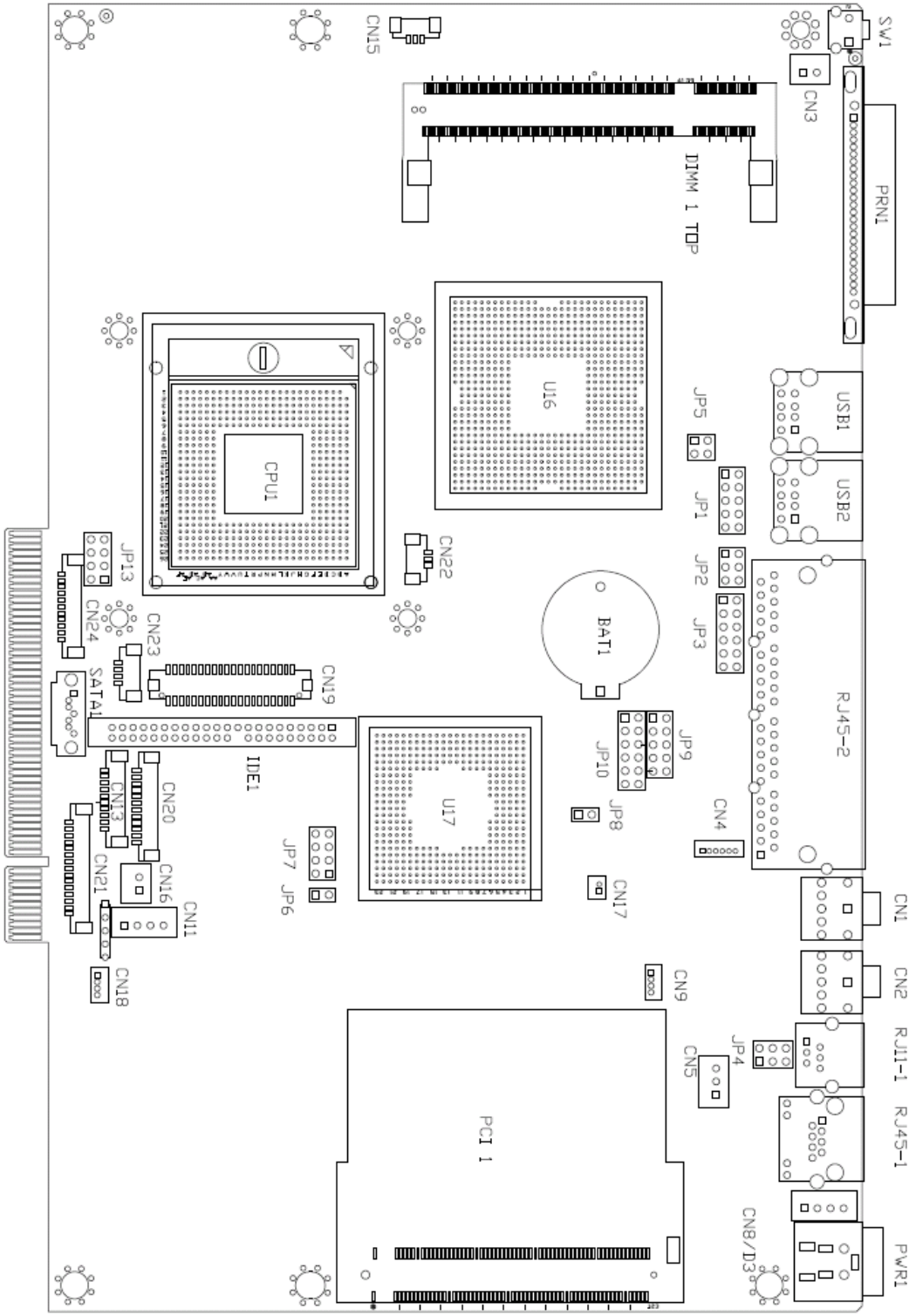
| Model Name | Breeze Fanless | Breeze w/Fan |
|---|---|---|
| **Motherboard** | **B78** | |
| CPU Support | Intel Celeron M ULV 1.0GHz Zero Cache | Intel Celeron M 1.5GHz / Pentium M 1.8GHz (socket) |
| Chipset | Intel 852GM FSB 400 / ICH4 | |
| System Memory | 2 x DDR SO-DIMM Slot support up to 2GB | |
| Graphic Memory | Shared system memory 8~64MB | |
| BIOS | AWARD BIOS | |
| **LCD Touch Panel** | | |
| LCD Size | 15” TFT LCD | |
| Brightness | 250nits | |
| Maximal Resolution | 1024 x 768 | |
| Touch Screen Type | Resistive / IR touch (optional) | |
| **Storage** | | |
| HDD | Slim SATA HDD / Compact flash ( optional ) | |
| **Expansion** | | |
| Mini-PCI Slot | 802.11 b/g wireless LAN card ( optional ) | |
| **External I/O Ports** | | |
| USB | 4 ports (V2.0) | |
| PS2 | 1 | |
| Serial / COM | 4 x COM ports RJ-45 connectors (COM1&COM2 standard RS-232; COM3 & COM4 pin9 with 5V /12V power by jumper) | |
| Parallel | 1 x D-sub / 25F | |
| LAN (10 /100 / 1000) | 1 x RJ45 | |
| DC Jack | 1 x DC Jack latch type | |
| 2nd VGA | 1 (male with power ) | |
| Cash Drawer Port | 1 x RJ 11 (12V /19V) | |
| Audio Jack | 1 x Line-out, 1 x Mic-in | |
| **Power** | | |
| Power Adapter | 19V, 90W | |
| **Control** | | |

| | |
|---|---|
| Power Button | 1 |
| **Peripheral** | |
| MSR | MSR ( PS/2 ) |
| 2-in-1 MSR | MSR ( PS/2 ) / Finger Print (USB ) |
| Second Display | optional 8.4”/ 10.4’ / 12.1" 2nd display without touch |
| Customer Display | Flush mount VFD display 2 x20 characters |
| **Environment** | |
| EMC & Safety | FCC, Class A, CE, LVD |
| Operating Temperature | 5°C ~ 35 °C (41 °F ~ 95 °F) |
| Storage Temperature | -20 °C ~ 55 °C (-4 °F ~ 140 °F) |
| Operating Humidity | 20% ~ 80% RH non condensing |
| Storage Humidity | 20% ~ 85% RH non condensing |
| Dust & Water Proof | IP 54 (Front bezel) |
| **Dimension (W x D x H)** | LCD 0 degree :374.52 x 308.44 x 311 mm |
| | LCD 90 degrees :374.52 x 370.14 x 251.47 mm |
| **Weight (N.W./G.W.)** | 9kg/ 10kg |
| **Mounting** | 100mm x100mm VESA Standard holes |
| **OS Support** | Windows XP, WEPOS, XP Embedded, XP Professional Embedded, Windows 2000 Professional Embedded, WIN NT4.0, Embedded Linux |

* This specification is subject to change without prior notice.

# 7. Jumper Settings

## B78 Motherboard



## Connectors

| Connector | Function |
|---|---|
| CN1 | Audio Line Out |
| CN2 | Audio Mic In |
| CN13 | COM5 for Touch |
| CN15 | CPU FAN Connector |
| CN16 | Hardware Reset |
| CN18 | USB2 |
| CN19 | LCD Interface Connector |
| CN20 | Inverter Connector |
| CN21 | Card Reader Connector |

| Connector | Function |
|---|---|
| IDE1 | Primary IDE Connector |
| SATA1 | Primary SATA Connector |
| PRN1 | Parallel Port |
| PWR1 | +19V Power Adapter |
| RJ11_1 | Cash Drawer Connector |
| RJ45_1 | LAN (On Board) |
| RJ45_2 | COM1, COM2, COM3, COM4 |
| USB1 | USB3, USB4 |
| USB2 | USB5, USB6 |

## 6.3 Jumper Settings

**CMOS Operation Mode**

| Function | JP8 |
|---|---|
| CMOS Normal | ◎N/C |
| CMOS Reset | 1-2 |

To clear the CMOS:
Remove AC power from the unit.
Open the cabinet.
Change the JP8 jumper setting from N/C to 1-2.
Wait 1 minute.
Change the JP8 jumper setting back to N/C.
Close the cabinet.
Apply AC power and continue.

**Power Mode Setting**

| Function | JP6 |
|---|---|
| ATX Power | ◎N/C |
| AT Power | 1-2 |

**Cash Drawer Power Setting**

| Voltage | JP4 |
|---|---|
| +12V | ◎1-2 |
| N/A | 3-4 |
| +19V | 5-6 |

**COM3 & COM 4 Power Setting**

| Function | JP3 |
|---|---|
| COM3 PIN10_RI | ◎1-2 |
| COM3 PIN10_+5V | 3-4 |
| COM3 PIN10_+12V | 5-6 |
| COM4 PIN10_RI | ◎7-8 |
| COM4 PIN10_+5V | 9-10 |
| COM4 PIN10_+12V | 11-12 |

**Card Reader Setting**

| Function | ◎Docking | On Board |
|---|---|---|
| JP11 (1-2) | N/C | 1-2 |
| JP11 (3-4) | N/C | 3-4 |

**LCD ID Setting**

| Panel # | Resolution | | | LVDS | | JP7 0= Short; 1= Open | | | | Supported panels |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bits | Channel | 1-2 | 3-4 | 5-6 | 7-8 | |
| 0 | 640 | x | 480 | 18 | Single | 0 | 0 | 0 | 0 | |
| 1 | 800 | x | 600 | 18 | Single | 0 | 0 | 0 | 1 | AU G121SN01<br>Sharp 12” LQ121S1LLG41 |
| 2 | 1024 | x | 768 | 18 | Single | 0 | 0 | 1 | 0 | CHI MEI N121X5-L03)<br>XGA<br>CHI MEI G121X1-L01)<br>XGA<br>AU G150XG01 XGA<br>IDTech IAXG02L5 XGA<br>LTA121C250F-01<br>AU M150XN07 V1 |
| 3 | 1280 | x | 1024 | 24 | Dual | 0 | 0 | 1 | 1 | AU 17" / 19" |
| 4 | 1024 | x | 768 | 24 | Single | 0 | 1 | 0 | 0 | SHARP LQ150X1LGN1<br>SHARP LQ150X1LGN2<br>AU M150XN07 V.2<br>AU G150XG03 V.0 24bit<br>Sharp LQ150X1LG55 24bit<br>Sharp LQ150X1LG45 24bit |
| 5 | 800 | x | 600 | 24 | Single | 0 | 1 | 0 | 1 | Torisan 12.1”<br>L5S30548P00 |
| 6 | 800 | X | 600 | 18 | Single | 0 | 1 | 1 | 0 | Reserved |
| 7 | 800 | X | 600 | 18 | Single | 0 | 1 | 1 | 1 | Sharp 12” LQ121S1LLG41 |
| 8 | 1024 | X | 768 | 24 | Single | 0 | 1 | 0 | 0 | SVA150XG10TB |

**COM2 RS232**

| Function | ◎RS232 |
|---|---|
| JP9 (1-2) | V |
| JP9 (3-4) | V |
| JP9 (4-6) | |
| JP9 (5-7) | V |
| JP9 (7-8) | |
| JP9 (9-10) | |
| JP10 (1-2) | V |
| JP10 (3-4) | |
| JP10 (5-6) | |
| JP10 (7-8) | |
| JP10 (9-10) | |
| JP10 (11-12) | |

**Note:**

OPEN SHORT

## Connectors Pin Definition

**CN4: Speaker & MIC Connector**

| | | | |
|---|---|---|---|
| Pin 1 | AMP_ORL | Pin 2 | GND |
| Pin 3 | GND | Pin 4 | AMP_ORR |
| Pin 5 | GND | Pin 6 | MIC1 |

**CN9: CD-IN Connector**

| | | | |
|---|---|---|---|
| Pin 1 | CDIN_L | Pin 2 | CDIN_REF |
| Pin 3 | CDIN_R | Pin 4 | CDIN_REF |

**CN11: Power Connector For 3.5” HDD**

| | | | |
|---|---|---|---|
| Pin 1 | +12V | Pin 2 | GND |
| Pin 3 | GND | Pin 4 | +5V |

**CN13: COM5**

| | | | |
|---|---|---|---|
| Pin 1 | DCD# | Pin 2 | RX# |
| Pin 3 | TX# | Pin 4 | DTR# |
| Pin 5 | GND | Pin 6 | DSR# |
| Pin 7 | RTS# | Pin 8 | CTS# |
| Pin 9 | RI | Pin 10 | +5V |

**CN15: CPU FAN Connector**

| | | | |
|---|---|---|---|
| Pin 1 | +5V | Pin 2 | Feedback |
| Pin 3 | GND | | |

**CN18: USB 2**

| | | | |
|---|---|---|---|
| Pin 1 | +5V_USB1 | Pin 2 | USB20_R_P1 |
| Pin 3 | USB20_R_P1+ | Pin 4 | GND |

**CN19: LVDS Interface**

| | | | |
|---|---|---|---|
| Pin 1 | LVDS_B0+ | Pin 2 | LVDS_A3+ |
| Pin 3 | LVDS_B0- | Pin 4 | LVDS_A3- |
| Pin 5 | GND | Pin 6 | GND |
| Pin 7 | LVDS_B1+ | Pin 8 | LVDS_CLKA+ |
| Pin 9 | LVDS_B1- | Pin 10 | LVDS_CLKA- |
| Pin 11 | GND | Pin 12 | GND |
| Pin 13 | LVDS_B2+ | Pin 14 | LVDS_A2+ |
| Pin 15 | LVDS_B2- | Pin 16 | LVDS_A2- |
| Pin 17 | GND | Pin 18 | GND |
| Pin 19 | LVDS_B3+ | Pin 20 | LVDS_A1+ |
| Pin 21 | LVDS_B3- | Pin 22 | LVDS_A1- |
| Pin 23 | GND | Pin 24 | GND |
| Pin 25 | LVDS_CLKB+ | Pin 26 | LVDS_A0+ |
| Pin 27 | LVDS_CLKB- | Pin 28 | LVDS_A0- |
| Pin 29 | GND | Pin 30 | GND |
| Pin 31 | +5V_LCDVDD | Pin 32 | +3.3V_LCDVDD |
| Pin 33 | +5V_LCDVDD | Pin 34 | +3.3V_LCDVDD |
| Pin 35 | +5V_LCDVDD | Pin 36 | +3.3V_LCDVDD |
| Pin 37 | +5V_LCDVDD | Pin 38 | +3.3V_LCDVDD |
| Pin 39 | +5V_LCDVDD | Pin 40 | +3.3V_LCDVDD |

**CN20: Inverter Connector**

| | | | |
|---|---|---|---|
| Pin 1 | +12V_INV | Pin 2 | +12V_INV |
| Pin 3 | +12V_INV | Pin 4 | +12V_INV |
| Pin 5 | Back-Light Enable | Pin 6 | N/C |
| Pin 7 | N/C | Pin 8 | Back-Light Enable |
| Pin 9 | GND | Pin 10 | GND |
| Pin 11 | GND | Pin 12 | GND |

**CN21: POS Card Reader Connector**

| | | | |
|---|---|---|---|
| Pin 1 | +5V | Pin 2 | +5V |
| Pin 3 | KDATA_SIO_TO_MSR | Pin 4 | KDATA_SIO_TO_MSR |
| Pin 5 | KDATA_MSR_TO_GFINGER | Pin 6 | KCLK_MSR_TO_GHINGER |
| Pin 7 | RS232_6_RX# | Pin 8 | RS232_6_TX# |
| Pin 9 | RS232_6_CTS# | Pin 10 | RS232_6_RTS# |
| Pin 11 | KB_EN | Pin 12 | GND |
| Pin 13 | USB20_MSR_P0+ | Pin 14 | USB20_MSR_P0- |
| Pin 15 | GND | | |

**CN22: System FAN Connector**

| | | | |
|---|---|---|---|
| Pin 1 | +5V | Pin 2 | Feedback |
| Pin 3 | GND | | |

**CN23: IrDA Connector**

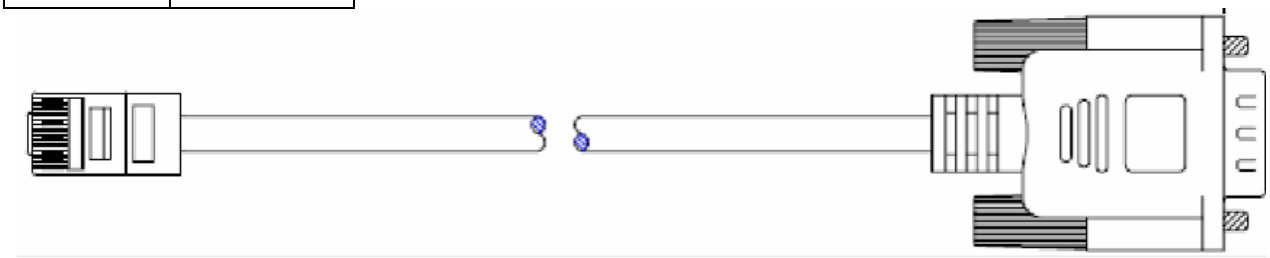
| | | | |
|---|---|---|---|
| Pin 1 | +5V | Pin 2 | IRDA_RX |
| Pin 3 | IRDA_TX | Pin 4 | GND |

**RJ45_2: COM1(Pin1~10), COM2 (Pin11~20)**

| | | | |
|---|---|---|---|
| Pin 1 | N/C | Pin 2 | RS232_1_DCD# |
| Pin 3 | RS232_1_DSR# | Pin 4 | RS232_1_RX# |
| Pin 5 | RS232_1_RTS# | Pin 6 | RS232_1_TX# |
| Pin 7 | RS232_1_CTS# | Pin 8 | RS232_1_DTR# |
| Pin 9 | GND | Pin 10 | RS232_1_RI |
| Pin 11 | N/C | Pin 12 | RS232_2_DCD# |
| Pin 13 | RS232_2_DSR# | Pin 14 | RS232_2_RX# |
| Pin 15 | RS232_2_RTS# | Pin 16 | RS232_2_TX# |
| Pin 17 | RS232_2_CTS# | Pin 18 | RS232_2_DTR# |
| Pin 19 | GND | Pin 20 | RS232_2_RI |

**RJ45 to DB9 Cable for COM Ports**

| RJ45 | DB9 |
|---|---|
| Pin 1 | --- |
| Pin 2 | Pin 1 |
| Pin 3 | Pin 6 |
| Pin 4 | Pin 2 |
| Pin 5 | Pin 7 |
| Pin 6 | Pin 3 |
| Pin 7 | Pin 8 |
| Pin 8 | Pin 4 |
| Pin 9 | Pin 5 |
| Pin 10 | Pin 9 |



**RJ45_2: COM3(Pin21~30), COM4(Pin31~40)**

| | | | |
|---|---|---|---|
| Pin 21 | N/C | Pin 22 | RS232_3_DCD# |
| Pin 23 | RS232_3_DSR# | Pin 24 | RS232_3_RX# |
| Pin 25 | RS232_3_RTS# | Pin 26 | RS232_3_TX# |
| Pin 27 | RS232_3_CTS# | Pin 28 | RS232_3_DTR# |
| Pin 29 | GND | Pin 30 | RS232_3_RI |
| Pin 31 | N/C | Pin 32 | RS232_4_DCD# |
| Pin 33 | RS232_4_DSR# | Pin 34 | RS232_4_RX# |
| Pin 35 | RS232_4_RTS# | Pin 36 | RS232_4_TX# |
| Pin 37 | RS232_4_CTS# | Pin 38 | RS232_4_DTR# |
| Pin 39 | GND | Pin 40 | RS232_4_RI |

**JP1: VGA Port**

| | | | |
|---|---|---|---|
| Pin 1 | GND | Pin 2 | CRT_R |
| Pin 3 | GND | Pin 4 | CRT_G |
| Pin 5 | GND | Pin 6 | CRT_B |
| Pin 7 | GND | Pin 8 | CRT_HSYNC |
| Pin 9 | GND | Pin 10 | CRT_VSYNC |

**JP2: VGA Power**

| | | | |
|---|---|---|---|
| Pin 1 | +12 | Pin 2 | GND |
| Pin 3 | +12 | Pin 4 | GND |

# 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.

## 8.2 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.

## 8.3 When a Problem Occurs

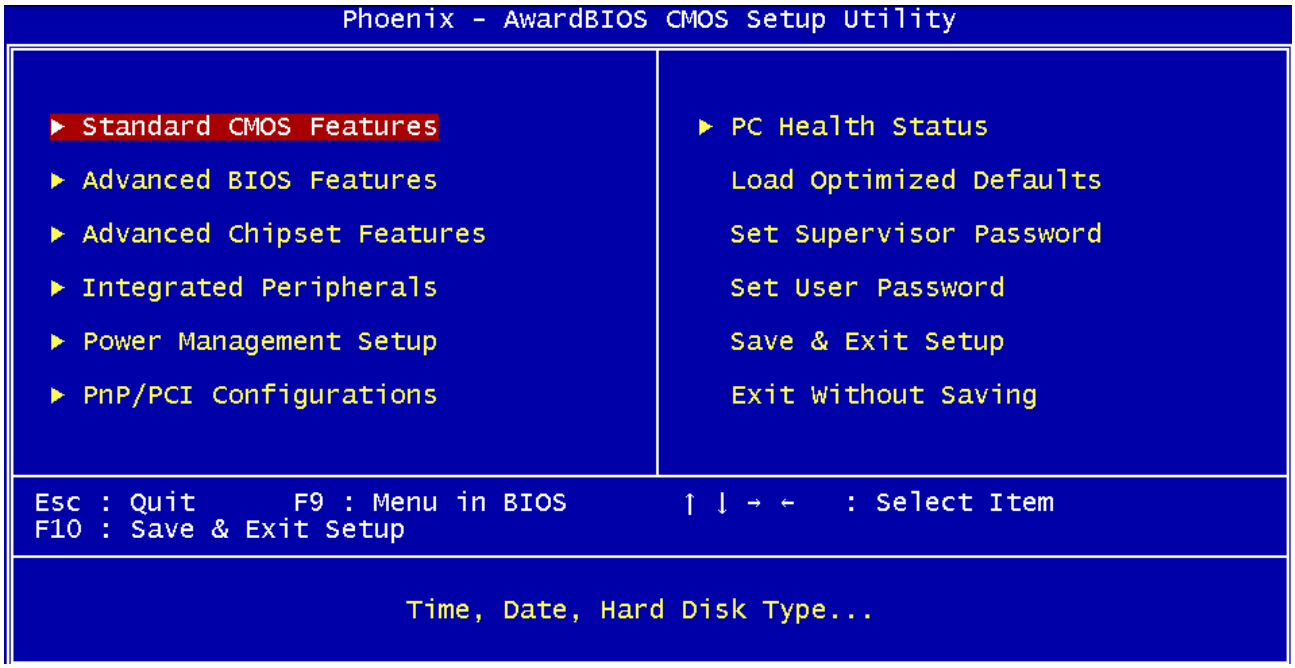
If, after making and saving system changes with the Setup utility, you find that this product no longer boots, start the BIOS setup and execute the following.

***Load Optimized Defaults***

## 8.4 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 menu below is from B78 BIOS version B78FV10.BIN. If you have a different BIOS version, the contents of the menu may different.




**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.